2025 Annual Monitoring Report
Lake St. Peter Waste Disposal Site
Environmental Compliance Approval No. A361116

Prepared for:
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Table of Contents

1 Introduction ____ 1

1.1 Location ____ 1
1.2 Ownership and Key Personnel ____ 2
1.3 Description and Development of the WDS ____ 3
1.4 Monitoring and Reporting Program and Objectives and Requirements ____ 3

2 Physical Setting ____ 3

2.1 Geology and Hydrogeology ____ 3
2.1.1 Surficial Geology ____ 3
2.1.2 Overburden Hydrogeology ____ 4
2.1.3 Bedrock Geology ____ 4
2.2 Surface Water Features ____ 4

3 Monitoring Program ____ 5

3.1 Site Inspections and Operations Monitoring ____ 5
3.2 Monitoring Locations, Frequency and Monitoring Parameters ____ 5
3.2.1 Groundwater Monitoring ____ 5
3.2.1.1 Groundwater Elevations ____ 7
3.2.1.2 Groundwater Gradients and Flow Direction ____ 8
3.2.2 Surface Water Monitoring ____ 8
3.2.3 Landfill Gas Monitoring ____ 10
3.3 Monitoring Procedures and Methods ____ 10
3.3.1 Groundwater Monitoring ____ 10
3.3.2 Surface Water Monitoring ____ 10
3.3.3 Landfill Gas Monitoring ____ 11
3.3.4 Field QA/QC Program ____ 11

4 Monitoring Results ____ 12

4.1 Groundwater Quality ____ 12
4.2 Surface Water Quality ____ 16
4.3 Landfill Gas Monitoring ____ 17
4.4 QA/QC Results ____ 17

5 Assessment, Interpretation and Discussion ____ 18

5.1 Groundwater Assessment ____ 18
5.2 Surface Water Assessment ____ 22

5.3 Groundwater and Surface Water Interaction _____23
5.4 Landfill Gas Assessment _____24
5.5 Mann-Kendall Trend Analysis _____24
5.6 Trigger Mechanisms and Contingency Plans _____26
5.7 CAZ Assessment _____27

6 Site Operations _____ 28

6.1 Annual Waste Summary _____28
6.2 Site Capacity and Life Expectancy _____29

7 Summary Statements, Conclusions, and Recommendations _____ 31

7.1 Site Operations _____31
7.2 Groundwater _____31
7.3 Surface Water _____32
7.4 Groundwater and Surface Water Interaction _____33
7.5 Landfill Gas _____33
7.6 CAZ Assessment _____34
7.7 Site Capacity and Life Expectancy _____34

8 Limiting Conditions _____ 35

9 References _____ 36

List of Tables

Table 1: Contact Information _____ 2
Table 2: Groundwater Monitoring Well Details _____ 6
Table 3: Groundwater Quality Monitoring Parameters _____ 7
Table 4: Groundwater Elevation Data _____ 8
Table 5: Surface-Water Monitoring Locations _____ 9
Table 6: Lake St. Peter Surface Water Quality Monitoring Parameters _____ 9
Table 7: Surface Water Sampling Observations _____ 9
Table 8: Groundwater Quality Field Measurements _____ 13
Table 9: Groundwater Quality Parameters Exceeding ODWQS _____ 13
Table 10: Groundwater Quality Parameters Exceeding PWQO _____ 14
Table 11: Reasonable Use Calculations _____ 15
Table 12: Groundwater Quality Parameters Exceeding the RUVs _____ 16
Table 13: Surface Water Quality Parameter Exceedances _____ 17
Table 14: 2025 Landfill Gas Field Data _____ 17
Table 15: Annual Recycling and Wastes Tonnages _____ 29
Table 16: 2025 Groundwater Chemistry Results _____ (end of text)
Table 17: 2025 Surface Water Chemistry Results _____ (end of text)

List of Figures

Figure 01: Site Location Map
Figure 02: Site Plan
Figure 03: Site Topography and Surface Water Flow Directions
Figure 04: Spring Groundwater Elevations and Contours
Figure 05: Fall Groundwater Elevations and Contours
Figure 06: Remaining Capacity – October 15, 2025

Site Photographs

List of Appendices

(Provided on USB Drive for Hard Copy)

Appendix A: Environmental Compliance Approval
Appendix B: Monitoring and Screening Checklist (MECP/MOE, 2010)
Appendix C: Monitoring Well Logs
Appendix D: Inspection Forms and Laboratory & Chain of Custody Reports
D-1 Field Inspection Forms
D-2 Groundwater Laboratory Reports
D-3 Surface Water Laboratory Reports
D-4 Groundwater QA/QC
D-5 Surface Water QA/QC
D-6 Surface Water Toxicity Reports
Appendix E: E-1 Historical Groundwater Chemistry
E-2 Historical Groundwater VOC Chemistry
E-3 Historical Surface Water Chemistry
Appendix F: Mann Kendall Trend Analysis
Appendix G: Trigger Mechanisms and Contingency Plan

1 Introduction

BluMetric Environmental Inc. (BluMetric®) was retained by the Corporation of the Municipality of Hastings Highlands (MHHs or Municipality) to conduct the 2025 environmental monitoring and sampling program and prepare the 2025 Annual Report. This report provides a summary and analysis of environmental monitoring activities at the Lake St. Peter Waste Disposal Site (WDS), in Maynooth, Ontario. The WDS, as shown in Figure 01 is herein after referred to as "the Site".

This report is prepared in accordance with Condition 6 of the Environmental Compliance Approval (ECA) A361116 for the Site, dated October 25, 2021, a copy of which is included in **Appendix A**. The report covers all work and activities carried out for the period from January 1, 2025, to December 31, 2025.

The intent of this report is to be consistent with the general requirements of the Ontario Ministry of Environment, Conservation and Parks (MECP) document titled; *Monitoring and Reporting for Waste Disposal Sites (WDS), Groundwater and Surface Water: Technical Guidance Document (MOE November 2010)*, referred to as the "WDS Technical Guidance". The Monitoring and Screening Checklist from the WDS Technical Guidance has been completed and is included as **Appendix B** of this report. The screening checklist was completed with the Operational Status set as "open" as the Site operated throughout 2025.

1.1 Location

The WDS is located on the west side of Route 127, approximately 1.5 km north of the intersection of Route 127 and Fosters Road and the community of Lake St. Peter (Figure 01). The civic address is 2825 Highway 127, Lake St. Peter, Ontario and is located approximately 13 km north of Maynooth, Ontario. The total site area stated on the ECA is 17 hectares (ha) located on Part of Lots 10 and 11, Concessions 12 and 13 (formerly McClure Township), now part of the Municipality of Hastings Highlands. The facility layout, road network, and Site features are shown on Figure 02.

The Site is approved as a 2.2-hectare (ha) waste disposal site and transfer site within a total site area of 17 ha, however the portion of the Site property owned by the Municipality only covers 1.6 ha. The Crown owns the land surrounding the 1.6 ha area. There is currently no buffer or additional lands designated as a Contaminant Attenuation Zone (CAZ) within the total 17 ha WDS area. The Municipality submitted a request to the Ministry of Natural Resources (MNR) to add additional buffer and CAZ lands to the Site, and in February 2025 MNR issued a Grant of

Easement for the CAZ to the Municipality for signature. As of June 18, 2025 the Municipality obtained receipt from the MNR registering the Grant of Easement for the CAZ lands and buffer lands discussed above. Copies of receipt and registration of the easement are found in **Appendix A.**

1.2 Ownership and Key Personnel

The facility is operated by the MHH, with the municipal office located in Maynooth, Ontario. In May of 2018, the MNR, on behalf of the Crown, advised that their records show the Municipality holds a land patent for 1.6 ha (PINS 400010001 and 400010002), dated November 6, 1986 and recently received additional easement for the buffer and CAZ lands dated June 18, 2025. In addition, the Municipality owns a right of way which divides the 1.6 ha into two separate parcels. The 1.6 ha of landfilling area is depicted on Figure 02.

The facility's operational representative is responsible for all activities on-site. The Site contact is David Stewart and the Competent Environmental Practitioner (CEP) for both groundwater and surface water is Jaclyn Kalesnikoff, B.Sc., P.Geo., of BluMetric. Ms. Kalesnikoff is a Professional Geoscientist designated by Professional Geoscientists of Ontario (PGO).

Contact information is outlined in Table 1.

Table 1: Contact Information

	Name	Address	Phone Number	Email
Site Owner / Contact	The Corporation of the Municipality of Hastings Highlands CAO – David Stewart	P.O. Box 130 33011 Highway No. 62 Maynooth, ON K0L 2S0	(613) 338-2811 x289	dstewart@hastingshighlands.ca
CEP	Jaclyn Kalesnikoff, B.Sc. P.Geo., Senior Hydrogeologist	1682 Woodward Dr, Ottawa, ON K2C 3R8	(877) 487-8436 x 339	jkalesnikoff@blumetric.ca

1.3 Description and Development of the WDS

The Site is approved for a 2.2 ha landfilling and transfer area within a total area of 17 ha, however only 1.6 ha is currently owned by the Municipality. In addition to domestic waste, the Lake St. Peter WDS has recycling bins for metal, plastic, paper, and cardboard products, as well as segregated areas for scrap metal, tires, and brush. The Ontario Electronic Stewardship (OES) has approved the Lake St. Peter WDS for the collection of Waste Electrical and Electronic Equipment (WEEE) wastes. Regulations came into effect in 2020 with respect to this material, now referred to as Electrical and Electronic Equipment (EEE). This regulation with respect to EEE falls under the Resource Recovery and Circular Economy Act, 2016, and the regulation was filed on September 21, 2020. Historically, domestic wastes were disposed of in trenches; however, the Site is currently using an area-fill method of operation.

A Development and Operations (D&O) Plan for the Site was prepared and finalized in September 2020. The D&O Plan was approved by the MECP under the amended ECA (October 25, 2021).

1.4 Monitoring and Reporting Program and Objectives and Requirements

The objectives of the monitoring and reporting program are to identify and mitigate impacts to the environment caused by the municipal solid WDS. The monitoring and reporting program has been developed with these objectives in mind. In addition, the monitoring and reporting program are designed to adhere to the MECP's Monitoring and Reporting for Waste Disposal Sites Groundwater and Surface Water Technical Guidance Document (November 2010) and the ECA for the Site.

2 Physical Setting

2.1 Geology and Hydrogeology

2.1.1 Surficial Geology

The surficial geology of the area consists of glaciofluvial outwash deposits such as gravel and sand (Ministry of Northern Development and Mines [MNDM], 1991). The immediate area of the Site is characterized by generally sandy overburden with a thickness ranging from 1 to 40 metres (m). Monitoring well borehole logs for the nine monitoring wells on-site confirm that the overburden is

a sand and gravel unit to depths of over 9 m below ground surface (m bgs). Three new wells were drilled at the Site in 2023 to depths between 7.89 m bgs and 9.14 m bgs through sand and gravel units. The monitoring well logs are provided in **Appendix C.**

Well records for five private water wells located within 1.5 km of the Site were obtained from the MECP website. The well records indicate the overburden ranges from approximately 10 m bgs to 40 m bgs and generally consists of sand and gravel, with numerous boulders at some locations. Well records indicate wells are screened in granite bedrock at depths from 10 m bgs to 122 m bgs.

2.1.2 Overburden Hydrogeology

In October 2019, slug tests were conducted on monitoring wells LSP4-19 and LSP5-19, and the results were analysed using the Hvorslev method. The hydraulic conductivity for the sand unit at monitoring well LSP4-19 was calculated to be 5.57×10^{-4} and 5.09×10^{-5} metres per second (m/s). The hydraulic conductivity in the sand and gravel unit at monitoring well LSP5-19 was calculated to be 5.26×10^{-4} m/s.

2.1.3 Bedrock Geology

Bedrock in the area is classified as undifferentiated igneous and metamorphic rock, such as gneisses or granite, exposed at surface or covered by a discontinuous thin layer of drift (MNDM, 1991). Bedrock outcrops are visible in the vicinity of the Site.

2.2 Surface Water Features

Papineau Creek and a small lake along its route are located approximately 500 m northeast of the WDS, and Lake St. Peter is located approximately 900 m southeast of the WDS. A review of topographical mapping indicates that all surface water eventually flows east towards Papineau Creek and Lake St. Peter (the largest surface water feature in the area). The surface topography on-site generally slopes towards the east, with the northern portion of the Site sloping North and the southern portion of the Site sloping south. A small creek is located immediately north of the Site and flows east towards Papineau Creek. The existing Site topography and surface water flow directions are shown on Figure 03.

3 Monitoring Program

3.1 Site Inspections and Operations Monitoring

Site visits to the Lake St. Peter WDS were made in the spring on May 6, 2025, and in the fall on October 15, 2025. During the spring Site visit, it was noted that the active waste cell was in the process of being covered, multiple recycling bins had holes in their lids, and the metal and bulky item piles were large but neat. Additionally, there was a large amount of wind blown plastic and garbage around the Site as the spring clean up had not yet been completed. Observations from the fall Site visit indicated the new active cell was not covered or packed, both the metal and bulky item piles were very large and should be removed, and tree clearing had been completed back to the yellow Site boundary stakes. Select photographs taken during the Site visits are provided at the end of the report, following the tables and figures. Field inspection forms for the spring and fall 2025 inspections are provided in **Appendix D (D1)**.

3.2 Monitoring Locations, Frequency and Monitoring Parameters

3.2.1 Groundwater Monitoring

There are currently nine groundwater monitoring wells located at the Site. Three of the monitoring wells (LSP1-03, LSP2-03, LSP3-03) have been part of the annual monitoring program since 2003. Two wells, LSP4-19 and LSP5-19 were installed on July 16, 2019, and three new wells, LSP6-23, LSP7-23 and LSP8-23, were installed on September 21, 2023. LSP6-23 and LSP7-23 assist in determining the required buffer and CAZ for the Site, and with the purchasing or leasing requirements for the land areas from the Crown (MNR). A ninth groundwater monitoring location, in the form of a drive-point well (LSP-DP-1-21), was installed in 2021 at the request of the MECP Technical Surface Water Reviewer. The purpose of this drive-point well is to monitor potential impacts to the creek located northeast of the WDS. Schedule B of ECA No. classified LSP-DP-1-21 as a surface water monitoring location. During the 2021 and 2022 monitoring programs, LSP-DP-1-21 was treated as a groundwater monitoring location rather than a surface water location. To be consistent with historical reporting, LSP-DP-1-21 has been included as a groundwater monitoring location below and as a surface water monitoring location in Section 3.2.2.

Each well is screened in a water-bearing medium-grained brown sand and gravel unit, except for LSP5-19 which is predominantly screened in coarser gravel. No overburden unit was observed during the drive-point installation; however, it is assumed to be a sand and gravel unit as there was some resistance during installation and location adjustments were required. The location and descriptions of the groundwater monitoring wells, along with the coordinates, and screened interval are provided in Table 2, while the monitoring well logs are provided in **Appendix C.**

Table 2: Groundwater Monitoring Well Details

Sample Location	Northing	Easting	Screened Interval (mbgs)	Location Description
LSP1-03	5022641	731481	5.18 to 8.23	Within the approved waste footprint near the east boundary, south of the approximate buried waste outline, site leachate well
LSP2-03	5022752	731383	4.57 to 7.62	Within the approved waste footprint near the north boundary, north of the approximate buried waste outline, site background well
LSP3-03	5022671	731462	4.57 to 7.62	Within the approved waste footprint near the east boundary, 28 m north of LSP1-03, site leachate well
LSP4-19	5022665	731554	5.94 to 9.00	67 m east of the approved waste footprint, 30 m north of the access road
LSP5-19	5022610	731498	4.88 to 7.92	Within the approved waste footprint near the southern point, 10 m south of access road
LSP-DP-1-21	5022790	731475	1.04 to 1.84	5 m north of the northeast corner of approved waste footprint
LSP6-23	5022808	731621	4.25 to 7.31	165 m east of the approved waste footprint along the eastern CAZ boundary
LSP7-23	5022709	731657	5.30 to 8.38	175 m east of the approved waste footprint, 105 m south of LSP6-23 along the eastern CAZ boundary
LSP8-23	5022717	731451	6.15 to 9.14	Within the approved waste footprint near the east boundary, 45 m north of LSP3-03, site leachate well

Note: UTM Zone 17, NAD 83

Groundwater samples were collected during the spring and fall 2025 sampling events and analysed to characterize the groundwater quality at the Site. Historically, the semi-annual groundwater sampling was conducted voluntarily; however, it is now stipulated in Schedule B of the Amended

ECA (October 2021). Table 3 lists the groundwater quality monitoring parameters that were analysed.

Table 3: Groundwater Quality Monitoring Parameters

Category	Parameters
Organic Parameters	Dissolved Organic Carbon (DOC), Volatile Organic Compounds (VOCs)
Inorganic Parameters	Nitrate, Ammonia, Chloride, Major Ions (Sodium, Calcium, Magnesium, Sulphate, Alkalinity)
Soluble Metals (dissolved)	Iron, Boron, Barium, Manganese
Physical/Chemical Parameters	pH, Conductivity, Total Dissolved Solids (TDS), Total Suspended Solids (TSS)

In 2021, the MECP requested additional analysis of VOCs outside of Schedule B of the Amended ECA. If no VOCs were evident, then sampling of VOCs every five years would be acceptable. During the 2024 spring sampling event, groundwater samples were analysed for VOCs voluntarily. The 2025 groundwater samples were not submitted for VOC analysis.

Field measurements of groundwater pH, temperature, conductivity, and oxidation reduction potential (ORP) were collected at the time of sampling.

During the spring and fall Site visits, the groundwater monitoring wells were inspected and any repairs such as new locks, labels or well caps, were made as necessary. In the event that repairs could not be made, they were documented so the appropriate materials could be acquired for future repairs. Watertight casings and seals remain in place at all wells to ensure that surface water or foreign materials cannot enter groundwater monitoring wells. All groundwater monitoring wells are fitted with a vermin-proof cap to meet the requirements of Ontario Regulation 903 and are locked to provide protection against vandalism.

3.2.2 Groundwater Elevations

During each monitoring event, groundwater elevations were collected from the monitoring wells. Groundwater level measurements were collected using an electronic water level meter prior to purging/sampling activity. Groundwater elevation data are summarized in Table 4.

Table 4: Groundwater Elevation Data

Groundwater Monitoring Wells	Top of PVC Elevation (masl)	Water Level 6-May-25 (mbtpvc)[1]	Water Level 15-Oct-25 (mbtpvc)	Groundwater Elevation 6-May-25 (masl)	Groundwater Elevation 15-Oct-25 (masl)
LSP1-03	412.63	4.53	6.28	408.1	406.35
LSP2-03	412.73	3.715	5.44	409.015	407.29
LSP3-03	412.53	4.42	6.12	408.11	406.41
LSP4-19	412.55	5.47	6.57	407.08	405.98
LSP5-19	412.76	4.69	6.44	408.07	406.32
LSP6-23	406.53	0.86	1.12	405.67	405.41
LSP7-23	408.93	2.915	3.3	406.015	405.63
LSP8-23	413.68	5.61	7.08	408.07	406.60
LSP-DP-1-21	407.38	0.42	1.125	406.96	406.255

Note:
[1] mbtpvc = metres below top of PVC

3.2.2.1 Groundwater Gradients and Flow Direction

During the spring, groundwater at the Site is inferred to generally flow northeast toward Papineau Creek/Lake St. Peter. Based on the May 6, 2025, groundwater elevation data, the hydraulic gradient for the groundwater flow ranges from approximately 0.015 m/m in the northern section of the Site to approximately 0.013 m/m in the southern section.

Similar to the spring, the groundwater in the fall is generally inferred to flow northeast. Data from the October 15, 2025, event indicates that the groundwater flow has a hydraulic gradient that ranges from approximately 0.016 m/m in the northern part of the Site, to approximately 0.0057 m/m in the southern part of the Site, and to approximately 0.0041 m/m in the eastern section of the Site. The groundwater elevations and calculated equipotential lines for the spring and fall are provided on Figures 04 and 05, respectively.

3.2.3 Surface Water Monitoring

Surface water sampling was conducted during the spring and fall sampling events on May 6, 2025 and October 15, 2025, respectively. The surface water sampling locations are shown on Figure 02 and the coordinates are included in Table 5. Surface water samples were analysed for the parameters listed in Table 6. Photographs are provided at the end of the text following the Tables and Figures.

Table 5: Surface-Water Monitoring Locations

Location	Northing	Easting	Location Description
LSP-SW1	5022757	731357	Upstream, background location located along the northern property boundary
LSP-SW2	5022809	731474	Downstream, located approximately 130m east-northeast of LSP-SW1
LSP-DP-1-21	5022790	731475	5 m north of the northeast corner of approved waste footprint

Note: UTM Zone 17, NAD 83

Table 6: Lake St. Peter Surface Water Quality Monitoring Parameters

Category	Parameters
Biological Parameters	BOD_5, COD
Organic Parameters	Phenols
Inorganic Parameters	Alkalinity, Chloride, Nitrite, Nitrate, Sulphate, Phosphorous (Total), Total Kjeldahl Nitrogen (TKN), Ammonia (N)-Total, Total metals (unless otherwise noted) including: Calcium, Aluminum (Dissolved), Arsenic, Boron, Cadmium, Chromium, Cobalt, Copper, Iron, Magnesium, Nickel, Potassium, Selenium, Silver, Sodium, Zinc, Lead, Barium, Beryllium, Molybdenum, Manganese, Mercury (Dissolved), Silicon, Strontium, Thallium, Titanium, Vanadium
Physical/Chemical Parameters	pH, Conductivity, TDS, TSS, Colour, Hardness ($CaCO_3$), Turbidity (NTU)

There were no changes to the surface water parameter list included in the Amended ECA. Schedule B of ECA No. A361116 classified LSP-DP-1-21 as a surface water monitoring location; however, during the 2021 and 2022 monitoring programs, LSP-DP-1-21 was not analysed for the surface water parameters listed in Table 6. Starting in 2023, LSP-DP-1-21 was analysed for the surface water parameters listed in Table 6 in accordance with the ECA, in addition to the groundwater parameters listed in Table 3 to allow for a historical comparison to previous results.

Surface water velocity measurements were collected using a Global Water Flow Probe. Table 7 summarizes the collected measurements and presents the calculated discharge for each location.

Table 7: Surface Water Sampling Observations

Date	Location	Discharge [1] (m^3/s)	Velocity & Channel Measurements [2]
6-May-25	LSP-SW1	0.03	Depth 0.12 m; width 1.75 m; velocity 0.12 m/s
	LSP-SW2	0.07	Depth 0.15 m; width 2.25 m; velocity 0.21 m/s
15-Oct-25	LSP-SW1	-	Dry
	LSP-SW2	-	Dry

Notes:
[1] Calculated assuming a simple channel with a rectangular cross section.
[2] All velocity and channel measurements collected at the point of sampling.

3.2.4 Landfill Gas Monitoring

The primary gas present at landfill sites is methane. Methane cannot cause an explosion unless it accumulates to a concentration above its lower explosive limit (LEL) in an enclosed area. The LEL for methane is 5% in air. The methane concentration limits, as per Regulation 232/98, are:

- Less than 2.5% methane gas (25,000 ppm, LEL=50%) in the subsurface at the property;
- Less than 1.0% methane gas (10,000 ppm, LEL=20%) in an on-site building, or its foundation; and
- Less than 0.05 % methane gas (500 ppm, LEL=1%) in a building, or its foundation, which is located off-site.

Routine landfill gas monitoring within any buildings or structures is required at the Site.

3.3 Monitoring Procedures and Methods

3.3.1 Groundwater Monitoring

Groundwater monitoring wells, including the drive-point well, were purged a minimum of three well volumes or until purged dry. In the case where a well was purged dry, samples were collected after sufficient water had returned for sampling purposes. Field temperature, pH, and conductivity measurements were recorded at the time of sampling using a YSI multi-meter. The instrument was calibrated as per the manufacturer's instructions prior to the Site visit. Samples were field filtered for dissolved organic carbon (DOC) and dissolved metals.

Samples were collected in laboratory-prepared and supplied bottles and submitted for analysis to Bureau Veritas (BV), in Mississauga, Ontario. BV is accredited by the Standards Council of Canada (SCC). Groundwater samples were stored at approximately 4° Celsius during shipment to BV. Hold times for samples conformed to CCME guidelines where applicable (CCME, 1993). Chain of custody forms accompanied the samples from shipment to the laboratory until the chemical results were provided to BluMetric. Laboratory reports and COC forms are compiled in **Appendix D (D-2)**.

3.3.2 Surface Water Monitoring

Field parameters are recorded in the field at the time of the sampling. During both sampling events, temperature, pH, conductivity, and dissolved oxygen measurements were recorded using a YSI multi-meter which was calibrated as per the manufacturer's instructions prior to the Site visits.

Surface water samples were collected in laboratory-prepared and supplied bottles and submitted for analysis to Bureau Veritas (BV) in Mississauga, Ontario for analysis. Surface water samples were stored at approximately 4° Celsius during shipment to BV. Hold times for samples conformed to CCME Standards where applicable (CCME, 1993). Chain of custody forms accompanied the samples from shipment to the laboratory until the chemical results were provided to BluMetric. Laboratory reports and chain of custody forms are compiled in **Appendix D (D-3)**.

3.3.3 Landfill Gas Monitoring

There are no sampling valves, ports, or vapour monitors on-site. Gas monitoring using a calibrated RKI Eagle gas monitor was collected from the on-site attendant's building and groundwater monitoring wells during the 2025 sampling events. Gas monitoring measurements were taken from the building by inserting the intake of the gas monitor through a small opening while the structure remained closed. Gas monitoring measurements from the groundwater monitoring wells were collected, prior to collecting groundwater levels or samples, by inserting the intake of the gas monitor in the monitoring well and creating a seal around the well opening and the gas intake.

3.3.4 Field QA/QC Program

The Quality Assurance/Quality Control (QA/QC) program for the Site included the collection of field duplicate samples to demonstrate that field sampling techniques utilized by BluMetric personnel are capable of yielding reproducible results. Field duplicates were collected concurrently with the original sample. Field duplicates were collected at a minimum 10% frequency during the sampling program at the WDS.

Precision is a measure of the reproducibility of analytical results and can be expressed quantitatively by the relative percent difference (RPD) between the original sample(s) and their corresponding field blind duplicate sample(s). The RPD is defined by the following equation:

$$RPD = 2 \times \frac{|(S - D)|}{(S + D)} \times 100$$

Where: S = concentration in the original sample
D = Concentration in the duplicate

An RPD is calculated where the average of the measured parameter concentrations of the original (S) and duplicate (D) samples is greater than 5X the laboratory readable detection limits (RDL), which represents the RPD qualification criteria. A lower level of precision is expected where the above criteria are not met. A high level of reproducibility with respect to sample results collected at the Site is indicated by an RPD value below 10% for electrical conductivity and 20% for metals and inorganics.

These criteria are used as a general guideline and correspond to those recommended within the O. Reg. 153/04 Analytical Protocol (MOE, 2011) and by the Ontario QA/QC Interpretation Guide – Environmental Services (Maxxam, 2015). An RPD below the recommended criteria is considered acceptable, indicating that the sampling methodology is capable of producing repeatable results.

One blind field duplicate per media was sampled and submitted for analyses per sampling event. The field duplicate bottles are filled simultaneously to the sample location selected for duplication. The laboratory prepared bottles (identified and duplicate) for each group of chemical parameters (e.g., metals, nutrients etc.) is first filled for the identified location and then the duplicate for that same group of chemical parameters is immediately filled. This continues until the two sample bottles for each group of parameters are filled.

4 Monitoring Results

4.1 Groundwater Quality

Groundwater quality has been compared to the Ontario Drinking Water Quality Standards (ODWQS), the calculated Reasonable Use Values (RUVs, described below), and the Provincial Water Quality Objectives (PWQO).

Field Measurements

The summary of the field measurements of groundwater pH, temperature, and conductivity are presented in Table 8.

Table 8: Groundwater Quality Field Measurements

Groundwater Monitor	pH		Temperature (°C)		Conductivity (µS/cm)	
	6-May-25	15-Oct-25	6-May-25	15-Oct-25	6-May-25	15-Oct-25
LSP1-03	6.45	6.63	7.9	8.7	1084	977
LSP2-03 (background)	6.14	6.17	8.8	7.40	51.8	45.3
LSP3-03	6.09	6.58	6.3	8.2	413.8	713
LSP4-19	6.16	6.32	7.8	7.4	315.6	619
LSP5-19	6.02	6.31	6.1	6.8	33.7	32.9
LSP6-23	6.41	6.81	7.4	7.7	100.8	87.5
LSP7-23	5.94	5.95	7.5	7.5	115.5	66.6
LSP8-23	6.63	6.47	9.7	9.0	610	793
LSP-DP-1-21	6.47	6.35	6.4	9.8	400.1	637

Ontario Drinking Water Quality Standards (ODWQS)

A summary of the 2025 groundwater parameters exceeding the ODWQS criteria is included in Table 9. The full laboratory results are presented in Table 16 at the end of the report.

Table 9: Groundwater Quality Parameters Exceeding ODWQS

Location	Parameters	2025 Sampling Event(s)
LSP1-03	DOC Iron Manganese	Spring, Fall Spring, Fall Spring, Fall
LSP2-03 (Background)	Alkalinity (below criteria)	Spring, Fall
LSP3-03	DOC Iron Manganese	Spring, Fall Spring, Fall Spring, Fall
LSP4-19	DOC Manganese	Fall Spring, Fall
LSP5-19	Alkalinity (below criteria)	Spring, Fall
LSP6-23	Manganese	Spring, Fall
LSP7-23	Alkalinity (below criteria) pH	Spring, Fall Fall
LSP8-23	DOC Iron Manganese	Fall, Spring Fall, Spring Fall, Spring
LSP-DP-1-21	DOC Iron Manganese	Spring, Fall Spring, Fall Spring, Fall

Provincial Water Quality Objectives (PWQO)

At the request of the MECP, groundwater results were compared to the PWQO criteria. The only parameters that are tested at the Site and have surface water criteria under the PWQO are alkalinity, pH, and total aluminum, boron, iron, lead, and zinc.

The PWQO exceedances are summarized in Table 10 below. The full laboratory results are presented in Table 16 at the end of the report.

Table 10: Groundwater Quality Parameters Exceeding PWQO

Location	Parameters	2025 Sampling Event(s)
LSP1-03	Boron Iron	Spring, Fall Spring, Fall
LSP2-03 (Background)	None	None
LSP3-03	Iron	Spring, Fall
LSP4-19	Boron	Spring, Fall
LSP5-19	None	None
LSP6-23	None	None
LSP7-23	pH	Fall
LSP8-23	Boron Iron	Spring, Fall Spring, Fall
LSP-DP-1-21	Boron Iron	Spring, Fall Spring, Fall

Reasonable Use Values (RUVs)

The water quality results for background groundwater monitoring well LSP2-03 from 2006 to 2025 were used to calculate Reasonable Use Value (RUV), as per the guidance offered by MECP Procedures B-7 and B-7-1 using the following equation.

$$Cm = Cb + x\ (Cr - Cb)$$

Where:

- Cm: is the maximum allowable concentration in groundwater beneath adjacent property (Reasonable Use Value);
- Cb: is the median background concentration before any effects from human activity;
- Cr: is the maximum concentration that should be present based on use (ODWQS); and
- X: is the constant that reduces the contamination to a level considered by the MECP to have only a negligible effect on the use of the water (0.25 for a health-related parameter and 0.5 for an aesthetic or physical parameter).

Table 11 summarizes the data that were used to calculate Cm values (RUV), for the parameters of interest.

Table 11: Reasonable Use Calculations

Parameter	Units	ODWQS		Historical Median	x	RUV
		Type	Cr	Cb		Cm
Alkalinity as CaCO3 (upper)	mg/L	OG	500	12.5	0.5	256.3
Chloride	mg/L	AO	250	0.5	0.5	125.3
DOC	mg/L	AO	5	3.6	0.5	4.3
Iron	mg/L	AO	0.30	0.114	0.5	0.21
Manganese	mg/L	AO	0.05	0.051	0.5	0.051
N-NO3 (Nitrate)	mg/L	MAC	10	0.025	0.25	2.5
Sodium	mg/L	AO	200	1.53	0.5	100.8
Sulphate	mg/L	AO	500	5.245	0.5	252.6
TDS	mg/L	AO	500	34	0.5	267.0

Note: The background water quality at LSP2-03 and the regional groundwater is generally below the lower criterion for alkalinity. Therefore, there is no lower RUV for alkalinity.

A comparison of the groundwater chemistry results against the RUVs is provided in Table 16, at the end of the report. Table 12 below summarizes the parameters that exceeded the RUVs in 2025. It should be noted that the RUVs are used to assess compliance at the property boundary but have been used as an assessment tool at all monitoring wells.

Table 12: Groundwater Quality Parameters Exceeding the RUVs

Location	Parameters	2025 Sampling Event(s)
LSP3-03	DOC TDS Iron Manganese	Spring, Fall Fall Spring, Fall Spring, Fall
LSP1-03	Alkalinity DOC TDS Iron Manganese	Spring, Fall Spring, Fall Spring, Fall Spring, Fall Spring, Fall
LSP2-03 (background)	None	None
LSP4-19	Nitrate DOC TDS Manganese	Spring, Fall Fall Fall Spring, Fall
LSP5-19	None	None
LSP6-23	Manganese	Spring, Fall
LSP7-23	None	None
LSP8-23	DOC TDS Iron Manganese	Spring, Fall Spring, Fall Spring, Fall Spring, Fall
LSP-DP-1-21	DOC Iron Manganese	Spring, Fall Spring, Fall Spring, Fall

4.2 Surface Water Quality

Surface water quality results for the spring and fall sampling events were compared to PWQO and the Table A and Table B criteria of the WDS Technical Guidance. Following a review of the 2024 surface water monitoring program by the MECP of another MHH Site from 2025, it was noted that the WDS Technical Guidance Table A and Table B criteria were a draft and never adopted by the MECP. The MECP has indicated that the Table A and Table B criteria should not be used for the evaluation of surface water quality and therefore will not be discussed in the body of this report. Table 13 summarizes the parameters that exceeded criteria (and does include WDS Technical Guidance Table A and Table B criteria as a reference only) Table 13 below summarizes the criteria exceedances. The full laboratory results are presented in Table 17 at the end of the report.

Table 13: Surface Water Quality Parameter Exceedances

Location	Exceeded PWQO	2025 Sampling Event(s)
LSP-SW1	Aluminum (dissolved) Copper (total)	Spring Spring
LSP-SW2	Aluminum (dissolved) Lead	Spring Spring

4.3 Landfill Gas Monitoring

Landfill gas readings collected during the 2025 spring and fall sampling events are presented in Table 14 below.

Table 14: 2025 Landfill Gas Field Data

Location	Description of Reading Location	Spring 2025 Reading (ppm)	Fall 2025 Reading (ppm)
Attendant's Building	Probe inserted through main door	0	15
LSP1-03	Well head	0	50
LSP2-03	Well head	0	5
LSP3-03	Well head	0	40
LSP4-19	Well head	5	40
LSP5-19	Well head	0	30
LSP6-23	Well head	0	0
LSP7-23	Well head	0	15
LSP8-23	Well head	170	200
LSP-DP-1-21	Well head	5	5

4.4 QA/QC Results

One groundwater duplicate sample and one surface water duplicate sample were collected during each sampling event in 2025. The consistency of the results was evaluated based on the relative percentage difference (RPD) of each field duplicate pair.

No parameters exceeded the recommended RPD in the groundwater sample/duplicate pairs collected during both spring and fall sampling events. No parameters exceeded the recommended RPD in the groundwater sample/duplicate pairs collected in the spring sampling event. The results for the duplicate pairs are presented in **Appendix D (D-4 and D-5)**.

5 Assessment, Interpretation and Discussion

5.1 Groundwater Assessment

The groundwater chemistry results for the nine monitoring wells sampled during the two monitoring events are summarized in Table 16 at the end of text. Parameters with concentrations that fell outside the RUVs, ODWQS, and/or PWQO criteria are highlighted. Intermittent VOC (5 year sampling frequency) sampling is required for groundwater monitoring at the site at the request of the MECP. The most recent VOC sampling was conducted in 2024 and therefore groundwater was not analyzed for VOCs during the 2025 monitoring period. Historical results for VOC parameters in groundwater are available in **Appendix E (E-2)**.

Overview

The historical groundwater quality results from the Lake St Peter WDS are presented in **Appendix E (E-1 and E-2)**, and a Mann Kendall trend analysis for select parameters are discussed in Section 5.5 and presented in **Appendix F**. Analytical results from the 2025 monitoring program exhibit parameter concentrations that are within historical ranges for alkalinity, dissolved barium, dissolved boron, chloride, DOC, dissolved iron, dissolved manganese, and TDS. Some seasonal fluctuations are in present in dissolved manganese, TDS, and chloride between the spring and fall sampling events. However, following the evident rise in concentrations between 2014 and 2017, all parameters appear to have stabilized with fluctuations between seasonal highs and lows. Results at background well LSP2-03 remained constant with low concentrations for all parameters. Due to insufficient data, trends cannot be assessed at the monitoring wells installed in 2021 (LSP-DP-1-21) and in 2023 (LSP6-23, LSP7-23, and LSP8-23). It is anticipated that at least five years of semi-annual data will be required prior to analysing trends at these newer wells. The newly installed wells were still incorporated into the Mann-Kendall trend analysis and a preliminary evaluation of the data of the newly installed monitoring wells indicates a similar seasonal trend in parameters concentrations between spring and fall sampling events.

LSP2-03 (Background Well)

Monitoring well LSP2-03 is located north of the waste area just south of the northern property boundary and is considered the background well for the Site. Groundwater quality parameters met the ODWQS during both spring and fall sampling events except for alkalinity. Alkalinity fell below the lower limit of ODWQS range for alkalinity and is consistent with historical results. Elevated levels of dissolved manganese and DOC were also recorded at this well just below the ODWQS criteria. This monitoring well is considered to best represent background conditions, therefore low

alkalinity and slightly elevated levels of dissolved manganese and DOC are considered to be naturally occurring.

LSP3-03 (Downgradient)
Monitoring well LSP3-03 is located downgradient of the waste area along the eastern property boundary near the edge of the buried waste and is considered to be a leachate well. The groundwater analytical results indicated exceedances of the RUV criteria and the ODWQS for the spring and fall monitoring events for DOC, dissolved iron, and dissolved manganese, with TDS only exceeding the RUV in the fall. Although dissolved manganese and DOC is naturally occurring at the Site in low concentrations, the exceeding concentrations at this location are likely due to landfill impacts based on the downgradient location. A PWQO exceedance for dissolved iron was also

reported at LSP-03 during the spring and fall sampling event. In the fall of 2022, a sudden rise in chloride concentration was observed, and since 2023 the elevated levels of chloride have returned to within historical levels.

LSP1-03 (Downgradient)
Monitoring well LSP1-03 is located downgradient of the waste area along the eastern property boundary near the edge of buried waste, just south of LSP3-03, and is considered to be a leachate well. The groundwater quality was compared to the RUV for the Site, and five parameters exceeded for the spring and fall sampling events (alkalinity, DOC, TDS, dissolved iron, and dissolved manganese). The concentrations at this well also exceeded the ODWQS for DOC, dissolved iron, and dissolved manganese during both 2025 sampling events. PWQO exceedances were also indicated in the spring and fall sampling events for dissolved iron and dissolved boron. The criteria exceedances are likely due to landfill impacts. Elevated levels of chloride compared to the background water quality are also observed this monitoring location but still fall within historical ranges.

LSP5-19 (Cross-gradient)
Monitoring well LSP5-19 is located near the southeastern corner of the property boundary. The groundwater results met all RUV during both sampling events, which is generally consistent with the historical results. Except for alkalinity (spring and fall), all groundwater quality parameters also met the ODWQS during both spring and fall sampling events. No PWQO exceedances were reported in 2025. The alkalinity results that did not meet the guideline were below the lower limit of the ODWQS: as discussed above, low alkalinity is considered to be naturally occurring and associated with background water quality. This well is not considered to be leachate-impacted.

LSP4-19 (Downgradient)

Monitoring well LSP4-19 is located off-site to the east of LSP1-03 and LSP3-03 and is downgradient of the waste area. Like the three previous monitoring years, RUV exceedances for nitrate and dissolved manganese were reported during the spring and fall sampling events. DOC and TDS also exceeded in the fall of 2025. This location also had ODWQS exceedances for dissolved manganese in the spring and fall and DOC in the fall, as well as a PWQO exceedance for dissolved boron in the spring and fall. Seasonal fluctuation of dissolved manganese also appears to be a recurring trend with higher concentrations reported in the fall. These elevated parameters are likely due to landfill impacts.

LSP-DP1-21 (Downgradient)

The LSP-DP1-21 drive point well is located off-site, northeast of the waste area. The groundwater chemistry was compared to the RUV criteria for the Site, as well as the ODWQS and PWQO criteria. During both the spring and fall sampling events, LSP-DP1-21 exceedance the ODWQS and RUV criteria for DOC, dissolved iron, and dissolved manganese; and the PWQO criteria for dissolved boron and dissolved iron. The concentrations of all parameters exceeding the applicable criteria are within their historical ranges. It should be noted that based on the screen elevation and the water levels collected, LSP-DP1-21 is considered to be representative of groundwater-surface water interaction but not of groundwater quality, therefore LSP-DP1-21 results were not considered for compliance with Guideline B-7.

LSP8-23 (Downgradient)

LSP8-23 is located within the Phase 1 footprint (Cell #11) near its eastern boundary and is the closest downgradient well to the background location. This monitoring well was installed in September 2023 and is considered to be a leachate well. The groundwater quality was compared to the RUV criteria for the site, and four parameters (DOC, TDS, dissolved iron, and dissolved manganese) exceeded for both the fall and spring sampling events. The analytical results also indicated exceedances of the ODWQS for DOC, dissolved iron, and dissolved manganese and exceedances of the PWQO for dissolved iron and dissolved boron during both the spring and fall sampling events. The reported concentrations of DOC, dissolved iron and dissolved manganese at LSP8-23 appear to be elevated compared to the two other leachate wells on site, LSP1-03 and LSP3-03, while concentrations for the remaining parameters are within historical ranges for this monitoring well Parameter concentrations fluctuate between the spring and fall, which is consistent with other monitoring wells on-site.

LSP6-23 (Downgradient)

LSP6-23 is located downgradient of the Site along the eastern CAZ boundary near the northeast corner of the approved 17 ha waste site. This monitoring well was installed in September 2023 to assess Guideline B-7 compliance. The fall 2023 sampling event was the first monitoring event for this location. In 2025, dissolved manganese exceeded the calculated RUV for the Site for the spring and fall sampling events. The concentration of dissolved manganese also exceeded the ODWQS for the spring and fall events. No PWQO exceedances were identified. The concentration of dissolved manganese was higher than the concentrations reported at the background monitoring well but lower than at the leachate affected wells. It is difficult to determine if the dissolved manganese concentration reported is naturally occurring due to the lack of data. The absence of elevated chloride (a leachate indicator parameter [LIP] for the Site) at this monitoring

location would support the conclusion that the dissolved manganese exceedances are naturally occurring. It is anticipated that at least five years of semi-annual data will be required prior to analysing trends.

LSP7-23 (Downgradient)

LSP7-23 is located downgradient from the Site south of LSP6-23 along the eastern CAZ boundary. This monitoring well was installed in September 2023 to assess Guideline B-7 compliance. The fall 2023 sampling event was the first monitoring event for this location. During the 2025 monitoring period LSP7-23 exceeded the lower ODWQS criteria for alkalinity in the spring and fall, as well as pH in the fall only. The pH recorded in the fall also exceeded the lower limit for the PWQO. Low alkalinity is considered to be naturally occurring on the Site. Based on the slightly elevated chloride levels, relative to background water quality, and lack of elevated dissolved iron and dissolved manganese, it is difficult to conclude whether the exceedances are due to landfill related impacts. It is anticipated that at least five years of semi-annual data will be required prior to analysing trends.

Groundwater alkalinity concentrations at the Site are naturally low. The average concentration at the background location using data from 2006 to 2024 is 12.5 mg/L. PWQO criteria states that alkalinity cannot be decreased by more than 25% of the natural concentration. Impacts from the WDS have been observed to increase the alkalinity concentration at the Site, therefore the downgradient wells do not exceed the PWQO for this parameter.

Analytical results from groundwater monitoring wells have indicated Guideline B-7 compliance along the northern property boundary and southern property boundary. There are no western property boundary monitoring wells, but the western property boundary is assumed to be compliant with Guideline B-7 based on the inferred direction of groundwater flow to the northeast. The WDS is not compliant with Guideline B-7 along the eastern property boundary. The MNR has agreed to and has provided a Grant of Easement for these lands. The CAZ is shown on Figure 02. Sufficient natural attenuation is anticipated to occur for the Site to be compliant with Guideline B-7 along the new property boundaries. Two monitoring wells, LSP6-23 and LSP7-23 were installed along the eastern CAZ boundary in September 2023 to assess Guideline B-7 compliance, however there is minimal data to determine compliance on the eastern boundary as there is only five data sets. Further monitoring is required at these locations to determine if sufficient natural attenuation can occur within the new boundaries.

5.2 Surface Water Assessment

The analytical results for the two surface water locations sampled during the spring and fall monitoring events are summarized in Table 17 at the end of the report. Parameters with concentrations outside the PWQO are highlighted.

The historical surface water quality results from the Lake St Peter WDS are presented in **Appendix E (E-3)**, and a Mann-Kendall trend analysis for select parameters are discussed in Section 5.5 and presented in **Appendix F.**

Based on the local topography, surface water on-site generally flows east towards Papineau Creek and Lake St. Peter. The surface water sampling location LSP-SW1, located along the northern property boundary, is upstream of LSP-SW2 which is located further east. Both surface water monitoring locations were dry at the time of the fall 2025 sampling event, therefore no samples were collected.

Historical results have indicated higher concentrations of alkalinity, TDS, total boron, chloride, total iron and total manganese downstream at LSP-SW2, compared to the upstream location LSP-SW1. This may indicate that the landfill is impacting the small creek located immediately north of the Site running between the two surface water sampling locations. Other parameters monitored at these locations show typical seasonal fluctuations in concentration with no evidence of increasing or decreasing trends.

LSP-SW1 (Upstream)
The spring 2025 surface water results for the upstream (and therefore background) location LSP-SW1 were compared to the PWQO. Dissolved aluminum and total copper were the only parameters to exceed the PWQO, and are considered to be associated with background water quality of the area.

LSP-SW2 (Downstream)
At the downstream surface water location LSP-SW2, exceedances of the PWQO include dissolved aluminum and total copper.. As mentioned above, the dissolved aluminum and total copper exceedances are likely associated with background water quality.

The concentration of aluminum in surfaced ater is elevated at the Site and is considered to be representative of background water quality. The average concentration at the background location LSP-SW1 is 0.148 mg/L, which was calculated using data from 2019 to 2024. The PWQO criteria states that if natural background aluminum concentrations in water bodies exceed the PWQO value, no condition is permitted that would increase the aluminum concentration by more than 10% of the natural background level (calculated to be 0.163 mg/L for the Lake St. Peter Site). Limited impacts from the WDS have been observed at the downstream location LSP-SW2 as reported aluminum concentrations are stable or slightly lower at LSP-SW2 than those reported upstream, therefore the downstream surface water monitoring location does not exceed the PWQO for this parameter.

5.3 Groundwater and Surface Water Interaction

In 2025, groundwater depths at the monitoring wells ranged from 0.42 to 7.08 m bgs. Based on Site topography and groundwater elevations, groundwater discharge to surface water was determined to be possible to the east of the WDS. The creek located north of the WDS has shown elevated concentrations of leachate-related parameters when comparing the 2025 sampling results from the downstream location (LSP-SW2) to the upstream location (LSP-SW1).

As per the MECP's recommendation to monitor potential groundwater impacts to the creek, drive-point well LSP-DP-1-21 was installed northeast of the property. In the correspondence from the MECP's Technical Surface Water Reviewer (July 2021), LSP-DP-1-21 is referred to as a groundwater monitoring well installed between the mound and SW2 to verify groundwater flow direction and assess landfill impacts to surface water. The samples from LSP-DP-1-21 have been analysed for the list of groundwater and surface water parameters in Table E-1 and Table E-2 of Schedule B of the ECA and then compared to the PWQO to assess potential impacts.

Upon comparison of the historical data available (fall 2021 to fall 2025), groundwater interaction between LSP-DP-1-21 and LSP-SW2 was determined to be unlikely. PWQO exceedances at LSP-DP-1-21 during both spring and fall sampling events included boron and iron, none of which exceeded at LSP-SW2. Although no other PWQO exceedances were present at LSP-DP-1-21, the concentrations for all analysed parameters were significantly higher in the groundwater sample versus the surface water sample.

As recommended in the 2022 annual monitoring report, the elevation of both surface water monitoring locations was measured and compared to groundwater elevations during each semi-annual monitoring event to improve the assessment of potential groundwater and surface water interaction. Surface water elevations were only measured in the spring of 2025 since both monitoring locations were dry during the fall event. The elevation of the surface water at LSP-SW1 was measured to be 409.53 masl, compared to the groundwater elevation of 409.02 masl in downgradient monitoring well LSP2-03, the nearest well. The upstream surface water level is 0.51 m higher than the groundwater level. Similarly, SW2 was measured at 406.15 masl compared to a groundwater elevation of 406.96 in the upgradient drive point well, LSP-DP-1-21. The surface water level at the downstream location LSP-SW2 was 0.81 m below the groundwater level. These surface water elevations confirm the possibility of interaction; however the concentrations of LIP reported for the 2025 sampling event do not reflect groundwater discharge impacts and interaction is determined to be unlikely. However, groundwater interaction with surface water further downgradient of LSP-SW2 cannot be disproven.

5.4 Landfill Gas Assessment

The RKI Eagle gas monitoring results for 2025 (200 ppm or less) indicated that methane gas concentrations are well below the concentrations of concern (<10,000 ppm) for the subsurface, buildings and structures on-site.

5.5 Mann-Kendall Trend Analysis

In order to support evaluating water quality at the site a Mann-Kendall trend analysis was conducted for all the groundwater and surface water monitoring locations using data from the past 10 years. Although only three years of semi-annual data is available for LSP6-23, LSP7-23, and LSP8-23, less than the recommended five years, a trend analysis was still conducted to support our interpretations of current data and future monitoring reports. The analysis was conducted for leachate indicator parameters and/or parameters that have historically exceeded at each

respective monitoring location. A summary for each location can be found below and the complete trend analysis is presented in **Appendix F**.

LSP1-03

The trend analysis at LSP1-03 indicated that all analyzed parameters exhibited stable or decreasing trends. Stable trends were noted for alkalinity, boron, chloride, sodium, and pH. Decreasing trends were observed for barium, DOC, iron, manganese, sulphate, and a probable decreasing trend for TDS.

LSP2-03

Due to LSP2-03 being a background well, only a small set of parameters were analyzed for trends: Alkalinity exhibited a probable increasing trend, iron an increasing trend, manganese a stable trend, and pH exhibited no trend.

LSP3-03

Decreasing trends were observed for alkalinity and boron. A probable decreasing trend was observed for manganese. Stable trends were observed for barium, TDS, and pH. An increasing trend was exhibited for chloride. No trends were noted for DOC and iron.

LSP4-19

No trends were exhibited for boron, iron, and TDS. A stable trend was observed for chloride, DOC, and manganese. An increasing trend was observed for nitrate.

LSP5-19

At LSP5-19 the following trends were noted: a stable trend for alkalinity, no trend for DOC, a decreasing trend for manganese, and an increasing trend for pH.

LSP6-23

Stable trends were observed for TDS and iron at LSP6-23 and a decreasing trend was observed for manganese.

LSP7-23

At LSP7-23 a stable trend was observed for alkalinity, chloride, and pH. Manganese exhibited a decreasing trend and DOC was observed to have an increasing trend.

LSP8-23
At LSP8-23 a stable trend was observed for alkalinity, DOC, and TDS. No trend was observed for manganese. Both boron and iron were observed to have decreasing trends.

LSP-DP1-21
Due to LSP-DP1-21 being analyzed for both surface water and groundwater parameters, a larger set of parameters were included in the trend analysis for this monitoring location. Decreasing trends were noted for total arsenic, total cobalt, total copper, total lead, and total vanadium. A probable decreasing trend was observed for total nickel. No trends were observed for chloride, DOC, dissolved iron, total phosphorus, and total zinc. Stable trends were observed dissolved boron, total boron, total iron, and dissolved manganese. None of the analyzed parameters exhibited an increasing or probable increasing trend at LSP-DP1-21.

LSP-SW1
No trends were observed at LSP-SW1 for alkalinity, aluminum, or total iron. A stable trend was exhibited for total copper and an increasing trend was observed for pH.

LSP-SW2
At LSP-SW2 no trend was observed for aluminum, total phosphorus, or pH. A stable trend was observed for total copper and total iron at LSP-SW2.

5.6 Trigger Mechanisms and Contingency Plans

The Site Trigger Mechanisms and Contingency Plan for groundwater and surface water was approved by the MECP in the fall of 2021 and is referenced in the amended ECA dated October 25, 2021. A copy of the approved Trigger Mechanisms and Contingency Plan is appended to this report as **Appendix G**.

The trigger assessment points for surface water are LSP-SW2 and LSP-DP-1-21, and the assessment criteria include alkalinity, total boron, un-ionized ammonia, chloride, total iron, total manganese, and nitrate. The Contingency Plan is triggered if two or more of the trigger parameters exceed the trigger limit, which is equal to the PWQO or CCME CWQG, for an assessment point for two consecutive samples. The Contingency Plan was triggered at LSP-DP-1-21 during both spring and fall 2025 sampling events with trigger parameter exceedances of total boron, total iron, and total manganese. The trigger exceedances activated Tier 1 of the Contingency Plan, and a toxicity sample was collected from the creek downstream of the assessment point on June 10, 2025, following the spring trigger and on November 18, 2025, following the fall trigger. The test results

indicated the percent mortality for Daphnia Magna and Rainbow Trout were 0% for both sampling events. As a result, Tier 2 contingency action was not required in spring and in the fall. The toxicity laboratory results are included in **Appendix D (D-6)**.

The groundwater Trigger Mechanisms and Contingency plan was implemented on-site following the installation of monitoring wells LSP6-23 and LSP7-23 in September 2023. The wells are located along the eastern CAZ limit and act as the assessment points for the Site Trigger Mechanisms and Contingency Plan. The assessment criteria include dissolved barium, DOC, TDS and chloride. The groundwater Contingency Plan is activated if one or more of the trigger parameters exceed the trigger limit, which is equal to the RUV, for an assessment point for two consecutive samples. No exceedances were reported during the 2025 monitoring period.

5.7 CAZ Assessment

BluMetric worked with the Municipality in 2020 to confirm the boundaries for a CAZ around the Site and to prepare a D&O Plan. Detailed discussion on the CAZ assessment was provided in the 2020 monitoring report for the Site. In summary, it was concluded that an area extending 140 m east (downgradient) of the Site is required for natural attenuation. The Municipality made a request to the MNR to purchase additional buffer and CAZ lands to own the total Site area of 17 ha of the WDS. A Grant of Easement was provided to the MHH by the MNR for these additional lands in 2025 and the associated documents are provided in **Appendix A**. The proposed CAZ and total Site area boundaries are shown on Figure 02.

These boundaries are vital with respect to the Site's compliance issues (e.g., Guideline B-7). Monitoring wells LSP6-23 and LSP7-23 were installed along the eastern limit of the CAZ in September 2023 to confirm Site compliance. These monitoring wells are also used as the assessment point for the groundwater Site Trigger Mechanisms and Contingency Plan.

As part of the CAZ assessment work and in historical monitoring reports, BluMetric has considered LSP1-03 and LSP3-03 as leachate wells. These wells are installed near the southeast corner of the approximate waste footprint. A third leachate well, LSP8-23, was installed in September 2023 within the Phase 1 footprint near its eastern boundary, as required by the amended ECA. It is recommended that these three wells continue to be used as the primary leachate wells in 2025.

6 Site Operations

The Lake St. Peter WDS currently collects waste in covered waste bins (8 cubic yard). The waste is periodically transferred to the active waste area and covered. The Site has segregated areas for scrap metal, tires, large bulky items (e.g., couches and mattresses), electronic waste, and a recycling transfer station (8 cubic yard bin) for household blue box recyclable containers (e.g., aluminum cans, metal cans, plastic bottles) and fibre (e.g., paper and cardboard). The Municipality implemented a clear-bag policy in October 2014 to facilitate increased waste diversion in an effort to extend the operational life of their municipal landfill sites. This bylaw was revised in 2018. The clear-bag policy applies to both recyclable and household waste, with non-compliant bags to be refused unless residents remove recyclables from the bag.

6.1 Annual Waste Summary

Although access to the Site is controlled via a locked security steel gate, some residents deposit garbage at the disposal site outside of the landfill's normal operating hours. This contribution is collected by Site personnel, recorded, and included in the total waste volumes identified for the Site.

Estimated volumes for the Site are based on Contractors' tonnages and estimations of the number of bags deposited at the Site. An average of 15 kg per bag, provided by the Municipality, is used in the waste calculations. The quantities below include recyclables and waste from both the residential and commercial sources within the municipality.

The waste report for 2025 indicates that approximately 29 tonnes of recyclables (R) and 241 tonnes of waste (W) were deposited in the Lake St. Peter WDS. Based on these reported quantities, the mass of recyclables collected in 2025 was 2.5% lower than what was collected in 2024, while the quantity of waste received at the Site was 1% lower than what was received in 2024. Based on those numbers, 12.1% of the total waste was recycled in 2025, marginally lower than the 12.3% calculated in 2024. The quarterly breakdown is shown below in Table 15.

Table 15: Annual Recycling and Wastes Tonnages

Q1		Q2		Q3		Q4		Total Annual	
R	W	R	W	R	W	R	W	R	W
2024									
5.8	43.3	6.97	59.46	11.79	89.5	5.4	50.84	**30.0**	**243.2**
2025									
4.53	40.40	6.91	59.37	11.68	92.79	6.14	48.23	**29.25**	**240.78**

In addition, segregated materials were collected at each of the nine WDSs/WTSs in Hastings Highlands. The 2025 breakdown of theses wastes at the Lake St. Peter Site was as follows:

- Scrap metal – 0 tonnes;
- Bulky wastes – 15.62 tonnes;
- Leaf and yard waste – 753 truck/trailer loads;
- Electrical and Electronic Equipment – 0 tonnes;
- Household batteries – 0 tonnes; and
- 105 tires.

There were no documented complaints for rejected waste, or emergency situations at the Lake St Peter WDS in 2025.

6.2 Site Capacity and Life Expectancy

The Lake St Peter WDS has a total area of 17 hectares (ha), of which 2.2 ha is designated as approved landfilling area. The final volumetric capacity of the Site, excluding final cover, is 73,383 cubic metres (m^3).
The last five annual monitoring reports for the Site have recorded annual waste generation rates of 293.5 (2021), 254.04 (2022), 249.39 (2023), 243.2 (2024), and 240.78 tonnes (2025); resulting in an average waste generation rate of 256 tonnes per year.

The 256 tonnes per year are estimated to equate to 512 m^3 of compacted waste per year (no soil cover), assuming a compaction density of 500 kg/m^3. Clean fill which is to be applied as daily cover between waste layers is estimated at 25% of the waste volume. Therefore, the total average annual fill rate is expected to be approximately 640 m^3 per year.

A topographic survey was completed at the Site on October 15, 2025, and determined the net cut for the Phase 1 footprint design contours to be 2,382 m^3 and is presented of Figure 06. Considering the estimated net fill volume for Phase 2 of 71,763 m^3 as stated in the 2020 D&O Plan, the remaining capacity for the Site was calculated to be 69,381 m^3.

According to the 2025 waste data obtained from the MHHs, it is estimated that 121 tonnes, or 242 m^3, of waste (residential and commercial) was deposited at the Site following the 2025 topographic survey, from October 15, 2025, to December 31st, 2025. Taking soil cover into consideration, this volume is estimated at 302.5 m^3.

The Fill Beyond Approved Limits (FBAL) waste placed outside of the approved waste footprint to the north of Cell #2 was also excavated on September 18, 2023, as required by the amended ECA, and placed within the Phase 1 footprint. The quantity of waste excavated was captured in the October 15, 2025 survey.

The remaining volumetric capacity and life expectancy for the Lake St. Peter WDS was calculated as follows:

Net fill available on June 30, 2023:	69,381 m^3
Waste and cover deposited from Oct 15 to Dec 31, 2025:	302.5 m^3
Remaining Capacity (2025):	69,078 m^3
Average annual fill rate:	640 m^3/year
Life Expectancy:	**108 years**

Based on the remaining volumetric capacity at the Site, the life expectancy is 108 years. The life expectancy can vary due to limited environmental attenuation as well as changes in fill rates due to events such as floods, fires, or other natural disasters.
The remaining capacity and estimated life expectancy are slight overestimates as the two 300 mm layers of intermediate soil cover required over Phase 1 and Phase 2 as per the ECA were not considered.

According to the volumes captured during the 2025 topographical survey and the quantity of waste deposited at the Site in the following months, it is currently estimated that the Phase 1 footprint has surpassed its capacity by 2,382 m^3. The development of Phase 2 was required in 2024. As stated in the 2020 D&O Plan, a large portion of the Phase 1 footprint along the eastern boundary (shown on Figure 2) is forested and should be cleared to allow distribution of the waste over the entire Phase 1 area. This was done during the summer of 2025 in preparation for the development of Phase 2. As per the ECA, the waste contours of the Phase 1 footprint should be leveled to an elevation of 414.5 masl. A 300 mm layer of clean fill should then be applied over the leveled area as intermediate cover prior to the development of Phase 2. Refer to the 2020 D&O Plan for the Phase 2 – Level 1 landfilling approach.

7 Summary Statements, Conclusions, and Recommendations

The following recommendations are based on the results of the 2025 monitoring program:

7.1 Site Operations

- A D&O Plan for the Site was prepared and finalized in September 2020. The D&O Plan was approved under the amended ECA (October 25, 2021).
- There were no records of public concerns/complaints and emergency situations occurrences in 2025 at the Lake St Peter WDS. Should they occur in the future, the complaint and the Municipality's response is to be documented.
- It is recommended that periodic inspections be performed and documented by the Municipality to ensure proper burning practices are being followed.
- It is recommended that waste transferred to the Site continues to be accounted for and documented by tracking the number of loads of waste and/or bags deposited at the Site. Detailed descriptions and quantities of rejected waste should continue to be documented.
- Public education with respect to waste reduction and recycling should be an ongoing effort by the Municipality.

7.2 Groundwater

- Groundwater monitoring should continue on a semi-annual basis for the Lake St. Peter WDS (spring and fall) for the parameters identified in Table 3, or Table E-2 of the Amended ECA.
- Analysis of sampling results in leachate well LSP1-03 indicate that all evaluated parameters are decreasing or stable.
- Sampling results from LSP3-03 exhibited an increasing trend in chloride, all other parameters at this location were stable, no trend, or decreasing.
- Seasonal fluctuations of manganese also appear to be a recurring trend at monitoring well LSP4-19 with higher concentrations observed in the fall. However, following the evident rise in concentrations between 2014 and 2017, all parameters (except for nitrate exhibit stable, decreasing, or no trend and fluctuate within their historical range.
- Concentrations of indicator parameters at background well LSP2-03 remain constant with low concentrations for all parameters.

- There is insufficient data to assess trends at the monitoring wells installed in 2021 (LSP-DP-1-21) and 2023 (LSP6-23, LSP7-23 and LSP8-23). It is anticipated that at least five years of semi-annual data will be required prior to analysing trends at these newer wells. Preliminary trend analysis at these wells indicate that all parameters are exhibiting stable, decreasing, or no trend with the exception of DOC at LSP7-23, which shows an increasing trend.
- Analytical results from groundwater monitoring wells have indicated Guideline B-7 compliance along the northern property boundary and southern property boundary. There are no western property boundary monitoring wells, but the western property boundary is assumed to be compliant with Guideline B-7 based on the inferred direction of groundwater flow to the northeast. The WDS is not compliant with Guideline B-7 along the eastern property boundary. The MNR has agreed to and is processing additional buffer and CAZ land to the east and south of the Site. Sufficient natural attenuation is anticipated to occur for the Site to be compliant with Guideline B-7 along the new property boundaries.
- Two monitoring wells, LSP6-23 and LSP7-23 were installed along the eastern CAZ boundary in September 2023 to assess Guideline B-7 compliance, however there is minimal data to determine Site compliance on the eastern boundary as there are only five data sets. Further monitoring is required at these locations to determine if sufficient natural attenuation can occur within the new proposed boundaries.
- The groundwater Trigger Mechanisms and Contingency plan was was approved by the MECP in October 2021 and implemented on-site following the installation of monitoring wells LSP6-23 and LSP7-23 in September 2023. The wells located along the eastern CAZ limit act as the assessment points for the Site Trigger Mechanisms and Contingency Plan. No exceedances of the trigger parameters were reported during the fall event.

7.3 Surface Water

- Surface water monitoring should continue on a semi-annual basis for the Lake St. Peter WDS (spring and fall), for the parameters identified in Table 6, or Table E-1 of the Amended ECA.
- The MECP have recommended surface water quality is no longer compared to the Table A and Table B criteria as it was not officially adopted by the MECP
- LSP-DP-1-21 is analysed for surface water parameters in addition to groundwater parameters as required by the ECA.

- There are historically higher concentrations of alkalinity, TDS, total boron, chloride, total iron, and total manganese downstream at LSP-SW2, compared to upstream LSP-SW1. This may indicate that the landfill is impacting the small creek located immediately north of the Site running between the two surface water sampling locations. The other parameters reported at these locations show typical fluctuations with stable or no trend being exhibited at either location with the exception of pH at LSP-SW1 exhibiting an increasing trend.
- The Site Trigger Mechanisms and Contingency Plan for surface water was approved by the MECP in October 2021. The surface water Contingency Plan was triggered during the 2025 spring and fall sampling events at LSP-DP-1-21. Tier 1 contingency sampling was conducted following both sampling events. Based on the results of Tier 1, Tier 2 contingency sampling was not required.

7.4 Groundwater and Surface Water Interaction

- As per the MECP's recommendation to monitor potential groundwater impacts to the creek, a drive-point well LSP-DP-1-21 was installed northeast of the property between the mound and LSP-SW2 to verify groundwater flow direction and assess landfill impacts to the surface water.
- As recommended in the 2022 annual monitoring report, the elevation of both surface water monitoring locations was measured and compared to groundwater elevations during each semi-annual monitoring event to improve the assessment of potential groundwater and surface water interaction.
- Groundwater interaction between LSP-DP-1-21 and LSP-SW2 was determined to be unlikely. The surface water concentrations recorded during 2025 do not reflect groundwater discharge impacts.

7.5 Landfill Gas

- The RKI Eagle gas monitoring results for 2025 (0 to 200 ppm) indicated methane gas concentrations are well below the concentrations of concern as identified above for the subsurface, buildings and structures on-site.
- Landfill gas should continue to be monitored during the semi-annual monitoring events.

7.6 CAZ Assessment

- BluMetric worked with the Municipality in 2020 to confirm the boundaries for a CAZ around the Site and to prepare a D&O Plan. It was concluded that an area extending 140 m east (downgradient) of the Site is required for natural attenuation.
- The Municipality made a request to the MNR to purchase additional buffer and CAZ lands to own the total Site area of 17 ha of the WDS. A Grant of Easement receipt was obtained by the Municipality from the MNR for these lands on June 18, 2025.

7.7 Site Capacity and Life Expectancy

- The remaining capacity of the site is 69,078 m^3, which gives an estimated volumetric life expectancy of 108 years. This was calculated using the June 2025 topographical survey data and a 5-year average annual fill rate of 640 m^3/year including interim cover, which was assumed to be 25% of the deposited waste.
- The estimated life expectancy is an overestimate as it does not consider the two 300 mm layers of intermediate soil cover required over Phase 1 and Phase 2 as per the ECA.
- The ability of the Site to act as a natural attenuation site may limit the volumetric capacity of the Site. Future monitoring will determine if the leachate plume has reached the proposed east CAZ boundaries at LSP6-23 and LSP7-23.
- Following the October 2025 topographical survey and the quantity of waste deposited at the Site in the following months, it is currently estimated that the Phase 1 area has surpassed its capacity by 2,382 m^3. The development of Phase 2 is required in 2026.
- As stated in the 2020 D&O Plan, a large portion of the Phase 1 footprint along the eastern boundary was forested and has since been cleared (during summer of 2025) to allow distribution of the waste over the entire Phase 1 area in preparation for the development of Phase 2.
- The Fill Beyond Approved Limits (FBAL) waste placed outside of the approved waste footprint to the north of Cell #2 was excavated on September 18, 2023, as required by the amended ECA and placed within the Phase 1 footprint. The quantity of waste excavated was not captured in the June 2023 survey but is now captured in the October 2025 survey.

8 Limiting Conditions

The conclusions presented in this report represent our professional opinion and are based upon the work described in this report and any limiting conditions in the terms of reference, scope of work, or conditions noted herein.

The findings presented in this report are based on conditions observed at the specified dates and locations, the analysis of samples for the specified parameters, and information obtained for this project. Unless otherwise stated, the findings cannot be extended to previous or future Site conditions, locations that were not investigated directly, or types of analysis not performed.

BluMetric Environmental Inc. makes no warranty as to the accuracy or completeness of the information provided by others, or of conclusions and recommendations predicated on the accuracy of that information.

This report has been prepared for The Corporation of the Municipality of Hastings Highlands. Any use a third party makes of this report, any reliance on the report, or decisions based upon the report, are the responsibility of those third parties unless authorization is received from BluMetric Environmental Inc. in writing. BluMetric Environmental Inc. accepts no responsibility for any loss or damages suffered by any unauthorized third party as a result of decisions made or actions taken based on this report.

Respectfully submitted,
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Tables

Table 16: Hastings Highlands Analytical Chemistry Results: Groundwater Quality Results						Site Name	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS
						Location	LSP-DP1-21	LSP-DP1-21	LSP1-03	LSP1-03	LSP1-03	LSP2-03	LSP2-03
Parameter	Units	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	RUV-LSP	Sample ID	LSP-DP1-21-GW	LSP-DP1-21-GW	LSP1-03	LSP1-03	LSP-QAQC-GW1 (LSP1-03)	LSP2-03	LSP2-03
						Sample Date	2025-May-6	2025-Oct-15	2025-May-06	2025-Oct-15	2025-Oct-15	2025-May-06	2025-Oct-15
Anions						**Detection Limit**							
Chloride	mg/L	250	-	-	125.25	1, 2	6.5	21	78	54	52	<1	<1
Nitrate as N	mg/L	10	-	-	2.51875	0.1	<0.1	0.11	<0.1	0.1	<0.1	<0.1	<0.1
Sulphate	mg/L	500	-	-	252.622	1	18	19	4.6	4.5	4.6	3.1	3.7
Cations													
Calcium (diss)	mg/L	-	-	-	-	0.2	33	57	96	85	83	3.5	3.1
Magnesium (diss)	mg/L	-	-	-	-	0.05	5.2	9	11	8.4	8.1	0.9	0.81
Sodium (diss)	mg/L	200	-	-	100.765	0.1	9.7	17	52	35	35	1.5	1.7
General Chemistry													
Alkalinity (as CaCO3)	mg/L	30 - 500	See Factsheet	-	256.25	1	140	240	360	320	320	15	11
Ammonia as N	mg/L	-	-	-	-	0.05	4.8	6.8	13	17	17	<0.05	<0.05
Dissolved Organic Carbon	mg/L	5	-	-	4.3	0.4	15	14	20	18	18	2.7	4.9
Electrical Conductivity	uS/cm	-	-	-	-	2	350	560	990	820	820	39	34
pH	pH units	6.5 - 8.5	6.5 - 8.5	-	-		7.12	6.88	6.89	7.04	6.99	6.66	6.59
Total Dissolved Solids	mg/L	500	-	-	267	10	210	250	495	335	390	35	20
Total Suspended Solids	mg/L	-	-	-	-	10, 20, 33, 50, 100	56	110	660	820	750	340	210
Metals													
Barium (diss)	mg/L	1	-	-	-	0.002	0.24	0.41	0.52	0.54	0.56	0.0081	0.012
Boron (diss)	mg/L	5	-	0.2	-	0.01	**0.22**	**0.36**	**0.62**	**0.54**	**0.54**	<0.01	<0.01
Iron (diss)	mg/L	0.3	0.3	-	0.207	0.1	15	29	55	67	67	<0.1	0.17
Manganese (diss)	mg/L	0.05	-	-	0.0505	0.002, 0.01	7	11	3	2	1.9	0.049	0.042

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds ODWQS-ALL-MERGED	Ontario Drinking Water Quality Standards All Types Merged
Concentration exceeds PWQO-GENERAL	Provincial Water Quality Objectives General
Concentration exceeds PWQO-INTERIM	Provincial Water Quality Objectives Interim
Concentration exceeds RUV-LSP	Reasonable Use Values Lake St Peter

Table 16: Hastings Highlands Analytical Chemistry Results: Groundwater Quality Results						Site Name	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS
						Location	LSP3-03	LSP3-03	LSP4-19	LSP4-19	LSP5-19	LSP5-19	LSP6-23	LSP6-23
Parameter	Units	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	RUV-LSP	Sample ID	LSP3-03	LSP3-03	LSP4-19	LSP4-19	LSP5-19	LSP5-19	LSP6-23	LSP6-23
						Sample Date	2025-May-06	2025-Oct-15	2025-May-06	2025-Oct-15	2025-May-06	2025-Oct-15	2025-May-06	2025-Oct-15
Anions						Detection Limit								
Chloride	mg/L	250	-	-	125.25	1, 2	37	54	24	52	<1	<1	<1	<1
Nitrate as N	mg/L	10	-	-	2.51875	0.1	<0.1	0.13	9.08	6.25	0.1	<0.1	<0.1	0.12
Sulphate	mg/L	500	-	-	252.622	1	12	6.3	5.7	9.2	2.1	3.4	5.2	7.4
Cations														
Calcium (diss)	mg/L	-	-	-	-	0.2	37	58	32	62	1.9	2.4	8.3	7.9
Magnesium (diss)	mg/L	-	-	-	-	0.05	3.1	7.1	4.5	8.2	0.32	0.41	2.5	2.3
Sodium (diss)	mg/L	200	-	-	100.765	0.1	30	42	16	31	0.99	1.3	2.6	2.5
General Chemistry														
Alkalinity (as CaCO3)	mg/L	30 - 500	See Factsheet	-	256.25	1	120	230	64	180	8.6	6.6	36	31
Ammonia as N	mg/L	-	-	-	-	0.05	0.089	7.2	0.75	5.8	<0.05	<0.05	<0.05	0.075
Dissolved Organic Carbon	mg/L	5	-	-	4.3	0.4	5.2	16	3.6	7.5	2.5	2.2	1.2	1.3
Electrical Conductivity	uS/cm	-	-	-	-	2	410	640	330	630	22	25	87	80
pH	pH units	6.5 - 8.5	6.5 - 8.5	-	-		6.73	6.81	6.81	6.97	6.87	6.59	7.08	7.17
Total Dissolved Solids	mg/L	500	-	-	267	10	235	295	225	350	35	30	130	90
Total Suspended Solids	mg/L	-	-	-	-	10, 20, 33, 50, 100	410	180	62000	38000	1100	2600	2100	2100
Metals														
Barium (diss)	mg/L	1	-	-	-	0.002	0.18	0.41	0.13	0.2	0.0069	0.0085	0.01	0.0099
Boron (diss)	mg/L	5	-	0.2	-	0.01	0.088	0.2	**0.21**	**0.52**	<0.01	<0.01	0.015	0.017
Iron (diss)	mg/L	0.3	0.3	-	0.207	0.1	0.78	49	<0.1	<0.1	<0.1	<0.1	0.11	0.1
Manganese (diss)	mg/L	0.05	-	-	0.0505	0.002, 0.01	0.67	2.3	1.7	6.4	0.0022	0.0022	0.38	0.27

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds ODWQS-ALL-MERGED	Ontario Drinking Water Quality Standards All Types Merged
Concentration exceeds PWQO-GENERAL	Provincial Water Quality Objectives General
Concentration exceeds PWQO-INTERIM	Provincial Water Quality Objectives Interim
Concentration exceeds RUV-LSP	Reasonable Use Values Lake St Peter

Table 16: Hastings Highlands Analytical Chemistry Results: Groundwater Quality Results						Site Name	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS
						Location	LSP7-23	LSP7-23	LSP8-23	LSP8-23
Parameter	Units	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	RUV-LSP	Sample ID	LSP7-23	LSP7-23	LSP8-23	LSP8-23
						Sample Date	2025-May-06	2025-Oct-15	2025-May-06	2025-Oct-15
Anions						**Detection Limit**				
Chloride	mg/L	250	-	-	125.25	1, 2	10	4.8	18	34
Nitrate as N	mg/L	10	-	-	2.51875	0.1	0.15	0.14	<0.1	0.18
Sulphate	mg/L	500	-	-	252.622	1	4.5	5.3	11	13
Cations										
Calcium (diss)	mg/L	-	-	-	-	0.2	10	3.8	39	52
Magnesium (diss)	mg/L	-	-	-	-	0.05	2.3	0.71	6	7.9
Sodium (diss)	mg/L	200	-	-	100.765	0.1	4.4	4.1	23	30
General Chemistry										
Alkalinity (as CaCO3)	mg/L	30 - 500	See Factsheet	-	256.25	1	27	8.1	200	220
Ammonia as N	mg/L	-	-	-	-	0.05	<0.05	<0.05	11	9.4
Dissolved Organic Carbon	mg/L	5	-	-	4.3	0.4	1.7	1.9	20	28
Electrical Conductivity	uS/cm	-	-	-	-	2	100	55	490	570
pH	pH units	6.5 - 8.5	6.5 - 8.5	-	-		6.93	6.45	6.98	6.77
Total Dissolved Solids	mg/L	500	-	-	267	10	235	165	270	275
Total Suspended Solids	mg/L	-	-	-	-	10, 20, 33, 50, 100	18000	11000	660	720
Metals										
Barium (diss)	mg/L	1	-	-	-	0.002	0.03	0.014	0.32	0.38
Boron (diss)	mg/L	5	-	0.2	-	0.01	0.012	<0.01	**0.24**	**0.23**
Iron (diss)	mg/L	0.3	0.3	-	0.207	0.1	<0.1	<0.1	44	79
Manganese (diss)	mg/L	0.05	-	-	0.0505	0.002, 0.01	0.037	0.0075	3.9	5.5

-LEGEND-

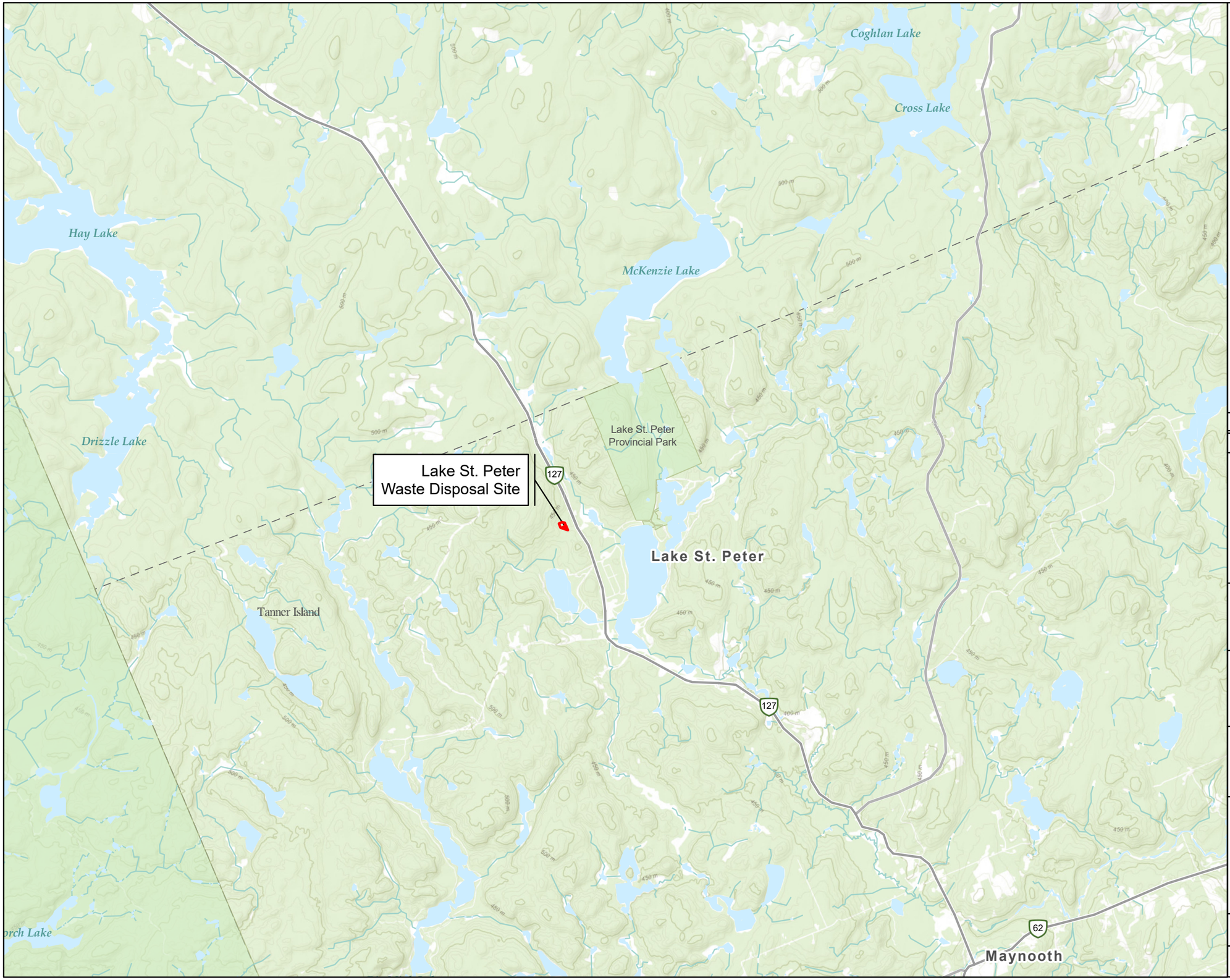
Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds ODWQS-ALL-MERGED	Ontario Drinking Water Quality Standards All Types Merged
Concentration exceeds PWQO-GENERAL	Provincial Water Quality Objectives General
Concentration exceeds PWQO-INTERIM	Provincial Water Quality Objectives Interim
Concentration exceeds RUV-LSP	Reasonable Use Values Lake St Peter

Table 17: 2025 Surface Water Quality Results Hastings Highlands: Lake St. Peter WDS						Site Name	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS
						Location	LSP-DP1-21	LSP-DP1-21	LSP-SW1	LSP-SW1	LSP-SW2
Parameter	Units	PWQO-GENERAL	PWQO-INTERIM	MECP-GD-TA	MECP-GD-TB	Sample ID	LSP-DP1-21	LSP-DP1-21	LSP-SW1	LSP-QAQC-SW1 (LSP-SW1)	LSP-SW2
						Sample Date	2025-May-06	2025-Oct-15	2025-May-06	2025-May-06	2025-May-06
Anions						Detection Limit					
Chloride	mg/L	-	-	180	128	1	6.5	18	<1	<1	<1
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	<0.1	<0.1	<0.1	<0.1	0.13
Nitrate as N	mg/L	-	-	-	-	0.1	<0.1	<0.1	<0.1	<0.1	0.13
Nitrite as N	mg/L	-	-	-	-	0.01	<0.01	0.014	<0.01	<0.01	<0.01
Sulphate	mg/L	-	-	100	-	1	18	18	2.4	2.1	6.9
Cations											
Calcium (diss)	mg/L	-	-	-	-	0.2	33	60	-	-	-
Calcium (tot)	mg/L	-	-	-	-	0.2	33	55	2	2	5.2
Magnesium (diss)	mg/L	-	-	-	-	0.05	5.2	9.4	-	-	-
Magnesium (tot)	mg/L	-	-	-	-	0.05	5	8.5	0.52	0.5	1
Potassium (tot)	mg/L	-	-	-	-	0.2	12	18	0.92	0.88	1.6
Sodium (diss)	mg/L	-	-	-	-	0.1	9.7	17	-	-	-
Sodium (tot)	mg/L	-	-	-	-	0.1	9.8	16	1.1	1.1	2.3
Field Parameters											
pH (Field)	pH units	-	-	-	-		6.47	6.35	6.45	6.45	6.43
Temperature	deg. C	-	-	-	-		6.4	9.8	11.3	11.3	11
General Chemistry											
Alkalinity (as CaCO3)	mg/L	See Factsheet	-	-	-	1	140	240	6.3	6.4	13
Ammonia as N	mg/L	-	-	-	-	0.05	4.8	6.8	<0.05	<0.05	<0.05
Biochemical Oxygen Demand	mg/L	-	-	-	-	2	<2	<2	<2	<2	<2
Chemical Oxygen Demand	mg/L	-	-	-	-	4	23	40	8.5	8.9	12
Colour	TCU	-	-	-	-	2	20	9	22	22	27
Electrical Conductivity	uS/cm	-	-	-	-	2	350	580	24	24	56
Hardness (as CaCO3)	mg/L	-	-	-	-	1	100	190	7.5	7.7	18
pH	pH units	6.5 - 8.5	-	6 - 9	-		7.12	6.66	6.82	6.83	6.97
Phenols	mg/L	0.001	-	0.04	0.004	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total Dissolved Solids	mg/L	-	-	-	-	10	210	275	35	20	45
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1, 0.5	5.1	6.9	0.16	0.18	0.23
Total Phosphorus	mg/L	0.03	-	-	-	0.02, 0.1	0.05	0.23	<0.02	<0.02	<0.02
Total Suspended Solids	mg/L	-	-	-	-	10	56	80	<10	29	<10
Turbidity	NTU	-	-	-	-	0.1	50	270	0.3	0.2	<0.1
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.00061	0.0024	0.0034	<0.00061	<0.00061	<0.00061
Metals											
Aluminum (diss, 0.2 µm)	mg/L	-	0.075	-	-	0.005	<0.005	<0.005	0.14	0.14	0.11
Arsenic (tot)	mg/L	-	0.005	-	-	0.001	0.0029	0.0016	<0.001	<0.001	<0.001
Barium (tot)	mg/L	-	-	2.3	-	0.002	0.23	0.41	0.0095	0.01	0.015
Beryllium (tot)	mg/L	0.011	-	-	-	0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
Boron (tot)	mg/L	-	0.2	3.55	1.5	0.01	0.21	0.35	<0.01	<0.01	0.033
Cadmium (tot)	mg/L	-	0.0001	0.00021	0.000017	0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009
Chromium (tot)	mg/L	-	-	0.064	-	0.005	0.0096	0.0062	<0.005	<0.005	<0.005
Cobalt (tot)	mg/L	-	0.0009	-	-	0.0005	0.0066	0.01	<0.0005	<0.0005	<0.0005
Copper (tot)	mg/L	-	0.001	0.0069	-	0.0009	0.0049	0.0024	0.0012	0.0011	0.0011
Iron (tot)	mg/L	0.3	-	1	-	0.1	**19**	**49**	<0.1	<0.1	0.11
Lead (tot)	mg/L	-	0.005	0.002	-	0.0005	<0.0005	**0.0021**	<0.0005	<0.0005	<0.0005
Manganese (tot)	mg/L	-	-	-	-	0.002, 0.01	6.8	12	0.0057	0.0061	0.024
Mercury (diss)	mg/L	0.0002	-	-	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum (tot)	mg/L	-	0.04	-	-	0.0005	0.00083	0.00085	<0.0005	<0.0005	<0.0005
Nickel (tot)	mg/L	0.025	-	-	-	0.001	0.0082	0.011	<0.001	<0.001	<0.001
Selenium (tot)	mg/L	0.1	-	-	-	0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Silicon (tot)	mg/L	-	-	-	-	0.05	5.9	6.6	3.8	3.7	3.8
Silver (tot)	mg/L	0.0001	-	-	-	0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009
Strontium (tot)	mg/L	-	-	-	-	0.001	0.18	0.3	0.013	0.013	0.029
Thallium (tot)	mg/L	-	0.0003	-	-	0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Titanium (tot)	mg/L	-	-	-	-	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Vanadium (tot)	mg/L	-	0.006	-	-	0.0005	0.0025	0.0028	0.00067	0.00064	0.00059
Zinc (tot)	mg/L	-	0.02	0.089	0.03	0.005	0.053	**0.26**	<0.005	<0.005	<0.005

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds PWQO-GENERAL	Provincial Water Quality Objectives General
Concentration exceeds PWQO-INTERIM	Provincial Water Quality Objectives Interim
Concentration exceeds MECP-GD-TA	MECP Guidance Document Table A
Concentration exceeds MECP-GD-TB	MECP Guidance Document Table B

Figures



LEGEND

Property Boundary (As surveyed by P.A. Miller, 2012)

REV.	DESCRIPTION	YY/MM/DD	BY	CHK
1				

REFERENCES

PROPRIETARY INFORMATION MAY NOT BE REPRODUCED OR DIVULGED WITHOUT PRIOR WRITTEN CONSENT OF BLUMETRIC ENVIRONMENTAL INC. DO NOT SCALE DRAWING. THIS DRAWING MAY HAVE BEEN REDUCED. ALL SCALE NOTATIONS INDICATED ARE BASED ON 11"x17" FORMAT DRAWINGS.

N W E S

0 2,000 4,000 Metres

1:80,000

CLIENT

Municipality of Hasting Highlands

PROJECT

Lake St. Peter Waste Disposal Site

TITLE

Site Location Map

BluMetric Environmental

The Tower - The Woolen Mill,
4 Cataraqui St.,
Kingston, Ontario K7K 1Z7
TEL: (613) 531-2725
FAX: (613) 531-1852
Email: info@blumetric.ca
Web: http://www.blumetric.ca

PROJECT #	DATE
250253-04	**February 03, 2026**

DRAWN	CHECKED	FIG NO.	REV
PB	**NW**	**01**	**0**

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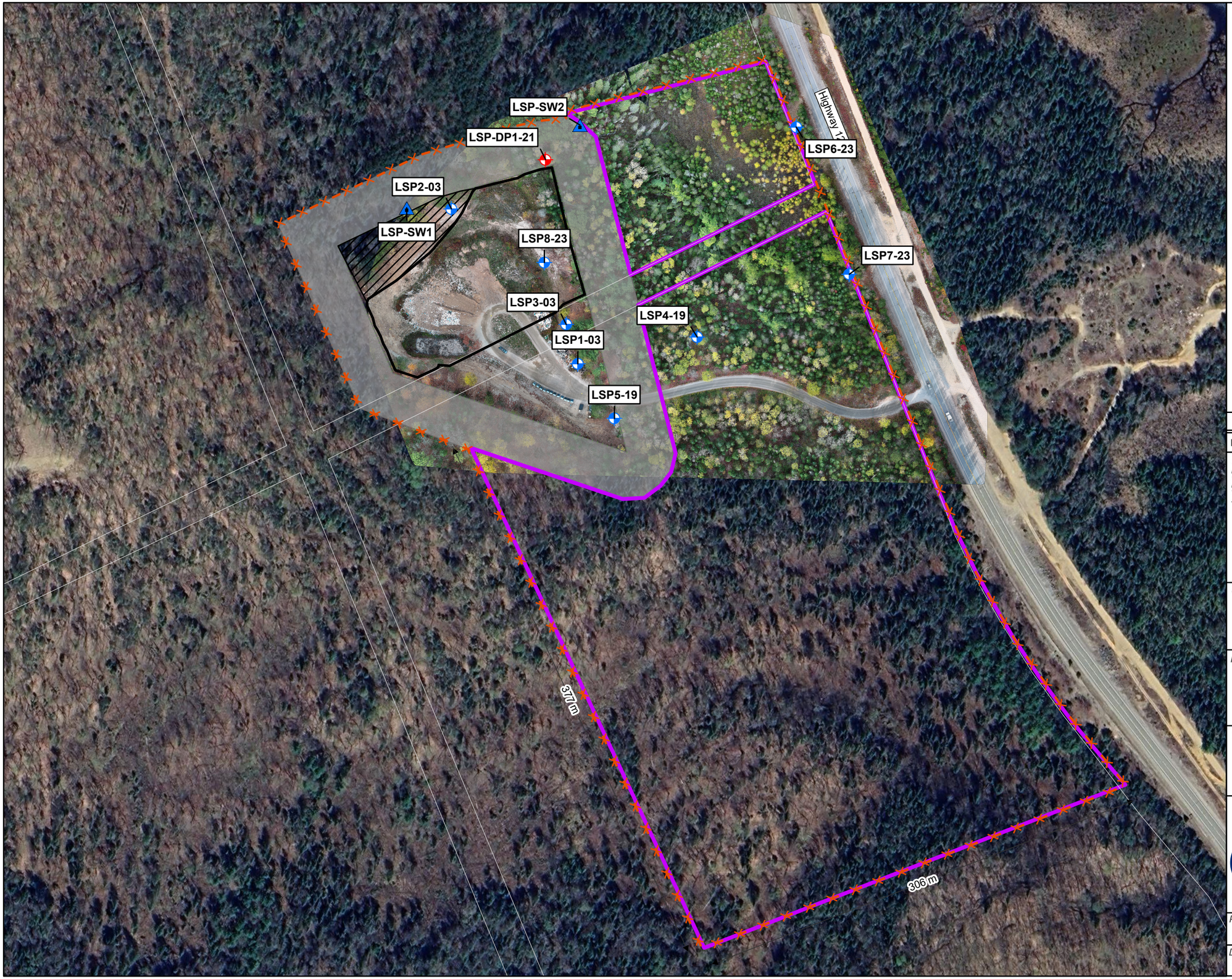

LEGEND

- Monitoring Well Location
- Drive-point Well Location
- Surface Water Location
- Phase 1 Footprint
- Approved Waste Footprint (2.2 ha)
- Approved 17 ha Waste Site
- Contaminant Attenuation Zone (12.4 ha)
- Road Allowance Between Concessions
- No Future Waste to be Placed
- Buffer Lands

NOTES:
Road Allowance Area within Waste Footprint (0.24 ha); within total Site Area (0.69 ha).

REV.	DESCRIPTION	YY/MM/DD	BY	CHK
1				

REFERENCES

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N W E S

0 65 130 Metres

1:2,500

CLIENT

Municipality of Hasting Highlands

PROJECT

Lake St. Peter
Waste Disposal Site

TITLE

Site Plan

The Tower - The Woolen Mill,
4 Cataraqui St.,
Kingston, Ontario K7K 1Z7
TEL: (613) 531-2725
FAX: (613) 531-1852
Email: info@blumetric.ca
Web: http://www.blumetric.ca

PROJECT #	DATE
250523-04	March 03, 2026

DRAWN	CHECKED	FIG NO.	REV
MB	NW	02	0

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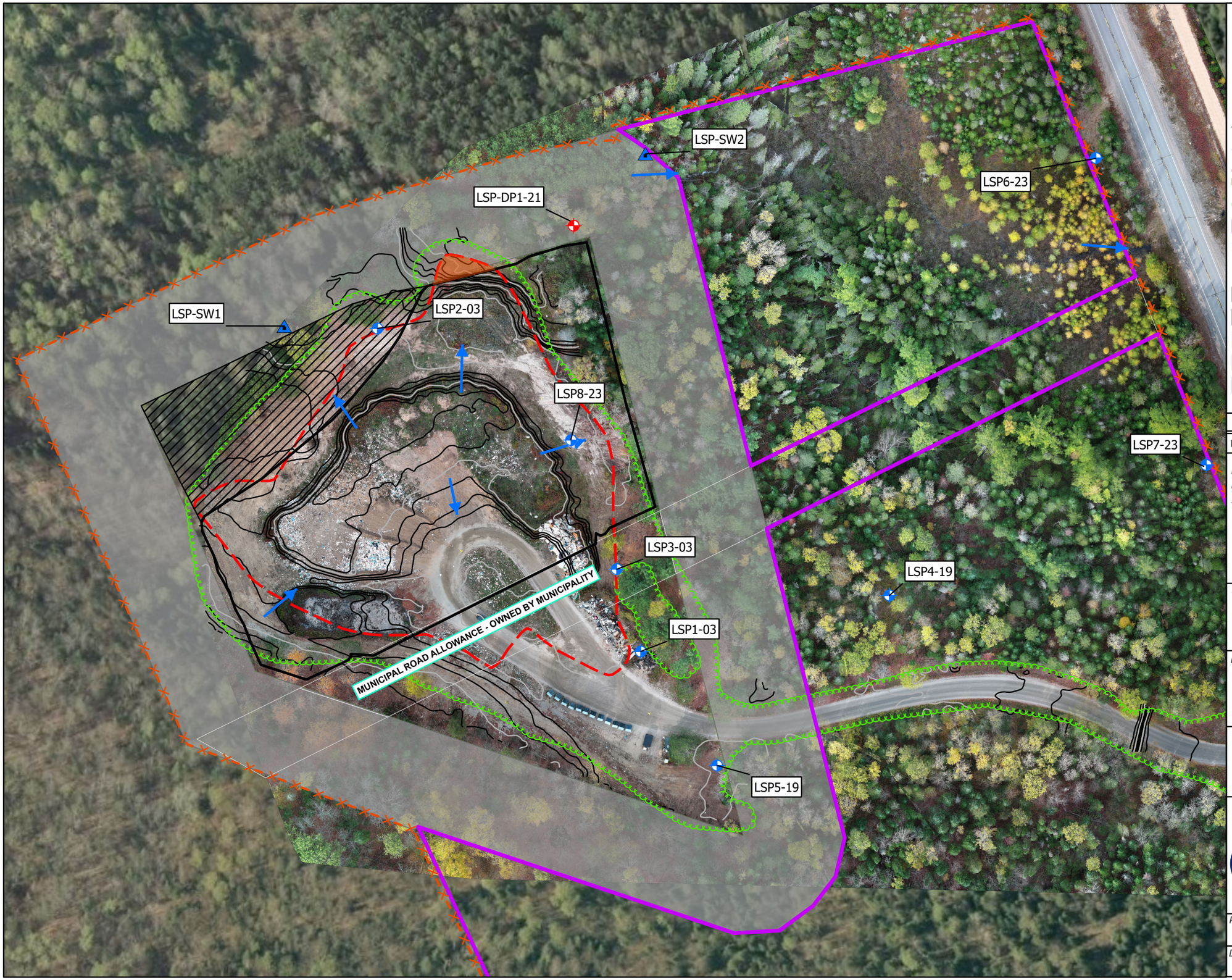

LEGEND

- Monitoring Well Location
- Drive-point Well Location
- Surface Water Location
- Surface Water Flow Direction
- Topographic Contours (2m) (15 October, 2025)
- Topographic Contour (0.5m) (15 October, 2025)
- Approximate Location of Buried Waste (1.11 ha) (Cambium, 2014)
- Treeline
- Contaminant Attenuation Zone (12.4 ha)
- Approved 17 ha Waste Site
- Approved Waste Footprint (2.2 ha)
- Phase One Cell Boundary
- No Future Waste to be Placed
- Road Allowance Between Concessions
- Excavated FBAL Waste
- Buffer Lands

REV.	DESCRIPTION	YY/MM/DD	BY	CHK
1				

REFERENCES

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N W E S

0 30 60 Metres

1:1,200

CLIENT

Municipality of Hasting Highlands

PROJECT

Lake St. Peter Waste Disposal Site

TITLE

Site Topography and Surface Water Flow Direction

BluMetric Environmental

The Tower - The Woolen Mill,
4 Cataraqui St.,
Kingston, Ontario K7K 1Z7
TEL: (613) 531-2725
FAX: (613) 531-1852
Email: info@blumetric.ca
Web: http://www.blumetric.ca

PROJECT #	DATE
250253-04	**March 03, 2026**

DRAWN	CHECKED	FIG NO.	REV
MB	**NW**	**03**	**0**

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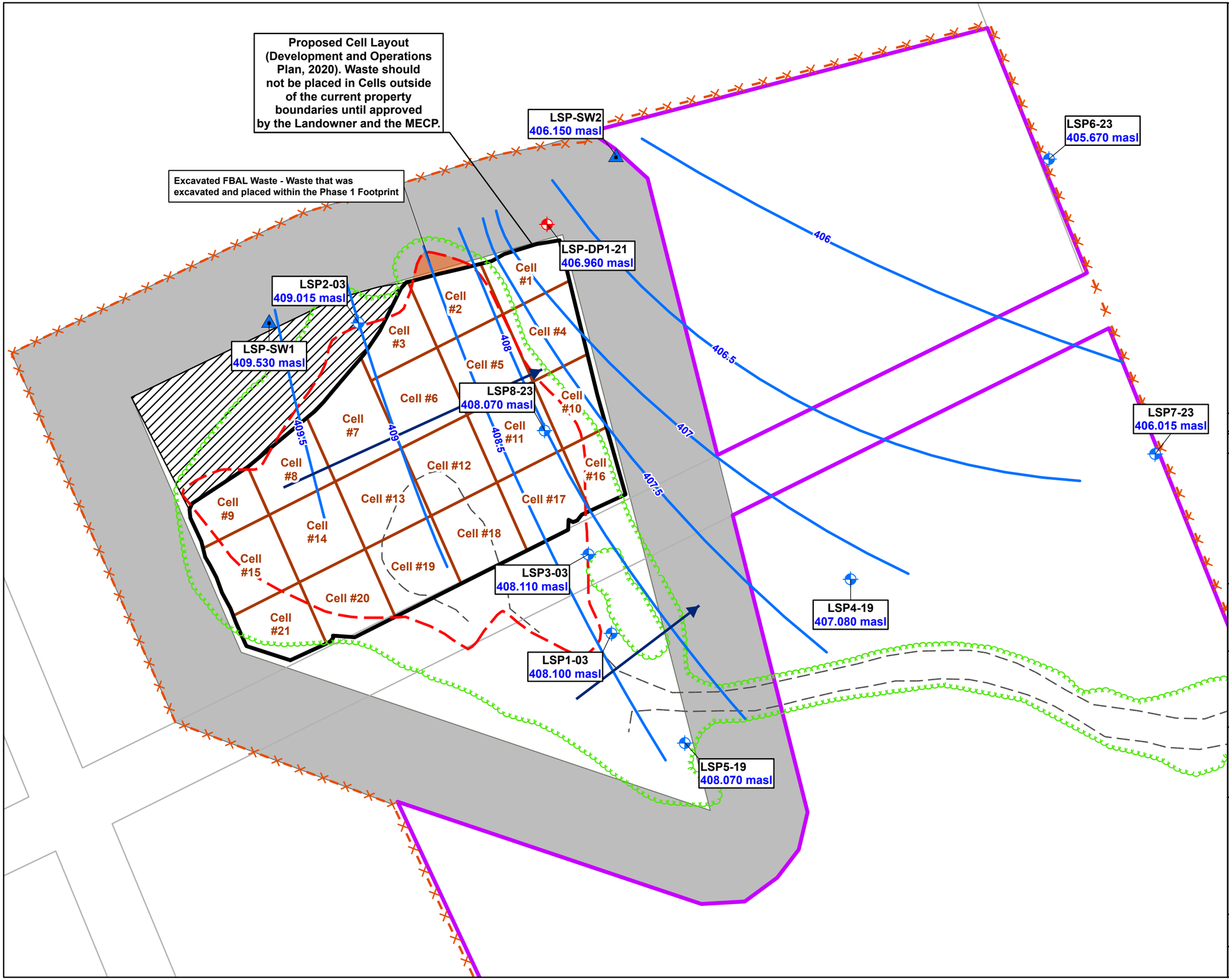

LEGEND

- Monitoring Well Location
- Drive-point Well Location
- Surface Water Location
- Approved Waste Footprint (2.2 ha)
- No Future Waste to be Placed
- Contaminant Attenuation Zone (12.4 ha)
- Road Allowance Between Concessions
- Phase 1 Footprint
- Road
- Approved 17 ha Waste Site
- Approximate Location of Buried Waste (1.11 ha) (Cambium, 2014)
- Excavated FBAL Waste
- Treeline
- Buffer Lands
- Inferred Groundwater Flow Direction
- Groundwater Contour (0.5m)
- 408.56 Groundwater and Surface Water Elevations (masl) (Spring, 2025)

REV.	DESCRIPTION	YY/MM/DD	BY	CHK
1				

REFERENCES

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N W E S

0 30 60 Metres

1:1,250

CLIENT

Municipality of Hasting Highlands

PROJECT

Lake St. Peter Waste Disposal Site

TITLE

Groundwater Elevations and Contours Spring 2025

The Tower - The Woolen Mill,
4 Cataraqui St.,
Kingston, Ontario K7K 1Z7
TEL: (613) 531-2725
FAX: (613) 531-1852
Email: info@blumetric.ca
Web: http://www.blumetric.ca

PROJECT #	DATE
250253-04	March 03, 2026

DRAWN	CHECKED	FIG NO.	REV
MB	NW	04	0

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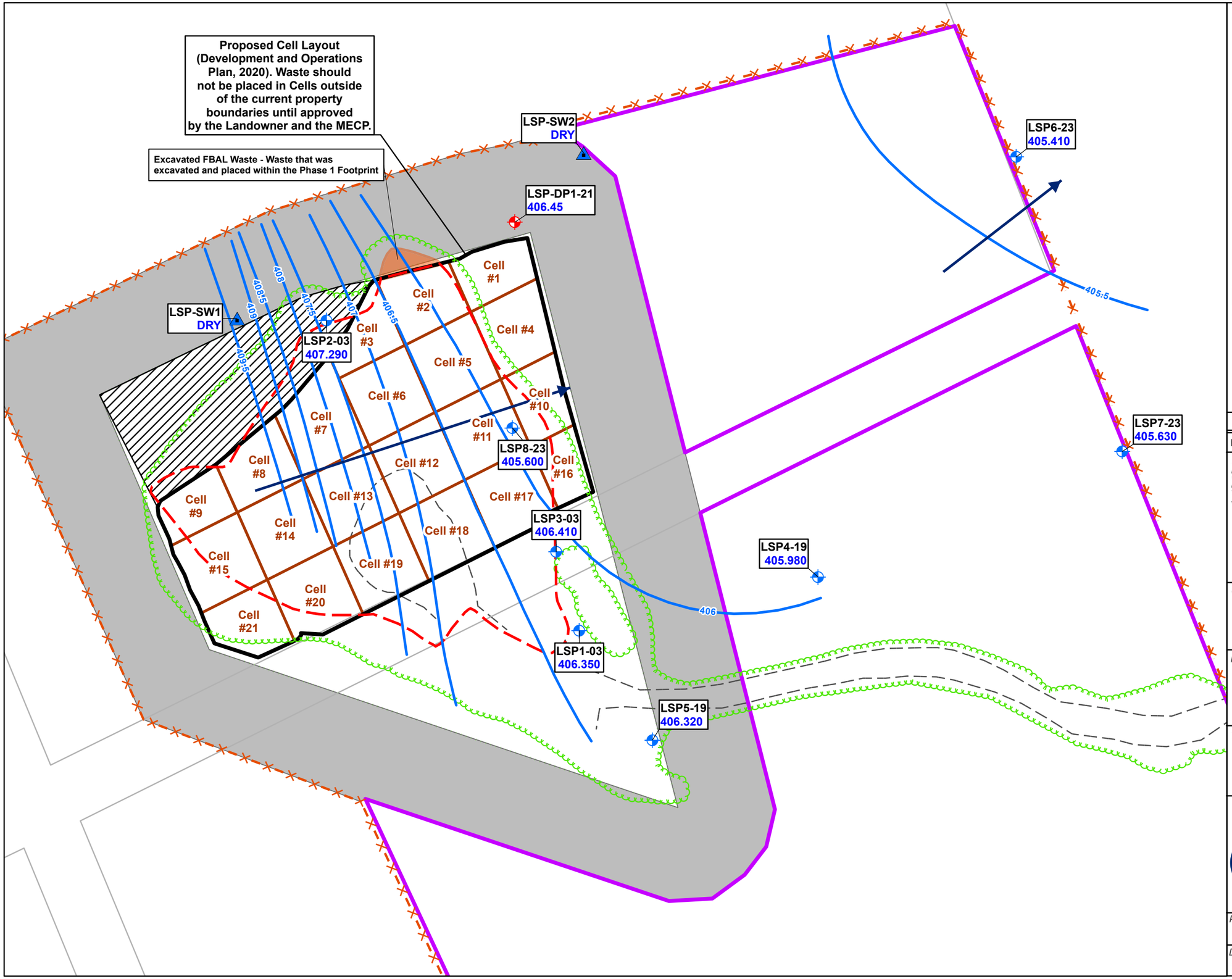

LEGEND

- Monitoring Well Location
- Drive-point Well Location
- Surface Water Location
- Approved Waste Footprint (2.2 ha)
- Phase 1 Footprint
- No Future Waste to be Placed
- Contaminant Attenuation Zone (12.4 ha)
- Road Allowance Between Concessions
- Road
- Treeline
- Approved 17 ha Waste Site
- Approximate Location of Buried Waste (1.11 ha) (Cambium, 2014)
- Excavated FBAL Waste
- Buffer Lands
- Groundwater Contour (0.5 m)
- Inferred Groundwater Flow Direction

408.56 Groundwater and Surface Water Elevations (masl) (Fall, 2025)

REV.	DESCRIPTION	YY/MM/DD	BY	CHK
1				

REFERENCES

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N, W, E, S

0 30 60 Metres

1:1,250

CLIENT

Municipality of Hasting Highlands

PROJECT

Lake St. Peter Waste Disposal Site

TITLE

Groundwater Elevations and Contours Fall 2025

BluMetric Environmental

The Tower - The Woolen Mill,
4 Cataraqui St.,
Kingston, Ontario K7K 1Z7
TEL: (613) 531-2725
FAX: (613) 531-1852
Email: info@blumetric.ca
Web: http://www.blumetric.ca

PROJECT #	DATE
250253-04	March 03, 2026

DRAWN	CHECKED	FIG NO.	REV
MB	NW	05	0

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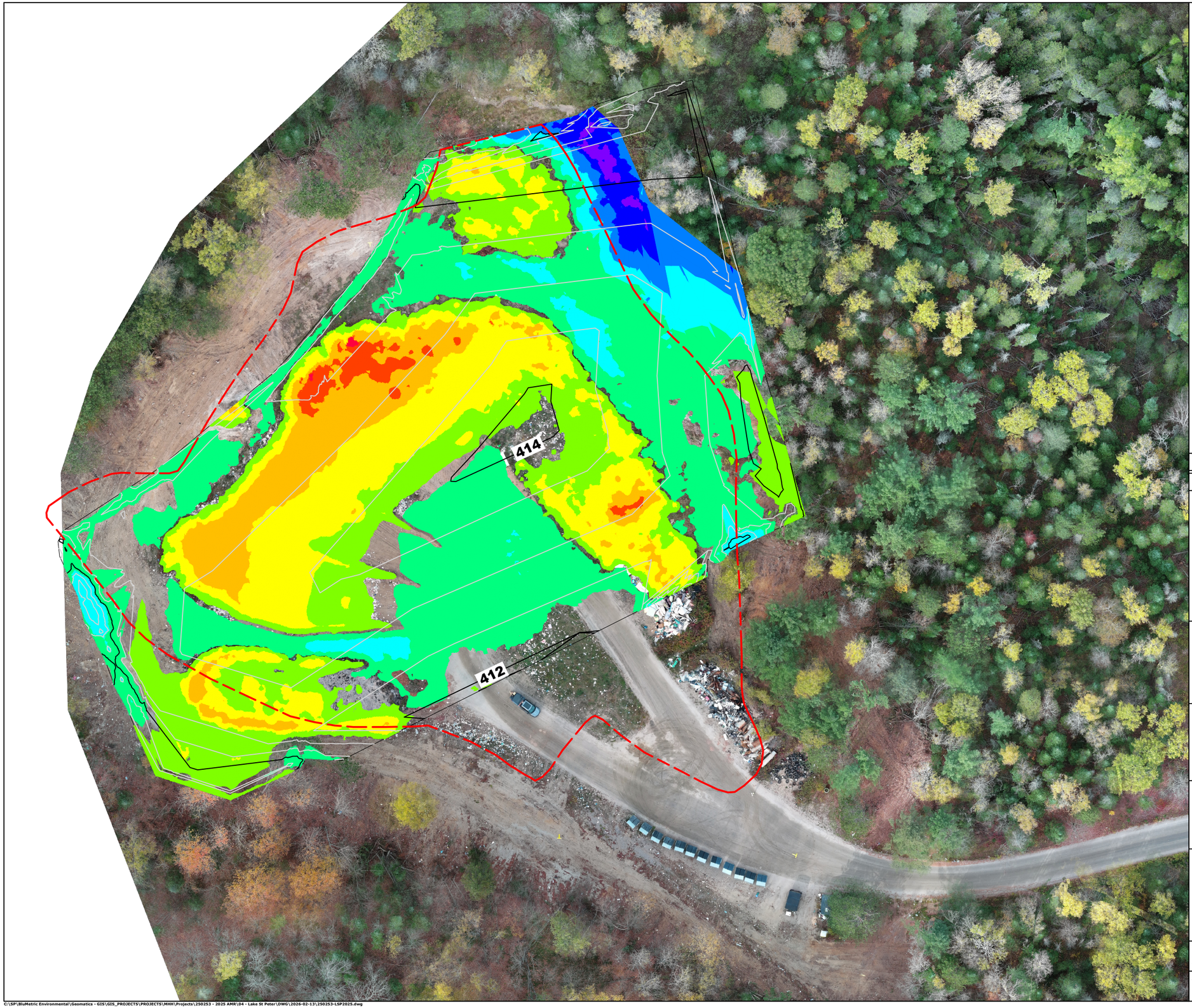

LEGEND

- 412 - Phase 1 Design Contours (0.5m)

Approximate Location of Buried Waste (1.11 ha) (Cambium, 2014)

Elevations Table			
Number	Minimum Elevation	Maximum Elevation	Color
1	−5.00	−4.00	
2	−4.00	−3.00	
3	−3.00	−2.00	
4	−2.00	−1.00	
5	−1.00	−0.25	
6	0.25	1.00	
7	1.00	2.00	
8	2.00	3.00	
9	3.00	4.00	
9	4.00	5.00	

Volumes Table – 2025 to Phase 1 Design Contours	
Cut	6655 Cu. M
Fill	4273 Cu. M
Net Cut	2382 Cu. M

REV.	DESCRIPTION	YY/MM/DD	BY	CHK
1				

REFERENCES

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0 15 30 Metres
1:750

N W E S

CLIENT

Municipality of Hastings Highlands

PROJECT

Lake St. Peter Waste Disposal Site

TITLE

Remaining Fill Capacity
15 October, 2025

BluMetric™ Environmental
4 Cataraqui Street, The Tower - The Woolen Mill
Kingston, Ontario, K7K 1Z7
TEL: (613) 531-2725
FAX: (613) 531-1852
Email: info@blumetric.ca
Web: http://www.blumetric.ca

PROJECT #	DATE
250253-04	February 13, 2026

DRAWN	CHECKED	DWG NO.	REV
MB	NW	06	0

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Site Photographs



Photo 1: Front signage – May 6, 2025



Photo 2: Front gate – May 6, 2025



Photo 3: Waste & recycling collection bins – May 6, 2025



Photo 4: Scrap metal – May 6, 2025



Photo 5: LSP-SW1 monitoring location – May 6, 2025



Photo 6: LSP-SW2 monitoring location – May 6, 2025



Photo 7: Segregated tires – May 6, 2025



Photo 8: Segregated bulky waste – May 6, 2025



Photo 9: Front signage – October 15, 2025



Photo 10: Front gate – October 15, 2025



Photo 11: Waste & recycling collection bins – October 15, 2025



Photo 12: Scrap metal – October 15, 2025



Photo 13: LSP-SW1 monitoring location – October 15, 2025



Photo 14: LSP-SW2 monitoring location – October 15, 2025



Photo 15: Segregated tires – October 15, 2025



Photo 16: Segregated bulky waste – October 15, 2025

Appendix A

Environmental Compliance Approval

Ontario

Ministry of the Environment, Conservation and Parks
Ministère de l'Environnement, de la Protection de la nature et des Parcs

AMENDED ENVIRONMENTAL COMPLIANCE APPROVAL
NUMBER A361116
Issue Date: October 25, 2021

The Corporation of the Municipality of Hastings Highlands
33011 Highway 62
Post Office Box, No. 130
Maynooth, Ontario
K0L 2S0

Site Location: Lake St. Peter Waste Disposal Site
2825 Highway 127
Hastings Highlands Municipality, County of Hastings

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

the use and operation of 2.2 hectare of waste disposal/transfer site within a total site area of 17 hectares for accepting the following wastes:

Municipal non-hazardous from domestic sources, IC & I, leaf and yard waste, wood waste, tires, scrap metal, bulky items (furniture), Blue Box Materials and waste electrical and electronics equipment (WEEE).

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

"Approval" means this entire Environmental Compliance Approval and any Schedules attached to it;

"Adverse Effect" as defined in the EPA;

"Contaminant Attenuation Zone" or "CAZ" means a three-dimensional zone that,

a. is located on land adjacent to a landfilling site,
b. is in the subsurface or extends into the subsurface, and
c. is used or is intended to be used for the attenuation of contaminants from the landfilling site to levels that will not have an unacceptable impact beyond the boundary of the zone;

"Contaminating Life Span" means contaminating life span as defined in Ontario Regulation 232/98;

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

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

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

"HHW" means household hazardous or special waste;
"Leaf and Yard Waste" includes waste consisting of natural Christmas trees and other plant materials but not tree limbs or other woody materials in excess of seven (7) centimetres in diameter;

"Ministry" means the ministry of the government of Ontario responsible for the EPA and OWRA and includes all officials, employees or other persons acting on its behalf;

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

"Ontario Drinking Water Quality Standards" means Ontario Regulation 169/03 (Ontario Drinking Water Quality Standards) as amended;

"Owner" means any person that is responsible for the establishment or operation of the *Site* being approved by this *Approval,* and includes The Corporation of the Municipality of Hastings Highlands and its successors and assigns;

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

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

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

"Reg. 347" means Regulation 347, R.R.O. 1990, made under the EPA, as amended;

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

"Regulation 903" means Regulation 903, R.R.O. 1990, made under the *OWRA,* as amended;

"Site" means the entire Lake St. Peter waste disposal site, including the buffer lands, and contaminant attenuation zone at located on Part Lot 10, Concession 12 &13, former Township of McClure, County of Hastings, Ontario.

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

"Trained Personnel" means personnel knowledgeable in the following through instruction and/or practice:

a. relevant waste management legislation, regulations and guidelines;

b. major environmental concerns pertaining to the waste to be handled;

c. occupational health and safety concerns pertaining to the processes and wastes to be handled;

d. management procedures including the use and operation of equipment for the processes and wastes to be handled;

e. emergency response procedures;

f. specific written procedures for the control of nuisance conditions;

g. specific written procedures for refusal of unacceptable waste loads; and

h. the requirements of this *Approval.*

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

TERMS AND CONDITIONS

1. GENERAL

Compliance

(1) The *Owner* and *Operator* shall ensure compliance with all the conditions of this *Approval* and shall ensure that any person authorized to carry out work on or operate any aspect of the *Site* is notified of this *Approval* and the conditions herein and shall take all reasonable measures to ensure any such person complies with the same.

(2) Any person authorized to carry out work on or operate any aspect of the *Site* shall comply with the conditions of this *Approval.*

In Accordance

(3) 3.1 Except as otherwise provided for in this Approval, the Site shall be designed, developed, built, operated, and maintained in accordance with the documents listed in *Schedule "A"* of this Approval.

3.2 (1) Construction and installation of the aspects of the Site described in the most recent application in *Schedule "A* " must be completed within 5 years of the later of:

(a) the date this Approval is issued; or
(b) if there is a hearing or other litigation in respect of the issuance of this

Approval, the date that this hearing or litigation is disposed of, including all appeals.

(2) This Approval ceases to apply in respect of the aspects of the Site noted above that have not been constructed or installed before the later of the dates identified in Condition 3.2(1) above.

Interpretation

(4) Where there is a conflict between a provision of any document listed in *Schedule "A "* in this *Approval,* and the conditions of this *Approval,* the conditions in this *Approval* shall take precedence.

(5) Where there is a conflict between the application and a provision in any document listed in *Schedule "A"* , the application shall take precedence, unless it is clear that the purpose of the document was to amend the application and that the *Ministry* approved the amendment.

(6) Where there is a conflict between any two documents listed in *Schedule "A "*, the document bearing the most recent date shall take precedence.

(7) The conditions of this *Approval* are severable. If any condition of this *Approval,* or the application of any condition of this *Approval* to any circumstance, is held invalid or unenforceable, the application of such condition to other circumstances and the remainder of this *Approval* shall not be affected thereby.

Other Legal Obligations

(8) The issuance of, and compliance with, this *Approval* does not:

(a) relieve any person of any obligation to comply with any provision of any applicable statute, regulation or other legal requirement; or
(b) limit in any way the authority of the *Ministry* to require certain steps be taken or to require the *Owner* and *Operator* to furnish any further information related to compliance with this *Approval.*

Adverse Effect

(9) The *Owner* and *Operator* shall take steps to minimize and ameliorate any adverse effect on the natural environment or impairment of water quality resulting from the *Site,* including such accelerated or additional monitoring as may be necessary to determine the nature and extent of the effect or impairment.

(10) Despite an *Owner, Operator* or any other person fulfilling any obligations imposed by this *Approval* the person remains responsible for any contravention of any other

condition of this *Approval* or any applicable statute, regulation, or other legal requirement resulting from any act or omission that caused the adverse effect to the natural environment or impairment of water quality.

Change of Ownership

(11) The *Owner* shall notify the *Director,* in writing, and forward a copy of the notification to the *District Manager,* within 30 days of the occurrence of any changes in the following information:

(a) the ownership of the *Site;*
(b) the *Operator* of the *Site;*
(c) the address of the *Owner or Operator;* and
(d) the partners, where the *Owner or Operator* is or at any time becomes a partnership and a copy of the most recent declaration filed under the *Business Names Act* , R. S. O. 1990, c. B.17, shall be included in the notification.

(12) No portion of this *Site* shall be transferred or encumbered prior to or after closing of the *Site* unless the *Director* is notified in advance and sufficient financial assurance is deposited with the *Ministry* to ensure that these conditions will be carried out.

(13) In the event of any change in ownership of the *Site,* other than change to a successor municipality, the *Owner* shall notify the successor of and provide the successor with a copy of this *Approval,* and the *Owner* shall provide a copy of the notification to the *District Manager* and the *Director.*

Registration on Title Requirement

(14) Prior to dealing with the property in any way, the *Owner* shall provide a copy of this *Approval* and any amendments, to any person who will acquire an interest in the property as a result of the dealing.

(15) (a) If the *Site* is patented, the *Owner* shall, within three (3) years of receiving the patent for the land occupying the waste disposal site, submit to the *Director* a completed Certificate of Requirement which shall include:

(i) a plan of survey prepared, signed and sealed by an Ontario Land Surveyor, which shows the area of the *Site* where waste has been or is to be deposited at the *Site;*
(ii) proof of ownership of the *Site;*
(iii) a letter signed by a member of the Law Society of Upper Canada or other qualified legal practitioner acceptable to the *Director,* verifying the legal description provided in the Certificate of Requirement;
(iv) the legal abstract of the property; and
(v) any supporting documents including a registerable description of the *Site.*

(b) Within fifteen (15) calendar days of receiving a Certificate of Requirement authorized by the *Director,* the *Owner* shall:

(i) register the Certificate of Requirement in the appropriate Land Registry Office on the title to the property; and
(ii) submit to the *Director* and the District Manager, written verification that the Certificate of Requirement has been registered on title.

Registration on Title Requirement - Contaminant Attenuation Zone (CAZ)

(16) Within four (4) years from the date of this *Approval* , the Owner shall complete acquiring the ground water easement to the proposed contaminant attenuation zone and buffer lands.

(17) The *Owner* must continue to own the property rights to the Contaminant Attenuation Zone for all of the *contaminating life span* of the *Site.*

(18) The ownership of the property rights must include the right to:

(a) discharge contaminants from the operations at the Site into the Contaminant Attenuation Zone;
(b) enter into the Contaminant Attenuation Zone and onto the surface above the Contaminant Attenuation Zone for purposes of testing, monitoring, intercepting contaminants and carrying out remedial work;
(c) install, operate and maintain works, for the purposes mentioned in clause (b), in the Contaminant Attenuation Zone, including on the surface above the Contaminant Attenuation Zone; and
(d) prevent the owner(s) of the land(s) in which the Contaminant Attenuation Zone is located from paving, erecting a structure or making any use of land(s) above or in the vicinity of the contaminant attenuation zone that would interfere with the functioning of the Contaminant Attenuation Zone or with the exercise of any of the rights mentioned in this subsection.

(19) The *Owner* shall notify the *Director* in writing within thirty (30) days after any change in his, her or its ownership of the property rights in the Contaminant Attenuation Zone.

(20) The *Owner* shall ensure that the written easement agreement, specified in Condition (16) includes an agreement of the property owner(s) of the land(s) required for the Contaminant Attenuation Zone, to register a Certificate of Requirement on title to the land(s) to be used as the Contaminant Attenuation Zone.

(21) Within thirty (30) calendar days from the date of establishing a Contaminant Attenuation Zone (overburden and/or bedrock aquifers) in either fee simple or by way of a groundwater easement, the *Owner* shall submit to the *Director* a completed

Certificate of Requirement which shall include:

(a) If rights are obtained in fee simple, the *Owner* shall provide:

(i) documentation evidencing ownership of the CAZ obtained in compliance with *O.Reg. 232/98,* as amended;
(ii) a completed Certificate of Requirement and supporting documents containing a registerable description of the CAZ; and
(iii) a letter signed by a member of the Law Society of Upper Canada; or other qualified legal practitioner acceptable to the *Director,* verifying the legal description of the CAZ.

(b) Within fifteen (15) calendar days of receiving a Certificate of Requirement signed or authorized by the *Director,* the Owner shall:

(i) register the Certificate of Requirement in the appropriate Land Registry Office on the title to the property; and
(ii) submit to the *Director* and the *District Manager,* written verification that the Certificate of Requirement has been registered on title.

(c) If rights are obtained by way of a groundwater easement, the Applicant shall:

(i) provide a copy of the easement;
(ii) provide a plan of survey signed and sealed by an Ontario Land Surveyor for the CAZ;
(ii) submit proof of registration on title of the groundwater easement to the *Director;*

(d) The *Owner* shall not amend or remove or consent to the removal of the easement or CAZ from title without the prior written consent of the *Director.*

Inspections by the Ministry

(22) No person shall hinder or obstruct a *Provincial Officer* from carrying out any and all inspections authorized by the *OWRA,* the *EPA,* the *PA,* the *SDWA* or the *NMA,* of any place to which this *Approval* relates, and without limiting the foregoing:

(a) to enter upon the premises where the approved works are located, or the location where the records required by the conditions of this *Approval* are kept;
(b) to have access to, inspect, and copy any records required to be kept by the conditions of this *Approval;*
(c) to inspect the *Site,* related equipment and appurtenances;
(d) to inspect the practices, procedures, or operations required by the conditions of this *Approval;* and
(e) to sample and monitor for the purposes of assessing compliance with the terms

and conditions of this *Approval* or the *EPA,* the *OWRA,* the *PA,* the *SDWA* or the *NMA.*

Information and Record Retention

(23) (a) Except as authorized in writing by the *Director,* all records required by this *Approval* shall be retained at the *Site* for a minimum of two (2) years from their date of creation.

(b) The *Owner* shall retain all documentation listed in Schedule "A" for as long as this *Approval* is valid.

(c) All monthly summary reports of waste records collected are to be kept at the *Site* until they are included in the Annual Report.

(d) The *Owner* shall retain employee *training* records as long as the employee is working at the *Site.*

(e) The *Owner* shall make all of the above documents available for inspection upon request of *Ministry* staff.

(24) The receipt of any information by the *Ministry* or the failure of the *Ministry* to prosecute any person or to require any person to take any action under this *Approval* or under any statute, regulation or other legal requirement, in relation to the information, shall not be construed as:

(a) an approval, waiver, or justification by the *Ministry* of any act or omission of any person that contravenes any term or condition of this *Approval* or any statute, regulation or other legal requirement; or

(b) acceptance by the *Ministry* of the information's completeness or accuracy.

(25) The *Owner* shall ensure that a copy of this *Approval,* in its entirety and including all its Notices of Amendment, and documentation listed in Schedule "A", are retained at the *Site* at all times.

(26) Any information related to this *Approval* and contained in *Ministry* files may be made available to the public in accordance with the provisions of the Freedom of Information and Protection of Privacy Act, RSO 1990, CF-31.

2. SITE OPERATION

Operation

(1) The *Site* shall be operated and maintained at all times including management and disposal of all waste, in accordance with the *EPA, Reg.347,* and the conditions of this *Approval.* At no time shall the discharge of a contaminant that causes or is likely to cause an adverse effect be permitted.

Signs

(2) A sign shall be installed and maintained at the main entrance/exit to the *Site* which legibly display the following information:

(a) the name of the *Site* and *Owner;*
(b) the number of the *Approval;*
(c) the name of the *Operator;*
(d) the normal hours of operation;
(e) the allowable and prohibited waste types;
(f) the telephone number to which complaints may be directed;
(g) a warning against unauthorized access;
(h) a twenty-four (24) hour emergency telephone number (if different from above); and
(i) a warning against dumping outside the *Site.*

(3) The *Owner* shall install and maintain signs to direct vehicles to working face and waste recycling and transfer areas.

(4) The *Owner* shall provide signs at recycling and transfer area informing users what materials are acceptable and directing users to appropriate storage areas.

Vermin, Vectors, Dust, Litter, Odour, Noise and Traffic

(5) The *Site* shall be operated and maintained such that the vermin, vectors, dust, litter, odour, noise and traffic do not create a nuisance.

Burning Waste Prohibited

(6) (a) Burning of waste at the *Site* is prohibited.

(b) Notwithstanding Condition 2 (6) (a) above, burning of segregated, clean wood and brush at the landfill may be carried out in strict compliance with the Ministry of the Environment Document titled "Guideline C-7, Burning at Landfill Sites" dated April 1994.

Site Access

(7) Waste shall only be accepted during the following time periods:

Winter (Thanksgiving Day to Victoria Day)

Thursday	:	12:00 p.m. - 5:00 p.m.
Saturday & Sunday	:	12:00 p.m. - 5:00 p.m.

Summer (Victoria Day to Thanksgiving Day)

Thursday	:	12:00 p.m. - 5:00 p.m.

Saturday	:	07:00 a.m. - 12:00 p.m.
Sunday	:	02:00 p.m. - 7:00 p.m.

(8) On-site equipment used for daily site preparation and closing activities may be operated one (1) hour before and one (1) hour after the hours of operation approved by this *Approval*. Notwithstanding Condition 2(7), waste/recyclables materials present on Site can be removed for processing/disposal by a registered/licensed waste hauler from Monday to Friday, from 7 a.m. to 5 p.m.

(9) With the prior written approval from the *District Manager,* the time periods may be extended to accommodate seasonal or unusual quantities of waste.

Site Security

(10) No waste shall be received, landfilled or removed from the *Site* unless a site supervisor or an attendant is present and supervises the operations during operating hours. The *Site* shall be closed when a site attendant is not present to supervise landfilling operations.

(11) The *Site* shall be operated and maintained in a safe and secure manner. During non-operating hours, the *Site* entrance and exit gates shall be locked and the *Site* shall be secured against access by unauthorized persons.

(12) The Owner shall ensure that:

(a) access to the Site is restricted by fencing; and
(b) fencing and lockable gate are kept in good repair.

Operations - Transfer Station

13. The transfer station shall be designed, built, used and maintained in accordance with Item 5 of *Schedule "A"*.

14. The transfer station shall only accept municipal waste and recyclable materials generated within the boundaries of the municipal boundaries of the Town of Hastings Highlands.

15. All wastes and recyclable materials shall be managed and disposed in accordance with the Act and Reg. 347.

16. The Owner shall post a sign in a prominent location at the Site entrance which clearly states:

(a) the hours of operation of the transfer station;
(b) the types of waste which are accepted at the transfer station;

(c) the area serviced by the transfer station;
(d) Waste Management System requirements for commercial haulers;
(e) the Environmental Compliance Approval number of the Site;
(f) the Owner's name; and
(g) staff contact name and telephone number to call in the event of an emergency.

17. (a) The Owner shall ensure that a trained employee(s) is/are on duty at all times when the Site is open to ensure proper supervision of all activities; and
(b) Prior to being accepted at the Site, all incoming waste and recyclable materials shall be inspected by the trained employee and shall only be permitted to enter the Site if the Site is approved to accept that type of waste.

18. (a) The combined total amount of waste (excluding tires) and recyclable materials stored at the transfer station at any one time shall not exceed 100 tonnes per day.
(b) The total amount of tires stored at the transfer station at any one time shall not exceed 100 tire units.

(19) The *Owner* shall ensure that:

(a) all bins and waste storage areas are clearly labelled;
(b) all lids or doors on bins shall be kept closed during non-operating hours and during high wind events; and
(c) if necessary to prevent litter, waste storage areas shall be covered during high winds events.
(d) Tires shall be stockpiled in the following manner:

(i) individual stockpiles shall not exceed a volume of 300 m^3;
(ii) stockpiles shall be located a minimum of 15 metres from the property line and/or any buildings;
(iii) stockpiles shall be separated from each other and from other waste piles by a minimum of 6 metres; and
(iv) an area around stockpiles of no less than 4.5 metres shall be kept free of vegetation.

(20) The *Owner* shall transfer waste and recyclable materials from the *Site* as follows:

(a) recyclable materials shall be transferred off-site once their storage bins are full or when the maximum capacities listed in Condition 19 (a) or (b) have been reached.;
(b) scrap metal shall be transferred off-site at least twice a year;
(c) tires shall be transferred off-site as soon as a load for the contractor hired by the *Owner* has accumulated or as soon as the accumulated volume exceeds the storage capacity of its bunker; and
(d) immediately, in the event that waste is creating an odour or vector problem.

(21) The *Owner* shall notify the appropriate contractors that waste and recyclable wastes that are to be transferred off-site are ready for removal. Appropriate notice time, as determined by the contract shall be accommodated in the notification procedure.

(22) Collection, storage and transfer of Waste Electrical and Electronic Equipment shall be in accordance with the documents in the *Schedule "A"* . If there is any discrepancy between the guideline titled "Collection Site Organizing & Operating Waste Electrical and Electronic Equipment (WEEE) Guidebook" dated November 2012 as amended prepared by Ontario Electronic Stewardship and the documents in *Schedule "A"* , the guideline shall take precedence.

(23) The amount of *Leaf and Yard Waste* received at the *Site* shall not exceed 39 cubic meters per day between May and June and 16 cubic meter per day for rest of the year.

(24) Sealable and lockable bins shall be used to collect inadvertently left hazardous household or special waste (HHW). The storage and transfer of HHW shall be in such a way to protection health and safety of the public and the environment.

(25) The Owner shall conduct regular inspections, on a weekly basis at a minimum, to ensure that all equipment and facilities at the transfer station are operating in a manner that will not negatively impact the environment. Any deficiencies detected shall be promptly corrected. A written record shall be maintained at the transfer station which includes the following information:

(a) name and signature of trained employee(s) conducting the inspection;
(b) date and time of the inspection; and
(c) list of all deficiencies observed and description of remedial action(s) taken to correct observed deficiency including the date and time of the action(s).

26. The Owner shall maintain a log book at the transfer station which records the following information:

(a) date of record;
(b) quantities (m^3) and destination of each type of waste, including recyclable material, shipped from the transfer station; and
(c) complaints received, if any, including the nature of the complaint, time of complaint and action(s) taken to remediate the problem.

27. (a) The Owner shall submit, for approval by the Director, a detailed written Closure Plan six (6) months prior to the closure of the transfer station. This plan shall include, as a minimum, a description of the work that will be completed to facilitate closure of the transfer station and a schedule for the completion of that work; and

(b) Within ten (10) days following closure of the transfer station, the Owner shall notify the Director, in writing, that the transfer station is closed and that the Closure Plan has been implemented.

3. EMPLOYEE TRAINING

(1) A training plan for all employees that operate any aspect of the *Site* shall be developed and implemented by the *Owner* or the *Operator.* Only *Trained Personnel* shall operate any aspect of the *Site* or carry out any activity required under this *Approval* .

4. COMPLAINTS RESPONSE PROCEDURE

(1) If at any time the *Owner* receives complaints regarding the operation of the *Site,* the *Owner* shall respond to these complaints according to the following procedure:

(a) The *Owner* shall record and number each complaint, either electronically or in a log book, and shall include the following information: the nature of the complaint, the name, address and the telephone number of the complainant if the complainant will provide this information and the time and date of the complaint;
(b) The *Owner,* upon notification of the complaint, shall initiate appropriate steps to determine possible causes of the complaint, proceed to take the necessary actions to eliminate the cause of the complaint and forward a formal reply to the complainant; and
(c) The *Owner* shall complete and retain on-site a report written within one (1) week of the complaint date, listing the actions taken to resolve the complaint and any recommendations for remedial measures, and managerial or operational changes to reasonably avoid the recurrence of similar incidents.

5. EMERGENCY RESPONSE

(1) All Spills as defined in the *EPA* shall be immediately reported to the **Ministry's Spills Action Centre at 1-800-268-6060** and shall be recorded in the log book as to the nature of the emergency situation, and the action taken for clean-up, correction and prevention of future occurrences.

(2) In addition, the *Owner* shall submit, to the *District Manager* a written report within three (3) business days of the emergency situation, outlining the nature of the incident, remedial measures taken, handling of waste generated as a result of the emergency situation and the measures taken to prevent future occurrences at the *Site.*

(3) All wastes resulting from an emergency situation shall be managed and disposed of in accordance with *Reg. 347.*

(4) All equipment and materials required to handle the emergency situations shall be:

(a) kept on hand at all times that waste landfilling and/or handling is undertaken at the *Site;* and
(b) adequately maintained and kept in good repair.

(5) The *Owner* shall ensure that the emergency response personnel are familiar with the use of such equipment and its location(s).

6. INSPECTIONS, RECORD KEEPING AND REPORTING

Daily Log Book

(1) A daily log shall be maintained in written or electronic format and shall include the following information:
(a) the type, date and time of arrival, hauler, and quantity (tonnes) of all waste and cover material received at the *Site;*
(b) the area of the *Site* in which waste disposal operations are taking place;
(c) a record of litter collection activities and the application of any dust suppressants;
(d) a record of the daily inspections; and
(e) a description of any out-of-service period of any control, treatment, disposal or monitoring facilities, the reasons for the loss of service, and action taken to restore and maintain service.

(2) Any information requested, by the *Director* or a *Provincial Officer,* concerning the *Site* and its operation under this *Approval,* including but not limited to any records required to be kept by this *Approval* shall be provided to the *Ministry,* upon request.

Daily Inspections and Log Book

(3) An inspection of the entire *Site* and all equipment on the *Site* shall be conducted each day the *Site* is in operation to ensure that: the *Site* is secure; that the operation of the *Site* is not causing any nuisances; that the operation of the *Site* is not causing any adverse effects on the environment and that the *Site* is being operated in compliance with this *Approval.* Any deficiencies discovered as a result of the inspection shall be remedied immediately, including temporarily ceasing operations at the *Site* if needed**.**

(4) A record of the inspections shall be kept in a daily log book that includes:

(a) the name and signature of person that conducted the inspection;
(b) the date and time of the inspection;
(c) the list of any deficiencies discovered;
(d) the recommendations for remedial action; and
(e) the date, time and description of actions taken.

(5) A record shall be kept in the daily log book of all refusals of waste shipments, the reason(s) for refusal, and the origin of the waste, if known.

Annual Report

(6) A written report on the development, operation and monitoring of the *Site,* shall be completed annually (the "Annual Report"). The Annual Report shall be submitted to the *District Manager,* by March 31st of the year following the period being reported upon.

(7) The Annual Report shall include but not be limited to the following information:

(a) the results and an interpretive analysis of the results of all leachate, groundwater surface water and landfill gas monitoring, including an assessment of the need to amend the monitoring programs;
(b) an assessment of the operation and performance of all engineered facilities, the need to amend the design or operation of the *Site,* and the adequacy of and need to implement the contingency plans;
(c) site plans showing the existing contours of the *Site;* areas of landfilling operation during the reporting period; areas of intended operation during the next reporting period; areas of excavation during the reporting period; the progress of final cover, vegetative cover, and any intermediate cover application; facilities existing, added or removed during the reporting period; and site preparations and facilities planned for installation during the next reporting period;
(d) calculations of the volume of waste, weekly and intermediate cover, and final cover deposited or placed at the *Site* during the reporting period and a calculation of the total volume of *Site* capacity used during the reporting period;
(e) a calculation of the remaining capacity of the *Site* and an estimate of the remaining *Site* life;
(f) a summary of the weekly, maximum daily and total annual quantity (tonnes) of waste received at the *Site;*
(g) a summary of any complaints received and the responses made;
(h) a discussion of any operational problems encountered at the *Site* and corrective action taken;
(i) any changes to the Design and Operations Report and the Closure Plan that have been approved by the *Director* since the last *Annual Report;*
(j) a report on the status of all monitoring wells and a statement as to compliance with *Ontario Regulation 903;* and
(k) any other information with respect to the *Site* which the *District Manager* may require from time to time.

7. LANDFILL DESIGN AND DEVELOPMENT

Approved Waste Types

(1) Only municipal waste as defined under *Reg.* 347 being solid non-hazardous shall be accepted at the *Site* for landfilling.

(2) The *Owner* shall develop and implement a program to inspect waste to ensure that the waste received at the *Site* is of a type approved for acceptance under this *Approval.*

(3) The *Owner* shall ensure that all loads of waste are properly inspected by *Trained personnel* prior to acceptance at the *Site* and that the waste vehicles are directed to the appropriate areas for disposal or transfer of the waste. The *Owner* shall notify the *District Manager,* in writing, of load rejections at the *Site* within one (1) business day from their occurrence.

Capacity

(4) The calculated theoretical maximum volumetric capacity of the *Site,* consisting of the waste, daily cover and intermediate cover, but excluding the final cover is ***73,383*** cubic metres.

(5) This approval is for the design, operation and use of 73,383 cubic meters of the calculated theoretical maximum volumetric capacity of the *Site* as described in Item 1 of Schedule "A". This does not include the historical waste volume deposited below ground at the site.

(6) Within 2 years from the date of issuance of the Approval, the waste deposited outside the approved site boundary in the Phase I waste footprint area as shown on Figure 4 of the Design and Operations Plan, enclosed as Item 5 in *Schedule "A"* , shall be excavated and deposited within the Phase I approved fill area. The waste deposited outside the Phase 1 footprint area but within the site boundary can remain in-place.

Service Area

(7) Only waste that is generated within the geographical boundaries of the Municipality of the Hastings and Highland shall be accepted at the *Site.*

Cover

(8) Cover material shall be applied as follows:

(a) Weekly Cover - Weather permitting, deposited waste shall be covered every week in a manner acceptable to the *District Manager* so that no waste is exposed

to the atmosphere;

(b) Intermediate Cover - In areas where landfilling has been temporarily discontinued for six (6) months or more, a minimum thickness of 300 millimetre of soil cover or an approved thickness of alternative cover material shall be placed; and

(c) Final Cover - In areas where landfilling has been completed to final contours, a minimum 600 millimetre thick layer of soil of medium permeability and 150 millimetres of top soil (vegetative cover) shall be placed. Fill areas shall be progressively completed and rehabilitated as landfill development reaches final contours.

8. LANDFILL MONITORING

Landfill Gas

(1) The *Owner* shall ensure that any buildings or structures at the *Site* contain adequate ventilation systems to relieve any possible landfill gas accumulation to prevent methane concentration reaching the levels within its explosive range. Routine monitoring for explosive methane gas levels shall be conducted in all buildings or structures at the *Site,* especially enclosed structures which at times are occupied by people.

(2) The *Owner* shall construct at least two (2) dedicated landfill gas monitors at locations acceptable to the *District Manager* within 2 years of the anticipated closure of the Phase1 area and the landfill gas monitoring shall occur concurrently with the groundwater monitoring as outlined in Table E-2, *Schedule B* .

(3) The Owner shall ensure that all on-Site enclosed buildings are equipped with appropriate dedicated gas monitoring devices.

Leachate Monitoring

(4) The Owner shall construct one (1) dedicated leachate monitor within Phase 1 footprint area at location acceptable to the *District Manager* within *two years* of the issuance of the Approval.

(5) The leachate level and sampling and chemical testing shall occur concurrently with the groundwater monitoring as outlined in Table E-2, *of Schedule B* .

Surface Water and Groundwater

(6) The *Owner* shall monitor surface water and ground water in accordance with the monitoring program outlined in Table E-1: Annual (Spring & Fall) Surface Water Monitoring and Analysis and Table E-2: Annual (Spring & Fall) Groundwater Monitoring and Analysis, enclosed in *Schedule "B".*

(7) In addition to the groundwater chemical quality program specified in Condition 8 (6), the groundwater and leachate samples shall be tested for volatile organic compounds (VOCs) once per year in the Spring monitoring event. A depth to water level shall be recorded prior to sample collection at groundwater and leachate monitoring wells.

Groundwater Wells and Monitors

(8) The *Owner* shall ensure that all groundwater monitoring wells which form part of the monitoring program are properly capped, locked and protected from damage.

(9) Where landfilling is to proceed around monitoring wells, suitable extensions shall be added to the wells and the wells shall be properly re-secured.

(10) Any groundwater monitoring well included in the on-going monitoring program that is damaged shall be assessed, repaired, replaced or decommissioned by the *Owner,* as required.

(a) The *Owner* shall repair or replace any monitoring well which is destroyed or in any way made to be inoperable for sampling such that no more than one regular sampling event is missed.

(b) All monitoring wells which are no longer required as part of the groundwater monitoring program, and have been approved by the *Director* for abandonment, shall be decommissioned by the *Owner,* as required, in accordance with *O.Reg. 903,* to prevent contamination through the abandoned well. A report on the decommissioning of the well shall be included in the Annual Report for the period during which the well was decommissioned.

Trigger Mechanisms and Contingency Plans

(11) (a) Trigger mechanisms shall be in accordance with Trigger Mechanisms Contingency Plan provided in Appendix H of the Design and Operations Plan, enclosed as Item 5 in *Schedule "A"* .

(b) Contingency plan in the event of a confirmed exceedance of a site-specific trigger level relating to leachate mounding or groundwater or surface water impacts due to leachate shall be in accordance with Item 5 of *Schedule "A".*

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

(13) If monitoring results, investigative activities and/or trigger mechanisms indicate the need to implement contingency measures, the *Owner* shall ensure that the following steps are taken:

(a) The *Owner* shall notify the *District Manager,* in writing of the need to implement contingency measures, no later than 30 days after confirmation of the exceedances;
(b) Detailed plans, specifications and descriptions for the design, operation and maintenance of the contingency measures shall be prepared and submitted by the *Owner* to the *Director* for approval; and
(c) The contingency measures shall be implemented by the *Owner* upon approval by the *Director* .

(14) The *Owner* shall ensure that any proposed changes to the site-specific trigger levels for leachate impacts to the surface water or groundwater, are approved in advance by the *Director* via an amendment to this *Approval.*

Changes to the Monitoring Plan

(15) The *Owner* may request to make changes to the monitoring program to the *District Manager* in accordance with the recommendations of the annual report. The *Owner* shall make clear reference to the proposed changes in a separate letter that shall accompany the annual report.

(16) Within thirty (30) days of receiving the written correspondence from the *District Manager* confirming that the *District Manager* is in agreement with the proposed changes to the environmental monitoring program, the *Owner* shall forward a letter identifying the proposed changes and a copy of the correspondences from the *District Manager* and all other correspondences and responses related to the changes to the monitoring program, to the *Director* requesting the *Approval* be amended to approve the proposed changes to the environmental monitoring plan prior to implementation.

(17) In the event any other changes to the environmental monitoring program are proposed outside of the recommendation of the annual report, the *Owner* shall follow current *Ministry* procedures for seeking approval for amending the *Approval.*

Compliance

(18) The *Site* shall be operated in such a way as to ensure compliance with the following:

(a) Reasonable Use Guideline B-7 for the protection of the groundwater at the *Site;* and
(b) Provincial Water Quality Objectives included in the July 1994 publication entitled *Water Management Policies, Guidelines, Provincial Water Quality Objectives,* as amended from time to time or limits set by the *Regional*

Director, for the protection of the surface water at and off the *Site.*

9. CLOSURE PLAN

(1) At least 3 years prior to the anticipated date of closure of this *Site,* the *Owner* shall submit to the *Director* for approval, with copies to the *District Manager,* a detailed *Site* closure plan pertaining to the termination of landfilling operations at this *Site,* post-closure inspection, maintenance and monitoring, and end use. The plan shall include but not be limited to the following information:

(a) a plan showing *Site* appearance after closure;
(b) a description of the proposed end use of the *Site;*
(c) a description of the procedures for closure of the *Site,* including:
(i) advance notification of the public of the landfill closure;
(ii) posting of a sign at the *Site* entrance indicating the landfill is closed and identifying any alternative waste disposal arrangements;
(iii) completion, inspection and maintenance of the final cover and landscaping;
(iv) *Site* security;
(v) removal of unnecessary landfill-related structures, buildings and facilities;
(vi) final construction of any control, treatment, disposal and monitoring facilities for leachate, groundwater, surface water and landfill gas; and
(vii) a schedule indicating the time-period for implementing sub-conditions (i) to (vi) above;
(d) descriptions of the procedures for post-closure care of the *Site,* including:
(i) operation, inspection and maintenance of the control, treatment, disposal and monitoring facilities for leachate, groundwater, surface water and landfill gas;
(ii) record keeping and reporting; and
(iii) complaint contact and response procedures;
(e) an assessment of the adequacy of and need to implement the contingency plans for leachate and methane gas; and
(f) an updated estimate of the *contaminating life span* of the *Site,* based on the results of the monitoring programs to date.

(2) The *Site* shall be closed in accordance with the closure plan as approved by the *Director.*

Schedule "A"

1. Application for a Certificate of Approval for a Waste Disposal Site (Landfill) dated November 1, 1984 signed by Donald C. Bloom, Clerk-Treasurer and modified by correspondence of January 20, 1986, D. C. Bloom to Paul Moore, Ministry of the Environment.

2. Site Plan entitled “Drawing No. 1(A)” and conveyed to D. Graham, Ministry of the Environment, by correspondence of December 17, 1984 from D.C. Bloom, Clerk-Treasurer.

3. Application for Approval dated May 8, 2000, and supporting information and documentation prepared by Mr. Donald C. Bloom, Clerk-Treasurer of the Corporation of United Townships of Bangor, Wicklow and McClure, including letter dated May 26, 2000 with site plan.

4. Letter from the Corporation of the Municipality of Hastings Highlands, dated February 4, 2002, signed by Glenn Kargus, Manager of Transportation Services.

5. Environmental Compliance Approval Application dated September 25, 2020 and signed David Stewart, CAO, including the attached supporting documentation “Development and Operations Plan, Lake St. Peter Waste Disposal Site, Environmental Compliance Approval No.: A361116, BluMatric Environmental Inc., September 2020.

6. Email dated July 2, 2021, EA Amendment #1, letter dated June 30, 2021, prepared by BluMetric.

7. Email Response dated October 15, 2021, and supporting documentation prepared by BluMetric dated October 14, 2021, including an updated monitoring program.

Schedule "B"

Table E-1: Annual (Spring & Fall) Surface Water Monitoring and Analysis

Monitoring Locations	Category	Parameters
LSP-SW1, LSPSW2, LSP-DP1-21	Biological Parameters	Biological Oxygen Demand (BOD_5), Chemical Oxygen Demand (COD)
	Organic Parameters	Phenols
	Inorganic Parameters	Alkalinity, Chloride, Nitrite, Nitrate, Sulphate, Phosphorous (Total), Total Kjeldahl Nitrogen (TKN), Ammonia (N)-Total, Calcium, Aluminum (Dissolved), Arsenic, Boron, Cadmium, Chromium, Cobalt, Copper, Iron, Magnesium, Nickel, Potassium, Selenium, Silver, Sodium, Zinc, Lead, Barium, Beryllium, Molybdenum, Manganese, Mercury (dissolved), Silicon, Strontium, Thallium, Titanium, Vanadium
	Physical/Chemical Parameters	pH, Conductivity, Total Dissolved Solids (TDS), Total Suspended Solids (TSS), Colour, Hardness ($CaCO_3$), Turbidity (NTU)

Table E-2: Annual (Spring & Fall) Groundwater Monitoring and Analysis

Monitoring Locations	Category	Parameters
LSP1-03, LSP2-03, LSP3-03, LSP4-19, LSP5-19	Organic Parameters	Dissolved Organic Carbon (DOC)
	Inorganic Parameters	Nitrate, Ammonia, Chloride, Major Ions (Sodium, Calcium, Magnesium, Sulphate, Alkalinity)
	Dissolved Metals	Iron, Boron, Barium, Manganese
Future Leachate Well (In Phase 1 Area)	Physical/Chemical Parameters	pH, Conductivity, Total Dissolved Solids (TDS), Total Suspended Solids (TSS)

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

1. *The reason for Conditions 1(1), (2), (4), (5), (6), (7), (8), (9), (10), (19) & (24) is to clarify the legal rights and responsibilities of the Owner and Operator under this Approval.*

2. *The reasons for Condition 1(3), 2(12), 2 (13), and 7 (8) are to ensure that the Site is designed, operated, monitored and maintained in accordance with the application and supporting documentation submitted by the Owner, and not in a manner which the Director has not been asked to consider.*

3. *The reasons for Condition 1(11) are to ensure that the Site is operated under the corporate name which appears on the application form submitted for this approval and to ensure that the Director is informed of any changes.*

4. *The reasons for Condition 1(12) are to restrict potential transfer or encumbrance of the Site without the approval of the Director and to ensure that any transfer of encumbrance can be made only on the basis that it will not endanger compliance with this Approval.*

5. *The reason for Condition 1(13) is to ensure that the successor is aware of its legal responsibilities.*

6. *The reasons for Conditions 1(14), (15), (16), (17), (18), (20) & (21) are that the Part II.1 Director is an individual with authority pursuant to Section 197 of the Environmental Protection Act to require registration on title and provide any person with an interest in property before dealing with the property in any way to give a copy of the Approval to any person who will acquire an interest in the property as a result of the dealing.*

7. *The reason for Condition 1(22) is to ensure that appropriate Ministry staff has ready access to the Site for inspection of facilities, equipment, practices and operations required by the conditions in this Approval. This Condition is supplementary to the powers of entry afforded a Provincial Officer pursuant to the Act, the OWRA, the PA, the NMA and the SDWA.*

8. *The reason for Condition 1 (23), 1(25), 2 (25), and 2(26) is to ensure that accurate waste records and approval documents are maintained to ensure compliance with the conditions in this Approval, the EPA and its regulations.*

9. *Condition 1 (26) has been included to clarify what information may be subject to the Freedom of Information Act.*

10. *The reasons for Conditions 2(1), 2 (3), 2(5), 2(19), 2(20), 2 (21), and 6(3) are to ensure that the Site is operated, inspected and maintained in an environmentally acceptable*

manner and does not result in a hazard or nuisance to the natural environment or any person.

11. *The reason for Condition 2(15) is to ensure that waste is transported to and from the Site in accordance with Reg. 347.*

12. *The reason for Conditions 2 (2), 2(4), and 2(16) is to ensure that users of the Site are fully aware of important information and restrictions related to Site operations and access under this Approval.*

13. *The reasons for Condition 2(6) (a), and (b) are open burning of municipal waste is unacceptable because of concerns with air emissions, smoke and other nuisance effects, and the potential fire hazard and to make sure burning of brush and wood are carried out in accordance with Ministry guidelines.*

14. *The reasons for Condition 2(7), 2(8), and 2(9) are to specify the hours of operation for the landfill site and a mechanism for amendment of the hours of operation, as required.*

15. *The reasons for Condition 2(10), 2(11), 2(17), 2(18), 3(1) are to ensure that the Site is supervised by properly trained staff in a manner which does not result in a hazard or nuisance to the natural environment or any person and to ensure the controlled access and integrity of the Site by preventing unauthorized access when the Site is closed and no site attendant is on duty.*

16. *The reasons for Conditions 2(13), 2(18), 2(22) and 2(23) are to specify the approved areas from which waste may be accepted at the Site and the types and amounts of waste that may be accepted for disposal at the Site, based on the Owner's application and supporting documentation.*

17. *The reason for Conditions 2(19), 2(20) and 2(24) is to ensure the waste storage and diversion is done in a manner and duration which does not result in a nuisance or a hazard to the health and safety of the environment or people and restrictions related to Site operations and access under this ECA.*

18. *The reason for Condition 3(1) is to ensure that the Site is supervised and operated by properly trained staff in a manner which does not result in a hazard or nuisance to the natural environment or any person.*

18. *The reason for Condition 4(1) is to ensure that any complaints regarding landfill operations at this Site are responded to in a timely and efficient manner.*

19. *Conditions 5(1) through 5(5) are included to ensure that emergency situations are handled in a manner to minimize the likelihood of an adverse effect and to ensure public health and safety and environmental protection.*

20. The reason for Conditions 6(1) and 6(2) is to ensure that accurate waste records are maintained to ensure compliance with the conditions in this Approval (such as fill rate, site capacity, record keeping, annual reporting, and financial assurance requirements), the EPA and its regulations.

21. The reason for Conditions 6(4) and 6(5) is to ensure that detailed records of Site inspections are recorded and maintained for inspection and information purposes.

22. The reasons for Conditions 6(6) and 6(7) are to ensure that regular review of site development, operations and monitoring data is documented and any possible improvements to site design, operations or monitoring programs are identified. An annual report is an important tool used in reviewing site activities and for determining the effectiveness of site design.

23. The reason for Conditions 7(1) to 7(7) inclusive is to specify the approved areas from which waste may be accepted at the Site and the types and amounts of waste that may be accepted for disposal at the Site, based on the Owner's application and supporting documentation.

24. The reasons for Condition 7(8) are to ensure that weekly and intermediate cover are used to control potential nuisance effects, to facilitate vehicle access on the Site, and to ensure an acceptable site appearance is maintained. The proper closure of a landfill site requires the application of a final cover which is aesthetically pleasing, controls infiltration, and is suitable for the end use planned for the Site.

25. The reasons for Condition 8(1), 8(2) and 8(3) are to ensure that off-site migration of landfill gas is monitored and all buildings at the Site are free of any landfill gas accumulation, which due to a methane gas component may be explosive and thus create a danger to any persons at the Site.

26. Conditions 8(4) to 8(7) and 8(18) are included to specify the leachate, groundwater and surface water monitoring requirements for monitoring leachate, groundwater and surface water quality and to require the Owner to demonstrate that the Site is performing as designed and the impacts on the natural environment are acceptable. Regular monitoring allows for the analysis of trends over time and ensures that there is an early warning of potential problems so that any necessary remedial/contingency action can be taken.

27. Conditions 8(8) to 8(10) are included to ensure the integrity of the groundwater monitoring network so that accurate monitoring results are achieved and the natural environment is protected.

28. Conditions 8(11) to 8(14) are added to ensure the Owner has a plan with an organized set of procedures for identifying and responding to potential issues relating to groundwater and surface water contamination at the Site's compliance point.

29. *The reasons for Conditions 8(15) to 8(17) are included to streamline the approval of the changes to the monitoring plan.*

30. *The reasons for Condition 9(1), 9(2) and 2(27) are to ensure that final closure of the Site is completed in an aesthetically pleasing manner, in accordance with Ministry standards, and to ensure the long-term protection of the health and safety of the public and the environment.*

Upon issuance of the environmental compliance approval, I hereby revoke Approval No(s). A361116 issued on April 3, 1986

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

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

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

The Notice should also include:

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

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

This Notice must be served upon:

Registrar*
Ontario Land Tribunal
655 Bay Street, Suite 1500
Toronto, Ontario
M5G 1E5
OLT.Registrar@ontario.ca

and

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

*** Further information on the Ontario Land Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349 or 1 (866) 448-2248, or www.oltt.gov.on.ca**

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

DATED AT TORONTO this 25th day of October, 2021

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

AQ/
c: Area Manager, MECP Belleville
c: District Manager, MECP Kingston - District
Iris O'Connor, BlueMetric Environmental Inc.

Ministry of Natural Resources
Program Services Section
300 Water Street
Peterborough, ON K9J 3C7

Ministère des Richesses naturelles
Section des services de programme
300, rue Water
Peterborough (Ontario) K9J 3C7

Ontario

File No. 112798

February 20, 2025

Municipality of Hastings Highlands
33011 Highway 62
P.O Box 130
Maynooth, ON, K0L 2S0

Attn: The Corporation of the Municipality of Hastings Highlands

Dear Sir/Madam:

Re: Grant of Easement No. 1126
Location CL 19416, Part 2 and 4, Plan 21R-26155, Geographic Township of McClure, Municipality of Hastings Highlands

Location CL 4647, Part 1 and 2, Plan 21R-9281, Geographic Township of McClure, Municipality of Hastings Highlands

Enclosed is the above referenced Grant of Easement. Please execute and affix your corporate seal, or add after the signature "I HAVE AUTHORITY TO BIND THE CORPORATION", and then return to the undersigned at your earliest possible convenience.

We will then arrange to have the easement registered in the pertinent Land Registry Office, following which a copy of the registered easement will be sent to you.

If you have any questions, please do not hesitate to contact me.

Yours truly,

Stacey Doughty
Provincial Lands Specialist - Crown Land Registry
Telephone: (705)-313-5251

Ministry of
Natural Resources
and Forestry

Ontario

PROVINCE OF ONTARIO

MINISTRY OF NATURAL RESOURCES AND FORESTRY

GRANT OF EASEMENT

NO. 1126

THIS AGREEMENT made on this sixth day of February in the year of Our Lord two thousand and twenty-three pursuant to the Public Lands Act,

BETWEEN:

THE MINISTER OF NATURAL RESOURCES AND FORESTRY for the Province of Ontario, hereinafter called the "Grantor",

OF THE FIRST PART;

- and -

THE CORPORATION OF THE MUNICIPALITY OF HASTINGS HIGHLANDS, hereinafter called the "Grantee"

OF THE SECOND PART;

WHEREAS the Grantee operates a waste disposal site, (the "Waste Disposal Site") located on lands more particularly described in Schedule "B" attached hereto adjacent to certain Public Lands owned by His Majesty the King in right of Ontario.

AND WHEREAS surface and ground water from the Waste Disposal Site may flow or migrate into, onto, over, along and under the Public Lands.

WITNESSETH that under the Public Lands Act and in consideration of the sum of TWO THOUSAND AND TEN DOLLARS AND FIFTY-SEVEN CENTS ($2,010.57) now paid by the Grantee to the Minister of Finance of Ontario, the receipt whereof is hereby acknowledged, and the covenants and agreements hereinafter contained on the part of the Grantee to be observed and performed, the Grantor doth hereby grant, convey, transfer, and confirm unto the Grantee, its successors and assigns, as and from the first day of January, 2023, the right, licence, liberty, privilege and easement on, over, under and through the Public Lands situate, lying and being in the Geographic Township of McClure, in the Municipality of Hastings Highlands, County of Hastings and Province of Ontario, being more particularly described in Schedule "A" attached hereto.

1. The Grantor hereby grants to the Grantee the right in the nature of an easement and irrevocable licence to use the Public Lands for the purpose of a contaminant attenuation zone for the Waste Disposal Site including without limitation, the right to discharge contaminants from the Waste Disposal Site into, onto, over, along and under the Public Lands subject to the terms of this agreement.

2. This agreement shall be effective until such time as the Director of the Ministry of the Environment, Conservation and Parks consents to the removal of this agreement from title.

3. The Grantee, its employees, agents and contractors shall have reasonable access to the Public Lands from time to time for all reasonable purposes arising from the rights granted under this agreement, including, without limitation,

   a) the right to enter into the Public Lands and onto the surface above the Public Lands for purposes of testing, monitoring, intercepting contaminants and carrying out remedial work (the "Works");

   b) the right to install, operate and maintain Works, for the purposes mentioned in clause 3.(a), in or above the Public Lands, including on the surface above the Public Lands.

4. The Grantee agrees to restore at its own expense the surface of the Public Lands to its approximate condition as the same existed immediately prior to the installation of the Works, to the satisfaction of the Grantor so far as is consistent with the use of the easement hereby granted.

5. Notwithstanding any rule of law or equity, the Works shall at all times remain the property of the Grantee notwithstanding that the same may be annexed or affixed to the land and shall at any time and from time to time be removable in whole or in part by the Grantee, its successors and assigns.

6. In the event that the Grantee abandons the Works, the Grantee may, with the consent of the Grantor, leave any part thereof in place.

7. The Grantee agrees to maintain a surface and ground water monitoring program with respect to the Waste Disposal Site as it pertains to the Public Lands in accordance with the environmental approvals as required by the Ministry of the Environment, Conservation and Parks.

8. (a) The Grantor acknowledges that surface and ground water flowing or otherwise migrating onto, over, along and under the Public Lands from the Waste Disposal Site may be contaminated from waste deposited at the Waste Disposal Site.

   (b) The Grantor understands and acknowledges that the rights granted to the Grantee include the right of the Grantee to prevent the Grantor from paving, erecting a structure or making any use of the Public Lands above or in the vicinity of the Public Lands that would interfere with the functioning of the Public Lands as a contaminant attenuation zone or with the exercise of any of the rights mentioned herein, without the prior written consent of the Grantee.

   (c) The Grantee agrees that the Waste Disposal Site will accept only domestic, commercial and non-hazardous solid industrial waste.

   (d) The Grantee agrees to operate and close the Waste Disposal Site in accordance with the applicable legislation.

9. Subject to the rights granted herein to the Grantee, His Majesty the King in right of Ontario shall have charge of the administration, management, sale and disposition of the Public Lands and shall have the right to fully use and enjoy it.

10. The rights, liberties, privileges and easement hereby granted are and shall be of the same force and effect to all intents and purposes as a covenant running with the land, and this agreement, including all the covenants and conditions herein contained, shall extend to, be binding upon and enure to the benefit of the successors and assigns of the parties hereto respectively.

11. The Grantee performing and observing the covenants and conditions on its part to be performed and observed, shall and may peaceably hold and enjoy the rights, liberties, privileges and easement hereby granted, without let, hindrance, molestation or interruption on the part of the Grantor or of any person claiming by, through, under or in trust for the Grantor.

12. The right, licence, liberty, privilege and easement herein granted are hereby declared to be appurtenant to the lands of the Grantee (the "Waste Disposal Site") situate lying and being in the Geographic Township of McClure, in the Municipality of Hastings Highlands, County of Hastings and Province of Ontario, being more particularly described in Schedule "B" attached hereto.

13. The Grantee covenants to indemnify, keep indemnified and save harmless the Grantor, His Majesty the King in right of Ontario, His officers, servants and agents or any of them, hereinafter collectively referred to as "the Grantor" from and against all claims, demands, costs, suits, actions or proceedings, causes of action, loss, damage, expense or injury including death, of any nature or kind whatsoever, resulting from, caused by or in any manner connected with the exercise of any right granted herein or which would not have happened but for the existence of this easement, and the Grantee hereby waives, releases and forever discharges, the Grantor from all claims, demands, costs, suits, actions or proceedings, causes of action, loss, damage, expense or injury including death, of any nature or kind whatsoever, which the Grantee has or hereafter shall or may have resulting from, caused by or in any manner connected with the exercise of any right granted herein or which would not have happened but for the existence of this easement, provided that the indemnity and release herein shall not apply if a court of competent jurisdiction has ruled that such claims, demands, costs, suits, actions or proceedings, causes of action, loss, damage, expense or injury including death, of any nature or kind whatsoever are attributable to acts of the Grantor in deliberate or reckless disregard for the rights granted herein.

14. All notices to be given hereunder may be given by registered letter, addressed to the Grantee at:

33011 Highway 62
P.O. Box 130
Maynooth, ON K0L 2S0

and to the Grantor at:

District Manager,
Ministry of Natural Resources and Forestry
106 Monck Street
Box 500
Bancroft, ON K0L 1C0

or such other address as the Grantor or Grantee may respectively, from time to time designate by letter, and any such notice shall be deemed to have been given to and received by the addressee three days after mailing thereof, postage prepaid and registered.

15. Neither this agreement nor any benefits or burdens under this agreement shall be assignable by any party without the prior written consent of the other party, which consent shall not be unreasonably withheld. Subject to the foregoing, this agreement shall enure to the benefit of and be binding upon the parties and their respective successors (including any successor by reason of amalgamation of any party) and permitted assigns.

IN WITNESS WHEREOF the parties hereto have hereunto set their hands and seals.

C. Scott Kaldeway
Provincial Lands Specialist, Crown Land Registry
Ministry of Natural Resources and Forestry
for and on behalf of the
Minister of Natural Resources and Forestry

THE CORPORATION OF THE MUNICIPALITY OF HASTINGS HIGHLANDS

BY: _____

AND: _____

We have authority to bind the corporation.

Grant of Easement No. 1126

Main Office File No. 112798

Municipality of Hastings Highlands
33011 Highway 62
P.O. Box 130
Maynooth, ON K0L 2S0

SCHEDULE A

Part of Location CL 19416,

Being part of Lots 9 and 10, Concession 12, and,

Part of Lot 10, Concession 13,

Geographic Township of McClure,

Municipality of Hastings Highlands,

County of Hastings,

Containing 12.546 hectares, more or less,

Designated as Parts 2 & 4 on Reference Plan 21R-26155.

SCHEDULE B

All of Location CL 4647,

Being part of Lot 10, Concession 12, and,

Part of Lot 10, Concession 13,

Geographic Township of McClure,

Municipality of Hastings Highlands,

County of Hastings,

Containing 1.25 hectares, more or less,

Designated as Parts 1 & 2 on Reference Plan 21R-9281.

Comprising all of P.I.N 40001-0001(LT) and P.I.N. 40001-0002(LT)

or such other address as the Grantor or Grantee may respectively, from time to time designate by letter, and any such notice shall be deemed to have been given to and received by the addressee three days after mailing thereof, postage prepaid and registered.

15. Neither this agreement nor any benefits or burdens under this agreement shall be assignable by any party without the prior written consent of the other party, which consent shall not be unreasonably withheld. Subject to the foregoing, this agreement shall enure to the benefit of and be binding upon the parties and their respective successors (including any successor by reason of amalgamation of any party) and permitted assigns.

IN WITNESS WHEREOF the parties hereto have hereunto set their hands and seals.

C. Scott Kaldeway
Provincial Lands Specialist, Crown Land Registry
Ministry of Natural Resources and Forestry
for and on behalf of the
Minister of Natural Resources and Forestry

THE CORPORATION OF THE MUNICIPALITY OF HASTINGS HIGHLANDS

BY: _____

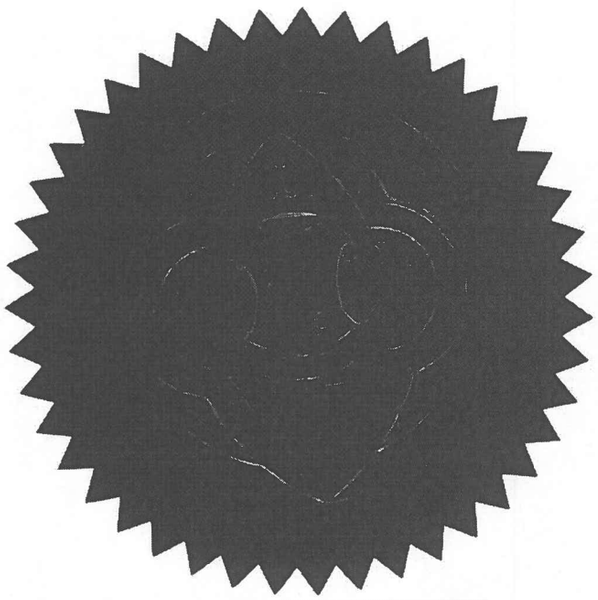
AND: _____

We have authority to bind the corporation.

Grant of Easement No. 1126

Main Office File No. 112798

Municipality of Hastings Highlands
33011 Highway 62
P.O. Box 130
Maynooth, ON K0L 2S0



Edith L Dumont

Ontario

Number / Numero HT375671	
CERTIFICATE OF RECEIPT **CERTIFICAT DE RÉCÉPISSÉ**	
Date / La date 2026/01/02 09:40	
#21 Office/Bureau	Land Registrar/Registrateur

NEW PIN(s) 40001-0152, 40001-0153

NO EXECUTIONS

Province of Ontario
Province de l'Ontario

Charles the Third, by the Grace of God of the United Kingdom, Canada and His other Realms and Territories King, Head of the Commonwealth, Defender of the Faith.

Charles Trois, par la grâce de Dieu, Roi du Royaume-Uni, du Canada et de ses autres royaumes et territoires, Chef du Commonwealth, Défenseur de la Foi.

To all to whom these Presents shall Come, Greeting:

À tous ceux et celles qui prendront connaissance des présentes :

KNOW YE that, under the authority of the PUBLIC LANDS ACT, in consideration of the sum of TWO THOUSAND TWO HUNDRED ELEVEN DOLLARS AND EIGHT CENTS well and truly paid to Our use at or before the sealing of these Our Letters Patent, WE HAVE GRANTED, and by these Presents DO GRANT, unto

THE CORPORATION OF THE MUNICIPALITY OF HASTINGS HIGHLANDS, incorporated under the laws of Ontario, in fee simple

ALL those Parcels or Tracts of Land more particularly described in the attached Schedule.

SAVING, EXCEPTING and RESERVING unto Us, Our Heirs and Successors, all ores, mines or minerals which are or shall hereafter be found on or under the Land herby granted.

ALSO SAVING, EXCEPTING and RESERVING the surface rights only in and over any public or colonization roads or any highways crossing the said Land at the date of these Letters Patent.

SCHEDULE

Part of Location CL 19416,

Being part of Lot 10, Concession 12 and 13,

Geographic Township of McClure,

Municipality of Hastings Highlands,

County of Hastings,

Containing 2.192 hectares, more or less,

Designated as Parts 1 & 3 on Reference Plan 21R-26155.

Office of the Surveyor General
RD/Feb. 22, 2023/TEG/Feb 22, 2023

ALSO SAVING, EXCEPTING and RESERVING the surface rights only in ten per cent of the acreage hereby granted for roads and the right to lay out the same where the Crown or its officers may deem necessary.

The Land hereby granted is subject to the provisions of Section 65 of the *Public Lands Act*.

GIVEN under the Great Seal of Our Province of Ontario,

WITNESS: THE HONOURABLE EDITH DUMONT

LIEUTENANT GOVERNOR OF OUR PROVINCE OF ONTARIO.

At Our City of Toronto in Our said Province this seventh day of August in the year of Our Lord two thousand and twenty-five and in the third year of Our Reign.

BY COMMAND

Stacey Doughty
Provincial Lands Specialist – Crown Land Registry
Lands and Business Services Section
Ministry of Natural Resources

Ref. No. 165966

Land File No. 112798

Land Registrar,
Ministry of Public and Business Service Delivery and Procurement
will mail duplicate to:

The Municipality of Hastings Highlands
33011 Highway 62
P.O. Box 130
Maynooth, Ontario
K0L 2S0

Ministry of Natural Resources
Regional Operations Division
Lands and Business Services Section
300 Water Street
Peterborough, ON K9J 3C7

Ministère des Richesses naturelles
Division des opérations régionales
Section des services de gestion des terres et des services opérationnels
300, rue Water
Peterborough (Ontario) K9J 3C7

Ontario

File No. 112798

August 27, 2025

Municipality of Hastings Highlands
33011 Highway 62
P.O. Box 130
Maynooth, ON
K0L 2S0

SUBJECT: Grant of Easement No. 1126
Location CL 19416, Parts 2 & 4, Plan 21R-26155, Geographic Township of McClure.

Enclosed is a copy of the document referenced above. Registration details are shown on the first page.

Yours truly,

DRO Name: Adrian Harris
Document and Records Officer
Crown Land Registry
Email: crownlandregistry@ontario.ca

Municipality of Hastings Highlands
RECEIVED
AUG 28 2025

Ministry of
Natural Resources
and Forestry

Ontario

PROVINCE OF ONTARIO

MINISTRY OF NATURAL RESOURCES AND FORESTRY

GRANT OF EASEMENT

NO. 1126

THIS AGREEMENT made on this sixth day of February in the year of Our Lord two thousand and twenty-three pursuant to the Public Lands Act,

BETWEEN:

Number / Numero HT365542	
CERTIFICATE OF RECEIPT **CERTIFICAT DE RÉCÉPISSÉ**	
Date / La date 2025/06/18 12:10	
# 21 Office/Bureau	Jane Saigrind Land Registrar/Registrateur

THE MINISTER OF NATURAL RESOURCES AND FORESTRY for the Province of Ontario, hereinafter called the "Grantor",

OF THE FIRST PART;

- and -

THE CORPORATION OF THE MUNICIPALITY OF HASTINGS HIGHLANDS, hereinafter called the "Grantee"

OF THE SECOND PART;

NEW PINS 40001-0150, 40001-0151 NO EXECUTIONS

WHEREAS the Grantee operates a waste disposal site, (the "Waste Disposal Site") located on lands more particularly described in Schedule "B" attached hereto adjacent to certain Public Lands owned by His Majesty the King in right of Ontario.

AND WHEREAS surface and ground water from the Waste Disposal Site may flow or migrate into, onto, over, along and under the Public Lands.

WITNESSETH that under the Public Lands Act and in consideration of the sum of ONE THOUSAND NINE HUNDRED FORTY-EIGHT DOLLARS AND SIXTY-EIGHT CENTS ($1,948.68) now paid by the Grantee to the Minister of Finance of Ontario, the receipt whereof is hereby acknowledged, and the covenants and agreements hereinafter contained on the part of the Grantee to be observed and performed, the Grantor doth hereby grant, convey, transfer, and confirm unto the Grantee, its successors and assigns, as and from the first day of January, 2023, the right, licence, liberty, privilege and easement on, over, under and through the Public Lands situate, lying and being in the Geographic Township of McClure, in the Municipality of Hastings Highlands, County of Hastings and Province of Ontario, being more particularly described in Schedule "A" attached hereto.

1. The Grantor hereby grants to the Grantee the right in the nature of an easement and irrevocable licence to use the Public Lands for the purpose of a contaminant attenuation zone for the Waste Disposal Site including without limitation, the right to discharge contaminants from the Waste Disposal Site into, onto, over, along and under the Public Lands subject to the terms of this agreement.

2. This agreement shall be effective until such time as the Director of the Ministry of the Environment, Conservation and Parks consents to the removal of this agreement from title.

3. The Grantee, its employees, agents and contractors shall have reasonable access to the Public Lands from time to time for all reasonable purposes arising from the rights granted under this agreement, including, without limitation,

   a) the right to enter into the Public Lands and onto the surface above the Public Lands for purposes of testing, monitoring, intercepting contaminants and carrying out remedial work (the "Works");

   b) the right to install, operate and maintain Works, for the purposes mentioned in clause 3.(a), in or above the Public Lands, including on the surface above the Public Lands.

4. The Grantee agrees to restore at its own expense the surface of the Public Lands to its approximate condition as the same existed immediately prior to the installation of the Works, to the satisfaction of the Grantor so far as is consistent with the use of the easement hereby granted.

5. Notwithstanding any rule of law or equity, the Works shall at all times remain the property of the Grantee notwithstanding that the same may be annexed or affixed to the land and shall at any time and from time to time be removable in whole or in part by the Grantee, its successors and assigns.

6. In the event that the Grantee abandons the Works, the Grantee may, with the consent of the Grantor, leave any part thereof in place.

7. The Grantee agrees to maintain a surface and ground water monitoring program with respect to the Waste Disposal Site as it pertains to the Public Lands in accordance with the environmental approvals as required by the Ministry of the Environment, Conservation and Parks.

8. (a) The Grantor acknowledges that surface and ground water flowing or otherwise migrating onto, over, along and under the Public Lands from the Waste Disposal Site may be contaminated from waste deposited at the Waste Disposal Site.

   (b) The Grantor understands and acknowledges that the rights granted to the Grantee include the right of the Grantee to prevent the Grantor from paving, erecting a structure or making any use of the Public Lands above or in the vicinity of the Public Lands that would interfere with the functioning of the Public Lands as a contaminant attenuation zone or with the exercise of any of the rights mentioned herein, without the prior written consent of the Grantee.

   (c) The Grantee agrees that the Waste Disposal Site will accept only domestic, commercial and non-hazardous solid industrial waste.

   (d) The Grantee agrees to operate and close the Waste Disposal Site in accordance with the applicable legislation.

9. Subject to the rights granted herein to the Grantee, His Majesty the King in right of Ontario shall have charge of the administration, management, sale and disposition of the Public Lands and shall have the right to fully use and enjoy it.

10. The rights, liberties, privileges and easement hereby granted are and shall be of the same force and effect to all intents and purposes as a covenant running with the land, and this agreement, including all the covenants and conditions herein contained, shall extend to, be binding upon and enure to the benefit of the successors and assigns of the parties hereto respectively.

11. The Grantee performing and observing the covenants and conditions on its part to be performed and observed, shall and may peaceably hold and enjoy the rights, liberties, privileges and easement hereby granted, without let, hindrance, molestation or interruption on the part of the Grantor or of any person claiming by, through, under or in trust for the Grantor.

12. The right, licence, liberty, privilege and easement herein granted are hereby declared to be appurtenant to the lands of the Grantee (the "Waste Disposal Site") situate lying and being in the Geographic Township of McClure, in the Municipality of Hastings Highlands, County of Hastings and Province of Ontario, being more particularly described in Schedule "B" attached hereto.

13. The Grantee covenants to indemnify, keep indemnified and save harmless the Grantor, His Majesty the King in right of Ontario, His officers, servants and agents or any of them, hereinafter collectively referred to as "the Grantor" from and against all claims, demands, costs, suits, actions or proceedings, causes of action, loss, damage, expense or injury including death, of any nature or kind whatsoever, resulting from, caused by or in any manner connected with the exercise of any right granted herein or which would not have happened but for the existence of this easement, and the Grantee hereby waives, releases and forever discharges, the Grantor from all claims, demands, costs, suits, actions or proceedings, causes of action, loss, damage, expense or injury including death, of any nature or kind whatsoever, which the Grantee has or hereafter shall or may have resulting from, caused by or in any manner connected with the exercise of any right granted herein or which would not have happened but for the existence of this easement, provided that the indemnity and release herein shall not apply if a court of competent jurisdiction has ruled that such claims, demands, costs, suits, actions or proceedings, causes of action, loss, damage, expense or injury including death, of any nature or kind whatsoever are attributable to acts of the Grantor in deliberate or reckless disregard for the rights granted herein.

14. All notices to be given hereunder may be given by registered letter, addressed to the Grantee at:

33011 Highway 62
P.O. Box 130
Maynooth, ON K0L 2S0

and to the Grantor at:

District Manager,
Ministry of Natural Resources and Forestry
106 Monck Street
Box 500
Bancroft, ON K0L 1C0

SCHEDULE A

Part of Location CL 19416,

Being part of Lots 9 and 10, Concession 12, and,

Part of Lot 10, Concession 13,

Geographic Township of McClure,

Municipality of Hastings Highlands,

County of Hastings,

Containing 12.546 hectares, more or less,

Designated as Parts 2 & 4 on Reference Plan 21R-26155.

SCHEDULE B

All of Location CL 4647,

Being part of Lot 10, Concession 12, and,

Part of Lot 10, Concession 13,

Geographic Township of McClure,

Municipality of Hastings Highlands,

County of Hastings,

Containing 1.25 hectares, more or less,

Designated as Parts 1 & 2 on Reference Plan 21R-9281.

Comprising all of P.I.N 40001-0001(LT) and P.I.N. 40001-0002(LT)

or such other address as the Grantor or Grantee may respectively, from time to time designate by letter, and any such notice shall be deemed to have been given to and received by the addressee three days after mailing thereof, postage prepaid and registered.

15. Neither this agreement nor any benefits or burdens under this agreement shall be assignable by any party without the prior written consent of the other party, which consent shall not be unreasonably withheld. Subject to the foregoing, this agreement shall enure to the benefit of and be binding upon the parties and their respective successors (including any successor by reason of amalgamation of any party) and permitted assigns.

IN WITNESS WHEREOF the parties hereto have hereunto set their hands and seals.

C. Scott Kaldeway
Provincial Lands Specialist, Crown Land Registry
Ministry of Natural Resources and Forestry
for and on behalf of the
Minister of Natural Resources and Forestry

THE CORPORATION OF THE MUNICIPALITY OF HASTINGS HIGHLANDS

BY: _____
Tony Fitzgerald, Mayor

AND: _____
Suzanne Huschilt, Municipal Clerk

We have authority to bind the corporation.

Grant of Easement No. 1126

Main Office File No. 112798

Municipality of Hastings Highlands
33011 Highway 62
P.O. Box 130
Maynooth, ON K0L 2S0

Appendix B

Monitoring and Screening Checklist (MECP/MOE)

Appendix D-Monitoring and Screening Checklist
General Information and Instructions

General Information: The checklist is to be completed, and submitted with the Monitoring Report.
Instructions: A complete checklist consists of:
(a) a completed and signed checklist, including any additional pages of information which can be attached as needed to provide further details where indicated.
(b) completed contact information for the Competent Environmental Practitioner (CEP)
(c) self-declaration that CEP(s) meet(s) the qualifications as set out below and in Section 1.2 of the Technical Guidance Document.

Definition of Groundwater CEP:
For groundwater, the CEP must have expertise in hydrogeology and meet one of the following:
(a) the person holds a licence, limited licence or temporary licence under the *Professional Engineers Act*; or
(b) the person holds a certificate of registration under the *Professional Geoscientists Act, 2000* and is a practicing member, temporary, member or limited member of the Association of Professional Geoscientists of Ontario. O. Reg. 66/08, s. 2..
Definition of Surface water CEP:
A CEP for surface water assessments is a scientist, professional engineer or professional geoscientist as described in (a) and (b) above with demonstrated experience and post-secondary education, either a diploma or degree, in hydrology, aquatic ecology, limnology, aquatic biology, physical geography with specialization in surface water, and/or water resource management.

The type of scientific work that a CEP performs must be consistent with that person's education and experience. If an individual has appropriate training and credentials in both groundwater and surface water and is responsible for both areas of expertise, the CEP may then complete and validate both sections of the checklist.

Monitoring Report and Site Information	
Waste Disposal Site Name	Lake St. Peter Waste Disposal Site
Location (e.g. street address, lot, concession)	2825 Hwy. 127
GPS Location (taken within the property boundary at front gate/ front entry)	731681 m E, 5022608 m N
Municipality	Municipality of Hasting Highlands (formerly McClure)
Client and/or Site Owner	The Corporation of the Municipality of Hasting Highlands
Monitoring Period (Year)	2025
This Monitoring Report is being submitted under the following:	
Environmental Compliance Approval Number:	A 361116
Director's Order No.:	
Provincial Officer's Order No.:	
Other:	

Report Submission Frequency	◉ **Annual** ○ **Other**	Required to be submitted to MECP, on March 31st following reporting year.	
The site is: **(Operation Status)**	◉ **Open** ○ **Inactive** ○ **Closed**		
Does your Site have a Total Approved Capacity?	◉ **Yes** ○ **No**		
If yes, please specify Total Approved Capacity	73,383	*Units*	Cubic Metres
Does your Site have a Maximum Approved Fill Rate?	○ **Yes** ◉ **No**		
If yes, please specify Maximum Approved Fill Rate		*Units*	
Total Waste Received within Monitoring Period (Year)	240.78	*Units*	Tonnes
Total Waste Received within Monitoring Period (Year) *Methodology*	Estimated		
Estimated Remaining Capacity	69,381	*Units*	Cubic Metres
Estimated Remaining Capacity *Methodology*	Aerial Photogrammetry		
Estimated Remaining Capacity *Date Last Determined*	15-10-2025		
Non-Hazardous Approved Waste Types	☒ Domestic ☒ Industrial, Commercial & Institutional (IC&I) ☐ Source Separated Organics (Green Bin) ☒ Tires	☒ Contaminated Soil ☒ Wood Waste ☒ Blue Box Material ☐ Processed Organics ☒ Leaf and Yard Waste	☐ Food Processing/Preparation Operations Waste ☐ Hauled Sewage Other:
Subject Waste Approved Waste Classes: Hazardous & Liquid Industrial *(separate waste classes by comma)*			
Year Site Opened *(enter the Calendar Year only)*		**Current ECA Issue Date**	10/25/2021
Is your Site required to submit Financial Assurance?		○ **Yes** ◉ **No**	
Describe how your Landfill is designed.		◉ Natural Attenuation only ○ Fully engineered Facility ○ Partially engineered Facility	
Does your Site have an approved Contaminant Attenuation Zone?		○ **Yes** ◉ **No**	

If closed, specify C of A, control or authorizing document closure date:	

Has the nature of the operations at the site changed during this monitoring period?	○ **Yes** ◉ **No**
If yes, provide details:	
Have any measurements been taken since the last reporting period that indicate landfill gas volumes have exceeded the MOE limits for subsurface or adjacent buildings? (i.e. exceeded the LEL for methane)	○ Yes ◉ No

Groundwater WDS Verification:

Based on all available information about the site and site knowledge, it is my opinion that:

Sampling and Monitoring Program Status:

1) The monitoring program continues to effectively characterize site conditions and any groundwater discharges from the site. All monitoring wells are confirmed to be in good condition and are secure:	◉ **Yes** ○ **No**	All wells in good condition.
2) All groundwater, leachate and WDS gas sampling and monitoring for the monitoring period being reported on was successfully completed as required by Certificate(s) of Approval or other relevant authorizing/control document (s):	◉ **Yes** ○ **No** ○ **Not Applicable**	If no, list exceptions below or attach information.

Groundwater Sampling Location	**Description/Explanation for change (change in name or location, additions, deletions)**	**Date**

3) a) Is landfill gas being monitored or controlled at the site?	◉ **Yes** ○ **No**	
If yes to 3(a), please answer the next two questions below.		
b) Have any measurements been taken since the last reporting period that indicate landfill gas is present in the subsurface at levels exceeding criteria established for the site?	○ **Yes** ◉ **No**	
c) Has the sampling and monitoring identified under 3(a) for the monitoring period being reported on was successfully completed in accordance with established protocols, frequencies, locations, and parameters developed as per the Technical Guidance Document:	◉ **Yes** ○ **No** ○ **Not Applicable**	If no, list exceptions below or attach additional information.

Groundwater Sampling Location	**Description/Explanation for change (change in name or location, additions, deletions)**	**Date**

4) All field work for groundwater investigations was done in accordance with standard operating procedures as established/outlined per the Technical Guidance Document (including internal/external QA/QC requirements) (Note: A SOP can be from a published source, developed internally by the site owner's consultant, or adopted by the consultant from another organization):	◉ **Yes** ○ **No**	If no, specify (Type Here):

Sampling and Monitoring Program Results/WDS Conditions and Assessment:

5) The site has an adequate buffer, Contaminant Attenuation Zone (CAZ) and/or contingency plan in place. Design and operational measures, including the size and configuration of any CAZ, are adequate to prevent potential human health impacts and impairment of the environment.	○ Yes ◉ No	Land transaction process is ongoing. Easement lands have been granted, finalization is underway.	
6) The site meets compliance and assessment criteria.	○ Yes ◉ No	The site is not in compliance with Guideline B-7 along the eastern property boundary.	
7) The site continues to perform as anticipated. There have been no unusual trends/ changes in measured leachate and groundwater levels or concentrations.	◉ Yes ○ No	Typical fluctuations.	
1) Is one or more of the following risk reduction practices in place at the site: ***(a)*** **There is minimal reliance on natural attenuation of leachate due to the presence of an effective waste liner and active leachate collection/ treatment; or** ***(b)*** **There is a predictive monitoring program in-place (modeled indicator concentrations projected over time for key locations); or** ***(c)*** **The site meets the following two conditions (typically achieved after 15 years or longer of site operation):** ***i.*** **The site has developed stable leachate mound(s) and stable leachate plume geometry/concentrations; and** ***ii.*** **Seasonal and annual water levels and water quality fluctuations are well understood.**	○ Yes ◉ No	**Note which practice(s):**	☐ (a) ☐ (b) ☐ (c)
9) Have trigger values for contingency plans or site remedial actions been exceeded (where they exist):	○ Yes ◉ No ○ Not Applicable	The groundwater trigger assessment plan was implemented during the fall event following the installation of both wells along the eastern CAZ boundary acting as the assessment points . No exceedances of the trigger parameters were reported.	

Groundwater CEP Declaration:

I am a licensed professional Engineer or a registered professional geoscientist in Ontario with expertise in hydrogeology, as defined in Appendix D under Instructions. Where additional expertise was needed to evaluate the site monitoring data, I have relied on individuals who I believe to be experts in the relevant discipline, who have co-signed the compliance monitoring report or monitoring program status report, and who have provided evidence to me of their credentials.

I have examined the applicable Certificate of Approval and any other environmental authorizing or control documents that apply to the site. I have read and followed the Monitoring and Reporting for Waste Disposal Sites Groundwater and Surface Water Technical Guidance Document (MOE, 2010, or as amended), and associated monitoring and sampling guidance documents, as amended from time to time. I have reviewed all of the data collected for the above-referenced site for the monitoring period(s) identified in this checklist. Except as otherwise agreed with the ministry for certain parameters, all of the analytical work has been undertaken by a laboratory which is accredited for the parameters analysed to *ISO/IEC 17025:2005 (E)- General requirements for the competence of testing and calibration laboratories,* or as amended from time to time by the ministry.

If any exceptions or potential concerns have been noted in the questions in the checklist attached to this declaration, it is my opinion that these exceptions and concerns are minor in nature and will be rectified for the next monitoring/reporting period. Where this is not the case, the circumstances concerning the exception or potential concern and my client's proposed action have been documented in writing to the Ministry of the Environment District Manager in a letter from me dated:

Recommendations:

Based on my technical review of the monitoring results for the waste disposal site:

◉ **No changes to the monitoring program are recommended** ○ **The following change(s) to the monitoring program is/are recommended:**	
◉ **No Changes to site design and operation are recommended** ○ **The following change(s) to the site design and operation is/ are recommended:**	

Name:	Jaclyn Kalesnikoff, B.Sc., P.Geo		
Seal:			
Signature:		**Date:**	25-Mar-2026
CEP Contact Information:	Jaclyn Kalesnikoff, B.Sc., P.Geo		
Company:	BluMetric Environmental Inc.		
Address:	1682 Woodward Drive Ottawa, ON K2C 3R8		
Telephone No.:	(877) 487-8436 x339	Fax No. :	(877) 487-8436
E-mail Address:	jkalesnikoff@blumetric.ca		
Co-signers for additional expertise provided:			
Signature:		**Date:**	
Signature:		**Date:**	

Surface Water WDS Verification:

Provide the name of surface water body/bodies potentially receiving the WDS effluent and the approximate distance to the waterbody (including the nearest surface water body/bodies to the site):

Name (s)	Unnamed Lake, Boulter Lake, Lake St. Peter
Distance(s)	Approximately 500 m to the northeast, 900 m to the south, 900 m to the southeast.

Based on all available information and site knowledge, it is my opinion that:

Sampling and Monitoring Program Status:

1) The current surface water monitoring program continues to effectively characterize the surface water conditions, and includes data that relates upstream/background and downstream receiving water conditions:	◉ Yes ○ No	
2) All surface water sampling for the monitoring period being reported was successfully completed in accordance with the Certificate(s) of Approval or relevant authorizing/control document(s) (if applicable):	◉ Yes ○ No ○ **Not applicable (No C of A, authorizing / control document applies)**	If no, specify below or provide details in an attachment.

Surface Water Sampling Location	Description/Explanation for change (change in name or location, additions, deletions)	Date

3) a) Some or all surface water sampling and monitoring program requirements for the monitoring period have been established outside of a ministry C of A or authorizing/control document.	○ **Yes** ◉ **No** ○ **Not Applicable**	
b) If yes, all surface water sampling and monitoring identified under 3 (a) was successfully completed in accordance with the established program from the site, including sampling protocols, frequencies, locations and parameters) as developed per the Technical Guidance Document:	○ **Yes** ○ **No** ◉ **Not Applicable**	If no, specify below or provide details in an attachment.

Surface Water Sampling Location	Description/Explanation for change (change in name or location, additions, deletions)	Date

4) All field work for surface water investigations was done in accordance with standard operating procedures, including internal/external QA/QC requirements, as established/outlined as per the Technical Guidance Document, MOE 2010, or as amended. (Note: A SOP can be from a published source, developed internally by the site owner's consultant, or adopted by the consultant from another organization):	◉ **Yes** ○ **No**	

Sampling and Monitoring Program Results/WDS Conditions and Assessment:

5) The receiving water body meets surface water-related compliance criteria and assessment criteria: i.e., there are no exceedances of criteria, based on MOE legislation, regulations, Water Management Policies, Guidelines and Provincial Water Quality Objectives and other assessment criteria (e.g., CWQGs, APVs), as noted in Table A or Table B in the Technical Guidance Document (Section 4.6):	○ **Yes** ◉ **No**

If no, list parameters that exceed criteria outlined above and the amount/percentage of the exceedance as per the table below or provide details in an attachment:

Parameter	Compliance or Assessment Criteria or Background	Amount by which Compliance or Assessment Criteria or Background Exceeded
e.g. Nickel	e.g. C of A limit, PWQO, background	e.g. X% above PWQO
See Attached Table 17		
6) In my opinion, any exceedances listed in Question 5 are the result of non-WDS related influences (such as background, road salting, sampling site conditions)?	◉ **Yes** ○ **No**	Dissolved aluminum is considered to be naturally occurring at the site, and copper exceedances were noted at SW1 and SW2, therefore it is not expected that surface water quality exceedances are the results of landfill impacts.

7) All monitoring program surface water parameter concentrations fall within a stable or decreasing trend. The site is not characterized by historical ranges of concentrations above assessment and compliance criteria.	◉ **Yes** ◯ **No**	Stable, typical fluctuations.
8) For the monitoring program parameters, does the water quality in the groundwater zones adjacent to surface water receivers exceed assessment or compliance criteria (e.g. , PWQOs, CWQGs, or toxicity values for aquatic biota (APVs)):	◉ Yes ◯ No ◯ Not Known ◯ Not Applicable	Groundwater samples are compared against the PWQO criteria and some exceedances are present. However, groundwater and surface water interaction was determined to be unlikely. The surface water concentrations recorded during 2025 do not reflect groundwater discharge.
9) Have trigger values for contingency plans or site remedial actions been exceeded (where they exist):	◉ **Yes** ◯ **No** ◯ **Not Applicable**	Toxicity sampling was carried out in the spring and the fall of 2025 following three trigger exceedances for two consecutive sampling periods at LSP-DP-1-21. The test results indicated the percent mortality for Daphnia Magna and Rainbow Trout to be 0 % for both sampling events.

Surface Water CEP Declaration:

I, the undersigned hereby declare that I am a Competent Environmental Practitioner as defined in Appendix D under Instructions, holding the necessary level of experience and education to design surface water monitoring and sampling programs, conduct appropriate surface water investigations and interpret the related data as it pertains to the site for this monitoring period.

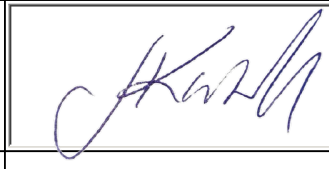
I have examined the applicable Certificate of Approval and any other environmental authorizing or control documents that apply to the site. I have read and followed the Monitoring and Reporting for Waste Disposal Sites Groundwater and Surface Water Technical Guidance Document (MOE, 2010, or as amended) and associated monitoring and sampling guidance documents, as amended from time to time. I have reviewed all of the data collected for the above-referenced site for the monitoring period(s) identified in this checklist. Except as otherwise agreed with the ministry for certain parameters, all of the analytical work has been undertaken by a laboratory which is accredited for the parameters analysed to *ISO/IEC 17025:2005 (E)- General requirements for the competence of testing and calibration laboratories,* or as amended from time to time by the ministry.

If any exceptions or potential concerns have been noted in the questions in the checklist attached to this declaration, it is my opinion that these exceptions and concerns are minor in nature or will be rectified for future monitoring events. Where this is not the case, the circumstances concerning the exception or potential concern and my client's proposed action have been documented in writing to the Ministry of the Environment District Manager in a letter from me dated:

Recommendations:

Based on my technical review of the monitoring results for the waste disposal site:

◉ **No Changes to the monitoring program are recommended** ○ **The following change(s) to the monitoring program is/are recommended:**	
◉ **No changes to the site design and operation are recommended** ○ **The following change(s) to the site design and operation is/are recommended:**	

CEP Signature	
Relevant Discipline	Senior Hydrogeologist
Date:	25-Mar-2026
CEP Contact Information:	Jaclyn Kalesnikoff, B.Sc., P.Geo
Company:	BluMetric Environmental Inc.
Address:	1682 Woodward Drive Ottawa, ON K2C 3R8
Telephone No.:	(877) 487-8436 x339
Fax No. :	(877) 487-8436
E-mail Address:	jkalesnikoff@blumetric.ca

Save As		**Print Form**

Appendix C

Monitoring Well Logs

Project No: KB1946-4

Project: Lake St. Peter WDS

Client: Municipality of Hastings Highlands

Site Coordinates: Zone 17 T North 5022641, East 731481

Log of Borehole: LSP1-03

Field Personnel: B. M.

SUBSURFACE PROFILE				SAMPLE				WELL INSTALLATION	
Depth (ft / m)	Elevation	Symbol	Description	Number	Type	SPT N-Value	Recovery	Well Construction	Comments
0 ft / 0 m	98.87		Ground Surface						Steel locking protective cover and casing Stick-up: 0.65m
0 – 10 ft / 0 – 3 m			Brown SAND, trace gravel, dry.						51mm (2") I.D. Sch. 40 PVC pipe
6 ft / 2 m				SS1	SS	27	14"		Native backfill
10 ft / 3 m	95.82		Brown SAND, moist.	SS2	SS	13	15"		
14 ft / 4 m	94.30		Brown SAND, wet.	SS3	SS	14			3/8" Bentonite holeplug #3 Silica sand pack
20 ft / 6 m	92.77		Brown SAND, saturated.	SS4	SS	9	16"		
24 ft / 7 m									10' Slot 10 PVC screen (2")
26 ft / 8 m	90.64		End of Borehole						

Drill Method: 8" Hollow Stem Auger

Hole Size: 8" (205mm)

Drill Date: July 24/03

Datum: Elevation TPVC - 99.519 m

Checked by:

Sheet: 1 of 1

Project No: KB1946-4

Project: Lake St. Peter WDS

Client: Municipality of Hastings Highlands

Site Coordinates: Zone 17 T North 5022752, East 731383

Log of Borehole: LSP2-03

Field Personnel: B. M.

SUBSURFACE PROFILE				SAMPLE				WELL INSTALLATION	
Depth (ft / m)	Elevation	Symbol	Description	Number	Type	SPT N-Value	Recovery	Well Construction	Comments
0 / 0	98.89		Ground Surface						Steel locking protective cover and casing Stick-up: 0.65m
0 – 3 / 0 – 1			Brown SAND, trace gravel, dry.						51mm (2") I.D. Sch. 40 PVC pipe Native backfill
10 / 3	95.84		Brown SAND, wet.						3/8" Bentonite holeplug
13 / 4	94.92		Brown SAND with Gravel and Cobbles, wet.						#3 Silica sand pack
15 – 19 / 5 – 6	94.31		Brown SAND and GRAVEL, saturated.	SS1	SS	24	12"		
20 – 25 / 6 – 7	92.79		Brown, SAND, saturated.	SS2	SS	25	24"		10' Slot 10 PVC screen (2")
25 / 8	91.27		End of Borehole						

Drill Method: 8" Hollow Stem Auger

Hole Size: 8" (205mm)

Drill Date: July 24/03

Datum: Elevation TPVC - 99.535 m

Checked by:

Sheet: 1 of 1

Project No: KB1946-4

Project: Lake St. Peter WDS

Client: Municipality of Hastings Highlands

Site Coordinates: Zone 17 T North 5022671, East 731462

Log of Borehole: LSP3-03

Field Personnel: B. M.

SUBSURFACE PROFILE				SAMPLE				WELL INSTALLATION	
Depth (ft / m)	Elevation	Symbol	Description	Number	Type	SPT N-Value	Recovery	Well Construction	Comments
0 / 0	98.73		Ground Surface						Steel locking protective cover and casing Stick-up: 0.72m
0 – 3 / 0 – 1			Brown SAND, trace gravel, dry.						51mm (2") I.D. Sch. 40 PVC pipe Native backfill
10 / 3	95.68		Brown SAND, moist.	SS1	SS	14	15"		3/8" Bentonite holeplug
15 / 4	94.16		Brown SAND, saturated.	SS2	SS	10			#3 Silica sand pack
20 / 6	92.63		Brown SAND, saturated.						10' Slot 10 PVC screen (2")
25 / 7	91.11		End of Borehole						

Drill Method: 8" Hollow Stem Auger

Hole Size: 8" (205mm)

Drill Date: July 24/03

Datum: Elevation TPVC - 99.447 m

Checked by:

Sheet: 1 of 1

Well ID: LSP4-19

Project No.: 190495-02
Client: Municipality of Hastings Highlands
Report: 2019 Monitoring Well Installations
Site Address: Lake St. Peter W.D.S.
2825 Hwy 127, Maynooth, Ontario

Elevation Ground: *411.76 m*
TOP: *412.55 m*

UTM NAD83 (Zone 18T): 5022665 N
731554 E

SUBSURFACE PROFILE | SAMPLE | WELL COMPLETION

Depth (m)	Symbol	Description	Depth (m) / Elev. (m.a.s.l.)	Sample ID	Type	Blow Counts	Recovery (%)	Lab Analysis	Headspace Vapour Level (ppm) 10 100 1000 10000	Construction	Notes
		Ground Surface	0.00 411.76								4 in. sq. steel monument with lock PVC Stickup = 0.79m
0		**Sand and Gravel** Light brown, dry.									
1											backfilled with drill cuttings
2			2.13 409.63								
		Sand Light brown to grey brown, dry.									
3		- trace gravel, light brown grey, dry.									bentonite gravel seal
4											
5											
6		- 5.64m wet.									
7											3.05 x 50mm slot 10 PVC screen within No. 2 silica sand pack
8		- saturated.									
9			9.14 402.62								native soil collaspe
		End of well at 9.14 m									
10		Well Completion Details: Screened interval from 5.94 m to 9.00 m below surface Elevation at top of pipe (TOP) = 412.55 m									

Drill Date: 2019 July 16
Drilled By: Canadian Environmental Drilling
Drilling Method: Hollow Stem Auger
Hole Diameter: 0.2 m (OD)
Datum: LSP-BM2 413.57 m
Logged By: B.M.
Checked By: I.O'C.

Notes: AUGER SAMPLE

Sheet 1 of 1

BH MW OB LOGV1.0 190495-02 LAKE ST. PETER.GPJ WESA TEMPLATE V1.2.GDT 20-3-5

Well ID: LSP5-19

Project No.: 190495-02
Client: Municipality of Hastings Highlands
Report: 2019 Monitoring Well Installations
Site Address: Lake St. Peter W.D.S.
2825 Hwy 127, Maynooth, Ontario

Elevation Ground: *412.02 m*
TOP: *412.76 m*
MOECC Well Tag: A259053
UTM NAD83 (Zone 18T): 5022610 N
731498 E

Depth (m)	Description	Depth (m) / Elev. (m.a.s.l.)	Sample ID	Type	Blow Counts	Recovery (%)	Lab Analysis	Headspace Vapour Level (ppm)	Construction	Notes
	Ground Surface	0.00 / 412.02								4 in. sq. steel monument with lock PVC Stickup = 0.79m
0	**Sand and Gravel** Light brown, dry, coarser 2.13m.									backfilled with drill cuttings
1										
2										bentonite gravel seal
3	- brown, dry									
4										
5	- coarser gravel 5.18m, wet.									
6										
7		7.62 / 404.40								3.05m x 50mm slot 10 PVC screen within No. 2 silica sand pack
8	**Sand** Brown, some coarse gravel and cobbles. Auger refusal	8.23 / 403.79								native soil collaspe
9	End of well at 8.23 m Well Completion Details: Screened interval from 4.88 m to 7.92 m below surface Elevation at top of pipe (TOP) = 412.76 m									

Drill Date: 2019 July 16
Drilled By: Canadian Environmental Drilling
Drilling Method: Hollow Stem Auger
Hole Diameter: 0.2 m (OD)
Datum: LSP-BM2 413.57 m
Logged By: B.M.
Checked By: I.O'C.

Notes: AUGER SAMPLE

Sheet 1 of 1

BH MW OB LOGV1.0 190495-02 LAKE ST. PETER.GPJ WESA TEMPLATE V1.2.GDT 20-3-5

Monitoring Well ID: LSP6-23

Project No.: 230226
Client: MHH
Report: Lake St. Peter WDS
Site Address: Lake St. Peter
Ontario

Elevation Ground: *405.63 m*
TOP: *406.53 m*

UTM NAD 83 (Zone 17): 5022808.037 N
731621.085 E

SUBSURFACE PROFILE | SAMPLE | WELL COMPLETION

Depth (m)	Elevation (m)	Description	Depth (m) / Elev. (m.a.s.l.)
0	406	Ground Surface	0.0 / 405.6
		PEAT Wet, dark brown peat / marl with cobbles	[1.5]
1	405		1.5 / 404.1
2	404	**SAND & GRAVEL** Wet to saturated brown sand and gravel, cobbles, and boulders	
3	403		
4	402		
5	401		[6.4]
6	400		
7	399		
8	398		7.9 / 397.7
	397	Refusal @ 7.89 mbgs on assumed cobbles. Borehole caved from 7.89 mbgs to 7.31 mbgs.	

SAMPLE: Type | Recovery (%) | Blow Counts | Sample ID | Lab Analysis | 1000 (200 400 600 800)

WELL COMPLETION: Construction | Notes

- J-Plug
- Monument Well Casing
- Bentonite Seal
- Riser
- Silica Sand Filter Pack
- 50 mm 010 Slot PVC Screen
- Cuttings Backfill

Drill Date: September 20, 2023
Drilled By: Canadian Environmental
Drilling Method: Hollow Stem Auger

Hole Diameter (OD): 0.20 m
Logged By: BM
Checked By: CM

AUGER SAMPLE
Perched Groundwater Strike / Unstabilized Groundwater Level
True Groundwater Strike / Stabilized Groundwater Level

Sheet 1 of 1

BH MW OB LOG 230226 - LSP UPDATED.GPJ BLUMETRIC STANDARD.GDT 2/1/24

Monitoring Well ID: LSP7-23

Project No.: 230226
Client: MHH
Report: Lake St. Peter WDS
Site Address: Lake St. Peter
Ontario

Elevation Ground: *408.10 m*
TOP: *408.93 m*

UTM NAD 83 (Zone 17): 5022708.627 N
731657.332 E

SUBSURFACE PROFILE | SAMPLE | WELL COMPLETION

Depth (m)	Elevation (m)	Description	Depth (m) / Elev. (m.a.s.l.)
0	409	Ground Surface	0.0
	408	**SAND & GRAVEL** Dry, brown sand and gravel	408.1
1	407		[1.5]
		SAND & GRAVEL Moist to wet, orange / brown sand and gravel	1.5 406.6
2	406		
3	405		
4	404		[4.6]
5	403		
6	402	**SAND & GRAVEL** Brown sand and gravel	6.1 402.0
7	401		[2.3]
8	400		8.4 399.7
		Refusal @ 8.38 mbgs at assumed cobbles/boulders. Target depth achieved.	
9	399		

SAMPLE: Type | Recovery (%) | Blow Counts | Sample ID | Lab Analysis | 1000 (200 400 600 800)

WELL COMPLETION: Construction | Notes

- J-Plug
- Monument Well Casing
- Native Backfill
- Riser
- Bentonite Seal
- Silica Sand Filter Pack
- 50 mm 010 Slot PVC Screen

Drill Date: September 20, 2023
Drilled By: Canadian Environmental
Drilling Method: Hollow Stem Auger
Hole Diameter (OD): 0.20 m
Logged By: BM
Checked By: CM

AUGER SAMPLE
Perched Groundwater Strike / Unstabilized Groundwater Level
True Groundwater Strike / Stabilized Groundwater Level

Sheet 1 of 1

BH MW OB LOG 230226 - LSP UPDATED.GPJ BLUMETRIC STANDARD.GDT 2/1/24

Monitoring Well ID: LSP8-23

Project No.: 230226
Client: MHH
Report: Lake St. Peter WDS
Site Address: Lake St. Peter
Ontario

Elevation Ground: *412.59 m*
TOP: *413.68 m*

UTM NAD 83 (Zone 17): 5022716.692 N
731450.743 E

Depth (m)	Elevation (m)	Description	Depth (m) / Elev. (m.a.s.l.)
		Ground Surface	0.0
0	413	**WASTE MATERIAL** Dry to moist, brown / black sand and gravel mixed with garbage - plastics, fabric, metal	412.6
1	412		[1.5]
			1.5
2	411	**SAND & GRAVEL** Moist to wet, brown sand and gravel with cobbles	411.1
3	410		
4	409		
5	408		
6	407		[7.6]
7	406		
8	405	Saturated	
9	404		
	403	EOH @ 9.14 mbgs. Target depth achieved in saturated conditions. MOE Tag # A361478	9.1 403.4

SAMPLE: Type, Recovery (%), Blow Counts, Sample ID, Lab Analysis

1000 ▲
200 400 600 800

WELL COMPLETION: Construction

Notes:
- J-Plug
- Monument Well Casing
- Cave/Native Backfill
- Riser
- Bentonite Seal
- Silica Sand Filter Pack
- 50 mm 010 Slot PVC Screen

Drill Date: September 21, 2023
Drilled By: Canadian Environmental
Drilling Method: Hollow Stem Auger

Hole Diameter (OD): 0.20 m
Logged By: BM
Checked By: CM

AUGER SAMPLE
Perched Groundwater Strike / Unstabilized Groundwater Level
True Groundwater Strike / Stabilized Groundwater Level

BH MW OB LOG 230226 - LSP UPDATED.GPJ BLUMETRIC STANDARD.GDT 2/1/24

Appendix D

Inspection Forms and Laboratory & Chain of Custody Reports

Appendix D

D-1 Field Inspection Forms

SMALL LANDFILL
OPERATION AND INSPECTION FORM

Site Name: Lake St. Peter WDS, MHHs	**Date:** 2025/05/06	**Weather Conditions:** 17°C
Project #: 250253-04	**BluMetric Staff:** NW & BM	Sunny + some clouds

Photographs of each item below should be collected during site visits.

OVERALL INSPECTION AND OPERATION REVIEW

- ❑ Signage in good condition — Yes ✓ No _
- ❑ ECA and emergency numbers on signage — Yes ✓ No _
- ❑ Hour of operation observed — Yes ✓ No _
- ❑ Site open under normal operating hours — Yes ✓ No _
- ❑ Perimeter fencing and gate in good condition — Yes ✓ No _
- ❑ Gate locked if closed — Yes ✓ No _

DESIGNATED WASTE AREA

- ❑ Working active/trench area (moderate size, daily cover, compacted) — Yes ✓ No _ → Ongoing cover operation
- ❑ Designated waste areas are properly signed and easily accessed by public — Yes ✓ No _

RECYCLING OPERATION (if applicable)

- ❑ Proper signage and bins present — Yes ✓ No _ → Multiple recycling bins have holes in lids *see photos*
- ❑ Clearly signed — Yes ✓ No _
- ❑ Overall neat in appearance — Yes ✓ No _

SEGREGATED SCRAP PILES (metal, tires, brush, etc.)

- ❑ Metals neat and appropriate size — Yes ✓ No _ → Large but neat
- ❑ Tires neat and appropriate size — Yes ✓ No _
- ❑ Bulky Items neat and appropriate size — Yes ✓ No _ → Large, mostly neat
- ❑ Brush pile neat and appropriate size — Yes ✓ No _
- ❑ Construction debris neat and appropriate size — ~~Yes _~~ ~~No _~~ → Not accepted

MONITORING WELL CONDITION

- ❑ Casing conditions (frost heave, lock, cap) — Yes ✓ No _
- ❑ Monitor condition (capped, vented) — Yes ✓ No _
- ❑ Wells clearly labeled (re-label as required) — Yes ✓ No _
- ❑ Well clearly visible (clear brush if necessary) — Yes ✓ No _

LANDFILL GAS MONITORING

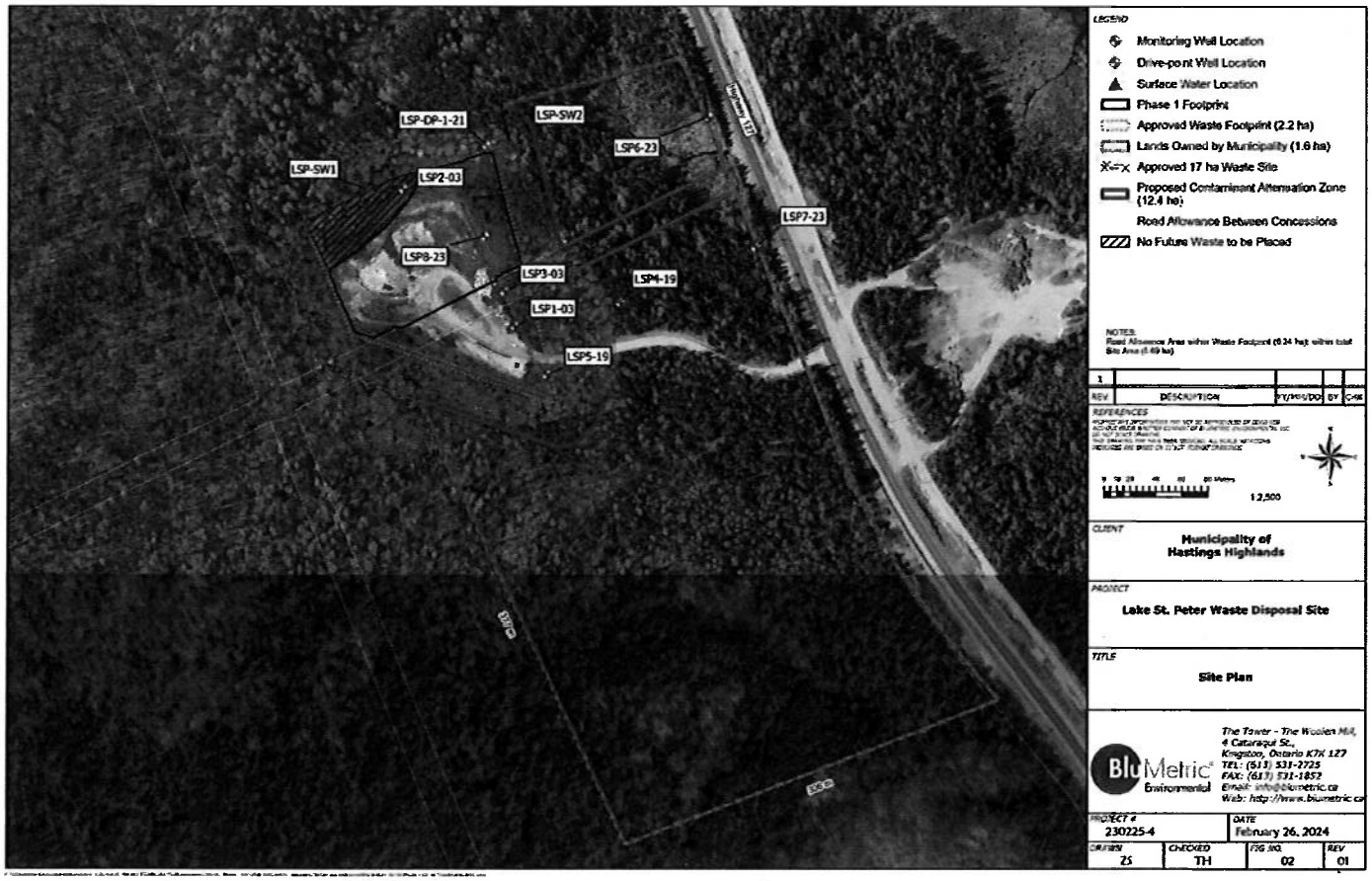
- ❑ Conducted at structures — Yes ✓ No _ * Attendants Hut = 0 ppm *
- ❑ Conducted at monitoring wells — Yes ✓ No _

REPAIRS: Provide details of repairs made or materials required for repairs upon next site visit:

OBSERVATIONS OF PHYSICAL ENVIRONMENT: Please comment on any changes to the local environment (e.g. settling or slumping of waste/cover, new or altered drainage, presence of seeps, changes in vegetation cover, etc.)

→ Large amounts of blown plastics and garbage, spring clean-up hasn't been completed yet*

This form is intended as a general reminder of information that should recorded during monitoring activities. The above information is a minimum guide. Any information deemed important should be recorded in the field notes for each site.



Identify any changes to site layout on drawing and/or comment:

This form is intended as a general reminder of information that should recorded during monitoring activities. The above information is a minimum guide. Any information deemed important should be recorded in the field notes for each site.

SMALL LANDFILL
OPERATION AND INSPECTION FORM

BluMetric Environmental

Site Name: Lake St. Peter WDS, MHHs	Date: 2025/Oct/15	Weather Conditions:
Project #: 250253-04	BluMetric Staff: BM/NW	Sunny 8° Gusty Winds

Photographs of each item below should be collected during site visits.

OVERALL INSPECTION AND OPERATION REVIEW

❑ Signage in good condition	Yes ✓	No _
❑ ECA and emergency numbers on signage	Yes ✓	No _
❑ Hour of operation observed	Yes ✓	No _
❑ Site open under normal operating hours	Yes _	No ✓
❑ Perimeter fencing and gate in good condition	Yes ✓	No _
❑ Gate locked if closed	Yes ✓	No _

DESIGNATED WASTE AREA

❑ Working active/trench area (moderate size, daily cover, compacted)	Yes _	No ✓	Not covered or packed
❑ Designated waste areas are properly signed and easily accessed by public	Yes ✓	No _	

RECYCLING OPERATION (if applicable)

❑ Proper signage and bins present	Yes ✓	No _
❑ Clearly signed	Yes ✓	No _
❑ Overall neat in appearance	Yes ✓	No _

SEGREGATED SCRAP PILES (metal, tires, brush, etc.)

❑ Metals neat and appropriate size	Yes _	No ✓	Large pile - should be removed
❑ Tires neat and appropriate size	Yes ✓	No _	
❑ Bulky Items neat and appropriate size	Yes _	No ✓	Very Large - Should be removed
❑ Brush pile neat and appropriate size	Yes ✓	No _	
❑ Construction debris neat and appropriate size	Yes _	No _	NA ✓

MONITORING WELL CONDITION

❑ Casing conditions (frost heave, lock, cap)	Yes ✓	No _
❑ Monitor condition (capped, vented)	Yes ✓	No _
❑ Wells clearly labeled (re-label as required)	Yes ✓	No _
❑ Well clearly visible (clear brush if necessary)	Yes ✓	No _

LANDFILL GAS MONITORING

❑ Conducted at structures	Yes ✓	No _	Attendant = 15ppm
❑ Conducted at monitoring wells	Yes ✓	No _	

REPAIRS: Provide details of repairs made or materials required for repairs upon next site visit:

Drive point requires an 1.25" cap

OBSERVATIONS OF PHYSICAL ENVIRONMENT: Please comment on any changes to the local environment (e.g. settling or slumping of waste/cover, new or altered drainage, presence of seeps, changes in vegetation cover, etc.)

Trees have been cleared / pushed back to the yellow boundary stakes

This form is intended as a general reminder of information that should recorded during monitoring activities. The above information is a minimum guide. Any information deemed important should be recorded in the field notes for each site.

APPENDIX B

Appendix D

D-2 Groundwater Laboratory Reports

Your P.O. #: 250253-04
Your Project #: 250253-04
Site Location: LPS WDS
Your C.O.C. #: 1062811-01-01

Attention: MHH Distribution

BluMetric Environmental Inc
The Tower - The Woolen Mill
4 Cataraqui St
Kingston, ON
CANADA K7K 1Z7

Report Date: 2025/10/24
Report #: R8638345
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C5D1118
Received: 2025/10/17, 10:53

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Dissolved Aluminum (0.2 u, clay free)	1	N/A	2025/10/23	CAM SOP-00447	EPA 6020B m
Alkalinity	1	N/A	2025/10/23	CAM SOP-00448	SM 24 2320 B m
Biochemical Oxygen Demand (BOD)	1	2025/10/18	2025/10/23	CAM SOP-00427	SM 24 5210B m
Chloride by Automated Colourimetry	1	N/A	2025/10/20	CAM SOP-00463	SM 24 4500-Cl E m
Chemical Oxygen Demand	1	N/A	2025/10/23	CAM SOP-00416	SM 24 5220 D m
Colour	1	N/A	2025/10/21	CAM SOP-00412	SM 24 2120C m
Conductivity	1	N/A	2025/10/23	CAM SOP-00414	SM 24 2510 m
Dissolved Organic Carbon (DOC) (1)	1	N/A	2025/10/22	CAM SOP-00446	SM 24 5310 B m
Hardness (calculated as CaCO3)	1	N/A	2025/10/21	CAM SOP 00102/00408/00447	SM 2340 B
Dissolved Mercury in Water by CVAA	1	2025/10/23	2025/10/23	CAM SOP-00453	EPA 7470A m
Dissolved Metals by ICPMS	1	N/A	2025/10/21	CAM SOP-00447	EPA 6020B m
Total Metals Analysis by ICPMS	1	2025/10/23	2025/10/23	CAM SOP-00447	EPA 6020B m
Total Ammonia-N	1	N/A	2025/10/24	CAM SOP-00441	USGS I-2522-90 m
Nitrate & Nitrite as Nitrogen in Water (2)	1	N/A	2025/10/19	CAM SOP-00440	SM 24 4500-NO3I/NO2B
pH (3)	1	2025/10/18	2025/10/23	CAM SOP-00413	SM 24th - 4500H+ B
Phenols (4AAP)	1	N/A	2025/10/22	CAM SOP-00444	OMOE E3179 m
Field Measured pH (4)	1	N/A	2025/10/17		Field pH Meter
Sulphate by Automated Turbidimetry	1	N/A	2025/10/20	CAM SOP-00464	SM 24 4500-SO42- E m
Total Dissolved Solids	1	2025/10/22	2025/10/23	CAM SOP-00428	SM 24 2540C m
Field Temperature (4)	1	N/A	2025/10/17		Field Thermometer
Total Kjeldahl Nitrogen in Water	1	2025/10/21	2025/10/22	CAM SOP-00938	SM 4500-N B m
Total Phosphorus (Colourimetric)	1	2025/10/21	2025/10/23	CAM SOP-00407	SM 24 4500-P I
Total Suspended Solids	1	2025/10/22	2025/10/23	CAM SOP-00428	SM 24 2540D m
Turbidity	1	N/A	2025/10/18	CAM SOP-00417	SM 24 2130 B
Un-ionized Ammonia (5)	1	2025/10/17	2025/10/24	Auto Calc.	PWQO

Remarks:

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

Your P.O. #: 250253-04
Your Project #: 250253-04
Site Location: LPS WDS
Your C.O.C. #: 1062811-01-01

Attention: MHH Distribution

BluMetric Environmental Inc
The Tower - The Woolen Mill
4 Cataraqui St
Kingston, ON
CANADA K7K 1Z7

Report Date: 2025/10/24
Report #: R8638345
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C5D1118
Received: 2025/10/17, 10:53

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

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

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) Dissolved Organic Carbon (DOC) present in the sample should be considered as non-purgeable DOC.
(2) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.
(3) "The CCME method and Analytical Protocol (O. Reg 153/04, O. Reg. 406/19) requires pH to be analyzed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the CCME and Analytical Protocol (O. Reg 153/04, O. Reg. 406/19) holding time. Bureau Veritas endeavors to analyze samples as soon as possible after receipt."

(4) This is a field test, therefore, the results relate to items that were not analysed at Bureau Veritas.
(5) Un-ionized ammonia is calculated using the total ammonia result and field data provided by the client for pH and temperature.

Your P.O. #: 250253-04
Your Project #: 250253-04
Site Location: LPS WDS
Your C.O.C. #: 1062811-01-01

Attention: MHH Distribution

BluMetric Environmental Inc
The Tower - The Woolen Mill
4 Cataraqui St
Kingston, ON
CANADA K7K 1Z7

Report Date: 2025/10/24
Report #: R8638345
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C5D1118
Received: 2025/10/17, 10:53

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:
Deepthi Shaji, Project Manager
Email: Deepthi.Shaji@bureauveritas.com
Phone# (905)817-5700 Ext:7065843

==========

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

Bureau Veritas Job #: C5D1118
Report Date: 2025/10/24

BluMetric Environmental Inc
Client Project #: 250253-04
Site Location: LPS WDS
Your P.O. #: 250253-04
Sampler Initials: NW

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		AWIF73			AWIF73		
Sampling Date		2025/10/15 15:55			2025/10/15 15:55		
COC Number		1062811-01-01			1062811-01-01		
	UNITS	LSP-DP1-21	RDL	QC Batch	LSP-DP1-21 Lab-Dup	RDL	QC Batch
Calculated Parameters							
Hardness (CaCO3)	mg/L	190	1.0	A034727			
Total Un-ionized Ammonia	mg/L	0.0034	0.00061	A034708			
Field Measurements							
Field Temperature	Celsius	9.8	N/A	ONSITE			
Field Measured pH	pH	6.35		ONSITE			
Inorganics							
Total Ammonia-N	mg/L	6.8	0.050	A037487			
Total BOD	mg/L	ND	2	A034869			
Total Chemical Oxygen Demand (COD)	mg/L	40	4.0	A036571			
Colour	TCU	9	2	A036205	8	2	A036205
Conductivity	umho/cm	580	2.0	A035015			
Total Dissolved Solids	mg/L	275	10	A037709			
Total Kjeldahl Nitrogen (TKN)	mg/L	6.9	0.50	A037050			
Dissolved Organic Carbon	mg/L	15	0.4	A036041			
pH	pH	6.66		A035018			
Phenols-4AAP	mg/L	ND	0.0010	A037630			
Total Phosphorus	mg/L	0.23	0.10	A036957			
Total Suspended Solids	mg/L	80	10	A037597			
Dissolved Sulphate (SO4)	mg/L	18	1.0	A034981			
Turbidity	NTU	270	0.1	A034988			
Alkalinity (Total as CaCO3)	mg/L	240	1.0	A035013			
Dissolved Chloride (Cl-)	mg/L	18	1.0	A034977			
Nitrite (N)	mg/L	0.014	0.010	A034989			
Nitrate (N)	mg/L	ND	0.10	A034989			
Nitrate + Nitrite (N)	mg/L	ND	0.10	A034989			

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

Chemistry testing is conducted at 6740 Campobello Rd.

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Bureau Veritas ID		AWIF73		
Sampling Date		2025/10/15 15:55		
COC Number		1062811-01-01		
	UNITS	**LSP-DP1-21**	**RDL**	**QC Batch**
Metals				
Dissolved (0.2u) Aluminum (Al)	ug/L	ND	5	A037817
Dissolved Mercury (Hg)	ug/L	ND	0.10	A038136
Total Arsenic (As)	ug/L	1.6	1.0	A038283
Dissolved Barium (Ba)	ug/L	410	2.0	A035666
Total Barium (Ba)	ug/L	410	2.0	A038283
Total Beryllium (Be)	ug/L	ND	0.40	A038283
Dissolved Boron (B)	ug/L	380	10	A035666
Total Boron (B)	ug/L	350	10	A038283
Total Cadmium (Cd)	ug/L	ND	0.090	A038283
Dissolved Calcium (Ca)	ug/L	60000	200	A035666
Total Calcium (Ca)	ug/L	55000	200	A038283
Total Chromium (Cr)	ug/L	6.2	5.0	A038283
Total Cobalt (Co)	ug/L	10	0.50	A038283
Total Copper (Cu)	ug/L	2.4	0.90	A038283
Dissolved Iron (Fe)	ug/L	30000	100	A035666
Total Iron (Fe)	ug/L	49000	100	A038283
Total Lead (Pb)	ug/L	2.1	0.50	A038283
Dissolved Magnesium (Mg)	ug/L	9400	50	A035666
Total Magnesium (Mg)	ug/L	8500	50	A038283
Dissolved Manganese (Mn)	ug/L	12000	10	A035666
Total Manganese (Mn)	ug/L	12000	10	A038283
Total Molybdenum (Mo)	ug/L	0.85	0.50	A038283
Total Nickel (Ni)	ug/L	11	1.0	A038283
Total Potassium (K)	ug/L	18000	200	A038283
Total Selenium (Se)	ug/L	ND	2.0	A038283
Total Silicon (Si)	ug/L	6600	50	A038283
Total Silver (Ag)	ug/L	ND	0.090	A038283
Dissolved Sodium (Na)	ug/L	17000	100	A035666

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

Bureau Veritas Job #: C5D1118
Report Date: 2025/10/24

BluMetric Environmental Inc
Client Project #: 250253-04
Site Location: LPS WDS
Your P.O. #: 250253-04
Sampler Initials: NW

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Bureau Veritas ID		AWIF73		
Sampling Date		2025/10/15 15:55		
COC Number		1062811-01-01		
	UNITS	**LSP-DP1-21**	**RDL**	**QC Batch**
Total Sodium (Na)	ug/L	16000	100	A038283
Total Strontium (Sr)	ug/L	300	1.0	A038283
Total Thallium (Tl)	ug/L	ND	0.050	A038283
Total Titanium (Ti)	ug/L	ND	5.0	A038283
Total Vanadium (V)	ug/L	2.8	0.50	A038283
Total Zinc (Zn)	ug/L	260	5.0	A038283

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C5D1118
Report Date: 2025/10/24

BluMetric Environmental Inc
Client Project #: 250253-04
Site Location: LPS WDS
Your P.O. #: 250253-04
Sampler Initials: NW

TEST SUMMARY

Bureau Veritas ID: AWIF73
Sample ID: LSP-DP1-21
Matrix: Water

Collected: 2025/10/15
Shipped:
Received: 2025/10/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dissolved Aluminum (0.2 u, clay free)	ICP/MS	A037817	N/A	2025/10/23	Nan Raykha
Alkalinity	AT	A035013	N/A	2025/10/23	Surinder Rai
Biochemical Oxygen Demand (BOD)	DO	A034869	2025/10/18	2025/10/23	Razieh Tabesh
Chloride by Automated Colourimetry	SKAL	A034977	N/A	2025/10/20	Alina Dobreanu
Chemical Oxygen Demand	SPEC	A036571	N/A	2025/10/23	Arshdeep Jagayat
Colour	SPEC	A036205	N/A	2025/10/21	Viorica Rotaru
Conductivity	AT	A035015	N/A	2025/10/23	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	A036041	N/A	2025/10/22	Gyulshen Idriz
Hardness (calculated as CaCO3)		A034727	N/A	2025/10/21	Automated Statchk
Dissolved Mercury in Water by CVAA	CV/AA	A038136	2025/10/23	2025/10/23	Maitri PATIL
Dissolved Metals by ICPMS	ICP/MS	A035666	N/A	2025/10/21	Indira HarryPaul
Total Metals Analysis by ICPMS	ICP/MS	A038283	2025/10/23	2025/10/23	Indira HarryPaul
Total Ammonia-N	SKAL/NH4	A037487	N/A	2025/10/24	Kruti Jitesh Patel
Nitrate & Nitrite as Nitrogen in Water	LACH	A034989	N/A	2025/10/19	Chandra Nandlal
pH	AT	A035018	2025/10/18	2025/10/23	Surinder Rai
Phenols (4AAP)	TECH/PHEN	A037630	N/A	2025/10/22	Jency Sara Johnson
Field Measured pH	PH	ONSITE	N/A	2025/10/17	Naisargi Diwan
Sulphate by Automated Turbidimetry	SKAL	A034981	N/A	2025/10/20	Massarat Jan
Total Dissolved Solids	BAL	A037709	2025/10/22	2025/10/23	Manowalage shanika GUNASEKARA
Field Measured pH	PH	ONSITE	N/A	2025/10/17	Naisargi Diwan
Total Kjeldahl Nitrogen in Water	SKAL	A037050	2025/10/21	2025/10/22	Rajni Tyagi
Total Phosphorus (Colourimetric)	SKAL/P	A036957	2025/10/21	2025/10/23	Shivani Shivani
Total Suspended Solids	BAL	A037597	2025/10/22	2025/10/23	Manowalage shanika GUNASEKARA
Turbidity	AT	A034988	N/A	2025/10/18	Pinky joy JANABAN
Un-ionized Ammonia	CALC/NH3	A034708	2025/10/24	2025/10/24	Automated Statchk

Bureau Veritas ID: AWIF73 Dup
Sample ID: LSP-DP1-21
Matrix: Water

Collected: 2025/10/15
Shipped:
Received: 2025/10/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Colour	SPEC	A036205	N/A	2025/10/21	Viorica Rotaru

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

Chemistry testing is conducted at 6740 Campobello Rd.

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	6.7°C

Results relate only to the items tested.

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Bureau Veritas Job #: C5D1118
Report Date: 2025/10/24

QUALITY ASSURANCE REPORT

BluMetric Environmental Inc
Client Project #: 250253-04
Site Location: LPS WDS
Your P.O. #: 250253-04
Sampler Initials: NW

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A034869	Total BOD	2025/10/23					ND,RDL=2	mg/L	4.0	30	91	80 - 120
A034977	Dissolved Chloride (Cl-)	2025/10/20	93	80 - 120	99	80 - 120	ND, RDL=1.0	mg/L	1.7	20		
A034981	Dissolved Sulphate (SO4)	2025/10/20	97	75 - 125	97	80 - 120	ND, RDL=1.0	mg/L	1.7	20		
A034988	Turbidity	2025/10/18			96	80 - 120	ND, RDL=0.1	NTU	5.4	20		
A034989	Nitrate (N)	2025/10/19	99	80 - 120	99	80 - 120	ND, RDL=0.10	mg/L	NC	20		
A034989	Nitrite (N)	2025/10/19	105	80 - 120	104	80 - 120	ND, RDL=0.010	mg/L	NC	20		
A035013	Alkalinity (Total as CaCO3)	2025/10/23			97	85 - 115	ND, RDL=1.0	mg/L	0.58	20		
A035015	Conductivity	2025/10/23			102	85 - 115	ND, RDL=2.0	umho/cm	0.92	10		
A035018	pH	2025/10/23			101	98 - 103			1.0	N/A		
A035666	Dissolved Barium (Ba)	2025/10/21	98	80 - 120	97	80 - 120	ND, RDL=2.0	ug/L	1.8	20		
A035666	Dissolved Boron (B)	2025/10/21	NC	80 - 120	97	80 - 120	ND, RDL=10	ug/L	0.13	20		
A035666	Dissolved Calcium (Ca)	2025/10/21	NC	80 - 120	97	80 - 120	ND, RDL=200	ug/L				
A035666	Dissolved Iron (Fe)	2025/10/21	101	80 - 120	96	80 - 120	ND, RDL=100	ug/L				
A035666	Dissolved Magnesium (Mg)	2025/10/21	NC	80 - 120	95	80 - 120	ND, RDL=50	ug/L				
A035666	Dissolved Manganese (Mn)	2025/10/21	NC	80 - 120	100	80 - 120	ND, RDL=2.0	ug/L				
A035666	Dissolved Sodium (Na)	2025/10/21	NC	80 - 120	101	80 - 120	ND, RDL=100	ug/L				
A036041	Dissolved Organic Carbon	2025/10/21	91	80 - 120	95	80 - 120	ND, RDL=0.4	mg/L	1.4	20		
A036205	Colour	2025/10/21			98	80 - 120	ND,RDL=2	TCU	12	25		
A036571	Total Chemical Oxygen Demand (COD)	2025/10/23	102	80 - 120	99	80 - 120	ND, RDL=4.0	mg/L	NC	20		
A036957	Total Phosphorus	2025/10/23	100	80 - 120	101	80 - 120	ND, RDL=0.020	mg/L	3.2	20	93	80 - 120
A037050	Total Kjeldahl Nitrogen (TKN)	2025/10/22	95	80 - 120	99	80 - 120	ND, RDL=0.10	mg/L	NC	20	99	80 - 120
A037487	Total Ammonia-N	2025/10/24	101	75 - 125	95	80 - 120	ND, RDL=0.050	mg/L	0	20		
A037597	Total Suspended Solids	2025/10/23			100	80 - 120	ND, RDL=10	mg/L	NC	20		
A037630	Phenols-4AAP	2025/10/22	97	80 - 120	100	80 - 120	ND, RDL=0.0010	mg/L	NC	20		
A037709	Total Dissolved Solids	2025/10/23			100	80 - 120	ND, RDL=10	mg/L	3.9	20		
A037817	Dissolved (0.2u) Aluminum (Al)	2025/10/23	104	80 - 120	101	80 - 120	ND,RDL=5	ug/L	NC	20		

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Chemistry testing is conducted at 6740 Campobello Rd.

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A038136	Dissolved Mercury (Hg)	2025/10/23	96	75 - 125	96	80 - 120	ND, RDL=0.10	ug/L	NC	20		
A038283	Total Arsenic (As)	2025/10/23	102	80 - 120	99	80 - 120	ND, RDL=1.0	ug/L				
A038283	Total Barium (Ba)	2025/10/23	97	80 - 120	96	80 - 120	ND, RDL=2.0	ug/L				
A038283	Total Beryllium (Be)	2025/10/23	97	80 - 120	98	80 - 120	ND, RDL=0.40	ug/L				
A038283	Total Boron (B)	2025/10/23	86	80 - 120	88	80 - 120	ND, RDL=10	ug/L				
A038283	Total Cadmium (Cd)	2025/10/23	101	80 - 120	100	80 - 120	ND, RDL=0.090	ug/L				
A038283	Total Calcium (Ca)	2025/10/23	NC	80 - 120	96	80 - 120	ND, RDL=200	ug/L				
A038283	Total Chromium (Cr)	2025/10/23	93	80 - 120	91	80 - 120	ND, RDL=5.0	ug/L				
A038283	Total Cobalt (Co)	2025/10/23	96	80 - 120	99	80 - 120	ND, RDL=0.50	ug/L				
A038283	Total Copper (Cu)	2025/10/23	102	80 - 120	103	80 - 120	ND, RDL=0.90	ug/L				
A038283	Total Iron (Fe)	2025/10/23	98	80 - 120	97	80 - 120	ND, RDL=100	ug/L				
A038283	Total Lead (Pb)	2025/10/23	99	80 - 120	98	80 - 120	ND, RDL=0.50	ug/L	NC	20		
A038283	Total Magnesium (Mg)	2025/10/23	NC	80 - 120	96	80 - 120	ND, RDL=50	ug/L				
A038283	Total Manganese (Mn)	2025/10/23	NC	80 - 120	93	80 - 120	ND, RDL=2.0	ug/L				
A038283	Total Molybdenum (Mo)	2025/10/23	95	80 - 120	92	80 - 120	ND, RDL=0.50	ug/L				
A038283	Total Nickel (Ni)	2025/10/23	94	80 - 120	94	80 - 120	ND, RDL=1.0	ug/L				
A038283	Total Potassium (K)	2025/10/23	102	80 - 120	97	80 - 120	ND, RDL=200	ug/L				
A038283	Total Selenium (Se)	2025/10/23	103	80 - 120	104	80 - 120	ND, RDL=2.0	ug/L				
A038283	Total Silicon (Si)	2025/10/23	92	80 - 120	93	80 - 120	ND, RDL=50	ug/L				
A038283	Total Silver (Ag)	2025/10/23	90	80 - 120	89	80 - 120	ND, RDL=0.090	ug/L				
A038283	Total Sodium (Na)	2025/10/23	NC	80 - 120	92	80 - 120	ND, RDL=100	ug/L				
A038283	Total Strontium (Sr)	2025/10/23	NC	80 - 120	94	80 - 120	ND, RDL=1.0	ug/L				
A038283	Total Thallium (Tl)	2025/10/23	103	80 - 120	101	80 - 120	ND, RDL=0.050	ug/L				
A038283	Total Titanium (Ti)	2025/10/23	98	80 - 120	96	80 - 120	ND, RDL=5.0	ug/L				
A038283	Total Vanadium (V)	2025/10/23	94	80 - 120	90	80 - 120	ND, RDL=0.50	ug/L				

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Chemistry testing is conducted at 6740 Campobello Rd.

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
A038283	Total Zinc (Zn)	2025/10/23	100	80 - 120	101	80 - 120	ND, RDL=5.0	ug/L				

N/A = Not Applicable

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

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

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

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

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

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

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Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C5D1118
Report Date: 2025/10/24

BluMetric Environmental Inc
Client Project #: 250253-04
Site Location: LPS WDS
Your P.O. #: 250253-04
Sampler Initials: NW

VALIDATION SIGNATURE PAGE

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

Louise Harding, Scientific Specialist

Naisargi Diwan, Sample Entry Technician

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

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Chemistry testing is conducted at 6740 Campobello Rd.

C5D1118
2025/10/17 10:53

BUREAU VERITAS

Bureau Veritas
6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel:(905) 817-5700 Toll-free:800-563-6266 Fax:(905) 817-5777 www.bvna.com

NONT-2025-10-3928

Invoice To:		Report To:		PROJECT INFORMATION:	
Company:	#1192 BluMetric Environmental Inc	Company:	#5638 BluMetric Environmental Inc	Quotation #:	C45787
Attention:	Accounts Payable	Attention:	MHH Distribution	P.O. #:	250253-04
Address:	1682 Woodward Drive Ottawa ON K2C 3R8	Address:	The Tower - The Woolen Mill 4 Cataraqui St Kingston ON K7K 1Z7	Project:	250253-04
Tel:	(613) 839-3053 Fax: (613) 839-5376	Tel:	(613) 531-2725 Fax:	Project Name:	LSP WDS
Email:	ap@blumetric.ca	Email:	cbandler@blumetric.ca, cmiller@blumetric.ca, edms@bl	Site #:	
				Sampled By:	NW + BM

Bottle Order #: 1062811

COC #: C#1062811-01-01

Project Manager: Deepthi Shaji

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BUREAU VERITAS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011)
☐ Table 1 ☐ Res/Park ☐ Medium/Fine
☐ Table 2 ☐ Ind/Comm ☐ Coarse
☐ Table 3 ☐ Agri/Other ☐ For RSC
☐ Table ___

Other Regulations
☐ CCME ☐ Sanitary Sewer Bylaw
☐ Reg 558, ☐ Storm Sewer Bylaw
☐ MISA Municipality ___
☐ PWQO ☐ Reg 406 Table ___
☐ Other ___

Special Instructions

Include Criteria on Certificate of Analysis (Y/N)? ___

Field Filtered (please circle): Metals Hg Cr VI DOC

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

Groundwater Extended DP1-21

Turnaround Time (TAT) Required:
Please provide advance notice for rush projects

Regular (Standard) TAT: X
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: ___ Time Required: ___ ☐
Rush Confirmation Number: ___ *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	# of Bottles	Comments
1		LSP-DP1-21	25/10/15	15:55	GW	10	2 Metals – 1 Filtered, 1 Unfiltered
2							pH - 6.35 Temp - 9.8°C
3							
4							
5							
6							
7							
8							
9							
10							

* Relinquished By (Print):	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
Brad McCallen	2025/10/16	16:30	Sugan Sarwan	2025/10/17	10:53	

Laboratory Use Only
Time Sensitive | Temperature (°C) on Recei: 6 / 7 / 7 | Custody Seal Present ☐ Intact ☐ | Yes ☐ | No ☐

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/COC-TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/CHAIN-CUSTODY-FORMS-COCS.

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

White: Bureau Veritas Yellow: Client

ICE PACK

Bureau Veritas Canada (2019) Inc.

Your P.O. #: 250253-04
Your Project #: 250253-04
Site Location: LSP WDS
Your C.O.C. #: 1062809-01-01

Attention: MHH Distribution

BluMetric Environmental Inc
The Tower - The Woolen Mill
4 Cataraqui St
Kingston, ON
CANADA K7K 1Z7

Report Date: 2025/10/28
Report #: R8640422
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C5D1429
Received: 2025/10/17, 11:24

Sample Matrix: Water
Samples Received: 10

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Alkalinity	9	N/A	2025/10/25	CAM SOP-00448	SM 24 2320 B m
Alkalinity	1	N/A	2025/10/28	CAM SOP-00448	SM 24 2320 B m
Chloride by Automated Colourimetry	1	N/A	2025/10/23	CAM SOP-00463	SM 24 4500-Cl E m
Chloride by Automated Colourimetry	8	N/A	2025/10/24	CAM SOP-00463	SM 24 4500-Cl E m
Chloride by Automated Colourimetry	1	N/A	2025/10/28	CAM SOP-00463	SM 24 4500-Cl E m
Conductivity	10	N/A	2025/10/25	CAM SOP-00414	SM 24 2510 m
Dissolved Organic Carbon (DOC) (1)	8	N/A	2025/10/21	CAM SOP-00446	SM 24 5310 B m
Dissolved Organic Carbon (DOC) (1)	2	N/A	2025/10/22	CAM SOP-00446	SM 24 5310 B m
Lab Filtered Metals by ICPMS	1	2025/10/24	2025/10/27	CAM SOP-00447	EPA 6020B m
Dissolved Metals by ICPMS	3	N/A	2025/10/21	CAM SOP-00447	EPA 6020B m
Dissolved Metals by ICPMS	4	N/A	2025/10/22	CAM SOP-00447	EPA 6020B m
Dissolved Metals by ICPMS	1	N/A	2025/10/24	CAM SOP-00447	EPA 6020B m
Dissolved Metals by ICPMS	1	N/A	2025/10/28	CAM SOP-00447	EPA 6020B m
Total Ammonia-N	10	N/A	2025/10/23	CAM SOP-00441	USGS I-2522-90 m
Nitrate & Nitrite as Nitrogen in Water (2)	10	N/A	2025/10/20	CAM SOP-00440	SM 24 4500-NO3I/NO2B
pH (3)	8	2025/10/20	2025/10/25	CAM SOP-00413	SM 24th - 4500H+ B
pH (3)	2	2025/10/21	2025/10/25	CAM SOP-00413	SM 24th - 4500H+ B
Sulphate by Automated Turbidimetry	1	N/A	2025/10/23	CAM SOP-00464	SM 24 4500-SO42- E m
Sulphate by Automated Turbidimetry	8	N/A	2025/10/24	CAM SOP-00464	SM 24 4500-SO42- E m
Sulphate by Automated Turbidimetry	1	N/A	2025/10/28	CAM SOP-00464	SM 24 4500-SO42- E m
Total Dissolved Solids	10	2025/10/22	2025/10/23	CAM SOP-00428	SM 24 2540C m
Total Suspended Solids	10	2025/10/22	2025/10/23	CAM SOP-00428	SM 24 2540D m

Remarks:

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

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

Your P.O. #: 250253-04
Your Project #: 250253-04
Site Location: LSP WDS
Your C.O.C. #: 1062809-01-01

Attention: MHH Distribution

BluMetric Environmental Inc
The Tower - The Woolen Mill
4 Cataraqui St
Kingston, ON
CANADA K7K 1Z7

Report Date: 2025/10/28
Report #: R8640422
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C5D1429
Received: 2025/10/17, 11:24

Uncertainty has not been accounted for when stating conformity to the referenced standard.

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

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

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

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

(1) Dissolved Organic Carbon (DOC) present in the sample should be considered as non-purgeable DOC.

(2) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.

(3) "The CCME method and Analytical Protocol (O. Reg 153/04, O. Reg. 406/19) requires pH to be analyzed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the CCME and Analytical Protocol (O. Reg 153/04, O. Reg. 406/19) holding time. Bureau Veritas endeavors to analyze samples as soon as possible after receipt."

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:
Deepthi Shaji, Project Manager
Email: Deepthi.Shaji@bureauveritas.com
Phone# (905)817-5700 Ext:7065843

==========

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

Bureau Veritas Job #: C5D1429
Report Date: 2025/10/28

BluMetric Environmental Inc
Client Project #: 250253-04
Site Location: LSP WDS
Your P.O. #: 250253-04
Sampler Initials: NW

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		AWIX44			AWIX44			AWIX45		
Sampling Date		2025/10/15 16:40			2025/10/15 16:40			2025/10/15 16:10		
COC Number		1062809-01-01			1062809-01-01			1062809-01-01		
	UNITS	LSP1-03	RDL	QC Batch	LSP1-03 Lab-Dup	RDL	QC Batch	LSP2-03	RDL	QC Batch
Inorganics										
Total Ammonia-N	mg/L	17	0.050	A037533				ND	0.050	A037533
Conductivity	umho/cm	820	2.0	A035992				34	2.0	A035992
Total Dissolved Solids	mg/L	335	10	A037709				20	10	A037709
Dissolved Organic Carbon	mg/L	18	0.4	A036041				4.9	0.4	A036041
pH	pH	7.04		A035991				6.59		A035991
Total Suspended Solids	mg/L	820	10	A037597				210	10	A037597
Dissolved Sulphate (SO4)	mg/L	4.5	1.0	A036856	4.7	1.0	A036856	3.7	1.0	A036856
Alkalinity (Total as CaCO3)	mg/L	320	1.0	A035988				11	1.0	A035988
Dissolved Chloride (Cl-)	mg/L	54	1.0	A036854	54	1.0	A036854	ND	1.0	A036854
Nitrate (N)	mg/L	0.10	0.10	A035914				ND	0.10	A035914

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

Bureau Veritas ID		AWIX46			AWIX46			AWIX47		
Sampling Date		2025/10/15 16:30			2025/10/15 16:30			2025/10/15 16:50		
COC Number		1062809-01-01			1062809-01-01			1062809-01-01		
	UNITS	LSP3-03	RDL	QC Batch	LSP3-03 Lab-Dup	RDL	QC Batch	LSP4-19	RDL	QC Batch
Inorganics										
Total Ammonia-N	mg/L	7.2	0.050	A037533				5.8	0.050	A037533
Conductivity	umho/cm	640	2.0	A036412				630	2.0	A036412
Total Dissolved Solids	mg/L	295	10	A037709				350	10	A037709
Dissolved Organic Carbon	mg/L	16	0.4	A036041	15	0.4	A036041	7.5	0.4	A036041
pH	pH	6.81		A036413				6.97		A036413
Total Suspended Solids	mg/L	180	10	A037597				38000	100	A037597
Dissolved Sulphate (SO4)	mg/L	6.3	1.0	A036856				9.2	1.0	A036856
Alkalinity (Total as CaCO3)	mg/L	230	1.0	A036406				180	1.0	A036406
Dissolved Chloride (Cl-)	mg/L	54	2.0	A036854				52	1.0	A036854
Nitrate (N)	mg/L	0.13	0.10	A035914				6.25	0.10	A035914

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

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Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C5D1429
Report Date: 2025/10/28

BluMetric Environmental Inc
Client Project #: 250253-04
Site Location: LSP WDS
Your P.O. #: 250253-04
Sampler Initials: NW

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		AWIX48			AWIX49			AWIX50		
Sampling Date		2025/10/15 17:00			2025/10/15 15:55			2025/10/15 13:45		
COC Number		1062809-01-01			1062809-01-01			1062809-01-01		
	UNITS	LSP5-19	RDL	QC Batch	LSP-DP1-21-GW	RDL	QC Batch	LSP6-23	RDL	QC Batch
Inorganics										
Total Ammonia-N	mg/L	ND	0.050	A037533	6.8	0.050	A037533	0.075	0.050	A037533
Conductivity	umho/cm	25	2.0	A035992	560	2.0	A035992	80	2.0	A035992
Total Dissolved Solids	mg/L	30	10	A037709	250	10	A037709	90	10	A037709
Dissolved Organic Carbon	mg/L	2.2	0.4	A036041	14	0.4	A036041	1.3	0.4	A036041
pH	pH	6.59		A035991	6.88		A035991	7.17		A035991
Total Suspended Solids	mg/L	2600	20	A037597	110	10	A037597	2100	20	A037597
Dissolved Sulphate (SO4)	mg/L	3.4	1.0	A036856	19	1.0	A036867	7.4	1.0	A036856
Alkalinity (Total as CaCO3)	mg/L	6.6	1.0	A035988	240	1.0	A035988	31	1.0	A035988
Dissolved Chloride (Cl-)	mg/L	ND	1.0	A036854	21	1.0	A036864	ND	1.0	A036854
Nitrate (N)	mg/L	ND	0.10	A035914	0.11	0.10	A035914	0.12	0.10	A035914

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

Bureau Veritas ID		AWIX51			AWIX52			AWIX52		
Sampling Date		2025/10/15 13:55			2025/10/15 16:20			2025/10/15 16:20		
COC Number		1062809-01-01			1062809-01-01			1062809-01-01		
	UNITS	LSP7-23	RDL	QC Batch	LSP8-23	RDL	QC Batch	LSP8-23 Lab-Dup	RDL	QC Batch
Inorganics										
Total Ammonia-N	mg/L	ND	0.050	A037533	9.4	0.050	A037533			
Conductivity	umho/cm	55	2.0	A035992	570	2.0	A035992			
Total Dissolved Solids	mg/L	165	10	A037709	275	10	A037709			
Dissolved Organic Carbon	mg/L	1.9	0.4	A036041	28	0.4	A036041			
pH	pH	6.45		A035991	6.77		A035991			
Total Suspended Solids	mg/L	11000	100	A037597	720	10	A037597			
Dissolved Sulphate (SO4)	mg/L	5.3	1.0	A036856	13	1.0	A041197	13	1.0	A041197
Alkalinity (Total as CaCO3)	mg/L	8.1	1.0	A035988	220	1.0	A041419	220	1.0	A041419
Dissolved Chloride (Cl-)	mg/L	4.8	1.0	A036854	34	1.0	A041195	34	1.0	A041195
Nitrate (N)	mg/L	0.14	0.10	A035914	0.18	0.10	A035914			

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

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Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C5D1429
Report Date: 2025/10/28

BluMetric Environmental Inc
Client Project #: 250253-04
Site Location: LSP WDS
Your P.O. #: 250253-04
Sampler Initials: NW

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		AWIX53			AWIX53		
Sampling Date		2025/10/15 16:40			2025/10/15 16:40		
COC Number		1062809-01-01			1062809-01-01		
	UNITS	LSP-QAQC-GW1	RDL	QC Batch	LSP-QAQC-GW1 Lab-Dup	RDL	QC Batch
Inorganics							
Total Ammonia-N	mg/L	17	0.050	A037533			
Conductivity	umho/cm	820	2.0	A035992			
Total Dissolved Solids	mg/L	390	10	A037709	375	10	A037709
Dissolved Organic Carbon	mg/L	18	0.4	A036041			
pH	pH	6.99		A035991			
Total Suspended Solids	mg/L	750	10	A037597			
Dissolved Sulphate (SO4)	mg/L	4.6	1.0	A036856			
Alkalinity (Total as CaCO3)	mg/L	320	1.0	A035988			
Dissolved Chloride (Cl-)	mg/L	52	1.0	A036854			
Nitrate (N)	mg/L	ND	0.10	A035914			

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

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Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C5D1429
Report Date: 2025/10/28

BluMetric Environmental Inc
Client Project #: 250253-04
Site Location: LSP WDS
Your P.O. #: 250253-04
Sampler Initials: NW

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Bureau Veritas ID		AWIX44		AWIX45	AWIX46		AWIX47		
Sampling Date		2025/10/15 16:40		2025/10/15 16:10	2025/10/15 16:30		2025/10/15 16:50		
COC Number		1062809-01-01		1062809-01-01	1062809-01-01		1062809-01-01		
	UNITS	LSP1-03	QC Batch	LSP2-03	LSP3-03	QC Batch	LSP4-19	RDL	QC Batch
Metals									
Dissolved Barium (Ba)	ug/L	540	A035987	12	410	A035969	200	2.0	A035987
Dissolved Boron (B)	ug/L	540	A035987	ND	200	A035969	520	10	A035987
Dissolved Calcium (Ca)	ug/L	85000	A035987	3100	58000	A035969	62000	200	A035987
Dissolved Iron (Fe)	ug/L	67000	A035987	170	49000	A035969	ND	100	A035987
Dissolved Magnesium (Mg)	ug/L	8400	A035987	810	7100	A035969	8200	50	A035987
Dissolved Manganese (Mn)	ug/L	2000	A035987	42	2300	A035969	6400	2.0	A035987
Dissolved Sodium (Na)	ug/L	35000	A035987	1700	42000	A035969	31000	100	A035987

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

Bureau Veritas ID		AWIX48			AWIX49		AWIX50		
Sampling Date		2025/10/15 17:00			2025/10/15 15:55		2025/10/15 13:45		
COC Number		1062809-01-01			1062809-01-01		1062809-01-01		
	UNITS	LSP5-19	RDL	QC Batch	LSP-DP1-21-GW	RDL	LSP6-23	RDL	QC Batch
Metals									
Dissolved Barium (Ba)	ug/L	8.5	2.0	A035987	410	2.0	9.9	2.0	A035969
Dissolved Boron (B)	ug/L	ND	10	A035987	360	10	17	10	A035969
Dissolved Calcium (Ca)	ug/L	2400	200	A035987	57000	200	7900	200	A035969
Dissolved Iron (Fe)	ug/L	ND	100	A035987	29000	100	100	100	A035969
Dissolved Magnesium (Mg)	ug/L	410	50	A035987	9000	50	2300	50	A035969
Dissolved Manganese (Mn)	ug/L	2.2	2.0	A035987	11000	10	270	2.0	A035969
Dissolved Sodium (Na)	ug/L	1300	100	A035987	17000	100	2500	100	A035969

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Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C5D1429
Report Date: 2025/10/28

BluMetric Environmental Inc
Client Project #: 250253-04
Site Location: LSP WDS
Your P.O. #: 250253-04
Sampler Initials: NW

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Bureau Veritas ID		AWIX51			AWIX52		AWIX53		
Sampling Date		2025/10/15 13:55			2025/10/15 16:20		2025/10/15 16:40		
COC Number		1062809-01-01			1062809-01-01		1062809-01-01		
	UNITS	LSP7-23	RDL	QC Batch	LSP8-23	QC Batch	LSP-QAQC-GW1	RDL	QC Batch
Metals									
Dissolved Aluminum (Al)	ug/L	26	4.9	A039778					
Dissolved Antimony (Sb)	ug/L	ND	0.50	A039778					
Dissolved Arsenic (As)	ug/L	ND	1.0	A039778					
Dissolved Barium (Ba)	ug/L	14	2.0	A039778	380	A040816	560	2.0	A035969
Dissolved Beryllium (Be)	ug/L	ND	0.40	A039778					
Dissolved Bismuth (Bi)	ug/L	ND	1.0	A039778					
Dissolved Boron (B)	ug/L	ND	10	A039778	230	A040816	540	10	A035969
Dissolved Cadmium (Cd)	ug/L	ND	0.090	A039778					
Dissolved Calcium (Ca)	ug/L	3800	200	A039778	52000	A040816	83000	200	A035969
Dissolved Chromium (Cr)	ug/L	ND	5.0	A039778					
Dissolved Cobalt (Co)	ug/L	ND	0.50	A039778					
Dissolved Copper (Cu)	ug/L	ND	0.90	A039778					
Dissolved Iron (Fe)	ug/L	ND	100	A039778	79000	A040816	67000	100	A035969
Dissolved Lead (Pb)	ug/L	ND	0.50	A039778					
Dissolved Lithium (Li)	ug/L	ND	5.0	A039778					
Dissolved Magnesium (Mg)	ug/L	710	50	A039778	7900	A040816	8100	50	A035969
Dissolved Manganese (Mn)	ug/L	7.5	2.0	A039778	5500	A040816	1900	2.0	A035969
Dissolved Molybdenum (Mo)	ug/L	ND	0.50	A039778					
Dissolved Nickel (Ni)	ug/L	ND	1.0	A039778					
Dissolved Phosphorus (P)	ug/L	ND	100	A039778					
Dissolved Potassium (K)	ug/L	820	200	A039778					
Dissolved Selenium (Se)	ug/L	ND	2.0	A039778					
Dissolved Silicon (Si)	ug/L	5400	50	A039778					
Dissolved Silver (Ag)	ug/L	ND	0.090	A039778					
Dissolved Sodium (Na)	ug/L	4100	100	A039778	30000	A040816	35000	100	A035969
Dissolved Strontium (Sr)	ug/L	26	1.0	A039778					
Dissolved Tellurium (Te)	ug/L	ND	1.0	A039778					
Dissolved Thallium (Tl)	ug/L	ND	0.050	A039778					
Dissolved Tin (Sn)	ug/L	ND	1.0	A039778					

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Bureau Veritas ID		AWIX51			AWIX52		AWIX53		
Sampling Date		2025/10/15 13:55			2025/10/15 16:20		2025/10/15 16:40		
COC Number		1062809-01-01			1062809-01-01		1062809-01-01		
	UNITS	**LSP7-23**	**RDL**	**QC Batch**	**LSP8-23**	**QC Batch**	**LSP-QAQC-GW1**	**RDL**	**QC Batch**
Dissolved Titanium (Ti)	ug/L	ND	5.0	A039778					
Dissolved Tungsten (W)	ug/L	ND	1.0	A039778					
Dissolved Uranium (U)	ug/L	ND	0.10	A039778					
Dissolved Vanadium (V)	ug/L	ND	0.50	A039778					
Dissolved Zinc (Zn)	ug/L	ND	5.0	A039778					
Dissolved Zirconium (Zr)	ug/L	ND	1.0	A039778					

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QC Batch = Quality Control Batch
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

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Bureau Veritas Job #: C5D1429
Report Date: 2025/10/28

BluMetric Environmental Inc
Client Project #: 250253-04
Site Location: LSP WDS
Your P.O. #: 250253-04
Sampler Initials: NW

TEST SUMMARY

Bureau Veritas ID: AWIX44 **Collected:** 2025/10/15
Sample ID: LSP1-03 **Shipped:**
Matrix: Water **Received:** 2025/10/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	A035988	N/A	2025/10/25	Surinder Rai
Chloride by Automated Colourimetry	SKAL	A036854	N/A	2025/10/24	Alina Dobreanu
Conductivity	AT	A035992	N/A	2025/10/25	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	A036041	N/A	2025/10/21	Gyulshen Idriz
Dissolved Metals by ICPMS	ICP/MS	A035987	N/A	2025/10/21	Nan Raykha
Total Ammonia-N	SKAL/NH4	A037533	N/A	2025/10/23	Kruti Jitesh Patel
Nitrate & Nitrite as Nitrogen in Water	LACH	A035914	N/A	2025/10/20	Chandra Nandlal
pH	AT	A035991	2025/10/20	2025/10/25	Surinder Rai
Sulphate by Automated Turbidimetry	SKAL	A036856	N/A	2025/10/24	Massarat Jan
Total Dissolved Solids	BAL	A037709	2025/10/22	2025/10/23	Manowalage shanika GUNASEKARA
Total Suspended Solids	BAL	A037597	2025/10/22	2025/10/23	Manowalage shanika GUNASEKARA

Bureau Veritas ID: AWIX44 Dup **Collected:** 2025/10/15
Sample ID: LSP1-03 **Shipped:**
Matrix: Water **Received:** 2025/10/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Chloride by Automated Colourimetry	SKAL	A036854	N/A	2025/10/24	Alina Dobreanu
Sulphate by Automated Turbidimetry	SKAL	A036856	N/A	2025/10/24	Massarat Jan

Bureau Veritas ID: AWIX45 **Collected:** 2025/10/15
Sample ID: LSP2-03 **Shipped:**
Matrix: Water **Received:** 2025/10/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	A035988	N/A	2025/10/25	Surinder Rai
Chloride by Automated Colourimetry	SKAL	A036854	N/A	2025/10/24	Alina Dobreanu
Conductivity	AT	A035992	N/A	2025/10/25	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	A036041	N/A	2025/10/22	Gyulshen Idriz
Dissolved Metals by ICPMS	ICP/MS	A035969	N/A	2025/10/22	Azita Fazaeli
Total Ammonia-N	SKAL/NH4	A037533	N/A	2025/10/23	Kruti Jitesh Patel
Nitrate & Nitrite as Nitrogen in Water	LACH	A035914	N/A	2025/10/20	Chandra Nandlal
pH	AT	A035991	2025/10/20	2025/10/25	Surinder Rai
Sulphate by Automated Turbidimetry	SKAL	A036856	N/A	2025/10/24	Massarat Jan
Total Dissolved Solids	BAL	A037709	2025/10/22	2025/10/23	Manowalage shanika GUNASEKARA
Total Suspended Solids	BAL	A037597	2025/10/22	2025/10/23	Manowalage shanika GUNASEKARA

Bureau Veritas ID: AWIX46 **Collected:** 2025/10/15
Sample ID: LSP3-03 **Shipped:**
Matrix: Water **Received:** 2025/10/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	A036406	N/A	2025/10/25	Surinder Rai

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Chemistry testing is conducted at 6740 Campobello Rd.

TEST SUMMARY

Bureau Veritas ID: AWIX46 **Collected:** 2025/10/15
Sample ID: LSP3-03 **Shipped:**
Matrix: Water **Received:** 2025/10/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Chloride by Automated Colourimetry	SKAL	A036854	N/A	2025/10/24	Alina Dobreanu
Conductivity	AT	A036412	N/A	2025/10/25	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	A036041	N/A	2025/10/21	Gyulshen Idriz
Dissolved Metals by ICPMS	ICP/MS	A035969	N/A	2025/10/22	Azita Fazaeli
Total Ammonia-N	SKAL/NH4	A037533	N/A	2025/10/23	Kruti Jitesh Patel
Nitrate & Nitrite as Nitrogen in Water	LACH	A035914	N/A	2025/10/20	Chandra Nandlal
pH	AT	A036413	2025/10/21	2025/10/25	Surinder Rai
Sulphate by Automated Turbidimetry	SKAL	A036856	N/A	2025/10/24	Massarat Jan
Total Dissolved Solids	BAL	A037709	2025/10/22	2025/10/23	Manowalage shanika GUNASEKARA
Total Suspended Solids	BAL	A037597	2025/10/22	2025/10/23	Manowalage shanika GUNASEKARA

Bureau Veritas ID: AWIX46 Dup **Collected:** 2025/10/15
Sample ID: LSP3-03 **Shipped:**
Matrix: Water **Received:** 2025/10/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dissolved Organic Carbon (DOC)	TOCV/NDIR	A036041	N/A	2025/10/21	Gyulshen Idriz

Bureau Veritas ID: AWIX47 **Collected:** 2025/10/15
Sample ID: LSP4-19 **Shipped:**
Matrix: Water **Received:** 2025/10/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	A036406	N/A	2025/10/25	Surinder Rai
Chloride by Automated Colourimetry	SKAL	A036854	N/A	2025/10/24	Alina Dobreanu
Conductivity	AT	A036412	N/A	2025/10/25	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	A036041	N/A	2025/10/21	Gyulshen Idriz
Dissolved Metals by ICPMS	ICP/MS	A035987	N/A	2025/10/21	Nan Raykha
Total Ammonia-N	SKAL/NH4	A037533	N/A	2025/10/23	Kruti Jitesh Patel
Nitrate & Nitrite as Nitrogen in Water	LACH	A035914	N/A	2025/10/20	Chandra Nandlal
pH	AT	A036413	2025/10/21	2025/10/25	Surinder Rai
Sulphate by Automated Turbidimetry	SKAL	A036856	N/A	2025/10/24	Massarat Jan
Total Dissolved Solids	BAL	A037709	2025/10/22	2025/10/23	Manowalage shanika GUNASEKARA
Total Suspended Solids	BAL	A037597	2025/10/22	2025/10/23	Manowalage shanika GUNASEKARA

Bureau Veritas ID: AWIX48 **Collected:** 2025/10/15
Sample ID: LSP5-19 **Shipped:**
Matrix: Water **Received:** 2025/10/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	A035988	N/A	2025/10/25	Surinder Rai
Chloride by Automated Colourimetry	SKAL	A036854	N/A	2025/10/24	Alina Dobreanu
Conductivity	AT	A035992	N/A	2025/10/25	Surinder Rai

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Chemistry testing is conducted at 6740 Campobello Rd.

TEST SUMMARY

Bureau Veritas ID: AWIX48
Sample ID: LSP5-19
Matrix: Water

Collected: 2025/10/15
Shipped:
Received: 2025/10/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dissolved Organic Carbon (DOC)	TOCV/NDIR	A036041	N/A	2025/10/21	Gyulshen Idriz
Dissolved Metals by ICPMS	ICP/MS	A035987	N/A	2025/10/21	Nan Raykha
Total Ammonia-N	SKAL/NH4	A037533	N/A	2025/10/23	Kruti Jitesh Patel
Nitrate & Nitrite as Nitrogen in Water	LACH	A035914	N/A	2025/10/20	Chandra Nandlal
pH	AT	A035991	2025/10/20	2025/10/25	Surinder Rai
Sulphate by Automated Turbidimetry	SKAL	A036856	N/A	2025/10/24	Massarat Jan
Total Dissolved Solids	BAL	A037709	2025/10/22	2025/10/23	Manowalage shanika GUNASEKARA
Total Suspended Solids	BAL	A037597	2025/10/22	2025/10/23	Manowalage shanika GUNASEKARA

Bureau Veritas ID: AWIX49
Sample ID: LSP-DP1-21-GW
Matrix: Water

Collected: 2025/10/15
Shipped:
Received: 2025/10/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	A035988	N/A	2025/10/25	Surinder Rai
Chloride by Automated Colourimetry	SKAL	A036864	N/A	2025/10/23	Alina Dobreanu
Conductivity	AT	A035992	N/A	2025/10/25	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	A036041	N/A	2025/10/22	Gyulshen Idriz
Dissolved Metals by ICPMS	ICP/MS	A035969	N/A	2025/10/24	Azita Fazaeli
Total Ammonia-N	SKAL/NH4	A037533	N/A	2025/10/23	Kruti Jitesh Patel
Nitrate & Nitrite as Nitrogen in Water	LACH	A035914	N/A	2025/10/20	Chandra Nandlal
pH	AT	A035991	2025/10/20	2025/10/25	Surinder Rai
Sulphate by Automated Turbidimetry	SKAL	A036867	N/A	2025/10/23	Massarat Jan
Total Dissolved Solids	BAL	A037709	2025/10/22	2025/10/23	Manowalage shanika GUNASEKARA
Total Suspended Solids	BAL	A037597	2025/10/22	2025/10/23	Manowalage shanika GUNASEKARA

Bureau Veritas ID: AWIX50
Sample ID: LSP6-23
Matrix: Water

Collected: 2025/10/15
Shipped:
Received: 2025/10/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	A035988	N/A	2025/10/25	Surinder Rai
Chloride by Automated Colourimetry	SKAL	A036854	N/A	2025/10/24	Alina Dobreanu
Conductivity	AT	A035992	N/A	2025/10/25	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	A036041	N/A	2025/10/21	Gyulshen Idriz
Dissolved Metals by ICPMS	ICP/MS	A035969	N/A	2025/10/22	Azita Fazaeli
Total Ammonia-N	SKAL/NH4	A037533	N/A	2025/10/23	Kruti Jitesh Patel
Nitrate & Nitrite as Nitrogen in Water	LACH	A035914	N/A	2025/10/20	Chandra Nandlal
pH	AT	A035991	2025/10/20	2025/10/25	Surinder Rai
Sulphate by Automated Turbidimetry	SKAL	A036856	N/A	2025/10/24	Massarat Jan
Total Dissolved Solids	BAL	A037709	2025/10/22	2025/10/23	Manowalage shanika GUNASEKARA
Total Suspended Solids	BAL	A037597	2025/10/22	2025/10/23	Manowalage shanika GUNASEKARA

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Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C5D1429
Report Date: 2025/10/28

BluMetric Environmental Inc
Client Project #: 250253-04
Site Location: LSP WDS
Your P.O. #: 250253-04
Sampler Initials: NW

TEST SUMMARY

Bureau Veritas ID: AWIX51
Sample ID: LSP7-23
Matrix: Water

Collected: 2025/10/15
Shipped:
Received: 2025/10/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	A035988	N/A	2025/10/25	Surinder Rai
Chloride by Automated Colourimetry	SKAL	A036854	N/A	2025/10/24	Alina Dobreanu
Conductivity	AT	A035992	N/A	2025/10/25	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	A036041	N/A	2025/10/21	Gyulshen Idriz
Lab Filtered Metals by ICPMS	ICP/MS	A039778	2025/10/24	2025/10/27	Azita Fazaeli
Total Ammonia-N	SKAL/NH4	A037533	N/A	2025/10/23	Kruti Jitesh Patel
Nitrate & Nitrite as Nitrogen in Water	LACH	A035914	N/A	2025/10/20	Chandra Nandlal
pH	AT	A035991	2025/10/20	2025/10/25	Surinder Rai
Sulphate by Automated Turbidimetry	SKAL	A036856	N/A	2025/10/24	Massarat Jan
Total Dissolved Solids	BAL	A037709	2025/10/22	2025/10/23	Manowalage shanika GUNASEKARA
Total Suspended Solids	BAL	A037597	2025/10/22	2025/10/23	Manowalage shanika GUNASEKARA

Bureau Veritas ID: AWIX52
Sample ID: LSP8-23
Matrix: Water

Collected: 2025/10/15
Shipped:
Received: 2025/10/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	A041419	N/A	2025/10/28	Surinder Rai
Chloride by Automated Colourimetry	SKAL	A041195	N/A	2025/10/28	Alina Dobreanu
Conductivity	AT	A035992	N/A	2025/10/25	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	A036041	N/A	2025/10/21	Gyulshen Idriz
Dissolved Metals by ICPMS	ICP/MS	A040816	N/A	2025/10/28	Nan Raykha
Total Ammonia-N	SKAL/NH4	A037533	N/A	2025/10/23	Kruti Jitesh Patel
Nitrate & Nitrite as Nitrogen in Water	LACH	A035914	N/A	2025/10/20	Chandra Nandlal
pH	AT	A035991	2025/10/20	2025/10/25	Surinder Rai
Sulphate by Automated Turbidimetry	SKAL	A041197	N/A	2025/10/28	Massarat Jan
Total Dissolved Solids	BAL	A037709	2025/10/22	2025/10/23	Manowalage shanika GUNASEKARA
Total Suspended Solids	BAL	A037597	2025/10/22	2025/10/23	Manowalage shanika GUNASEKARA

Bureau Veritas ID: AWIX52 Dup
Sample ID: LSP8-23
Matrix: Water

Collected: 2025/10/15
Shipped:
Received: 2025/10/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	A041419	N/A	2025/10/28	Surinder Rai
Chloride by Automated Colourimetry	SKAL	A041195	N/A	2025/10/28	Alina Dobreanu
Sulphate by Automated Turbidimetry	SKAL	A041197	N/A	2025/10/28	Massarat Jan

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Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C5D1429
Report Date: 2025/10/28

BluMetric Environmental Inc
Client Project #: 250253-04
Site Location: LSP WDS
Your P.O. #: 250253-04
Sampler Initials: NW

TEST SUMMARY

Bureau Veritas ID: AWIX53
Sample ID: LSP-QAQC-GW1
Matrix: Water

Collected: 2025/10/15
Shipped:
Received: 2025/10/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	A035988	N/A	2025/10/25	Surinder Rai
Chloride by Automated Colourimetry	SKAL	A036854	N/A	2025/10/24	Alina Dobreanu
Conductivity	AT	A035992	N/A	2025/10/25	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	A036041	N/A	2025/10/21	Gyulshen Idriz
Dissolved Metals by ICPMS	ICP/MS	A035969	N/A	2025/10/22	Azita Fazaeli
Total Ammonia-N	SKAL/NH4	A037533	N/A	2025/10/23	Kruti Jitesh Patel
Nitrate & Nitrite as Nitrogen in Water	LACH	A035914	N/A	2025/10/20	Chandra Nandlal
pH	AT	A035991	2025/10/20	2025/10/25	Surinder Rai
Sulphate by Automated Turbidimetry	SKAL	A036856	N/A	2025/10/24	Massarat Jan
Total Dissolved Solids	BAL	A037709	2025/10/22	2025/10/23	Manowalage shanika GUNASEKARA
Total Suspended Solids	BAL	A037597	2025/10/22	2025/10/23	Manowalage shanika GUNASEKARA

Bureau Veritas ID: AWIX53 Dup
Sample ID: LSP-QAQC-GW1
Matrix: Water

Collected: 2025/10/15
Shipped:
Received: 2025/10/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Total Dissolved Solids	BAL	A037709	2025/10/22	2025/10/23	Manowalage shanika GUNASEKARA

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Chemistry testing is conducted at 6740 Campobello Rd.

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	4.3°C

Results relate only to the items tested.

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Bureau Veritas Job #: C5D1429
Report Date: 2025/10/28

QUALITY ASSURANCE REPORT

BluMetric Environmental Inc
Client Project #: 250253-04
Site Location: LSP WDS
Your P.O. #: 250253-04
Sampler Initials: NW

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
A035914	Nitrate (N)	2025/10/20	93	80 - 120	96	80 - 120	ND, RDL=0.10	mg/L	NC	20
A035969	Dissolved Barium (Ba)	2025/10/22	100	80 - 120	99	80 - 120	ND, RDL=2.0	ug/L		
A035969	Dissolved Boron (B)	2025/10/22	98	80 - 120	98	80 - 120	ND, RDL=10	ug/L	2.7	20
A035969	Dissolved Calcium (Ca)	2025/10/22	100	80 - 120	98	80 - 120	ND, RDL=200	ug/L		
A035969	Dissolved Iron (Fe)	2025/10/22	101	80 - 120	99	80 - 120	ND, RDL=100	ug/L	NC	20
A035969	Dissolved Magnesium (Mg)	2025/10/22	98	80 - 120	97	80 - 120	ND, RDL=50	ug/L		
A035969	Dissolved Manganese (Mn)	2025/10/22	NC	80 - 120	99	80 - 120	ND, RDL=2.0	ug/L	0.19	20
A035969	Dissolved Sodium (Na)	2025/10/22	98	80 - 120	96	80 - 120	ND, RDL=100	ug/L		
A035987	Dissolved Barium (Ba)	2025/10/21	98	80 - 120	97	80 - 120	ND, RDL=2.0	ug/L	3.9	20
A035987	Dissolved Boron (B)	2025/10/21	100	80 - 120	98	80 - 120	ND, RDL=10	ug/L	0.24	20
A035987	Dissolved Calcium (Ca)	2025/10/21	NC	80 - 120	98	80 - 120	ND, RDL=200	ug/L		
A035987	Dissolved Iron (Fe)	2025/10/21	101	80 - 120	98	80 - 120	ND, RDL=100	ug/L		
A035987	Dissolved Magnesium (Mg)	2025/10/21	NC	80 - 120	96	80 - 120	ND, RDL=50	ug/L		
A035987	Dissolved Manganese (Mn)	2025/10/21	98	80 - 120	95	80 - 120	ND, RDL=2.0	ug/L		
A035987	Dissolved Sodium (Na)	2025/10/21	NC	80 - 120	98	80 - 120	ND, RDL=100	ug/L	0.32	20
A035988	Alkalinity (Total as CaCO3)	2025/10/25			98	85 - 115	ND, RDL=1.0	mg/L	2.9	20
A035991	pH	2025/10/25			102	98 - 103			1.5	N/A
A035992	Conductivity	2025/10/25			99	85 - 115	ND, RDL=2.0	umho/cm	0.29	10
A036041	Dissolved Organic Carbon	2025/10/21	91	80 - 120	95	80 - 120	ND, RDL=0.4	mg/L	1.4	20
A036406	Alkalinity (Total as CaCO3)	2025/10/24			97	85 - 115	ND, RDL=1.0	mg/L	2.3	20
A036412	Conductivity	2025/10/24			99	85 - 115	ND, RDL=2.0	umho/cm	0.53	10
A036413	pH	2025/10/24			102	98 - 103			0.53	N/A
A036854	Dissolved Chloride (Cl-)	2025/10/24	NC	80 - 120	94	80 - 120	ND, RDL=1.0	mg/L	1.7	20
A036856	Dissolved Sulphate (SO4)	2025/10/24	91	75 - 125	99	80 - 120	ND, RDL=1.0	mg/L	2.9	20
A036864	Dissolved Chloride (Cl-)	2025/10/23	NC	80 - 120	102	80 - 120	ND, RDL=1.0	mg/L	0.30	20
A036867	Dissolved Sulphate (SO4)	2025/10/23	83	75 - 125	97	80 - 120	ND, RDL=1.0	mg/L	0.27	20
A037533	Total Ammonia-N	2025/10/23	102	75 - 125	99	80 - 120	ND, RDL=0.050	mg/L	2.7	20
A037597	Total Suspended Solids	2025/10/23			100	80 - 120	ND, RDL=10	mg/L	NC	20
A037709	Total Dissolved Solids	2025/10/23			100	80 - 120	ND, RDL=10	mg/L	3.9	20
A039778	Dissolved Aluminum (Al)	2025/10/27	104	80 - 120	98	80 - 120	ND, RDL=4.9	ug/L	NC	20

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Chemistry testing is conducted at 6740 Campobello Rd.

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
A039778	Dissolved Antimony (Sb)	2025/10/27	110	80 - 120	105	80 - 120	ND, RDL=0.50	ug/L	NC	20
A039778	Dissolved Arsenic (As)	2025/10/27	101	80 - 120	101	80 - 120	ND, RDL=1.0	ug/L	NC	20
A039778	Dissolved Barium (Ba)	2025/10/27	102	80 - 120	96	80 - 120	ND, RDL=2.0	ug/L	10	20
A039778	Dissolved Beryllium (Be)	2025/10/27	102	80 - 120	99	80 - 120	ND, RDL=0.40	ug/L	NC	20
A039778	Dissolved Bismuth (Bi)	2025/10/27	100	80 - 120	97	80 - 120	ND, RDL=1.0	ug/L	NC	20
A039778	Dissolved Boron (B)	2025/10/27	94	80 - 120	94	80 - 120	ND, RDL=10	ug/L	0.089	20
A039778	Dissolved Cadmium (Cd)	2025/10/27	103	80 - 120	100	80 - 120	ND, RDL=0.090	ug/L	NC	20
A039778	Dissolved Calcium (Ca)	2025/10/27	NC	80 - 120	99	80 - 120	ND, RDL=200	ug/L	0.33	20
A039778	Dissolved Chromium (Cr)	2025/10/27	98	80 - 120	96	80 - 120	ND, RDL=5.0	ug/L	NC	20
A039778	Dissolved Cobalt (Co)	2025/10/27	99	80 - 120	98	80 - 120	ND, RDL=0.50	ug/L	NC	20
A039778	Dissolved Copper (Cu)	2025/10/27	103	80 - 120	100	80 - 120	ND, RDL=0.90	ug/L	0.92	20
A039778	Dissolved Iron (Fe)	2025/10/27	97	80 - 120	98	80 - 120	ND, RDL=100	ug/L	NC	20
A039778	Dissolved Lead (Pb)	2025/10/27	100	80 - 120	96	80 - 120	ND, RDL=0.50	ug/L	NC	20
A039778	Dissolved Lithium (Li)	2025/10/27	106	80 - 120	101	80 - 120	ND, RDL=5.0	ug/L	NC	20
A039778	Dissolved Magnesium (Mg)	2025/10/27	95	80 - 120	95	80 - 120	ND, RDL=50	ug/L	2.1	20
A039778	Dissolved Manganese (Mn)	2025/10/27	100	80 - 120	97	80 - 120	ND, RDL=2.0	ug/L	NC	20
A039778	Dissolved Molybdenum (Mo)	2025/10/27	103	80 - 120	100	80 - 120	ND, RDL=0.50	ug/L	13	20
A039778	Dissolved Nickel (Ni)	2025/10/27	99	80 - 120	98	80 - 120	ND, RDL=1.0	ug/L	10	20
A039778	Dissolved Phosphorus (P)	2025/10/27	105	80 - 120	97	80 - 120	ND, RDL=100	ug/L	NC	20
A039778	Dissolved Potassium (K)	2025/10/27	98	80 - 120	97	80 - 120	ND, RDL=200	ug/L	3.2	20
A039778	Dissolved Selenium (Se)	2025/10/27	105	80 - 120	101	80 - 120	ND, RDL=2.0	ug/L	NC	20
A039778	Dissolved Silicon (Si)	2025/10/27	105	80 - 120	99	80 - 120	ND, RDL=50	ug/L	0.64	20
A039778	Dissolved Silver (Ag)	2025/10/27	101	80 - 120	98	80 - 120	ND, RDL=0.090	ug/L	NC	20
A039778	Dissolved Sodium (Na)	2025/10/27	97	80 - 120	98	80 - 120	ND, RDL=100	ug/L	0.68	20
A039778	Dissolved Strontium (Sr)	2025/10/27	99	80 - 120	99	80 - 120	ND, RDL=1.0	ug/L	1.5	20
A039778	Dissolved Tellurium (Te)	2025/10/27	102	80 - 120	98	80 - 120	ND, RDL=1.0	ug/L	NC	20
A039778	Dissolved Thallium (Tl)	2025/10/27	100	80 - 120	97	80 - 120	ND, RDL=0.050	ug/L	NC	20
A039778	Dissolved Tin (Sn)	2025/10/27	104	80 - 120	101	80 - 120	ND, RDL=1.0	ug/L	NC	20
A039778	Dissolved Titanium (Ti)	2025/10/27	103	80 - 120	98	80 - 120	ND, RDL=5.0	ug/L	NC	20
A039778	Dissolved Tungsten (W)	2025/10/27	102	80 - 120	98	80 - 120	ND, RDL=1.0	ug/L	NC	20

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
A039778	Dissolved Uranium (U)	2025/10/27	99	80 - 120	96	80 - 120	ND, RDL=0.10	ug/L	NC	20
A039778	Dissolved Vanadium (V)	2025/10/27	99	80 - 120	97	80 - 120	ND, RDL=0.50	ug/L	NC	20
A039778	Dissolved Zinc (Zn)	2025/10/27	100	80 - 120	99	80 - 120	ND, RDL=5.0	ug/L	NC	20
A039778	Dissolved Zirconium (Zr)	2025/10/27	109	80 - 120	105	80 - 120	ND, RDL=1.0	ug/L	NC	20
A040816	Dissolved Barium (Ba)	2025/10/28	102	80 - 120	99	80 - 120	ND, RDL=2.0	ug/L	1.7	20
A040816	Dissolved Boron (B)	2025/10/28	102	80 - 120	95	80 - 120	ND, RDL=10	ug/L	1.8	20
A040816	Dissolved Calcium (Ca)	2025/10/28	102	80 - 120	99	80 - 120	ND, RDL=200	ug/L	2.1	20
A040816	Dissolved Iron (Fe)	2025/10/28	98	80 - 120	96	80 - 120	ND, RDL=100	ug/L	NC	20
A040816	Dissolved Magnesium (Mg)	2025/10/28	99	80 - 120	96	80 - 120	ND, RDL=50	ug/L	0.23	20
A040816	Dissolved Manganese (Mn)	2025/10/28	100	80 - 120	97	80 - 120	ND, RDL=2.0	ug/L	NC	20
A040816	Dissolved Sodium (Na)	2025/10/28	99	80 - 120	95	80 - 120	ND, RDL=100	ug/L	0.71	20
A041195	Dissolved Chloride (Cl-)	2025/10/28	83	80 - 120	95	80 - 120	ND, RDL=1.0	mg/L	NC	20
A041197	Dissolved Sulphate (SO4)	2025/10/28	88	75 - 125	93	80 - 120	ND, RDL=1.0	mg/L	3.7	20
A041419	Alkalinity (Total as CaCO3)	2025/10/28			97	85 - 115	ND, RDL=1.0	mg/L	16	20

N/A = Not Applicable

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

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

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

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

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

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

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C5D1429
Report Date: 2025/10/28

BluMetric Environmental Inc
Client Project #: 250253-04
Site Location: LSP WDS
Your P.O. #: 250253-04
Sampler Initials: NW

VALIDATION SIGNATURE PAGE

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

Louise Harding, Scientific Specialist

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

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

C5D1429
2025/10/17 11:24

Bureau Veritas
6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel (905) 817-5700 Toll-free 800-563-6266 Fax (905) 817-5777 www.bvna.com

NONT-2025-10-3974

Bottle Order #: 1062809

Invoice To:		Report To:		PROJECT INFORMATION:	
Company:	#1192 BluMetric Environmental Inc	Company:	#5638 BluMetric Environmental Inc	Quotation #:	C45787
Attention:	Accounts Payable	Attention:	MHH Distribution	P.O. #:	250253-04
Address:	1682 Woodward Drive Ottawa ON K2C 3R8	Address:	The Tower - The Woolen Mill 4 Cataraqui St Kingston ON K7K 1Z7	Project:	250253-04
Tel:	(613) 839-3053 Fax: (613) 839-5376	Tel:	(613) 531-2725 Fax:	Project Name:	LSP WDS
Email:	ap@blumetric.ca	Email:	cbandler@blumetric.ca, cmiller@blumetric.ca, edms@bl	Site #:	
				Sampled By:	NW + BM

COC #: C#1062809-01-01 | Project Manager: Deepthi Shaji

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BUREAU VERITAS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011)	Other Regulations	Special Instructions
☐ Table 1 ☐ Res/Park ☐ Medium/Fine ☐ Table 2 ☐ Ind/Comm ☐ Coarse ☐ Table 3 ☐ Agri/Other ☐ For RSC ☐ Table ___	☐ CCME ☐ Sanitary Sewer Bylaw ☐ Reg 558 ☐ Storm Sewer Bylaw ☐ MISA Municipality ____ ☐ PWQO ☐ Reg 406 Table ____ ☐ Other ____	

Include Criteria on Certificate of Analysis (Y/N)? ____

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

Turnaround Time (TAT) Required:
Please provide advance notice for rush projects

Regular (Standard) TAT: ☒
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: ____ Time Required: ____ ☐
Rush Confirmation Number: ____ *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI (DOC)	Groundwater - ODWS								# of Bottles	Comments
1		LSP1-03	25/10/15	16:40	GW	✓	✓								5	
2		LSP2-03	25/10/15	16:10	GW	✓	✓								5	
3		LSP3-03	25/10/15	16:30	GW	✓	✓								5	
4		LSP4-19	25/10/15	16:50	GW	✓	✓								5	
5		LSP5-19	25/10/15	17:00	GW	✓	✓								5	
6		LSP-DP1-21-GW	25/10/15	15:55	GW	✓	✓								5	
7		LSP6-23	25/10/15	13:45	GW	✓	✓								5	
8		LSP7-23	25/10/15	13:55	GW	✓	✓								5	
9		LSP8-23	25/10/15	16:20	GW	✓	✓								5	
10		LSP-QAQC-GW1	25/10/15	16:40	GW	✓	✓								5	

* Relinquished By (Print):	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted	Laboratory Use Only			
Jarad McCall	2025/10/16	16:30		25/10/17	11:24		Time Sensitive	Temperature (°C) on Recei 3,5 7 5	Custody Seal Present / Intact	Yes ✓ / ✓ — No

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/COC-TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/CHAIN-CUSTODY-FORMS-COCS.

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

White: Bureau Veritas Yellow: Client

Bureau Veritas Canada (2019) Inc.

Your P.O. #: 250253-04
Your Project #: 250253-04
Site Location: LAKE ST. PETER
Your C.O.C. #: 1041553-01-01

Attention: S'rana Scholes

BluMetric Environmental Inc
The Tower - The Woolen Mill
4 Cataraqui St
Kingston, ON
CANADA K7K 1Z7

Report Date: 2025/05/15
Report #: R8539261
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C552239
Received: 2025/05/08, 10:15

Sample Matrix: Water
Samples Received: 10

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Dissolved Aluminum (0.2 u, clay free)	1	N/A	2025/05/12	CAM SOP-00447	EPA 6020B m
Alkalinity	7	N/A	2025/05/10	CAM SOP-00448	SM 24 2320 B m
Alkalinity	3	N/A	2025/05/11	CAM SOP-00448	SM 24 2320 B m
Biochemical Oxygen Demand (BOD)	1	2025/05/10	2025/05/15	CAM SOP-00427	SM 24 5210B m
Chloride by Automated Colourimetry	10	N/A	2025/05/12	CAM SOP-00463	SM 24 4500-Cl E m
Chemical Oxygen Demand	1	N/A	2025/05/12	CAM SOP-00416	SM 24 5220 D m
Colour	1	N/A	2025/05/13	CAM SOP-00412	SM 24 2120C m
Conductivity	7	N/A	2025/05/10	CAM SOP-00414	SM 24 2510 m
Conductivity	3	N/A	2025/05/11	CAM SOP-00414	SM 24 2510 m
Dissolved Organic Carbon (DOC) (1)	10	N/A	2025/05/13	CAM SOP-00446	SM 24 5310 B m
Hardness (calculated as CaCO3)	1	N/A	2025/05/14	CAM SOP 00102/00408/00447	SM 2340 B
Dissolved Mercury in Water by CVAA	1	2025/05/09	2025/05/09	CAM SOP-00453	EPA 7470A m
Dissolved Metals by ICPMS	10	N/A	2025/05/13	CAM SOP-00447	EPA 6020B m
Total Metals Analysis by ICPMS	1	2025/05/14	2025/05/14	CAM SOP-00447	EPA 6020B m
Total Ammonia-N	10	N/A	2025/05/14	CAM SOP-00441	USGS I-2522-90 m
Nitrate & Nitrite as Nitrogen in Water (2)	6	N/A	2025/05/10	CAM SOP-00440	SM 24 4500-NO3I/NO2B
Nitrate & Nitrite as Nitrogen in Water (2)	3	N/A	2025/05/11	CAM SOP-00440	SM 24 4500-NO3I/NO2B
Nitrate & Nitrite as Nitrogen in Water (2)	1	N/A	2025/05/09	CAM SOP-00440	SM 24 4500-NO3I/NO2B
pH (3)	7	2025/05/09	2025/05/10	CAM SOP-00413	SM 24th - 4500H+ B
pH (3)	3	2025/05/09	2025/05/11	CAM SOP-00413	SM 24th - 4500H+ B
Phenols (4AAP)	1	N/A	2025/05/13	CAM SOP-00444	OMOE E3179 m
Field Measured pH (4)	1	N/A	2025/05/13		Field pH Meter
Sulphate by Automated Turbidimetry	10	N/A	2025/05/12	CAM SOP-00464	SM 24 4500-SO42- E m
Total Dissolved Solids	10	2025/05/13	2025/05/14	CAM SOP-00428	SM 24 2540C m
Field Temperature (4)	1	N/A	2025/05/13		Field Thermometer
Total Kjeldahl Nitrogen in Water	1	2025/05/09	2025/05/13	CAM SOP-00938	SM 4500-N B m
Total Phosphorus (Colourimetric)	1	2025/05/09	2025/05/13	CAM SOP-00407	SM 24 4500-P I
Total Suspended Solids	10	2025/05/13	2025/05/14	CAM SOP-00428	SM 24 2540D m
Turbidity	1	N/A	2025/05/08	CAM SOP-00417	SM 24 2130 B

Your P.O. #: 250253-04
Your Project #: 250253-04
Site Location: LAKE ST. PETER
Your C.O.C. #: 1041553-01-01

Attention: S'rana Scholes

BluMetric Environmental Inc
The Tower - The Woolen Mill
4 Cataraqui St
Kingston, ON
CANADA K7K 1Z7

Report Date: 2025/05/15
Report #: R8539261
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C552239
Received: 2025/05/08, 10:15

Sample Matrix: Water
Samples Received: 10

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Un-ionized Ammonia (5)	1	2025/05/08	2025/05/14	Auto Calc.	PWQO

Remarks:

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

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

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

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) Dissolved Organic Carbon (DOC) present in the sample should be considered as non-purgeable DOC.
(2) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.
(3) "The CCME method and Analytical Protocol (O. Reg 153/04, O. Reg. 406/19) requires pH to be analyzed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the CCME and Analytical Protocol (O. Reg 153/04, O. Reg. 406/19) holding time. Bureau Veritas endeavors to analyze samples as soon as possible after receipt."

(4) This is a field test, therefore, the results relate to items that were not analysed at Bureau Veritas.
(5) Un-ionized ammonia is calculated using the total ammonia result and field data provided by the client for pH and temperature.

Your P.O. #: 250253-04
Your Project #: 250253-04
Site Location: LAKE ST. PETER
Your C.O.C. #: 1041553-01-01

Attention: S'rana Scholes

BluMetric Environmental Inc
The Tower - The Woolen Mill
4 Cataraqui St
Kingston, ON
CANADA K7K 1Z7

Report Date: 2025/05/15
Report #: R8539261
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C552239
Received: 2025/05/08, 10:15

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:
Deepthi Shaji, Project Manager
Email: Deepthi.Shaji@bureauveritas.com
Phone# (905)817-5700 Ext:7065843

==========

This report has been generated and distributed using a secure automated process.
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Bureau Veritas Job #: C552239
Report Date: 2025/05/15

BluMetric Environmental Inc
Client Project #: 250253-04
Site Location: LAKE ST. PETER
Your P.O. #: 250253-04
Sampler Initials: BH

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		AQRL71			AQRL71			AQRL72		
Sampling Date		2025/05/06 14:25			2025/05/06 14:25			2025/05/06 14:55		
COC Number		1041553-01-01			1041553-01-01			1041553-01-01		
	UNITS	LSP1-03	RDL	QC Batch	LSP1-03 Lab-Dup	RDL	QC Batch	LSP2-03	RDL	QC Batch
Inorganics										
Total Ammonia-N	mg/L	13	0.050	9927883				ND	0.050	9927883
Conductivity	umho/cm	990	2.0	9925788				39	2.0	9925788
Total Dissolved Solids	mg/L	495	10	9927691				35	10	9927691
Dissolved Organic Carbon	mg/L	20	0.4	9927822	20	0.4	9927822	2.7	0.4	9927822
pH	pH	6.89		9925787				6.66		9925787
Total Suspended Solids	mg/L	660	50	9927481				340	10	9927481
Dissolved Sulphate (SO4)	mg/L	4.6	1.0	9926027				3.1	1.0	9926027
Alkalinity (Total as CaCO3)	mg/L	360	1.0	9925779				15	1.0	9925779
Dissolved Chloride (Cl-)	mg/L	78	1.0	9926024				ND	1.0	9926024
Nitrate (N)	mg/L	ND	0.10	9925776				ND	0.10	9925776

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C552239
Report Date: 2025/05/15

BluMetric Environmental Inc
Client Project #: 250253-04
Site Location: LAKE ST. PETER
Your P.O. #: 250253-04
Sampler Initials: BH

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		AQRL73			AQRL74		
Sampling Date		2025/05/06 14:35			2025/05/06 13:55		
COC Number		1041553-01-01			1041553-01-01		
	UNITS	LSP3-03	RDL	QC Batch	LSP4-19	RDL	QC Batch
Inorganics							
Total Ammonia-N	mg/L	0.089	0.050	9927883	0.75	0.050	9927883
Conductivity	umho/cm	410	2.0	9925788	330	2.0	9925788
Total Dissolved Solids	mg/L	235	10	9927691	225	10	9927691
Dissolved Organic Carbon	mg/L	5.2	0.4	9927822	3.6	0.4	9927822
pH	pH	6.73		9925787	6.81		9925787
Total Suspended Solids	mg/L	410	10	9927481	62000	100	9927481
Dissolved Sulphate (SO4)	mg/L	12	1.0	9926027	5.7	1.0	9926027
Alkalinity (Total as CaCO3)	mg/L	120	1.0	9925779	64	1.0	9925779
Dissolved Chloride (Cl-)	mg/L	37	1.0	9926024	24	1.0	9926024
Nitrate (N)	mg/L	ND	0.10	9925776	9.08	0.10	9925881

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C552239
Report Date: 2025/05/15

BluMetric Environmental Inc
Client Project #: 250253-04
Site Location: LAKE ST. PETER
Your P.O. #: 250253-04
Sampler Initials: BH

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		AQRL75			AQRL75			AQRL76		
Sampling Date		2025/05/06 14:15			2025/05/06 14:15			2025/05/06 13:30		
COC Number		1041553-01-01			1041553-01-01			1041553-01-01		
	UNITS	LSP5-19	RDL	QC Batch	LSP5-19 Lab-Dup	RDL	QC Batch	LSP6-23	RDL	QC Batch
Inorganics										
Total Ammonia-N	mg/L	ND	0.050	9927883				ND	0.050	9927883
Conductivity	umho/cm	22	2.0	9926047				87	2.0	9925788
Total Dissolved Solids	mg/L	35	10	9927691	25	10	9927691	130	10	9927691
Dissolved Organic Carbon	mg/L	2.5	0.4	9927822				1.2	0.4	9927822
pH	pH	6.87		9926048				7.08		9925787
Total Suspended Solids	mg/L	1100	50	9927481				2100	50	9927481
Dissolved Sulphate (SO4)	mg/L	2.1	1.0	9926027				5.2	1.0	9926027
Alkalinity (Total as CaCO3)	mg/L	8.6	1.0	9926045				36	1.0	9925779
Dissolved Chloride (Cl-)	mg/L	ND	1.0	9926024				ND	1.0	9926024
Nitrate (N)	mg/L	0.10	0.10	9925776				ND	0.10	9925776

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C552239
Report Date: 2025/05/15

BluMetric Environmental Inc
Client Project #: 250253-04
Site Location: LAKE ST. PETER
Your P.O. #: 250253-04
Sampler Initials: BH

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		AQRL77			AQRL78		
Sampling Date		2025/05/06 13:45			2025/05/06 14:45		
COC Number		1041553-01-01			1041553-01-01		
	UNITS	LSP7-23	RDL	QC Batch	LSP8-23	RDL	QC Batch
Inorganics							
Total Ammonia-N	mg/L	ND	0.050	9927883	11	0.050	9927883
Conductivity	umho/cm	100	2.0	9926047	490	2.0	9925788
Total Dissolved Solids	mg/L	235	10	9927691	270	10	9927691
Dissolved Organic Carbon	mg/L	1.7	0.4	9927822	20	0.4	9927822
pH	pH	6.93		9926048	6.98		9925787
Total Suspended Solids	mg/L	18000	100	9927481	660	50	9927481
Dissolved Sulphate (SO4)	mg/L	4.5	1.0	9926027	11	1.0	9926027
Alkalinity (Total as CaCO3)	mg/L	27	1.0	9926045	200	1.0	9925779
Dissolved Chloride (Cl-)	mg/L	10	1.0	9926024	18	1.0	9926024
Nitrate (N)	mg/L	0.15	0.10	9925881	ND	0.10	9925776

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C552239
Report Date: 2025/05/15

BluMetric Environmental Inc
Client Project #: 250253-04
Site Location: LAKE ST. PETER
Your P.O. #: 250253-04
Sampler Initials: BH

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		AQRL79			AQRL80		
Sampling Date		2025/05/06 14:45			2025/05/06 15:25		
COC Number		1041553-01-01			1041553-01-01		
	UNITS	LSP-QAQC-GW1	RDL	QC Batch	LSP-DP1-21	RDL	QC Batch
Calculated Parameters							
Hardness (CaCO3)	mg/L				100	1.0	9925228
Total Un-ionized Ammonia	mg/L				0.0024	0.00061	9924992
Field Measurements							
Field Temperature	Celsius				6.4	N/A	ONSITE
Field Measured pH	pH				6.47		ONSITE
Inorganics							
Total Ammonia-N	mg/L	12	0.050	9927883	4.8	0.050	9927883
Total BOD	mg/L				ND	2	9926298
Total Chemical Oxygen Demand (COD)	mg/L				23	4.0	9926207
Colour	TCU				20	2	9926411
Conductivity	umho/cm	490	2.0	9926047	350	2.0	9925798
Total Dissolved Solids	mg/L	250	10	9927691	210	10	9927691
Total Kjeldahl Nitrogen (TKN)	mg/L				5.1	0.50	9926215
Dissolved Organic Carbon	mg/L	20	0.4	9927822	15	0.4	9927822
pH	pH	7.13		9926048	7.12		9925797
Phenols-4AAP	mg/L				ND	0.0010	9927814
Total Phosphorus	mg/L				0.050	0.020	9926218
Total Suspended Solids	mg/L	670	33	9927481	56	10	9927481
Dissolved Sulphate (SO4)	mg/L	11	1.0	9926027	18	1.0	9925921
Turbidity	NTU				50	0.1	9925369
Alkalinity (Total as CaCO3)	mg/L	200	1.0	9926045	140	1.0	9925795
Dissolved Chloride (Cl-)	mg/L	16	1.0	9926024	6.5	1.0	9925917
Nitrite (N)	mg/L				ND	0.010	9925697
Nitrate (N)	mg/L	ND	0.10	9925881	ND	0.10	9925697
Nitrate + Nitrite (N)	mg/L				ND	0.10	9925697

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C552239
Report Date: 2025/05/15

BluMetric Environmental Inc
Client Project #: 250253-04
Site Location: LAKE ST. PETER
Your P.O. #: 250253-04
Sampler Initials: BH

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		AQRL80		
Sampling Date		2025/05/06 15:25		
COC Number		1041553-01-01		
	UNITS	**LSP-DP1-21 Lab-Dup**	**RDL**	**QC Batch**
Inorganics				
Total Kjeldahl Nitrogen (TKN)	mg/L	5.0	0.50	9926215

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

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Bureau Veritas Job #: C552239
Report Date: 2025/05/15

BluMetric Environmental Inc
Client Project #: 250253-04
Site Location: LAKE ST. PETER
Your P.O. #: 250253-04
Sampler Initials: BH

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Bureau Veritas ID		AQRL71	AQRL72	AQRL73	AQRL74	AQRL75		
Sampling Date		2025/05/06 14:25	2025/05/06 14:55	2025/05/06 14:35	2025/05/06 13:55	2025/05/06 14:15		
COC Number		1041553-01-01	1041553-01-01	1041553-01-01	1041553-01-01	1041553-01-01		
	UNITS	LSP1-03	LSP2-03	LSP3-03	LSP4-19	LSP5-19	RDL	QC Batch
Metals								
Dissolved Barium (Ba)	ug/L	520	8.1	180	130	6.9	2.0	9925581
Dissolved Boron (B)	ug/L	620	ND	88	210	ND	10	9925581
Dissolved Calcium (Ca)	ug/L	96000	3500	37000	32000	1900	200	9925581
Dissolved Iron (Fe)	ug/L	55000	ND	780	ND	ND	100	9925581
Dissolved Magnesium (Mg)	ug/L	11000	900	3100	4500	320	50	9925581
Dissolved Manganese (Mn)	ug/L	3000	49	670	1700	2.2	2.0	9925581
Dissolved Sodium (Na)	ug/L	52000	1500	30000	16000	990	100	9925581

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

Bureau Veritas ID		AQRL76	AQRL77	AQRL78	AQRL79		
Sampling Date		2025/05/06 13:30	2025/05/06 13:45	2025/05/06 14:45	2025/05/06 14:45		
COC Number		1041553-01-01	1041553-01-01	1041553-01-01	1041553-01-01		
	UNITS	LSP6-23	LSP7-23	LSP8-23	LSP-QAQC-GW1	RDL	QC Batch
Metals							
Dissolved Barium (Ba)	ug/L	10	30	320	320	2.0	9925581
Dissolved Boron (B)	ug/L	15	12	240	250	10	9925581
Dissolved Calcium (Ca)	ug/L	8300	10000	39000	38000	200	9925581
Dissolved Iron (Fe)	ug/L	110	ND	44000	44000	100	9925581
Dissolved Magnesium (Mg)	ug/L	2500	2300	6000	6100	50	9925581
Dissolved Manganese (Mn)	ug/L	380	37	3900	3800	2.0	9925581
Dissolved Sodium (Na)	ug/L	2600	4400	23000	24000	100	9925581

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C552239
Report Date: 2025/05/15

BluMetric Environmental Inc
Client Project #: 250253-04
Site Location: LAKE ST. PETER
Your P.O. #: 250253-04
Sampler Initials: BH

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Bureau Veritas ID		AQRL80		
Sampling Date		2025/05/06 15:25		
COC Number		1041553-01-01		
	UNITS	LSP-DP1-21	RDL	QC Batch
Metals				
Dissolved (0.2u) Aluminum (Al)	ug/L	ND	5	9926235
Dissolved Mercury (Hg)	ug/L	ND	0.10	9925740
Total Arsenic (As)	ug/L	2.9	1.0	9928474
Dissolved Barium (Ba)	ug/L	240	2.0	9925581
Total Barium (Ba)	ug/L	230	2.0	9928474
Total Beryllium (Be)	ug/L	ND	0.40	9928474
Dissolved Boron (B)	ug/L	220	10	9925581
Total Boron (B)	ug/L	210	10	9928474
Total Cadmium (Cd)	ug/L	ND	0.090	9928474
Dissolved Calcium (Ca)	ug/L	33000	200	9925581
Total Calcium (Ca)	ug/L	33000	200	9928474
Total Chromium (Cr)	ug/L	9.6	5.0	9928474
Total Cobalt (Co)	ug/L	6.6	0.50	9928474
Total Copper (Cu)	ug/L	4.9	0.90	9928474
Dissolved Iron (Fe)	ug/L	15000	100	9925581
Total Iron (Fe)	ug/L	19000	100	9928474
Total Lead (Pb)	ug/L	ND	0.50	9928474
Dissolved Magnesium (Mg)	ug/L	5200	50	9925581
Total Magnesium (Mg)	ug/L	5000	50	9928474
Dissolved Manganese (Mn)	ug/L	7000	2.0	9925581
Total Manganese (Mn)	ug/L	6800	2.0	9928474
Total Molybdenum (Mo)	ug/L	0.83	0.50	9928474
Total Nickel (Ni)	ug/L	8.2	1.0	9928474
Total Potassium (K)	ug/L	12000	200	9928474
Total Selenium (Se)	ug/L	ND	2.0	9928474
Total Silicon (Si)	ug/L	5900	50	9928474
Total Silver (Ag)	ug/L	ND	0.090	9928474
Dissolved Sodium (Na)	ug/L	9700	100	9925581

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

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BluMetric Environmental Inc
Client Project #: 250253-04
Site Location: LAKE ST. PETER
Your P.O. #: 250253-04
Sampler Initials: BH

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Bureau Veritas ID		AQRL80		
Sampling Date		2025/05/06 15:25		
COC Number		1041553-01-01		
	UNITS	**LSP-DP1-21**	**RDL**	**QC Batch**
Total Sodium (Na)	ug/L	9800	100	9928474
Total Strontium (Sr)	ug/L	180	1.0	9928474
Total Thallium (Tl)	ug/L	ND	0.050	9928474
Total Titanium (Ti)	ug/L	ND	5.0	9928474
Total Vanadium (V)	ug/L	2.5	0.50	9928474
Total Zinc (Zn)	ug/L	53	5.0	9928474

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

TEST SUMMARY

Bureau Veritas ID: AQRL71 **Collected:** 2025/05/06
Sample ID: LSP1-03 **Shipped:**
Matrix: Water **Received:** 2025/05/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9925779	N/A	2025/05/10	Nachiketa Gohil
Chloride by Automated Colourimetry	SKAL	9926024	N/A	2025/05/12	Massarat Jan
Conductivity	AT	9925788	N/A	2025/05/10	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	9927822	N/A	2025/05/13	Gyulshen Idriz
Dissolved Metals by ICPMS	ICP/MS	9925581	N/A	2025/05/13	Nan Raykha
Total Ammonia-N	SKAL/NH4	9927883	N/A	2025/05/14	Muskan
Nitrate & Nitrite as Nitrogen in Water	LACH	9925776	N/A	2025/05/10	Helen He
pH	AT	9925787	2025/05/09	2025/05/10	Nachiketa Gohil
Sulphate by Automated Turbidimetry	SKAL	9926027	N/A	2025/05/12	Massarat Jan
Total Dissolved Solids	BAL	9927691	2025/05/13	2025/05/14	Binuja Kodithuwakku Arachchilage
Total Suspended Solids	BAL	9927481	2025/05/13	2025/05/14	Tina Teng

Bureau Veritas ID: AQRL71 Dup **Collected:** 2025/05/06
Sample ID: LSP1-03 **Shipped:**
Matrix: Water **Received:** 2025/05/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dissolved Organic Carbon (DOC)	TOCV/NDIR	9927822	N/A	2025/05/13	Gyulshen Idriz

Bureau Veritas ID: AQRL72 **Collected:** 2025/05/06
Sample ID: LSP2-03 **Shipped:**
Matrix: Water **Received:** 2025/05/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9925779	N/A	2025/05/10	Nachiketa Gohil
Chloride by Automated Colourimetry	SKAL	9926024	N/A	2025/05/12	Massarat Jan
Conductivity	AT	9925788	N/A	2025/05/10	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	9927822	N/A	2025/05/13	Gyulshen Idriz
Dissolved Metals by ICPMS	ICP/MS	9925581	N/A	2025/05/13	Nan Raykha
Total Ammonia-N	SKAL/NH4	9927883	N/A	2025/05/14	Muskan
Nitrate & Nitrite as Nitrogen in Water	LACH	9925776	N/A	2025/05/10	Helen He
pH	AT	9925787	2025/05/09	2025/05/10	Nachiketa Gohil
Sulphate by Automated Turbidimetry	SKAL	9926027	N/A	2025/05/12	Massarat Jan
Total Dissolved Solids	BAL	9927691	2025/05/13	2025/05/14	Binuja Kodithuwakku Arachchilage
Total Suspended Solids	BAL	9927481	2025/05/13	2025/05/14	Tina Teng

Bureau Veritas ID: AQRL73 **Collected:** 2025/05/06
Sample ID: LSP3-03 **Shipped:**
Matrix: Water **Received:** 2025/05/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9925779	N/A	2025/05/10	Nachiketa Gohil
Chloride by Automated Colourimetry	SKAL	9926024	N/A	2025/05/12	Massarat Jan

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C552239
Report Date: 2025/05/15

BluMetric Environmental Inc
Client Project #: 250253-04
Site Location: LAKE ST. PETER
Your P.O. #: 250253-04
Sampler Initials: BH

TEST SUMMARY

Bureau Veritas ID: AQRL73
Sample ID: LSP3-03
Matrix: Water

Collected: 2025/05/06
Shipped:
Received: 2025/05/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Conductivity	AT	9925788	N/A	2025/05/10	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	9927822	N/A	2025/05/13	Gyulshen Idriz
Dissolved Metals by ICPMS	ICP/MS	9925581	N/A	2025/05/13	Nan Raykha
Total Ammonia-N	SKAL/NH4	9927883	N/A	2025/05/14	Muskan
Nitrate & Nitrite as Nitrogen in Water	LACH	9925776	N/A	2025/05/10	Helen He
pH	AT	9925787	2025/05/09	2025/05/10	Nachiketa Gohil
Sulphate by Automated Turbidimetry	SKAL	9926027	N/A	2025/05/12	Massarat Jan
Total Dissolved Solids	BAL	9927691	2025/05/13	2025/05/14	Binuja Kodithuwakku Arachchilage
Total Suspended Solids	BAL	9927481	2025/05/13	2025/05/14	Tina Teng

Bureau Veritas ID: AQRL74
Sample ID: LSP4-19
Matrix: Water

Collected: 2025/05/06
Shipped:
Received: 2025/05/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9925779	N/A	2025/05/10	Nachiketa Gohil
Chloride by Automated Colourimetry	SKAL	9926024	N/A	2025/05/12	Massarat Jan
Conductivity	AT	9925788	N/A	2025/05/10	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	9927822	N/A	2025/05/13	Gyulshen Idriz
Dissolved Metals by ICPMS	ICP/MS	9925581	N/A	2025/05/13	Nan Raykha
Total Ammonia-N	SKAL/NH4	9927883	N/A	2025/05/14	Muskan
Nitrate & Nitrite as Nitrogen in Water	LACH	9925881	N/A	2025/05/11	Helen He
pH	AT	9925787	2025/05/09	2025/05/10	Nachiketa Gohil
Sulphate by Automated Turbidimetry	SKAL	9926027	N/A	2025/05/12	Massarat Jan
Total Dissolved Solids	BAL	9927691	2025/05/13	2025/05/14	Binuja Kodithuwakku Arachchilage
Total Suspended Solids	BAL	9927481	2025/05/13	2025/05/14	Tina Teng

Bureau Veritas ID: AQRL75
Sample ID: LSP5-19
Matrix: Water

Collected: 2025/05/06
Shipped:
Received: 2025/05/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9926045	N/A	2025/05/11	Nachiketa Gohil
Chloride by Automated Colourimetry	SKAL	9926024	N/A	2025/05/12	Massarat Jan
Conductivity	AT	9926047	N/A	2025/05/11	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	9927822	N/A	2025/05/13	Gyulshen Idriz
Dissolved Metals by ICPMS	ICP/MS	9925581	N/A	2025/05/13	Nan Raykha
Total Ammonia-N	SKAL/NH4	9927883	N/A	2025/05/14	Muskan
Nitrate & Nitrite as Nitrogen in Water	LACH	9925776	N/A	2025/05/10	Helen He
pH	AT	9926048	2025/05/09	2025/05/11	Nachiketa Gohil
Sulphate by Automated Turbidimetry	SKAL	9926027	N/A	2025/05/12	Massarat Jan
Total Dissolved Solids	BAL	9927691	2025/05/13	2025/05/14	Binuja Kodithuwakku Arachchilage
Total Suspended Solids	BAL	9927481	2025/05/13	2025/05/14	Tina Teng

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

TEST SUMMARY

Bureau Veritas ID: AQRL75 Dup
Sample ID: LSP5-19
Matrix: Water
Collected: 2025/05/06
Shipped:
Received: 2025/05/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Total Dissolved Solids	BAL	9927691	2025/05/13	2025/05/14	Binuja Kodithuwakku Arachchilage

Bureau Veritas ID: AQRL76
Sample ID: LSP6-23
Matrix: Water
Collected: 2025/05/06
Shipped:
Received: 2025/05/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9925779	N/A	2025/05/10	Nachiketa Gohil
Chloride by Automated Colourimetry	SKAL	9926024	N/A	2025/05/12	Massarat Jan
Conductivity	AT	9925788	N/A	2025/05/10	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	9927822	N/A	2025/05/13	Gyulshen Idriz
Dissolved Metals by ICPMS	ICP/MS	9925581	N/A	2025/05/13	Nan Raykha
Total Ammonia-N	SKAL/NH4	9927883	N/A	2025/05/14	Muskan
Nitrate & Nitrite as Nitrogen in Water	LACH	9925776	N/A	2025/05/10	Helen He
pH	AT	9925787	2025/05/09	2025/05/10	Nachiketa Gohil
Sulphate by Automated Turbidimetry	SKAL	9926027	N/A	2025/05/12	Massarat Jan
Total Dissolved Solids	BAL	9927691	2025/05/13	2025/05/14	Binuja Kodithuwakku Arachchilage
Total Suspended Solids	BAL	9927481	2025/05/13	2025/05/14	Tina Teng

Bureau Veritas ID: AQRL77
Sample ID: LSP7-23
Matrix: Water
Collected: 2025/05/06
Shipped:
Received: 2025/05/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9926045	N/A	2025/05/11	Nachiketa Gohil
Chloride by Automated Colourimetry	SKAL	9926024	N/A	2025/05/12	Massarat Jan
Conductivity	AT	9926047	N/A	2025/05/11	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	9927822	N/A	2025/05/13	Gyulshen Idriz
Dissolved Metals by ICPMS	ICP/MS	9925581	N/A	2025/05/13	Nan Raykha
Total Ammonia-N	SKAL/NH4	9927883	N/A	2025/05/14	Muskan
Nitrate & Nitrite as Nitrogen in Water	LACH	9925881	N/A	2025/05/11	Helen He
pH	AT	9926048	2025/05/09	2025/05/11	Nachiketa Gohil
Sulphate by Automated Turbidimetry	SKAL	9926027	N/A	2025/05/12	Massarat Jan
Total Dissolved Solids	BAL	9927691	2025/05/13	2025/05/14	Binuja Kodithuwakku Arachchilage
Total Suspended Solids	BAL	9927481	2025/05/13	2025/05/14	Tina Teng

Bureau Veritas ID: AQRL78
Sample ID: LSP8-23
Matrix: Water
Collected: 2025/05/06
Shipped:
Received: 2025/05/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9925779	N/A	2025/05/10	Nachiketa Gohil
Chloride by Automated Colourimetry	SKAL	9926024	N/A	2025/05/12	Massarat Jan

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

TEST SUMMARY

Bureau Veritas ID: AQRL78
Sample ID: LSP8-23
Matrix: Water

Collected: 2025/05/06
Shipped:
Received: 2025/05/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Conductivity	AT	9925788	N/A	2025/05/10	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	9927822	N/A	2025/05/13	Gyulshen Idriz
Dissolved Metals by ICPMS	ICP/MS	9925581	N/A	2025/05/13	Nan Raykha
Total Ammonia-N	SKAL/NH4	9927883	N/A	2025/05/14	Muskan
Nitrate & Nitrite as Nitrogen in Water	LACH	9925776	N/A	2025/05/10	Helen He
pH	AT	9925787	2025/05/09	2025/05/10	Nachiketa Gohil
Sulphate by Automated Turbidimetry	SKAL	9926027	N/A	2025/05/12	Massarat Jan
Total Dissolved Solids	BAL	9927691	2025/05/13	2025/05/14	Binuja Kodithuwakku Arachchilage
Total Suspended Solids	BAL	9927481	2025/05/13	2025/05/14	Tina Teng

Bureau Veritas ID: AQRL79
Sample ID: LSP-QAQC-GW1
Matrix: Water

Collected: 2025/05/06
Shipped:
Received: 2025/05/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9926045	N/A	2025/05/11	Nachiketa Gohil
Chloride by Automated Colourimetry	SKAL	9926024	N/A	2025/05/12	Massarat Jan
Conductivity	AT	9926047	N/A	2025/05/11	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	9927822	N/A	2025/05/13	Gyulshen Idriz
Dissolved Metals by ICPMS	ICP/MS	9925581	N/A	2025/05/13	Nan Raykha
Total Ammonia-N	SKAL/NH4	9927883	N/A	2025/05/14	Muskan
Nitrate & Nitrite as Nitrogen in Water	LACH	9925881	N/A	2025/05/11	Helen He
pH	AT	9926048	2025/05/09	2025/05/11	Nachiketa Gohil
Sulphate by Automated Turbidimetry	SKAL	9926027	N/A	2025/05/12	Massarat Jan
Total Dissolved Solids	BAL	9927691	2025/05/13	2025/05/14	Binuja Kodithuwakku Arachchilage
Total Suspended Solids	BAL	9927481	2025/05/13	2025/05/14	Tina Teng

Bureau Veritas ID: AQRL80
Sample ID: LSP-DP1-21
Matrix: Water

Collected: 2025/05/06
Shipped:
Received: 2025/05/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dissolved Aluminum (0.2 u, clay free)	ICP/MS	9926235	N/A	2025/05/12	Thuy Linh Nguyen
Alkalinity	AT	9925795	N/A	2025/05/10	Nachiketa Gohil
Biochemical Oxygen Demand (BOD)	DO	9926298	2025/05/10	2025/05/15	Prakash Piya
Chloride by Automated Colourimetry	SKAL	9925917	N/A	2025/05/12	Alina Dobreanu
Chemical Oxygen Demand	SPEC	9926207	N/A	2025/05/12	Kruti Jitesh Patel
Colour	SPEC	9926411	N/A	2025/05/13	Gyulshen Idriz
Conductivity	AT	9925798	N/A	2025/05/10	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	9927822	N/A	2025/05/13	Gyulshen Idriz
Hardness (calculated as CaCO3)		9925228	N/A	2025/05/14	Automated Statchk
Dissolved Mercury in Water by CVAA	CV/AA	9925740	2025/05/09	2025/05/09	Maitri PATIL
Dissolved Metals by ICPMS	ICP/MS	9925581	N/A	2025/05/13	Nan Raykha

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C552239
Report Date: 2025/05/15

BluMetric Environmental Inc
Client Project #: 250253-04
Site Location: LAKE ST. PETER
Your P.O. #: 250253-04
Sampler Initials: BH

TEST SUMMARY

Bureau Veritas ID: AQRL80
Sample ID: LSP-DP1-21
Matrix: Water

Collected: 2025/05/06
Shipped:
Received: 2025/05/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Total Metals Analysis by ICPMS	ICP/MS	9928474	2025/05/14	2025/05/14	Thuy Linh Nguyen
Total Ammonia-N	SKAL/NH4	9927883	N/A	2025/05/14	Muskan
Nitrate & Nitrite as Nitrogen in Water	LACH	9925697	N/A	2025/05/09	Helen He
pH	AT	9925797	2025/05/09	2025/05/10	Nachiketa Gohil
Phenols (4AAP)	TECH/PHEN	9927814	N/A	2025/05/13	Madhav Somani
Field Measured pH	PH	ONSITE	N/A	2025/05/13	Katherine Szozda
Sulphate by Automated Turbidimetry	SKAL	9925921	N/A	2025/05/12	Alina Dobreanu
Total Dissolved Solids	BAL	9927691	2025/05/13	2025/05/14	Binuja Kodithuwakku Arachchilage
Field Measured pH	PH	ONSITE	N/A	2025/05/13	Katherine Szozda
Total Kjeldahl Nitrogen in Water	SKAL	9926215	2025/05/09	2025/05/13	Rajni Tyagi
Total Phosphorus (Colourimetric)	SKAL/P	9926218	2025/05/09	2025/05/13	Vidhi Khatri
Total Suspended Solids	BAL	9927481	2025/05/13	2025/05/14	Tina Teng
Turbidity	AT	9925369	N/A	2025/05/08	Kien Tran
Un-ionized Ammonia	CALC/NH3	9924992	2025/05/14	2025/05/14	Automated Statchk

Bureau Veritas ID: AQRL80 Dup
Sample ID: LSP-DP1-21
Matrix: Water

Collected: 2025/05/06
Shipped:
Received: 2025/05/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Total Kjeldahl Nitrogen in Water	SKAL	9926215	2025/05/09	2025/05/13	Rajni Tyagi

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	5.7°C

Results relate only to the items tested.

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C552239
Report Date: 2025/05/15

QUALITY ASSURANCE REPORT

BluMetric Environmental Inc
Client Project #: 250253-04
Site Location: LAKE ST. PETER
Your P.O. #: 250253-04
Sampler Initials: BH

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
9925369	Turbidity	2025/05/08			99	80 - 120	ND, RDL=0.1	NTU	NC	20		
9925581	Dissolved Barium (Ba)	2025/05/13	111	80 - 120	100	80 - 120	ND, RDL=2.0	ug/L	0.10	20		
9925581	Dissolved Boron (B)	2025/05/13	NC	80 - 120	92	80 - 120	ND, RDL=10	ug/L	1.2	20		
9925581	Dissolved Calcium (Ca)	2025/05/13	NC	80 - 120	98	80 - 120	ND, RDL=200	ug/L	2.1	20		
9925581	Dissolved Iron (Fe)	2025/05/13	111	80 - 120	100	80 - 120	ND, RDL=100	ug/L	0.72	20		
9925581	Dissolved Magnesium (Mg)	2025/05/13	115	80 - 120	101	80 - 120	ND, RDL=50	ug/L	0.092	20		
9925581	Dissolved Manganese (Mn)	2025/05/13	NC	80 - 120	100	80 - 120	ND, RDL=2.0	ug/L	1.2	20		
9925581	Dissolved Sodium (Na)	2025/05/13	NC	80 - 120	99	80 - 120	ND, RDL=100	ug/L	0.20	20		
9925697	Nitrate (N)	2025/05/09	95	80 - 120	96	80 - 120	ND, RDL=0.10	mg/L	NC	20		
9925697	Nitrite (N)	2025/05/09	97	80 - 120	99	80 - 120	ND, RDL=0.010	mg/L				
9925740	Dissolved Mercury (Hg)	2025/05/09	98	75 - 125	100	80 - 120	ND, RDL=0.10	ug/L	NC	20		
9925776	Nitrate (N)	2025/05/10	102	80 - 120	99	80 - 120	ND, RDL=0.10	mg/L	0.87	20		
9925779	Alkalinity (Total as CaCO3)	2025/05/09			95	85 - 115	ND, RDL=1.0	mg/L	4.1	20		
9925787	pH	2025/05/09			102	98 - 103			0.14	N/A		
9925788	Conductivity	2025/05/09			101	85 - 115	ND, RDL=2.0	umho/cm	0.34	10		
9925795	Alkalinity (Total as CaCO3)	2025/05/10			96	85 - 115	ND, RDL=1.0	mg/L	NC	20		
9925797	pH	2025/05/10			102	98 - 103			0.87	N/A		
9925798	Conductivity	2025/05/10			102	85 - 115	ND, RDL=2.0	umho/cm	NC	10		
9925881	Nitrate (N)	2025/05/11	92	80 - 120	93	80 - 120	ND, RDL=0.10	mg/L	NC	20		
9925917	Dissolved Chloride (Cl-)	2025/05/12	85	80 - 120	99	80 - 120	ND, RDL=1.0	mg/L	3.9	20		
9925921	Dissolved Sulphate (SO4)	2025/05/12	81	75 - 125	95	80 - 120	ND, RDL=1.0	mg/L	0.90	20		
9926024	Dissolved Chloride (Cl-)	2025/05/12	NC	80 - 120	100	80 - 120	ND, RDL=1.0	mg/L	0.73	20		
9926027	Dissolved Sulphate (SO4)	2025/05/12	NC	75 - 125	94	80 - 120	ND, RDL=1.0	mg/L	0.41	20		
9926045	Alkalinity (Total as CaCO3)	2025/05/11			98	85 - 115	ND, RDL=1.0	mg/L	0.22	20		
9926047	Conductivity	2025/05/11			98	85 - 115	ND, RDL=2.0	umho/cm	0	10		
9926048	pH	2025/05/11			102	98 - 103			0.59	N/A		
9926207	Total Chemical Oxygen Demand (COD)	2025/05/12	104	80 - 120	97	80 - 120	ND, RDL=4.0	mg/L	10	20		

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
9926215	Total Kjeldahl Nitrogen (TKN)	2025/05/13	NC	80 - 120	100	80 - 120	ND, RDL=0.10	mg/L	2.6	20	102	80 - 120
9926218	Total Phosphorus	2025/05/13	96	80 - 120	100	80 - 120	ND, RDL=0.020	mg/L	19	20	93	80 - 120
9926235	Dissolved (0.2u) Aluminum (Al)	2025/05/12	95	80 - 120	95	80 - 120	5,RDL=5	ug/L				
9926298	Total BOD	2025/05/15					ND,RDL=2	mg/L	0.10	30	92	80 - 120
9926411	Colour	2025/05/13			98	80 - 120	ND,RDL=2	TCU	1.1	25		
9927481	Total Suspended Solids	2025/05/14			98	80 - 120	ND, RDL=10	mg/L	NC	20		
9927691	Total Dissolved Solids	2025/05/14			97	80 - 120	ND, RDL=10	mg/L	NC	20		
9927814	Phenols-4AAP	2025/05/13	116	80 - 120	100	80 - 120	ND, RDL=0.0010	mg/L	NC	20		
9927822	Dissolved Organic Carbon	2025/05/13	93	80 - 120	96	80 - 120	ND, RDL=0.4	mg/L	1.0	20		
9927883	Total Ammonia-N	2025/05/14	94	75 - 125	95	80 - 120	ND, RDL=0.050	mg/L	NC	20		
9928474	Total Arsenic (As)	2025/05/14	99	80 - 120	98	80 - 120	ND, RDL=1.0	ug/L	NC	20		
9928474	Total Barium (Ba)	2025/05/14	97	80 - 120	95	80 - 120	ND, RDL=2.0	ug/L	4.1	20		
9928474	Total Beryllium (Be)	2025/05/14	101	80 - 120	101	80 - 120	ND, RDL=0.40	ug/L	NC	20		
9928474	Total Boron (B)	2025/05/14	92	80 - 120	93	80 - 120	ND, RDL=10	ug/L	0.93	20		
9928474	Total Cadmium (Cd)	2025/05/14	99	80 - 120	96	80 - 120	ND, RDL=0.090	ug/L	NC	20		
9928474	Total Calcium (Ca)	2025/05/14	NC	80 - 120	95	80 - 120	ND, RDL=200	ug/L	1.5	20		
9928474	Total Chromium (Cr)	2025/05/14	95	80 - 120	94	80 - 120	ND, RDL=5.0	ug/L	NC	20		
9928474	Total Cobalt (Co)	2025/05/14	98	80 - 120	97	80 - 120	ND, RDL=0.50	ug/L	NC	20		
9928474	Total Copper (Cu)	2025/05/14	93	80 - 120	91	80 - 120	ND, RDL=0.90	ug/L	4.9	20		
9928474	Total Iron (Fe)	2025/05/14	96	80 - 120	95	80 - 120	ND, RDL=100	ug/L	0.89	20		
9928474	Total Lead (Pb)	2025/05/14	96	80 - 120	95	80 - 120	ND, RDL=0.50	ug/L	2.7	20		
9928474	Total Magnesium (Mg)	2025/05/14	97	80 - 120	97	80 - 120	ND, RDL=50	ug/L	4.0	20		
9928474	Total Manganese (Mn)	2025/05/14	96	80 - 120	95	80 - 120	ND, RDL=2.0	ug/L	4.0	20		
9928474	Total Molybdenum (Mo)	2025/05/14	95	80 - 120	91	80 - 120	ND, RDL=0.50	ug/L	NC	20		
9928474	Total Nickel (Ni)	2025/05/14	96	80 - 120	96	80 - 120	ND, RDL=1.0	ug/L	10	20		
9928474	Total Potassium (K)	2025/05/14	97	80 - 120	93	80 - 120	ND, RDL=200	ug/L	2.4	20		
9928474	Total Selenium (Se)	2025/05/14	103	80 - 120	101	80 - 120	ND, RDL=2.0	ug/L	NC	20		

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
9928474	Total Silicon (Si)	2025/05/14	98	80 - 120	91	80 - 120	ND, RDL=50	ug/L	2.1	20		
9928474	Total Silver (Ag)	2025/05/14	94	80 - 120	92	80 - 120	ND, RDL=0.090	ug/L	NC	20		
9928474	Total Sodium (Na)	2025/05/14	96	80 - 120	96	80 - 120	ND, RDL=100	ug/L	3.7	20		
9928474	Total Strontium (Sr)	2025/05/14	97	80 - 120	96	80 - 120	ND, RDL=1.0	ug/L	2.7	20		
9928474	Total Thallium (Tl)	2025/05/14	98	80 - 120	99	80 - 120	ND, RDL=0.050	ug/L	NC	20		
9928474	Total Titanium (Ti)	2025/05/14	100	80 - 120	93	80 - 120	ND, RDL=5.0	ug/L	3.2	20		
9928474	Total Vanadium (V)	2025/05/14	98	80 - 120	96	80 - 120	ND, RDL=0.50	ug/L	1.0	20		
9928474	Total Zinc (Zn)	2025/05/14	101	80 - 120	102	80 - 120	ND, RDL=5.0	ug/L	0.014	20		

N/A = Not Applicable

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

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

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

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

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

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

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C552239
Report Date: 2025/05/15

BluMetric Environmental Inc
Client Project #: 250253-04
Site Location: LAKE ST. PETER
Your P.O. #: 250253-04
Sampler Initials: BH

VALIDATION SIGNATURE PAGE

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

Cristina Carriere

Cristina Carriere, Senior Scientific Specialist

Katherine Szozda

Katherine Szozda, Project Manager

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

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

C552239
2025/05/08 10:15

Bureau Veritas
6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel:(905) 817-5700 Toll-free:800-563-6266 Fax:(905) 817-5777 www.bvna.com

C

NONT-2025-05-1350

Bottle Order #: 1041553

COC #: C#1041553-01-01

Project Manager: Deepthi Shaji

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:	
Company Name:	#1192 BluMetric Environmental Inc	Company Name:	#5638 BluMetric Environmental Inc	Quotation #:	C45787
Attention:	Accounts Payable	Attention:	S'rana Scholes	P.O. #:	250253-04
Address:	1682 Woodward Drive Ottawa ON K2C 3R8	Address:	The Tower - The Woolen Mill 4 Cataraqui St Kingston ON K7K 1Z7	Project:	250253-04
Tel:	(613) 839-3053 Fax: (613) 839-5376	Tel:	(613) 531-2725 Fax:	Project Name:	
Email:	ap@blumetric.ca	Email:	sscholes@blumetric.ca, cbandler@blumetric.ca, edms	Site #:	Lake St. Peter
				Sampled By:	BM/NW

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BUREAU VERITAS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011)
- ☐ Table 1 ☐ Res/Park ☐ Medium/Fine
- ☐ Table 2 ☐ Ind/Comm ☐ Coarse
- ☐ Table 3 ☐ Agri/Other ☐ For RSC
- ☐ Table ___

Other Regulations
- ☐ CCME ☐ Sanitary Sewer Bylaw
- ☐ Reg 558. ☐ Storm Sewer Bylaw
- ☐ MISA Municipality ___
- ☐ PWQO ☐ Reg 406 Table ___
- ☐ Other ___

Special Instructions

Include Criteria on Certificate of Analysis (Y/N)? ___

Turnaround Time (TAT) Required:
Please provide advance notice for rush projects

Regular (Standard) TAT: ☒
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: ___ Time Required: ___ ☐
Rush Confirmation Number: ___ *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI (DOC)	ANALYSIS REQUESTED (PLEASE BE SPECIFIC): Groundwater - ODWS	Groundwater Extended-DP1-21	# of Bottles	Comments
1		LSP1-03	25/05/06	14:25	GW	✓	✓		5	
2		LSP2-03	25/05/06	14:55	GW	✓	✓		5	
3		LSP3-03	25/05/06	14:35	GW	✓	✓		5	
4		LSP4-19	25/05/06	13:55	GW	✓	✓		5	
5		LSP5-19	25/05/06	14:15	GW	✓	✓		5	
6		LSP6-23	25/05/06	13:30	GW	✓	✓		5	
7		LSP7-23	25/05/06	13:45	GW	✓	✓		5	
8		LSP8-23	25/05/06	14:45	GW	✓	✓		5	
9		LSP-QAQC-GW1	25/05/06	14:45	GW	✓	✓		5	
10		LSP-DP1-21	25/05/06	15:25	GW	✓Hg	✓	✓	10	Temp(°C) = 6.4 pH = 6.47

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
Brad M'Callum / Brad M'Callum	2025/05/07	8:00	Sarah Sawyer	2025/05/08	10:15	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Recei	Custody Seal	Yes	No
	5/4/8	Present	✓	
		Intact	✓	

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/COC-TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/CHAIN-CUSTODY-FORMS-COCS.

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

White: Bureau Veritas Yellow: Client
OH
ICE

Bureau Veritas Canada (2019) Inc.

Appendix D

D-3 Surface Water Laboratory Reports

Your P.O. #: 250253-04
Your Project #: 250253-04
Site Location: LAKE ST. PETER
Your C.O.C. #: C#1041554-01-01

Attention: S'rana Scholes

BluMetric Environmental Inc
The Tower - The Woolen Mill
4 Cataraqui St
Kingston, ON
CANADA K7K 1Z7

Report Date: 2025/05/15
Report #: R8539254
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C552141
Received: 2025/05/08, 10:20

Sample Matrix: Water
Samples Received: 3

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Dissolved Aluminum (0.2 u, clay free)	3	N/A	2025/05/13	CAM SOP-00447	EPA 6020B m
Alkalinity	3	N/A	2025/05/10	CAM SOP-00448	SM 24 2320 B m
Biochemical Oxygen Demand (BOD)	3	2025/05/10	2025/05/15	CAM SOP-00427	SM 24 5210B m
Chloride by Automated Colourimetry	3	N/A	2025/05/12	CAM SOP-00463	SM 24 4500-Cl E m
Chemical Oxygen Demand	3	N/A	2025/05/12	CAM SOP-00416	SM 24 5220 D m
Colour	3	N/A	2025/05/09	CAM SOP-00412	SM 24 2120C m
Conductivity	3	N/A	2025/05/10	CAM SOP-00414	SM 24 2510 m
Hardness (calculated as CaCO3)	3	N/A	2025/05/13	CAM SOP 00102/00408/00447	SM 2340 B
Dissolved Mercury in Water by CVAA	2	2025/05/14	2025/05/14	CAM SOP-00453	EPA 7470A m
Dissolved Mercury in Water by CVAA	1	2025/05/09	2025/05/09	CAM SOP-00453	EPA 7470A m
Total Metals Analysis by ICPMS	2	2025/05/13	2025/05/13	CAM SOP-00447	EPA 6020B m
Total Metals Analysis by ICPMS	1	2025/05/14	2025/05/14	CAM SOP-00447	EPA 6020B m
Total Ammonia-N	3	N/A	2025/05/14	CAM SOP-00441	USGS I-2522-90 m
Nitrate & Nitrite as Nitrogen in Water (1)	3	N/A	2025/05/09	CAM SOP-00440	SM 24 4500-NO3I/NO2B
pH (2)	3	2025/05/09	2025/05/10	CAM SOP-00413	SM 24th - 4500H+ B
Phenols (4AAP)	3	N/A	2025/05/13	CAM SOP-00444	OMOE E3179 m
Field Measured pH (3)	3	N/A	2025/05/13		Field pH Meter
Sulphate by Automated Turbidimetry	3	N/A	2025/05/12	CAM SOP-00464	SM 24 4500-SO42- E m
Total Dissolved Solids	3	2025/05/13	2025/05/14	CAM SOP-00428	SM 24 2540C m
Field Temperature (3)	3	N/A	2025/05/13		Field Thermometer
Total Kjeldahl Nitrogen in Water	3	2025/05/09	2025/05/12	CAM SOP-00938	SM 4500-N B m
Total Phosphorus (Colourimetric)	3	2025/05/09	2025/05/13	CAM SOP-00407	SM 24 4500-P I
Total Suspended Solids	3	2025/05/13	2025/05/14	CAM SOP-00428	SM 24 2540D m
Turbidity	3	N/A	2025/05/08	CAM SOP-00417	SM 24 2130 B
Un-ionized Ammonia (4)	3	2025/05/08	2025/05/14	Auto Calc.	PWQO

Remarks:

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

Your P.O. #: 250253-04
Your Project #: 250253-04
Site Location: LAKE ST. PETER
Your C.O.C. #: C#1041554-01-01

Attention: S'rana Scholes

BluMetric Environmental Inc
The Tower - The Woolen Mill
4 Cataraqui St
Kingston, ON
CANADA K7K 1Z7

Report Date: 2025/05/15
Report #: R8539254
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C552141
Received: 2025/05/08, 10:20

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

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

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.
(2) "The CCME method and Analytical Protocol (O. Reg 153/04, O. Reg. 406/19) requires pH to be analyzed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the CCME and Analytical Protocol (O. Reg 153/04, O. Reg. 406/19) holding time. Bureau Veritas endeavors to analyze samples as soon as possible after receipt."

(3) This is a field test, therefore, the results relate to items that were not analysed at Bureau Veritas.
(4) Un-ionized ammonia is calculated using the total ammonia result and field data provided by the client for pH and temperature.

Your P.O. #: 250253-04
Your Project #: 250253-04
Site Location: LAKE ST. PETER
Your C.O.C. #: C#1041554-01-01

Attention: S'rana Scholes

BluMetric Environmental Inc
The Tower - The Woolen Mill
4 Cataraqui St
Kingston, ON
CANADA K7K 1Z7

Report Date: 2025/05/15
Report #: R8539254
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C552141
Received: 2025/05/08, 10:20

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:
Deepthi Shaji, Project Manager
Email: Deepthi.Shaji@bureauveritas.com
Phone# (905)817-5700 Ext:7065843

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

Bureau Veritas Job #: C552141
Report Date: 2025/05/15

BluMetric Environmental Inc
Client Project #: 250253-04
Site Location: LAKE ST. PETER
Your P.O. #: 250253-04
Sampler Initials: NW

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		AQRF06			AQRF06		
Sampling Date		2025/05/06 15:40			2025/05/06 15:40		
COC Number		C#1041554-01-01			C#1041554-01-01		
	UNITS	LSP-SW1	RDL	QC Batch	LSP-SW1 Lab-Dup	RDL	QC Batch
Calculated Parameters							
Hardness (CaCO3)	mg/L	7.5	1.0	9925155			
Total Un-ionized Ammonia	mg/L	ND	0.00061	9924992			
Field Measurements							
Field Temperature	Celsius	11.3	N/A	ONSITE			
Field Measured pH	pH	6.45		ONSITE			
Inorganics							
Total Ammonia-N	mg/L	ND	0.050	9926970			
Total BOD	mg/L	ND	2	9926298			
Total Chemical Oxygen Demand (COD)	mg/L	8.5	4.0	9926206			
Colour	TCU	22	2	9925680			
Conductivity	umho/cm	24	2.0	9925798			
Total Dissolved Solids	mg/L	35	10	9927691			
Total Kjeldahl Nitrogen (TKN)	mg/L	0.16	0.10	9926215			
pH	pH	6.82		9925797			
Phenols-4AAP	mg/L	ND	0.0010	9927629			
Total Phosphorus	mg/L	ND	0.020	9926218			
Total Suspended Solids	mg/L	ND	10	9927481			
Dissolved Sulphate (SO4)	mg/L	2.4	1.0	9925921			
Turbidity	NTU	0.3	0.1	9925369	0.2	0.1	9925369
Alkalinity (Total as CaCO3)	mg/L	6.3	1.0	9925795			
Dissolved Chloride (Cl-)	mg/L	ND	1.0	9925917			
Nitrite (N)	mg/L	ND	0.010	9925697			
Nitrate (N)	mg/L	ND	0.10	9925697			
Nitrate + Nitrite (N)	mg/L	ND	0.10	9925697			

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.
N/A = Not Applicable

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C552141
Report Date: 2025/05/15

BluMetric Environmental Inc
Client Project #: 250253-04
Site Location: LAKE ST. PETER
Your P.O. #: 250253-04
Sampler Initials: NW

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		AQRF07		AQRF08		
Sampling Date		2025/05/06 15:15		2025/05/06 15:40		
COC Number		C#1041554-01-01		C#1041554-01-01		
	UNITS	LSP-SW2	QC Batch	LSP-QAQC-SW1	RDL	QC Batch
Calculated Parameters						
Hardness (CaCO3)	mg/L	18	9925155	7.7	1.0	9925155
Total Un-ionized Ammonia	mg/L	ND	9924992	ND	0.00061	9924992
Field Measurements						
Field Temperature	Celsius	11.0	ONSITE	11.3	N/A	ONSITE
Field Measured pH	pH	6.43	ONSITE	6.45		ONSITE
Inorganics						
Total Ammonia-N	mg/L	ND	9926970	ND	0.050	9926970
Total BOD	mg/L	ND	9926298	ND	2	9926298
Total Chemical Oxygen Demand (COD)	mg/L	12	9926207	8.9	4.0	9926206
Colour	TCU	27	9925680	22	2	9925680
Conductivity	umho/cm	56	9925798	24	2.0	9925798
Total Dissolved Solids	mg/L	45	9927691	20	10	9927691
Total Kjeldahl Nitrogen (TKN)	mg/L	0.23	9926215	0.18	0.10	9926215
pH	pH	6.97	9925797	6.83		9925797
Phenols-4AAP	mg/L	ND	9927629	ND	0.0010	9927629
Total Phosphorus	mg/L	ND	9926218	ND	0.020	9926218
Total Suspended Solids	mg/L	ND	9927481	29	10	9927481
Dissolved Sulphate (SO4)	mg/L	6.9	9925921	2.1	1.0	9925921
Turbidity	NTU	ND	9925369	0.2	0.1	9925369
Alkalinity (Total as CaCO3)	mg/L	13	9925795	6.4	1.0	9925795
Dissolved Chloride (Cl-)	mg/L	ND	9925917	ND	1.0	9925917
Nitrite (N)	mg/L	ND	9925697	ND	0.010	9925697
Nitrate (N)	mg/L	0.13	9925697	ND	0.10	9925697
Nitrate + Nitrite (N)	mg/L	0.13	9925697	ND	0.10	9925697

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.
N/A = Not Applicable

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C552141
Report Date: 2025/05/15

BluMetric Environmental Inc
Client Project #: 250253-04
Site Location: LAKE ST. PETER
Your P.O. #: 250253-04
Sampler Initials: NW

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Bureau Veritas ID		AQRF06		AQRF07			AQRF07		
Sampling Date		2025/05/06 15:40		2025/05/06 15:15			2025/05/06 15:15		
COC Number		C#1041554-01-01		C#1041554-01-01			C#1041554-01-01		
	UNITS	LSP-SW1	QC Batch	LSP-SW2	RDL	QC Batch	LSP-SW2 Lab-Dup	RDL	QC Batch
Metals									
Dissolved (0.2u) Aluminum (Al)	ug/L	140	9927110	110	5	9927110			
Dissolved Mercury (Hg)	ug/L	ND	9925740	ND	0.10	9928390	ND	0.10	9928390
Total Arsenic (As)	ug/L	ND	9927725	ND	1.0	9928474			
Total Barium (Ba)	ug/L	9.5	9927725	15	2.0	9928474			
Total Beryllium (Be)	ug/L	ND	9927725	ND	0.40	9928474			
Total Boron (B)	ug/L	ND	9927725	33	10	9928474			
Total Cadmium (Cd)	ug/L	ND	9927725	ND	0.090	9928474			
Total Calcium (Ca)	ug/L	2000	9927725	5200	200	9928474			
Total Chromium (Cr)	ug/L	ND	9927725	ND	5.0	9928474			
Total Cobalt (Co)	ug/L	ND	9927725	ND	0.50	9928474			
Total Copper (Cu)	ug/L	1.2	9927725	1.1	0.90	9928474			
Total Iron (Fe)	ug/L	ND	9927725	110	100	9928474			
Total Lead (Pb)	ug/L	ND	9927725	ND	0.50	9928474			
Total Magnesium (Mg)	ug/L	520	9927725	1000	50	9928474			
Total Manganese (Mn)	ug/L	5.7	9927725	24	2.0	9928474			
Total Molybdenum (Mo)	ug/L	ND	9927725	ND	0.50	9928474			
Total Nickel (Ni)	ug/L	ND	9927725	ND	1.0	9928474			
Total Potassium (K)	ug/L	920	9927725	1600	200	9928474			
Total Selenium (Se)	ug/L	ND	9927725	ND	2.0	9928474			
Total Silicon (Si)	ug/L	3800	9927725	3800	50	9928474			
Total Silver (Ag)	ug/L	ND	9927725	ND	0.090	9928474			
Total Sodium (Na)	ug/L	1100	9927725	2300	100	9928474			
Total Strontium (Sr)	ug/L	13	9927725	29	1.0	9928474			
Total Thallium (Tl)	ug/L	ND	9927725	ND	0.050	9928474			
Total Titanium (Ti)	ug/L	ND	9927725	ND	5.0	9928474			
Total Vanadium (V)	ug/L	0.67	9927725	0.59	0.50	9928474			
Total Zinc (Zn)	ug/L	ND	9927725	ND	5.0	9928474			

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QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C552141
Report Date: 2025/05/15

BluMetric Environmental Inc
Client Project #: 250253-04
Site Location: LAKE ST. PETER
Your P.O. #: 250253-04
Sampler Initials: NW

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Bureau Veritas ID		AQRF08		
Sampling Date		2025/05/06 15:40		
COC Number		C#1041554-01-01		
	UNITS	LSP-QAQC-SW1	RDL	QC Batch
Metals				
Dissolved (0.2u) Aluminum (Al)	ug/L	140	5	9927110
Dissolved Mercury (Hg)	ug/L	ND	0.10	9928390
Total Arsenic (As)	ug/L	ND	1.0	9927725
Total Barium (Ba)	ug/L	10	2.0	9927725
Total Beryllium (Be)	ug/L	ND	0.40	9927725
Total Boron (B)	ug/L	ND	10	9927725
Total Cadmium (Cd)	ug/L	ND	0.090	9927725
Total Calcium (Ca)	ug/L	2000	200	9927725
Total Chromium (Cr)	ug/L	ND	5.0	9927725
Total Cobalt (Co)	ug/L	ND	0.50	9927725
Total Copper (Cu)	ug/L	1.1	0.90	9927725
Total Iron (Fe)	ug/L	ND	100	9927725
Total Lead (Pb)	ug/L	ND	0.50	9927725
Total Magnesium (Mg)	ug/L	500	50	9927725
Total Manganese (Mn)	ug/L	6.1	2.0	9927725
Total Molybdenum (Mo)	ug/L	ND	0.50	9927725
Total Nickel (Ni)	ug/L	ND	1.0	9927725
Total Potassium (K)	ug/L	880	200	9927725
Total Selenium (Se)	ug/L	ND	2.0	9927725
Total Silicon (Si)	ug/L	3700	50	9927725
Total Silver (Ag)	ug/L	ND	0.090	9927725
Total Sodium (Na)	ug/L	1100	100	9927725
Total Strontium (Sr)	ug/L	13	1.0	9927725
Total Thallium (Tl)	ug/L	ND	0.050	9927725
Total Titanium (Ti)	ug/L	ND	5.0	9927725
Total Vanadium (V)	ug/L	0.64	0.50	9927725
Total Zinc (Zn)	ug/L	ND	5.0	9927725

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C552141
Report Date: 2025/05/15

BluMetric Environmental Inc
Client Project #: 250253-04
Site Location: LAKE ST. PETER
Your P.O. #: 250253-04
Sampler Initials: NW

TEST SUMMARY

Bureau Veritas ID: AQRF06
Sample ID: LSP-SW1
Matrix: Water

Collected: 2025/05/06
Shipped:
Received: 2025/05/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dissolved Aluminum (0.2 u, clay free)	ICP/MS	9927110	N/A	2025/05/13	Nan Raykha
Alkalinity	AT	9925795	N/A	2025/05/10	Nachiketa Gohil
Biochemical Oxygen Demand (BOD)	DO	9926298	2025/05/10	2025/05/15	Prakash Piya
Chloride by Automated Colourimetry	SKAL	9925917	N/A	2025/05/12	Alina Dobreanu
Chemical Oxygen Demand	SPEC	9926206	N/A	2025/05/12	Kruti Jitesh Patel
Colour	SPEC	9925680	N/A	2025/05/09	Gyulshen Idriz
Conductivity	AT	9925798	N/A	2025/05/10	Nachiketa Gohil
Hardness (calculated as CaCO3)		9925155	N/A	2025/05/13	Automated Statchk
Dissolved Mercury in Water by CVAA	CV/AA	9925740	2025/05/09	2025/05/09	Maitri PATIL
Total Metals Analysis by ICPMS	ICP/MS	9927725	2025/05/13	2025/05/13	Thuy Linh Nguyen
Total Ammonia-N	SKAL/NH4	9926970	N/A	2025/05/14	Massarat Jan
Nitrate & Nitrite as Nitrogen in Water	LACH	9925697	N/A	2025/05/09	Helen He
pH	AT	9925797	2025/05/09	2025/05/10	Nachiketa Gohil
Phenols (4AAP)	TECH/PHEN	9927629	N/A	2025/05/13	Madhav Somani
Field Measured pH	PH	ONSITE	N/A	2025/05/13	Katherine Szozda
Sulphate by Automated Turbidimetry	SKAL	9925921	N/A	2025/05/12	Alina Dobreanu
Total Dissolved Solids	BAL	9927691	2025/05/13	2025/05/14	Binuja Kodithuwakku Arachchilage
Field Measured pH	PH	ONSITE	N/A	2025/05/13	Katherine Szozda
Total Kjeldahl Nitrogen in Water	SKAL	9926215	2025/05/09	2025/05/12	Rajni Tyagi
Total Phosphorus (Colourimetric)	SKAL/P	9926218	2025/05/09	2025/05/13	Vidhi Khatri
Total Suspended Solids	BAL	9927481	2025/05/13	2025/05/14	Tina Teng
Turbidity	AT	9925369	N/A	2025/05/08	Kien Tran
Un-ionized Ammonia	CALC/NH3	9924992	2025/05/14	2025/05/14	Automated Statchk

Bureau Veritas ID: AQRF06 Dup
Sample ID: LSP-SW1
Matrix: Water

Collected: 2025/05/06
Shipped:
Received: 2025/05/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Turbidity	AT	9925369	N/A	2025/05/08	Kien Tran

Bureau Veritas ID: AQRF07
Sample ID: LSP-SW2
Matrix: Water

Collected: 2025/05/06
Shipped:
Received: 2025/05/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dissolved Aluminum (0.2 u, clay free)	ICP/MS	9927110	N/A	2025/05/13	Nan Raykha
Alkalinity	AT	9925795	N/A	2025/05/10	Nachiketa Gohil
Biochemical Oxygen Demand (BOD)	DO	9926298	2025/05/10	2025/05/15	Prakash Piya
Chloride by Automated Colourimetry	SKAL	9925917	N/A	2025/05/12	Alina Dobreanu
Chemical Oxygen Demand	SPEC	9926207	N/A	2025/05/12	Kruti Jitesh Patel
Colour	SPEC	9925680	N/A	2025/05/09	Gyulshen Idriz
Conductivity	AT	9925798	N/A	2025/05/10	Nachiketa Gohil

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C552141
Report Date: 2025/05/15

BluMetric Environmental Inc
Client Project #: 250253-04
Site Location: LAKE ST. PETER
Your P.O. #: 250253-04
Sampler Initials: NW

TEST SUMMARY

Bureau Veritas ID: AQRF07
Sample ID: LSP-SW2
Matrix: Water

Collected: 2025/05/06
Shipped:
Received: 2025/05/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hardness (calculated as CaCO3)		9925155	N/A	2025/05/13	Automated Statchk
Dissolved Mercury in Water by CVAA	CV/AA	9928390	2025/05/14	2025/05/14	Maitri PATIL
Total Metals Analysis by ICPMS	ICP/MS	9928474	2025/05/14	2025/05/14	Thuy Linh Nguyen
Total Ammonia-N	SKAL/NH4	9926970	N/A	2025/05/14	Massarat Jan
Nitrate & Nitrite as Nitrogen in Water	LACH	9925697	N/A	2025/05/09	Helen He
pH	AT	9925797	2025/05/09	2025/05/10	Nachiketa Gohil
Phenols (4AAP)	TECH/PHEN	9927629	N/A	2025/05/13	Madhav Somani
Field Measured pH	PH	ONSITE	N/A	2025/05/13	Katherine Szozda
Sulphate by Automated Turbidimetry	SKAL	9925921	N/A	2025/05/12	Alina Dobreanu
Total Dissolved Solids	BAL	9927691	2025/05/13	2025/05/14	Binuja Kodithuwakku Arachchilage
Field Measured pH	PH	ONSITE	N/A	2025/05/13	Katherine Szozda
Total Kjeldahl Nitrogen in Water	SKAL	9926215	2025/05/09	2025/05/12	Rajni Tyagi
Total Phosphorus (Colourimetric)	SKAL/P	9926218	2025/05/09	2025/05/13	Vidhi Khatri
Total Suspended Solids	BAL	9927481	2025/05/13	2025/05/14	Tina Teng
Turbidity	AT	9925369	N/A	2025/05/08	Kien Tran
Un-ionized Ammonia	CALC/NH3	9924992	2025/05/14	2025/05/14	Automated Statchk

Bureau Veritas ID: AQRF07 Dup
Sample ID: LSP-SW2
Matrix: Water

Collected: 2025/05/06
Shipped:
Received: 2025/05/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dissolved Mercury in Water by CVAA	CV/AA	9928390	2025/05/14	2025/05/14	Maitri PATIL

Bureau Veritas ID: AQRF08
Sample ID: LSP-QAQC-SW1
Matrix: Water

Collected: 2025/05/06
Shipped:
Received: 2025/05/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dissolved Aluminum (0.2 u, clay free)	ICP/MS	9927110	N/A	2025/05/13	Nan Raykha
Alkalinity	AT	9925795	N/A	2025/05/10	Nachiketa Gohil
Biochemical Oxygen Demand (BOD)	DO	9926298	2025/05/10	2025/05/15	Prakash Piya
Chloride by Automated Colourimetry	SKAL	9925917	N/A	2025/05/12	Alina Dobreanu
Chemical Oxygen Demand	SPEC	9926206	N/A	2025/05/12	Kruti Jitesh Patel
Colour	SPEC	9925680	N/A	2025/05/09	Gyulshen Idriz
Conductivity	AT	9925798	N/A	2025/05/10	Nachiketa Gohil
Hardness (calculated as CaCO3)		9925155	N/A	2025/05/13	Automated Statchk
Dissolved Mercury in Water by CVAA	CV/AA	9928390	2025/05/14	2025/05/14	Maitri PATIL
Total Metals Analysis by ICPMS	ICP/MS	9927725	2025/05/13	2025/05/13	Thuy Linh Nguyen
Total Ammonia-N	SKAL/NH4	9926970	N/A	2025/05/14	Massarat Jan
Nitrate & Nitrite as Nitrogen in Water	LACH	9925697	N/A	2025/05/09	Helen He
pH	AT	9925797	2025/05/09	2025/05/10	Nachiketa Gohil
Phenols (4AAP)	TECH/PHEN	9927629	N/A	2025/05/13	Madhav Somani

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C552141
Report Date: 2025/05/15

BluMetric Environmental Inc
Client Project #: 250253-04
Site Location: LAKE ST. PETER
Your P.O. #: 250253-04
Sampler Initials: NW

TEST SUMMARY

Bureau Veritas ID: AQRF08
Sample ID: LSP-QAQC-SW1
Matrix: Water

Collected: 2025/05/06
Shipped:
Received: 2025/05/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Field Measured pH	PH	ONSITE	N/A	2025/05/13	Katherine Szozda
Sulphate by Automated Turbidimetry	SKAL	9925921	N/A	2025/05/12	Alina Dobreanu
Total Dissolved Solids	BAL	9927691	2025/05/13	2025/05/14	Binuja Kodithuwakku Arachchilage
Field Measured pH	PH	ONSITE	N/A	2025/05/13	Katherine Szozda
Total Kjeldahl Nitrogen in Water	SKAL	9926215	2025/05/09	2025/05/12	Rajni Tyagi
Total Phosphorus (Colourimetric)	SKAL/P	9926218	2025/05/09	2025/05/13	Vidhi Khatri
Total Suspended Solids	BAL	9927481	2025/05/13	2025/05/14	Tina Teng
Turbidity	AT	9925369	N/A	2025/05/08	Kien Tran
Un-ionized Ammonia	CALC/NH3	9924992	2025/05/14	2025/05/14	Automated Statchk

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C552141
Report Date: 2025/05/15

BluMetric Environmental Inc
Client Project #: 250253-04
Site Location: LAKE ST. PETER
Your P.O. #: 250253-04
Sampler Initials: NW

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	6.0°C

Results relate only to the items tested.

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Bureau Veritas Job #: C552141
Report Date: 2025/05/15

QUALITY ASSURANCE REPORT

BluMetric Environmental Inc
Client Project #: 250253-04
Site Location: LAKE ST. PETER
Your P.O. #: 250253-04
Sampler Initials: NW

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
9925369	Turbidity	2025/05/08			99	80 - 120	ND, RDL=0.1	NTU	NC	20		
9925680	Colour	2025/05/09			99	80 - 120	ND,RDL=2	TCU	NC	25		
9925697	Nitrate (N)	2025/05/09	95	80 - 120	96	80 - 120	ND, RDL=0.10	mg/L	NC	20		
9925697	Nitrite (N)	2025/05/09	97	80 - 120	99	80 - 120	ND, RDL=0.010	mg/L				
9925740	Dissolved Mercury (Hg)	2025/05/09	98	75 - 125	100	80 - 120	ND, RDL=0.10	ug/L	NC	20		
9925795	Alkalinity (Total as CaCO3)	2025/05/10			96	85 - 115	ND, RDL=1.0	mg/L	NC	20		
9925797	pH	2025/05/10			102	98 - 103			0.87	N/A		
9925798	Conductivity	2025/05/10			102	85 - 115	ND, RDL=2.0	umho/cm	NC	10		
9925917	Dissolved Chloride (Cl-)	2025/05/12	85	80 - 120	99	80 - 120	ND, RDL=1.0	mg/L	3.9	20		
9925921	Dissolved Sulphate (SO4)	2025/05/12	81	75 - 125	95	80 - 120	ND, RDL=1.0	mg/L	0.90	20		
9926206	Total Chemical Oxygen Demand (COD)	2025/05/12	103	80 - 120	102	80 - 120	ND, RDL=4.0	mg/L	NC	20		
9926207	Total Chemical Oxygen Demand (COD)	2025/05/12	104	80 - 120	97	80 - 120	ND, RDL=4.0	mg/L	10	20		
9926215	Total Kjeldahl Nitrogen (TKN)	2025/05/13	NC	80 - 120	100	80 - 120	ND, RDL=0.10	mg/L	2.6	20	102	80 - 120
9926218	Total Phosphorus	2025/05/13	96	80 - 120	100	80 - 120	ND, RDL=0.020	mg/L	19	20	93	80 - 120
9926298	Total BOD	2025/05/15					ND,RDL=2	mg/L	0.10	30	92	80 - 120
9926970	Total Ammonia-N	2025/05/14	89	75 - 125	95	80 - 120	ND, RDL=0.050	mg/L	0.76	20		
9927110	Dissolved (0.2u) Aluminum (Al)	2025/05/13	98	80 - 120	100	80 - 120	ND,RDL=5	ug/L	3.1	20		
9927481	Total Suspended Solids	2025/05/14			98	80 - 120	ND, RDL=10	mg/L	NC	20		
9927629	Phenols-4AAP	2025/05/13	102	80 - 120	100	80 - 120	ND, RDL=0.0010	mg/L	NC	20		
9927691	Total Dissolved Solids	2025/05/14			97	80 - 120	ND, RDL=10	mg/L	NC	20		
9927725	Total Arsenic (As)	2025/05/13	99	80 - 120	101	80 - 120	ND, RDL=1.0	ug/L				
9927725	Total Barium (Ba)	2025/05/13	95	80 - 120	99	80 - 120	ND, RDL=2.0	ug/L				
9927725	Total Beryllium (Be)	2025/05/13	93	80 - 120	91	80 - 120	ND, RDL=0.40	ug/L				
9927725	Total Boron (B)	2025/05/13	90	80 - 120	84	80 - 120	ND, RDL=10	ug/L				
9927725	Total Cadmium (Cd)	2025/05/13	97	80 - 120	99	80 - 120	ND, RDL=0.090	ug/L				

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
9927725	Total Calcium (Ca)	2025/05/13	NC	80 - 120	95	80 - 120	ND, RDL=200	ug/L				
9927725	Total Chromium (Cr)	2025/05/13	92	80 - 120	95	80 - 120	ND, RDL=5.0	ug/L	NC	20		
9927725	Total Cobalt (Co)	2025/05/13	93	80 - 120	99	80 - 120	ND, RDL=0.50	ug/L				
9927725	Total Copper (Cu)	2025/05/13	91	80 - 120	93	80 - 120	ND, RDL=0.90	ug/L				
9927725	Total Iron (Fe)	2025/05/13	95	80 - 120	99	80 - 120	ND, RDL=100	ug/L				
9927725	Total Lead (Pb)	2025/05/13	90	80 - 120	96	80 - 120	ND, RDL=0.50	ug/L				
9927725	Total Magnesium (Mg)	2025/05/13	NC	80 - 120	99	80 - 120	ND, RDL=50	ug/L				
9927725	Total Manganese (Mn)	2025/05/13	95	80 - 120	98	80 - 120	ND, RDL=2.0	ug/L				
9927725	Total Molybdenum (Mo)	2025/05/13	95	80 - 120	94	80 - 120	ND, RDL=0.50	ug/L				
9927725	Total Nickel (Ni)	2025/05/13	91	80 - 120	96	80 - 120	ND, RDL=1.0	ug/L				
9927725	Total Potassium (K)	2025/05/13	100	80 - 120	99	80 - 120	ND, RDL=200	ug/L				
9927725	Total Selenium (Se)	2025/05/13	98	80 - 120	100	80 - 120	ND, RDL=2.0	ug/L				
9927725	Total Silicon (Si)	2025/05/13	92	80 - 120	94	80 - 120	ND, RDL=50	ug/L				
9927725	Total Silver (Ag)	2025/05/13	89	80 - 120	91	80 - 120	ND, RDL=0.090	ug/L				
9927725	Total Sodium (Na)	2025/05/13	NC	80 - 120	97	80 - 120	ND, RDL=100	ug/L				
9927725	Total Strontium (Sr)	2025/05/13	NC	80 - 120	99	80 - 120	ND, RDL=1.0	ug/L				
9927725	Total Thallium (Tl)	2025/05/13	94	80 - 120	100	80 - 120	ND, RDL=0.050	ug/L				
9927725	Total Titanium (Ti)	2025/05/13	94	80 - 120	95	80 - 120	ND, RDL=5.0	ug/L				
9927725	Total Vanadium (V)	2025/05/13	96	80 - 120	97	80 - 120	ND, RDL=0.50	ug/L				
9927725	Total Zinc (Zn)	2025/05/13	97	80 - 120	102	80 - 120	ND, RDL=5.0	ug/L				
9928390	Dissolved Mercury (Hg)	2025/05/14	98	75 - 125	101	80 - 120	ND, RDL=0.10	ug/L	NC	20		
9928474	Total Arsenic (As)	2025/05/14	99	80 - 120	98	80 - 120	ND, RDL=1.0	ug/L	NC	20		
9928474	Total Barium (Ba)	2025/05/14	97	80 - 120	95	80 - 120	ND, RDL=2.0	ug/L	4.1	20		
9928474	Total Beryllium (Be)	2025/05/14	101	80 - 120	101	80 - 120	ND, RDL=0.40	ug/L	NC	20		
9928474	Total Boron (B)	2025/05/14	92	80 - 120	93	80 - 120	ND, RDL=10	ug/L	0.93	20		
9928474	Total Cadmium (Cd)	2025/05/14	99	80 - 120	96	80 - 120	ND, RDL=0.090	ug/L	NC	20		
9928474	Total Calcium (Ca)	2025/05/14	NC	80 - 120	95	80 - 120	ND, RDL=200	ug/L	1.5	20		

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
9928474	Total Chromium (Cr)	2025/05/14	95	80 - 120	94	80 - 120	ND, RDL=5.0	ug/L	NC	20		
9928474	Total Cobalt (Co)	2025/05/14	98	80 - 120	97	80 - 120	ND, RDL=0.50	ug/L	NC	20		
9928474	Total Copper (Cu)	2025/05/14	93	80 - 120	91	80 - 120	ND, RDL=0.90	ug/L	4.9	20		
9928474	Total Iron (Fe)	2025/05/14	96	80 - 120	95	80 - 120	ND, RDL=100	ug/L	0.89	20		
9928474	Total Lead (Pb)	2025/05/14	96	80 - 120	95	80 - 120	ND, RDL=0.50	ug/L	2.7	20		
9928474	Total Magnesium (Mg)	2025/05/14	97	80 - 120	97	80 - 120	ND, RDL=50	ug/L	4.0	20		
9928474	Total Manganese (Mn)	2025/05/14	96	80 - 120	95	80 - 120	ND, RDL=2.0	ug/L	4.0	20		
9928474	Total Molybdenum (Mo)	2025/05/14	95	80 - 120	91	80 - 120	ND, RDL=0.50	ug/L	NC	20		
9928474	Total Nickel (Ni)	2025/05/14	96	80 - 120	96	80 - 120	ND, RDL=1.0	ug/L	10	20		
9928474	Total Potassium (K)	2025/05/14	97	80 - 120	93	80 - 120	ND, RDL=200	ug/L	2.4	20		
9928474	Total Selenium (Se)	2025/05/14	103	80 - 120	101	80 - 120	ND, RDL=2.0	ug/L	NC	20		
9928474	Total Silicon (Si)	2025/05/14	98	80 - 120	91	80 - 120	ND, RDL=50	ug/L	2.1	20		
9928474	Total Silver (Ag)	2025/05/14	94	80 - 120	92	80 - 120	ND, RDL=0.090	ug/L	NC	20		
9928474	Total Sodium (Na)	2025/05/14	96	80 - 120	96	80 - 120	ND, RDL=100	ug/L	3.7	20		
9928474	Total Strontium (Sr)	2025/05/14	97	80 - 120	96	80 - 120	ND, RDL=1.0	ug/L	2.7	20		
9928474	Total Thallium (Tl)	2025/05/14	98	80 - 120	99	80 - 120	ND, RDL=0.050	ug/L	NC	20		
9928474	Total Titanium (Ti)	2025/05/14	100	80 - 120	93	80 - 120	ND, RDL=5.0	ug/L	3.2	20		
9928474	Total Vanadium (V)	2025/05/14	98	80 - 120	96	80 - 120	ND, RDL=0.50	ug/L	1.0	20		

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
9928474	Total Zinc (Zn)	2025/05/14	101	80 - 120	102	80 - 120	ND, RDL=5.0	ug/L	0.014	20		

N/A = Not Applicable

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

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

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

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

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

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

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Bureau Veritas Job #: C552141
Report Date: 2025/05/15

BluMetric Environmental Inc
Client Project #: 250253-04
Site Location: LAKE ST. PETER
Your P.O. #: 250253-04
Sampler Initials: NW

VALIDATION SIGNATURE PAGE

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

Cristina Carriere

Cristina Carriere, Senior Scientific Specialist

Katherine Szozda

Katherine Szozda, Project Manager

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

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C552141
2025/05/08 10:20

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NONT-2025-05-1351

Bottle Order #: 1041554

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:	
Company Name:	#1192 BluMetric Environmental Inc	Company Name:	#5638 BluMetric Environmental Inc	Quotation #:	C45787
Attention:	Accounts Payable	Attention:	S'rana Scholes	P.O. #:	250253-04
Address:	1682 Woodward Drive Ottawa ON K2C 3R8	Address:	The Tower - The Woolen Mill 4 Cataraqui St Kingston ON K7K 1Z7	Project:	250253-04
Tel:	(613) 839-3053 Fax: (613) 839-5376	Tel:	(613) 531-2725 Fax:	Project Name:	
Email:	ap@blumetric.ca	Email:	sscholes@blumetric.ca, cbandler@blumetric.ca, edms	Site #:	Lake St. Peter
				Sampled By:	NW/BM

COC #: C#1041554-01-01

Project Manager: Deepthi Shaji

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BUREAU VERITAS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011)
- ☐ Table 1 ☐ Res/Park ☐ Medium/Fine
- ☐ Table 2 ☐ Ind/Comm ☐ Coarse
- ☐ Table 3 ☐ Agri/Other ☐ For RSC
- ☐ Table ___

Other Regulations
- ☐ CCME ☐ Sanitary Sewer Bylaw
- ☐ Reg 558. ☐ Storm Sewer Bylaw
- ☐ MISA Municipality ___
- ☐ PWQO ☐ Reg 406 Table ___
- ☐ Other ___

Special Instructions

Include Criteria on Certificate of Analysis (Y/N)? ___

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT: [X]
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: ___ Time Required: ___ ☐
Rush Confirmation Number: ___ *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI	Surface Water - PWQO	# of Bottles	Temp °C	Comments	pH
1		LSP-SW1	25/05/06	15:40	SW	✓	✓	8	11.3		6.45
2		LSP-SW2	25/05/06	15:15	SW	✓	✓	8	11.0		6.43
3		LSP-QAQC-SW1	25/05/06	15:40	SW	✓	✓	8	11.3		6.45
4											
5											
6											
7											
8											
9											
10											

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
Nathan Wilson	25/05/07	08:00	Surana Sawh	2025/05/08	10:20	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Recei	Custody Seal	Yes	No
	6 7 15	Present	✓	
		Intact		

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/COC-TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/CHAIN-CUSTODY-FORMS-COCS.

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

White: Bureau Veritas Yellow: Client

Bureau Veritas Canada (2019) Inc.

Appendix D

D-4 Groundwater QA/QC

Hastings Highlands Appendix D-4: Groundwater QA/QC Results		Site Name	Lake St. Peter WDS	Lake St. Peter WDS	RPD	Lake St. Peter WDS	Lake St. Peter WDS	RPD
		Location	LSP1-03	LSP1-03		LSP8-23	LSP8-23	
Parameter	Units	Sample ID	LSP1-03	LSP-QAQC-GW1		LSP8-23	LSP-QAQC-GW1	
		Sample Date	2025-10-15	2025-10-15		2025-05-06	2025-05-06	
Anions		**Detection Limit**						
Chloride	mg/L	1	54	52	4%	18	16	12%
Nitrate as N	mg/L	0.1	0.1	<0.1	NC	<0.1	<0.1	NC
Sulphate	mg/L	1	4.5	4.6	NC	11	11	0%
Cations								
Calcium (diss)	mg/L	0.2	85	83	2%	39	38	3%
Magnesium (diss)	mg/L	0.05	8.4	8.1	4%	6	6.1	2%
Sodium (diss)	mg/L	0.1	35	35	0%	23	24	4%
General Chemistry								
Alkalinity (as CaCO3)	mg/L	1	320	320	0%	200	200	0%
Ammonia as N	mg/L	0.05	17	17	0%	11	12	9%
Dissolved Organic Carbon	mg/L	0.4	18	18	0%	20	20	0%
Electrical Conductivity	uS/cm	2	820	820	0%	490	490	0%
Total Dissolved Solids	mg/L	10	335	390	15%	270	250	8%
Total Suspended Solids	mg/L	10, 33, 50	820	750	9%	660	670	2%
pH	pH units		7.04	6.99	1%	6.98	7.13	2%
Metals								
Barium (diss)	mg/L	0.002	0.54	0.56	4%	0.32	0.32	0%
Boron (diss)	mg/L	0.01	0.54	0.54	0%	0.24	0.25	4%
Iron (diss)	mg/L	0.1	67	67	0%	44	44	0%
Manganese (diss)	mg/L	0.002	2	1.9	5%	3.9	3.8	3%

-LEGEND-

Detection Limit	May vary between sample locations and events
RPD	Relative Percent Difference
NC	No Calculation; the concentrations of at least one duplicate sample was non-detect or measured at a concentration less than 5 times the Detection Limit
Orange	RPD exceeds 40% (Well Screen data quality objective*)

*Guidance Manual for Environmental Site Characterization in Support of Environmental and Human Health Risk Assessment, Volume 1 Guidance Manual, Canadian Council of Ministers of the Environment, 2016

Appendix D

D-5 Surface Water QA/QC

Hastings Highlands Appendix D-5: Surface Water QA/QC Results		Site Name	Lake St. Peter WDS	Lake St. Peter WDS	RPD
		Location	LSP-SW1	LSP-SW1	
Parameter	Units	Sample ID	LSP-SW1	LSP-QAQC-SW1	
		Sample Date	2025-05-06	2025-05-06	
Anions		**Detection Limit**			
Chloride	mg/L	1	<1	<1	NC
Nitrate + Nitrite	mg/L	0.1	<0.1	<0.1	NC
Nitrate as N	mg/L	0.1	<0.1	<0.1	NC
Nitrite as N	mg/L	0.01	<0.01	<0.01	NC
Sulphate	mg/L	1	2.4	2.1	NC
Cations					
Calcium (tot)	mg/L	0.2	2	2	0%
Magnesium (tot)	mg/L	0.05	0.52	0.5	4%
Potassium (tot)	mg/L	0.2	0.92	0.88	NC
Sodium (tot)	mg/L	0.1	1.1	1.1	0%
Field Parameters					
Temperature	deg. C		11.3	11.3	0%
pH (Field)	pH units		6.45	6.45	0%
General Chemistry					
Alkalinity (as CaCO3)	mg/L	1	6.3	6.4	2%
Ammonia as N	mg/L	0.05	<0.05	<0.05	NC
Biochemical Oxygen Demand	mg/L	2	<2	<2	NC
Chemical Oxygen Demand	mg/L	4	8.5	8.9	NC
Colour	TCU	2	22	22	0%
Electrical Conductivity	uS/cm	2	24	24	0%
Hardness (as CaCO3)	mg/L	1	7.5	7.7	3%
Phenols	mg/L	0.001	<0.001	<0.001	NC
Total Dissolved Solids	mg/L	10	35	20	NC
Total Kjeldahl Nitrogen	mg/L	0.1	0.16	0.18	NC
Total Phosphorus	mg/L	0.02	<0.02	<0.02	NC
Total Suspended Solids	mg/L	10	<10	29	NC
Turbidity	NTU	0.1	0.3	0.2	NC
Unionized Ammonia (Calc)	mg/L	0.00061	<0.00061	<0.00061	NC
pH	pH units		6.82	6.83	0%
Metals					
Aluminum (diss, 0.2 µm)	mg/L	0.005	0.14	0.14	0%
Arsenic (tot)	mg/L	0.001	<0.001	<0.001	NC
Barium (tot)	mg/L	0.002	0.0095	0.01	NC
Beryllium (tot)	mg/L	0.0004	<0.0004	<0.0004	NC
Boron (tot)	mg/L	0.01	<0.01	<0.01	NC
Cadmium (tot)	mg/L	0.00009	<0.00009	<0.00009	NC
Chromium (tot)	mg/L	0.005	<0.005	<0.005	NC
Cobalt (tot)	mg/L	0.0005	<0.0005	<0.0005	NC
Copper (tot)	mg/L	0.0009	0.0012	0.0011	NC
Iron (tot)	mg/L	0.1	<0.1	<0.1	NC
Lead (tot)	mg/L	0.0005	<0.0005	<0.0005	NC
Manganese (tot)	mg/L	0.002	0.0057	0.0061	NC
Mercury (diss)	mg/L	0.0001	<0.0001	<0.0001	NC
Molybdenum (tot)	mg/L	0.0005	<0.0005	<0.0005	NC
Nickel (tot)	mg/L	0.001	<0.001	<0.001	NC
Selenium (tot)	mg/L	0.002	<0.002	<0.002	NC
Silicon (tot)	mg/L	0.05	3.8	3.7	3%
Silver (tot)	mg/L	0.00009	<0.00009	<0.00009	NC
Strontium (tot)	mg/L	0.001	0.013	0.013	0%
Thallium (tot)	mg/L	0.00005	<0.00005	<0.00005	NC
Titanium (tot)	mg/L	0.005	<0.005	<0.005	NC
Vanadium (tot)	mg/L	0.0005	0.00067	0.00064	NC
Zinc (tot)	mg/L	0.005	<0.005	<0.005	NC

-LEGEND-

Detection Limit	May vary between sample locations and events
RPD	Relative Percent Difference
NC	No Calculation; the concentrations of at least one duplicate sample was non-detect or measured at a concentration less than 5 times the Detection Limit
Orange	RPD exceeds 40% (Surface Water data quality objective*)

*Guidance Manual for Environmental Site Characterization in Support of Environmental and Human Health Risk Assessment, Volume 1 Guidance Manual, Canadian Council of Ministers of the Environment, 2016

Appendix D

D-6 Surface Water Toxicity Reports

Your P.O. #: 250253-00
Your Project #: 250253-04
Site Location: LSP WDS
Your C.O.C. #: 1068923-01-01

Attention: MHH Distribution

BluMetric Environmental Inc
The Tower - The Woolen Mill
4 Cataraqui St
Kingston, ON
CANADA K7K 1Z7

Report Date: 2025/11/21
Report #: R8655609
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C5E6505
Received: 2025/11/19, 09:54

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
48-h Daphnia Magna Single Concentration (1)	1	N/A	N/A		
96-h Rainbow Trout Single Concentration (1)	1	N/A	N/A		

Remarks:

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

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

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

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) This test was performed by Nautilus Environmental - Guelph, 11 Nicholas Beaver Rd Unit B, Puslinch, ON, N0B 2C0

Your P.O. #: 250253-00
Your Project #: 250253-04
Site Location: LSP WDS
Your C.O.C. #: 1068923-01-01

Attention: MHH Distribution

BluMetric Environmental Inc
The Tower - The Woolen Mill
4 Cataraqui St
Kingston, ON
CANADA K7K 1Z7

Report Date: 2025/11/21
Report #: R8655609
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C5E6505
Received: 2025/11/19, 09:54

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:
Deepthi Shaji, Project Manager
Email: Deepthi.Shaji@bureauveritas.com
Phone# (905)817-5700 Ext:7065843

==========

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

Bureau Veritas Job #: C5E6505
Report Date: 2025/11/21

BluMetric Environmental Inc
Client Project #: 250253-04
Site Location: LSP WDS
Your P.O. #: 250253-00
Sampler Initials: BM

SUBCONTRACTED ANALYSIS (WATER)

Bureau Veritas ID		AXMM76	
Sampling Date		2025/11/18 10:55	
COC Number		1068923-01-01	
	UNITS	**LSP CULVERT**	**QC Batch**
Subcontracted Analysis			
Subcontract Parameter	N/A	SEE ATTACH	A059203
QC Batch = Quality Control Batch			

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

Bureau Veritas Job #: C5E6505
Report Date: 2025/11/21

BluMetric Environmental Inc
Client Project #: 250253-04
Site Location: LSP WDS
Your P.O. #: 250253-00
Sampler Initials: BM

TEST SUMMARY

Bureau Veritas ID: AXMM76
Sample ID: LSP CULVERT
Matrix: Water

Collected: 2025/11/18
Shipped:
Received: 2025/11/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
48-h Daphnia Magna Single Concentration		A059203	N/A		Lims Auto Schedule Runner
96-h Rainbow Trout Single Concentration		A059205	N/A		Lims Auto Schedule Runner

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	14.0°C

Results relate only to the items tested.

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

VALIDATION SIGNATURE PAGE

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

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

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

C5E6505
2025/11/19 09:54

IMMEDIATE

Bureau Veritas
6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel:(905) 817-5700 Toll-free:800-563-6266 Fax:(905) 817-5777 www.bvna.com

CHAIN OF CUSTODY RECORD

Invoice To:		Report To:		PROJECT INFORMATION:		Laboratory Use Only:	
Company:	#1192 BluMetric Environmental Inc	Company:	#5638 BluMetric Environmental Inc	Quotation #:	C45787	Bureau Veritas Job #:	Bottle Order #:
Attention:	Accounts Payable	Attention:	MHH Distribution	P.O. #:	250253-00		1068923
Address:	1682 Woodward Drive Ottawa ON K2C 3R8	Address:	The Tower - The Woolen Mill 4 Cataraqui St Kingston ON K7K 1Z7	Project:	250253-04	COC #:	Project Manager:
Tel:	(613) 839-3053 Fax: (613) 839-5376	Tel:	(613) 531-2725 Fax:	Project Name:	LSP WDS	C#1068923-01-01	Deepthi Shaji
Email:	ap@blumetric.ca	Email:	cbandler@blumetric.ca, cmiller@blumetric.ca, edms@bl	Site #:			
				Sampled By:	BM		

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BUREAU VERITAS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011)
☐ Table 1 ☐ Res/Park ☐ Medium/Fine
☐ Table 2 ☐ Ind/Comm ☐ Coarse
☐ Table 3 ☐ Agri/Other ☐ For RSC
☐ Table ___

Other Regulations
☐ CCME ☐ Sanitary Sewer Bylaw
☐ Reg 558. ☐ Storm Sewer Bylaw
☐ MISA Municipality ___
☐ PWQO ☐ Reg 406 Table ___
☐ Other ___

Special Instructions

Include Criteria on Certificate of Analysis (Y/N)? ___

Turnaround Time (TAT) Required:
Please provide advance notice for rush projects

Regular (Standard) TAT: ☒
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests..
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: ___ Time Required: ___ ☐
Rush Confirmation Number: ___ *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI	ANALYSIS REQUESTED (PLEASE BE SPECIFIC): Toxicity								# of Bottles	Comments
1		LSP Culvert	2025/11/18	10:55	SW	—	✓								1	1 x 20L pail
2																
3																
4																
5																
6																
7																
8																
9																
10																

NONT-2025-11-3494

* Relinquished By (Print):	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted	Laboratory Use Only: Time Sensitive	Temperature (°C) on Recei	Custody Seal	Yes	No
Brad McCallum	2025/11/18	13:30	ANMOL PREET SINGH	2025/11/19	09:56			19/4/14	Present		✓
									Intact		

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/COC-TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/CHAIN-CUSTODY-FORMS-COCS.

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

White: Bureau Veritas Yellow: Client

Bureau Veritas Canada (2019) Inc.

NAUTILUS ENVIRONMENTAL
B-11 Nicholas Beaver Road
Puslinch, ON N0B 2J0
Tel. (519) 763-4412
Fax. (519) 763-4419

CONFIRMATION OF SAMPLE RECEIPT

Work Order : **259461**

Deepthi Shaji
Bureau Veritas Laboratories
6740 Campobello Road
Mississauga ON
L5N 2L8

WE HAVE RECEIVED THE FOLLOWING SAMPLE(S) :

Sample	Date Collected	Date Received	Temp. on Arrival (° C)	Volume/ Container	Sample Type
LSP CULVERT	2025-11-18	2025-11-20	12	1 x 23 L pail	WATER

COMMENTS

A copy of the chain of custody has been provided in a separate attachment.

Please review the information above. For revisions, please contact your Project Management Team at (519) 763-4412.

Your Project Manager is : Tori Carleton (Ext. 323)

Your Project #: 250253-04
Your C.O.C. #: C#1015023-01-01

Attention: S'rana Scholes

BluMetric Environmental Inc
The Tower - The Woolen Mill
4 Cataraqui St
Kingston, ON
CANADA K7K 1Z7

Report Date: 2025/06/25
Report #: R8564133
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C568285
Received: 2025/06/11, 10:49

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
48-h Daphnia Magna Single Concentration (1)	1	N/A	N/A		
96-h Rainbow Trout Single Concentration (1)	1	N/A	N/A		

Remarks:

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

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

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

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) This test was performed by Nautilus Environmental - Guelph, 11 Nicholas Beaver Rd Unit B, Puslinch, ON, N0B 2C0

Your Project #: 250253-04
Your C.O.C. #: C#1015023-01-01

Attention: S'rana Scholes

BluMetric Environmental Inc
The Tower - The Woolen Mill
4 Cataraqui St
Kingston, ON
CANADA K7K 1Z7

Report Date: 2025/06/25
Report #: R8564133
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C568285
Received: 2025/06/11, 10:49

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:
Deepthi Shaji, Project Manager
Email: Deepthi.Shaji@bureauveritas.com
Phone# (905)817-5700 Ext:7065843

==========

This report has been generated and distributed using a secure automated process.
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Bureau Veritas Job #: C568285
Report Date: 2025/06/25

BluMetric Environmental Inc
Client Project #: 250253-04
Sampler Initials: NW

TEST SUMMARY

Bureau Veritas ID: ARUR95
Sample ID: LSP CULVERT
Matrix: Water

Collected: 2025/06/10
Shipped:
Received: 2025/06/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
48-h Daphnia Magna Single Concentration		9957300	N/A		Deepthi Shaji
96-h Rainbow Trout Single Concentration		9957302	N/A		Deepthi Shaji

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	20.0°C

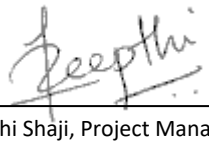
Results relate only to the items tested.

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

VALIDATION SIGNATURE PAGE

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



Deepthi Shaji, Project Manager

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Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

C568285
2025/06/11 10:49

Bureau Veritas
6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel:(905) 817-5700 Toll-free:800-563-6266 Fax:(905) 817-5777 www.bvna.com

CHAIN

NONT-2025-06-2107

Order #: 1015023

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:	
Company Name:	#1192 BluMetric Environmental Inc	Company Name:	#5638 BluMetric Environmental Inc	Quotation #:	~~C35700~~
Attention:	Accounts Payable	Attention:	~~Carolyn Miller~~ Srana Scholes	P.O. #:	
Address:	1682 Woodward Drive Ottawa ON K2C 3R8	Address:	The Tower - The Woolen Mill 4 Cataraqui St Kingston ON K7K 1Z7	Project:	~~240265-07~~ 250253-04
Tel:	(613) 839-3053 Fax: (613) 839-5376	Tel:	~~(613) 584-2725~~ Fax:	Project Name:	
Email:	ap@blumetric.ca	Email:	~~cmiller@blumetric.ca~~; edms@blumetric.ca; cbandler@bl	Site #:	~~Musclow Greenview TOX~~
				Sampled By:	NW / BM

COC #:	Project Manager:
C#1015023-01-01	Elora Di Bratto

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BUREAU VERITAS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011)
☐ Table 1 ☐ Res/Park ☐ Medium/Fine
☐ Table 2 ☐ Ind/Comm ☐ Coarse
☐ Table 3 ☐ Agri/Other ☐ For RSC
☐ Table ___

Other Regulations
☐ CCME ☐ Sanitary Sewer Bylaw
☐ Reg 558. ☐ Storm Sewer Bylaw
☐ MISA Municipality _____
☐ PWQO ☐ Reg 406 Table _____
☐ Other _____

Special Instructions

Include Criteria on Certificate of Analysis (Y/N)? _____

Field Filtered (please circle): Metals / Hg / Cr VI

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

Turnaround Time (TAT) Required:
Please provide advance notice for rush projects

Regular (Standard) TAT: X
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests..
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: _____ Time Required: _____ ☐
Rush Confirmation Number: _____ *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered	Toxicity	# of Bottles	Comments
1		~~MG-SW3~~							
2		LSP Culvert	25/06/10	11:10	SW	None	✓	1	
3									
4									
5									
6									
7									
8									
9									
10									

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
Nathan Wilson	25/06/10	16:00	Ashlin Sukumar BLUM Dispatch	2025/06/11	10:49	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Recei	Custody Seal Present	Yes	No
	20 / 20 / 20	Intact	✓	

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/COC-TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/CHAIN-CUSTODY-FORMS-COCS.

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

White: Bureau Veritas Yellow: Client

No ice

Bureau Veritas Canada (2019) Inc.

NAUTILUS ENVIRONMENTAL
B-11 Nicholas Beaver Road
Puslinch, ON N0B 2J0
Tel. (519) 763-4412
Fax. (519) 763-4419

PRELIMINARY

ACUTE LETHALITY REPORT SUMMARY

Work Order : 258033

Deepthi Shaji
Bureau Veritas Laboratories
6740 Campobello Road
Mississauga ON
L5N 2L8

RESULTS

Substance	Date Collected	Date Tested	Species / Test	LC50	Mortality in 100% Concentration (%)
LSP Culvert	2025-06-10	2025-06-13	Dm SC	-	0
	2025-06-10	2025-06-13	RBT SC	-	0

RBT = rainbow trout
Dm = *Daphnia magna*
* = pH Stabilized
SC = single concentration

Test Method(s)

Reference Method for Determining Acute Lethality of Effluents to Daphnia magna. Environment Canada EPS 1/RM/14 (Second Edition, December 2000, with February 2016 amendments)

Reference Method for Determining Acute Lethality of Liquid Effluents to Rainbow Trout. Environment Canada, EPS 1/RM/13 (2nd Edition, December 2000, with May 2007 and February 2016 amendments)

Although test results are generated under strict QA/QC protocols, the results provided herein, along with any unsigned test reports, faxes, or emails are considered preliminary.

CHAIN OF CUSTODY RECORD

NAUTILUS ENVIRONMENTAL

Nautilus Work Order No: 258033

Shipping Address: Nautilus Environmental Guelph.
B-11 Nicholas Beaver Road
Puslinch, Ontario Canada N0B 2J0

Voice: (519) 763-4412 **Fax:** (519) 763-4419

P.O. Number: C568285
Field Sampler Name (print):
Signature:
Affiliation:
Sample Storage (prior to shipping):
Custody Relinquished by: Bhavjot Kaur BHAVJOT KAUR
Date/Time Shipped: 2025/06/12 11:51

Client: Bureau Veritas Laboratories
6740 Campobello Road, Mississauga, Ontario, L5N 2L8

Phone:
Fax:
Contact: Deepthi Shaji -deepthi.shaji@bureauveritas.com

Sample Identification					Analyses Requested									Sample Method and Volume		
Date Collected (yyyy-mm-dd)	Time Collected (e.g. 14:30, 24 hr clock)	Sample Name	Nautilus Sample Number	Temp. on arrival	Rainbow Trout Single Concentration	Rainbow Trout LC50	*Daphnia magna* Single Concentration	*Daphnia magna* LC50	Fathead Minnow Survival & Growth	*Ceriodaphnia dubia* Survival & Reproduction	*Lemna minor* Growth	*Pseudokirchneriella subcapitata* Growth	Other (please specify below)	Grab ★	Composite	# of Containers and Volume (eg. 2 x 1L, 3 x 10L, etc.)
2025-06-10	11:10	LSP Culvert	87244	13°C	✔		✔							X		1 Pail

For Lab Use Only
Received By: MK/NWP
Date: 2025-06-12
Time: 14:20
Storage Location:
Storage Temp.(°C)

Please list any special requests or instructions:

48 Hour single conc. Daphnia Magna
96 Hour single conc. using Rainbow Trout
★ Sampling method retrieved from pail label MK

NAUTILUS ENVIRONMENTAL
B-11 Nicholas Beaver Road
Puslinch, ON N0B 2J0
Tel. (519) 763-4412
Fax. (519) 763-4419

TOXICITY TEST REPORT

Daphnia magna
EPS 1/RM/14

Work Order : 258033
Sample Number : 87244

SAMPLE IDENTIFICATION

Company :	Bureau Veritas Laboratories		
Location :	Mississauga ON	Sampling Date :	2025-06-10
Job Number :	C568285	Sampling Time :	11:10
Substance :	LSP Culvert	Date Received :	2025-06-12
Sampling Method :	Grab	Time Received :	14:20
Sampled By :	B. Kaur	Temperature at Receipt :	13 °C
Sample Description :	Clear, orange	Date Tested :	2025-06-13

Test Method : Reference Method for Determining Acute Lethality of Effluents to *Daphnia magna* . Environment Canada EPS 1/RM/14 (Second Edition, December 2000, with February 2016 amendments).

48-HOUR TEST RESULTS

Substance	Effect	Value
Control	Mean Immobility	0.0 %
	Mean Mortality	0.0 %
100%	Mean Immobility	0.0 %
	Mean Mortality	0.0 %

The results reported relate only to the sample tested and as received.

TEST ORGANISM

Species :	*Daphnia magna*	Time to First Brood :	8.0 days
Organism Batch :	Dm25-10	Average Brood Size :	33.1
Culture Mortality :	0% (previous 7 days)		

TEST CONDITIONS

Sample Treatment :	None	Number of Replicates :	3
pH Adjustment :	None	Organisms per Replicate :	10
Pre-aeration Rate :	~30 mL/min/L	Organisms per Test Level :	30
Duration of Pre-Aeration :	0 minutes	Organism Loading Rate :	15.0 mL/organism
Test Aeration :	None	Impaired Control Organisms :	0.0%
Hardness Adjustment :	None	Test Method Deviation(s) :	None

REFERENCE TOXICANT DATA

Toxicant :	Sodium Chloride		
Date Tested :	2025-06-03	LC50 :	6.4 g/L
Organism Batch :	Dm25-10	95% Confidence Limits :	6.2 - 6.6 g/L
Analyst(s) :	CYW	Historical Mean LC50 :	6.5 g/L
Statistical Method :	Spearman-Kärber	Warning Limits (± 2SD) :	5.7 - 7.4 g/L

COMMENTS

- All test validity criteria as specified in the test method were satisfied.

Approved By : _____

Project Manager

Work Order : 258033
Sample Number : 87244

TEST DATA

	pH	Dissolved O_2 (mg/L)	Conductivity (µmhos/cm)	Temperature (°C)	O_2 Saturation (%)*	Hardness (as $CaCO_3$)
Initial Chemistry (100%) :	6.5	8.5	123	20	98	30 mg/L

0 HOURS

Date & Time : 2025-06-13 10:35
Analyst(s) : ACS (JGR)

Concentration (%)	Replicate	Dead	Immobile	pH	Dissolved O_2	Conductivity	Temperature	O_2 Saturation*	Hardness
100	A	0	0	6.5	8.5	123	20	98	30
100	B	0	0	6.5	8.5	123	20	98	30
100	C	0	0	6.5	8.5	123	20	98	30
Control	A	0	0	8.1	8.7	468	20	100	140
Control	B	0	0	8.1	8.7	468	20	100	140
Control	C	0	0	8.1	8.7	468	20	100	140

Notes:

24 HOURS

Date & Time : 2025-06-14 10:50
Analyst(s) : MK

Concentration (%)	Replicate	Dead	Immobile	pH	Dissolved O_2	Conductivity	Temperature
100	A	–	0	–	–	–	20
100	B	–	0	–	–	–	20
100	C	–	0	–	–	–	20
Control	A	–	0	–	–	–	20
Control	B	–	0	–	–	–	20
Control	C	–	0	–	–	–	20

Notes:

48 HOURS

Date & Time : 2025-06-15 10:15
Analyst(s) : JJ

Concentration (%)	Replicate	Dead	Immobile	pH	Dissolved O_2	Conductivity	Temperature
100	A	0	0	7.8	8.5	130	20
100	B	0	0	7.8	8.6	128	20
100	C	0	0	7.7	8.6	127	20
Control	A	0	0	8.3	8.4	473	20
Control	B	0	0	8.3	8.5	477	20
Control	C	0	0	8.3	8.5	478	20

Notes:

Number immobile does not include number dead.

"–" = not measured/not required
* adjusted for temperature and barometric pressure

Test Data Reviewed By : FM
Date : 2025-06-17

NAUTILUS ENVIRONMENTAL
B-11 Nicholas Beaver Road
Puslinch, ON N0B 2J0
Tel. (519) 763-4412
Fax. (519) 763-4419

TOXICITY TEST REPORT
Rainbow Trout
EPS 1/RM/13

Work Order : 258033
Sample Number : 87244

SAMPLE IDENTIFICATION

Company :	Bureau Veritas Laboratories		
Location :	Mississauga ON	Sampling Date :	2025-06-10
Job Number :	C568285	Sampling Time :	11:10
Substance :	LSP Culvert	Date Received :	2025-06-12
Sampling Method :	Grab	Time Received :	14:20
Sampled By :	B. Kaur	Temperature at Receipt :	13 °C
Sample Description :	Clear, orange	Date Tested :	2025-06-13

Test Method(s) : Reference Method for Determining Acute Lethality of Liquid Effluents to Rainbow Trout. Environment Canada, EPS 1/RM/13 (2nd Edition, December 2000, with May 2007, February 2016, and December 2023 amendments).

96-HOUR TEST RESULTS

Substance	Effect	Value
Control	Mean Impairment	0.0 %
	Mean Mortality	0.0 %
100%	Mean Impairment	0.0 %
	Mean Mortality	0.0 %

The results reported relate only to the sample tested and as received.

TEST ORGANISM

Test Organism :	*Oncorhynchus mykiss*	Mean Fork Length :	35.7 mm
Organism Batch :	T25-13	Range of Fork Lengths :	32 - 42 mm
Control Sample Size :	10	Mean Wet Weight :	0.4 g
Cumulative stock mortality rate :	0% (previous 7 days)	Organism Loading Rate :	0.2 g/L
Control organisms showing stress :	0 (at test completion)		

TEST CONDITIONS

Test Type :	Single concentration	Number of Replicates :	1
Sample pH Adjustment :	None	Organisms Per Replicate :	10
Sample Pre-aeration/Aeration Rate :	6.5 ± 1 mL/min/L	Organisms Per Test Level :	10
Duration of Sample Pre-Aeration :	30 minutes	Volume of Sample :	18 L
Control Pre-aeration/Aeration Rate :	6.5 ± 1 mL/min/L	Volume of Control :	18 L
Duration of Control Pre-aeration:	30 minutes	Test Method Deviation(s) :	None

REFERENCE TOXICANT DATA

Toxicant :	Potassium Chloride		
Organism Batch :	T25-13	LC50 :	2935 mg/L*
Date Tested :	2025-06-02	95% Confidence Limits :	2547 - 3335 mg/L
Analyst(s) :	NWP, GF, JGR	Historical Mean LC50 :	4175 mg/L
Statistical Method :	Linear Regression (MLE)	Warning Limits (± 2SD) :	3286 - 5304 mg/L

*The reference toxicant test result exceeded the 95% warning limits, but fell within the 99.7% control limits, for historical data. No other unusual circumstances were observed and therefore the test result is considered acceptable.

COMMENTS

•All test validity criteria as specified in the test method were satisfied.

Approved By : _____
Project Manager

Work Order : 258033
Sample Number : 87244

TEST DATA

	pH	Dissolved O_2 (mg/L)	Conductivity (µmhos/cm)	Temperature (°C)	O_2 Saturation (%)[3]
Initial Water Chemistry (100%) :	6.4	9.0	118	15	95
After 30 min pre-aeration :	6.6	9.3	118	15	97

0 HOURS

Date & Time 2025-06-13 9:50
Analyst(s) : GF (JGR)

Concentration	Dead	Impaired	pH	Dissolved O_2	Conductivity	Temperature	O_2 Saturation[3]
100%	0	0	6.6	9.3	118	15	97
Control	0	0	8.1	9.5	680	15	100

Notes:

24 HOURS

Date & Time 2025-06-14 10:00
Analyst(s) : GF (VC)

Concentration	Dead	Impaired	pH	Dissolved O_2	Conductivity	Temperature
100%	0	0	–	–	–	15
Control	0	0	–	–	–	15

Notes:

48 HOURS

Date & Time 2025-06-15 9:25
Analyst(s) : GF (VC)

Concentration	Dead	Impaired	pH	Dissolved O_2	Conductivity	Temperature
100%	0	0	–	–	–	15
Control	0	0	–	–	–	15

Notes:

72 HOURS

Date & Time 2025-06-16 9:20
Analyst(s) : CB (NWP)

Concentration	Dead	Impaired	pH	Dissolved O_2	Conductivity	Temperature
100%	0	0	–	–	–	14
Control	0	0	–	–	–	14

Notes:

96 HOURS

Date & Time 2025-06-17 9:25
Analyst(s) : GF (JGR)

Concentration	Dead	Impaired	pH	Dissolved O_2	Conductivity	Temperature
100%	0	0	8.0	9.5	121	15
Control	0	0	8.3	9.2	642	15

Notes:

"–" = not measured/not required
Number impaired does not include number dead.
[3] adjusted for temperature and barometric pressure

Test Data Reviewed By : FM
Date : 2025-06-18

CHAIN OF CUSTODY RECORD

NAUTILUS ENVIRONMENTAL

Nautilus Work Order No: 258033

Shipping Address: Nautilus Environmental Guelph.
B-11 Nicholas Beaver Road
Puslinch, Ontario Canada N0B 2J0

Voice: (519) 763-4412 **Fax:** (519) 763-4419

P.O. Number: C568285
Field Sampler Name (print):
Signature:
Affiliation:
Sample Storage (prior to shipping):
Custody Relinquished by: Bhavjot Kaur BHAVJOT KAUR
Date/Time Shipped: 2025/06/12 11:51

Client: Bureau Veritas Laboratories
6740 Campobello Road, Mississauga, Ontario, L5N 2L8

Phone:
Fax:
Contact: Deepthi Shaji -deepthi.shaji@bureauveritas.com

Sample Identification					Analyses Requested									Sample Method and Volume		
Date Collected (yyyy-mm-dd)	Time Collected (e.g. 14:30, 24 hr clock)	Sample Name	Nautilus Sample Number	Temp. on arrival	Rainbow Trout Single Concentration	Rainbow Trout LC50	*Daphnia magna* Single Concentration	*Daphnia magna* LC50	Fathead Minnow Survival & Growth	*Ceriodaphnia dubia* Survival & Reproduction	*Lemna minor* Growth	*Pseudokirchneriella subcapitata* Growth	Other (please specify below)	Grab ★	Composite	# of Containers and Volume (eg. 2 x 1L, 3 x 10L, etc.)
2025-06-10	11:10	LSP Culvert	87244	13°C	✔		✔							X		1 Pail

For Lab Use Only
Received By: MK/NWP
Date: 2025-06-12
Time: 14:20
Storage Location:
Storage Temp.(°C)

Please list any special requests or instructions:

48 Hour single conc. Daphnia Magna
96 Hour single conc. using Rainbow Trout
★ Sampling method retrieved from pail label MK

Appendix E

Historical Groundwater and Surface Water Chemistry

Appendix E

E-1 Historical Groundwater Chemistry

Hastings Highlands Analytical Chemistry Results:						Site Name	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS
						Location	LSP-DP1-21	LSP-DP1-21	LSP-DP1-21	LSP-DP1-21	LSP-DP1-21	LSP-DP1-21
Parameter	Units	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	RUV-LSP	Sample ID	LSP-DP1-21	LSP-DP1-21	LSP-DPI-21	LSP-DP1-21	LSP-DP1-21	LSP-DP1-21
						Sample Date	2021-Oct-19	2022-May-02	2022-Oct-17	2023-May-04	2023-Oct-17	2024-Apr-30
Anions						**Detection Limit**						
Chloride	mg/L	250	-	-	125.25	0.1, 0.12, 0.5, 1, 2	16.1	9.31	13.8	5.47	27	9.7
Nitrate as N	mg/L	10	-	-	2.51875	0.05, 0.1, 0.25	<0.05	<0.05	0.12	<0.05	<0.1	<0.1
Sulphate	mg/L	500	-	-	252.622	0.1, 0.5, 1	36.9	35.2	34.3	37.1	29	33
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2	50.3	44.3	53	-	58	35
Magnesium (diss)	mg/L	-	-	-	-	0.05	10	8.61	9.12	5.77	9.7	6.2
Sodium (diss)	mg/L	200	-	-	100.765	0.05, 0.1	20.1	17.8	19.1	12.9	17	13
General Chemistry												
Alkalinity (as CaCO3)	mg/L	30 - 500	-	-	256.25	1, 5	232	197	241	146	220	160
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.06, 0.07, 0.1, 0.18, 0.25	7.12	6.27	6.12	4.96	7.8	5.8
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5	59	53	16	66	88	46
Dissolved Organic Carbon	mg/L	5	-	-	4.3	0.4, 0.5	14.8	12.3	14.1	9.7	13	11
Electrical Conductivity	uS/cm	-	-	-	-	1, 2, 5	567	515	611	375	580	390
pH	pH units	6.5 - 8.5	6.5 - 8.5	-	-		6.97	6.73	6.87	6.75	7.11	6.99
Total Dissolved Solids	mg/L	500	-	-	267	5, 10, 20	292	288	298	216	315	250
Total Suspended Solids	mg/L	-	-	-	-	10, 20, 33, 50, 100, 200, 500	2080	932	-	336	150	68
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.1	-	0.075	-	0.004, 0.0049, 0.01	-	-	0.048	-	-	-
Barium (diss)	mg/L	1	-	-	-	0.002	0.612	0.477	-	0.298	0.49	0.29
Beryllium (diss)	mg/L	-	1.1	-	-	0.0004, 0.001	-	-	-	-	-	-
Boron (diss)	mg/L	5	-	0.2	-	0.01	**0.448**	**0.285**	**0.449**	**0.259**	**0.42**	**0.29**
Cadmium (diss)	mg/L	0.005	-	0.0005	-	0.00009, 0.0001	-	-	-	-	-	-
Chromium (diss)	mg/L	0.05	-	-	-	0.001, 0.005	-	-	-	-	-	-
Cobalt (diss)	mg/L	-	-	0.0009	-	0.0002, 0.0005	-	-	-	-	-	-
Copper (diss)	mg/L	1	-	0.005	-	0.0009, 0.001	-	-	-	-	-	-
Iron (diss)	mg/L	0.3	0.3	-	0.207	0.01, 0.02, 0.1	24.5	18.8	25.2	12.7	47	26
Lead (diss)	mg/L	0.01	-	0.005	-	0.0005, 0.001	-	-	<0.0005	-	-	-
Manganese (diss)	mg/L	0.05	-	-	0.0505	0.002, 0.01, 0.02	10.8	9.69	10.3	6.52	11	7.2
Molybdenum (diss)	mg/L	-	-	0.04	-	0.0005, 0.005	-	-	-	-	-	-
Nickel (diss)	mg/L	-	0.025	-	-	0.001, 0.005	-	-	-	-	-	-
Zinc (diss)	mg/L	5	-	0.02	-	0.005, 0.01	-	-	**0.05**	-	-	-

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds ODWQS-ALL-MERGED	Ontario Drinking Water Quality Standards All Types Merged
Concentration exceeds PWQO-GENERAL	Provincial Water Quality Objectives General
Concentration exceeds PWQO-INTERIM	Provincial Water Quality Objectives Interim
Concentration exceeds RUV-LSP	Reasonable Use Values Lake St Peter

Hastings Highlands Analytical Chemistry Results:						Site Name	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS
						Location	LSP-DP1-21	LSP-DP1-21	LSP-DP1-21	LSP-DP1-21	LSP1-03	LSP1-03
Parameter	Units	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	RUV-LSP	Sample ID	LSP-DP1-21	LSP-DP1-21	LSP-DP1-21	LSP-DP1-21-GW	LSP1-03	LSP1-03
						Sample Date	2024-Oct-28	2025-May-06	2025-Oct-15	2025-Oct-15	2006-May-09	2006-Nov-21
Anions						Detection Limit						
Chloride	mg/L	250	-	-	125.25	0.1, 0.12, 0.5, 1, 2	16	6.5	18	21	-	-
Nitrate as N	mg/L	10	-	-	2.51875	0.05, 0.1, 0.25	<0.1	<0.1	<0.1	0.11	4.11	1.76
Sulphate	mg/L	500	-	-	252.622	0.1, 0.5, 1	25	18	18	19	12	28
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2	50	33	60	57	34	40
Magnesium (diss)	mg/L	-	-	-	-	0.05	8.2	5.2	9.4	9	6	6
Sodium (diss)	mg/L	200	-	-	100.765	0.05, 0.1	17	9.7	17	17	10	15
General Chemistry												
Alkalinity (as CaCO3)	mg/L	30 - 500	-	-	256.25	1, 5	210	140	240	240	102	136
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.06, 0.07, 0.1, 0.18, 0.25	6.3	4.8	6.8	6.8	-	-
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5	24	23	40	-	-	-
Dissolved Organic Carbon	mg/L	5	-	-	4.3	0.4, 0.5	11	15	15	14	-	-
Electrical Conductivity	uS/cm	-	-	-	-	1, 2, 5	510	350	580	560	317	399
pH	pH units	6.5 - 8.5	6.5 - 8.5	-	-		7.12	7.12	6.66	6.88	7.06	6.59
Total Dissolved Solids	mg/L	500	-	-	267	5, 10, 20	280	210	275	250	-	-
Total Suspended Solids	mg/L	-	-	-	-	10, 20, 33, 50, 100, 200, 500	67	56	80	110	-	-
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.1	-	0.075	-	0.004, 0.0049, 0.01	-	-	-	-	0.05	0.01
Barium (diss)	mg/L	1	-	-	-	0.002	0.4	0.24	0.41	0.41	0.13	0.22
Beryllium (diss)	mg/L	-	1.1	-	-	0.0004, 0.001	-	-	-	-	<0.001	<0.001
Boron (diss)	mg/L	5	-	0.2	-	0.01	**0.36**	**0.22**	**0.38**	**0.36**	0.14	**0.21**
Cadmium (diss)	mg/L	0.005	-	0.0005	-	0.00009, 0.0001	-	-	-	-	<0.0001	<0.0001
Chromium (diss)	mg/L	0.05	-	-	-	0.001, 0.005	-	-	-	-	0.001	0.002
Cobalt (diss)	mg/L	-	-	0.0009	-	0.0002, 0.0005	-	-	-	-	**0.0023**	**0.003**
Copper (diss)	mg/L	1	-	0.005	-	0.0009, 0.001	-	-	-	-	0.003	0.002
Iron (diss)	mg/L	0.3	0.3	-	0.207	0.01, 0.02, 0.1	27	15	30	29	0.18	0.03
Lead (diss)	mg/L	0.01	-	0.005	-	0.0005, 0.001	-	-	-	-	<0.001	<0.001
Manganese (diss)	mg/L	0.05	-	-	0.0505	0.002, 0.01, 0.02	9.7	7	12	11	0.78	0.34
Molybdenum (diss)	mg/L	-	-	0.04	-	0.0005, 0.005	-	-	-	-	<0.005	<0.005
Nickel (diss)	mg/L	-	0.025	-	-	0.001, 0.005	-	-	-	-	<0.005	<0.005
Zinc (diss)	mg/L	5	-	0.02	-	0.005, 0.01	-	-	-	-	<0.01	<0.01

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds ODWQS-ALL-MERGED	Ontario Drinking Water Quality Standards All Types Merged
Concentration exceeds PWQO-GENERAL	Provincial Water Quality Objectives General
Concentration exceeds PWQO-INTERIM	Provincial Water Quality Objectives Interim
Concentration exceeds RUV-LSP	Reasonable Use Values Lake St Peter

Hastings Highlands Analytical Chemistry Results:						Site Name	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS
						Location	LSP1-03	LSP1-03	LSP1-03	LSP1-03	LSP1-03	LSP1-03
Parameter	Units	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	RUV-LSP	Sample ID	LSP1-03	LSP1-03	LSP1-03	LSP1-03	LSP1-03	LSP1-03
						Sample Date	2007-May-02	2007-Nov-21	2008-May-08	2008-Oct-08	2009-Jun-04	2009-Oct-21
Anions						**Detection Limit**						
Chloride	mg/L	250	-	-	125.25	0.1, 0.12, 0.5, 1, 2	25	13	17	16	17	13
Nitrate as N	mg/L	10	-	-	2.51875	0.05, 0.1, 0.25	0.28	4.69	4.66	6	1.57	6.4
Sulphate	mg/L	500	-	-	252.622	0.1, 0.5, 1	30	18	8	36	16	26
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2	54	52	37	53	28	42
Magnesium (diss)	mg/L	-	-	-	-	0.05	8	7	5	7	3	5
Sodium (diss)	mg/L	200	-	-	100.765	0.05, 0.1	19	15	11	15	11	13
General Chemistry												
Alkalinity (as CaCO3)	mg/L	30 - 500	-	-	256.25	1, 5	168	191	111	147	82	123
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.06, 0.07, 0.1, 0.18, 0.25	0.24	1.42	0.58	0.69	0.16	0.46
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5	<5	<5	<5	20	5	23
Dissolved Organic Carbon	mg/L	5	-	-	4.3	0.4, 0.5	7.4	6.2	2.4	5.9	2.6	4.2
Electrical Conductivity	uS/cm	-	-	-	-	1, 2, 5	482	481	331	463	268	391
pH	pH units	6.5 - 8.5	6.5 - 8.5	-	-		6.72	6.78	7.07	6.82	6.6	6.88
Total Dissolved Solids	mg/L	500	-	-	267	5, 10, 20	313	313	215	301	174	254
Total Suspended Solids	mg/L	-	-	-	-	10, 20, 33, 50, 100, 200, 500	-	-	-	-	-	-
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.1	-	0.075	-	0.004, 0.0049, 0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01
Barium (diss)	mg/L	1	-	-	-	0.002	0.28	0.34	0.19	0.27	0.12	0.15
Beryllium (diss)	mg/L	-	1.1	-	-	0.0004, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron (diss)	mg/L	5	-	0.2	-	0.01	**0.22**	**0.32**	0.14	**0.28**	0.12	**0.24**
Cadmium (diss)	mg/L	0.005	-	0.0005	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001
Chromium (diss)	mg/L	0.05	-	-	-	0.001, 0.005	0.002	0.003	0.002	0.001	0.001	0.002
Cobalt (diss)	mg/L	-	-	0.0009	-	0.0002, 0.0005	**0.0029**	**0.0045**	**0.0011**	**0.0029**	0.0007	**0.0011**
Copper (diss)	mg/L	1	-	0.005	-	0.0009, 0.001	**0.006**	0.004	0.003	0.003	0.002	0.003
Iron (diss)	mg/L	0.3	0.3	-	0.207	0.01, 0.02, 0.1	0.08	<0.03	<0.03	<0.03	<0.03	<0.03
Lead (diss)	mg/L	0.01	-	0.005	-	0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (diss)	mg/L	0.05	-	-	0.0505	0.002, 0.01, 0.02	1.18	0.98	0.45	0.57	0.37	0.3
Molybdenum (diss)	mg/L	-	-	0.04	-	0.0005, 0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Nickel (diss)	mg/L	-	0.025	-	-	0.001, 0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc (diss)	mg/L	5	-	0.02	-	0.005, 0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds ODWQS-ALL-MERGED	Ontario Drinking Water Quality Standards All Types Merged
Concentration exceeds PWQO-GENERAL	Provincial Water Quality Objectives General
Concentration exceeds PWQO-INTERIM	Provincial Water Quality Objectives Interim
Concentration exceeds RUV-LSP	Reasonable Use Values Lake St Peter

Hastings Highlands Analytical Chemistry Results:						Site Name	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS
						Location	LSP1-03	LSP1-03	LSP1-03	LSP1-03	LSP1-03	LSP1-03
Parameter	Units	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	RUV-LSP	Sample ID	LSP1-03	LSP1-03	LSP1-03	LSP1-03	LSP1-03	LSP1-03
						Sample Date	2010-May-18	2010-Oct-19	2011-May-19	2011-Nov-02	2012-Apr-17	2012-Oct-17
Anions						Detection Limit						
Chloride	mg/L	250	-	-	125.25	0.1, 0.12, 0.5, 1, 2	4	8	23	14	9	11
Nitrate as N	mg/L	10	-	-	2.51875	0.05, 0.1, 0.25	1.74	2.6	2.61	4.66	4.6	3.1
Sulphate	mg/L	500	-	-	252.622	0.1, 0.5, 1	14	22	14	10	7	13
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2	30	40	41	49	19.7	38.6
Magnesium (diss)	mg/L	-	-	-	-	0.05	3	4	4	5	3.53	4.71
Sodium (diss)	mg/L	200	-	-	100.765	0.05, 0.1	8	9	14	12	7.03	10.7
General Chemistry												
Alkalinity (as CaCO3)	mg/L	30 - 500	-	-	256.25	1, 5	98	122	126	141	86	129
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.06, 0.07, 0.1, 0.18, 0.25	<0.02	0.09	0.35	0.72	0.04	0.03
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5	5	5	13	12	26	17
Dissolved Organic Carbon	mg/L	5	-	-	4.3	0.4, 0.5	2.3	3	3.5	3	2.8	3.6
Electrical Conductivity	uS/cm	-	-	-	-	1, 2, 5	251	319	372	368	282	344
pH	pH units	6.5 - 8.5	6.5 - 8.5	-	-		6.84	6.64	7.09	6.51	7.2	6.3
Total Dissolved Solids	mg/L	500	-	-	267	5, 10, 20	163	207	242	239	246	164
Total Suspended Solids	mg/L	-	-	-	-	10, 20, 33, 50, 100, 200, 500	-	-	-	-	-	-
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.1	-	0.075	-	0.004, 0.0049, 0.01	<0.01	0.01	<0.01	<0.01	0.007	0.005
Barium (diss)	mg/L	1	-	-	-	0.002	0.08	0.11	0.13	0.16	0.074	0.14
Beryllium (diss)	mg/L	-	1.1	-	-	0.0004, 0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0005
Boron (diss)	mg/L	5	-	0.2	-	0.01	0.13	**0.23**	0.2	0.2	0.142	**0.23**
Cadmium (diss)	mg/L	0.005	-	0.0005	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium (diss)	mg/L	0.05	-	-	-	0.001, 0.005	<0.001	<0.001	0.002	0.001	<0.001	<0.001
Cobalt (diss)	mg/L	-	-	0.0009	-	0.0002, 0.0005	0.0002	0.0002	0.0007	**0.0023**	<0.0005	**0.0022**
Copper (diss)	mg/L	1	-	0.005	-	0.0009, 0.001	0.002	0.002	0.002	0.002	0.001	0.0021
Iron (diss)	mg/L	0.3	0.3	-	0.207	0.01, 0.02, 0.1	<0.03	<0.03	<0.03	<0.03	<0.1	<0.1
Lead (diss)	mg/L	0.01	-	0.005	-	0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.0001	<0.0001
Manganese (diss)	mg/L	0.05	-	-	0.0505	0.002, 0.01, 0.02	0.04	0.06	0.54	0.71	0.12	0.214
Molybdenum (diss)	mg/L	-	-	0.04	-	0.0005, 0.005	<0.005	<0.005	<0.005	<0.005	<0.0005	<0.0005
Nickel (diss)	mg/L	-	0.025	-	-	0.001, 0.005	<0.005	<0.005	<0.005	<0.005	0.001	0.002
Zinc (diss)	mg/L	5	-	0.02	-	0.005, 0.01	<0.01	<0.01	<0.01	<0.01	<0.005	<0.005

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds ODWQS-ALL-MERGED	Ontario Drinking Water Quality Standards All Types Merged
Concentration exceeds PWQO-GENERAL	Provincial Water Quality Objectives General
Concentration exceeds PWQO-INTERIM	Provincial Water Quality Objectives Interim
Concentration exceeds RUV-LSP	Reasonable Use Values Lake St Peter

Hastings Highlands Analytical Chemistry Results:						Site Name	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS
						Location	LSP1-03	LSP1-03	LSP1-03	LSP1-03	LSP1-03	LSP1-03
Parameter	Units	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	RUV-LSP	Sample ID	LSP1-03	LSP1-03	LSP1-03	LSP1-03	LSP1-03	LSP1-03
						Sample Date	2013-Apr-16	2013-Oct-29	2014-May-12	2014-Oct-15	2015-May-05	2015-Oct-27
Anions						Detection Limit						
Chloride	mg/L	250	-	-	125.25	0.1, 0.12, 0.5, 1, 2	6.06	31.3	79.4	79.6	79.7	39.2
Nitrate as N	mg/L	10	-	-	2.51875	0.05, 0.1, 0.25	1.47	0.44	<0.05	<0.25	<0.25	<0.25
Sulphate	mg/L	500	-	-	252.622	0.1, 0.5, 1	7.81	23.6	35.4	0.58	5.13	27.8
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2	22.3	45.1	66.6	97.4	64.7	72.9
Magnesium (diss)	mg/L	-	-	-	-	0.05	2.02	4.45	8.12	12	8.07	7.73
Sodium (diss)	mg/L	200	-	-	100.765	0.05, 0.1	5.34	18.1	45.3	62.1	48.6	34.4
General Chemistry												
Alkalinity (as CaCO3)	mg/L	30 - 500	-	-	256.25	1, 5	58	114	193	395	300	305
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.06, 0.07, 0.1, 0.18, 0.25	0.25	<0.02	0.69	14.7	11.6	15.9
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5	<5	12	31	173	112	81
Dissolved Organic Carbon	mg/L	5	-	-	4.3	0.4, 0.5	1.4	2.7	12.9	61.4	44.2	26.7
Electrical Conductivity	uS/cm	-	-	-	-	1, 2, 5	167	364	681	1040	858	790
pH	pH units	6.5 - 8.5	6.5 - 8.5	-	-		7.45	7.16	7.09	7.17	6.64	7.26
Total Dissolved Solids	mg/L	500	-	-	267	5, 10, 20	110	220	392	748	510	376
Total Suspended Solids	mg/L	-	-	-	-	10, 20, 33, 50, 100, 200, 500	-	-	-	-	-	-
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.1	-	0.075	-	0.004, 0.0049, 0.01	0.011	0.021	0.007	**0.106**	**0.111**	**0.088**
Barium (diss)	mg/L	1	-	-	-	0.002	0.072	0.171	0.176	0.85	0.473	0.558
Beryllium (diss)	mg/L	-	1.1	-	-	0.0004, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron (diss)	mg/L	5	-	0.2	-	0.01	0.081	**0.202**	**0.217**	**1.35**	**0.786**	**0.64**
Cadmium (diss)	mg/L	0.005	-	0.0005	-	0.00009, 0.0001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Chromium (diss)	mg/L	0.05	-	-	-	0.001, 0.005	<0.003	<0.003	<0.003	0.004	<0.003	0.003
Cobalt (diss)	mg/L	-	-	0.0009	-	0.0002, 0.0005	<0.001	**0.002**	**0.015**	**0.105**	**0.089**	**0.036**
Copper (diss)	mg/L	1	-	0.005	-	0.0009, 0.001	<0.003	<0.003	0.004	<0.003	<0.003	<0.003
Iron (diss)	mg/L	0.3	0.3	-	0.207	0.01, 0.02, 0.1	<0.01	<0.01	2.54	178	117	73.9
Lead (diss)	mg/L	0.01	-	0.005	-	0.0005, 0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Manganese (diss)	mg/L	0.05	-	-	0.0505	0.002, 0.01, 0.02	0.201	0.309	11.9	8.92	4.95	2.61
Molybdenum (diss)	mg/L	-	-	0.04	-	0.0005, 0.005	<0.002	<0.002	<0.002	0.008	0.002	0.005
Nickel (diss)	mg/L	-	0.025	-	-	0.001, 0.005	<0.003	<0.003	<0.003	0.005	0.006	0.006
Zinc (diss)	mg/L	5	-	0.02	-	0.005, 0.01	<0.005	**0.038**	<0.005	<0.005	<0.005	<0.005

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds ODWQS-ALL-MERGED	Ontario Drinking Water Quality Standards All Types Merged
Concentration exceeds PWQO-GENERAL	Provincial Water Quality Objectives General
Concentration exceeds PWQO-INTERIM	Provincial Water Quality Objectives Interim
Concentration exceeds RUV-LSP	Reasonable Use Values Lake St Peter

Hastings Highlands Analytical Chemistry Results:						Site Name	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS
						Location	LSP1-03	LSP1-03	LSP1-03	LSP1-03	LSP1-03	LSP1-03
Parameter	Units	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	RUV-LSP	Sample ID	LSP1-03	LSP1-03	LSP1-03	LSP1-03	LSP1-03	LSP1-03
						Sample Date	2016-Apr-27	2016-Oct-27	2017-May-12	2017-Oct-24	2018-May-08	2018-Oct-23
Anions						Detection Limit						
Chloride	mg/L	250	-	-	125.25	0.1, 0.12, 0.5, 1, 2	151	51.9	140	29.9	78.3	48.5
Nitrate as N	mg/L	10	-	-	2.51875	0.05, 0.1, 0.25	<0.25	<0.25	<0.25	<0.1	<0.25	<0.25
Sulphate	mg/L	500	-	-	252.622	0.1, 0.5, 1	4.21	5.84	4.42	17.6	14.7	6.91
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2	132	90.3	84.6	74.7	80	79.5
Magnesium (diss)	mg/L	-	-	-	-	0.05	20.5	11.4	12.9	8.7	10.1	8
Sodium (diss)	mg/L	200	-	-	100.765	0.05, 0.1	126	49	74	33.3	44.2	29.8
General Chemistry												
Alkalinity (as CaCO3)	mg/L	30 - 500	-	-	256.25	1, 5	601	443	392	359	386	341
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.06, 0.07, 0.1, 0.18, 0.25	31.8	19.3	15	15.4	13.5	13.8
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5	266	97	148	79	62	59
Dissolved Organic Carbon	mg/L	5	-	-	4.3	0.4, 0.5	114	42.3	68	34.7	27.7	22.5
Electrical Conductivity	uS/cm	-	-	-	-	1, 2, 5	1500	1070	1300	718	913	896
pH	pH units	6.5 - 8.5	6.5 - 8.5	-	-		7.64	7.44	7.48	6.91	6.81	6.85
Total Dissolved Solids	mg/L	500	-	-	267	5, 10, 20	868	550	652	426	498	422
Total Suspended Solids	mg/L	-	-	-	-	10, 20, 33, 50, 100, 200, 500	-	-	384	353	355	382
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.1	-	0.075	-	0.004, 0.0049, 0.01	**0.137**	**0.085**	-	-	-	-
Barium (diss)	mg/L	1	-	-	-	0.002	1.15	0.862	0.799	0.645	1	1
Beryllium (diss)	mg/L	-	1.1	-	-	0.0004, 0.001	<0.001	<0.001	-	-	-	-
Boron (diss)	mg/L	5	-	0.2	-	0.01	**1.1**	**0.571**	**0.271**	**0.532**	0	**1**
Cadmium (diss)	mg/L	0.005	-	0.0005	-	0.00009, 0.0001	<0.002	<0.001	-	-	-	-
Chromium (diss)	mg/L	0.05	-	-	-	0.001, 0.005	0.009	0.006	-	-	-	-
Cobalt (diss)	mg/L	-	-	0.0009	-	0.0002, 0.0005	**0.067**	**0.042**	-	-	-	-
Copper (diss)	mg/L	1	-	0.005	-	0.0009, 0.001	<0.003	<0.003	-	-	-	-
Iron (diss)	mg/L	0.3	0.3	-	0.207	0.01, 0.02, 0.1	148	102	170	120	94.1	114
Lead (diss)	mg/L	0.01	-	0.005	-	0.0005, 0.001	<0.002	<0.002	-	-	-	-
Manganese (diss)	mg/L	0.05	-	-	0.0505	0.002, 0.01, 0.02	5.05	6.96	10.4	5.65	6.7	4.96
Molybdenum (diss)	mg/L	-	-	0.04	-	0.0005, 0.005	0.007	0.002	-	-	-	-
Nickel (diss)	mg/L	-	0.025	-	-	0.001, 0.005	0.009	0.006	-	-	-	-
Zinc (diss)	mg/L	5	-	0.02	-	0.005, 0.01	<0.005	<0.005	-	-	-	-

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds ODWQS-ALL-MERGED	Ontario Drinking Water Quality Standards All Types Merged
Concentration exceeds PWQO-GENERAL	Provincial Water Quality Objectives General
Concentration exceeds PWQO-INTERIM	Provincial Water Quality Objectives Interim
Concentration exceeds RUV-LSP	Reasonable Use Values Lake St Peter

Hastings Highlands Analytical Chemistry Results:						Site Name	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS
						Location	LSP1-03	LSP1-03	LSP1-03	LSP1-03	LSP1-03	LSP1-03
Parameter	Units	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	RUV-LSP	Sample ID	LSP1-03	LSP-QAQC GW-S19 (LSP1-03)	LSP1-03	LSP1-03	LSP1-03	LSP1-03
						Sample Date	2019-May-08	2019-May-08	2019-Oct-23	2020-May-07	2020-Oct-07	2021-Apr-21
Anions						**Detection Limit**						
Chloride	mg/L	250	-	-	125.25	0.1, 0.12, 0.5, 1, 2	88.6	86.5	59.4	121	69.8	75.7
Nitrate as N	mg/L	10	-	-	2.51875	0.05, 0.1, 0.25	<0.25	<0.25	<1	<0.25	0.55	<0.25
Sulphate	mg/L	500	-	-	252.622	0.1, 0.5, 1	14.5	14.3	34.9	16.6	9.98	7.84
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2	83.7	86.3	66.8	95.5	98.1	98.1
Magnesium (diss)	mg/L	-	-	-	-	0.05	8.79	8.97	6.59	11.5	9.29	11.5
Sodium (diss)	mg/L	200	-	-	100.765	0.05, 0.1	39.2	40.6	29.7	52.3	37.2	49.4
General Chemistry												
Alkalinity (as CaCO3)	mg/L	30 - 500	-	-	256.25	1, 5	464	387	291	357	321	360
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.06, 0.07, 0.1, 0.18, 0.25	7.8	9	13.7	12.6	16.7	15
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5	67	78	54	79	55	58
Dissolved Organic Carbon	mg/L	5	-	-	4.3	0.4, 0.5	18.3	23.3	19.8	24.2	21.5	22.7
Electrical Conductivity	uS/cm	-	-	-	-	1, 2, 5	1060	1030	873	1340	812	941
pH	pH units	6.5 - 8.5	6.5 - 8.5	-	-		6.6	6.63	7.15	6.36	7.14	6.77
Total Dissolved Solids	mg/L	500	-	-	267	5, 10, 20	570	612	494	574	448	498
Total Suspended Solids	mg/L	-	-	-	-	10, 20, 33, 50, 100, 200, 500	343	325	552	235	334	290
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.1	-	0.075	-	0.004, 0.0049, 0.01	-	-	-	-	-	-
Barium (diss)	mg/L	1	-	-	-	0.002	0.604	0.629	0.515	0.631	0.693	0.567
Beryllium (diss)	mg/L	-	1.1	-	-	0.0004, 0.001	-	-	-	-	-	-
Boron (diss)	mg/L	5	-	0.2	-	0.01	**0.378**	**0.376**	**0.465**	**0.567**	**0.663**	**0.762**
Cadmium (diss)	mg/L	0.005	-	0.0005	-	0.00009, 0.0001	-	-	-	-	-	-
Chromium (diss)	mg/L	0.05	-	-	-	0.001, 0.005	-	-	-	-	-	-
Cobalt (diss)	mg/L	-	-	0.0009	-	0.0002, 0.0005	-	-	-	-	-	-
Copper (diss)	mg/L	1	-	0.005	-	0.0009, 0.001	-	-	-	-	-	-
Iron (diss)	mg/L	0.3	0.3	-	0.207	0.01, 0.02, 0.1	129	127	89.3	78.5	80.2	43
Lead (diss)	mg/L	0.01	-	0.005	-	0.0005, 0.001	-	-	-	-	-	-
Manganese (diss)	mg/L	0.05	-	-	0.0505	0.002, 0.01, 0.02	4.84	5.13	3.71	6.99	3.35	4.74
Molybdenum (diss)	mg/L	-	-	0.04	-	0.0005, 0.005	-	-	-	-	-	-
Nickel (diss)	mg/L	-	0.025	-	-	0.001, 0.005	-	-	-	-	-	-
Zinc (diss)	mg/L	5	-	0.02	-	0.005, 0.01	-	-	-	-	-	-

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds ODWQS-ALL-MERGED	Ontario Drinking Water Quality Standards All Types Merged
Concentration exceeds PWQO-GENERAL	Provincial Water Quality Objectives General
Concentration exceeds PWQO-INTERIM	Provincial Water Quality Objectives Interim
Concentration exceeds RUV-LSP	Reasonable Use Values Lake St Peter

Hastings Highlands Analytical Chemistry Results:						Site Name	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS
						Location	LSP1-03	LSP1-03	LSP1-03	LSP1-03	LSP1-03
Parameter	Units	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	RUV-LSP	Sample ID	LSP1-03	LSP-QAQC GW-F21 (LSP1-03)	LSP1-03	LSP-QAQC GW-S22 (LSP1-03)	LSP1-03
						Sample Date	2021-Oct-19	2021-Oct-19	2022-May-02	2022-May-02	2022-Oct-17
Anions						**Detection Limit**					
Chloride	mg/L	250	-	-	125.25	0.1, 0.12, 0.5, 1, 2	60.7	60.6	58.8	57.2	0.5
Nitrate as N	mg/L	10	-	-	2.51875	0.05, 0.1, 0.25	<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	500	-	-	252.622	0.1, 0.5, 1	8.85	8.4	6.08	6.12	4.01
Cations											
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2	67.8	65	70.3	70.5	66.3
Magnesium (diss)	mg/L	-	-	-	-	0.05	6.52	6.2	5.91	5.92	5.48
Sodium (diss)	mg/L	200	-	-	100.765	0.05, 0.1	35.5	34.3	25.1	25.4	21.2
General Chemistry											
Alkalinity (as CaCO3)	mg/L	30 - 500	-	-	256.25	1, 5	275	255	247	254	282
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.06, 0.07, 0.1, 0.18, 0.25	12.4	11.6	11.5	11.4	12.2
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5	57	58	61	64	66
Dissolved Organic Carbon	mg/L	5	-	-	4.3	0.4, 0.5	15.9	16.1	17.6	18.3	18.8
Electrical Conductivity	uS/cm	-	-	-	-	1, 2, 5	725	714	703	702	782
pH	pH units	6.5 - 8.5	6.5 - 8.5	-	-		6.89	6.77	6.63	6.6	6.74
Total Dissolved Solids	mg/L	500	-	-	267	5, 10, 20	332	358	370	352	372
Total Suspended Solids	mg/L	-	-	-	-	10, 20, 33, 50, 100, 200, 500	271	420	460	550	-
Metals											
Aluminum (diss, 0.45 µm)	mg/L	0.1	-	0.075	-	0.004, 0.0049, 0.01	-	-	-	-	0.065
Barium (diss)	mg/L	1	-	-	-	0.002	0.452	0.452	0.529	0.55	-
Beryllium (diss)	mg/L	-	1.1	-	-	0.0004, 0.001	-	-	-	-	-
Boron (diss)	mg/L	5	-	0.2	-	0.01	**0.608**	**0.61**	**0.397**	**0.406**	**0.418**
Cadmium (diss)	mg/L	0.005	-	0.0005	-	0.00009, 0.0001	-	-	-	-	-
Chromium (diss)	mg/L	0.05	-	-	-	0.001, 0.005	-	-	-	-	-
Cobalt (diss)	mg/L	-	-	0.0009	-	0.0002, 0.0005	-	-	-	-	-
Copper (diss)	mg/L	1	-	0.005	-	0.0009, 0.001	-	-	-	-	-
Iron (diss)	mg/L	0.3	0.3	-	0.207	0.01, 0.02, 0.1	50.6	51.1	81.3	75.3	64.3
Lead (diss)	mg/L	0.01	-	0.005	-	0.0005, 0.001	-	-	-	-	<0.0005
Manganese (diss)	mg/L	0.05	-	-	0.0505	0.002, 0.01, 0.02	4.51	4.68	2.45	2.5	1.58
Molybdenum (diss)	mg/L	-	-	0.04	-	0.0005, 0.005	-	-	-	-	-
Nickel (diss)	mg/L	-	0.025	-	-	0.001, 0.005	-	-	-	-	-
Zinc (diss)	mg/L	5	-	0.02	-	0.005, 0.01	-	-	-	-	<0.005

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds ODWQS-ALL-MERGED	Ontario Drinking Water Quality Standards All Types Merged
Concentration exceeds PWQO-GENERAL	Provincial Water Quality Objectives General
Concentration exceeds PWQO-INTERIM	Provincial Water Quality Objectives Interim
Concentration exceeds RUV-LSP	Reasonable Use Values Lake St Peter

Hastings Highlands Analytical Chemistry Results:						Site Name	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS
						Location	LSP1-03	LSP1-03	LSP1-03	LSP1-03	LSP1-03	LSP1-03
Parameter	Units	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	RUV-LSP	Sample ID	LSP1-03	LSP1-03	LSP1-03	LSP1-03	LSP1-03	LSP1-03
						Sample Date	2023-May-04	2023-Oct-17	2024-Apr-30	2024-Oct-28	2025-May-06	2025-Oct-15
Anions						Detection Limit						
Chloride	mg/L	250	-	-	125.25	0.1, 0.12, 0.5, 1, 2	128	72	120	65	78	54
Nitrate as N	mg/L	10	-	-	2.51875	0.05, 0.1, 0.25	<0.05	<0.1	<0.1	<0.1	<0.1	0.1
Sulphate	mg/L	500	-	-	252.622	0.1, 0.5, 1	5.09	4.3	6.5	5.8	4.6	4.5
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2	-	92	95	92	96	85
Magnesium (diss)	mg/L	-	-	-	-	0.05	9.3	9.5	12	9.2	11	8.4
Sodium (diss)	mg/L	200	-	-	100.765	0.05, 0.1	77.8	40	64	39	52	35
General Chemistry												
Alkalinity (as CaCO3)	mg/L	30 - 500	-	-	256.25	1, 5	398	330	310	340	360	320
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.06, 0.07, 0.1, 0.18, 0.25	15.4	20	9.6	17	13	17
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5	-	-	-	-	-	-
Dissolved Organic Carbon	mg/L	5	-	-	4.3	0.4, 0.5	23.8	19	14	21	20	18
Electrical Conductivity	uS/cm	-	-	-	-	1, 2, 5	1160	900	1000	890	990	820
pH	pH units	6.5 - 8.5	6.5 - 8.5	-	-		6.71	7.36	7.2	7.23	6.89	7.04
Total Dissolved Solids	mg/L	500	-	-	267	5, 10, 20	566	420	545	490	495	335
Total Suspended Solids	mg/L	-	-	-	-	10, 20, 33, 50, 100, 200, 500	756	490	580	1500	660	820
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.1	-	0.075	-	0.004, 0.0049, 0.01	-	-	-	-	-	-
Barium (diss)	mg/L	1	-	-	-	0.002	0.607	0.56	0.5	0.53	0.52	0.54
Beryllium (diss)	mg/L	-	1.1	-	-	0.0004, 0.001	-	-	-	-	-	-
Boron (diss)	mg/L	5	-	0.2	-	0.01	**0.648**	**0.66**	**0.55**	**0.71**	**0.62**	**0.54**
Cadmium (diss)	mg/L	0.005	-	0.0005	-	0.00009, 0.0001	-	-	-	-	-	-
Chromium (diss)	mg/L	0.05	-	-	-	0.001, 0.005	-	-	-	-	-	-
Cobalt (diss)	mg/L	-	-	0.0009	-	0.0002, 0.0005	-	-	-	-	-	-
Copper (diss)	mg/L	1	-	0.005	-	0.0009, 0.001	-	-	-	-	-	-
Iron (diss)	mg/L	0.3	0.3	-	0.207	0.01, 0.02, 0.1	75.4	64	13	67	55	67
Lead (diss)	mg/L	0.01	-	0.005	-	0.0005, 0.001	-	-	-	-	-	-
Manganese (diss)	mg/L	0.05	-	-	0.0505	0.002, 0.01, 0.02	2.67	2.2	3.5	2.1	3	2
Molybdenum (diss)	mg/L	-	-	0.04	-	0.0005, 0.005	-	-	-	-	-	-
Nickel (diss)	mg/L	-	0.025	-	-	0.001, 0.005	-	-	-	-	-	-
Zinc (diss)	mg/L	5	-	0.02	-	0.005, 0.01	-	-	-	-	-	-

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds ODWQS-ALL-MERGED	Ontario Drinking Water Quality Standards All Types Merged
Concentration exceeds PWQO-GENERAL	Provincial Water Quality Objectives General
Concentration exceeds PWQO-INTERIM	Provincial Water Quality Objectives Interim
Concentration exceeds RUV-LSP	Reasonable Use Values Lake St Peter

Hastings Highlands Analytical Chemistry Results:						Site Name	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS
						Location	LSP1-03	LSP2-03	LSP2-03	LSP2-03	LSP2-03	LSP2-03
Parameter	Units	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	RUV-LSP	Sample ID	LSP-QAQC-GW1 (LSP1-03)	LSP2-03	LSP2-03	LSP2-03	LSP2-03	LSP2-03
						Sample Date	2025-Oct-15	2006-May-09	2006-Nov-21	2007-May-02	2007-Nov-21	2008-May-08
Anions						Detection Limit						
Chloride	mg/L	250	-	-	125.25	0.1, 0.12, 0.5, 1, 2	52	-	-	3	1	<1
Nitrate as N	mg/L	10	-	-	2.51875	0.05, 0.1, 0.25	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Sulphate	mg/L	500	-	-	252.622	0.1, 0.5, 1	4.6	8	21	8	8	8
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2	83	5	4	5	3	6
Magnesium (diss)	mg/L	-	-	-	-	0.05	8.1	1	1	1	<1	2
Sodium (diss)	mg/L	200	-	-	100.765	0.05, 0.1	35	<2	<2	<2	<2	3
General Chemistry												
Alkalinity (as CaCO3)	mg/L	30 - 500	-	-	256.25	1, 5	320	14	11	12	10	9
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.06, 0.07, 0.1, 0.18, 0.25	17	-	-	0.1	<0.02	0.02
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5	-	-	-	8	10	16
Dissolved Organic Carbon	mg/L	5	-	-	4.3	0.4, 0.5	18	-	-	10.5	8.3	8.4
Electrical Conductivity	uS/cm	-	-	-	-	1, 2, 5	820	51	46	47	44	46
pH	pH units	6.5 - 8.5	6.5 - 8.5	-	-		6.99	6.55	6.34	6.23	6.52	6.76
Total Dissolved Solids	mg/L	500	-	-	267	5, 10, 20	390	-	-	31	29	30
Total Suspended Solids	mg/L	-	-	-	-	10, 20, 33, 50, 100, 200, 500	750	-	-	-	-	-
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.1	-	0.075	-	0.004, 0.0049, 0.01	-	**0.16**	0.1	0.06	0.05	0.07
Barium (diss)	mg/L	1	-	-	-	0.002	0.56	0.01	0.01	0.01	0.01	0.01
Beryllium (diss)	mg/L	-	1.1	-	-	0.0004, 0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001
Boron (diss)	mg/L	5	-	0.2	-	0.01	**0.54**	<0.01	0.01	0.01	<0.01	<0.01
Cadmium (diss)	mg/L	0.005	-	0.0005	-	0.00009, 0.0001	-	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium (diss)	mg/L	0.05	-	-	-	0.001, 0.005	-	<0.001	<0.001	<0.001	0.001	<0.001
Cobalt (diss)	mg/L	-	-	0.0009	-	0.0002, 0.0005	-	**0.0022**	**0.0018**	**0.0018**	**0.0021**	**0.0014**
Copper (diss)	mg/L	1	-	0.005	-	0.0009, 0.001	-	**0.003**	**0.002**	**0.003**	0.001	0.002
Iron (diss)	mg/L	0.3	0.3	-	0.207	0.01, 0.02, 0.1	67	0.42	0.48	0.32	0.23	0.26
Lead (diss)	mg/L	0.01	-	0.005	-	0.0005, 0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (diss)	mg/L	0.05	-	-	0.0505	0.002, 0.01, 0.02	1.9	0.08	0.07	0.07	0.07	0.06
Molybdenum (diss)	mg/L	-	-	0.04	-	0.0005, 0.005	-	<0.005	<0.005	<0.005	<0.005	<0.005
Nickel (diss)	mg/L	-	0.025	-	-	0.001, 0.005	-	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc (diss)	mg/L	5	-	0.02	-	0.005, 0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds ODWQS-ALL-MERGED	Ontario Drinking Water Quality Standards All Types Merged
Concentration exceeds PWQO-GENERAL	Provincial Water Quality Objectives General
Concentration exceeds PWQO-INTERIM	Provincial Water Quality Objectives Interim
Concentration exceeds RUV-LSP	Reasonable Use Values Lake St Peter

Hastings Highlands Analytical Chemistry Results:						Site Name	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS
						Location	LSP2-03	LSP2-03	LSP2-03	LSP2-03	LSP2-03	LSP2-03
Parameter	Units	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	RUV-LSP	Sample ID	LSP2-03	LSP2-03	LSP2-03	LSP2-03	LSP2-03	LSP2-03
						Sample Date	2008-Oct-08	2009-Jun-04	2009-Oct-21	2010-May-18	2010-Oct-19	2011-May-19
Anions						Detection Limit						
Chloride	mg/L	250	-	-	125.25	0.1, 0.12, 0.5, 1, 2	<1	2	1	2	<1	2
Nitrate as N	mg/L	10	-	-	2.51875	0.05, 0.1, 0.25	<0.1	<0.1	<0.1	0.15	0.16	<0.1
Sulphate	mg/L	500	-	-	252.622	0.1, 0.5, 1	7	8	7	7	6	7
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2	4	4	4	4	3	4
Magnesium (diss)	mg/L	-	-	-	-	0.05	1	1	1	<1	<1	<1
Sodium (diss)	mg/L	200	-	-	100.765	0.05, 0.1	<2	3	<2	<2	<2	<2
General Chemistry												
Alkalinity (as CaCO3)	mg/L	30 - 500	-	-	256.25	1, 5	15	13	14	12	9	13
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.06, 0.07, 0.1, 0.18, 0.25	<0.02	<0.02	0.02	<0.02	<0.02	<0.02
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5	13	30	26	15	10	23
Dissolved Organic Carbon	mg/L	5	-	-	4.3	0.4, 0.5	5.7	11	8	7.4	5.9	7.9
Electrical Conductivity	uS/cm	-	-	-	-	1, 2, 5	43	45	50	44	42	42
pH	pH units	6.5 - 8.5	6.5 - 8.5	-	-		6.5	6.4	6.62	6.77	6.38	6.65
Total Dissolved Solids	mg/L	500	-	-	267	5, 10, 20	28	29	33	29	27	27
Total Suspended Solids	mg/L	-	-	-	-	10, 20, 33, 50, 100, 200, 500	-	-	-	-	-	-
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.1	-	0.075	-	0.004, 0.0049, 0.01	0.08	0.06	**0.09**	0.05	0.05	0.05
Barium (diss)	mg/L	1	-	-	-	0.002	0.01	0.01	0.01	<0.01	<0.01	<0.01
Beryllium (diss)	mg/L	-	1.1	-	-	0.0004, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005
Boron (diss)	mg/L	5	-	0.2	-	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cadmium (diss)	mg/L	0.005	-	0.0005	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium (diss)	mg/L	0.05	-	-	-	0.001, 0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt (diss)	mg/L	-	-	0.0009	-	0.0002, 0.0005	**0.0015**	**0.0018**	**0.002**	**0.0018**	**0.0019**	**0.0017**
Copper (diss)	mg/L	1	-	0.005	-	0.0009, 0.001	**0.002**	**0.003**	**0.002**	0.001	0.001	**0.002**
Iron (diss)	mg/L	0.3	0.3	-	0.207	0.01, 0.02, 0.1	0.24	0.15	0.18	0.13	0.07	0.09
Lead (diss)	mg/L	0.01	-	0.005	-	0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (diss)	mg/L	0.05	-	-	0.0505	0.002, 0.01, 0.02	0.06	0.06	0.04	0.05	0.05	0.05
Molybdenum (diss)	mg/L	-	-	0.04	-	0.0005, 0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Nickel (diss)	mg/L	-	0.025	-	-	0.001, 0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc (diss)	mg/L	5	-	0.02	-	0.005, 0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds ODWQS-ALL-MERGED	Ontario Drinking Water Quality Standards All Types Merged
Concentration exceeds PWQO-GENERAL	Provincial Water Quality Objectives General
Concentration exceeds PWQO-INTERIM	Provincial Water Quality Objectives Interim
Concentration exceeds RUV-LSP	Reasonable Use Values Lake St Peter

Hastings Highlands Analytical Chemistry Results:						Site Name	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS
						Location	LSP2-03	LSP2-03	LSP2-03	LSP2-03	LSP2-03	LSP2-03
Parameter	Units	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	RUV-LSP	Sample ID	LSP2-03	LSP2-03	LSP2-03	LSP2-03	LSP2-03	LSP2-03
						Sample Date	2011-Nov-02	2012-Apr-17	2012-Oct-17	2013-Apr-16	2013-Oct-29	2014-May-12
Anions						Detection Limit						
Chloride	mg/L	250	-	-	125.25	0.1, 0.12, 0.5, 1, 2	2	<1	<1	0.48	0.51	0.44
Nitrate as N	mg/L	10	-	-	2.51875	0.05, 0.1, 0.25	<0.1	<0.1	<0.1	<0.05	<0.05	<0.05
Sulphate	mg/L	500	-	-	252.622	0.1, 0.5, 1	6	5	5	5.43	5.66	5.92
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2	4	4.28	3.65	3.77	3.93	3.91
Magnesium (diss)	mg/L	-	-	-	-	0.05	<1	0.962	1.01	1.02	1.11	1.03
Sodium (diss)	mg/L	200	-	-	100.765	0.05, 0.1	<2	1.6	1.73	1.62	1.7	1.74
General Chemistry												
Alkalinity (as CaCO3)	mg/L	30 - 500	-	-	256.25	1, 5	14	12	11	11	11	10
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.06, 0.07, 0.1, 0.18, 0.25	<0.02	0.03	<0.01	0.17	<0.02	0.04
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5	18	35	27	<5	19	5
Dissolved Organic Carbon	mg/L	5	-	-	4.3	0.4, 0.5	4.5	6.3	7.3	2	2.3	3.1
Electrical Conductivity	uS/cm	-	-	-	-	1, 2, 5	38	46	39	39	40	40
pH	pH units	6.5 - 8.5	6.5 - 8.5	-	-		6	6.6	5.8	6.83	6.87	6.66
Total Dissolved Solids	mg/L	500	-	-	267	5, 10, 20	25	105	42	48	52	52
Total Suspended Solids	mg/L	-	-	-	-	10, 20, 33, 50, 100, 200, 500	-	-	-	-	-	-
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.1	-	0.075	-	0.004, 0.0049, 0.01	0.1	0.047	0.062	0.057	0.064	0.051
Barium (diss)	mg/L	1	-	-	-	0.002	0.01	0.008	0.01	0.009	0.009	0.008
Beryllium (diss)	mg/L	-	1.1	-	-	0.0004, 0.001	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001
Boron (diss)	mg/L	5	-	0.2	-	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cadmium (diss)	mg/L	0.005	-	0.0005	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.002	<0.002	<0.002
Chromium (diss)	mg/L	0.05	-	-	-	0.001, 0.005	<0.001	<0.001	<0.001	<0.003	<0.003	<0.003
Cobalt (diss)	mg/L	-	-	0.0009	-	0.0002, 0.0005	**0.0023**	**0.0017**	**0.0019**	**0.002**	**0.002**	**0.002**
Copper (diss)	mg/L	1	-	0.005	-	0.0009, 0.001	**0.002**	**0.0012**	**0.0017**	<0.003	<0.003	<0.003
Iron (diss)	mg/L	0.3	0.3	-	0.207	0.01, 0.02, 0.1	0.17	<0.1	0.125	0.07	0.077	0.047
Lead (diss)	mg/L	0.01	-	0.005	-	0.0005, 0.001	<0.001	<0.0001	<0.0001	<0.002	<0.002	<0.002
Manganese (diss)	mg/L	0.05	-	-	0.0505	0.002, 0.01, 0.02	0.08	0.047	0.067	0.051	0.054	0.05
Molybdenum (diss)	mg/L	-	-	0.04	-	0.0005, 0.005	<0.005	<0.0005	<0.0005	<0.002	<0.002	<0.002
Nickel (diss)	mg/L	-	0.025	-	-	0.001, 0.005	<0.005	<0.001	<0.001	<0.003	<0.003	<0.003
Zinc (diss)	mg/L	5	-	0.02	-	0.005, 0.01	<0.01	<0.005	<0.005	<0.005	**0.066**	<0.005

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds ODWQS-ALL-MERGED	Ontario Drinking Water Quality Standards All Types Merged
Concentration exceeds PWQO-GENERAL	Provincial Water Quality Objectives General
Concentration exceeds PWQO-INTERIM	Provincial Water Quality Objectives Interim
Concentration exceeds RUV-LSP	Reasonable Use Values Lake St Peter

Hastings Highlands Analytical Chemistry Results:						Site Name	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS
						Location	LSP2-03	LSP2-03	LSP2-03	LSP2-03	LSP2-03	LSP2-03
Parameter	Units	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	RUV-LSP	Sample ID	LSP2-03	LSP2-03	LSP2-03	LSP2-03	LSP2-03	LSP2-03
						Sample Date	2014-Oct-15	2015-May-05	2015-Oct-27	2016-Apr-27	2016-Oct-27	2017-May-12
Anions						**Detection Limit**						
Chloride	mg/L	250	-	-	125.25	0.1, 0.12, 0.5, 1, 2	0.36	0.48	0.24	0.45	0.3	0.5
Nitrate as N	mg/L	10	-	-	2.51875	0.05, 0.1, 0.25	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	500	-	-	252.622	0.1, 0.5, 1	5.77	5.72	4.97	5.21	4.91	5.28
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2	3.59	3.75	3.61	3.66	3.64	3.43
Magnesium (diss)	mg/L	-	-	-	-	0.05	0.98	1.04	1.03	1.06	0.92	0.91
Sodium (diss)	mg/L	200	-	-	100.765	0.05, 0.1	1.61	1.67	1.75	1.64	1.44	1.53
General Chemistry												
Alkalinity (as CaCO3)	mg/L	30 - 500	-	-	256.25	1, 5	12	11	13	13	12	14
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.06, 0.07, 0.1, 0.18, 0.25	0.15	<0.02	<0.02	0.04	0.19	<0.02
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5	12	12	15	10	12	13
Dissolved Organic Carbon	mg/L	5	-	-	4.3	0.4, 0.5	3.6	3.5	3.6	4	3.7	2.6
Electrical Conductivity	uS/cm	-	-	-	-	1, 2, 5	46	40	40	41	39	45
pH	pH units	6.5 - 8.5	6.5 - 8.5	-	-		7.3	6.81	6.52	6.72	6.49	6.64
Total Dissolved Solids	mg/L	500	-	-	267	5, 10, 20	32	46	32	40	34	48
Total Suspended Solids	mg/L	-	-	-	-	10, 20, 33, 50, 100, 200, 500	-	-	-	-	-	208
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.1	-	0.075	-	0.004, 0.0049, 0.01	0.05	0.057	0.059	0.065	0.051	-
Barium (diss)	mg/L	1	-	-	-	0.002	0.01	0.009	0.009	0.012	0.009	0.011
Beryllium (diss)	mg/L	-	1.1	-	-	0.0004, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-
Boron (diss)	mg/L	5	-	0.2	-	0.01	**1.35**	<0.01	<0.01	0	0	<0.01
Cadmium (diss)	mg/L	0.005	-	0.0005	-	0.00009, 0.0001	<0.002	<0.002	<0.002	<0.002	<0.001	-
Chromium (diss)	mg/L	0.05	-	-	-	0.001, 0.005	<0.003	<0.003	<0.003	<0.003	<0.003	-
Cobalt (diss)	mg/L	-	-	0.0009	-	0.0002, 0.0005	**0.002**	**0.002**	**0.002**	**0.001**	**0.003**	-
Copper (diss)	mg/L	1	-	0.005	-	0.0009, 0.001	<0.003	<0.003	<0.003	<0.003	<0.003	-
Iron (diss)	mg/L	0.3	0.3	-	0.207	0.01, 0.02, 0.1	0.121	0.077	0.06	0.053	0.329	0.018
Lead (diss)	mg/L	0.01	-	0.005	-	0.0005, 0.001	<0.002	<0.002	<0.002	<0.002	<0.002	-
Manganese (diss)	mg/L	0.05	-	-	0.0505	0.002, 0.01, 0.02	0.059	0.051	0.046	0.053	0.055	0.048
Molybdenum (diss)	mg/L	-	-	0.04	-	0.0005, 0.005	<0.002	<0.002	<0.002	<0.002	<0.002	-
Nickel (diss)	mg/L	-	0.025	-	-	0.001, 0.005	<0.003	<0.003	<0.003	<0.003	<0.003	-
Zinc (diss)	mg/L	5	-	0.02	-	0.005, 0.01	<0.005	<0.005	<0.005	<0.005	<0.005	-

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds ODWQS-ALL-MERGED	Ontario Drinking Water Quality Standards All Types Merged
Concentration exceeds PWQO-GENERAL	Provincial Water Quality Objectives General
Concentration exceeds PWQO-INTERIM	Provincial Water Quality Objectives Interim
Concentration exceeds RUV-LSP	Reasonable Use Values Lake St Peter

Hastings Highlands Analytical Chemistry Results:						Site Name	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS
						Location	LSP2-03	LSP2-03	LSP2-03	LSP2-03	LSP2-03	LSP2-03
Parameter	Units	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	RUV-LSP	Sample ID	LSP2-03	LSP2-03	LSP2-03	LSP2-03	LSP2-03	LSP2-03
						Sample Date	2017-Oct-24	2018-May-08	2018-Oct-23	2019-May-08	2019-Oct-23	2020-May-07
Anions						**Detection Limit**						
Chloride	mg/L	250	-	-	125.25	0.1, 0.12, 0.5, 1, 2	0.31	0.4	0.3	0.54	0.3	0.35
Nitrate as N	mg/L	10	-	-	2.51875	0.05, 0.1, 0.25	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	500	-	-	252.622	0.1, 0.5, 1	4.93	5.48	5.28	4.41	4.83	4.26
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2	3.65	3.57	3.43	3.39	3.36	3.53
Magnesium (diss)	mg/L	-	-	-	-	0.05	1	0.95	0.9	0.9	0.9	0.89
Sodium (diss)	mg/L	200	-	-	100.765	0.05, 0.1	1.62	1.53	1.54	1.48	1.49	1.44
General Chemistry												
Alkalinity (as CaCO3)	mg/L	30 - 500	-	-	256.25	1, 5	12	12	11	13	12	16
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.06, 0.07, 0.1, 0.18, 0.25	1.12	<0.02	<0.02	<0.2	0.04	0.02
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5	<5	<5	<5	9	<5	<5
Dissolved Organic Carbon	mg/L	5	-	-	4.3	0.4, 0.5	3.8	3.2	3.8	3.2	2.8	2.7
Electrical Conductivity	uS/cm	-	-	-	-	1, 2, 5	35	39	41	42	82	47
pH	pH units	6.5 - 8.5	6.5 - 8.5	-	-		6.46	6.23	6.44	6.32	6.53	6.31
Total Dissolved Solids	mg/L	500	-	-	267	5, 10, 20	34	38	50	28	48	36
Total Suspended Solids	mg/L	-	-	-	-	10, 20, 33, 50, 100, 200, 500	353	356	883	114	334	266
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.1	-	0.075	-	0.004, 0.0049, 0.01	-	-	-	-	-	-
Barium (diss)	mg/L	1	-	-	-	0.002	0.009	0.01	0.013	0.01	0.01	0.01
Beryllium (diss)	mg/L	-	1.1	-	-	0.0004, 0.001	-	-	-	-	-	-
Boron (diss)	mg/L	5	-	0.2	-	0.01	<0.01	0.015	<0.01	0.015	<0.01	<0.01
Cadmium (diss)	mg/L	0.005	-	0.0005	-	0.00009, 0.0001	-	-	-	-	-	-
Chromium (diss)	mg/L	0.05	-	-	-	0.001, 0.005	-	-	-	-	-	-
Cobalt (diss)	mg/L	-	-	0.0009	-	0.0002, 0.0005	-	-	-	-	-	-
Copper (diss)	mg/L	1	-	0.005	-	0.0009, 0.001	-	-	-	-	-	-
Iron (diss)	mg/L	0.3	0.3	-	0.207	0.01, 0.02, 0.1	0.035	0.014	0.088	0.02	0.057	<0.01
Lead (diss)	mg/L	0.01	-	0.005	-	0.0005, 0.001	-	-	-	-	-	-
Manganese (diss)	mg/L	0.05	-	-	0.0505	0.002, 0.01, 0.02	0.051	0.049	0.051	0.052	0.053	0.057
Molybdenum (diss)	mg/L	-	-	0.04	-	0.0005, 0.005	-	-	-	-	-	-
Nickel (diss)	mg/L	-	0.025	-	-	0.001, 0.005	-	-	-	-	-	-
Zinc (diss)	mg/L	5	-	0.02	-	0.005, 0.01	-	-	-	-	-	-

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds ODWQS-ALL-MERGED	Ontario Drinking Water Quality Standards All Types Merged
Concentration exceeds PWQO-GENERAL	Provincial Water Quality Objectives General
Concentration exceeds PWQO-INTERIM	Provincial Water Quality Objectives Interim
Concentration exceeds RUV-LSP	Reasonable Use Values Lake St Peter

Hastings Highlands Analytical Chemistry Results:						Site Name	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS
						Location	LSP2-03	LSP2-03	LSP2-03	LSP2-03	LSP2-03	LSP2-03
Parameter	Units	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	RUV-LSP	Sample ID	LSP2-03	LSP2-03	LSP3-03	LSP2-03	LSP2-03	LSP2-03
						Sample Date	2020-Oct-07	2021-Apr-21	2021-Oct-19	2022-May-02	2022-Oct-17	2023-May-04
Anions						**Detection Limit**						
Chloride	mg/L	250	-	-	125.25	0.1, 0.12, 0.5, 1, 2	0.6	0.39	0.43	0.41	62.1	0.42
Nitrate as N	mg/L	10	-	-	2.51875	0.05, 0.1, 0.25	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	500	-	-	252.622	0.1, 0.5, 1	3.9	4.05	4.05	3.86	1.89	3.49
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2	3.97	3.45	3.26	3.34	3.85	-
Magnesium (diss)	mg/L	-	-	-	-	0.05	0.92	0.93	0.84	0.88	0.97	0.78
Sodium (diss)	mg/L	200	-	-	100.765	0.05, 0.1	1.5	1.55	1.47	1.45	1.47	1.71
General Chemistry												
Alkalinity (as CaCO3)	mg/L	30 - 500	-	-	256.25	1, 5	13	12	16	14	15	14
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.06, 0.07, 0.1, 0.18, 0.25	<0.02	<0.02	0.08	<0.02	<0.02	<0.02
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5	21	<5	<5	10	9	-
Dissolved Organic Carbon	mg/L	5	-	-	4.3	0.4, 0.5	3.8	3.2	3.2	2.6	2.6	2.9
Electrical Conductivity	uS/cm	-	-	-	-	1, 2, 5	34	38	37	39	39	41
pH	pH units	6.5 - 8.5	6.5 - 8.5	-	-		6.45	6.46	6.6	6.38	6.48	6.66
Total Dissolved Solids	mg/L	500	-	-	267	5, 10, 20	28	36	30	38	30	38
Total Suspended Solids	mg/L	-	-	-	-	10, 20, 33, 50, 100, 200, 500	493	351	279	278	-	487
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.1	-	0.075	-	0.004, 0.0049, 0.01	-	-	-	-	0.077	-
Barium (diss)	mg/L	1	-	-	-	0.002	0.009	0.008	0.009	0.01	-	0.01
Beryllium (diss)	mg/L	-	1.1	-	-	0.0004, 0.001	-	-	-	-	-	-
Boron (diss)	mg/L	5	-	0.2	-	0.01	<0.01	0.02	<0.01	<0.01	0.01	<0.01
Cadmium (diss)	mg/L	0.005	-	0.0005	-	0.00009, 0.0001	-	-	-	-	-	-
Chromium (diss)	mg/L	0.05	-	-	-	0.001, 0.005	-	-	-	-	-	-
Cobalt (diss)	mg/L	-	-	0.0009	-	0.0002, 0.0005	-	-	-	-	-	-
Copper (diss)	mg/L	1	-	0.005	-	0.0009, 0.001	-	-	-	-	-	-
Iron (diss)	mg/L	0.3	0.3	-	0.207	0.01, 0.02, 0.1	0.095	0.142	0.118	0.108	0.271	0.131
Lead (diss)	mg/L	0.01	-	0.005	-	0.0005, 0.001	-	-	-	-	<0.0005	-
Manganese (diss)	mg/L	0.05	-	-	0.0505	0.002, 0.01, 0.02	0.05	0.046	0.045	0.052	0.054	0.052
Molybdenum (diss)	mg/L	-	-	0.04	-	0.0005, 0.005	-	-	-	-	-	-
Nickel (diss)	mg/L	-	0.025	-	-	0.001, 0.005	-	-	-	-	-	-
Zinc (diss)	mg/L	5	-	0.02	-	0.005, 0.01	-	-	-	-	<0.005	-

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds ODWQS-ALL-MERGED	Ontario Drinking Water Quality Standards All Types Merged
Concentration exceeds PWQO-GENERAL	Provincial Water Quality Objectives General
Concentration exceeds PWQO-INTERIM	Provincial Water Quality Objectives Interim
Concentration exceeds RUV-LSP	Reasonable Use Values Lake St Peter

Hastings Highlands Analytical Chemistry Results:						Site Name	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS
						Location	LSP2-03	LSP2-03	LSP2-03	LSP2-03	LSP2-03	LSP2-03
Parameter	Units	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	RUV-LSP	Sample ID	LSP-QAQC-GW1 (LSP2-03)	LSP2-03	LSP2-03	LSP2-03	LSP2-03	LSP2-03
						Sample Date	2023-May-04	2023-Oct-17	2024-Apr-30	2024-Oct-28	2025-May-06	2025-Oct-15
Anions						Detection Limit						
Chloride	mg/L	250	-	-	125.25	0.1, 0.12, 0.5, 1, 2	0.41	<1	<1	<1	<1	<1
Nitrate as N	mg/L	10	-	-	2.51875	0.05, 0.1, 0.25	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1
Sulphate	mg/L	500	-	-	252.622	0.1, 0.5, 1	3.5	2.4	3.3	3.7	3.1	3.7
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2	-	3.4	3.6	3.2	3.5	3.1
Magnesium (diss)	mg/L	-	-	-	-	0.05	0.87	0.84	0.95	0.82	0.9	0.81
Sodium (diss)	mg/L	200	-	-	100.765	0.05, 0.1	1.49	1.7	1.6	1.7	1.5	1.7
General Chemistry												
Alkalinity (as CaCO3)	mg/L	30 - 500	-	-	256.25	1, 5	13	13	14	13	15	11
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.06, 0.07, 0.1, 0.18, 0.25	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5	-	-	-	-	-	-
Dissolved Organic Carbon	mg/L	5	-	-	4.3	0.4, 0.5	2.6	3.5	2.7	3.5	2.7	4.9
Electrical Conductivity	uS/cm	-	-	-	-	1, 2, 5	42	35	36	38	39	34
pH	pH units	6.5 - 8.5	6.5 - 8.5	-	-		6.59	6.66	7.27	6.67	6.66	6.59
Total Dissolved Solids	mg/L	500	-	-	267	5, 10, 20	42	50	45	10	35	20
Total Suspended Solids	mg/L	-	-	-	-	10, 20, 33, 50, 100, 200, 500	769	400	240	380	340	210
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.1	-	0.075	-	0.004, 0.0049, 0.01	-	-	-	-	-	-
Barium (diss)	mg/L	1	-	-	-	0.002	0.01	0.013	0.0094	0.013	0.0081	0.012
Beryllium (diss)	mg/L	-	1.1	-	-	0.0004, 0.001	-	-	-	-	-	-
Boron (diss)	mg/L	5	-	0.2	-	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cadmium (diss)	mg/L	0.005	-	0.0005	-	0.00009, 0.0001	-	-	-	-	-	-
Chromium (diss)	mg/L	0.05	-	-	-	0.001, 0.005	-	-	-	-	-	-
Cobalt (diss)	mg/L	-	-	0.0009	-	0.0002, 0.0005	-	-	-	-	-	-
Copper (diss)	mg/L	1	-	0.005	-	0.0009, 0.001	-	-	-	-	-	-
Iron (diss)	mg/L	0.3	0.3	-	0.207	0.01, 0.02, 0.1	0.127	0.12	0.12	0.11	<0.1	0.17
Lead (diss)	mg/L	0.01	-	0.005	-	0.0005, 0.001	-	-	-	-	-	-
Manganese (diss)	mg/L	0.05	-	-	0.0505	0.002, 0.01, 0.02	0.052	0.048	0.051	0.039	0.049	0.042
Molybdenum (diss)	mg/L	-	-	0.04	-	0.0005, 0.005	-	-	-	-	-	-
Nickel (diss)	mg/L	-	0.025	-	-	0.001, 0.005	-	-	-	-	-	-
Zinc (diss)	mg/L	5	-	0.02	-	0.005, 0.01	-	-	-	-	-	-

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds ODWQS-ALL-MERGED	Ontario Drinking Water Quality Standards All Types Merged
Concentration exceeds PWQO-GENERAL	Provincial Water Quality Objectives General
Concentration exceeds PWQO-INTERIM	Provincial Water Quality Objectives Interim
Concentration exceeds RUV-LSP	Reasonable Use Values Lake St Peter

Hastings Highlands Analytical Chemistry Results:						Site Name	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS
						Location	LSP3-03	LSP3-03	LSP3-03	LSP3-03	LSP3-03	LSP3-03
Parameter	Units	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	RUV-LSP	Sample ID	LSP3-03	LSP3-03	LSP3-03	LSP3-03	LSP3-03	LSP3-03
						Sample Date	2007-May-02	2007-Nov-21	2008-May-08	2008-Oct-08	2009-Jun-04	2009-Oct-21
Anions						Detection Limit						
Chloride	mg/L	250	-	-	125.25	0.1, 0.12, 0.5, 1, 2	29	10	33	12	13	7
Nitrate as N	mg/L	10	-	-	2.51875	0.05, 0.1, 0.25	3.17	<0.1	0.93	0.23	<0.1	0.57
Sulphate	mg/L	500	-	-	252.622	0.1, 0.5, 1	46	15	26	20	21	11
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2	47	26	41	37	38	29
Magnesium (diss)	mg/L	-	-	-	-	0.05	8	4	6	9	6	4
Sodium (diss)	mg/L	200	-	-	100.765	0.05, 0.1	15	11	14	14	11	8
General Chemistry												
Alkalinity (as CaCO3)	mg/L	30 - 500	-	-	256.25	1, 5	130	118	113	167	146	119
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.06, 0.07, 0.1, 0.18, 0.25	1.18	3.09	0.45	1	1	1.87
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5	21	51	17	30	28	27
Dissolved Organic Carbon	mg/L	5	-	-	4.3	0.4, 0.5	12.7	25.6	6.4	10.4	9.6	9.6
Electrical Conductivity	uS/cm	-	-	-	-	1, 2, 5	490	297	408	409	374	286
pH	pH units	6.5 - 8.5	6.5 - 8.5	-	-		6.59	6.74	7.12	6.87	6.7	6.69
Total Dissolved Solids	mg/L	500	-	-	267	5, 10, 20	319	193	265	266	243	186
Total Suspended Solids	mg/L	-	-	-	-	10, 20, 33, 50, 100, 200, 500	-	-	-	-	-	-
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.1	-	0.075	-	0.004, 0.0049, 0.01	0.03	0.02	0.02	0.02	0.01	0.02
Barium (diss)	mg/L	1	-	-	-	0.002	0.25	0.25	0.24	0.27	0.23	0.17
Beryllium (diss)	mg/L	-	1.1	-	-	0.0004, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron (diss)	mg/L	5	-	0.2	-	0.01	0.2	0.13	0.16	**0.23**	0.19	0.14
Cadmium (diss)	mg/L	0.005	-	0.0005	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium (diss)	mg/L	0.05	-	-	-	0.001, 0.005	0.002	0.002	0.003	0.001	0.001	0.001
Cobalt (diss)	mg/L	-	-	0.0009	-	0.0002, 0.0005	**0.0138**	**0.0475**	**0.0066**	**0.0285**	**0.011**	**0.0541**
Copper (diss)	mg/L	1	-	0.005	-	0.0009, 0.001	**0.006**	0.002	0.004	0.005	0.004	0.004
Iron (diss)	mg/L	0.3	0.3	-	0.207	0.01, 0.02, 0.1	0.86	19.2	0.06	2.72	1.29	7.38
Lead (diss)	mg/L	0.01	-	0.005	-	0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (diss)	mg/L	0.05	-	-	0.0505	0.002, 0.01, 0.02	0.72	1.4	0.64	1.95	0.88	1.36
Molybdenum (diss)	mg/L	-	-	0.04	-	0.0005, 0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Nickel (diss)	mg/L	-	0.025	-	-	0.001, 0.005	<0.005	<0.005	<0.005	0.006	<0.005	0.006
Zinc (diss)	mg/L	5	-	0.02	-	0.005, 0.01	0.01	0.01	<0.01	<0.01	<0.01	<0.01

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds ODWQS-ALL-MERGED	Ontario Drinking Water Quality Standards All Types Merged
Concentration exceeds PWQO-GENERAL	Provincial Water Quality Objectives General
Concentration exceeds PWQO-INTERIM	Provincial Water Quality Objectives Interim
Concentration exceeds RUV-LSP	Reasonable Use Values Lake St Peter

Hastings Highlands Analytical Chemistry Results:						Site Name	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS
						Location	LSP3-03	LSP3-03	LSP3-03	LSP3-03	LSP3-03	LSP3-03
Parameter	Units	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	RUV-LSP	Sample ID	LSP3-03	LSP3-03	LSP3-03	LSP3-03	LSP3-03	LSP3-03
						Sample Date	2010-May-18	2010-Oct-19	2011-May-19	2011-Nov-02	2012-Apr-17	2012-Oct-17
Anions						Detection Limit						
Chloride	mg/L	250	-	-	125.25	0.1, 0.12, 0.5, 1, 2	9	16	32	12	7	9
Nitrate as N	mg/L	10	-	-	2.51875	0.05, 0.1, 0.25	2.08	0.27	<0.1	<0.01	0.3	<0.0001
Sulphate	mg/L	500	-	-	252.622	0.1, 0.5, 1	47	37	13	11	46	24
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2	58	37	28	22	24.8	14.6
Magnesium (diss)	mg/L	-	-	-	-	0.05	11	4	4	3	5.39	3.56
Sodium (diss)	mg/L	200	-	-	100.765	0.05, 0.1	7	7	6	10	7.96	8.49
General Chemistry												
Alkalinity (as CaCO3)	mg/L	30 - 500	-	-	256.25	1, 5	163	97	70	91	92	84
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.06, 0.07, 0.1, 0.18, 0.25	0.37	1.46	0.79	2.27	0.03	1.44
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5	25	20	23	22	23	39
Dissolved Organic Carbon	mg/L	5	-	-	4.3	0.4, 0.5	11.4	6.9	8.5	7.3	8.3	9.5
Electrical Conductivity	uS/cm	-	-	-	-	1, 2, 5	469	321	285	234	335	263
pH	pH units	6.5 - 8.5	6.5 - 8.5	-	-		6.91	6.55	7	6.32	6.7	6.1
Total Dissolved Solids	mg/L	500	-	-	267	5, 10, 20	305	209	185	152	273	169
Total Suspended Solids	mg/L	-	-	-	-	10, 20, 33, 50, 100, 200, 500	-	-	-	-	-	-
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.1	-	0.075	-	0.004, 0.0049, 0.01	0.01	0.01	<0.01	<0.01	0.011	0.021
Barium (diss)	mg/L	1	-	-	-	0.002	0.19	0.15	0.14	0.17	0.215	0.169
Beryllium (diss)	mg/L	-	1.1	-	-	0.0004, 0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0005
Boron (diss)	mg/L	5	-	0.2	-	0.01	0.19	0.12	0.11	0.1	**0.358**	**0.341**
Cadmium (diss)	mg/L	0.005	-	0.0005	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium (diss)	mg/L	0.05	-	-	-	0.001, 0.005	<0.001	<0.001	0.001	0.001	<0.001	<0.001
Cobalt (diss)	mg/L	-	-	0.0009	-	0.0002, 0.0005	**0.0063**	**0.0563**	**0.0456**	**0.0219**	**0.0036**	**0.0376**
Copper (diss)	mg/L	1	-	0.005	-	0.0009, 0.001	0.004	0.004	0.002	0.002	0.0021	0.0016
Iron (diss)	mg/L	0.3	0.3	-	0.207	0.01, 0.02, 0.1	0.49	1.91	2.58	0.46	0.458	14.5
Lead (diss)	mg/L	0.01	-	0.005	-	0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.0001	<0.0001
Manganese (diss)	mg/L	0.05	-	-	0.0505	0.002, 0.01, 0.02	0.33	3.66	0.98	0.88	0.036	1.19
Molybdenum (diss)	mg/L	-	-	0.04	-	0.0005, 0.005	<0.005	<0.005	<0.005	<0.005	<0.0005	<0.0005
Nickel (diss)	mg/L	-	0.025	-	-	0.001, 0.005	<0.005	<0.005	<0.005	<0.005	0.002	0.004
Zinc (diss)	mg/L	5	-	0.02	-	0.005, 0.01	<0.01	<0.01	<0.01	<0.01	<0.005	<0.005

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds ODWQS-ALL-MERGED	Ontario Drinking Water Quality Standards All Types Merged
Concentration exceeds PWQO-GENERAL	Provincial Water Quality Objectives General
Concentration exceeds PWQO-INTERIM	Provincial Water Quality Objectives Interim
Concentration exceeds RUV-LSP	Reasonable Use Values Lake St Peter

Hastings Highlands Analytical Chemistry Results:						Site Name	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS
						Location	LSP3-03	LSP3-03	LSP3-03	LSP3-03	LSP3-03	LSP3-03
Parameter	Units	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	RUV-LSP	Sample ID	LSP3-03	LSP3-03	LSP3-03	LSP3-03	LSP3-03	LSP3-03
						Sample Date	2013-Apr-16	2013-Oct-29	2014-May-12	2014-Oct-15	2015-May-05	2015-Oct-27
Anions						**Detection Limit**						
Chloride	mg/L	250	-	-	125.25	0.1, 0.12, 0.5, 1, 2	49.2	15.6	7.96	6.36	11.4	7.32
Nitrate as N	mg/L	10	-	-	2.51875	0.05, 0.1, 0.25	1.86	0.76	0.44	0.63	0.15	<0.05
Sulphate	mg/L	500	-	-	252.622	0.1, 0.5, 1	46.5	17.4	24.3	16.3	23.8	18.6
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2	64.9	29.8	43.1	38.9	45.2	27.3
Magnesium (diss)	mg/L	-	-	-	-	0.05	12.8	6.65	7.47	7.3	6.7	3.88
Sodium (diss)	mg/L	200	-	-	100.765	0.05, 0.1	13	15	8.94	7.31	5.5	8.7
General Chemistry												
Alkalinity (as CaCO3)	mg/L	30 - 500	-	-	256.25	1, 5	109	101	143	138	131	97
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.06, 0.07, 0.1, 0.18, 0.25	0.08	0.63	0.09	0.99	0.36	1.74
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5	<5	21	<5	12	6	27
Dissolved Organic Carbon	mg/L	5	-	-	4.3	0.4, 0.5	3.7	4.1	5	5.6	5.6	8.1
Electrical Conductivity	uS/cm	-	-	-	-	1, 2, 5	473	288	361	342	345	260
pH	pH units	6.5 - 8.5	6.5 - 8.5	-	-		7.4	7.1	7.01	7.44	7.02	6.94
Total Dissolved Solids	mg/L	500	-	-	267	5, 10, 20	306	168	200	180	212	146
Total Suspended Solids	mg/L	-	-	-	-	10, 20, 33, 50, 100, 200, 500	-	-	-	-	-	-
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.1	-	0.075	-	0.004, 0.0049, 0.01	0.015	0.008	0.01	0.01	0.01	0.014
Barium (diss)	mg/L	1	-	-	-	0.002	0.251	0.16	0.315	0.233	0.192	0.211
Beryllium (diss)	mg/L	-	1.1	-	-	0.0004, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron (diss)	mg/L	5	-	0.2	-	0.01	**0.409**	**0.225**	**0.289**	**0.22**	**0.211**	0.158
Cadmium (diss)	mg/L	0.005	-	0.0005	-	0.00009, 0.0001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Chromium (diss)	mg/L	0.05	-	-	-	0.001, 0.005	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Cobalt (diss)	mg/L	-	-	0.0009	-	0.0002, 0.0005	**0.005**	**0.014**	**0.003**	**0.008**	**0.006**	**0.032**
Copper (diss)	mg/L	1	-	0.005	-	0.0009, 0.001	<0.003	<0.003	<0.003	0.004	0.003	<0.003
Iron (diss)	mg/L	0.3	0.3	-	0.207	0.01, 0.02, 0.1	0.377	0.323	0.167	0.099	0.089	13.4
Lead (diss)	mg/L	0.01	-	0.005	-	0.0005, 0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Manganese (diss)	mg/L	0.05	-	-	0.0505	0.002, 0.01, 0.02	0.099	0.778	0.103	1.1	0.255	1.05
Molybdenum (diss)	mg/L	-	-	0.04	-	0.0005, 0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Nickel (diss)	mg/L	-	0.025	-	-	0.001, 0.005	0.009	0.004	<0.003	<0.003	<0.003	<0.003
Zinc (diss)	mg/L	5	-	0.02	-	0.005, 0.01	<0.005	**0.023**	<0.005	<0.005	<0.005	<0.005

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds ODWQS-ALL-MERGED	Ontario Drinking Water Quality Standards All Types Merged
Concentration exceeds PWQO-GENERAL	Provincial Water Quality Objectives General
Concentration exceeds PWQO-INTERIM	Provincial Water Quality Objectives Interim
Concentration exceeds RUV-LSP	Reasonable Use Values Lake St Peter

Hastings Highlands Analytical Chemistry Results:						Site Name	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS
						Location	LSP3-03	LSP3-03	LSP3-03	LSP3-03	LSP3-03	LSP3-03
Parameter	Units	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	RUV-LSP	Sample ID	LSP3-03	LSP3-03	LSP3-03	LSP3-03	LSP3-03	LSP3-03
						Sample Date	2016-Apr-27	2016-Oct-27	2017-May-12	2017-Oct-24	2018-May-08	2018-Oct-23
Anions						Detection Limit						
Chloride	mg/L	250	-	-	125.25	0.1, 0.12, 0.5, 1, 2	101	12.2	101	10.3	14.4	20
Nitrate as N	mg/L	10	-	-	2.51875	0.05, 0.1, 0.25	<0.25	<0.05	<0.5	<0.1	10.2	<0.05
Sulphate	mg/L	500	-	-	252.622	0.1, 0.5, 1	101	30.9	38.3	32.7	24.5	11.9
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2	104	69.5	200	76.4	69.5	44.2
Magnesium (diss)	mg/L	-	-	-	-	0.05	17.7	6.41	28.8	6.17	6.13	3.43
Sodium (diss)	mg/L	200	-	-	100.765	0.05, 0.1	69.4	17.5	127	11.1	13.6	7.57
General Chemistry												
Alkalinity (as CaCO3)	mg/L	30 - 500	-	-	256.25	1, 5	313	242	951	285	214	142
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.06, 0.07, 0.1, 0.18, 0.25	0.87	11	11	14	5	5
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5	159	90	371	54	25	32
Dissolved Organic Carbon	mg/L	5	-	-	4.3	0.4, 0.5	74.4	44.8	166	21.6	6.1	9.5
Electrical Conductivity	uS/cm	-	-	-	-	1, 2, 5	995	588	2180	562	532	402
pH	pH units	6.5 - 8.5	6.5 - 8.5	-	-		7.06	7.57	7.32	7.09	7.44	6.77
Total Dissolved Solids	mg/L	500	-	-	267	5, 10, 20	664	334	1420	306	308	214
Total Suspended Solids	mg/L	-	-	-	-	10, 20, 33, 50, 100, 200, 500	-	-	188	893	278	455
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.1	-	0.075	-	0.004, 0.0049, 0.01	**0.102**	**0.092**	-	-	-	-
Barium (diss)	mg/L	1	-	-	-	0.002	0.705	0.526	1.18	0.358	0.234	0.24
Beryllium (diss)	mg/L	-	1.1	-	-	0.0004, 0.001	<0.001	<0.001	-	-	-	-
Boron (diss)	mg/L	5	-	0.2	-	0.01	**0.206**	**0.705**	**1.05**	**0.46**	**0.508**	**0.217**
Cadmium (diss)	mg/L	0.005	-	0.0005	-	0.00009, 0.0001	<0.002	<0.001	-	-	-	-
Chromium (diss)	mg/L	0.05	-	-	-	0.001, 0.005	0.006	0.003	-	-	-	-
Cobalt (diss)	mg/L	-	-	0.0009	-	0.0002, 0.0005	**0.587**	**0.087**	-	-	-	-
Copper (diss)	mg/L	1	-	0.005	-	0.0009, 0.001	**0.029**	**0.007**	-	-	-	-
Iron (diss)	mg/L	0.3	0.3	-	0.207	0.01, 0.02, 0.1	29.6	82.9	261	58.4	17	38.3
Lead (diss)	mg/L	0.01	-	0.005	-	0.0005, 0.001	<0.002	<0.002	-	-	-	-
Manganese (diss)	mg/L	0.05	-	-	0.0505	0.002, 0.01, 0.02	10.5	2.61	11.1	2	1.89	1.71
Molybdenum (diss)	mg/L	-	-	0.04	-	0.0005, 0.005	<0.002	0.01	-	-	-	-
Nickel (diss)	mg/L	-	0.025	-	-	0.001, 0.005	0.027	0.007	-	-	-	-
Zinc (diss)	mg/L	5	-	0.02	-	0.005, 0.01	0.008	<0.005	-	-	-	-

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds ODWQS-ALL-MERGED	Ontario Drinking Water Quality Standards All Types Merged
Concentration exceeds PWQO-GENERAL	Provincial Water Quality Objectives General
Concentration exceeds PWQO-INTERIM	Provincial Water Quality Objectives Interim
Concentration exceeds RUV-LSP	Reasonable Use Values Lake St Peter

Hastings Highlands Analytical Chemistry Results:						Site Name	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS
						Location	LSP3-03	LSP3-03	LSP3-03	LSP3-03	LSP3-03	LSP3-03
Parameter	Units	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	RUV-LSP	Sample ID	LSP3-03	LSP3-03	LSP3-03	LSP3-03	LSP3-03	LSP-QAQC GW-S21 (LSP3-03)
						Sample Date	2019-May-08	2019-Oct-23	2020-May-07	2020-Oct-07	2021-Apr-21	2021-Apr-21
Anions						**Detection Limit**						
Chloride	mg/L	250	-	-	125.25	0.1, 0.12, 0.5, 1, 2	26	34.1	33.8	96.1	27.7	27.9
Nitrate as N	mg/L	10	-	-	2.51875	0.05, 0.1, 0.25	<0.05	<0.05	0.07	0.39	0.11	0.11
Sulphate	mg/L	500	-	-	252.622	0.1, 0.5, 1	19.5	25.5	28.7	16	14.3	14.4
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2	67	48.9	60.2	67	43.6	43.6
Magnesium (diss)	mg/L	-	-	-	-	0.05	6.24	5.53	5.94	6.32	4.22	4.26
Sodium (diss)	mg/L	200	-	-	100.765	0.05, 0.1	10.8	23.1	12.8	26.2	13.6	13.5
General Chemistry												
Alkalinity (as CaCO3)	mg/L	30 - 500	-	-	256.25	1, 5	195	202	155	177	129	128
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.06, 0.07, 0.1, 0.18, 0.25	1.3	10.7	0.1	6.15	0.38	0.43
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5	29	56	12	27	<5	<5
Dissolved Organic Carbon	mg/L	5	-	-	4.3	0.4, 0.5	10.7	17.9	6.4	7.6	5.1	5
Electrical Conductivity	uS/cm	-	-	-	-	1, 2, 5	513	615	564	628	366	368
pH	pH units	6.5 - 8.5	6.5 - 8.5	-	-		6.5	7.28	6.3	7.07	6.61	6.58
Total Dissolved Solids	mg/L	500	-	-	267	5, 10, 20	266	266	276	394	224	210
Total Suspended Solids	mg/L	-	-	-	-	10, 20, 33, 50, 100, 200, 500	91	1670	55	57	18	30
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.1	-	0.075	-	0.004, 0.0049, 0.01	-	-	-	-	-	-
Barium (diss)	mg/L	1	-	-	-	0.002	0.334	0.382	0.252	0.386	0.167	0.165
Beryllium (diss)	mg/L	-	1.1	-	-	0.0004, 0.001	-	-	-	-	-	-
Boron (diss)	mg/L	5	-	0.2	-	0.01	**0.239**	**0.638**	**0.344**	**0.268**	**0.216**	**0.212**
Cadmium (diss)	mg/L	0.005	-	0.0005	-	0.00009, 0.0001	-	-	-	-	-	-
Chromium (diss)	mg/L	0.05	-	-	-	0.001, 0.005	-	-	-	-	-	-
Cobalt (diss)	mg/L	-	-	0.0009	-	0.0002, 0.0005	-	-	-	-	-	-
Copper (diss)	mg/L	1	-	0.005	-	0.0009, 0.001	-	-	-	-	-	-
Iron (diss)	mg/L	0.3	0.3	-	0.207	0.01, 0.02, 0.1	0.72	45.5	0.133	1.39	0.542	0.572
Lead (diss)	mg/L	0.01	-	0.005	-	0.0005, 0.001	-	-	-	-	-	-
Manganese (diss)	mg/L	0.05	-	-	0.0505	0.002, 0.01, 0.02	4	1.16	1.33	3.26	1.05	1.08
Molybdenum (diss)	mg/L	-	-	0.04	-	0.0005, 0.005	-	-	-	-	-	-
Nickel (diss)	mg/L	-	0.025	-	-	0.001, 0.005	-	-	-	-	-	-
Zinc (diss)	mg/L	5	-	0.02	-	0.005, 0.01	-	-	-	-	-	-

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds ODWQS-ALL-MERGED	Ontario Drinking Water Quality Standards All Types Merged
Concentration exceeds PWQO-GENERAL	Provincial Water Quality Objectives General
Concentration exceeds PWQO-INTERIM	Provincial Water Quality Objectives Interim
Concentration exceeds RUV-LSP	Reasonable Use Values Lake St Peter

Hastings Highlands Analytical Chemistry Results:						Site Name	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS
						Location	LSP3-03	LSP3-03	LSP3-03	LSP3-03	LSP3-03	LSP3-03
Parameter	Units	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	RUV-LSP	Sample ID	LSP2-03	LSP3-03	LSP3-03	LSP3-03	LSP3-03	LSP3-03
						Sample Date	2021-Oct-19	2022-May-02	2022-Oct-17	2023-May-04	2023-Oct-17	2024-Apr-30
Anions						**Detection Limit**						
Chloride	mg/L	250	-	-	125.25	0.1, 0.12, 0.5, 1, 2	6.94	29.3	134	74	77	17
Nitrate as N	mg/L	10	-	-	2.51875	0.05, 0.1, 0.25	<0.05	<0.05	<0.05	<0.05	<0.1	<0.1
Sulphate	mg/L	500	-	-	252.622	0.1, 0.5, 1	19	12.8	4.1	14.4	2.4	11
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2	46.6	29.6	37.6	-	47	37
Magnesium (diss)	mg/L	-	-	-	-	0.05	3.9	2.22	3.16	3.97	5.4	4.8
Sodium (diss)	mg/L	200	-	-	100.765	0.05, 0.1	12	15.4	83	34.8	50	16
General Chemistry												
Alkalinity (as CaCO3)	mg/L	30 - 500	-	-	256.25	1, 5	161	91	151	141	170	130
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.06, 0.07, 0.1, 0.18, 0.25	2.79	0.52	4.78	0.84	7.4	0.73
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5	8	10	31	-	-	-
Dissolved Organic Carbon	mg/L	5	-	-	4.3	0.4, 0.5	6.4	3.4	14.7	6.9	16	5.9
Electrical Conductivity	uS/cm	-	-	-	-	1, 2, 5	359	305	775	556	620	340
pH	pH units	6.5 - 8.5	6.5 - 8.5	-	-		6.88	6.53	6.76	6.56	7.15	7.16
Total Dissolved Solids	mg/L	500	-	-	267	5, 10, 20	204	128	332	286	330	195
Total Suspended Solids	mg/L	-	-	-	-	10, 20, 33, 50, 100, 200, 500	26	59	-	331	140	5500
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.1	-	0.075	-	0.004, 0.0049, 0.01	-	-	0.055	-	-	-
Barium (diss)	mg/L	1	-	-	-	0.002	0.202	0.135	-	0.253	0.39	0.17
Beryllium (diss)	mg/L	-	1.1	-	-	0.0004, 0.001	-	-	-	-	-	-
Boron (diss)	mg/L	5	-	0.2	-	0.01	0.192	0.054	0.139	0.135	**0.23**	0.14
Cadmium (diss)	mg/L	0.005	-	0.0005	-	0.00009, 0.0001	-	-	-	-	-	-
Chromium (diss)	mg/L	0.05	-	-	-	0.001, 0.005	-	-	-	-	-	-
Cobalt (diss)	mg/L	-	-	0.0009	-	0.0002, 0.0005	-	-	-	-	-	-
Copper (diss)	mg/L	1	-	0.005	-	0.0009, 0.001	-	-	-	-	-	-
Iron (diss)	mg/L	0.3	0.3	-	0.207	0.01, 0.02, 0.1	1.69	7.83	50	0.83	38	6.2
Lead (diss)	mg/L	0.01	-	0.005	-	0.0005, 0.001	-	-	<0.0005	-	-	-
Manganese (diss)	mg/L	0.05	-	-	0.0505	0.002, 0.01, 0.02	1.57	0.835	1.19	1.79	1	0.57
Molybdenum (diss)	mg/L	-	-	0.04	-	0.0005, 0.005	-	-	-	-	-	-
Nickel (diss)	mg/L	-	0.025	-	-	0.001, 0.005	-	-	-	-	-	-
Zinc (diss)	mg/L	5	-	0.02	-	0.005, 0.01	-	-	<0.005	-	-	-

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds ODWQS-ALL-MERGED	Ontario Drinking Water Quality Standards All Types Merged
Concentration exceeds PWQO-GENERAL	Provincial Water Quality Objectives General
Concentration exceeds PWQO-INTERIM	Provincial Water Quality Objectives Interim
Concentration exceeds RUV-LSP	Reasonable Use Values Lake St Peter

Hastings Highlands Analytical Chemistry Results:						Site Name	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS
						Location	LSP3-03	LSP3-03	LSP3-03	LSP4-19	LSP4-19	LSP4-19
Parameter	Units	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	RUV-LSP	Sample ID	LSP3-03	LSP3-03	LSP3-03	LSP4-19	LSP-QAQC GW-F19 (LSP4-19)	LSP4-19
						Sample Date	2024-Oct-28	2025-May-06	2025-Oct-15	2019-Oct-23	2019-Oct-23	2020-May-07
Anions						**Detection Limit**						
Chloride	mg/L	250	-	-	125.25	0.1, 0.12, 0.5, 1, 2	50	37	54	51.3	50.8	25.9
Nitrate as N	mg/L	10	-	-	2.51875	0.05, 0.1, 0.25	<0.1	<0.1	0.13	2	2.09	1.83
Sulphate	mg/L	500	-	-	252.622	0.1, 0.5, 1	7	12	6.3	17.2	17.3	10.7
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2	41	37	58	52.7	52.3	20
Magnesium (diss)	mg/L	-	-	-	-	0.05	4.7	3.1	7.1	7.91	8.02	2.84
Sodium (diss)	mg/L	200	-	-	100.765	0.05, 0.1	35	30	42	38.8	38.6	16.8
General Chemistry												
Alkalinity (as CaCO3)	mg/L	30 - 500	-	-	256.25	1, 5	150	120	230	238	233	115
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.06, 0.07, 0.1, 0.18, 0.25	5	0.089	7.2	3.73	3.68	1.24
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5	-	-	-	43	32	26
Dissolved Organic Carbon	mg/L	5	-	-	4.3	0.4, 0.5	11	5.2	16	12.4	12.2	4.5
Electrical Conductivity	uS/cm	-	-	-	-	1, 2, 5	500	410	640	722	706	381
pH	pH units	6.5 - 8.5	6.5 - 8.5	-	-		7.28	6.73	6.81	7.23	7.34	6.37
Total Dissolved Solids	mg/L	500	-	-	267	5, 10, 20	315	235	295	334	338	168
Total Suspended Solids	mg/L	-	-	-	-	10, 20, 33, 50, 100, 200, 500	96	410	180	25300	23600	31800
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.1	-	0.075	-	0.004, 0.0049, 0.01	-	-	-	-	-	-
Barium (diss)	mg/L	1	-	-	-	0.002	0.28	0.18	0.41	0.223	0.22	0.13
Beryllium (diss)	mg/L	-	1.1	-	-	0.0004, 0.001	-	-	-	-	-	-
Boron (diss)	mg/L	5	-	0.2	-	0.01	0.14	0.088	0.2	**0.445**	**0.471**	0.181
Cadmium (diss)	mg/L	0.005	-	0.0005	-	0.00009, 0.0001	-	-	-	-	-	-
Chromium (diss)	mg/L	0.05	-	-	-	0.001, 0.005	-	-	-	-	-	-
Cobalt (diss)	mg/L	-	-	0.0009	-	0.0002, 0.0005	-	-	-	-	-	-
Copper (diss)	mg/L	1	-	0.005	-	0.0009, 0.001	-	-	-	-	-	-
Iron (diss)	mg/L	0.3	0.3	-	0.207	0.01, 0.02, 0.1	6.2	0.78	49	<0.01	<0.01	<0.01
Lead (diss)	mg/L	0.01	-	0.005	-	0.0005, 0.001	-	-	-	-	-	-
Manganese (diss)	mg/L	0.05	-	-	0.0505	0.002, 0.01, 0.02	1.6	0.67	2.3	9.43	9.48	2.85
Molybdenum (diss)	mg/L	-	-	0.04	-	0.0005, 0.005	-	-	-	-	-	-
Nickel (diss)	mg/L	-	0.025	-	-	0.001, 0.005	-	-	-	-	-	-
Zinc (diss)	mg/L	5	-	0.02	-	0.005, 0.01	-	-	-	-	-	-

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds ODWQS-ALL-MERGED	Ontario Drinking Water Quality Standards All Types Merged
Concentration exceeds PWQO-GENERAL	Provincial Water Quality Objectives General
Concentration exceeds PWQO-INTERIM	Provincial Water Quality Objectives Interim
Concentration exceeds RUV-LSP	Reasonable Use Values Lake St Peter

Hastings Highlands Analytical Chemistry Results:						Site Name	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS
						Location	LSP4-19	LSP4-19	LSP4-19	LSP4-19	LSP4-19
Parameter	Units	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	RUV-LSP	Sample ID	LSP4-19-QAQC GW (LSP4-19)	LSP4-19	LSP-QAQC GW-F20 (LSP4-19)	LSP4-19	LSP4-19
						Sample Date	2020-May-07	2020-Oct-07	2020-Oct-07	2021-Apr-21	2021-Oct-19
Anions						**Detection Limit**					
Chloride	mg/L	250	-	-	125.25	0.1, 0.12, 0.5, 1, 2	26.1	71.7	70.5	15.9	47.2
Nitrate as N	mg/L	10	-	-	2.51875	0.05, 0.1, 0.25	1.86	1.6	1.68	3.02	5.36
Sulphate	mg/L	500	-	-	252.622	0.1, 0.5, 1	10.7	11.7	11.4	8.66	12
Cations											
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2	19.8	47.2	45.9	16.5	35.5
Magnesium (diss)	mg/L	-	-	-	-	0.05	2.82	6.74	6.63	2.74	5.28
Sodium (diss)	mg/L	200	-	-	100.765	0.05, 0.1	16.6	27	26.8	13.4	22.7
General Chemistry											
Alkalinity (as CaCO3)	mg/L	30 - 500	-	-	256.25	1, 5	94	192	180	61	114
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.06, 0.07, 0.1, 0.18, 0.25	1.28	3.21	3.21	0.52	1.7
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5	31	40	41	<5	26
Dissolved Organic Carbon	mg/L	5	-	-	4.3	0.4, 0.5	4.8	8	8.2	4.1	6.7
Electrical Conductivity	uS/cm	-	-	-	-	1, 2, 5	380	582	562	219	445
pH	pH units	6.5 - 8.5	6.5 - 8.5	-	-		6.44	7.1	7.13	6.75	6.72
Total Dissolved Solids	mg/L	500	-	-	267	5, 10, 20	174	320	320	136	302
Total Suspended Solids	mg/L	-	-	-	-	10, 20, 33, 50, 100, 200, 500	35300	30400	23300	33300	18900
Metals											
Aluminum (diss, 0.45 µm)	mg/L	0.1	-	0.075	-	0.004, 0.0049, 0.01	-	-	-	-	-
Barium (diss)	mg/L	1	-	-	-	0.002	0.129	0.232	0.233	0.061	0.158
Beryllium (diss)	mg/L	-	1.1	-	-	0.0004, 0.001	-	-	-	-	-
Boron (diss)	mg/L	5	-	0.2	-	0.01	0.163	**0.284**	**0.284**	0.137	**0.227**
Cadmium (diss)	mg/L	0.005	-	0.0005	-	0.00009, 0.0001	-	-	-	-	-
Chromium (diss)	mg/L	0.05	-	-	-	0.001, 0.005	-	-	-	-	-
Cobalt (diss)	mg/L	-	-	0.0009	-	0.0002, 0.0005	-	-	-	-	-
Copper (diss)	mg/L	1	-	0.005	-	0.0009, 0.001	-	-	-	-	-
Iron (diss)	mg/L	0.3	0.3	-	0.207	0.01, 0.02, 0.1	<0.01	0.011	0.016	0.035	0.03
Lead (diss)	mg/L	0.01	-	0.005	-	0.0005, 0.001	-	-	-	-	-
Manganese (diss)	mg/L	0.05	-	-	0.0505	0.002, 0.01, 0.02	2.77	8.16	8.08	1.69	5.8
Molybdenum (diss)	mg/L	-	-	0.04	-	0.0005, 0.005	-	-	-	-	-
Nickel (diss)	mg/L	-	0.025	-	-	0.001, 0.005	-	-	-	-	-
Zinc (diss)	mg/L	5	-	0.02	-	0.005, 0.01	-	-	-	-	-

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds ODWQS-ALL-MERGED	Ontario Drinking Water Quality Standards All Types Merged
Concentration exceeds PWQO-GENERAL	Provincial Water Quality Objectives General
Concentration exceeds PWQO-INTERIM	Provincial Water Quality Objectives Interim
Concentration exceeds RUV-LSP	Reasonable Use Values Lake St Peter

Hastings Highlands Analytical Chemistry Results:						Site Name	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS
						Location	LSP4-19	LSP4-19	LSP4-19	LSP4-19	LSP4-19	LSP4-19
Parameter	Units	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	RUV-LSP	Sample ID	LSP4-19	LSP4-19	LSP4-19	LSP4-19	LSP4-19	LSP-QAQC-GW1 (LSP4-19)
						Sample Date	2022-May-02	2022-Oct-17	2023-May-04	2023-Oct-17	2024-Apr-30	2024-Apr-30
Anions						**Detection Limit**						
Chloride	mg/L	250	-	-	125.25	0.1, 0.12, 0.5, 1, 2	22.8	82.9	14.4	43	28	28
Nitrate as N	mg/L	10	-	-	2.51875	0.05, 0.1, 0.25	6.21	7.58	4.96	4.62	2.9	2.93
Sulphate	mg/L	500	-	-	252.622	0.1, 0.5, 1	7.24	16	11.7	10	7.7	7.6
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2	20.1	73	-	54	35	34
Magnesium (diss)	mg/L	-	-	-	-	0.05	3.06	10.3	2.36	8.1	4.9	5
Sodium (diss)	mg/L	200	-	-	100.765	0.05, 0.1	12.7	36	14.9	33	20	20
General Chemistry												
Alkalinity (as CaCO3)	mg/L	30 - 500	-	-	256.25	1, 5	53	205	55	190	110	120
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.06, 0.07, 0.1, 0.18, 0.25	0.74	4.21	0.1	4.9	1.8	1.8
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5	31	30	-	-	-	-
Dissolved Organic Carbon	mg/L	5	-	-	4.3	0.4, 0.5	3.2	9.8	3.3	8.2	5.5	5.5
Electrical Conductivity	uS/cm	-	-	-	-	1, 2, 5	249	764	223	600	370	370
pH	pH units	6.5 - 8.5	6.5 - 8.5	-	-		6.56	6.61	6.56	7.78	7.24	8.04
Total Dissolved Solids	mg/L	500	-	-	267	5, 10, 20	160	370	140	335	315	315
Total Suspended Solids	mg/L	-	-	-	-	10, 20, 33, 50, 100, 200, 500	24100	-	14200	42000	40000	35000
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.1	-	0.075	-	0.004, 0.0049, 0.01	-	0.035	-	-	-	-
Barium (diss)	mg/L	1	-	-	-	0.002	0.081	-	0.097	0.17	0.099	0.097
Beryllium (diss)	mg/L	-	1.1	-	-	0.0004, 0.001	-	-	-	-	-	-
Boron (diss)	mg/L	5	-	0.2	-	0.01	0.102	**0.466**	**0.217**	**0.55**	**0.39**	**0.37**
Cadmium (diss)	mg/L	0.005	-	0.0005	-	0.00009, 0.0001	-	-	-	-	-	-
Chromium (diss)	mg/L	0.05	-	-	-	0.001, 0.005	-	-	-	-	-	-
Cobalt (diss)	mg/L	-	-	0.0009	-	0.0002, 0.0005	-	-	-	-	-	-
Copper (diss)	mg/L	1	-	0.005	-	0.0009, 0.001	-	-	-	-	-	-
Iron (diss)	mg/L	0.3	0.3	-	0.207	0.01, 0.02, 0.1	<0.01	0.033	0.032	<0.1	<0.1	<0.1
Lead (diss)	mg/L	0.01	-	0.005	-	0.0005, 0.001	-	<0.0005	-	-	-	-
Manganese (diss)	mg/L	0.05	-	-	0.0505	0.002, 0.01, 0.02	2.54	12.1	1.56	8.7	3.9	3.9
Molybdenum (diss)	mg/L	-	-	0.04	-	0.0005, 0.005	-	-	-	-	-	-
Nickel (diss)	mg/L	-	0.025	-	-	0.001, 0.005	-	-	-	-	-	-
Zinc (diss)	mg/L	5	-	0.02	-	0.005, 0.01	-	<0.005	-	-	-	-

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds ODWQS-ALL-MERGED	Ontario Drinking Water Quality Standards All Types Merged
Concentration exceeds PWQO-GENERAL	Provincial Water Quality Objectives General
Concentration exceeds PWQO-INTERIM	Provincial Water Quality Objectives Interim
Concentration exceeds RUV-LSP	Reasonable Use Values Lake St Peter

Hastings Highlands Analytical Chemistry Results:						Site Name	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS
						Location	LSP4-19	LSP4-19	LSP4-19	LSP5-19	LSP5-19	LSP5-19
Parameter	Units	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	RUV-LSP	Sample ID	LSP4-19	LSP4-19	LSP4-19	LSP5-19	LSP5-19	LSP5-19
						Sample Date	2024-Oct-28	2025-May-06	2025-Oct-15	2019-Oct-23	2020-May-07	2020-Oct-07
Anions						**Detection Limit**						
Chloride	mg/L	250	-	-	125.25	0.1, 0.12, 0.5, 1, 2	57	24	52	0.96	0.96	4.31
Nitrate as N	mg/L	10	-	-	2.51875	0.05, 0.1, 0.25	6.45	9.08	6.25	0.07	0.06	0.11
Sulphate	mg/L	500	-	-	252.622	0.1, 0.5, 1	6.8	5.7	9.2	5.58	4.12	3.98
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2	64	32	62	2.11	1.96	3.28
Magnesium (diss)	mg/L	-	-	-	-	0.05	9	4.5	8.2	0.53	0.33	0.58
Sodium (diss)	mg/L	200	-	-	100.765	0.05, 0.1	26	16	31	2.76	1.95	2.76
General Chemistry												
Alkalinity (as CaCO3)	mg/L	30 - 500	-	-	256.25	1, 5	190	64	180	11	8	10
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.06, 0.07, 0.1, 0.18, 0.25	6.5	0.75	5.8	0.02	0.03	0.03
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5	-	-	-	36	23	31
Dissolved Organic Carbon	mg/L	5	-	-	4.3	0.4, 0.5	7.2	3.6	7.5	1.6	2.2	1.7
Electrical Conductivity	uS/cm	-	-	-	-	1, 2, 5	650	330	630	76	34	41
pH	pH units	6.5 - 8.5	6.5 - 8.5	-	-		7.12	6.81	6.97	6.46	6.21	6.36
Total Dissolved Solids	mg/L	500	-	-	267	5, 10, 20	430	225	350	52	34	34
Total Suspended Solids	mg/L	-	-	-	-	10, 20, 33, 50, 100, 200, 500	43000	62000	38000	11700	6950	6580
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.1	-	0.075	-	0.004, 0.0049, 0.01	-	-	-	-	-	-
Barium (diss)	mg/L	1	-	-	-	0.002	0.19	0.13	0.2	0.014	0.01	0.013
Beryllium (diss)	mg/L	-	1.1	-	-	0.0004, 0.001	-	-	-	-	-	-
Boron (diss)	mg/L	5	-	0.2	-	0.01	**0.45**	**0.21**	**0.52**	<0.01	<0.01	<0.01
Cadmium (diss)	mg/L	0.005	-	0.0005	-	0.00009, 0.0001	-	-	-	-	-	-
Chromium (diss)	mg/L	0.05	-	-	-	0.001, 0.005	-	-	-	-	-	-
Cobalt (diss)	mg/L	-	-	0.0009	-	0.0002, 0.0005	-	-	-	-	-	-
Copper (diss)	mg/L	1	-	0.005	-	0.0009, 0.001	-	-	-	-	-	-
Iron (diss)	mg/L	0.3	0.3	-	0.207	0.01, 0.02, 0.1	<0.1	<0.1	<0.1	0.026	<0.01	0.027
Lead (diss)	mg/L	0.01	-	0.005	-	0.0005, 0.001	-	-	-	-	-	-
Manganese (diss)	mg/L	0.05	-	-	0.0505	0.002, 0.01, 0.02	8.2	1.7	6.4	0.088	0.016	0.006
Molybdenum (diss)	mg/L	-	-	0.04	-	0.0005, 0.005	-	-	-	-	-	-
Nickel (diss)	mg/L	-	0.025	-	-	0.001, 0.005	-	-	-	-	-	-
Zinc (diss)	mg/L	5	-	0.02	-	0.005, 0.01	-	-	-	-	-	-

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds ODWQS-ALL-MERGED	Ontario Drinking Water Quality Standards All Types Merged
Concentration exceeds PWQO-GENERAL	Provincial Water Quality Objectives General
Concentration exceeds PWQO-INTERIM	Provincial Water Quality Objectives Interim
Concentration exceeds RUV-LSP	Reasonable Use Values Lake St Peter

Hastings Highlands Analytical Chemistry Results:						Site Name	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS
						Location	LSP5-19	LSP5-19	LSP5-19	LSP5-19	LSP5-19	LSP5-19
Parameter	Units	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	RUV-LSP	Sample ID	LSP5-19	LSP5-19	LSP5-19	LSP5-19	LSP-QAQC-GW1-F22 (LSP5-19)	LSP5-19
						Sample Date	2021-Apr-21	2021-Oct-19	2022-May-02	2022-Oct-17	2022-Oct-17	2023-May-04
Anions						**Detection Limit**						
Chloride	mg/L	250	-	-	125.25	0.1, 0.12, 0.5, 1, 2	0.8	0.5	0.39	3.06	2.52	0.25
Nitrate as N	mg/L	10	-	-	2.51875	0.05, 0.1, 0.25	0.13	0.08	0.1	0.19	0.2	<0.05
Sulphate	mg/L	500	-	-	252.622	0.1, 0.5, 1	3.91	3.79	3.74	3.99	4	2.34
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2	2.5	2.27	2.5	4.44	4.46	-
Magnesium (diss)	mg/L	-	-	-	-	0.05	0.45	0.38	0.44	0.81	0.8	0.23
Sodium (diss)	mg/L	200	-	-	100.765	0.05, 0.1	2.09	1.58	1.51	2.67	2.59	0.89
General Chemistry												
Alkalinity (as CaCO3)	mg/L	30 - 500	-	-	256.25	1, 5	8	10	9	13	17	5
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.06, 0.07, 0.1, 0.18, 0.25	<0.02	0.11	<0.02	<0.02	<0.02	<0.02
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5	<5	10	8	15	15	-
Dissolved Organic Carbon	mg/L	5	-	-	4.3	0.4, 0.5	8.3	2.1	1.8	1.2	1.2	2.8
Electrical Conductivity	uS/cm	-	-	-	-	1, 2, 5	30	27	35	46	50	19
pH	pH units	6.5 - 8.5	6.5 - 8.5	-	-		6.43	6.46	6.31	6.56	6.83	6.21
Total Dissolved Solids	mg/L	500	-	-	267	5, 10, 20	40	18	20	20	38	33
Total Suspended Solids	mg/L	-	-	-	-	10, 20, 33, 50, 100, 200, 500	4320	2760	1840	-	-	1830
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.1	-	0.075	-	0.004, 0.0049, 0.01	-	-	-	0.031	0.031	-
Barium (diss)	mg/L	1	-	-	-	0.002	0.01	0.01	0.009	-	-	0.007
Beryllium (diss)	mg/L	-	1.1	-	-	0.0004, 0.001	-	-	-	-	-	-
Boron (diss)	mg/L	5	-	0.2	-	0.01	<0.01	<0.01	<0.01	0.013	0.011	<0.01
Cadmium (diss)	mg/L	0.005	-	0.0005	-	0.00009, 0.0001	-	-	-	-	-	-
Chromium (diss)	mg/L	0.05	-	-	-	0.001, 0.005	-	-	-	-	-	-
Cobalt (diss)	mg/L	-	-	0.0009	-	0.0002, 0.0005	-	-	-	-	-	-
Copper (diss)	mg/L	1	-	0.005	-	0.0009, 0.001	-	-	-	-	-	-
Iron (diss)	mg/L	0.3	0.3	-	0.207	0.01, 0.02, 0.1	0.033	0.016	<0.01	0.021	0.018	0.024
Lead (diss)	mg/L	0.01	-	0.005	-	0.0005, 0.001	-	-	-	<0.0005	<0.0005	-
Manganese (diss)	mg/L	0.05	-	-	0.0505	0.002, 0.01, 0.02	0.005	0.004	<0.002	0.003	0.002	0.005
Molybdenum (diss)	mg/L	-	-	0.04	-	0.0005, 0.005	-	-	-	-	-	-
Nickel (diss)	mg/L	-	0.025	-	-	0.001, 0.005	-	-	-	-	-	-
Zinc (diss)	mg/L	5	-	0.02	-	0.005, 0.01	-	-	-	<0.005	<0.005	-

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds ODWQS-ALL-MERGED	Ontario Drinking Water Quality Standards All Types Merged
Concentration exceeds PWQO-GENERAL	Provincial Water Quality Objectives General
Concentration exceeds PWQO-INTERIM	Provincial Water Quality Objectives Interim
Concentration exceeds RUV-LSP	Reasonable Use Values Lake St Peter

Hastings Highlands Analytical Chemistry Results:						Site Name	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS
						Location	LSP5-19	LSP5-19	LSP5-19	LSP5-19	LSP5-19	LSP6-23
Parameter	Units	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	RUV-LSP	Sample ID	LSP5-19	LSP5-19	LSP5-19	LSP5-19	LSP5-19	LSP6-23
						Sample Date	2023-Oct-17	2024-Apr-30	2024-Oct-28	2025-May-06	2025-Oct-15	2023-Oct-17
Anions						**Detection Limit**						
Chloride	mg/L	250	-	-	125.25	0.1, 0.12, 0.5, 1, 2	3.4	<1	<1	<1	<1	1.8
Nitrate as N	mg/L	10	-	-	2.51875	0.05, 0.1, 0.25	0.1	0.12	<0.1	0.1	<0.1	<0.1
Sulphate	mg/L	500	-	-	252.622	0.1, 0.5, 1	2.7	2.7	3.3	2.1	3.4	8.2
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2	2.9	2.7	2.8	1.9	2.4	16
Magnesium (diss)	mg/L	-	-	-	-	0.05	0.49	0.46	0.47	0.32	0.41	3.8
Sodium (diss)	mg/L	200	-	-	100.765	0.05, 0.1	1.9	1.4	1.7	0.99	1.3	5.5
General Chemistry												
Alkalinity (as CaCO3)	mg/L	30 - 500	-	-	256.25	1, 5	7.9	10	8.7	8.6	6.6	56
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.06, 0.07, 0.1, 0.18, 0.25	<0.05	<0.05	<0.05	<0.05	<0.05	0.073
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5	-	-	-	-	-	-
Dissolved Organic Carbon	mg/L	5	-	-	4.3	0.4, 0.5	1.5	1.8	1.8	2.5	2.2	2
Electrical Conductivity	uS/cm	-	-	-	-	1, 2, 5	29	26	31	22	25	140
pH	pH units	6.5 - 8.5	6.5 - 8.5	-	-		6.75	6.78	6.7	6.87	6.59	7.72
Total Dissolved Solids	mg/L	500	-	-	267	5, 10, 20	40	55	60	35	30	210
Total Suspended Solids	mg/L	-	-	-	-	10, 20, 33, 50, 100, 200, 500	6800	2000	7100	1100	2600	19000
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.1	-	0.075	-	0.004, 0.0049, 0.01	-	-	-	-	-	-
Barium (diss)	mg/L	1	-	-	-	0.002	0.01	0.01	0.012	0.0069	0.0085	0.012
Beryllium (diss)	mg/L	-	1.1	-	-	0.0004, 0.001	-	-	-	-	-	-
Boron (diss)	mg/L	5	-	0.2	-	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.031
Cadmium (diss)	mg/L	0.005	-	0.0005	-	0.00009, 0.0001	-	-	-	-	-	-
Chromium (diss)	mg/L	0.05	-	-	-	0.001, 0.005	-	-	-	-	-	-
Cobalt (diss)	mg/L	-	-	0.0009	-	0.0002, 0.0005	-	-	-	-	-	-
Copper (diss)	mg/L	1	-	0.005	-	0.0009, 0.001	-	-	-	-	-	-
Iron (diss)	mg/L	0.3	0.3	-	0.207	0.01, 0.02, 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lead (diss)	mg/L	0.01	-	0.005	-	0.0005, 0.001	-	-	-	-	-	-
Manganese (diss)	mg/L	0.05	-	-	0.0505	0.002, 0.01, 0.02	0.0021	0.0022	0.0045	0.0022	0.0022	0.49
Molybdenum (diss)	mg/L	-	-	0.04	-	0.0005, 0.005	-	-	-	-	-	-
Nickel (diss)	mg/L	-	0.025	-	-	0.001, 0.005	-	-	-	-	-	-
Zinc (diss)	mg/L	5	-	0.02	-	0.005, 0.01	-	-	-	-	-	-

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds ODWQS-ALL-MERGED	Ontario Drinking Water Quality Standards All Types Merged
Concentration exceeds PWQO-GENERAL	Provincial Water Quality Objectives General
Concentration exceeds PWQO-INTERIM	Provincial Water Quality Objectives Interim
Concentration exceeds RUV-LSP	Reasonable Use Values Lake St Peter

Hastings Highlands Analytical Chemistry Results:						Site Name	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS
						Location	LSP6-23	LSP6-23	LSP6-23	LSP6-23	LSP6-23	LSP7-23
Parameter	Units	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	RUV-LSP	Sample ID	LSP6-23	LSP6-23	LSP-QAQC-GW1 (LSP6-23)	LSP6-23	LSP6-23	LSP7-23
						Sample Date	2024-Apr-30	2024-Oct-28	2024-Oct-28	2025-May-06	2025-Oct-15	2023-Oct-17
Anions						**Detection Limit**						
Chloride	mg/L	250	-	-	125.25	0.1, 0.12, 0.5, 1, 2	<1	<1	<1	<1	<1	7.1
Nitrate as N	mg/L	10	-	-	2.51875	0.05, 0.1, 0.25	<0.1	<0.1	<0.1	<0.1	0.12	0.13
Sulphate	mg/L	500	-	-	252.622	0.1, 0.5, 1	4.5	6.4	6.4	5.2	7.4	4.1
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2	10	9.1	9.2	8.3	7.9	5.4
Magnesium (diss)	mg/L	-	-	-	-	0.05	2.8	2.6	2.7	2.5	2.3	1
Sodium (diss)	mg/L	200	-	-	100.765	0.05, 0.1	3	2.5	2.6	2.6	2.5	5
General Chemistry												
Alkalinity (as CaCO3)	mg/L	30 - 500	-	-	256.25	1, 5	59	41	40	36	31	17
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.06, 0.07, 0.1, 0.18, 0.25	<0.05	<0.05	<0.05	<0.05	0.075	0.057
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5	-	-	-	-	-	-
Dissolved Organic Carbon	mg/L	5	-	-	4.3	0.4, 0.5	1.1	1.2	1.4	1.2	1.3	1.4
Electrical Conductivity	uS/cm	-	-	-	-	1, 2, 5	100	100	100	87	80	76
pH	pH units	6.5 - 8.5	6.5 - 8.5	-	-		7.5	7.33	7.22	7.08	7.17	6.93
Total Dissolved Solids	mg/L	500	-	-	267	5, 10, 20	405	115	120	130	90	110
Total Suspended Solids	mg/L	-	-	-	-	10, 20, 33, 50, 100, 200, 500	11000	4500	4500	2100	2100	15000
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.1	-	0.075	-	0.004, 0.0049, 0.01	-	-	-	-	-	-
Barium (diss)	mg/L	1	-	-	-	0.002	0.01	0.0095	0.01	0.01	0.0099	0.014
Beryllium (diss)	mg/L	-	1.1	-	-	0.0004, 0.001	-	-	-	-	-	-
Boron (diss)	mg/L	5	-	0.2	-	0.01	0.017	0.017	0.016	0.015	0.017	<0.01
Cadmium (diss)	mg/L	0.005	-	0.0005	-	0.00009, 0.0001	-	-	-	-	-	-
Chromium (diss)	mg/L	0.05	-	-	-	0.001, 0.005	-	-	-	-	-	-
Cobalt (diss)	mg/L	-	-	0.0009	-	0.0002, 0.0005	-	-	-	-	-	-
Copper (diss)	mg/L	1	-	0.005	-	0.0009, 0.001	-	-	-	-	-	-
Iron (diss)	mg/L	0.3	0.3	-	0.207	0.01, 0.02, 0.1	0.17	0.21	0.26	0.11	0.1	<0.1
Lead (diss)	mg/L	0.01	-	0.005	-	0.0005, 0.001	-	-	-	-	-	-
Manganese (diss)	mg/L	0.05	-	-	0.0505	0.002, 0.01, 0.02	0.58	0.45	0.45	0.38	0.27	0.24
Molybdenum (diss)	mg/L	-	-	0.04	-	0.0005, 0.005	-	-	-	-	-	-
Nickel (diss)	mg/L	-	0.025	-	-	0.001, 0.005	-	-	-	-	-	-
Zinc (diss)	mg/L	5	-	0.02	-	0.005, 0.01	-	-	-	-	-	-

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds ODWQS-ALL-MERGED	Ontario Drinking Water Quality Standards All Types Merged
Concentration exceeds PWQO-GENERAL	Provincial Water Quality Objectives General
Concentration exceeds PWQO-INTERIM	Provincial Water Quality Objectives Interim
Concentration exceeds RUV-LSP	Reasonable Use Values Lake St Peter

Hastings Highlands Analytical Chemistry Results:						Site Name	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS
						Location	LSP7-23	LSP7-23	LSP7-23	LSP7-23	LSP8-23	LSP8-23
Parameter	Units	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	RUV-LSP	Sample ID	LSP7-23	LSP7-23	LSP7-23	LSP7-23	LSP8-23	LSP-QAQC-GW1 (LSP8-23)
						Sample Date	2024-Apr-30	2024-Oct-28	2025-May-06	2025-Oct-15	2023-Oct-17	2023-Oct-17
Anions						Detection Limit						
Chloride	mg/L	250	-	-	125.25	0.1, 0.12, 0.5, 1, 2	11	10	10	4.8	50	45
Nitrate as N	mg/L	10	-	-	2.51875	0.05, 0.1, 0.25	0.14	0.13	0.15	0.14	<0.1	<0.1
Sulphate	mg/L	500	-	-	252.622	0.1, 0.5, 1	4.6	3.7	4.5	5.3	12	11
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2	6	5.1	10	3.8	56	56
Magnesium (diss)	mg/L	-	-	-	-	0.05	1.2	1	2.3	0.71	9.2	9.3
Sodium (diss)	mg/L	200	-	-	100.765	0.05, 0.1	4.6	4.8	4.4	4.1	44	44
General Chemistry												
Alkalinity (as CaCO3)	mg/L	30 - 500	-	-	256.25	1, 5	15	8.4	27	8.1	260	270
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.06, 0.07, 0.1, 0.18, 0.25	<0.05	<0.05	<0.05	<0.05	12	12
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5	-	-	-	-	-	-
Dissolved Organic Carbon	mg/L	5	-	-	4.3	0.4, 0.5	1.5	1.8	1.7	1.9	37	36
Electrical Conductivity	uS/cm	-	-	-	-	1, 2, 5	77	72	100	55	690	680
pH	pH units	6.5 - 8.5	6.5 - 8.5	-	-		6.8	6.69	6.93	6.45	7.04	6.76
Total Dissolved Solids	mg/L	500	-	-	267	5, 10, 20	175	175	235	165	395	355
Total Suspended Solids	mg/L	-	-	-	-	10, 20, 33, 50, 100, 200, 500	14000	28000	18000	11000	5500	8000
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.1	-	0.075	-	0.004, 0.0049, 0.01	-	-	-	0.026	-	-
Barium (diss)	mg/L	1	-	-	-	0.002	0.02	0.021	0.03	0.014	0.47	0.47
Beryllium (diss)	mg/L	-	1.1	-	-	0.0004, 0.001	-	-	-	<0.0004	-	-
Boron (diss)	mg/L	5	-	0.2	-	0.01	<0.01	<0.01	0.012	<0.01	**0.26**	**0.27**
Cadmium (diss)	mg/L	0.005	-	0.0005	-	0.00009, 0.0001	-	-	-	<0.00009	-	-
Chromium (diss)	mg/L	0.05	-	-	-	0.001, 0.005	-	-	-	<0.005	-	-
Cobalt (diss)	mg/L	-	-	0.0009	-	0.0002, 0.0005	-	-	-	<0.0005	-	-
Copper (diss)	mg/L	1	-	0.005	-	0.0009, 0.001	-	-	-	<0.0009	-	-
Iron (diss)	mg/L	0.3	0.3	-	0.207	0.01, 0.02, 0.1	<0.1	0.14	<0.1	<0.1	92	93
Lead (diss)	mg/L	0.01	-	0.005	-	0.0005, 0.001	-	-	-	<0.0005	-	-
Manganese (diss)	mg/L	0.05	-	-	0.0505	0.002, 0.01, 0.02	0.093	0.033	0.037	0.0075	4.8	4.9
Molybdenum (diss)	mg/L	-	-	0.04	-	0.0005, 0.005	-	-	-	<0.0005	-	-
Nickel (diss)	mg/L	-	0.025	-	-	0.001, 0.005	-	-	-	<0.001	-	-
Zinc (diss)	mg/L	5	-	0.02	-	0.005, 0.01	-	-	-	<0.005	-	-

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds ODWQS-ALL-MERGED	Ontario Drinking Water Quality Standards All Types Merged
Concentration exceeds PWQO-GENERAL	Provincial Water Quality Objectives General
Concentration exceeds PWQO-INTERIM	Provincial Water Quality Objectives Interim
Concentration exceeds RUV-LSP	Reasonable Use Values Lake St Peter

Hastings Highlands Analytical Chemistry Results:						Site Name	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS
						Location	LSP8-23	LSP8-23	LSP8-23	LSP8-23	LSP8-23
Parameter	Units	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	RUV-LSP	Sample ID	LSP8-23	LSP8-23	LSP8-23	LSP-QAQC-GW1 (LSP8-23)	LSP8-23
						Sample Date	2024-Apr-30	2024-Oct-28	2025-May-06	2025-May-06	2025-Oct-15
Anions						**Detection Limit**					
Chloride	mg/L	250	-	-	125.25	0.1, 0.12, 0.5, 1, 2	48	29	18	16	34
Nitrate as N	mg/L	10	-	-	2.51875	0.05, 0.1, 0.25	<0.1	<0.1	<0.1	<0.1	0.18
Sulphate	mg/L	500	-	-	252.622	0.1, 0.5, 1	15	13	11	11	13
Cations											
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2	79	51	39	38	52
Magnesium (diss)	mg/L	-	-	-	-	0.05	13	7.9	6	6.1	7.9
Sodium (diss)	mg/L	200	-	-	100.765	0.05, 0.1	53	31	23	24	30
General Chemistry											
Alkalinity (as CaCO3)	mg/L	30 - 500	-	-	256.25	1, 5	350	240	200	200	220
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.06, 0.07, 0.1, 0.18, 0.25	19	12	11	12	9.4
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5	-	-	-	-	-
Dissolved Organic Carbon	mg/L	5	-	-	4.3	0.4, 0.5	37	28	20	20	28
Electrical Conductivity	uS/cm	-	-	-	-	1, 2, 5	900	580	490	490	570
pH	pH units	6.5 - 8.5	6.5 - 8.5	-	-		7.18	6.99	6.98	7.13	6.77
Total Dissolved Solids	mg/L	500	-	-	267	5, 10, 20	465	355	270	250	275
Total Suspended Solids	mg/L	-	-	-	-	10, 20, 33, 50, 100, 200, 500	1500	1900	660	670	720
Metals											
Aluminum (diss, 0.45 µm)	mg/L	0.1	-	0.075	-	0.004, 0.0049, 0.01	-	-	-	-	-
Barium (diss)	mg/L	1	-	-	-	0.002	0.69	0.44	0.32	0.32	0.38
Beryllium (diss)	mg/L	-	1.1	-	-	0.0004, 0.001	-	-	-	-	-
Boron (diss)	mg/L	5	-	0.2	-	0.01	**0.4**	**0.25**	**0.24**	**0.25**	**0.23**
Cadmium (diss)	mg/L	0.005	-	0.0005	-	0.00009, 0.0001	-	-	-	-	-
Chromium (diss)	mg/L	0.05	-	-	-	0.001, 0.005	-	-	-	-	-
Cobalt (diss)	mg/L	-	-	0.0009	-	0.0002, 0.0005	-	-	-	-	-
Copper (diss)	mg/L	1	-	0.005	-	0.0009, 0.001	-	-	-	-	-
Iron (diss)	mg/L	0.3	0.3	-	0.207	0.01, 0.02, 0.1	91	80	44	44	79
Lead (diss)	mg/L	0.01	-	0.005	-	0.0005, 0.001	-	-	-	-	-
Manganese (diss)	mg/L	0.05	-	-	0.0505	0.002, 0.01, 0.02	4.9	4.9	3.9	3.8	5.5
Molybdenum (diss)	mg/L	-	-	0.04	-	0.0005, 0.005	-	-	-	-	-
Nickel (diss)	mg/L	-	0.025	-	-	0.001, 0.005	-	-	-	-	-
Zinc (diss)	mg/L	5	-	0.02	-	0.005, 0.01	-	-	-	-	-

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds ODWQS-ALL-MERGED	Ontario Drinking Water Quality Standards All Types Merged
Concentration exceeds PWQO-GENERAL	Provincial Water Quality Objectives General
Concentration exceeds PWQO-INTERIM	Provincial Water Quality Objectives Interim
Concentration exceeds RUV-LSP	Reasonable Use Values Lake St Peter

Appendix E

E-2 Historical Groundwater VOC Chemistry

Table E-2: Municipality of Hastings Highlands Historical Analytical Results Volatile Organic Compounds					Site Name	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS
					Location	LSP-DP1-21	LSP1-03	LSP1-03	LSP1-03	LSP1-03	LSP1-03	LSP2-03	LSP3-03	LSP4-19	LSP4-19	LSP5-19
Parameter	Units	ODWQS-ALL-MERGED	PWQO-INTERIM	PWQO-GENERAL	Sample ID	Trip Blank (LSP-DP1 21-GW)	LSP1-03	LSP-QAQC GW-F21 (LSP1-03)	LSP1-03	LSP1-03	LSP1-03	LSP2-03	LSP3-03	LSP4-19	LSP-QAQC-GW1 (LSP4-19)	LSP5-19
					Sample Date	2024-Apr-30	2021-Oct-19	2021-Oct-19	2022-Oct-17	2023-May-04	2024-Apr-30	2024-Apr-30	2024-Apr-30	2024-Apr-30	2024-Apr-30	2024-Apr-30
VOCs					**Detection Limit**											
1,1,1,2-Tetrachloroethane	mg/L	-	0.02	-	0.0001, 0.0002, 0.0005	<0.0005	<0.0001	<0.0001	<0.0001	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1,1,1-Trichloroethane	mg/L	-	0.01	-	0.0002, 0.0003, 0.0006	<0.0002	<0.0003	<0.0003	<0.0003	<0.0006	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
1,1,2,2-Tetrachloroethane	mg/L	-	0.07	-	0.0001, 0.0002, 0.0004	<0.0004	<0.0001	<0.0001	<0.0001	<0.0002	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
1,1,2-Trichloroethane	mg/L	-	0.8	-	0.0002, 0.0004	<0.0004	<0.0002	<0.0002	<0.0002	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
1,1-Dichloroethane	mg/L	-	0.2	-	0.0002, 0.0003, 0.0006	<0.0002	<0.0003	<0.0003	<0.0003	<0.0006	0.00044	<0.0002	<0.0002	0.00021	0.00022	<0.0002
1,1-Dichloroethylene	mg/L	0.014	0.04	-	0.0002, 0.0006	<0.0002	<0.0002	<0.0002	<0.0002	<0.0006	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
1,2,4-Trichlorobenzene	mg/L	-	-	0.0005	0.0003	-	<0.0003	<0.0003	<0.0003	-	-	-	-	-	-	-
1,2-Dichlorobenzene	mg/L	0.003	-	0.0025	0.0001, 0.0002, 0.0004	<0.0004	<0.0001	<0.0001	<0.0001	<0.0002	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
1,2-Dichloroethane	mg/L	0.005	0.1	-	0.0002, 0.0004, 0.00049	<0.00049	<0.0002	<0.0002	<0.0002	<0.0004	<0.00049	<0.00049	<0.00049	<0.00049	<0.00049	<0.00049
1,2-Dichloropropane	mg/L	-	0.0007	-	0.0002, 0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
1,3-Dichlorobenzene	mg/L	-	-	0.0025	0.0001, 0.0002, 0.0004	<0.0004	<0.0001	<0.0001	<0.0001	<0.0002	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
1,3-Dichloropropene (Cis + Trans)	mg/L	-	-	-	0.0003	-	<0.0003	<0.0003	<0.0003	-	-	-	-	-	-	-
1,4-Dichlorobenzene	mg/L	0.001	-	0.004	0.0001, 0.0002, 0.0004	<0.0004	<0.0001	<0.0001	<0.0001	0.00098	0.0012	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
2-Hexanone	mg/L	-	-	-	0.001	-	<0.001	<0.001	<0.001	-	-	-	-	-	-	-
Acetone	mg/L	-	-	-	0.001, 0.002, 0.01	<0.01	<0.001	<0.001	<0.001	<0.002	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzene	mg/L	0.001	0.1	-	0.0002, 0.0004	<0.0002	0.00184	0.00156	<0.0002	0.00193	0.0023	<0.0002	<0.0002	0.00029	0.00029	<0.0002
Bromodichloromethane	mg/L	-	0.2	-	0.0002, 0.0004, 0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0004	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Bromoform	mg/L	-	0.06	-	0.0001, 0.0002, 0.001	<0.001	<0.0001	<0.0001	<0.0001	<0.0002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Bromomethane	mg/L	-	0.0009	-	0.0002, 0.0004, 0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0004	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Carbon Tetrachloride	mg/L	0.002	-	-	0.00019, 0.0002, 0.0004	<0.00019	<0.0002	<0.0002	<0.0002	<0.0004	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019
Chlorobenzene	mg/L	-	-	0.015	0.0001, 0.0002	<0.0002	<0.0001	<0.0001	<0.0001	0.00068	0.00037	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Chloroethane	mg/L	-	-	-	0.0002	-	0.00516	0.00479	<0.0002	-	-	-	-	-	-	-
Chloroform	mg/L	-	-	-	0.0002, 0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Chloromethane	mg/L	-	0.7	-	0.0002, 0.0004	-	<0.0004	<0.0004	<0.0002	-	-	-	-	-	-	-
cis-1,2-Dichloroethylene	mg/L	-	-	-	0.0002, 0.0004, 0.0005	<0.0005	0.00083	0.00064	<0.0002	<0.0004	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
cis-1,3-Dichloropropene	mg/L	-	-	-	0.0002, 0.0003	<0.0003	<0.0002	<0.0002	<0.0002	-	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Dibromochloromethane	mg/L	-	-	-	0.0001, 0.0002, 0.0005	<0.0005	<0.0001	<0.0001	<0.0001	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Dichlorodifluoromethane	mg/L	-	-	-	0.0002, 0.0004, 0.0008, 0.001	<0.001	<0.0002	<0.0002	<0.0004	<0.0008	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Dichloromethane	mg/L	0.05	-	-	0.002	<0.002	-	-	-	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Ethylbenzene	mg/L	0.0016	0.008	-	0.0001, 0.0002	<0.0002	0.00041	0.00033	<0.0001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Ethylene Dibromide	mg/L	-	0.005	-	0.0001, 0.00019, 0.0002	<0.00019	<0.0001	<0.0001	<0.0001	<0.0002	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019
Hexane	mg/L	-	-	-	0.001	<0.001	-	-	-	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
m & p-Xylene	mg/L	-	-	-	0.0002, 0.0004	-	<0.0002	<0.0002	<0.0002	<0.0004	-	-	-	-	-	-
Methylene Chloride	mg/L	-	0.1	-	0.0003, 0.0006	-	<0.0003	<0.0003	<0.0003	<0.0006	-	-	-	-	-	-
Methyl Ethyl Ketone	mg/L	-	0.4	-	0.001, 0.002, 0.01	<0.01	<0.001	<0.001	<0.001	<0.002	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Methyl Isobutyl Ketone	mg/L	-	-	-	0.001, 0.002, 0.005	<0.005	<0.001	<0.001	<0.001	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Methyl tertiary-butyl ether (MTBE)	mg/L	0.015	0.2	-	0.0002, 0.0004, 0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0004	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
n-Hexane	mg/L	-	-	-	0.0002, 0.0004	-	<0.0002	<0.0002	<0.0002	<0.0004	-	-	-	-	-	-
o-Xylene	mg/L	-	0.04	-	0.0001, 0.0002	<0.0002	0.00022	0.0002	<0.0001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Styrene	mg/L	-	0.004	-	0.0001, 0.0002, 0.0004	<0.0004	<0.0001	<0.0001	<0.0001	<0.0002	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
Tetrachloroethylene	mg/L	0.01	0.05	-	0.0002, 0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Toluene	mg/L	0.024	0.0008	-	0.0002, 0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
trans-1,2-Dichloroethylene	mg/L	-	-	-	0.0002, 0.0004, 0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0004	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
trans-1,3-Dichloropropene	mg/L	-	-	-	0.0003, 0.0004	<0.0004	<0.0003	<0.0003	<0.0003	-	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
Trichloroethylene	mg/L	0.005	0.02	-	0.0002, 0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Trichlorofluoromethane	mg/L	-	-	-	0.0004, 0.0005, 0.0008	<0.0005	<0.0004	<0.0004	<0.0004	<0.0008	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Vinyl Chloride	mg/L	0.001	0.6	-	0.00017, 0.0002, 0.00034	<0.0002	<0.00017	<0.00017	<0.00017	<0.00034	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Xylene Mixture	mg/L	0.02	-	-	0.0002	-	0.00022	0.0002	<0.0002	<0.0002	-	-	-	-	-	-
Xylenes, m+p	mg/L	-	-	-	0.0002	<0.0002	-	-	-	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Xylenes, total	mg/L	-	-	-	0.0002	<0.0002	-	-	-	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002

Notes:

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds ODWQS-ALL-MERGED	Ontario Drinking Water Quality Standards All Types Merged
Concentration exceeds PWQO-INTERIM	Provincial Water Quality Objectives Interim
Concentration exceeds PWQO-GENERAL	Provincial Water Quality Objectives General

Table E-2: Municipality of Hastings Highlands Historical Analytical Results Volatile Organic Compounds					Site Name	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS
					Location	LSP6-23	LSP7-23	LSP8-23
Parameter	Units	ODWQS-ALL-MERGED	PWQO-INTERIM	PWQO-GENERAL	Sample ID	LSP6-23	LSP7-23	LSP8-23
					Sample Date	2024-Apr-30	2024-Apr-30	2024-Apr-30
VOCs					Detection Limit			
1,1,1,2-Tetrachloroethane	mg/L	-	0.02	-	0.0001, 0.0002, 0.0005	<0.0005	<0.0005	<0.0005
1,1,1-Trichloroethane	mg/L	-	0.01	-	0.0002, 0.0003, 0.0006	<0.0002	<0.0002	<0.0002
1,1,2,2-Tetrachloroethane	mg/L	-	0.07	-	0.0001, 0.0002, 0.0004	<0.0004	<0.0004	<0.0004
1,1,2-Trichloroethane	mg/L	-	0.8	-	0.0002, 0.0004	<0.0004	<0.0004	<0.0004
1,1-Dichloroethane	mg/L	-	0.2	-	0.0002, 0.0003, 0.0006	<0.0002	<0.0002	<0.0002
1,1-Dichloroethylene	mg/L	0.014	0.04	-	0.0002, 0.0006	<0.0002	<0.0002	<0.0002
1,2,4-Trichlorobenzene	mg/L	-	-	0.0005	0.0003	-	-	-
1,2-Dichlorobenzene	mg/L	0.003	-	0.0025	0.0001, 0.0002, 0.0004	<0.0004	<0.0004	<0.0004
1,2-Dichloroethane	mg/L	0.005	0.1	-	0.0002, 0.0004, 0.00049	<0.00049	<0.00049	<0.00049
1,2-Dichloropropane	mg/L	-	0.0007	-	0.0002, 0.0004	<0.0002	<0.0002	<0.0002
1,3-Dichlorobenzene	mg/L	-	-	0.0025	0.0001, 0.0002, 0.0004	<0.0004	<0.0004	<0.0004
1,3-Dichloropropene (Cis + Trans)	mg/L	-	-	-	0.0003	-	-	-
1,4-Dichlorobenzene	mg/L	0.001	-	0.004	0.0001, 0.0002, 0.0004	<0.0004	<0.0004	0.00042
2-Hexanone	mg/L	-	-	-	0.001	-	-	-
Acetone	mg/L	-	-	-	0.001, 0.002, 0.01	<0.01	<0.01	<0.01
Benzene	mg/L	0.001	0.1	-	0.0002, 0.0004	<0.0002	<0.0002	0.00094
Bromodichloromethane	mg/L	-	0.2	-	0.0002, 0.0004, 0.0005	<0.0005	<0.0005	<0.0005
Bromoform	mg/L	-	0.06	-	0.0001, 0.0002, 0.001	<0.001	<0.001	<0.001
Bromomethane	mg/L	-	0.0009	-	0.0002, 0.0004, 0.0005	<0.0005	<0.0005	<0.0005
Carbon Tetrachloride	mg/L	0.002	-	-	0.00019, 0.0002, 0.0004	<0.00019	<0.00019	<0.00019
Chlorobenzene	mg/L	-	-	0.015	0.0001, 0.0002	<0.0002	<0.0002	<0.0002
Chloroethane	mg/L	-	-	-	0.0002	-	-	-
Chloroform	mg/L	-	-	-	0.0002, 0.0004	<0.0002	<0.0002	<0.0002
Chloromethane	mg/L	-	0.7	-	0.0002, 0.0004	-	-	-
cis-1,2-Dichloroethylene	mg/L	-	-	-	0.0002, 0.0004, 0.0005	<0.0005	<0.0005	<0.0005
cis-1,3-Dichloropropene	mg/L	-	-	-	0.0002, 0.0003	<0.0003	<0.0003	<0.0003
Dibromochloromethane	mg/L	-	-	-	0.0001, 0.0002, 0.0005	<0.0005	<0.0005	<0.0005
Dichlorodifluoromethane	mg/L	-	-	-	0.0002, 0.0004, 0.0008, 0.001	<0.001	<0.001	<0.001
Dichloromethane	mg/L	0.05	-	-	0.002	<0.002	<0.002	<0.002
Ethylbenzene	mg/L	0.0016	0.008	-	0.0001, 0.0002	<0.0002	<0.0002	<0.0002
Ethylene Dibromide	mg/L	-	0.005	-	0.0001, 0.00019, 0.0002	<0.00019	<0.00019	<0.00019
Hexane	mg/L	-	-	-	0.001	<0.001	<0.001	<0.001
m & p-Xylene	mg/L	-	-	-	0.0002, 0.0004	-	-	-
Methylene Chloride	mg/L	-	0.1	-	0.0003, 0.0006	-	-	-
Methyl Ethyl Ketone	mg/L	-	0.4	-	0.001, 0.002, 0.01	<0.01	<0.01	<0.01
Methyl Isobutyl Ketone	mg/L	-	-	-	0.001, 0.002, 0.005	<0.005	<0.005	<0.005
Methyl tertiary-butyl ether (MTBE)	mg/L	0.015	0.2	-	0.0002, 0.0004, 0.0005	<0.0005	<0.0005	<0.0005
n-Hexane	mg/L	-	-	-	0.0002, 0.0004	-	-	-
o-Xylene	mg/L	-	0.04	-	0.0001, 0.0002	<0.0002	<0.0002	<0.0002
Styrene	mg/L	-	0.004	-	0.0001, 0.0002, 0.0004	<0.0004	<0.0004	<0.0004
Tetrachloroethylene	mg/L	0.01	0.05	-	0.0002, 0.0004	<0.0002	<0.0002	<0.0002
Toluene	mg/L	0.024	0.0008	-	0.0002, 0.0004	<0.0002	<0.0002	<0.0002
trans-1,2-Dichloroethylene	mg/L	-	-	-	0.0002, 0.0004, 0.0005	<0.0005	<0.0005	<0.0005
trans-1,3-Dichloropropene	mg/L	-	-	-	0.0003, 0.0004	<0.0004	<0.0004	<0.0004
Trichloroethylene	mg/L	0.005	0.02	-	0.0002, 0.0004	<0.0002	<0.0002	<0.0002
Trichlorofluoromethane	mg/L	-	-	-	0.0004, 0.0005, 0.0008	<0.0005	<0.0005	<0.0005
Vinyl Chloride	mg/L	0.001	0.6	-	0.00017, 0.0002, 0.00034	<0.0002	<0.0002	<0.0002
Xylene Mixture	mg/L	0.02	-	-	0.0002	-	-	-
Xylenes, m+p	mg/L	-	-	-	0.0002	<0.0002	<0.0002	<0.0002
Xylenes, total	mg/L	-	-	-	0.0002	<0.0002	<0.0002	<0.0002

Notes:

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds ODWQS-ALL-MERGED	Ontario Drinking Water Quality Standards All Types Merged
Concentration exceeds PWQO-INTERIM	Provincial Water Quality Objectives Interim
Concentration exceeds PWQO-GENERAL	Provincial Water Quality Objectives General

Appendix E

E-3 Historical Surface Water Chemistry

Hastings Highlands Analytical Chemistry Results: E-3 Historical Surface Water						Site Name	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS
						Location	LSP-DP1-21	LSP-DP1-21	LSP-DP1-21	LSP-DP1-21	LSP-DP1-21	LSP-DP1-21	LSP-DP1-21	LSP-DP1-21	LSP-DP1-21	LSP-SW1	LSP-SW1
Parameter	Units	MECP-GD-TA	MECP-GD-TB	PWQO-GENERAL	PWQO-INTERIM	Sample ID	LSP-DP1-21	LSP-DP1-21	LSP-DPI-21	LSP-DP1-21	LSP-DP1-21	LSP-DP1-21	LSP-DP1-21	LSP-DP1-21	LSP-DP1-21	LSP-SW1	LSP-SW1
						Sample Date	2021-Oct-19	2022-May-02	2022-Oct-17	2023-May-04	2023-Oct-17	2024-Apr-30	2024-Oct-28	2025-May-06	2025-Oct-15	2014-Oct-15	2015-May-05
Anions						**Detection Limit**											
Chloride	mg/L	180	128	-	-	0.1, 1	16.1	9.31	13.8	5.34	27	9.7	16	6.5	18	0.67	0.37
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	<0.1	<0.1	-	<0.1	<0.1	-	-
Nitrate as N	mg/L	-	-	-	-	0.05, 0.1	<0.05	<0.05	0.12	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.05
Nitrite as N	mg/L	-	-	-	-	0.01, 0.05	-	-	-	<0.05	<0.01	0.023	-	<0.01	0.014	<0.05	<0.05
Sulphate	mg/L	100	-	-	-	0.1, 1	36.9	35.2	34.3	37.1	29	33	25	18	18	2.22	-
Cations																	
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2	50.3	44.3	53	-	58	35	50	33	60	-	-
Calcium (tot)	mg/L	-	-	-	-	0.05, 0.16, 0.2, 0.32	-	-	-	35.2	60	37	48	33	55	2.78	2.5
Magnesium (diss)	mg/L	-	-	-	-	0.05	10	8.61	9.12	5.77	9.7	6.2	8.2	5.2	9.4	-	-
Magnesium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.17, 0.34	-	-	-	7.12	10	6.2	8.2	5	8.5	0.73	0.69
Potassium (diss)	mg/L	-	-	-	-	0.5	-	-	20.2	14.6	-	-	-	-	-	-	-
Potassium (tot)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 0.58, 1.15	-	-	-	15.5	21	15	18	12	18	1.09	0.93
Sodium (diss)	mg/L	-	-	-	-	0.05, 0.1	20.1	17.8	19.1	12.9	17	13	17	9.7	17	-	-
Sodium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.22, 0.45	-	-	-	12.6	18	13	17	9.8	16	1.57	1.44
Field Parameters																	
pH (Field)	pH units	-	-	-	-		-	-	-	-	6.1	5.94	-	6.47	6.35	-	-
Temperature	deg. C	-	-	-	-		-	-	-	-	9.2	6.4	-	6.4	9.8	-	-
General Chemistry																	
Alkalinity (as CaCO3)	mg/L	-	-	-	-	1, 5	232	197	241	146	220	160	210	140	240	11	7
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.07	7.12	6.27	6.12	4.96	7.8	5.8	6.3	4.8	6.8	0.16	<0.02
Biochemical Oxygen Demand	mg/L	-	-	-	-	2, 5	8	-	-	3	23	9	<2	<2	<2	<5	<5
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5	59	53	16	66	88	46	24	23	40	20	7
Colour	TCU	-	-	-	-	2, 2.5, 5, 20	-	-	-	75.4	580	6	41	20	9	-	-
Dissolved Organic Carbon	mg/L	-	-	-	-	0.4, 0.5	14.8	12.3	14.1	9.7	13	11	11	15	15	-	-
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	567	515	611	375	580	390	510	350	580	37	27
Hardness (as CaCO3)	mg/L	-	-	-	-	0.5, 1	166.8	146.1	169.9	117	190	110	160	100	190	9.9	9.1
pH	pH units	6 - 9	-	6.5 - 8.5	-		6.97	6.73	6.87	6.75	7.11	6.99	7.12	7.12	6.66	7.13	6.68
Phenols	mg/L	0.04	0.004	0.001	-	0.001	-	-	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total Dissolved Solids	mg/L	-	-	-	-	10, 20	292	288	298	216	315	250	280	210	275	38	36
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1, 0.5, 1	-	-	-	6.28	8	6.4	7.3	5.1	6.9	0.62	0.36
Total Nitrogen (Calculated)	mg/L	-	-	-	-	0.05	-	-	-	-	-	-	-	-	-	-	-
Total Phosphorus	mg/L	-	-	0.03	-	0.01, 0.02, 0.1	-	-	-	**0.05**	**0.19**	**0.089**	**0.039**	**0.05**	**0.23**	**0.06**	0.02
Total Suspended Solids	mg/L	-	-	-	-	10	2080	932	-	177	150	68	67	56	80	<10	<10
Turbidity	NTU	-	-	-	-	0.1, 0.5	-	-	-	82.2	96	89	160	50	270	-	-
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.000002, 0.00061	-	-	-	0.000083	0.002	0.00085	0.0018	0.0024	0.0034	0.0000176	0.0003141
Metals																	
Aluminum (diss, 0.2 µm)	mg/L	-	-	-	0.075	0.004, 0.005	-	-	-	0.006	0.005	<0.005	0.007	<0.005	<0.005	-	-
Aluminum (diss, 0.45 µm)	mg/L	-	-	-	0.075	0.004	-	-	0.048	-	-	-	-	-	-	-	-
Aluminum (tot)	mg/L	-	-	-	-	0.004, 0.01	-	-	-	-	-	-	-	-	-	0.185	0.139
Arsenic (tot)	mg/L	-	-	-	0.005	0.001, 0.003	-	-	-	0.025	0.061	0.0081	0.012	0.0029	0.0016	-	-
Barium (diss)	mg/L	2.3	-	-	-	0.002	0.612	0.477	-	0.298	0.49	0.29	0.4	0.24	0.41	-	-
Barium (tot)	mg/L	2.3	-	-	-	0.002	-	-	-	0.325	0.5	0.31	0.37	0.23	0.41	0.015	0.012
Beryllium (tot)	mg/L	-	-	1.1	-	0.0004, 0.0005, 0.001	-	-	-	<0.001	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.001	<0.001
Boron (diss)	mg/L	3.55	1.5	-	0.2	0.01	0.448	0.285	0.449	0.259	0.42	0.29	0.36	0.22	0.38	-	-
Boron (tot)	mg/L	3.55	1.5	-	0.2	0.01	-	-	-	0.262	0.45	0.29	0.37	0.21	0.35	<0.01	<0.01
Cadmium (tot)	mg/L	0.00021	0.000017	-	0.0005	0.00009, 0.0001	-	-	-	0.0009	0.00043	<0.00009	<0.00009	<0.00009	<0.00009	<0.0001	<0.0001
Chromium (tot)	mg/L	0.064	-	-	-	0.003, 0.005	-	-	-	0.028	0.094	0.026	0.046	0.0096	0.0062	<0.003	<0.003
Cobalt (tot)	mg/L	-	-	-	0.0009	0.0005	-	-	-	0.0968	0.34	0.03	0.023	0.0066	0.01	0.0007	<0.0005
Copper (tot)	mg/L	0.0069	-	-	0.005	0.0009, 0.001, 0.002	-	-	-	0.081	0.12	0.019	0.02	0.0049	0.0024	<0.002	<0.002
Iron (diss)	mg/L	1	-	0.3	-	0.01, 0.1	**24.5**	**18.8**	**25.2**	**12.7**	**47**	**26**	**27**	**15**	**30**	-	-
Iron (tot)	mg/L	1	-	0.3	-	0.01, 0.1, 0.5	-	-	-	**41**	**160**	**37**	**66**	**19**	**49**	0.24	0.04
Lead (tot)	mg/L	0.002	-	-	0.005	0.0005, 0.001	-	-	-	0.068	0.035	0.0022	0.00076	<0.0005	0.0021	<0.001	<0.001
Manganese (diss)	mg/L	-	-	-	-	0.002, 0.01, 0.02	10.8	9.69	10.3	6.52	11	7.2	9.7	7	12	-	-
Manganese (tot)	mg/L	-	-	-	-	0.002, 0.01	-	-	-	6.84	11	7.4	11	6.8	12	0.069	0.01
Mercury (diss)	mg/L	-	-	0.0002	-	0.0001	-	-	-	<0.0001	-	<0.0001	<0.0001	<0.0001	<0.0001	-	-
Mercury (tot)	mg/L	-	-	0.0002	-	0.0001	-	-	-	-	<0.0001	-	-	-	-	-	-
Molybdenum (tot)	mg/L	-	-	-	0.04	0.0005, 0.002	-	-	-	0.011	0.029	0.0026	0.0028	0.00083	0.00085	<0.002	<0.002
Nickel (tot)	mg/L	-	-	0.025	-	0.001, 0.003	-	-	-	**0.125**	**0.27**	**0.029**	**0.03**	0.0082	0.011	<0.003	<0.003
Selenium (tot)	mg/L	-	-	0.1	-	0.002, 0.004	-	-	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	-
Silicon (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.18	-	-	-	10.5	8.1	6.3	6.6	5.9	6.6	5.5	5.07
Silver (tot)	mg/L	-	-	0.0001	-	0.00009, 0.0001	-	-	-	<0.0001	**0.00018**	<0.00009	<0.00009	<0.00009	<0.00009	<0.0001	<0.0001
Strontium (diss)	mg/L	-	-	-	-	0.005	-	-	0.357	-	-	-	-	-	-	-	-
Strontium (tot)	mg/L	-	-	-	-	0.001, 0.005	-	-	-	0.239	0.34	0.21	0.27	0.18	0.3	0.021	0.017
Thallium (tot)	mg/L	-	-	-	0.0003	0.00005, 0.0003	-	-	-	<0.0003	0.000069	<0.00005	<0.00005	<0.00005	<0.00005	<0.0003	<0.0003
Titanium (tot)	mg/L	-	-	-	-	0.002, 0.005, 0.01	-	-	-	0.246	0.086	0.028	0.0062	<0.005	<0.005	0.003	<0.002
Vanadium (tot)	mg/L	-	-	-	0.006	0.0005, 0.002	-	-	-	0.019	0.01	0.0055	0.0045	0.0025	0.0028	<0.002	<0.002
Zinc (tot)	mg/L	0.089	0.03	-	0.02	0.005, 0.02	-	-	-	4.18	4.7	0.2	0.37	0.053	0.26	<0.005	<0.005

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds MECP-GD-TA	MECP Guidance Document Table A
Concentration exceeds MECP-GD-TB	MECP Guidance Document Table B
Concentration exceeds PWQO-GENERAL	Provincial Water Quality Objectives General
Concentration exceeds PWQO-INTERIM	Provincial Water Quality Objectives Interim

Hastings Highlands Analytical Chemistry Results: E-3 Historical Surface Water						Site Name	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS
						Location	LSP-SW1	LSP-SW1	LSP-SW1	LSP-SW1	LSP-SW1	LSP-SW1	LSP-SW1	LSP-SW1	LSP-SW1	LSP-SW1
Parameter	Units	MECP-GD-TA	MECP-GD-TB	PWQO-GENERAL	PWQO-INTERIM	Sample ID	LSP-SW1	LSP-SW1	LSP-SW1	LSP-SW1	LSP-SW1	LSP-SW1	LSP-SW1-QAQC (LSP-SW1)	LSP-SW1	LSP-QAQC SW-F20 (LSP-SW1)	LSP-SW1
						Sample Date	2016-Apr-27	2017-May-12	2017-Oct-24	2018-May-08	2019-May-08	2020-May-07	2020-May-07	2020-Oct-07	2020-Oct-07	2021-Apr-21
Anions						Detection Limit										
Chloride	mg/L	180	128	-	-	0.1, 1	0.3	0.23	0.56	0.33	0.22	0.27	0.34	0.59	0.6	0.33
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-	-	-	-	-
Nitrate as N	mg/L	-	-	-	-	0.05, 0.1	<0.05	<0.05	<0.05	0.09	<0.05	<0.05	<0.05	<0.05	<0.05	0.07
Nitrite as N	mg/L	-	-	-	-	0.01, 0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	100	-	-	-	0.1, 1	3.34	3.07	0.85	3.06	2.86	3.18	3.24	1.44	1.43	2.97
Cations																
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2	-	-	-	-	-	-	-	-	-	-
Calcium (tot)	mg/L	-	-	-	-	0.05, 0.16, 0.2, 0.32	1.6	1.74	3.09	2.19	1.7	2.01	2.01	2.34	2.37	2.38
Magnesium (diss)	mg/L	-	-	-	-	0.05	-	-	-	-	-	-	-	-	-	-
Magnesium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.17, 0.34	0.4	0.4	0.85	0.58	0.43	0.49	0.57	0.58	0.58	0.63
Potassium (diss)	mg/L	-	-	-	-	0.5	-	-	-	-	-	-	-	-	-	-
Potassium (tot)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 0.58, 1.15	0.6	0.68	1.33	0.89	0.66	0.94	0.81	0.9	0.91	1.12
Sodium (diss)	mg/L	-	-	-	-	0.05, 0.1	-	-	-	-	-	-	-	-	-	-
Sodium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.22, 0.45	0.8	0.86	1.52	1.01	0.88	1.03	1.07	1.41	1.41	1.36
Field Parameters																
pH (Field)	pH units	-	-	-	-		-	-	-	-	-	-	-	-	-	-
Temperature	deg. C	-	-	-	-		-	-	-	-	-	-	-	-	-	-
General Chemistry																
Alkalinity (as CaCO3)	mg/L	-	-	-	-	1, 5	<5	5	11	9	6	6	11	8	8	6
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.07	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Biochemical Oxygen Demand	mg/L	-	-	-	-	2, 5	<5	<5	<5	<5	<5	<5	<5	<2	<2	<2
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5	17	9	29	<5	<5	6	<5	24	<5	<5
Colour	TCU	-	-	-	-	2, 2.5, 5, 20	-	29	51	42	7	26	29	48	50	27
Dissolved Organic Carbon	mg/L	-	-	-	-	0.4, 0.5	-	-	-	-	-	-	-	-	-	-
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	20	23	42	25	21	29	30	24	24	25
Hardness (as CaCO3)	mg/L	-	-	-	-	0.5, 1	5.6	6	11.2	7.9	6	7	7.4	8.2	8.3	8.5
pH	pH units	6 - 9	-	6.5 - 8.5	-		6.56	6.87	**6.48**	**6.27**	**6.11**	**6.4**	7.43	6.7	**6.42**	6.61
Phenols	mg/L	0.04	0.004	0.001	-	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total Dissolved Solids	mg/L	-	-	-	-	10, 20	32	<20	46	<20	40	32	28	42	32	28
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1, 0.5, 1	1.11	0.24	0.68	0.34	<0.1	0.25	0.24	0.36	0.34	0.35
Total Nitrogen (Calculated)	mg/L	-	-	-	-	0.05	-	-	-	-	-	-	-	-	-	-
Total Phosphorus	mg/L	-	-	0.03	-	0.01, 0.02, 0.1	<0.01	0.01	**0.1**	**0.05**	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Total Suspended Solids	mg/L	-	-	-	-	10	23	<10	14	<10	<10	<10	<10	<10	<10	<10
Turbidity	NTU	-	-	-	-	0.1, 0.5	-	<0.05	1.1	1.1	2.1	10.5	0.9	1.2	<0.5	0.7
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.000002, 0.00061	0.0000031	0.000011	0.0000517	0.0000046	0.000015	0.0000013	0.0000013	0.0000123	0.0000123	-
Metals																
Aluminum (diss, 0.2 µm)	mg/L	-	-	-	0.075	0.004, 0.005	-	-	-	-	-	-	-	-	-	-
Aluminum (diss, 0.45 µm)	mg/L	-	-	-	0.075	0.004	-	-	-	-	0.131	0.145	0.153	0.174	0.173	0.119
Aluminum (tot)	mg/L	-	-	-	-	0.004, 0.01	0.127	0.149	0.171	0.121	-	0.158	0.168	0.23	0.235	0.123
Arsenic (tot)	mg/L	-	-	-	0.005	0.001, 0.003	-	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Barium (diss)	mg/L	2.3	-	-	-	0.002	-	-	-	-	-	-	-	-	-	-
Barium (tot)	mg/L	2.3	-	-	-	0.002	0.009	0.012	0.023	0.01	0.012	0.009	0.008	0.011	0.012	0.01
Beryllium (tot)	mg/L	-	-	1.1	-	0.0004, 0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron (diss)	mg/L	3.55	1.5	-	0.2	0.01	-	-	-	-	-	-	-	-	-	-
Boron (tot)	mg/L	3.55	1.5	-	0.2	0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cadmium (tot)	mg/L	0.00021	0.000017	-	0.0005	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium (tot)	mg/L	0.064	-	-	-	0.003, 0.005	<0.003	<0.003	<0.003	<0.003	0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Cobalt (tot)	mg/L	-	-	-	0.0009	0.0005	<0.0005	<0.0005	0.0014	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Copper (tot)	mg/L	0.0069	-	-	0.005	0.0009, 0.001, 0.002	<0.002	<0.002	<0.002	0.001	<0.002	0.003	<0.002	0.002	0.002	0.005
Iron (diss)	mg/L	1	-	0.3	-	0.01, 0.1	-	-	-	-	-	-	-	-	-	-
Iron (tot)	mg/L	1	-	0.3	-	0.01, 0.1, 0.5	<0.01	<0.01	**1.29**	0.03	0.02	0.037	0.034	0.167	0.17	0.053
Lead (tot)	mg/L	0.002	-	-	0.005	0.0005, 0.001	<0.001	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (diss)	mg/L	-	-	-	-	0.002, 0.01, 0.02	-	-	-	-	-	-	-	-	-	-
Manganese (tot)	mg/L	-	-	-	-	0.002, 0.01	<0.002	-	-	0.009	0.005	0.003	0.004	0.031	0.032	0.006
Mercury (diss)	mg/L	-	-	0.0002	-	0.0001	-	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Mercury (tot)	mg/L	-	-	0.0002	-	0.0001	-	-	-	-	-	-	-	-	-	-
Molybdenum (tot)	mg/L	-	-	-	0.04	0.0005, 0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Nickel (tot)	mg/L	-	-	0.025	-	0.001, 0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Selenium (tot)	mg/L	-	-	0.1	-	0.002, 0.004	-	<0.004	<0.004	<0.004	0.006	0.004	<0.004	<0.004	<0.004	<0.004
Silicon (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.18	2.78	3.81	5.54	3.69	3.76	4.05	3.73	5.63	5.64	4.67
Silver (tot)	mg/L	-	-	0.0001	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Strontium (diss)	mg/L	-	-	-	-	0.005	-	-	-	-	-	-	-	-	-	-
Strontium (tot)	mg/L	-	-	-	-	0.001, 0.005	0.011	0.012	0.022	0.015	0.013	0.014	0.012	0.015	0.015	0.016
Thallium (tot)	mg/L	-	-	-	0.0003	0.00005, 0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Titanium (tot)	mg/L	-	-	-	-	0.002, 0.005, 0.01	<0.002	<0.002	0.01	<0.002	<0.002	0.008	<0.002	0.003	0.003	<0.002
Vanadium (tot)	mg/L	-	-	-	0.006	0.0005, 0.002	<0.002	0.003	0.002	<0.002	0.009	<0.002	<0.002	<0.002	<0.002	<0.002
Zinc (tot)	mg/L	0.089	0.03	-	0.02	0.005, 0.02	<0.005	<0.005	0.006	0.016	<0.005	<0.005	<0.005	<0.005	0.021	<0.005

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds MECP-GD-TA	MECP Guidance Document Table A
Concentration exceeds MECP-GD-TB	MECP Guidance Document Table B
Concentration exceeds PWQO-GENERAL	Provincial Water Quality Objectives General
Concentration exceeds PWQO-INTERIM	Provincial Water Quality Objectives Interim

Hastings Highlands Analytical Chemistry Results: E-3 Historical Surface Water						Site Name	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS
						Location	LSP-SW1	LSP-SW1	LSP-SW1	LSP-SW1	LSP-SW1	LSP-SW1	LSP-SW1	LSP-SW1	LSP-SW1
Parameter	Units	MECP-GD-TA	MECP-GD-TB	PWQO-GENERAL	PWQO-INTERIM	Sample ID	LSP-SW1	LSP-QAQC-SW-F21 (LSP-SW1)	LSP-SW1	LSP-SW1	LSP-QAQC-SW-F22 (LSP-SW1)	LSP-SW1	LSP-SW1	LSP-QAQC-SW1 (LSP-SW1)	LSP-SW1
						Sample Date	2021-Oct-19	2021-Oct-19	2022-May-02	2022-Oct-17	2022-Oct-17	2023-May-04	2024-Apr-30	2024-Apr-30	2025-May-06
Anions						Detection Limit									
Chloride	mg/L	180	128	-	-	0.1, 1	0.55	0.63	0.35	0.74	0.75	0.29	<1	<1	<1
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-	<0.1	<0.1	<0.1
Nitrate as N	mg/L	-	-	-	-	0.05, 0.1	<0.05	<0.05	0.08	<0.05	<0.05	<0.05	<0.1	<0.1	<0.1
Nitrite as N	mg/L	-	-	-	-	0.01, 0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	<0.01
Sulphate	mg/L	100	-	-	-	0.1, 1	0.59	0.61	2.83	3.34	3.32	2.52	4	3.9	2.4
Cations															
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2	-	-	-	-	-	-	-	-	-
Calcium (tot)	mg/L	-	-	-	-	0.05, 0.16, 0.2, 0.32	3.07	3.22	2.35	2.98	3.02	2.05	2.2	2.5	2
Magnesium (diss)	mg/L	-	-	-	-	0.05	-	-	-	-	-	-	-	-	-
Magnesium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.17, 0.34	0.88	0.81	0.62	0.83	0.8	0.54	0.56	0.58	0.52
Potassium (diss)	mg/L	-	-	-	-	0.5	-	-	-	-	-	-	-	-	-
Potassium (tot)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 0.58, 1.15	1.19	1.18	<1.15	1.35	1.26	0.86	0.83	0.88	0.92
Sodium (diss)	mg/L	-	-	-	-	0.05, 0.1	-	-	-	-	-	-	-	-	-
Sodium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.22, 0.45	1.43	1.51	1.27	1.79	1.79	1.03	1.2	1.3	1.1
Field Parameters															
pH (Field)	pH units	-	-	-	-		-	-	-	-	-	-	5.94	6.25	6.45
Temperature	deg. C	-	-	-	-		-	-	-	-	-	-	6.4	4.7	11.3
General Chemistry															
Alkalinity (as CaCO3)	mg/L	-	-	-	-	1, 5	14	14	10	11	9	7	10	7.3	6.3
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.07	<0.02	0.11	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05
Biochemical Oxygen Demand	mg/L	-	-	-	-	2, 5	<2	<2	<2	<2	<2	<2	<2	<2	<2
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5	12	17	<5	12	21	21	11	16	8.5
Colour	TCU	-	-	-	-	2, 2.5, 5, 20	34	35	24.9	44	45.8	30	32	29	22
Dissolved Organic Carbon	mg/L	-	-	-	-	0.4, 0.5	-	-	-	-	-	-	-	-	-
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	30	30	30	35	34	24	24	24	24
Hardness (as CaCO3)	mg/L	-	-	-	-	0.5, 1	11.3	11.4	8.4	10.9	10.8	7.3	8.2	8	7.5
pH	pH units	6 - 9	-	6.5 - 8.5	-		6.5	**6.48**	6.79	6.74	6.5	6.86	6.93	6.79	6.82
Phenols	mg/L	0.04	0.004	0.001	-	0.001	<0.001	<0.001	<0.001	<0.001	**0.002**	<0.001	<0.001	<0.001	<0.001
Total Dissolved Solids	mg/L	-	-	-	-	10, 20	32	40	24	18	20	12	60	60	35
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1, 0.5, 1	0.16	0.12	0.14	0.22	0.29	0.17	0.22	0.25	0.16
Total Nitrogen (Calculated)	mg/L	-	-	-	-	0.05	-	-	-	0.22	0.29	-	-	-	-
Total Phosphorus	mg/L	-	-	0.03	-	0.01, 0.02, 0.1	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02
Total Suspended Solids	mg/L	-	-	-	-	10	30	22	<10	<10	<10	<10	<10	<10	<10
Turbidity	NTU	-	-	-	-	0.1, 0.5	1.2	1.1	<0.5	<0.5	<0.5	0.8	0.3	0.4	0.3
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.000002, 0.00061	-	-	-	<0.000002	<0.000002	<0.000002	<0.00061	<0.00061	<0.00061
Metals															
Aluminum (diss, 0.2 µm)	mg/L	-	-	-	0.075	0.004, 0.005	-	-	0.107	-	-	0.15	0.15	0.15	0.14
Aluminum (diss, 0.45 µm)	mg/L	-	-	-	0.075	0.004	0.173	0.169	-	0.15	0.129	-	-	-	-
Aluminum (tot)	mg/L	-	-	-	-	0.004, 0.01	0.388	0.317	-	0.206	0.199	-	-	-	-
Arsenic (tot)	mg/L	-	-	-	0.005	0.001, 0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.001	<0.001	<0.001
Barium (diss)	mg/L	2.3	-	-	-	0.002	-	-	-	-	-	-	-	-	-
Barium (tot)	mg/L	2.3	-	-	-	0.002	0.015	0.015	0.01	0.012	0.011	0.012	0.0096	0.0096	0.0095
Beryllium (tot)	mg/L	-	-	1.1	-	0.0004, 0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0004	<0.0004	<0.0004
Boron (diss)	mg/L	3.55	1.5	-	0.2	0.01	-	-	-	-	-	-	-	-	-
Boron (tot)	mg/L	3.55	1.5	-	0.2	0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cadmium (tot)	mg/L	0.00021	0.000017	-	0.0005	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.00009	<0.00009	<0.00009
Chromium (tot)	mg/L	0.064	-	-	-	0.003, 0.005	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.005	<0.005	<0.005
Cobalt (tot)	mg/L	-	-	-	0.0009	0.0005	0.0017	0.0014	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Copper (tot)	mg/L	0.0069	-	-	0.005	0.0009, 0.001, 0.002	<0.002	<0.002	<0.002	0.002	0.002	0.001	0.0011	0.0012	0.0012
Iron (diss)	mg/L	1	-	0.3	-	0.01, 0.1	-	-	-	-	-	-	-	-	-
Iron (tot)	mg/L	1	-	0.3	-	0.01, 0.1, 0.5	**0.595**	**0.417**	0.075	0.124	0.11	0.07	<0.1	<0.1	<0.1
Lead (tot)	mg/L	0.002	-	-	0.005	0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005
Manganese (diss)	mg/L	-	-	-	-	0.002, 0.01, 0.02	-	-	-	-	-	-	-	-	-
Manganese (tot)	mg/L	-	-	-	-	0.002, 0.01	0.244	0.172	0.006	0.012	0.014	0.004	0.0033	0.0033	0.0057
Mercury (diss)	mg/L	-	-	0.0002	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Mercury (tot)	mg/L	-	-	0.0002	-	0.0001	-	-	-	-	-	-	-	-	-
Molybdenum (tot)	mg/L	-	-	-	0.04	0.0005, 0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.0005	<0.0005	<0.0005
Nickel (tot)	mg/L	-	-	0.025	-	0.001, 0.003	<0.003	<0.003	<0.003	<0.003	0.003	0.003	<0.001	<0.001	<0.001
Selenium (tot)	mg/L	-	-	0.1	-	0.002, 0.004	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Silicon (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.18	5.64	5.67	5.03	5.61	6.28	3.39	4.1	4.3	3.8
Silver (tot)	mg/L	-	-	0.0001	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.00009	<0.00009	<0.00009
Strontium (diss)	mg/L	-	-	-	-	0.005	-	-	-	-	-	-	-	-	-
Strontium (tot)	mg/L	-	-	-	-	0.001, 0.005	0.021	0.021	0.019	0.02	0.022	0.016	0.014	0.014	0.013
Thallium (tot)	mg/L	-	-	-	0.0003	0.00005, 0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.00005	<0.00005	<0.00005
Titanium (tot)	mg/L	-	-	-	-	0.002, 0.005, 0.01	0.011	<0.01	<0.01	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005
Vanadium (tot)	mg/L	-	-	-	0.006	0.0005, 0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.0005	0.00056	0.00067
Zinc (tot)	mg/L	0.089	0.03	-	0.02	0.005, 0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.005	<0.005	<0.005

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds MECP-GD-TA	MECP Guidance Document Table A
Concentration exceeds MECP-GD-TB	MECP Guidance Document Table B
Concentration exceeds PWQO-GENERAL	Provincial Water Quality Objectives General
Concentration exceeds PWQO-INTERIM	Provincial Water Quality Objectives Interim

Hastings Highlands Analytical Chemistry Results: E-3 Historical Surface Water						Site Name	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS
						Location	LSP-SW1	LSP-SW2	LSP-SW2	LSP-SW2	LSP-SW2	LSP-SW2	LSP-SW2	LSP-SW2	LSP-SW2
Parameter	Units	MECP-GD-TA	MECP-GD-TB	PWQO-GENERAL	PWQO-INTERIM	Sample ID	LSP-QAQC-SW1 (LSP-SW1)	LSP-SW2	LSP-SW2	LSP-SW2	LSP-SW2-QAQC (LSP-SW2)	LSP-SW2	LSP-SW2-QAQC (LSP-SW2)	LSP-SW2	LSP-SW2-QAQC (LSP-SW2)
						Sample Date	2025-May-06	2014-Oct-15	2015-May-05	2016-Apr-27	2016-Apr-27	2017-May-12	2017-May-12	2017-Oct-24	2017-Oct-24
Anions						Detection Limit									
Chloride	mg/L	180	128	-	-	0.1, 1	<1	0.86	0.98	1.31	1.38	1.72	1.83	1.05	1.01
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	<0.1	-	-	-	-	-	-	-	-
Nitrate as N	mg/L	-	-	-	-	0.05, 0.1	<0.1	<0.05	0.07	0.17	0.17	0.34	0.35	0.06	<0.05
Nitrite as N	mg/L	-	-	-	-	0.01, 0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	100	-	-	-	0.1, 1	2.1	3.72	-	11.3	11.6	12.1	13.2	2.46	2.35
Cations															
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2	-	-	-	-	-	-	-	-	-
Calcium (tot)	mg/L	-	-	-	-	0.05, 0.16, 0.2, 0.32	2	3.6	3.38	4.36	4.44	5.11	5.47	4.14	4.25
Magnesium (diss)	mg/L	-	-	-	-	0.05	-	-	-	-	-	-	-	-	-
Magnesium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.17, 0.34	0.5	0.87	0.9	0.95	0.96	1.11	1.15	1.15	1.17
Potassium (diss)	mg/L	-	-	-	-	0.5	-	-	-	-	-	-	-	-	-
Potassium (tot)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 0.58, 1.15	0.88	1.12	1.1	1.39	1.41	1.8	1.93	1.38	1.49
Sodium (diss)	mg/L	-	-	-	-	0.05, 0.1	-	-	-	-	-	-	-	-	-
Sodium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.22, 0.45	1.1	1.97	2.39	2.78	2.83	3.08	3.41	2.4	2.34
Field Parameters															
pH (Field)	pH units	-	-	-	-		6.45	-	-	-	-	-	-	-	-
Temperature	deg. C	-	-	-	-		11.3	-	-	-	-	-	-	-	-
General Chemistry															
Alkalinity (as CaCO3)	mg/L	-	-	-	-	1, 5	6.4	9	7	9	9	11	12	18	16
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.07	<0.05	0.15	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.02
Biochemical Oxygen Demand	mg/L	-	-	-	-	2, 5	<2	<5	<5	<5	<5	<5	<5	<5	<5
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5	8.9	23	6	18	18	16	13	56	59
Colour	TCU	-	-	-	-	2, 2.5, 5, 20	22	-	-	-	-	40	40	70	73
Dissolved Organic Carbon	mg/L	-	-	-	-	0.4, 0.5	-	-	-	-	-	-	-	-	-
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	24	40	41	53	54	71	77	43	41
Hardness (as CaCO3)	mg/L	-	-	-	-	0.5, 1	7.7	12.6	12.1	14.8	15	17.3	18.4	15.1	15.4
pH	pH units	6 - 9	-	6.5 - 8.5	-		6.83	7.1	6.8	6.95	6.99	7.28	7.28	6.67	6.56
Phenols	mg/L	0.04	0.004	0.001	-	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total Dissolved Solids	mg/L	-	-	-	-	10, 20	20	44	42	52	50	42	48	52	52
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1, 0.5, 1	0.18	0.58	0.31	0.35	0.38	0.34	0.28	1.62	1.69
Total Nitrogen (Calculated)	mg/L	-	-	-	-	0.05	-	-	-	-	-	-	-	-	-
Total Phosphorus	mg/L	-	-	0.03	-	0.01, 0.02, 0.1	<0.02	0.03	0.01	0.03	<0.01	0.01	0.01	**0.17**	**0.17**
Total Suspended Solids	mg/L	-	-	-	-	10	29	<10	<10	14	17	<10	<10	<10	18
Turbidity	NTU	-	-	-	-	0.1, 0.5	0.2	-	-	-	-	<0.05	<0.05	4.6	9.9
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.000002, 0.00061	<0.00061	0.0000208	0.0002728	0.0000051	0.0000051	0.000018	0.000018	0.0000529	0.0000529
Metals															
Aluminum (diss, 0.2 µm)	mg/L	-	-	-	0.075	0.004, 0.005	0.14	-	-	-	-	-	-	-	-
Aluminum (diss, 0.45 µm)	mg/L	-	-	-	0.075	0.004	-	-	-	-	-	-	-	-	-
Aluminum (tot)	mg/L	-	-	-	-	0.004, 0.01	-	0.157	0.103	0.103	0.104	0.126	0.124	0.131	0.15
Arsenic (tot)	mg/L	-	-	-	0.005	0.001, 0.003	<0.001	-	-	-	-	<0.003	<0.003	<0.003	<0.003
Barium (diss)	mg/L	2.3	-	-	-	0.002	-	-	-	-	-	-	-	-	-
Barium (tot)	mg/L	2.3	-	-	-	0.002	0.01	0.015	0.01	0.014	0.016	0.02	0.02	0.031	0.02
Beryllium (tot)	mg/L	-	-	1.1	-	0.0004, 0.0005, 0.001	<0.0004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron (diss)	mg/L	3.55	1.5	-	0.2	0.01	-	-	-	-	-	-	-	-	-
Boron (tot)	mg/L	3.55	1.5	-	0.2	0.01	<0.01	0.013	0.011	0.025	0.028	0.042	0.039	0.013	0.013
Cadmium (tot)	mg/L	0.00021	0.000017	-	0.0005	0.00009, 0.0001	<0.00009	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium (tot)	mg/L	0.064	-	-	-	0.003, 0.005	<0.005	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Cobalt (tot)	mg/L	-	-	-	0.0009	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0005	<0.0005
Copper (tot)	mg/L	0.0069	-	-	0.005	0.0009, 0.001, 0.002	0.0011	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Iron (diss)	mg/L	1	-	0.3	-	0.01, 0.1	-	-	-	-	-	-	-	-	-
Iron (tot)	mg/L	1	-	0.3	-	0.01, 0.1, 0.5	<0.1	**0.34**	0.13	**0.38**	**0.6**	<0.01	<0.01	**1.3**	**1.28**
Lead (tot)	mg/L	0.002	-	-	0.005	0.0005, 0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (diss)	mg/L	-	-	-	-	0.002, 0.01, 0.02	-	-	-	-	-	-	-	-	-
Manganese (tot)	mg/L	-	-	-	-	0.002, 0.01	0.0061	0.025	0.017	0.026	0.037	-	-	-	-
Mercury (diss)	mg/L	-	-	0.0002	-	0.0001	<0.0001	-	-	-	-	<0.0001	<0.0001	<0.0001	<0.0001
Mercury (tot)	mg/L	-	-	0.0002	-	0.0001	-	-	-	-	-	-	-	-	-
Molybdenum (tot)	mg/L	-	-	-	0.04	0.0005, 0.002	<0.0005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Nickel (tot)	mg/L	-	-	0.025	-	0.001, 0.003	<0.001	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Selenium (tot)	mg/L	-	-	0.1	-	0.002, 0.004	<0.002	-	-	-	-	<0.004	<0.004	<0.004	<0.004
Silicon (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.18	3.7	5.47	4.47	3.69	4.08	4.48	4.36	5.92	5.78
Silver (tot)	mg/L	-	-	0.0001	-	0.00009, 0.0001	<0.00009	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Strontium (diss)	mg/L	-	-	-	-	0.005	-	-	-	-	-	-	-	-	-
Strontium (tot)	mg/L	-	-	-	-	0.001, 0.005	0.013	0.024	0.019	0.026	0.029	0.033	0.033	0.03	0.029
Thallium (tot)	mg/L	-	-	-	0.0003	0.00005, 0.0003	<0.00005	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Titanium (tot)	mg/L	-	-	-	-	0.002, 0.005, 0.01	<0.005	0.002	<0.002	0.002	0.004	<0.002	<0.002	0.005	0.005
Vanadium (tot)	mg/L	-	-	-	0.006	0.0005, 0.002	0.00064	<0.002	<0.002	<0.002	<0.002	0.002	0.002	<0.002	<0.002
Zinc (tot)	mg/L	0.089	0.03	-	0.02	0.005, 0.02	<0.005	<0.005	<0.005	0.005	0.006	0.008	0.008	0.011	0.006

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds MECP-GD-TA	MECP Guidance Document Table A
Concentration exceeds MECP-GD-TB	MECP Guidance Document Table B
Concentration exceeds PWQO-GENERAL	Provincial Water Quality Objectives General
Concentration exceeds PWQO-INTERIM	Provincial Water Quality Objectives Interim

Hastings Highlands Analytical Chemistry Results: E-3 Historical Surface Water						Site Name	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS
						Location	LSP-SW2	LSP-SW2	LSP-SW2	LSP-SW2	LSP-SW2	LSP-SW2	LSP-SW2	LSP-SW2	LSP-SW2	LSP-SW2
Parameter	Units	MECP-GD-TA	MECP-GD-TB	PWQO-GENERAL	PWQO-INTERIM	Sample ID	LSP-SW2	LSP-SW2	LSP-SW2-QAQC (LSP-SW2)	LSP-SW2	LSP-SW2	LSP-SW2	LSP-SW2	LSP-QAQC SW-S21 (LSP-SW2)	LSP-SW2	LSP-SW2
						Sample Date	2018-May-08	2019-May-08	2019-May-08	2019-Oct-23	2020-May-07	2020-Oct-07	2021-Apr-21	2021-Apr-21	2021-Oct-19	2022-May-02
Anions						**Detection Limit**										
Chloride	mg/L	180	128	-	-	0.1, 1	0.64	1.79	0.36	2.66	1.25	0.73	0.8	0.75	0.93	0.84
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-	-	-	-	-
Nitrate as N	mg/L	-	-	-	-	0.05, 0.1	0.18	0.36	<0.05	0.26	0.14	<0.05	0.17	0.16	<0.05	0.15
Nitrite as N	mg/L	-	-	-	-	0.01, 0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	100	-	-	-	0.1, 1	4.87	11.9	2.77	33.4	7.8	1.81	5.85	5.57	1.93	5.76
Cations																
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2	-	-	-	-	-	-	-	-	-	-
Calcium (tot)	mg/L	-	-	-	-	0.05, 0.16, 0.2, 0.32	3.04	5.63	1.64	9.39	4.27	3.4	4.21	4.06	5.44	4.56
Magnesium (diss)	mg/L	-	-	-	-	0.05	-	-	-	-	-	-	-	-	-	-
Magnesium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.17, 0.34	0.77	1.28	0.42	2.4	1.09	0.77	1.12	1.01	1.26	1.06
Potassium (diss)	mg/L	-	-	-	-	0.5	-	-	-	-	-	-	-	-	-	-
Potassium (tot)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 0.58, 1.15	1.16	2.04	0.61	1.7	1.43	0.97	1.34	1.37	1.72	1.82
Sodium (diss)	mg/L	-	-	-	-	0.05, 0.1	-	-	-	-	-	-	-	-	-	-
Sodium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.22, 0.45	1.64	3.19	0.85	3.72	2.35	1.82	2.41	2.41	2.49	2.52
Field Parameters																
pH (Field)	pH units	-	-	-	-		-	-	-	-	-	-	-	-	-	-
Temperature	deg. C	-	-	-	-		-	-	-	-	-	-	-	-	-	-
General Chemistry																
Alkalinity (as CaCO3)	mg/L	-	-	-	-	1, 5	9	15	5	7	8	11	9	9	20	10
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.07	0.06	0.03	<0.02	0.11	0.03	<0.02	0.04	0.04	0.08	<0.02
Biochemical Oxygen Demand	mg/L	-	-	-	-	2, 5	<5	<5	<5	<5	<5	<2	<2	<2	<2	<2
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5	<5	7	<5	26	13	33	<5	<5	18	<5
Colour	TCU	-	-	-	-	2, 2.5, 5, 20	38	10	7	39	33	68	32	32	45	26.4
Dissolved Organic Carbon	mg/L	-	-	-	-	0.4, 0.5	-	-	-	-	-	-	-	-	-	-
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	36	71	20	106	59	31	42	40	48	49
Hardness (as CaCO3)	mg/L	-	-	-	-	0.5, 1	10.8	19.3	5.8	33.3	15.2	11.7	15.1	14.3	18.8	15.8
pH	pH units	6 - 9	-	6.5 - 8.5	-		**6.2**	**6.37**	**6.06**	**6.43**	**6.4**	6.72	6.65	6.67	6.65	**6.43**
Phenols	mg/L	0.04	0.004	0.001	-	0.001	<0.001	<0.001	<0.001	**0.004**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total Dissolved Solids	mg/L	-	-	-	-	10, 20	<20	64	46	104	44	48	24	42	58	10
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1, 0.5, 1	0.43	<0.1	<0.1	0.52	0.29	0.37	0.34	0.36	0.21	0.29
Total Nitrogen (Calculated)	mg/L	-	-	-	-	0.05	-	-	-	-	-	-	-	-	-	-
Total Phosphorus	mg/L	-	-	0.03	-	0.01, 0.02, 0.1	**0.05**	<0.02	<0.02	**0.04**	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Total Suspended Solids	mg/L	-	-	-	-	10	<10	<10	<10	<10	41	<10	<10	<10	<10	<10
Turbidity	NTU	-	-	-	-	0.1, 0.5	1.2	2.8	<0.5	26.2	1	1.4	2	1	2.2	1.5
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.000002, 0.00061	0.0000092	0.0000219	-	0.0000217	0.000011	0.0000124	-	-	-	-
Metals																
Aluminum (diss, 0.2 µm)	mg/L	-	-	-	0.075	0.004, 0.005	-	-	-	-	-	-	-	-	-	0.089
Aluminum (diss, 0.45 µm)	mg/L	-	-	-	0.075	0.004	-	0.11	0.133	0.112	0.117	0.158	0.091	0.101	0.102	-
Aluminum (tot)	mg/L	-	-	-	-	0.004, 0.01	0.093	-	-	-	0.171	0.203	0.138	0.099	0.15	-
Arsenic (tot)	mg/L	-	-	-	0.005	0.001, 0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Barium (diss)	mg/L	2.3	-	-	-	0.002	-	-	-	-	-	-	-	-	-	-
Barium (tot)	mg/L	2.3	-	-	-	0.002	0.01	0.021	0.012	0.036	0.013	0.012	0.011	0.011	0.015	0.015
Beryllium (tot)	mg/L	-	-	1.1	-	0.0004, 0.0005, 0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron (diss)	mg/L	3.55	1.5	-	0.2	0.01	-	-	-	-	-	-	-	-	-	-
Boron (tot)	mg/L	3.55	1.5	-	0.2	0.01	0.015	0.06	<0.01	0.046	0.021	<0.01	0.023	0.023	0.015	0.028
Cadmium (tot)	mg/L	0.00021	0.000017	-	0.0005	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium (tot)	mg/L	0.064	-	-	-	0.003, 0.005	<0.003	0.003	<0.003	<0.003	<0.003	0.005	<0.003	<0.003	<0.003	<0.003
Cobalt (tot)	mg/L	-	-	-	0.0009	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Copper (tot)	mg/L	0.0069	-	-	0.005	0.0009, 0.001, 0.002	0.001	<0.002	<0.002	0.002	0.002	0.002	<0.002	0.003	<0.002	<0.002
Iron (diss)	mg/L	1	-	0.3	-	0.01, 0.1	-	-	-	-	-	-	-	-	-	-
Iron (tot)	mg/L	1	-	0.3	-	0.01, 0.1, 0.5	0.1	0.18	0.02	**0.821**	0.187	0.248	0.21	0.138	**0.798**	**0.484**
Lead (tot)	mg/L	0.002	-	-	0.005	0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (diss)	mg/L	-	-	-	-	0.002, 0.01, 0.02	-	-	-	-	-	-	-	-	-	-
Manganese (tot)	mg/L	-	-	-	-	0.002, 0.01	0.031	0.04	0.004	0.103	0.029	0.016	0.04	0.035	0.116	0.061
Mercury (diss)	mg/L	-	-	0.0002	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Mercury (tot)	mg/L	-	-	0.0002	-	0.0001	-	-	-	-	-	-	-	-	-	-
Molybdenum (tot)	mg/L	-	-	-	0.04	0.0005, 0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Nickel (tot)	mg/L	-	-	0.025	-	0.001, 0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Selenium (tot)	mg/L	-	-	0.1	-	0.002, 0.004	<0.004	0.005	0.005	<0.004	<0.004	<0.004	<0.004	<0.004	<0.002	<0.002
Silicon (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.18	3.77	4.49	3.78	5.62	3.76	6.18	5.33	4.96	6.77	4.7
Silver (tot)	mg/L	-	-	0.0001	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Strontium (diss)	mg/L	-	-	-	-	0.005	-	-	-	-	-	-	-	-	-	-
Strontium (tot)	mg/L	-	-	-	-	0.001, 0.005	0.022	0.039	0.014	0.066	0.022	0.021	0.027	0.027	0.038	0.028
Thallium (tot)	mg/L	-	-	-	0.0003	0.00005, 0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Titanium (tot)	mg/L	-	-	-	-	0.002, 0.005, 0.01	<0.002	<0.002	<0.002	<0.002	0.008	0.003	0.002	<0.002	<0.01	<0.01
Vanadium (tot)	mg/L	-	-	-	0.006	0.0005, 0.002	<0.002	0.008	0.007	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Zinc (tot)	mg/L	0.089	0.03	-	0.02	0.005, 0.02	0.005	0.007	<0.005	0.006	<0.005	0.006	<0.005	<0.005	<0.02	<0.02

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds MECP-GD-TA	MECP Guidance Document Table A
Concentration exceeds MECP-GD-TB	MECP Guidance Document Table B
Concentration exceeds PWQO-GENERAL	Provincial Water Quality Objectives General
Concentration exceeds PWQO-INTERIM	Provincial Water Quality Objectives Interim

Hastings Highlands Analytical Chemistry Results: E-3 Historical Surface Water						Site Name	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS	Lake St. Peter WDS
						Location	LSP-SW2	LSP-SW2	LSP-SW2	LSP-SW2	LSP-SW2	LSP-SW2
Parameter	Units	MECP-GD-TA	MECP-GD-TB	PWQO-GENERAL	PWQO-INTERIM	Sample ID	LSP-QAQC SW-S22 (LSP-SW2)	LSP-SW2	LSP-SW2	LSP-QAQC-SW1 (LSP-SW2)	LSP-SW2	LSP-SW2
						Sample Date	2022-May-02	2022-Oct-17	2023-May-04	2023-May-04	2024-Apr-30	2025-May-06
Anions						Detection Limit						
Chloride	mg/L	180	128	-	-	0.1, 1	0.82	0.91	0.58	0.6	<1	<1
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	<0.1	0.13
Nitrate as N	mg/L	-	-	-	-	0.05, 0.1	0.16	<0.05	0.1	0.1	<0.1	0.13
Nitrite as N	mg/L	-	-	-	-	0.01, 0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
Sulphate	mg/L	100	-	-	-	0.1, 1	5.74	5.78	4.86	4.98	4.4	6.9
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2	-	-	-	-	-	-
Calcium (tot)	mg/L	-	-	-	-	0.05, 0.16, 0.2, 0.32	4.27	4.43	3.66	4.24	2.8	5.2
Magnesium (diss)	mg/L	-	-	-	-	0.05	-	-	-	-	-	-
Magnesium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.17, 0.34	1.14	1.12	0.84	0.83	0.66	1
Potassium (diss)	mg/L	-	-	-	-	0.5	-	-	-	-	-	-
Potassium (tot)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 0.58, 1.15	1.34	1.12	1.22	1.36	1	1.6
Sodium (diss)	mg/L	-	-	-	-	0.05, 0.1	-	-	-	-	-	-
Sodium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.22, 0.45	2.24	2.16	1.78	1.83	1.6	2.3
Field Parameters												
pH (Field)	pH units	-	-	-	-		-	-	-	-	6.1	6.43
Temperature	deg. C	-	-	-	-		-	-	-	-	6.9	11
General Chemistry												
Alkalinity (as CaCO3)	mg/L	-	-	-	-	1, 5	11	9	9	10	17	13
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.07	<0.02	0.05	<0.02	<0.02	<0.05	<0.05
Biochemical Oxygen Demand	mg/L	-	-	-	-	2, 5	<2	3	<2	<2	<2	<2
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5	14	26	16	16	15	12
Colour	TCU	-	-	-	-	2, 2.5, 5, 20	26.6	60.2	34.9	34.7	34	27
Dissolved Organic Carbon	mg/L	-	-	-	-	0.4, 0.5	-	-	-	-	-	-
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	49	41	40	41	47	56
Hardness (as CaCO3)	mg/L	-	-	-	-	0.5, 1	15.4	15.7	12.6	14	10	18
pH	pH units	6 - 9	-	6.5 - 8.5	-		**6.42**	6.56	6.69	6.71	**8.63**	6.97
Phenols	mg/L	0.04	0.004	0.001	-	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total Dissolved Solids	mg/L	-	-	-	-	10, 20	58	56	38	34	35	45
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1, 0.5, 1	0.3	0.6	0.26	0.22	0.23	0.23
Total Nitrogen (Calculated)	mg/L	-	-	-	-	0.05	-	0.6	-	-	-	-
Total Phosphorus	mg/L	-	-	0.03	-	0.01, 0.02, 0.1	<0.02	**0.04**	<0.02	<0.02	<0.02	<0.02
Total Suspended Solids	mg/L	-	-	-	-	10	<10	11	<10	<10	<10	<10
Turbidity	NTU	-	-	-	-	0.1, 0.5	0.8	11.9	9.6	7.7	0.3	<0.1
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.000002, 0.00061	-	0.000008	<0.000002	<0.000002	<0.00061	<0.00061
Metals												
Aluminum (diss, 0.2 µm)	mg/L	-	-	-	0.075	0.004, 0.005	0.072	-	0.117	0.124	0.11	0.11
Aluminum (diss, 0.45 µm)	mg/L	-	-	-	0.075	0.004	-	0.125	-	-	-	-
Aluminum (tot)	mg/L	-	-	-	-	0.004, 0.01	-	0.609	-	-	-	-
Arsenic (tot)	mg/L	-	-	-	0.005	0.001, 0.003	<0.003	<0.003	<0.003	<0.003	<0.001	<0.001
Barium (diss)	mg/L	2.3	-	-	-	0.002	-	-	-	-	-	-
Barium (tot)	mg/L	2.3	-	-	-	0.002	0.014	0.018	0.013	0.014	0.0098	0.015
Beryllium (tot)	mg/L	-	-	1.1	-	0.0004, 0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.0004	<0.0004
Boron (diss)	mg/L	3.55	1.5	-	0.2	0.01	-	-	-	-	-	-
Boron (tot)	mg/L	3.55	1.5	-	0.2	0.01	0.029	0.018	0.023	0.026	<0.01	0.033
Cadmium (tot)	mg/L	0.00021	0.000017	-	0.0005	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.00009	<0.00009
Chromium (tot)	mg/L	0.064	-	-	-	0.003, 0.005	<0.003	<0.003	<0.003	<0.003	<0.005	<0.005
Cobalt (tot)	mg/L	-	-	-	0.0009	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Copper (tot)	mg/L	0.0069	-	-	0.005	0.0009, 0.001, 0.002	<0.002	0.002	0.001	0.001	0.0012	0.0011
Iron (diss)	mg/L	1	-	0.3	-	0.01, 0.1	-	-	-	-	-	-
Iron (tot)	mg/L	1	-	0.3	-	0.01, 0.1, 0.5	**0.514**	**0.96**	0.266	0.262	0.12	0.11
Lead (tot)	mg/L	0.002	-	-	0.005	0.0005, 0.001	<0.001	<0.001	<0.001	0.002	<0.0005	<0.0005
Manganese (diss)	mg/L	-	-	-	-	0.002, 0.01, 0.02	-	-	-	-	-	-
Manganese (tot)	mg/L	-	-	-	-	0.002, 0.01	0.072	0.05	0.028	0.025	0.011	0.024
Mercury (diss)	mg/L	-	-	0.0002	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Mercury (tot)	mg/L	-	-	0.0002	-	0.0001	-	-	-	-	-	-
Molybdenum (tot)	mg/L	-	-	-	0.04	0.0005, 0.002	<0.002	<0.002	<0.002	<0.002	<0.0005	<0.0005
Nickel (tot)	mg/L	-	-	0.025	-	0.001, 0.003	<0.003	<0.003	<0.003	<0.003	<0.001	<0.001
Selenium (tot)	mg/L	-	-	0.1	-	0.002, 0.004	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Silicon (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.18	4.59	7.32	3.73	3.9	4.4	3.8
Silver (tot)	mg/L	-	-	0.0001	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.00009	<0.00009
Strontium (diss)	mg/L	-	-	-	-	0.005	-	-	-	-	-	-
Strontium (tot)	mg/L	-	-	-	-	0.001, 0.005	0.025	0.028	0.021	0.023	0.017	0.029
Thallium (tot)	mg/L	-	-	-	0.0003	0.00005, 0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.00005	<0.00005
Titanium (tot)	mg/L	-	-	-	-	0.002, 0.005, 0.01	<0.01	0.018	<0.01	<0.01	<0.005	<0.005
Vanadium (tot)	mg/L	-	-	-	0.006	0.0005, 0.002	<0.002	<0.002	<0.002	<0.002	0.00061	0.00059
Zinc (tot)	mg/L	0.089	0.03	-	0.02	0.005, 0.02	<0.02	<0.02	<0.02	<0.02	<0.005	<0.005

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds MECP-GD-TA	MECP Guidance Document Table A
Concentration exceeds MECP-GD-TB	MECP Guidance Document Table B
Concentration exceeds PWQO-GENERAL	Provincial Water Quality Objectives General
Concentration exceeds PWQO-INTERIM	Provincial Water Quality Objectives Interim

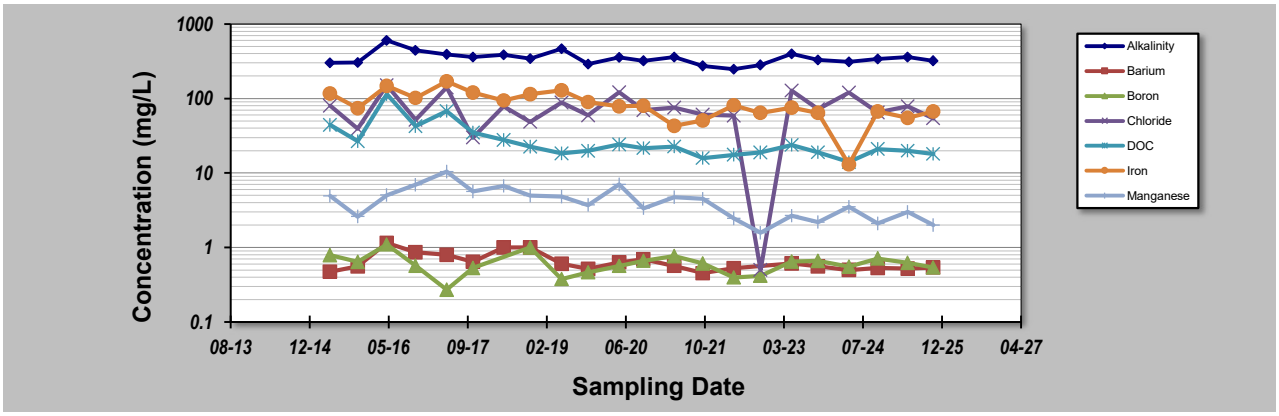
Appendix F

Trend Analysis

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	19-Jan-26	Job ID:	250253-04
Facility Name:	Lake St Peter WDS	Constituent:	LSP1-03
Conducted By:	Nathan Wilson	Concentration Units:	mg/L

Sampling Point ID:	Alkalinity	Barium	Boron	Chloride	DOC	Iron	Manganese
Sampling Event	Sampling Date	LSP1-03 CONCENTRATION (mg/L)						
1	5-May-15	300	0.473	0.786	79.7	44.2	117	4.95
2	27-Oct-15	305	0.558	0.64	39.2	26.7	73.9	2.61
3	27-Apr-16	601	1.15	1.1	151	114	148	5.05
4	27-Oct-16	443	0.862	0.571	51.9	42.3	102	6.96
5	12-May-17	392	0.799	0.271	140	68	170	10.4
6	24-Oct-17	359	0.645	0.532	29.9	34.7	120	5.65
7	8-May-18	386	1	0	78.3	27.7	94.1	6.7
8	23-Oct-18	341	1	1	48.5	22.5	114	4.96
9	8-May-19	464	0.604	0.378	88.6	18.3	129	4.84
10	23-Oct-19	291	0.515	0.465	59.4	19.8	89.3	3.71
11	7-May-20	357	0.631	0.567	121	24.2	78.5	6.99
12	7-Oct-20	321	0.693	0.663	69.8	21.5	80.2	3.35
13	21-Apr-21	360	0.567	0.762	75.7	22.7	43	4.74
14	19-Oct-21	275	0.452	0.608	60.7	15.9	50.6	4.51
15	2-May-22	247	0.529	0.397	58.8	17.6	81.3	2.45
16	17-Oct-22	282	-	0.418	0.5	18.8	64.3	1.58
17	4-May-23	398	0.607	0.648	128	23.8	75.4	2.67
18	17-Oct-23	330	0.56	0.66	72	19	64	2.2
19	30-Apr-24	310	0.5	0.55	120	14	13	3.5
20	28-Oct-24	340	0.53	0.71	65	21	67	2.1
21	6-May-25	360	0.52	0.62	78	20	55	3
22	15-Oct-25	320	0.54	0.54	54	18	67	2
23								
24								
25								
Coefficient of Variation:		0.22	0.30	0.39	0.49	0.75	0.42	0.49
Mann-Kendall Statistic (S):		-46	-73	-5	-9	-129	-126	-123
Confidence Factor:		89.6%	98.6%	54.4%	58.8%	>99.9%	>99.9%	>99.9%
Concentration Trend:		Stable	Decreasing	Stable	Stable	Decreasing	Decreasing	Decreasing



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

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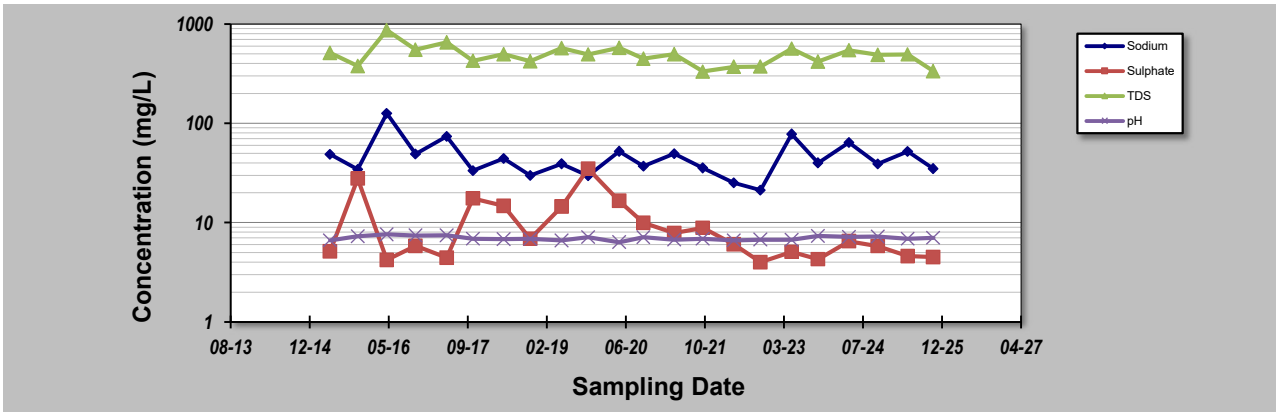
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	19-Jan-26	Job ID:	250253-04
Facility Name:	Lake St Peter WDS	Constituent:	LSP1-03
Conducted By:	Nathan Wilson	Concentration Units:	mg/L

Sampling Point ID:	Sodium	Sulphate	TDS	pH			
Sampling Event	Sampling Date	LSP1-03 CONCENTRATION (mg/L)						
1	5-May-15	48.6	5.13	510	6.64			
2	27-Oct-15	34.4	27.8	376	7.26			
3	27-Apr-16	126	4.21	868	7.64			
4	27-Oct-16	49	5.84	550	7.44			
5	12-May-17	74	4.42	652	7.48			
6	24-Oct-17	33.3	17.6	426	6.91			
7	8-May-18	44.2	14.7	498	6.81			
8	23-Oct-18	29.8	6.91	422	6.85			
9	8-May-19	39.2	14.5	570	6.6			
10	23-Oct-19	29.7	34.9	494	7.15			
11	7-May-20	52.3	16.6	574	6.36			
12	7-Oct-20	37.2	9.98	448	7.14			
13	21-Apr-21	49.4	7.84	498	6.77			
14	19-Oct-21	35.5	8.85	332	6.89			
15	2-May-22	25.1	6.08	370	6.63			
16	17-Oct-22	21.2	4.01	372	6.74			
17	4-May-23	77.8	5.09	566	6.71			
18	17-Oct-23	40	4.3	420	7.36			
19	30-Apr-24	64	6.5	545	7.2			
20	28-Oct-24	39	5.8	490	7.23			
21	6-May-25	52	4.6	495	6.89			
22	15-Oct-25	35	4.5	335	7.04			
23								
24								
25								
Coefficient of Variation:		0.48	0.82	0.24	0.05			
Mann-Kendall Statistic (S):		-21	-63	-58	-22			
Confidence Factor:		71.1%	96.0%	94.6%	72.1%			
Concentration Trend:		Stable	Decreasing	Prob. Decreasing	Stable			



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

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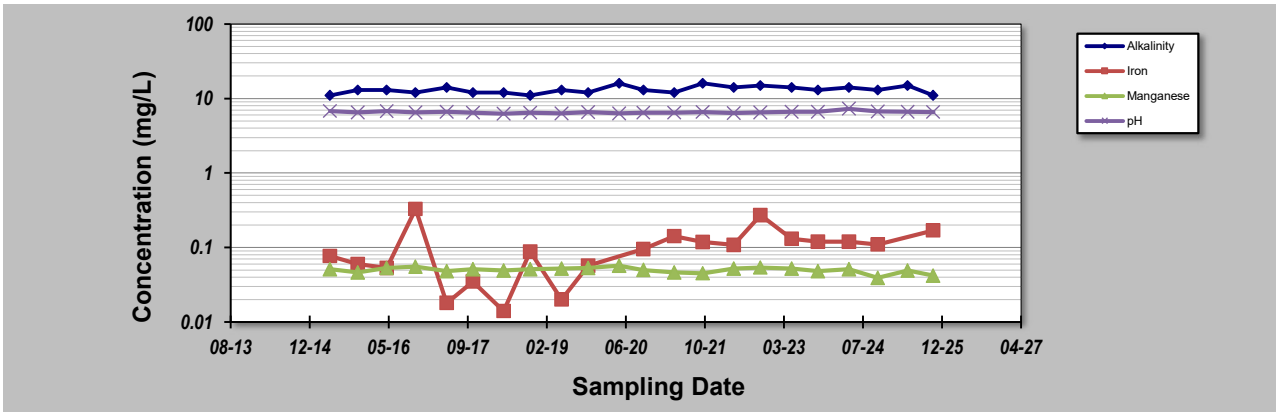
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	19-Jan-26	Job ID:	250253-04
Facility Name:	Lake St Peter WDS	Constituent:	LSP2-03
Conducted By:	Nathan Wilson	Concentration Units:	mg/L

Sampling Point ID:	Alkalinity	Iron	Manganese	pH			
Sampling Event	Sampling Date	LSP2-03 CONCENTRATION (mg/L)						
1	5-May-15	11	0.077	0.051	6.81			
2	27-Oct-15	13	0.06	0.046	6.52			
3	27-Apr-16	13	0.053	0.053	6.72			
4	27-Oct-16	12	0.329	0.055	6.49			
5	12-May-17	14	0.018	0.048	6.64			
6	24-Oct-17	12	0.035	0.051	6.46			
7	8-May-18	12	0.014	0.049	6.23			
8	23-Oct-18	11	0.088	0.051	6.44			
9	8-May-19	13	0.02	0.052	6.32			
10	23-Oct-19	12	0.057	0.053	6.53			
11	7-May-20	16	<0.01	0.057	6.31			
12	7-Oct-20	13	0.095	0.05	6.45			
13	21-Apr-21	12	0.142	0.046	6.46			
14	19-Oct-21	16	0.118	0.045	6.6			
15	2-May-22	14	0.108	0.052	6.38			
16	17-Oct-22	15	0.271	0.054	6.48			
17	4-May-23	14	0.131	0.052	6.66			
18	17-Oct-23	13	0.12	0.048	6.66			
19	30-Apr-24	14	0.12	0.051	7.27			
20	28-Oct-24	13	0.11	0.039	6.67			
21	6-May-25	15	<0.1	0.049	6.66			
22	15-Oct-25	11	0.17	0.042	6.59			
23								
24								
25								
Coefficient of Variation:		0.11	0.75	0.08	0.03			
Mann-Kendall Statistic (S):		53	77	-44	33			
Confidence Factor:		92.8%	99.4%	88.6%	81.4%			
Concentration Trend:		Prob. Increasing	Increasing	Stable	No Trend			



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

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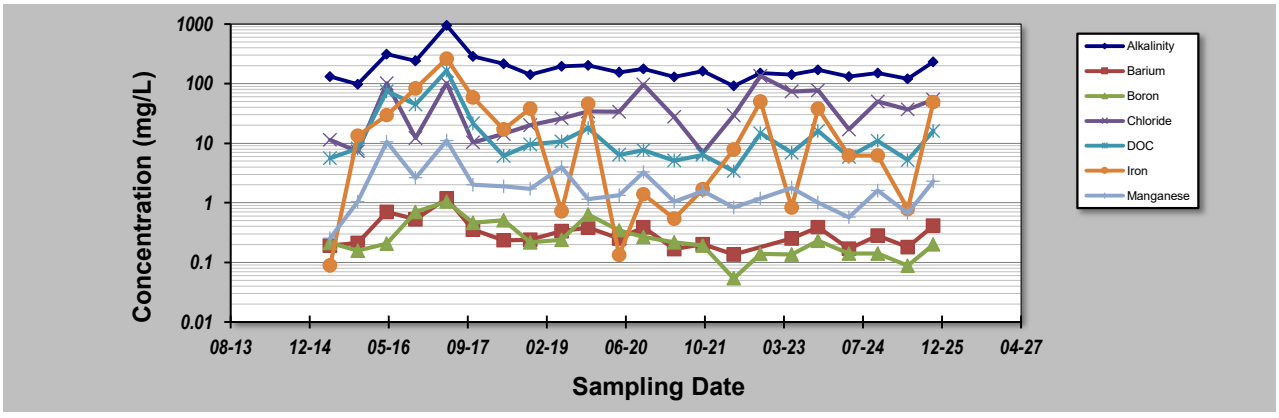
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	19-Jan-26	Job ID:	250253-04
Facility Name:	Lake St Peter WDS	Constituent:	LSP3-03
Conducted By:	Nathan Wilson	Concentration Units:	mg/L

Sampling Point ID:	Alkalinity	Barium	Boron	Chloride	DOC	Iron	Manganese
Sampling Event	Sampling Date	LSP3-03 CONCENTRATION (mg/L)						
1	5-May-15	131	0.192	0.211	11.4	5.6	0.089	0.255
2	27-Oct-15	97	0.211	0.158	7.32	8.1	13.4	1.05
3	27-Apr-16	313	0.705	0.206	101	74.4	29.6	10.5
4	27-Oct-16	242	0.526	0.705	12.2	44.8	82.9	2.61
5	12-May-17	951	1.18	1.05	101	166	261	11.1
6	24-Oct-17	285	0.358	0.46	10.3	21.6	58.4	2
7	8-May-18	214	0.234	0.508	14.4	6.1	17	1.89
8	23-Oct-18	142	0.24	0.217	20	9.5	38.3	1.71
9	8-May-19	195	0.334	0.239	26	10.7	0.72	4
10	23-Oct-19	202	0.382	0.638	34.1	17.9	45.5	1.16
11	7-May-20	155	0.252	0.344	33.8	6.4	0.133	1.33
12	7-Oct-20	177	0.386	0.268	96.1	7.6	1.39	3.26
13	21-Apr-21	129	0.167	0.216	27.7	5.1	0.542	1.05
14	19-Oct-21	161	0.202	0.192	6.94	6.4	1.69	1.57
15	2-May-22	91	0.135	0.054	29.3	3.4	7.83	0.835
16	17-Oct-22	151	-	0.139	134	14.7	50	1.19
17	4-May-23	141	0.253	0.135	74	6.9	0.83	1.79
18	17-Oct-23	170	0.39	0.23	77	16	38	1
19	30-Apr-24	130	0.17	0.14	17	5.9	6.2	0.57
20	28-Oct-24	150	0.28	0.14	50	11	6.2	1.6
21	6-May-25	120	0.18	0.088	37	5.2	0.78	0.67
22	15-Oct-25	230	0.41	0.2	54	16	49	2.3
23								
24								
25								
Coefficient of Variation:		0.84	0.69	0.81	0.83	1.69	1.75	1.17
Mann-Kendall Statistic (S):		-67	-24	-92	68	-45	-20	-58
Confidence Factor:		96.9%	75.4%	99.6%	97.1%	89.1%	70.2%	94.6%
Concentration Trend:		Decreasing	Stable	Decreasing	Increasing	No Trend	No Trend	Prob. Decreasing



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
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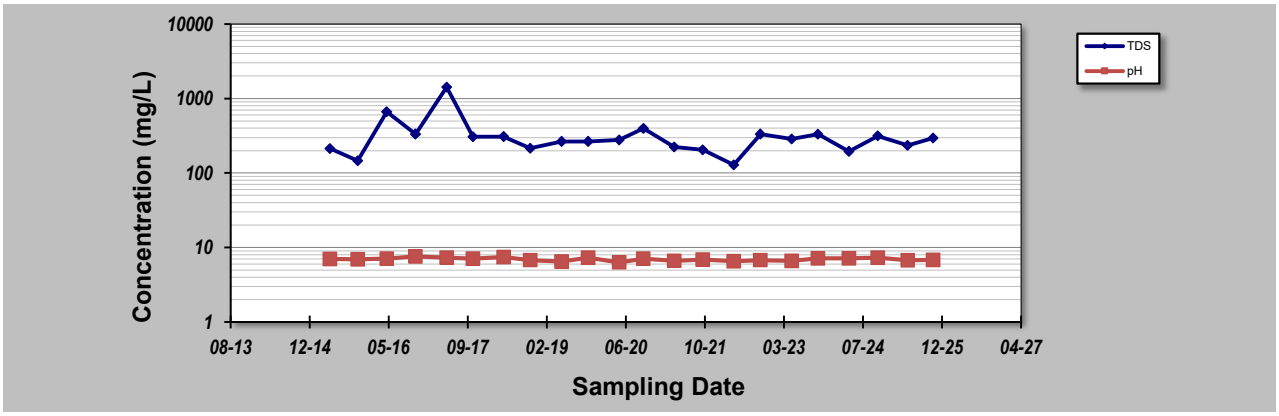
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	19-Jan-26	Job ID:	250253-04
Facility Name:	Lake St Peter WDS	Constituent:	LSP3-03
Conducted By:	Nathan Wilson	Concentration Units:	mg/L

Sampling Point ID:	TDS	pH					
Sampling Event	Sampling Date	LSP3-03 CONCENTRATION (mg/L)					
1	5-May-15	212	7.02				
2	27-Oct-15	146	6.94				
3	27-Apr-16	664	7.06				
4	27-Oct-16	334	7.57				
5	12-May-17	1420	7.32				
6	24-Oct-17	306	7.09				
7	8-May-18	308	7.44				
8	23-Oct-18	214	6.77				
9	8-May-19	266	6.5				
10	23-Oct-19	266	7.28				
11	7-May-20	276	6.3				
12	7-Oct-20	394	7.07				
13	21-Apr-21	224	6.61				
14	19-Oct-21	204	6.88				
15	2-May-22	128	6.53				
16	17-Oct-22	332	6.76				
17	4-May-23	286	6.56				
18	17-Oct-23	330	7.15				
19	30-Apr-24	195	7.16				
20	28-Oct-24	315	7.28				
21	6-May-25	235	6.73				
22	15-Oct-25	295	6.81				
23							
24							
25							
Coefficient of Variation:		0.79	0.05				
Mann-Kendall Statistic (S):		-20	-34				
Confidence Factor:		70.2%	82.2%				
Concentration Trend:		Stable	Stable				



Notes:

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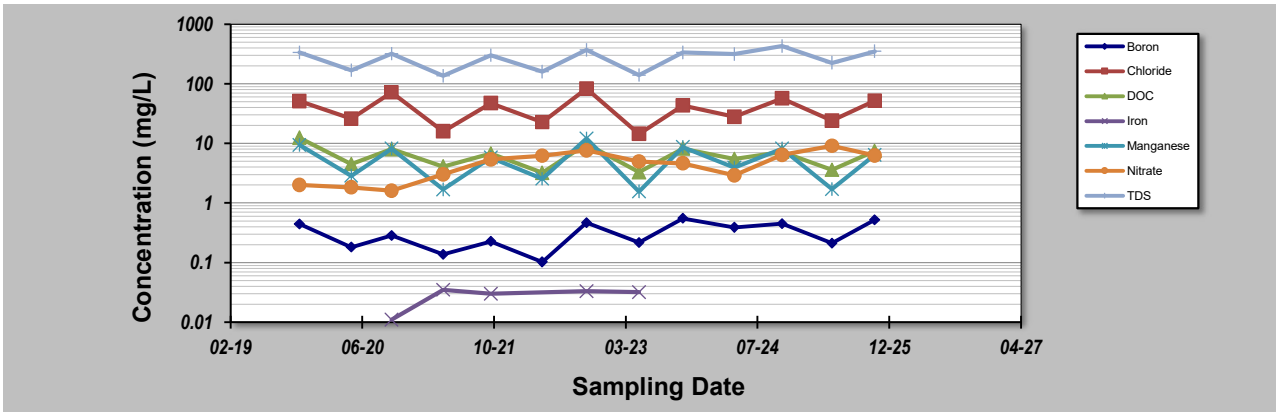
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	19-Jan-26	Job ID:	250253-04
Facility Name:	Lake St Peter WDS	Constituent:	LSP4-19
Conducted By:	Nathan Wilson	Concentration Units:	mg/L

Sampling Point ID:		Boron	Chloride	DOC	Iron	Manganese	Nitrate	TDS
Sampling Event	Sampling Date	LSP4-19 CONCENTRATION (mg/L)						
1	23-Oct-19	0.445	51.3	12.4	<0.01	9.43	2	334
2	7-May-20	0.181	25.9	4.5	<0.01	2.85	1.83	168
3	7-Oct-20	0.284	71.7	8	0.011	8.16	1.6	320
4	21-Apr-21	0.137	15.9	4.1	0.035	1.69	3.02	136
5	19-Oct-21	0.227	47.2	6.7	0.03	5.8	5.36	302
6	2-May-22	0.102	22.8	3.2	<0.01	2.54	6.21	160
7	17-Oct-22	0.466	82.9	9.8	0.033	12.1	7.58	370
8	4-May-23	0.217	14.4	3.3	0.032	1.56	4.96	140
9	17-Oct-23	0.55	43	8.2	<0.1	8.7	4.62	335
10	30-Apr-24	0.39	28	5.5	<0.1	3.9	2.9	315
11	28-Oct-24	0.45	57	7.2	<0.1	8.2	6.45	430
12	6-May-25	0.21	24	3.6	<0.1	1.7	9.08	225
13	15-Oct-25	0.52	52	7.5	<0.1	6.4	6.25	350
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.48	0.52	0.43	0.35	0.62	0.50	0.35
Mann-Kendall Statistic (S):		18	0	-8	2	-6	38	16
Confidence Factor:		84.7%	47.6%	66.2%	59.2%	61.7%	98.9%	81.6%
Concentration Trend:		No Trend	Stable	Stable	No Trend	Stable	Increasing	No Trend



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GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	19-Jan-26	Job ID:	250253-04
Facility Name:	Lake St Peter WDS	Constituent:	LSP5-19
Conducted By:	Nathan Wilson	Concentration Units:	mg/L

Sampling Point ID:	Alkalinity	DOC	Manganese	pH			
Sampling Event	Sampling Date	LSP5-19 CONCENTRATION (mg/L)						
1	23-Oct-19	11	1.6	0.088	6.46			
2	7-May-20	8	2.2	0.016	6.21			
3	7-Oct-20	10	1.7	0.006	6.36			
4	21-Apr-21	8	8.3	0.005	6.43			
5	19-Oct-21	10	2.1	0.004	6.46			
6	2-May-22	9	1.8	<0.002	6.31			
7	17-Oct-22	13	1.2	0.003	6.56			
8	4-May-23	5	2.8	0.005	6.21			
9	17-Oct-23	7.9	1.5	0.0021	6.75			
10	30-Apr-24	10	1.8	0.0022	6.78			
11	28-Oct-24	8.7	1.8	0.0045	6.7			
12	6-May-25	8.6	2.5	0.0022	6.87			
13	15-Oct-25	6.6	2.2	0.0022	6.59			
14								
15								
16								
17								
18								
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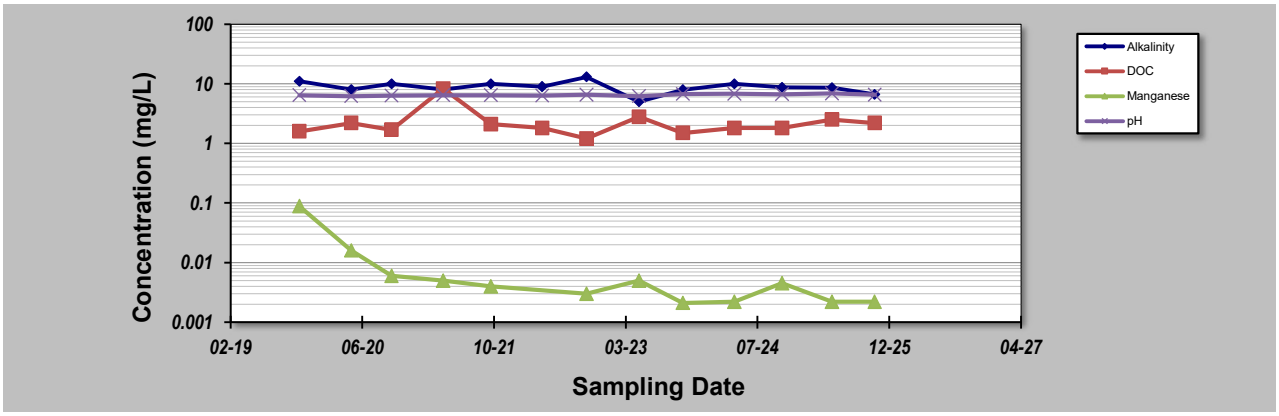
20								
Coefficient of Variation:		0.22	0.75	2.08	0.03			
Mann-Kendall Statistic (S):		-22	8	-44	38			
Confidence Factor:		89.8%	66.2%	99.9%	98.9%			
Concentration Trend:		Stable	No Trend	Decreasing	Increasing			



Notes:

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GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	19-Jan-26	Job ID:	250253-04
Facility Name:	Lake St Peter WDS	Constituent:	LSP6-23
Conducted By:	Nathan Wilson	Concentration Units:	mg/L

Sampling Point ID:	Iron	Manganese	TDS				
Sampling Event	Sampling Date	LSP6-23 CONCENTRATION (mg/L)						
1	17-Oct-23	<0.1	0.49	210				
2	30-Apr-24	0.17	0.58	405				
3	28-Oct-24	0.21	0.45	115				
4	6-May-25	0.11	0.38	130				
5	15-Oct-25	0.1	0.27	90				
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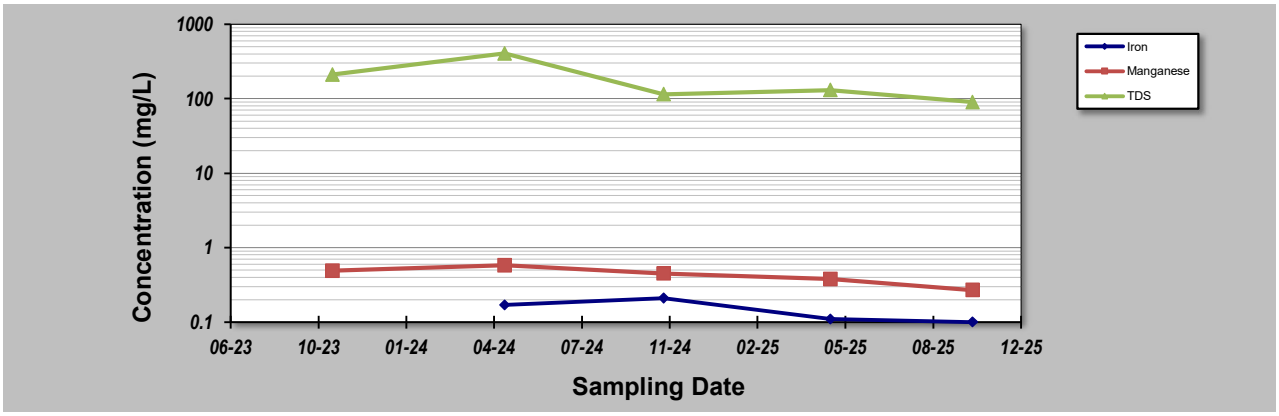
Coefficient of Variation:		0.35	0.27	0.68				
Mann-Kendall Statistic (S):		-4	-8	-6				
Confidence Factor:		83.3%	95.8%	88.3%				
Concentration Trend:		Stable	Decreasing	Stable				



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GSI MANN-KENDALL TOOLKIT
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Evaluation Date:	19-Jan-26	Job ID:	250253-04
Facility Name:	Lake St Peter WDS	Constituent:	LSP7-23
Conducted By:	Nathan Wilson	Concentration Units:	mg/L

Sampling Point ID:	Alkalinity	Chloride	DOC	Manganese	pH		
Sampling Event	Sampling Date	LSP7-23 CONCENTRATION (mg/L)						
1	17-Oct-23	17	7.1	1.4	0.24	6.93		
2	30-Apr-24	15	11	1.5	0.093	6.8		
3	28-Oct-24	8.4	10	1.8	0.033	6.69		
4	6-May-25	27	10	1.7	0.037	6.93		
5	15-Oct-25	8.1	4.8	1.9	0.0075	6.45		
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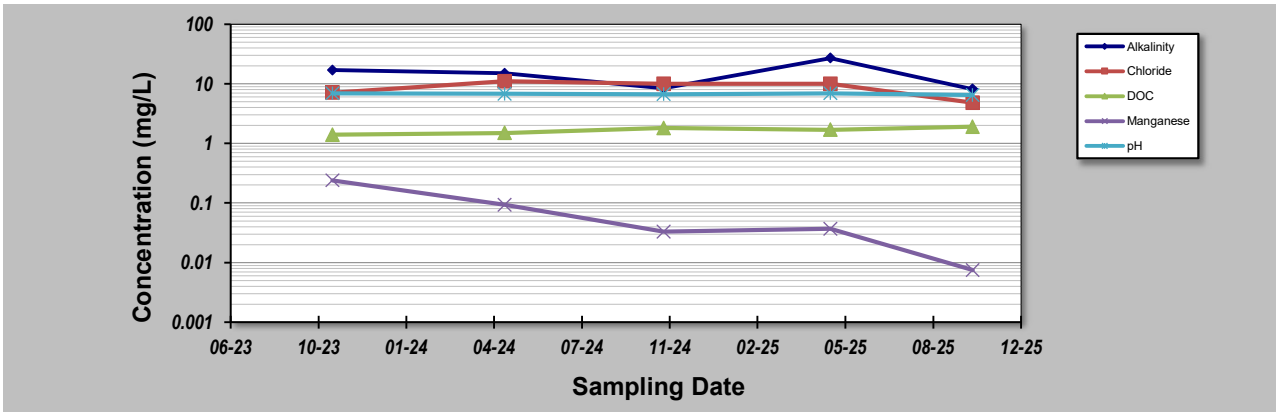
Coefficient of Variation:		0.51	0.30	0.12	1.14	0.03		
Mann-Kendall Statistic (S):		-4	-3	8	-8	-5		
Confidence Factor:		75.8%	67.5%	95.8%	95.8%	82.1%		
Concentration Trend:		Stable	Stable	Increasing	Decreasing	Stable		



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GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	19-Jan-26	Job ID:	250253-04
Facility Name:	Lake St Peter WDS	Constituent:	LSP8-23
Conducted By:	Nathan Wilson	Concentration Units:	mg/L

Sampling Point ID:	Alkalinity	Boron	DOC	Iron	Manganese	TDS
Sampling Event	Sampling Date	LSP8-23 CONCENTRATION (mg/L)					
1	17-Oct-23	260	0.26	37	92	4.8	395
2	30-Apr-24	350	0.4	37	91	4.9	465
3	28-Oct-24	240	0.25	28	80	4.9	355
4	6-May-25	200	0.24	20	44	3.9	270
5	15-Oct-25	220	0.23	28	79	5.5	275
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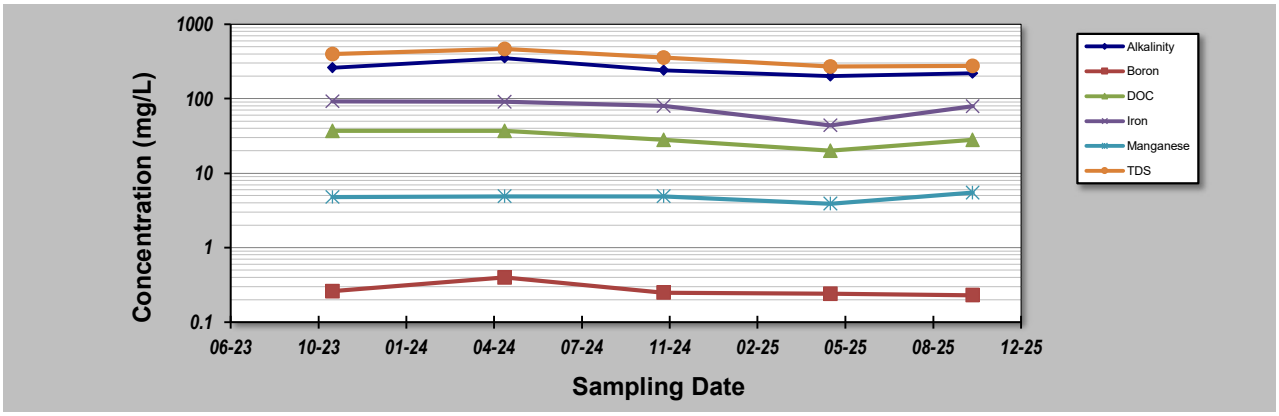
20							
Coefficient of Variation:		0.23	0.25	0.24	0.25	0.12	0.23
Mann-Kendall Statistic (S):		-6	-8	-6	-8	3	-6
Confidence Factor:		88.3%	95.8%	88.3%	95.8%	67.5%	88.3%
Concentration Trend:		Stable	Decreasing	Stable	Decreasing	No Trend	Stable



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GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	19-Jan-26	Job ID:	250253-04
Facility Name:	Lake St Peter WDS	Constituent:	LSP-DP1-21
Conducted By:	Nathan Wilson	Concentration Units:	mg/L

Sampling Point ID:	Arsenic (tot)	Boron (diss)	Boron (tot)	Chloride	Cobalt (tot)	Copper (tot)	DOC
Sampling Event	Sampling Date	LSP-DP1-21 CONCENTRATION (mg/L)						
1	19-Oct-21	-	0.448	-	16.1	-	-	14.8
2	2-May-22	-	0.285	-	9.31	-	-	12.3
3	17-Oct-22	-	0.449	-	13.8	-	-	14.1
4	4-May-23	0.025	0.259	0.262	5.34	0.0968	0.081	9.7
5	17-Oct-23	0.061	0.42	0.45	27	0.34	0.12	13
6	30-Apr-24	0.0081	0.29	0.29	9.7	0.03	0.019	11
7	28-Oct-24	0.012	0.36	0.37	16	0.023	0.02	11
8	6-May-25	0.0029	0.22	0.21	6.5	0.0066	0.0049	15
9	15-Oct-25	0.0016	0.38	0.35	18	0.01	0.0024	15
10								
11								
12								
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16								
17								
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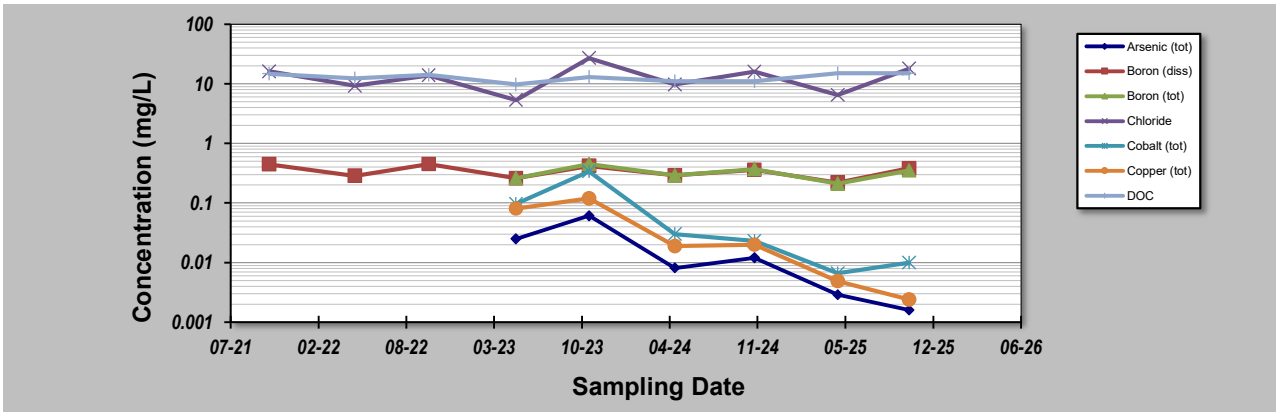
20								
Coefficient of Variation:		1.22	0.25	0.27	0.50	1.53	1.17	0.15
Mann-Kendall Statistic (S):		-11	-8	-1	2	-11	-11	4
Confidence Factor:		97.2%	76.2%	50.0%	54.0%	97.2%	97.2%	61.9%
Concentration Trend:		Decreasing	Stable	Stable	No Trend	Decreasing	Decreasing	No Trend



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GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	19-Jan-26	Job ID:	250253-04
Facility Name:	Lake St Peter WDS	Constituent:	LSP-DP1-21
Conducted By:	Nathan Wilson	Concentration Units:	mg/L

Sampling Point ID:	Iron (diss)	Iron (tot)	Lead (tot)	Manganese (diss	Nickel (tot)	Total Phos.	Vanadium (tot)
Sampling Event	Sampling Date	LSP-DP1-21 CONCENTRATION (mg/L)						
1	19-Oct-21	24.5	-	-	10.8	-	-	-
2	2-May-22	18.8	-	-	9.69	-	-	-
3	17-Oct-22	25.2	-	-	10.3	-	-	-
4	4-May-23	12.7	41	0.068	6.52	0.125	0.05	0.019
5	17-Oct-23	47	160	0.035	11	0.27	0.19	0.01
6	30-Apr-24	26	37	0.0022	7.2	0.029	0.089	0.0055
7	28-Oct-24	27	66	0.00076	9.7	0.03	0.039	0.0045
8	6-May-25	15	19	<0.0005	7	0.0082	0.05	0.0025
9	15-Oct-25	30	49	0.0021	12	0.011	0.23	0.0028
10								
11								
12								
13								
14								
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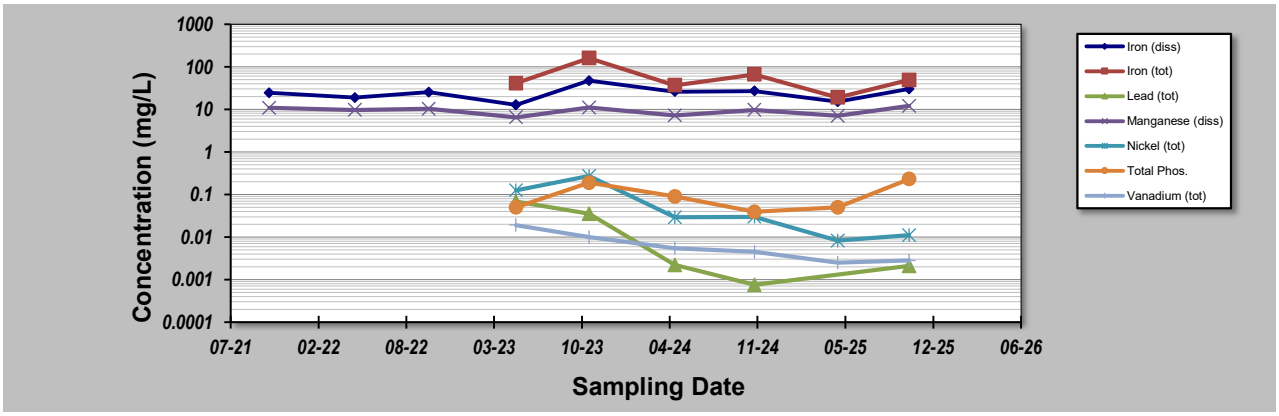
16								
17								
18								
19								
20								
Coefficient of Variation:		0.40	0.81	1.37	0.21	1.31	0.76	0.85
Mann-Kendall Statistic (S):		10	-3	-8	0	-9	2	-13
Confidence Factor:		82.1%	64.0%	95.8%	46.0%	93.2%	57.0%	99.2%
Concentration Trend:		No Trend	Stable	Decreasing	Stable	Prob. Decreasing	No Trend	Decreasing



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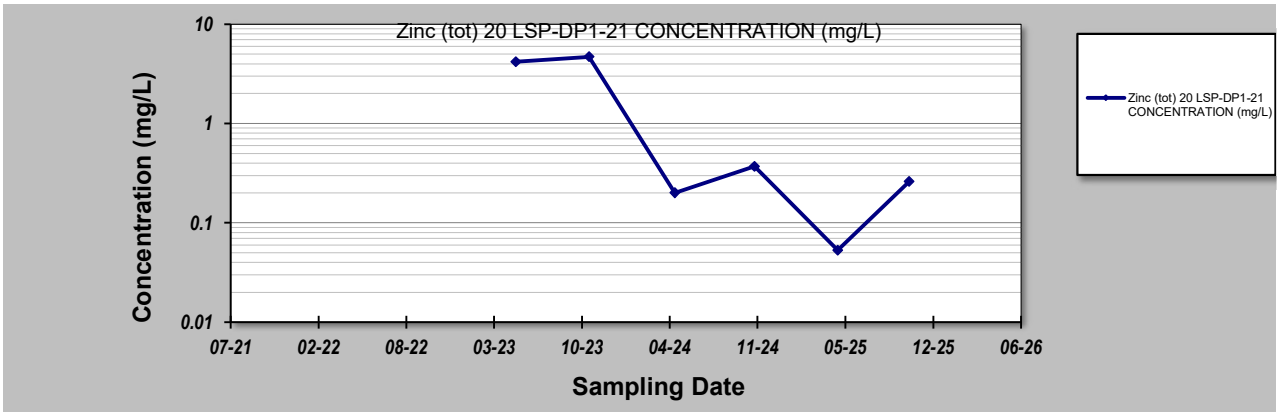
for Constituent Trend Analysis

Evaluation Date:	19-Jan-26	Job ID:	250253-04
Facility Name:	Lake St Peter WDS	Constituent:	LSP-DP1-21
Conducted By:	Nathan Wilson	Concentration Units:	mg/L

Sampling Point ID: Zinc (tot)

Sampling Event	Sampling Date	LSP-DP1-21 CONCENTRATION (mg/L)
1	19-Oct-21	-
2	2-May-22	-
3	17-Oct-22	-
4	4-May-23	4.18
5	17-Oct-23	4.7
6	30-Apr-24	0.2
7	28-Oct-24	0.37
8	6-May-25	0.053
9	15-Oct-25	0.26
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
Coefficient of Variation:		1.34
Mann-Kendall Statistic (S):		-7
Confidence Factor:		86.4%
Concentration Trend:		No Trend



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

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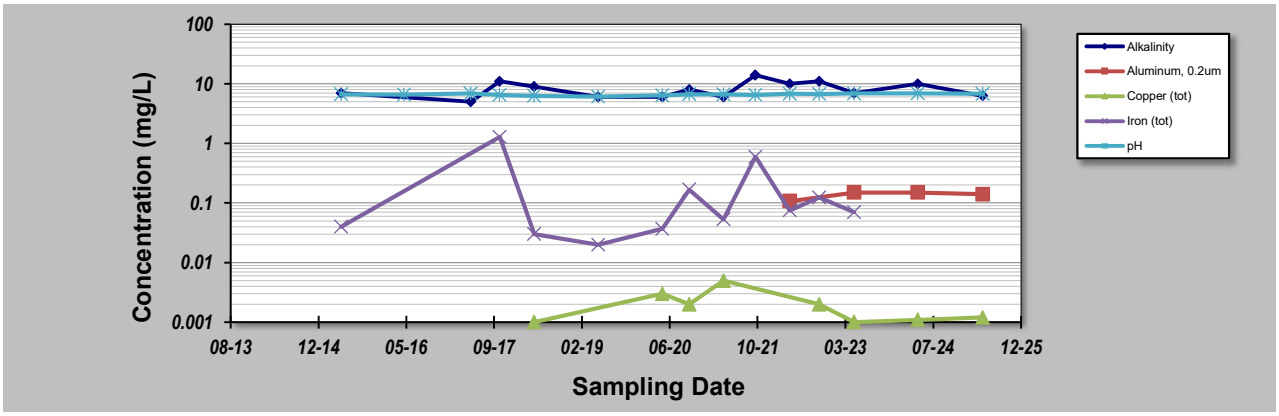
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	19-Jan-26	Job ID:	250253-04
Facility Name:	Lake St Peter WDS	Constituent:	SW1
Conducted By:	Nathan Wilson	Concentration Units:	mg/L

Sampling Point ID:	Alkalinity	Aluminum, 0.2um	Copper (tot)	Iron (tot)	pH		
Sampling Event	Sampling Date	SW1 CONCENTRATION (mg/L)						
1	5-May-15	7	-	<0.002	0.04	6.68		
2	27-Apr-16	<5	-	<0.002	<0.01	6.56		
3	12-May-17	5	-	<0.002	<0.01	6.87		
4	24-Oct-17	11	-	<0.002	1.29	6.48		
5	8-May-18	9	-	0.001	0.03	6.27		
6	8-May-19	6	-	<0.002	0.02	6.11		
7	7-May-20	6	-	0.003	0.037	6.4		
8	7-Oct-20	8	-	0.002	0.167	6.7		
9	21-Apr-21	6	-	0.005	0.053	6.61		
10	19-Oct-21	14	-	<0.002	0.595	6.5		
11	2-May-22	10	0.107	<0.002	0.075	6.79		
12	17-Oct-22	11	-	0.002	0.124	6.74		
13	4-May-23	7	0.15	0.001	0.07	6.86		
14	30-Apr-24	10	0.15	0.0011	<0.1	6.93		
15	6-May-25	6.3	0.14	0.0012	<0.1	6.82		
16								
17								
18								
19								
20								
Coefficient of Variation:		0.31	0.15	0.68	1.71	0.04		
Mann-Kendall Statistic (S):		15	1	-4	11	39		
Confidence Factor:		77.5%	50.0%	64.0%	77.7%	97.1%		
Concentration Trend:		No Trend	No Trend	Stable	No Trend	Increasing		



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

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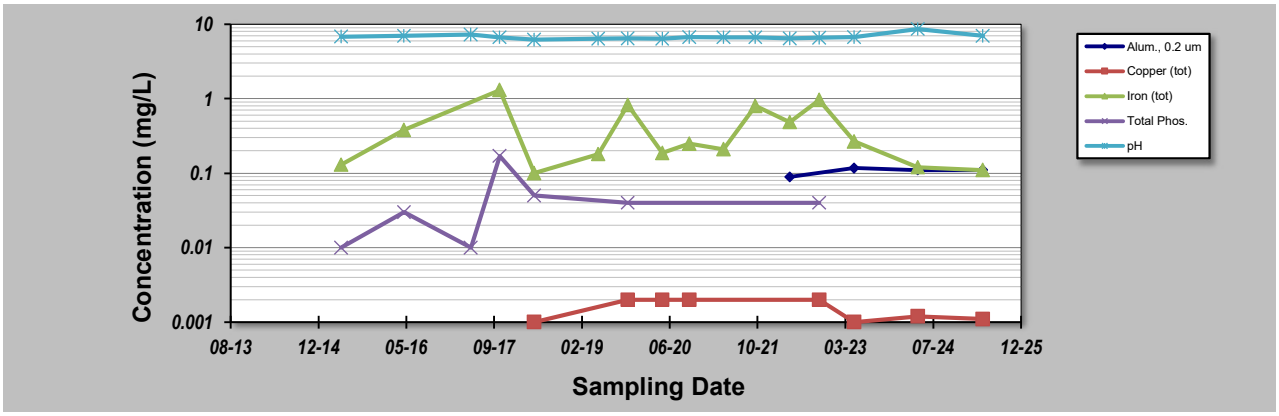
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	19-Jan-26	Job ID:	250253-04
Facility Name:	Lake St Peter WDS	Constituent:	SW2
Conducted By:	Nathan Wilson	Concentration Units:	mg/L

Sampling Point ID:	Alum., 0.2 um	Copper (tot)	Iron (tot)	Total Phos.	pH		
Sampling Event	Sampling Date	SW2 CONCENTRATION (mg/L)						
1	5-May-15	-	<0.002	0.13	0.01	6.8		
2	27-Apr-16	-	<0.002	0.38	0.03	6.95		
3	12-May-17	-	<0.002	<0.01	0.01	7.28		
4	24-Oct-17	-	<0.002	1.3	0.17	6.67		
5	8-May-18	-	0.001	0.1	0.05	6.2		
6	8-May-19	-	<0.002	0.18	<0.02	6.37		
7	23-Oct-19	-	0.002	0.821	0.04	6.43		
8	7-May-20	-	0.002	0.187	<0.02	6.4		
9	7-Oct-20	-	0.002	0.248	<0.02	6.72		
10	21-Apr-21	-	<0.002	0.21	<0.02	6.65		
11	19-Oct-21	-	<0.002	0.798	<0.02	6.65		
12	2-May-22	0.089	<0.002	0.484	<0.02	6.43		
13	17-Oct-22	-	0.002	0.96	0.04	6.56		
14	4-May-23	0.117	0.001	0.266	<0.02	6.69		
15	30-Apr-24	0.11	0.0012	0.12	<0.02	8.63		
16	6-May-25	0.11	0.0011	0.11	<0.02	6.97		
17								
18								
19								
20								
Coefficient of Variation:		0.11	0.32	0.89	1.10	0.08		
Mann-Kendall Statistic (S):		1	-5	-1	7	12		
Confidence Factor:		50.0%	68.3%	50.0%	80.9%	68.7%		
Concentration Trend:		No Trend	Stable	Stable	No Trend	No Trend		



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

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Appendix G

Trigger Mechanisms and Contingency Plan

LAKE ST. PETER WASTE DISPOSAL SITE
SURFACE WATER TRIGGER MECHANISM AND CONTINGENCY PLAN
(FINAL 2021-06-07)

OBJECTIVE AND BACKGROUND

The objective of the surface water trigger mechanisms and contingency plan for the Lake St. Peter Waste Disposal Site (WDS) is to identify leachate impacted surface water and/or the migration of leachate impacted groundwater with the potential to discharge to surface water and cause exceedances of the Provincial Water Quality Objectives (PWQO)/Canadian Water Quality Objectives (CWQO), and ensure timely action to prevent and mitigate adverse impacts to the environment.

East at Creek

Assessment Points- SW2, DP1-21 (to be installed in the summer of 2021)
Trigger Parameters-Listed in Table Below
Frequency-Sampling twice per year (Spring and Fall)
Contingency Plan is activated if two or more trigger location parameter concentrations exceed the PWQO/CCME concentrations at one assessment point for two consecutive sampling events for alkalinity, boron, chloride, iron, manganese, nitrate, or un-ionized ammonia. Other leachate indicator parameters consisting of ammonia, barium, calcium, COD, conductivity, magnesium, TDS, sodium, and sulphate have not been included at this time.

The trigger parameter concentrations are as follows:

Trigger Parameter	PWQO Concentration mg/L	Trigger
Alkalinity	<3.1	When two leachate indicator parameters PWQO/CCME concentrations are exceeded at trigger location for two (2) consecutive sampling periods.
Boron	0.20	
Un-ionized Ammonia	0.20	
Trigger Parameter	**CCME (CWQG) Concentrations mg/L**	
Chloride	120	
Iron	0.3	
Manganese	0.26	
Nitrate	13	

CONTINGENCY PLAN – SURFACE WATER

Tier 1: If two or more of the trigger parameter concentrations exceed PWQO/CCME (CWQG) at one assessment point during two consecutive sampling events.

1. Toxicity test (Single Concentration – Acute Lethality) samples will be collected from the creek downstream of SW2 and DP1-21 prior to the wetland discharging under Highway 127. If the toxicity test passes then no additional mitigation measures will be required. If the toxicity test fails then Tier 2 actions will be implemented:

Tier 2: If the Tier 1 toxicity sampling results fail then the following measures will be implemented:

1. Collect a repeat toxicity sample to confirm the results within two weeks of receiving the failed laboratory report.
2. Carry out surface water sampling at sampling location SW2 and groundwater sampling at potential additional future drive-point piezometer DP1-21 within one month of receiving the failed toxicity test. The analyses is to include the full suite of surface water parameters (Schedule 5, Column 3 O.Reg.232/98) and assess data (compared to PWQO/CWQG) to determine if results are in keeping with historic data and/or if there appears to be significant potential leachate impacts occurring.

Tier 3: If the Tier 2 re-sampling shows significant potential leachate impacts are occurring to surface water, then the following measures will be implemented depending on the nature of the trigger activation:

1. Install additional drive-point piezometers along/in the creek bed to determine if, or where groundwater is discharging to the creek.

Tier 4: If additional actions indicate a continuing issue resulting in impacts or potential significant impacts to the environment, then a mitigation/remediation measures plan will be developed in consultation with MECP and implemented to minimize further impact. These measures could be aimed at intercepting or diverting the impacted groundwater before it reaches a receptor or isolating downgradient receptors from impacted surface water. The specifics of the plan will be dependent on the nature of the impact.

LAKE ST. PETER WASTE DISPOSAL SITE
GROUNDWATER TRIGGER MECHANISMS AND CONTINGENCY PLAN
(FINAL 2021-02-21)

OBJECTIVE AND BACKGROUND

The objective of the groundwater trigger mechanism and contingency plan for the Lake St. Peter Waste Disposal Site (WDS) is to identify migration of leachate impacted groundwater to adjacent groundwater receptors and ensure timely action to prevent and mitigate any adverse impacts to the environment.

East of the Site

Assessment Points- Future monitoring well near East CAZ
Trigger Parameters-Barium, Chloride, DOC, TDS
Frequency-Sampling twice per year (Spring and Fall)
Contingency Plan is activated if two trigger parameter concentration is exceeded at one assessment point for two consecutive sampling events. The trigger parameter concentrations are as follows:

Trigger Parameter	RUV/RUG Concentration mg/L	Trigger
Barium	0.26	When two leachate indicator parameter concentration at an individual trigger location well is exceeded for two consecutive sampling periods.
DOC	5.1	
TDS	266.3	
Trigger Parameter	**75% of RUV/RUG Concentration mg/L**	
Chloride	125.8	

Note: RUV/RUGs are calculated based on LSP2-03 as background (cross-gradient well).

CONTINGENCY PLAN – GROUNDWATER

Tier 1: If one or more triggers are exceeded at one assessment point during two consecutive sampling events, repeat sampling will be conducted within one (1) month to confirm or refute the results at that location.

Tier 2: If Tier 1 re-sampling results confirm exceedances then the following measures will be implemented depending on the nature of the trigger activation:

1. Discuss the Tier 1 sample results with the MECP. Agree on additional sampling and analyses requirements which may include the following:
    a. Increase monitoring frequency to twice monthly, for six months, if exceedances continue. Revert back to typical annual monitoring sampling frequency if there are two consecutive sampling results that do not show exceedances.

Tier 3: If the increased sampling and/or studies in Tier 2 indicate a continuing issue resulting in impacts or potential significant impacts to the environment, then a mitigation/remediation measures plan will be developed and implemented to minimize further impact. These measures would be aimed at intercepting or diverting the impacted groundwater before it reaches a receptor. The specifics of the plan will be dependent on the nature of the impact.

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