2025 Annual Monitoring Report
South Baptiste Waste Disposal Site
Environmental Compliance Approval No. A361602

Prepared for:
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1 Introduction

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

This report is being prepared for the Corporation of the Municipality of Hastings Highlands (the Municipality). The South Baptiste WDS is owned and operated by the Municipality and is operated under Environmental Compliance Approval (ECA) No. A361602, a copy of which is included in **Appendix A (A1)**. The amended ECA is dated October 24, 2019, and was updated to include a revised sampling program and trigger mechanisms. This report covers all work and activities carried out for the period from January 1 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 2024.

1.1 Location

The South Baptiste WDS is located at 2539 South Baptiste Road, Maynooth, Ontario. The South Baptiste WDS is located on part of Lot 28, Concession 4, which is designated as Crown Land, in the former Herschel Township, now part of the Municipality of Hastings Highlands (MHHs). Figure 01 depicts the Site location. The facility layout, road network, and Site features are shown on Figure 02.

In accordance with the Site ECA, the Site is approved for the use of a 2.02 hectare (ha) waste disposal/transfer site within a total site area of 4.46 ha.

1.2 Ownership and Key Personnel

The facility is operated by the MHHs, with the Municipal office location in Maynooth, Ontario. As mentioned, the Crown owns the lands of, and surrounding, the WDS. A new Land Use Permit (LUP) for the Site was provided by the MNRF in 2017 and a copy is provided in **Appendix A (A2)**.

The facility's operational representative is responsible for all activities on-site. The Competent Environmental Practitioner (CEP) for both groundwater and surface water is S'rana Scholes, P.Eng., of BluMetric. Ms. Scholes is a Professional Engineer as designated by Professional Engineers of Ontario (PEO).

Table 1: Contact Information

Role	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	Senior Environmental Engineer, BluMetric – S'rana Scholes, P.Eng.	209 Frederick St Unit 3B, Kitchener, ON N2H 2M7	(877) 487-8436 x218	sscholes@blumetric.ca

1.3 Description and Development of the WDS

The Site has a total area of approximately 4.46 ha with a 2.02 ha approved landfilling area. It is believed that waste disposal has been occurring at the Site since 1971, and the Site has been operating as a municipal landfill since the late 1980s. Figure 02 illustrates the general Site layout and the 4.46 ha property boundary.

In addition to domestic waste, the WDS operates a waste transfer station (WTS) which includes recycling bins for metal, plastic, paper/cardboard products, as well as segregated areas for scrap metal, tires, and brush. The Ontario Electronic Stewardship (OES) has approved the 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). The new 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.

2 Physical Setting

2.1 Geology and Hydrogeology

2.1.1 Surficial Geology

The surficial geology of the area consists of glacial spillway deposits, and the immediate area of the Site is characterized by sand and gravel overburden in the upland area and fine or silty sands in the valley bottom areas (MNDM, 1991). The Site has a steep topography and the thickness of the overburden ranges from 0 to 5 m below ground surface (mbgs). Bedrock outcrops are evident around the Site and overburden has been encountered at depths greater than 6 mbgs. The South Baptiste WDS is located within the Grenville geological province, on Precambrian bedrock. Figure 03 shows the topography and Site design based on the 2017 topographic survey.

There are currently 10 monitoring wells on and near the WDS. The overburden on the Site generally ranges from 2.4 m (SB-MW7) to over 6.7 m (SB-MW10) in thickness and consists primarily of sand. Overburden thickness was further confirmed at the two bedrock monitoring wells SB-MW7 and SB-MW11 that were drilled to depths of 2.4 mbgs and 4.5 mbgs, respectively. The monitoring well logs are provided in **Appendix C.**

2.1.2 Bedrock Geology

Bedrock in the area is classified as early felsic plutonic results (granodiorite; tonalite; monzogranite; syenogranite; derived gneisses and migmatites) according to MNDM, 1991. Bedrock outcrops are visible in the vicinity of the Site.

According to the Groundwater Information Network, potential groundwater users within 1.5 km of the Site include:

- three private bedrock wells north of the WDS,
- three private bedrock wells northeast of the WDS,
- two private bedrock wells west of the WDS, and
- two private bedrock wells southwest of the WDS.

2.1.3 Overburden Hydrogeology

In January 2019, slug-bail testing was carried out on three monitoring wells (SB-MW4, SB-MW7, and SB-MW10). The results of the field testing were analyzed using the Hvorlev analyses for the overburden sand unit at SB-MW4 and SB-MW10, and the bedrock unit at SB-MW7.

The hydraulic conductivity result of these analyses for the sand unit was 10^{-7} metres per second (m/s) at SB-MW4 and 10^{-4} m/s at SB-MW10. The analysis result for the bedrock was 10^{-4} m/s at SB-MW7.

2.2 Surface Water Features

Surface water features in the area surrounding the Site are shown on Figure 01 and include:

- Baptiste Lake, approximately 900 m northeast of the Site,
- Diamond Lake, approximately 1.2 km southwest of the Site, and
- A tributary stream to Baptiste Lake, approximately 70 m north of the Site.

3 Monitoring Program

The surface water and groundwater monitoring requirements for the South Baptiste WDS are defined in Schedule B of the ECA (**Appendix A, A1**). The monitoring events for the South Baptiste WDS were conducted on May 8, July 7, (surface water monitoring only), and October 21, 2025.

3.1 Site Inspections and Operations Monitoring

Site inspections were completed on May 8 (spring event), July 7 (summer event), and October 21 (fall event), 2025. The detailed site inspection checklists are provided in **Appendix D (D1)**. Generally, the Site was observed to be in good condition, although the following concerns were noted:

- Windblown waste was observed due to a large area of uncovered waste;
- The segregated waste piles were observed to be nearing capacity; and
- Segregated waste pile signage was observed to be knocked over during the spring and summer site visits.

Select photographs taken during the site visits are provided at the end of the text following the tables and figures.

3.2 Monitoring Locations, Frequency and Monitoring Parameters

3.2.1 Groundwater Monitoring

There are currently ten groundwater monitoring wells located at the Site. The groundwater samples were collected and analyzed to characterize groundwater quality. The monitoring requirements for the South Baptiste WDS are defined in Schedule B of the Site ECA with modifications to the program recommended and/or approved by the MECP periodically. The locations and descriptions of the groundwater monitoring wells are provided in Table 2. Sampling events occurred for the spring and fall events only, on May 8, 2025, and October 21, 2025, respectively.

Table 2: Groundwater Monitor Locations

Monitor Name	Northing	Easting	Relative Location
SB-MW2	4,996,511	734,458	Upgradient (background location) west of design footprint.
SB-MW3	4,996,547	734,474	Western corner or design footprint boundary.
SB-MW4	4,996,612	734,527	20 m north of design footprint boundary.
SB-MW5	4,996,562	734,501	5 m south of design footprint northern boundary.
SB-MW6R	4,996,583	734,540	5 m south of design footprint northern boundary.
SB-MW7	4,996,602	734,534	15 m north of design footprint boundary.
SB-MW8	4,996,601	734,430	75 m northwest of design footprint along the north side of South Baptiste Lake Road.
SB-MW9	4,996,605	734,434	75 m northwest of design footprint along the north side of South Baptiste Lake Road.
SB-MW10	4,996,612	734,580	15 m northeast of design footprint along valley to creek.
SB-MW11	4,996,684	734,601	85 m northeast of design footprint along south side of South Baptiste Lake Road.

Note: UTM Zone 17, NAD 83 coordinates – Based on BluMetric geodetic survey (January 9, 2019).

Groundwater samples were collected from all monitoring wells in the spring except SB-MW11 which did not recover after purging. Groundwater samples were collected from all monitoring wells in the fall except for SB-MW2 and SB-MW3 which were dry, and SB-MW11, which had insufficient water for sampling. The groundwater monitor locations are shown on Figures 02 through Figure 05. SB-MW11 is not listed within the ECA, however, it was installed following an MECP recommendation to install additional monitoring wells along South Baptiste Road in order to delineate off-site groundwater impacts in the overburden and bedrock.

The full laboratory analytical reports are provided in **Appendix D (D2).** Field measurements of groundwater pH, temperature, and conductivity were collected at the time of sampling and are discussed in Section 4.1.

Table 3: South Baptiste Groundwater Monitoring Suite

Category	Parameters
Volatile Organic Compounds*	1,1,1,2-Tetrachloroethane, 1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethane, 1,1-Dichloroethylene, 1,2-Dichlorobenzene, 1,2-Dichloroethane, 1,2-Dichloropropane, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, Acetone, Benzene, Bromodichloromethane, Bromoform, Bromomethane, Carbon Tetrachloride, Chlorobenzene, Chloroform, Dibromochloromethane, Dichlorodifluoromethane, Ethylbenzene, Ethylene Dibromide, Methyl Ethyl Ketone, Methyl Isobutyl Ketone, Methylene Chloride, Methyl tertiary-butyl ether (MTBE), Styrene, Tetrachloroethylene, Toluene, Trichloroethylene , Trichlorofluoromethane, Vinyl Chloride, Xylene Mixture, cis-1,2-Dichloroethylene, cis-1,3-Dichloropropene, m & p-Xylene, n-Hexane, o-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene
Organic	Dissolved Organic Carbon (DOC), Phenols, Total Phosphorus, Total Kjeldahl Nitrogen (TKN)
Inorganic	Alkalinity, Chloride, Nitrite, Nitrate, Sulphate, Ammonia (N)-Total Aluminum, Arsenic, Barium, Beryllium, Boron, Calcium, Cadmium, Chromium, Cobalt, Copper, Iron, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Silicon, Silver, Strontium, Thallium, Titanium, Vanadium, Sodium, Zinc, Lead
Physical/Chemical	Chemical Oxygen Demand (COD), Conductivity, pH, Total Dissolved Solids (TDS), Total Suspended Solids (TSS)

Notes:
Groundwater monitoring suite in accordance with Schedule B, Table B1 of the Site ECA.
*VOC parameters are to be sampled every five years at SB-MW6R. The next scheduled VOC sample collection and analysis is scheduled for the 2029 sampling season.

TSS was inadvertently omitted from the groundwater quality monitoring parameter suite from 2013 to 2022. TSS was analyzed at all groundwater monitoring locations in 2025 as required by the ECA.

During the 2025 spring and fall monitoring events, the conditions of the groundwater monitoring wells were inspected. Watertight casings and seals are in place at six wells (SB-MW6R, SB-MW7, SB-MW8, SB-MW9, SB-MW10, and SB-MW11) to ensure that surface water or foreign materials cannot enter groundwater monitoring wells. These groundwater monitoring wells are fitted with a vermin-proof cap to meet the requirements of Ontario Regulation 903, are locked to provide protection against vandalism, and are in line with industry best practices. Monitoring well locations SB-MW5 and SB-MW6R have been equipped with steel protective casings; other historical monitoring wells have not been upgraded with protective casings.

3.2.1.1 Groundwater Elevations

During each monitoring event, groundwater elevations were collected from the monitoring wells. Groundwater level measurements were collected using a Solinst electronic water level meter prior to purging/sampling activity. Groundwater elevation data are summarized in Table 4. The groundwater elevation data and groundwater contours are illustrated on Figures 04 and 05. The groundwater elevations collected at SB-MW7 and SB-MW11 are identified on the figures but are not used for the interpretation of the groundwater elevation contours as they are screened within bedrock, while the other wells are screened within the overburden.

Table 4: Groundwater Elevation Data

Groundwater Monitor	Bottom Depth (mbTPVC)	Elevation of TPVC[1] (masl)	Water Level 8-May-25 (mbTPVC)	Water Level 21-Oct-25 (mbTPVC)	GW Elevation 8-May-25 (masl)	GW Elevation 21-Oct-25 (masl)
Overburden Wells						
SB-MW2	3.02	388.95	1.2	Dry	387.75	-
SB-MW3	3.86	382.54	0.85	Dry	381.69	-
SB-MW4	4.51	379.31	1.84	2.27	377.47	377.04
SB-MW5	3.23	380.50	1.28	2.25	379.22	378.25
SB-MW6R	4.87	382.87	2.67	4.08	380.2	378.79
SB-MW8	4.57	380.34	1.69	2.62	378.65	377.72
SB-MW9	6.10	380.49	1.95	2.82	378.54	377.67
SB-MW10	6.71	386.39	5.42	6.67	380.97	379.73
Bedrock Well						
SB-MW7	10.92	380.80	3.31	3.89	377.49	376.91
SB-MW11	19.42	377.92	18.23	18.15	359.69	359.77

Notes:
mbTPVC - meters below top of PVC stick-up
masl - metres above sea level
1 - Elevation data is based on 2019 GPS survey data for all wells except SB-MW11 which was drilled and surveyed in the fall of 2020.

3.2.1.2 Groundwater Gradients and Flow Direction

Using the calculated groundwater elevation data, the groundwater flow direction for the west side of the Site (SB-MW2, SB-MW3) was determined to be to the north-northeast (for both monitoring events). The gradient towards the north-northeast is estimated to be approximately 0.16 m/m, similar to previous years. From the east area of the Site around SB-MW4 and SB-MW6R, the groundwater flow direction appears to be flowing northwest at a slightly shallower gradient than in the northeast direction. The groundwater flow direction beyond the property boundary is not confirmed but is assumed to towards the north to northeast towards Baptiste Lake.

3.2.2 Surface Water Monitoring

Three surface water sampling events were conducted in 2025. Samples were collected on May 8, July 7, and October 21, 2025. The four surface water sampling stations are shown on Figure 02 and are described in Table 5.

Table 5: Surface Water Monitor Locations

Monitor Name	Northing	Easting	Description
BAP-A	4,996,664	734,575	Watercourse flowing directly from the WDS property, flowing north.
BAP-B	4,996,677	734,565	Downstream from BAP-D.
BAP-C	4,996,695	734,583	Farthest downstream – after confluence of flow from BAP-A and BAP-B.
BAP-D	4,996,585	734,324	Upstream from the WDS – approximately 80 m to the northwest of the property boundary.

Note:
Northings and Eastings are based on January 2019 survey data, NAD83 Datum, UTM zone 17.

Surface water samples were analyzed for the parameters listed in Table 6. Laboratory analytical results and chain of custody forms for surface water results are included in **Appendix D (D3).**

Table 6: South Baptiste Surface Water Monitoring Suite

Category	Parameters
Biological Parameters	Biological Oxygen Demand (BOD_5)
Organic Parameters	Phenols, Phosphorus (total), Total Kjeldahl Nitrogen (TKN)
Inorganic Parameters	Alkalinity, Chloride, Nitrite, Nitrate, Sulphate, Ammonia (N)-Total, Hardness, Calcium, Aluminum (dissolved & total), Arsenic, Boron, Cadmium, Chromium, Cobalt, Copper, Iron, Magnesium, Mercury, Nickel, Potassium, Selenium, Silver, Sodium, Zinc, Lead
Physical/Chemical Parameters	pH, Conductivity, TDS, Total Suspended Solids (TSS), Colour, Turbidity

Note:
Surface water monitoring suite in accordance with Schedule B, Table B2 of the Site ECA.

Field temperature, pH, conductivity, and dissolved oxygen measurements were recorded at the time of sampling. Surface flow measurements were collected using a Global Flow Probe for open channel flow. The flow velocity in meters per second (m/s) was recorded along with the width and depth of the channel. Table 7 summarizes the calculated flow measurements and water clarity observations for each location. Photographs for each sampling event are provided following the tables and figures at the end of the report.

Table 7: 2025 Surface Water Sampling Observations

Location	Discharge (m^3/s)[1]	Description
May 8, 2025		
BAP-A	0.0162	Water was clear
BAP-B	0.0468	Water was clear
BAP-C	0.033	Water was clear
BAP-D	0.020	Water was clear
July 7, 2025		
BAP-A	N/A	Water was clear with a light-yellow tint
BAP-B	0.014	Water was clear with a yellow tint
BAP-C	0.021	Water was clear with a yellow tint
BAP-D	0.025	Water was clear with a yellow tint
October 21, 2025		
BAP-A	N/A	Water was clear
BAP-B	0.002	Water was clear
October 30, 2024		
BAP-C	0.017	Water was clear
BAP-D	N/A	Water was clear with a light brown colour

Notes:
m^3/s – cubic metre per second
N/A - Velocity too low to measure (<0.10 m/s); flow not calculated.
1 - Calculated assuming a simple channel with a rectangular cross section.

3.2.3 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. Regulation 232/98 methane concentration limits 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 Methodology

Groundwater monitors were purged a minimum of three borehole volumes or until the monitor purged dry. In the case where a monitor 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 Professional Series Multi-Parameter system. The instrument was calibrated and/or checked for pH and conductivity. Samples were field filtered for DOC and metals analyses. Samples were collected in laboratory prepared and supplied bottles and submitted to Bureau Veritas (BV) during the spring and fall sampling events. BV is accredited by the Standards Council of Canada (SCC). Groundwater samples were stored at approximately 4 degrees Celsius (° C) during shipment to BV for chemical analyses.

Holding times for samples conformed to Canadian Council of Ministers of the Environment (CCME) Standards where applicable (CCME, 1993). Chain of custody forms accompanied the samples from submittal to the laboratory until the chemical results were provided to BluMetric. Laboratory reports and chain of custody forms are compiled in **Appendix D (D2)**.

3.3.2 Surface Water Monitoring Methodology

Field temperature, pH, conductivity, and dissolved oxygen measurements are recorded at the time of sampling. During sampling events the field parameters were measured using a YSI Professional Series Multi-Parameter system calibrated as per the manufacturer's instructions. Surface water samples were filtered by the laboratory for the dissolved aluminum and mercury analyses.

Surface water samples were collected in laboratory-prepared and supplied bottles and submitted to BV Laboratories during the spring, summer, and fall sampling events. Surface water samples were stored at approximately 4° C during shipment to BV for chemical analyses. Chain of custody forms accompanied the samples from submittal to the laboratory until the chemical results were provided to BluMetric. Laboratory reports and chain of custody forms are compiled in **Appendix D (D3).**

Attempts were made to sample after rain events. However, the timing of the spring and summer surface water sampling in 2025 did not coincide within 24 hours of a 10-millimetre (mm) precipitation event. The spring sampling event on May 8 was preceded by <1 mm on May 7 and 0 mm on the day of sampling. The summer sampling event occurred on July 7 with 0.0 mm of rain

the day prior to the Site visit and 8.3 mm the day of sampling. The fall sampling event occurred on October 21, and 14.5 mm of rain fell the two days prior to sampling with 0.4 mm the day of sampling. Recorded precipitation and temperature values at Environment Canada's Bancroft, Ontario Weather Station for the rain events are presented in **Appendix E**.

Supplemental monitoring of surface water for toxicity at BAP-A is required in accordance with Schedule B of the ECA. Toxicity samples were collected from BAP-A during each of the three sampling events in 2025. The surface water toxicity samples were submitted to Nautilus Environmental for single-concentration acute lethality testing of Daphnia magna (48 hour) and rainbow trout (96 hour). Toxicity laboratory reports are compiled in **Appendix D (D4).**

3.3.3 Landfill Gas Monitoring Methodology

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 spring and fall 2025 sampling events. Gas monitoring measurements were taken from the building by inserting the intake of the gas monitoring equipment through a small hole or gap within the structure 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 monitoring equipment under the cap of the monitoring well prior to removal of the cap and by keeping the best seal possible around the cap and gas equipment intake.

3.3.4 Field QA/QC Program Methodology

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 can yield reproducible results. Field duplicates were collected concurrently with the original sample. One field duplicate per sample matrix was collected during each sampling event 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 are greater than 5X the laboratory reporting 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, 20% for metals and inorganics, and 30% for BTEX and PHC. 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 can produce repeatable results.

All equipment for field parameter testing and gas monitoring are calibrated in the field during each sampling event, or by the supplier.

One blind field duplicate per media was sampled and submitted for analyses during each of the 2025 sampling events. 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

Field measurements were recorded at the time of sampling. The pH values ranged from 6.17 at SB-MW9 to 6.90 at SB-MW9R in the spring and from 6.63 at SB-MW8 to 7.38 at SB-MW9 in the fall. Conductivity values ranged from 56.5 µS/cm at SB-MW2 to 1792 µS/cm at SB-MW6R in the spring and from 54.9 µS/cm at SB-MW8 to 1636 µS/cm at SB-MW7 in the fall.

Groundwater monitor SB-MW2 is located upgradient of the waste mound and represents background groundwater quality for the Site. All other overburden groundwater monitors are located downgradient of the waste mound. Groundwater monitor SB-MW2 and SB-MW3 could not be sampled in the fall of 2025 due to insufficient water and SB-MW11 had insufficient water collect a sample during the spring and fall.

Groundwater quality results for each sampling event were compared to the Ontario Drinking Water Standards Objectives and Guidelines (ODWSOG), the calculated Reasonable Use Values (RUVs), and the Provincial Water Quality Objectives (PWQO). The 2025 groundwater chemistry results for the South Baptiste WDS are summarized in Table 15 (end of text).

Ontario Drinking Water Standard and Operational Guidelines (ODWSOG)

The summary of the 2025 groundwater parameters with results that fall below or are exceeding the ODWSOG criteria are summarized in Table 8 below. The full laboratory results are presented in Table 15 at the end of the text. The laboratory reports and chain of custody records are included in **Appendix D (D-2)**.

Table 8: Groundwater Chemistry Parameters Exceeding ODWSOG

Monitoring Location	Parameter	2025 Sampling Event(s)
SB-MW2 (Background)	Alkalinity (below criteria)	Spring
SB-MW3	None	None
SB-MW4	DOC Dissolved Barium Dissolved Manganese	Fall Fall Fall
SB-MW5	DOC Dissolved Iron Dissolved Manganese	Fall Spring, Fall Spring, Fall
SB-MW6R (Leachate Well)	Alkalinity (above criteria) DOC TDS Dissolved Iron Dissolved Manganese	Spring, Fall Spring, Fall Spring, Fall Spring, Fall Spring, Fall
SB-MW7	Alkalinity (above criteria) DOC TDS Dissolved Iron Dissolved Manganese	Spring, Fall Spring, Fall Spring, Fall Spring Spring, Fall
SB-MW8	Alkalinity (below criteria)	Spring, Fall
SB-MW9	Alkalinity (below criteria)	Fall
SB-MW10	Alkalinity (above criteria) DOC TDS Dissolved Manganese	Spring Spring, Fall Spring Spring, Fall
SB-MW11	None	None

Note: Background alkalinity is typically below criteria.

Reasonable Use Values (RUVs)

The water quality results from 2006 to 2025 for background well SB-MW2 were used to calculate RUVs 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: maximum allowable concentration in groundwater beneath adjacent property (Reasonable Use Values)
- Cb: median background concentration before any effects from human activity
- Cr: maximum concentration that should be present based on use (ODWSOG)

X: constant that reduces the contamination to a level considered by the MOECC 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 9 summarizes the values that have been used to arrive at Cm values (RUVs) for the landfill leachate indicator parameters.

Table 9: Summary of Parameters Used in RUV Calculations

Parameter*	Cb (mg/L)	Cr (mg/L)	Constant x	Cm (Reasonable Use Value – RUV) mg/L
Alkalinity (upper limit)	21	500	0.5	**260.5**
Aluminum	0.005	0.1	0.5	**0.1**
Boron	0.005	5	0.25	**1.3**
Chloride	0.52	250	0.5	**125.3**
Copper	0.0015	1	0.5	**0.5**
Dissolved Organic Carbon (DOC)	1.4	5	0.5	**3.2**
Iron	0.015	0.3	0.5	**0.2**
Manganese	0.005	0.05	0.5	**0.028**
Nitrate	0.025	10	0.25	**2.5**
Sodium	1.2	200	0.5	**100.6**
Total Dissolved Solids (TDS)	38	500	0.5	**269.0**
Zinc	0.0025	5	0.5	**2.5**

Notes:
* Metals results are for dissolved metals in groundwater
The lower limit for alkalinity was not used as it is naturally below the lower limit for water in the region.

Table 10 summarizes the parameters that exceeded RUVs in 2025. It is 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 10: Groundwater Reasonable Use Parameter Exceedances

Monitoring Location	Parameter*	2025 Sampling Event(s)
SB-MW2 (Background)	None	None
SB-MW3	None	None
SB-MW4	Alkalinity DOC TDS Manganese	Fall Spring, Fall Fall Fall
SB-MW5	DOC TDS Iron Manganese	Spring, Fall Spring, Fall Spring, Fall Spring, Fall
SB-MW6R (Leachate Well)	Alkalinity DOC TDS Aluminum Boron Iron Manganese	Spring, Fall Spring, Fall Spring, Fall Spring Spring, Fall Spring, Fall Spring, Fall
SB-MW7	Alkalinity DOC TDS Iron Manganese	Spring, Fall Spring, Fall Spring, Fall Spring Spring, Fall
SB-MW8	TDS	Spring
SB-MW9	None	None
SB-MW10	Alkalinity DOC TDS Manganese	Spring, Fall Spring, Fall Spring, Fall Spring, Fall
SB-MW11	None	None

Note:
* Metals results are for dissolved metals in groundwater

Provincial Water Quality Objectives (PWQO)

Groundwater chemistry results for each sampling event were also compared to the Provincial Water Quality Objectives (PWQO) because of the potential for groundwater to discharge to surface water at the South Baptiste WDS. Table 11 summarizes the parameters that exceeded PWQO in 2025.

Table 11: Groundwater PWQO Parameter Exceedances

Groundwater Monitoring Location	Parameter	2025 Sampling Event(s)
SB-MW2 (Background)	Total Phosphorus	Spring
SB-MW3	Total Phosphorus	Spring
SB-MW4	Total Phosphorus Boron Cobalt Copper	Spring, Fall Fall Fall Fall
SB-MW5	Total Phosphorus Iron	Spring, Fall Spring, Fall
SB-MW6R (Leachate Well)	Phenols Total Phosphorus Boron Cobalt Iron	Fall Spring, Fall Spring, Fall Spring, Fall Spring, Fall
SB-MW7	Phenols Total Phosphorus Boron Cadmium Cobalt Copper Iron Nickel Zinc	Spring Fall Spring, Fall Fall Spring, Fall Spring, Fall Spring Spring, Fall Fall
SB-MW8	Total Phosphorus Copper	Spring, Fall Fall
SB-MW9	Total Phosphorus	Spring, Fall
SB-MW10	Total Phosphorus Boron Cadmium Cobalt Copper Nickel	Spring, Fall Spring, Fall Spring Spring, Fall Spring, Fall Spring
SB-MW11	None	None

Notes:
* Metals results are for dissolved metals in groundwater

Groundwater alkalinity concentrations at the Site are naturally low. The background well (SB-MW2) mean concentration (2006-2025 data) is 22.8 mg/L. PWQO criteria states that alkalinity cannot be decrease by more than 25%. Impacts from the WDS are observed to increase the

alkalinity at the Site, therefore, the downgradient wells do not exceed the PWQO for this parameter.

Historical groundwater data up to and including 2025 is provided in **Appendix F (F-1)**.

4.2 Surface Water Quality

Three surface water sampling events were conducted in 2025. Samples were collected on May 8, July 7, and October 21, 2025. The 2025 surface water chemistry results for the South Baptiste WDS are summarized in Table 16 (end of text). The four surface water sampling locations are shown on Figure 02.

Surface water quality results were compared to PWQO criteria. Prior to 2025, the Table A and Table B criteria of the WDS Technical Guidance (MOE, 2010) were also used for comparison of surface water quality results. Following a review of the 2024 surface water monitoring program by the MECP dated August 7th, 2025 (provided in **Appendix A (A3)**), 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 12 summarizes the parameters that exceeded criteria (and does include WDS Technical Guidance Table A and Table B criteria as a reference only).

Table 12: Surface Water Chemistry Parameters Exceeding Criteria

Monitoring Location	Parameter*	Criteria Exceeded	2025 Sampling Event(s)
BAP-A	Boron Iron Cobalt	PWQO PWQO PWQO	Spring, Summer, Fall Fall Fall
BAP-B	Iron	PWQO	Summer
BAP-C	Iron Total Phosphorus	PWQO PWQO	Summer Summer
BAP-D (Background)	Iron	PWQO	Spring, Summer, Fall

Note:
* Metals results are for total metals in surface water

The average background (BAP-D) surface water concentration for alkalinity in 2025 was 62.7 mg/L. PWQO criteria states that alkalinity cannot be decreased by more than 25%, which in this case would be 47 mg/L. Alkalinity concentration at BAP-A, BAP-B, and BAP-C had alkalinity concentrations above 47 mg/L during each sampling event in 2025.

All toxicity samples collected in 2025 passed for single concentration acute lethality testing of Daphnia magna (48 hour) and rainbow trout (96 hour).

Historical surface water data up to and including 2025 is provided in **Appendix F (F-2).**

4.3 Landfill Gas Monitoring

Landfill gas readings collected during the 2025 spring and fall samplings events are presented in Table 13 below.

Table 13: 2025 Landfill Gas Field Data

Location	Description of Location	May 8, 2025 (ppm)	October 21, 2025 (ppm)
Attendant's Building	RKI probe inserted through main door	15	0
SB-MW2	Well head	10	0
SB-MW3	Well head	0	0
SB-MW4	Well head	0	0
SB-MW5	Well head	5	25
SB-MW6R	Well head	10	0
SB-MW7	Well head	0	0
SB-MW8	Well head	0	0
SB-MW9	Well head	0	0
SB-MW10	Well head	15	0
SB-MW11	Well head	0	0

4.4 QA/QC Results

One duplicate sample per sample matrix was collected during each sampling event in 2025, totalling two groundwater duplicates and three surface water duplicates. The consistency of the results was evaluated based on the RPD of each field duplicate pair, as discussed in Section 3.3.4. The QA/QC results are presented in **Appendix D (D5, D6)**.

Exceedances of the RPD guidance criteria are as follows:

- Groundwater:
  - No RPD Exceedances during the Spring or Fall sampling events
- Surface water:
  - Calcium (RPD of 24%) in the summer.
  - Turbidity (RPD of 50%) in the summer.
  - Iron (RPD of 35%) in the summer

The three RPD values in exceedance of the guideline criterion represent less than 1% of all analyzed parameters during the 2025 monitoring period. Therefore, the results of the 2025 QA/QC program are considered acceptable with a high degree of reproducibility.

5 Assessment, Interpretation, and Discussion

5.1 Groundwater Assessment

Groundwater at the Site was primarily assessed using select parameters (e.g., alkalinity, chloride, DOC, dissolved aluminum, dissolved iron, dissolved manganese, TDS) which have been found to have elevated concentrations in monitors that are considered impacted by leachate. In general, all downgradient monitoring wells are elevated relative to concentrations of landfill leachate parameters in the background monitor (SB-MW2).

The groundwater chemistry results from the two monitoring events in 2025 are summarized in Table 15 (end of text). Parameters that were outside the RUVs, ODWSOG, and/or PWQO criteria are flagged. **Appendix F-1** presents the historical groundwater quality results from the South Baptiste WDS. In order to support the interpretation of the historical groundwater quality, a Mann-Kendall trend analysis was conducted using the last ten years of historical data for select parameters. A summary of the Mann-Kendall trend analysis is discussed in Section 5.3 and the full analysis is presented in **Appendix G.**

SB-MW2 (Background Well)

Monitoring well SB-MW2 is located to the west of the design footprint and is the upgradient background monitoring location. The alkalinity concentrations at SB-MW2 are typically below the ODWSOG (lower limit) and are representative of background conditions. Dissolved iron and manganese are sporadically detected above ODWSOG and RUV criteria. During the spring sampling event total phosphorus exceeded the PWQO criteria. No sample was collected during the fall 2025 sampling event due to the well being dry. Concentrations at SB-MW2 have generally remained consistent since monitoring began in 2006 with the exception of chloride and sodium which have generally shown a slight decreasing trend since 2011.

SB-MW3 (Downgradient Well)

SB-MW3 is a downgradient monitoring well located to the northwest at the foot landfill area. During the 2025 monitoring period SB-MW3 exceeded the ODWQS criteria (lower limit) for alkalinity and the PWQO criteria for total phosphorus in the spring. No sample was collected for SB-SW3 during the fall sampling event due to the location being dry. The exceedances observed at

SB-MW3 are also present in the background water quality in SB-MW2. Historically SB-MW3 has shown slightly elevated levels of leachate indicator parameters and occasional exceedances of the ODWQS/PWQO for DOC, dissolved iron, dissolved manganese, phenols, and total phosphorus. These elevated parameter concentrations are likely due to downgradient water quality impacts from the Site.

SB-MW4 (Downgradient Well)

SB-MW4 is a downgradient monitoring well located north of the landfill area at the foot of the landfill hill. During the 2025 monitoring period SB-MW4 exceeded the ODWQS criteria for DOC, dissolved barium, and dissolved manganese in the fall. SB-MW4 also exceeded the PWQO criteria for total phosphorus during both sampling events and boron, cobalt, and copper during the fall. The 2025 sampling results fall within historical ranges. Elevated concentrations of leachate indicator parameters at this monitoring location indicate that it is likely being impacted by downgradient water quality impacts from the Site.

SB-MW5 (Downgradient Well)

SB-MW5 is a downgradient monitoring well located northwest of the landfill area at the foot of the landfill. SB-MW5 exceeded the ODWQS criteria for DOC during the fall and dissolved iron and dissolved manganese during both sampling events. SB-MW5 also exceeded the PWQO criteria for total phosphorus and dissolved iron during both sampling events. The 2025 monitoring results at SB-MW5 fall within the historical ranges for this location but elevated levels of leachate indicator parameters compared to the background water quality are likely due to downgradient impacts from the landfill site.

SB-MW6R (Downgradient Well)

SB-MW6R is a downgradient well located north of the landfill area at the foot of the hill. SB-MW6R was installed in 2017 as a replacement well for historic well SB-MW6. During the 2025 monitoring period SB-MW6R exceeded the ODWQS criteria for alkalinity (above criteria), DOC, TDS, dissolved iron, and dissolved manganese during both sampling events. SB-MW6R also exceeded the PWQO criteria for total phosphorus, dissolved boron, dissolved cobalt, and dissolved iron during both sampling events, and phenols during the fall sampling event. The results of the 2025 monitoring period generally fall within the historical ranges for each parameter. The elevated levels of leachate indicator parameters at this location are due to downgradient impacts to water quality from the Site.

SB-MW7 (Downgradient Bedrock Well)

SB-MW7 is a downgradient bedrock monitoring well located north of the landfill area at the foot of the hill. During the 2025 monitoring period SB-MW7 exceeded the ODWQS criteria for alkalinity (above criteria), DOC, TDS, and dissolved during both sampling events and dissolved iron during the spring. SB-MW7 also exceeded the PWQO criteria for phenols and dissolved iron during the spring; total phosphorus, dissolved cadmium, and dissolved zinc during the fall; and dissolved boron, dissolved cobalt, dissolved copper, and nickel during both sampling events. The elevated levels of leachate indicator parameters and exceeding parameters are suspected to be due to downgradient water quality impacts from the Site. The analytical results from the 2025 monitoring period are generally within historical ranges.

SB-MW8 & SB-MW9 (Downgradient Boundary Wells)

SB-MW8 and SB-MW9 are downgradient boundary wells located northwest of the landfill area off-site on the north side of South Baptiste Lake Road. These monitoring wells were installed in 2018 to help assess downgradient water quality and Guideline B-7 compliance. Both SB-MW8 and SB-MW9 exhibit slightly elevated levels of leachate indicator parameters with only occasional sporadic exceedances of the PWQO and RUV criteria. Both wells consistently exceed the ODWQS criteria for alkalinity (below criteria) and the PWQO criteria for total phosphorus, including 2025, however this is consistent with the background water quality at SB-MW2. During the 2025 monitoring period SB-MW8 also exceeded the RUV for TDS in the spring and the PWQO criteria for dissolved copper in the fall. SB-MW9 had an additional PWQO criteria exceedance of dissolved copper in the spring.

SB-MW10 (Downgradient Well)

SB-MW10 is a downgradient monitoring well located north of the landfill area at the foot of the hill. During the 2025 monitoring period SB-MW10 exceeded the ODWQS criteria for DOC and dissolved manganese during both sampling events, and alkalinity (above criteria) and TDS during the spring. SB-MW10 also exhibited various PWQO criteria exceedances including total phosphorus, dissolved boron, dissolved cobalt, and dissolved copper during both sampling events, as well as a dissolved nickel exceedance during the spring. The exceedances and elevated levels of leachate indicator parameters at SB-MW10 are likely due to downgradient impacts to water quality from the Site. The results of the 2025 monitoring period are generally within historical ranges.

SB-MW11 (Downgradient Bedrock Well)

SB-MW11 is a downgradient bedrock well located north of the landfill area along South Baptiste Lake Road. SB-MW11 was installed in 2019 and has only been sampled once during the 2023 spring sampling event. Several parameters were recorded at the highest concentrations on site at SB-MW11, including sulphate, sodium, and TDS. Further monitoring is required to establish potential trends at this location.

5.2 Surface Water Assessment

The surface water chemistry results from the monitoring events in 2025 are summarized in Table 16 (end of text). Parameters that were outside the PWQO, MECP Table A and/or Table B criteria are flagged. **Appendix F (F-2)** presents the historical surface water quality results from the South Baptiste WDS. A Mann-Kendall trend analysis was conducted for each surface water monitoring location for parameters identified as leachate indicator parameters and parameters that have historically exceeded the applicable criteria. The results of the trend analysis are summarized in Section 5.3 and the full analysis is presented in **Appendix G**.

Surface water monitoring location BAP-D represents background surface water conditions for the South Baptiste WDS. Sample BAP-D is collected approximately 80 m to the northwest of the WDS in the creek located along the north side of South Baptiste Lake Road. This creek flows from the west through a series of beaver dams and continues west to east along the north side of South Baptiste Lake Road. Surface water monitoring location BAP-B is also located in this creek, north of the WDS but prior to the confluence with flow from BAP-A. BAP-C is located downgradient of the confluence with BAP-A and within the same creek but downstream from BAP-D and BAP-B. Location BAP-A represents surface water that drains directly from the South Baptiste WDS property and is on a small creek located on the south side of South Baptiste Lake Road. It flows northward off the WDS property, runs east along the south side of the road, and then drains to the north through a culvert under the road. It then merges with a creek running along the north side of South Baptiste Lake Road and continues in a northeast direction towards BAP-C.

BAP-D

Background surface water monitoring location BAP-D had PWQO exceedances for total iron during each sampling event in 2025. Due to BAP-D being a background monitoring location, the elevated iron concentrations are likely due to natural environmental influences and unrelated to any water quality impacts from the Site.

BAP-A

During the 2025 monitoring period BAP-A exceeded the PWQO criteria for boron during each sampling event, and iron and cobalt during the fall. The 2025 monitoring results are generally within the historical ranges. Due to the elevated levels of chloride, boron, lead, and cobalt at BAP-A relative to background location BAP-D, the analytical results indicate that leachate from the landfill is impacting surface water quality in the immediate vicinity of the WDS.

BAP-B

BAP-B has followed very similar trends as the background location BAP-D (located approximately 250 m upstream). PWQO exceedances at BAP-B were limited to total iron during the summer and fall sampling events. Concentrations of indicator parameters were generally comparable to background concentrations at BAP-D indicating the BAP-B is experiencing minimal water quality impacts from the landfill through surface water run-off or groundwater-surface water interactions.

BAP-C

The furthest downstream monitoring location is BAP-C, located downstream from the confluence of the creek where BAP-B and BAP-D are located and the creek flowing off-site where BAP-A is located. PWQO exceedances at BAP-C were limited to total iron and total phosphorus during the summer sampling event. Parameter concentrations at BAP-C tend to be the second highest among all surface water monitoring locations, after BAP-A. The 2025 parameter concentrations at BAP-C have generally remained within the historical range of results.

Based on the results from the 2025 monitoring events and review of historical results, it is evident that leachate from the South Baptiste WDS is impacting surface water quality in the creek to the north of the Site, along the south side of South Baptiste Lake Road.

5.3 Mann-Kendall Trend Analysis

In order to support the assessment of groundwater and surface water quality at the site a Mann-Kendall trend analysis was conducted for each monitoring location using the analytical results since 2015. The trend analysis was limited to the parameters that have been previously discussed to be leachate indicator parameters and parameters that have historically exceeded at the monitoring location.

SB-MW2

SB-MW2 exhibited no trend for alkalinity and a stable trend for total phosphorus. Based on these results there does not appear to be changes to background water quality at the site.

SB-MW3

SB-MW3 exhibited no trend for alkalinity, dissolved iron, and dissolved manganese. Stable trends were observed for DOC, total phosphorus, and chloride. Based on these results, despite exhibiting downgradient water quality impacts from the site, the water quality at SB-MW3 does not appear to be getting worse.

SB-MW4

SB-MW4 exhibited increasing parameter trends for dissolved boron, nitrate, and pH; a probable increasing trend for alkalinity; no trend for dissolved barium, dissolved copper, DOC, or TDS; a probable decreasing trend for dissolved cobalt; and decreasing trends for aluminum and dissolved manganese. Based on historical results and the trend analysis for SB-MW4 the water quality is still changing, primarily degrading, due to downgradient water quality impacts from the Site.

SB-MW5

Parameter concentration trends at SB-MW5 included increasing trends for dissolved manganese, chloride, and TDS; no trend for dissolved boron, DOC, and total phosphorus; a stable trend for dissolved iron; and a probable decreasing trend for aluminum. Based on the increasing trends for multiple leachate indicator parameters at the Site, water quality at SB-MW5 is continuing to be impacted from the Site.

SB-MW6R

The data used at SB-MW6R was limited to the results collected after the replacement well installation and does not include results collected from SB-MW6. Parameter trends observed at SB-MW6R included a probable increasing trend for dissolved iron; a stable trend for alkalinity, chloride, dissolved manganese, and TDS; a probable decreasing trend for dissolved cobalt; a decreasing trend for dissolved copper; and no trend for aluminum, dissolved boron, DOC, phenols, and total phosphorus. The results of the trend analysis primarily indicate that parameter concentrations at SB-MW6R are mostly stable or there is no significant trend.

SB-MW7

The majority of the trends observed at MW7 are stable, decreasing, or there was no significant trend. The results of the trend analysis included a probable increasing trend for dissolved manganese; a stable trend for dissolved cobalt and dissolved copper; a probable decreasing trend for chloride, nitrate, TDS, and dissolved zinc; decreasing trends for DOC, dissolved nickel, and dissolved sodium; and no trend for alkalinity, aluminum, dissolved boron, dissolved iron, phenols,

and total phosphorus. Based on the results of the trend analysis the water quality at SB-MW7 is continuing to be impacted by downgradient water quality influence from the Site.

SB-MW8

The parameter trends observed at SB-MW8 were stable for alkalinity, dissolved copper, chloride, and TDS. The only other trend was an increasing trend in total phosphorus. The results of the trend analysis support that the boundary well SB-MW8 is being minimally impacted by the Site and water quality at this location is relatively stable.

SB-MW9

The results of the trend analysis at SB-MW9 exhibited no trend for alkalinity, a stable trend for chloride, and a probable decreasing trend for total phosphorus. These results support that the water quality at boundary wells SB-MW8 and SB-MW9 are being minimally impacted by the Site and is relatively stable.

SB-MW10

Parameter trends observed at SB-MW10 include an increasing trend for alkalinity and chloride; a probable increasing trend for dissolved cobalt, dissolved copper, dissolved manganese; and TDS; a stable trend for DOC; a probable decreasing trend for total phosphorus; and no trend for dissolved boron and dissolved nickel. Based on these results it likely that water quality at SB-MW10 is continuing to be impacted by downgradient impacts from the Site, with numerous parameters exhibited increasing concentration trends.

SB-MW11

Due to the lack of data available for SB-MW11 no trend analysis was conducted.

BAP-A

Parameter trends identified at BAP-A include an increasing trend for total boron and a decreasing trend for chloride. No significant trend was observed for total iron or total phosphorus.

BAP-B

At BAP-B no trend was observed for phenols, a decreasing trend was observed for chloride, and an increasing and probable increasing trend were exhibited for total phosphorus and total iron respectively.

BAP-C

The results of the trend analysis at BAP-C included a probable decreasing trend for chloride, a probable increasing trend for total phosphorus, a stable trend for phenols, and no trend for total iron.

BAP-D

At BAP-D no trend was observed for total cobalt, total iron, or phenols. An increasing trend was noted for total phosphorus, and a decreasing trend for chloride.

5.4 Groundwater-Surface Water Interaction

A comparison of the groundwater results at SB-MW4, SB-MW5, SB-MW6, SW-MW7, and SW-MW10 with surface water results at location BAP-A, indicates that leachate-impacted groundwater discharge is adversely affecting surface water downgradient of the Site. Concentrations of surface water indicator parameters, such as alkalinity, boron, chloride, sodium, and sulphate, were elevated in both groundwater and surface water. A review of the trend analysis indicates that the concentrations of alkalinity and dissolved boron generally continue to be on an upward trend, similar to the trends observed at surface water location BAP-A.

A comparison of groundwater quality results to PWQO was requested by the MECP because of the potential for groundwater to discharge to surface. This comparison is provided in Table 15 (end of text). Total phosphorus exceeded PWQO for all but one (at SB-MW7 it was less than the RDL during the spring sampling event) of the groundwater samples collected in 2025, including background monitoring well SB-MW2. Concentrations of total phosphorus in overburden monitoring wells ranged from 0.067 mg/L at SB-MW7 to 82 mg/L at SB-MW4. Other parameters that exceeded PWQO included phenols (at SB-MW6R), and dissolved boron, cobalt, copper, iron, nickel, and zinc. A summary of all PWQO exceedances at the groundwater monitoring wells is provided in Table 11. Groundwater that discharges to surface has the potential to adversely impact surface water in the vicinity of the WDS. A review of the surface water data is presented in Section 5.2.

Based on the results of the 2025 monitoring and review of historical results, it is apparent that the WDS is impacting the nearby groundwater quality with elevated parameters and PWQO/ODWSOG exceedances at most downgradient monitoring wells.

Groundwater at the Site is expected to discharge to surface at or before the property line and therefore it is expected that groundwater downgradient from the WDS property boundary is not being impacted by leachate and is compliant with Guideline B-7. This is also evident by the results

at SB-MW8 and SB-MW9, which are located north of the property boundary and have only had sporadic RUV exceedances since they were installed in 2019, with only one RUV exceedance in 2025.

5.5 Landfill Gas Assessment

The RKI Eagle gas monitoring results for 2025 ranged from 0 to 15 ppm in the spring and from 0 to 25 ppm in the fall. These results indicate that methane gas concentrations are well below the concentration of concern (i.e., 10,000 ppm) for the subsurface, buildings and structures on-site.

5.6 Trigger Mechanisms and Contingency Plans

The Site Trigger Mechanisms and Contingency Plan (Contingency Plan) for surface water was approved by MECP in the fall of 2019, and is provided in **Appendix H.** In accordance with the approved surface water Trigger Mechanisms and Contingency Plan, toxicity sampling was collected three times in 2025 at BAP-A, in conjunction with the surface water sampling events on May 8, July 7, and October 21, 2025. Toxicity testing includes a 48-hour *Daphnia magna* single concentration test and a 96-hour Rainbow Trout single concentration test with 50% mortality being the passing limit. The surface water toxicity results in 2025 did not trigger the contingency response sampling.

In addition to the toxicity sampling at BAP-A, additional assessment points include SB-MW4 and SB-MW7. Groundwater samples are collected on a semi-annual basis for alkalinity, dissolved boron, chloride, dissolved cobalt, dissolved iron, TDS, and un-ionized ammonia. The Contingency Plan is triggered if three or more of the trigger parameters exceed their trigger limit, which vary between the PWQO, CCME Canadian Water Quality Guidelines (CWQG), or the 75th percentile of the historical data between May 2006 and May 2017 at BAP-D (the background location).

The Contingency Plan was triggered at SB-MW4 during the fall sampling event with exceedances of trigger parameters alkalinity, boron, cobalt, and TDS. The Contingency Plan was also triggered at SB-MW7 during the spring and fall 2025 sampling events with trigger parameter exceedances of alkalinity, TDS, boron, and cobalt. The Tier 1 response of the Contingency Plan includes tri-annual toxicity sampling at BAP-A. Based on the toxicity results at BAP-A, escalation to Tier 2 sampling was not required. It is recommended that the Contingency Plan be updated to only trigger following an exceedance of a new trigger parameter or when an emerging increasing trend is observed.

6 On-Site Operations

6.1 Annual Recyclables and Waste Summary

The Municipality implemented a clear bag policy in October 2014 to facilitate increased waste diversion and extend the operational life of municipal landfill sites. 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 (Municipality of Hastings Highlands, 2015). An updated clear bag policy was put in place in 2018.

Although access to the Site is controlled via a locked steel security gate, residents may deposit garbage at the 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 of waste received at the Site in 2025 are provided in Table 14 and are based on a combination of contractors' tonnages and estimations based on the number of bags deposited at the Site. The tonnages below include recyclables (R) and waste (W) from residences and some commercial establishments within the municipality. An average of 15 kg per bag, provided by the municipality, is used in the waste calculations.

Table 14: Annual Recycling and Waste Tonnages

Q1		Q2		Q3		Q4		Year Total	
2024									
R	**W**	**R**	**W**	**R**	**W**	**R**	**W**	**R**	**W**
12.69	102.51	16.18	140.67	25.27	198.21	14.44	136.88	68.57	578.27
2025									
R	**W**	**R**	**W**	**R**	**W**	**R**	**W**	**R**	**W**
12.27	117.2	18.33	156.6	21.0	227.16	9.15	147.23	60.78	648.2

Based on the estimated numbers, 8.6% of the total waste tonnage disposed at the Site was separated for recycling in 2025, which is slightly lower than the 10.6% observed in the 2024 operating year. Recycling quantities have decreased by approximately 11.4% in 2025 compared to 2024 while the waste quantity at the South Baptiste WDS in 2025 was approximately 12.1% higher than the 2024 quantity.

It should be noted that these numbers are based on estimates. The 2025 and 2024 residential waste calculations are based on bag counts at the WDS. There were 43,053 bags of residential waste and 160 bags of industrial, commercial, and institutional waste deposited at the South Baptiste WDS in 2025. An assumed 15 kg/bag (based on experience of the MHHs Operations Manager at similar waste sites) was used in the tonnage calculations.

6.1.1 Waste Rejection Summary

No waste was rejected from the South Baptiste WDS in 2025.

6.1.2 Annual Segregated Materials Removed Summary

In addition, there were segregated materials collected at the nine waste disposal sites in the MHHs. The breakdown of these wastes in 2025 at the South Baptiste WDS are presented below.

- Scrap metal – 0.0 tonnes;
- Electronic waste – 0.0 tonnes;
- Bulky waste – 0.0 tonnes;
- Leaf and yard waste – 969 truck or trailer loads; and,
- 129 tires.

6.2 Emergency Situations and Complaints Summary

There were no emergency situations or complaints in 2025.

6.3 Site Capacity

The South Baptiste WDS has a total area of 4.46 hectares (ha), of which 2.02 ha is designated as approved landfilling area. The final volumetric capacity of the Site, excluding final cover, is 82,785 cubic metres (m^3). Figure 06 shows Phase 1 of the cell development from 396 to 398 masl at the WDS and Figure 07 shows the remaining capacity of the WDS based on the June 29, 2023, Site survey.

The last ten annual monitoring reports for the Site have recorded annual waste generation rates of 568.2 (2016), 398.5 (2017), 380.4 (2018), 342.5 (2019), 381.7 (2020), 359.3 (2021), 376.7 (2022), 492.6 (2023), 578.27 (2024), and 648.2 (2025) tonnes, resulting in an average waste generation rate of 452.6 tonnes per year. The 452.6 tonnes are estimated to equate to 905 m^3 of compacted waste per year (no soil cover), assuming a compaction density of 500 kilograms (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 1,131 m^3 per year.

In 2025, it is estimated that 648.2 tonnes, or 1,296 m^3 by volume, of waste (residential and commercial) was deposited at the Site. Taking soil cover into consideration, this volume is estimated at 1,620.5 m^3.

An area of fill beyond approved limits (FBAL) was excavated between September 19 and September 21, 2023. The FBAL was located along the southeast waste site boundary and is shown on Figure 07. Based on the topographic data from the Site survey completed on June 29, 2023, the volume of waste within the FBAL that was relocated within the waste site footprint was calculated to be approximately 1,349 m^3. This volume was considered within the remaining volumetric capacity and life expectancy calculations provided below. The Site will be resurveyed in 2026 to provide updated volumes reflective to the FBAL excavation.

The remaining volumetric capacity and life expectancy for the South Baptiste WDS is calculated as follows:

Net fill available (2023 Site survey):	15,363 m^3
FBAL volume excavated into WDS:	1,349 m^3
Estimated fill rate for 2023 (July to December), 2024, & 2025:	3,677 m^3
Remaining Capacity (2025)	10,307 m^3
Average annual fill rate	1,131 m^3
Life Expectancy:	**9 years**

Based on the remaining volumetric capacity at the Site, the life expectancy is 9 years. The remaining capacity (10,307 m^3) and estimated life expectancy are slight overestimates as the amount of intermediate cover has not been considered. The life expectancy can vary due to limited environmental attenuation as well as changes in fill rates such as floods, fires or other natural disasters.

The recently amended ECA for the Site identifies in Section 9 (1) that at least two years prior to the anticipated date of closure of this Site, the Owner shall submit a Closure Plan for approval.

Operational stakes should be placed to ensure that the waste site continues to operate in accordance with the Development and Operations Plan and at the underside of final cover elevations and design slopes. Annual operational survey stakes should include the waste footprint, side slopes, and the active cell boundaries and elevations for the given year. This work has yet to be completed. The Site should continue to be operated in accordance with the 2018 Development and Operations Plan.

7 Summary Statements, Conclusions, and Recommendations

The following statements, conclusions, and recommendations are based on the observations and results of the 2025 monitoring program.

7.1 Site Operations

- Berms were initiated in 2016 to direct the public to new waste cell locations to contain waste. This practice was continued in 2025. General maintenance and operations should include maintaining a limited amount of exposed and active landfilling area and installing barriers along the tipping face. Wind-blown litter should be cleaned up on a regular basis.
- Measures should be taken to ensure all stockpiles for off-site transport are well segregated (e.g., metal, tires, and bulky items).
- It is recommended that waste transferred to the Site continue to be accounted for and documented by tracking the number of truck and/or vehicle loads or bags of waste deposited at the Site. Detailed descriptions and quantities of rejected waste should continue to be documented for the South Baptiste Lake WDS.
- The grading of the north side of the Site should be completed in order to cut down the slope to keep within the design elevations defined within the Development and Operations Plan was previously recommended to be done in 2025. The following recommendation has carried over and should be completed in 2026. The cut slope should then be covered by a low permeability compacted cover and seeded to reduce infiltration. BluMetric can provide on-site supervision for this work. Following the completion of the grading and compaction of the cover, a remotely piloted aircraft (i.e., drone) survey should be carried out to determine the remaining capacity of the WDS.
- It is recommended that operational stakes be placed to ensure that the waste site continues to operate in accordance with the Development and Operations Plan and that the Site development remains within the design elevations to reduce the amount of re-grading required during Site closure activities. This recommendation has carried over and should be completed in 2026. Of note, prior to staking, brush will need to be cleared by MHH. Annual operational survey stakes should include the waste footprint, side slopes, and the active cell boundaries and elevations for the given year. Figure 06 shows the cell development for the Site.
- It is recommended that a Site capacity survey be completed a minimum of once every three to five years until the Site life expectancy is at 10 years. The frequency of the capacity surveys should be increased based on the average annual waste generation trends at that time. The frequency of the capacity assessments will be determined following the completion of an updated site capacity assessment in 2026.

7.2 Groundwater Monitoring

- Based on the groundwater elevation data collected during the 2025 monitoring events, the groundwater flow direction is assumed to be northeast to northwest towards Baptiste Lake.
- Leachate impacts are apparent at downgradient monitoring wells SB-MW3, SB-MW4, SB-MW5, SB-MW6R, SB-MW10, and bedrock monitoring well SB-MW7. Parameters in exceedance of applicable criteria (RUV, ODWSOG) generally consist of alkalinity, DOC, TDS, and dissolved, iron, and manganese. The highest concentrations of leachate indicator parameters are generally observed at SB-MW4, SB-MW6R, SB-MW7, and SB-MW10.
- VOC sampling should remain part of the groundwater monitoring program for SB-MW6R at the South Baptiste WDS. VOC samples should be analyzed every five years. Should impacts be observed, samples should be analyzed semi-annually until they are not detected. The next VOC sampling is to occur in the fall of 2029.
- Groundwater at the Site is expected to discharge to surface at or before the property line and therefore it is expected that groundwater downgradient from the WDS property boundary is not being impacted by leachate and is compliant with Guideline B-7. This is also evident by the results at SB-MW8 and SB-MW9, which are located north of the property boundary which have only had sporadic RUV exceedances since they were installed in 2019.

7.3 Surface Water Monitoring

- Based on the results from the 2025 monitoring events and review of historical results, it is apparent that leachate from the South Baptiste WDS is having an impact on surface water quality in the creek to the north of the Site, along the north side of South Baptiste Lake Road.
- The highest concentrations of nearly all parameters are observed at BAP-A, located in the creek flowing directly from the WDS towards the north. Criteria exceedances at BAP-A generally include total phosphorus, boron, and iron. Parameter concentrations are generally stable with the exception of boron which has shown a steady increasing trend and chloride which after showing an increasing trend between 2010 and 2019, has began to show a decreasing trend.
- Total boron and other elevated parameters at BAP-C indicate that the landfill is having an impact on the creek on the north side of South Baptiste Lake Road.

- As for previous years, 2025 iron concentrations in surface water upstream of the WDS are elevated. These chemistry results indicate that the WDS is not likely causing the PWQO exceedances for iron in surface water downstream of the Site.
- In 2019, the MHHs installed the perimeter ditch around the south and west sides of the Site to direct groundwater away from (around) the waste mound. This was carried out to limit infiltration of surface water through the waste (BluMetric, 2020).
- Based on the groundwater flow directions, the creek north of South Baptiste Lake Road and Baptiste Lake are potential surface water receptors. Diamond Lake southwest of the Site is not considered to be a potential receptor.
- Following a review of the 2024 surface water monitoring program at the Site, dated August 7, 2025, the MECP has agreed with the conclusion that landfill impacted groundwater is discharging within the vicinity of BAP-A causing surface water impacts. Based on the results of the toxicity samples collected at BAP-A there isn't a concern for harm to aquatic life at the downstream surface water receivers. The MECP have also recommended surface water quality is no longer compared to the Table A and Table B criteria as it wasn't officially adopted by the MECP. Finally, due to the concern for additional impacts to surface water quality along South Baptiste Lake Road, effects should be made to prevent any run-off from stockpiled snow at the site from entering the ditches along the north of the site.

7.4 Trigger Mechanisms and Contingency Plan

- The Trigger Mechanisms and Contingency Plan for surface water and groundwater was approved by MECP in the fall of 2019.
- The Contingency Plan was triggered at SB-MW4 during the fall sampling event with exceedances of trigger parameters including alkalinity, TDS, and dissolved boron and cobalt. The contingency plan was also triggered at SB-MW7 during the spring and fall 2025 sampling events with trigger parameter exceedances of alkalinity, TDS, and dissolved boron and cobalt. The Tier 1 response of the Contingency Plan includes the tri-annual toxicity sampling at BAP-A. Based on the toxicity results at BAP-A, escalation to Tier 2 sampling was not required.
- It is recommended that the Contingency Plan be updated to only trigger following an exceedance of a new trigger parameter or when an emerging increasing trend is observed.

7.5 Landfill Gas

- Gas readings collected in 2025 during the semi-annual sampling events ranged between 0 and 25 ppm, well below concentrations of concern.
- Gas concentrations should continue to be measured at all monitoring wells and within all structures on-site during the spring and fall sampling events.

7.6 Landfill Capacity

- The remaining volumetric capacity for waste, daily cover, and intermediate cover based on the June 29, 2023, Site survey was calculated to be 15,363 m^3. Based on the waste quantities from 2024 and 2025, the remaining capacity is estimated to be 10,307 m^3.
- The estimated remaining volumetric life expectancy of the South Baptiste WDS is approximately 9 years.
- Waste fill rates can be highly variable. It is recommended that site surveys be completed on a regular basis (every 3 to 5 years) to estimate the annual fill rate and life expectancy more accurately. Based on the increased waste rates for 2024, 2025, and relocation of waste from the FBAL area, the next site survey for landfill capacity should be done in 2026 in conjunction with the installation of operational grading stakes.
- The recently amended ECA for the Site identifies in Section 9 (1) that at least two years prior to the anticipated date of closure of this Site, the Owner shall submit a Closure Plan for approval.

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

Hastings Highlands Analytical Chemistry Results: Table 15 - 2025 Groundwater Quality						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	SB-MW2	SB-MW3	SB-MW4	SB-MW4	SB-MW5	SB-MW5	SB-MW6R	SB-MW6R
Parameter	Units	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	RUV-SB	Sample ID	SB-MW2	SB-MW3	SB-MW4	SB-MW4	SB-MW5	SB-MW5	SB-MW6R	SB-MW6R
						Sample Date	2025-May-08	2025-May-08	2025-May-08	2025-Oct-21	2025-May-08	2025-Oct-21	2025-May-08	2025-Oct-21
Anions						Detection Limit								
Chloride	mg/L	250	-	-	125.26	1	<1	8.5	1.3	38	60	38	39	27
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	<0.1	0.37	2.12	2.72	<0.1	<0.1	<0.1	<0.1
Nitrate as N	mg/L	10	-	-	2.51875	0.1	<0.1	0.37	2.12	2.37	<0.1	<0.1	<0.1	<0.1
Nitrite as N	mg/L	1	-	-	-	0.01	<0.01	<0.01	<0.01	0.356	<0.01	0.016	<0.01	<0.01
Sulphate	mg/L	500	-	-	-	1	2.2	8.2	14	38	11	5	43	45
Cations														
Calcium (diss)	mg/L	-	-	-	-	0.2	5.2	11	13	87	38	41	210	230
Magnesium (diss)	mg/L	-	-	-	-	0.05	0.74	1.5	1.1	9.5	7.5	7.6	38	23
Potassium (diss)	mg/L	-	-	-	-	0.2	0.57	1.8	5.2	30	18	22	83	54
Sodium (diss)	mg/L	200	-	-	100.6	0.1	1.1	6.5	2.2	69	30	30	74	30
General Chemistry														
Alkalinity (as CaCO3)	mg/L	30 - 500	-	-	260.5	1	17	32	33	320	130	180	950	850
Ammonia as N	mg/L	-	-	-	-	0.05, 0.25	<0.05	<0.05	0.81	9.6	1	1.7	38	43
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 8, 12	<4	<4	47	74	19	<4	170	250
Dissolved Organic Carbon	mg/L	5	-	-	3.2	0.4	1.4	1.3	3.4	19	4.4	6.4	51	35
Electrical Conductivity	uS/cm	-	-	-	-	2	44	120	130	870	500	500	1900	1700
pH	pH units	6.5 - 8.5	6.5 - 8.5	-	-		7.16	7.12	7.09	7.42	7.26	7.31	7.41	7.46
Phenols	mg/L	-	0.001	-	-	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0013
Total Dissolved Solids	mg/L	500	-	-	269	10	30	105	235	455	355	270	1110	915
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1, 0.5, 1, 2	<0.1	<0.1	1.7	10	1.4	1.9	42	50
Total Phosphorus	mg/L	-	0.02	-	-	0.02, 0.1, 0.2, 0.4	0.19	5.1	82	78	4.8	2.7	17	7.2
Total Suspended Solids	mg/L	-	-	-	-	0, 50, 100, 200, 50	100	3300	160000	30000	9800	6200	150000	250000
Metals														
Aluminum (diss, 0.45 µm)	mg/L	0.1	-	0.075	0.0525	0.0049	<0.0049	<0.0049	0.047	0.035	0.007	0.012	0.071	0.052
Arsenic (diss)	mg/L	0.01	-	0.005	-	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Barium (diss)	mg/L	1	-	-	-	0.002	0.0032	0.01	0.081	1.2	0.056	0.065	0.27	0.18
Beryllium (diss)	mg/L	-	0.011	-	-	0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
Boron (diss)	mg/L	5	-	0.2	1.25375	0.01	0.021	0.013	0.16	**0.74**	0.13	0.2	**1.7**	**2.2**
Cadmium (diss)	mg/L	0.005	-	0.0001	-	0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009
Chromium (diss)	mg/L	0.05	-	-	-	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Cobalt (diss)	mg/L	-	-	0.0009	-	0.0005	<0.0005	<0.0005	<0.0005	**0.0036**	<0.0005	<0.0005	**0.035**	**0.028**
Copper (diss)	mg/L	1	-	0.005	0.50075	0.0009	<0.0009	0.0012	0.0031	**0.023**	<0.0009	<0.0009	0.0042	0.0038
Iron (diss)	mg/L	0.3	0.3	-	0.1575	0.1	<0.1	<0.1	<0.1	<0.1	2.3	2.7	69	59
Lead (diss)	mg/L	0.01	-	0.001	-	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Manganese (diss)	mg/L	0.05	-	-	0.0275	0.002, 0.01	<0.002	<0.002	0.02	0.18	2.2	2.1	4	4
Mercury (diss)	mg/L	0.001	0.0002	-	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum (diss)	mg/L	-	-	0.04	-	0.0005	<0.0005	<0.0005	<0.0005	0.00066	0.0014	0.00085	0.0026	0.0023
Nickel (diss)	mg/L	-	0.025	-	-	0.001	<0.001	<0.001	<0.001	0.0033	<0.001	<0.001	0.0087	0.0067
Silicon (diss)	mg/L	-	-	-	-	0.05	5.6	5.2	2.3	3.5	5.5	7.1	4.2	4.9
Silver (diss)	mg/L	-	0.0001	-	-	0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009
Strontium (diss)	mg/L	-	-	-	-	0.001	0.052	0.095	0.13	0.85	0.33	0.36	0.68	0.72
Thallium (diss)	mg/L	-	-	0.0003	-	0.00005	<0.00005	<0.00005	<0.00005	0.00017	<0.00005	<0.00005	0.0001	0.00012
Titanium (diss)	mg/L	-	-	-	-	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Vanadium (diss)	mg/L	-	-	0.006	-	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.00076	0.0013	0.0024	0.0016
Zinc (diss)	mg/L	5	-	0.02	2.50125	0.005	<0.005	<0.005	<0.005	<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-SB	Reasonable Use Values South Baptiste

Hastings Highlands Analytical Chemistry Results: Table 15 - 2025 Groundwater Quality						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	SB-MW7	SB-MW7	SB-MW8	SB-MW8	SB-MW8	SB-MW9	SB-MW9
Parameter	Units	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	RUV-SB	Sample ID	SB-MW7	SB-MW7	SB-MW8	SB-MW8	SB-QAQC-GW1 (SB-MW8)	SB-MW9	SB-QAQC-GW1 (SB-MW9)
						Sample Date	2025-May-08	2025-Oct-21	2025-May-08	2025-Oct-21	2025-Oct-21	2025-May-08	2025-May-08
Anions						**Detection Limit**							
Chloride	mg/L	250	-	-	125.26	1	95	97	65	1.4	<1	35	33
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	0.33	0.39	0.46	<0.1	<0.1	0.31	0.3
Nitrate as N	mg/L	10	-	-	2.51875	0.1	0.33	0.39	0.46	<0.1	<0.1	0.31	0.3
Nitrite as N	mg/L	1	-	-	-	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sulphate	mg/L	500	-	-	-	1	47	54	5	6.1	5.4	2.9	3.8
Cations													
Calcium (diss)	mg/L	-	-	-	-	0.2	180	150	29	3.7	3.5	19	18
Magnesium (diss)	mg/L	-	-	-	-	0.05	31	29	3.1	0.39	0.37	2.2	2.2
Potassium (diss)	mg/L	-	-	-	-	0.2	34	50	1.8	0.65	0.63	1.2	1.3
Sodium (diss)	mg/L	200	-	-	100.6	0.1	96	95	18	6.1	6.1	9	9.1
General Chemistry													
Alkalinity (as CaCO3)	mg/L	30 - 500	-	-	260.5	1	660	690	29	21	21	34	28
Ammonia as N	mg/L	-	-	-	-	0.05, 0.25	9.1	19	<0.05	0.063	0.063	<0.05	<0.05
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 8, 12	50	58	<4	<4	4.4	<4	<4
Dissolved Organic Carbon	mg/L	5	-	-	3.2	0.4	22	25	1.5	2.1	2.2	1.1	1
Electrical Conductivity	uS/cm	-	-	-	-	2	1600	1700	320	51	51	210	200
pH	pH units	6.5 - 8.5	6.5 - 8.5	-	-		7.69	7.67	6.89	7.22	7.19	7.42	7.18
Phenols	mg/L	-	0.001	-	-	0.001	0.0011	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total Dissolved Solids	mg/L	500	-	-	269	10	905	880	275	40	30	150	155
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1, 0.5, 1, 2	13	19	0.14	0.23	0.29	<0.1	<0.1
Total Phosphorus	mg/L	-	0.02	-	-	0.02, 0.1, 0.2, 0.4	<0.02	0.067	31	75	82	1.1	1.1
Total Suspended Solids	mg/L	-	-	-	-	0, 50, 100, 200, 50	29	28	5800	46000	41000	430	540
Metals													
Aluminum (diss, 0.45 µm)	mg/L	0.1	-	0.075	0.0525	0.0049	<0.0049	0.0054	0.0084	0.014	0.014	<0.0049	<0.0049
Arsenic (diss)	mg/L	0.01	-	0.005	-	0.001	0.0011	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Barium (diss)	mg/L	1	-	-	-	0.002	0.2	0.22	0.019	0.0021	0.002	0.012	0.012
Beryllium (diss)	mg/L	-	0.011	-	-	0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
Boron (diss)	mg/L	5	-	0.2	1.25375	0.01	**0.83**	**1**	0.011	<0.01	<0.01	<0.01	0.01
Cadmium (diss)	mg/L	0.005	-	0.0001	-	0.00009	0.00012	**0.00059**	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009
Chromium (diss)	mg/L	0.05	-	-	-	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Cobalt (diss)	mg/L	-	-	0.0009	-	0.0005	**0.014**	**0.029**	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Copper (diss)	mg/L	1	-	0.005	0.50075	0.0009	**0.0085**	**0.053**	<0.0009	**0.0015**	**0.0014**	<0.0009	<0.0009
Iron (diss)	mg/L	0.3	0.3	-	0.1575	0.1	0.63	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lead (diss)	mg/L	0.01	-	0.001	-	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Manganese (diss)	mg/L	0.05	-	-	0.0275	0.002, 0.01	13	16	0.0049	0.0046	<0.002	<0.002	<0.002
Mercury (diss)	mg/L	0.001	0.0002	-	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum (diss)	mg/L	-	-	0.04	-	0.0005	0.0081	0.011	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Nickel (diss)	mg/L	-	0.025	-	-	0.001	0.029	0.034	<0.001	<0.001	<0.001	<0.001	<0.001
Silicon (diss)	mg/L	-	-	-	-	0.05	7.8	6.9	5.5	4.8	4.9	5.4	6
Silver (diss)	mg/L	-	0.0001	-	-	0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009
Strontium (diss)	mg/L	-	-	-	-	0.001	1.4	1.3	0.31	0.035	0.035	0.2	0.2
Thallium (diss)	mg/L	-	-	0.0003	-	0.00005	0.000057	0.00018	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Titanium (diss)	mg/L	-	-	-	-	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Vanadium (diss)	mg/L	-	-	0.006	-	0.0005	0.00071	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Zinc (diss)	mg/L	5	-	0.02	2.50125	0.005	0.016	**0.064**	<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-SB	Reasonable Use Values South Baptiste

Hastings Highlands Analytical Chemistry Results: Table 15 - 2025 Groundwater Quality						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	SB-MW9	SB-MW10	SB-MW10
Parameter	Units	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	RUV-SB	Sample ID	SB-MW9	SB-MW10	SB-MW10
						Sample Date	2025-Oct-21	2025-May-08	2025-Oct-21
Anions						**Detection Limit**			
Chloride	mg/L	250	-	-	125.26	1	<1	82	36
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	<0.1	<0.1	0.58
Nitrate as N	mg/L	10	-	-	2.51875	0.1	<0.1	<0.1	0.57
Nitrite as N	mg/L	1	-	-	-	0.01	<0.01	<0.01	0.013
Sulphate	mg/L	500	-	-	-	1	5	28	20
Cations									
Calcium (diss)	mg/L	-	-	-	-	0.2	5.7	120	65
Magnesium (diss)	mg/L	-	-	-	-	0.05	0.65	23	11
Potassium (diss)	mg/L	-	-	-	-	0.2	0.67	48	23
Sodium (diss)	mg/L	200	-	-	100.6	0.1	4.1	67	31
General Chemistry									
Alkalinity (as CaCO3)	mg/L	30 - 500	-	-	260.5	1	21	600	300
Ammonia as N	mg/L	-	-	-	-	0.05, 0.25	<0.05	17	6.2
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 8, 12	<4	61	15
Dissolved Organic Carbon	mg/L	5	-	-	3.2	0.4	1.6	21	8.7
Electrical Conductivity	uS/cm	-	-	-	-	2	55	1500	740
pH	pH units	6.5 - 8.5	6.5 - 8.5	-	-		7.24	7.51	7.62
Phenols	mg/L	-	0.001	-	-	0.001	<0.001	<0.001	<0.001
Total Dissolved Solids	mg/L	500	-	-	269	10	<10	875	370
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1, 0.5, 1, 2	0.14	23	6.2
Total Phosphorus	mg/L	-	0.02	-	-	0.02, 0.1, 0.2, 0.4	1.3	0.62	0.81
Total Suspended Solids	mg/L	-	-	-	-	0, 50, 100, 200, 50	1700	310	290
Metals									
Aluminum (diss, 0.45 µm)	mg/L	0.1	-	0.075	0.0525	0.0049	<0.0049	0.01	0.0059
Arsenic (diss)	mg/L	0.01	-	0.005	-	0.001	<0.001	<0.001	<0.001
Barium (diss)	mg/L	1	-	-	-	0.002	0.0035	0.11	0.06
Beryllium (diss)	mg/L	-	0.011	-	-	0.0004	<0.0004	<0.0004	<0.0004
Boron (diss)	mg/L	5	-	0.2	1.25375	0.01	<0.01	**0.69**	**0.44**
Cadmium (diss)	mg/L	0.005	-	0.0001	-	0.00009	<0.00009	**0.00021**	0.0001
Chromium (diss)	mg/L	0.05	-	-	-	0.005	<0.005	<0.005	<0.005
Cobalt (diss)	mg/L	-	-	0.0009	-	0.0005	<0.0005	**0.043**	**0.012**
Copper (diss)	mg/L	1	-	0.005	0.50075	0.0009	<0.0009	**0.047**	**0.023**
Iron (diss)	mg/L	0.3	0.3	-	0.1575	0.1	<0.1	<0.1	<0.1
Lead (diss)	mg/L	0.01	-	0.001	-	0.0005	<0.0005	<0.0005	<0.0005
Manganese (diss)	mg/L	0.05	-	-	0.0275	0.002, 0.01	<0.002	14	5.8
Mercury (diss)	mg/L	0.001	0.0002	-	-	0.0001	<0.0001	<0.0001	<0.0001
Molybdenum (diss)	mg/L	-	-	0.04	-	0.0005	<0.0005	0.0094	0.0049
Nickel (diss)	mg/L	-	0.025	-	-	0.001	<0.001	0.031	0.012
Silicon (diss)	mg/L	-	-	-	-	0.05	5.5	7.4	6.1
Silver (diss)	mg/L	-	0.0001	-	-	0.00009	<0.00009	<0.00009	<0.00009
Strontium (diss)	mg/L	-	-	-	-	0.001	0.057	0.77	0.46
Thallium (diss)	mg/L	-	-	0.0003	-	0.00005	<0.00005	0.00024	0.00011
Titanium (diss)	mg/L	-	-	-	-	0.005	<0.005	<0.005	<0.005
Vanadium (diss)	mg/L	-	-	0.006	-	0.0005	<0.0005	<0.0005	<0.0005
Zinc (diss)	mg/L	5	-	0.02	2.50125	0.005	<0.005	0.014	0.012

-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-SB	Reasonable Use Values South Baptiste

Hastings Highlands: South Baptiste WDS Appendix D5: 2025 Groundwater QA/QC Results		Site Name	South Baptiste WDS	South Baptiste WDS	RPD	South Baptiste WDS	South Baptiste WDS	RPD
		Location	SB-MW8	SB-MW8		SB-MW9	SB-MW9	
Parameter	Units	Sample ID	SB-MW8	SB-QAQC-GW1		SB-MW9	SB-QAQC-GW1	
		Sample Date	2025-10-21	2025-10-21		2025-05-08	2025-05-08	
Anions		Detection Limit						
Chloride	mg/L	1	1.4	<1	NC	35	33	6%
Nitrate + Nitrite	mg/L	0.1	<0.1	<0.1	NC	0.31	0.3	NC
Nitrate as N	mg/L	0.1	<0.1	<0.1	NC	0.31	0.3	NC
Nitrite as N	mg/L	0.01	<0.01	<0.01	NC	<0.01	<0.01	NC
Sulphate	mg/L	1	6.1	5.4	12%	2.9	3.8	NC
Cations								
Calcium (diss)	mg/L	0.2	3.7	3.5	6%	19	18	5%
Magnesium (diss)	mg/L	0.05	0.39	0.37	5%	2.2	2.2	0%
Potassium (diss)	mg/L	0.2	0.65	0.63	NC	1.2	1.3	8%
Sodium (diss)	mg/L	0.1	6.1	6.1	0%	9	9.1	1%
General Chemistry								
Alkalinity (as CaCO3)	mg/L	1	21	21	0%	34	28	19%
Ammonia as N	mg/L	0.05	0.063	0.063	NC	<0.05	<0.05	NC
Chemical Oxygen Demand	mg/L	4	<4	4.4	NC	<4	<4	NC
Dissolved Organic Carbon	mg/L	0.4	2.1	2.2	5%	1.1	1	NC
Electrical Conductivity	uS/cm	2	51	51	0%	210	200	5%
Phenols	mg/L	0.001	<0.001	<0.001	NC	<0.001	<0.001	NC
Total Dissolved Solids	mg/L	10	40	30	NC	150	155	3%
Total Kjeldahl Nitrogen	mg/L	0.1	0.23	0.29	NC	<0.1	<0.1	NC
Total Phosphorus	mg/L	0.02, 0.2	75	82	9%	1.1	1.1	0%
Total Suspended Solids	mg/L	10, 200	46000	41000	11%	430	540	23%
pH	pH units		7.22	7.19	0%	7.42	7.18	3%
Metals								
Aluminum (diss, 0.45 µm)	mg/L	0.0049	0.014	0.014	NC	<0.0049	<0.0049	NC
Arsenic (diss)	mg/L	0.001	<0.001	<0.001	NC	<0.001	<0.001	NC
Barium (diss)	mg/L	0.002	0.0021	0.002	NC	0.012	0.012	0%
Beryllium (diss)	mg/L	0.0004	<0.0004	<0.0004	NC	<0.0004	<0.0004	NC
Boron (diss)	mg/L	0.01	<0.01	<0.01	NC	<0.01	0.01	NC
Cadmium (diss)	mg/L	0.00009	<0.00009	<0.00009	NC	<0.00009	<0.00009	NC
Chromium (diss)	mg/L	0.005	<0.005	<0.005	NC	<0.005	<0.005	NC
Cobalt (diss)	mg/L	0.0005	<0.0005	<0.0005	NC	<0.0005	<0.0005	NC
Copper (diss)	mg/L	0.0009	0.0015	0.0014	NC	<0.0009	<0.0009	NC
Iron (diss)	mg/L	0.1	<0.1	<0.1	NC	<0.1	<0.1	NC
Lead (diss)	mg/L	0.0005	<0.0005	<0.0005	NC	<0.0005	<0.0005	NC
Manganese (diss)	mg/L	0.002	0.0046	<0.002	NC	<0.002	<0.002	NC
Mercury (diss)	mg/L	0.0001	<0.0001	<0.0001	NC	<0.0001	<0.0001	NC
Molybdenum (diss)	mg/L	0.0005	<0.0005	<0.0005	NC	<0.0005	<0.0005	NC
Nickel (diss)	mg/L	0.001	<0.001	<0.001	NC	<0.001	<0.001	NC
Silicon (diss)	mg/L	0.05	4.8	4.9	2%	5.4	6	11%
Silver (diss)	mg/L	0.00009	<0.00009	<0.00009	NC	<0.00009	<0.00009	NC
Strontium (diss)	mg/L	0.001	0.035	0.035	0%	0.2	0.2	0%
Thallium (diss)	mg/L	0.00005	<0.00005	<0.00005	NC	<0.00005	<0.00005	NC
Titanium (diss)	mg/L	0.005	<0.005	<0.005	NC	<0.005	<0.005	NC
Vanadium (diss)	mg/L	0.0005	<0.0005	<0.0005	NC	<0.0005	<0.0005	NC
Zinc (diss)	mg/L	0.005	<0.005	<0.005	NC	<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 10% for electrical conductivity, 20% for metals and inorganics, and 30% for BTEX and PHC.

*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

Hastings Highlands Analytical Chemistry Results: Table 16 - Surface Water Quality 2025						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	BAP-A	BAP-A	BAP-A	BAP-A	BAP-B	BAP-B	BAP-B
Parameter	Units	MECP-GD-TA	MECP-GD-TB	PWQO-GENERAL	PWQO-INTERIM	Sample ID	BAP-A	BAP-A	BAP-A	SB-QAQC-SW1 (BAP-A)	BAP-B	BAP-B	SB-QAQC-SW1 (BAP-B)
						Sample Date	2025-May-08	2025-Jul-07	2025-Oct-21	2025-Oct-21	2025-May-08	2025-Jul-07	2025-Jul-07
Anions						Detection Limit							
Chloride	mg/L	180	128	-	-	1	32	33	44	47	3.9	1.8	2.7
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	1.86	1.11	1.8	1.82	<0.1	<0.1	<0.1
Nitrate as N	mg/L	-	-	-	-	0.1	1.86	1.09	1.8	1.82	<0.1	<0.1	<0.1
Nitrite as N	mg/L	-	-	-	-	0.01	<0.01	0.027	<0.01	<0.01	<0.01	<0.01	<0.01
Sulphate	mg/L	100	-	-	-	1	35	13	11	11	4.1	4.1	4.6
Cations													
Calcium (tot)	mg/L	-	-	-	-	0.2	45	49	54	52	21	22	28
Magnesium (tot)	mg/L	-	-	-	-	0.05	8.1	7.6	9	8.7	0.97	1.1	1.2
Potassium (tot)	mg/L	-	-	-	-	0.2	17	16	20	19	0.5	0.68	0.58
Sodium (tot)	mg/L	-	-	-	-	0.1	28	28	32	31	4.3	4.1	4.1
Field Parameters													
pH (Field)	pH units	-	-	-	-		7.46	7.23	7.57	7.57	7.38	7.37	7.37
Temperature	deg. C	-	-	-	-		7.3	16.2	7.5	7.5	7.6	12.5	12.5
General Chemistry													
Alkalinity (as CaCO3)	mg/L	-	-	-	-	1	150	160	190	190	58	61	68
Ammonia as N	mg/L	-	-	-	-	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Biochemical Oxygen Demand	mg/L	-	-	-	-	2	4	<2	<2	<2	<2	<2	<2
Colour	TCU	-	-	-	-	2	11	18	13	13	25	40	28
Electrical Conductivity	uS/cm	-	-	-	-	2	490	480	550	550	140	140	160
Hardness (as CaCO3)	mg/L	-	-	-	-	1	160	160	180	180	60	65	76
pH	pH units	6 - 9	-	6.5 - 8.5	-		7.91	7.86	7.89	7.9	7.74	7.68	7.72
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
Total Dissolved Solids	mg/L	-	-	-	-	10	320	280	295	285	115	95	120
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1	0.21	0.32	0.31	0.28	0.14	0.17	0.21
Total Phosphorus	mg/L	-	-	0.03	-	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.026	<0.02
Total Suspended Solids	mg/L	-	-	-	-	10	<10	<10	<10	<10	<10	<10	<10
Turbidity	NTU	-	-	-	-	0.1	0.3	1.2	12	16	0.9	4	2.4
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.00061	<0.00061	<0.00061	<0.00061	<0.00061	<0.00061	<0.00061	<0.00061
Metals													
Aluminum (diss, 0.2 µm)	mg/L	-	-	-	0.075	0.005	0.007	<0.005	<0.005	<0.005	0.025	0.02	0.017
Aluminum (tot)	mg/L	-	-	-	-	0.0049	0.01	0.019	0.16	0.18	0.055	0.053	0.047
Arsenic (tot)	mg/L	-	-	-	0.005	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron (tot)	mg/L	3.55	1.5	-	0.2	0.01	0.31	0.25	0.25	0.23	<0.01	<0.01	<0.01
Cadmium (tot)	mg/L	0.00021	0.000017	-	-	0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009
Chromium (tot)	mg/L	0.064	-	-	-	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Cobalt (tot)	mg/L	-	-	-	0.0009	0.0005	<0.0005	<0.0005	0.00093	0.00094	<0.0005	<0.0005	<0.0005
Copper (tot)	mg/L	0.0069	-	-	0.005	0.0009	0.001	0.00093	0.0017	0.0012	<0.0009	<0.0009	<0.0009
Iron (tot)	mg/L	1	-	0.3	-	0.1	<0.1	<0.1	**0.6**	**0.64**	0.27	**0.94**	**0.66**
Lead (tot)	mg/L	0.002	-	-	0.005	0.0005	<0.0005	<0.0005	0.0024	<0.0005	<0.0005	<0.0005	<0.0005
Mercury (diss)	mg/L	-	-	0.0002	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Nickel (tot)	mg/L	-	-	0.025	-	0.001	0.0013	0.0017	0.0024	0.0024	<0.001	<0.001	<0.001
Selenium (tot)	mg/L	-	-	0.1	-	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Silver (tot)	mg/L	-	-	0.0001	-	0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009
Zinc (tot)	mg/L	0.089	0.03	-	0.02	0.005	<0.005	<0.005	0.017	0.0074	<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: Table 16 - Surface Water Quality 2025						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	BAP-B	BAP-C	BAP-C	BAP-C	BAP-D	BAP-D	BAP-D
Parameter	Units	MECP-GD-TA	MECP-GD-TB	PWQO-GENERAL	PWQO-INTERIM	Sample ID	BAP-B	BAP-C	BAP-C	BAP-C	BAP-D	BAP-D	BAP-D
						Sample Date	2025-Oct-21	2025-May-08	2025-Jul-07	2025-Oct-21	2025-May-08	2025-Jul-07	2025-Oct-21
Anions						Detection Limit							
Chloride	mg/L	180	128	-	-	1	3.1	7.9	6.8	9.8	4.5	2.7	1.3
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	<0.1	0.25	0.19	0.27	<0.1	<0.1	<0.1
Nitrate as N	mg/L	-	-	-	-	0.1	<0.1	0.25	0.19	0.27	<0.1	<0.1	<0.1
Nitrite as N	mg/L	-	-	-	-	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sulphate	mg/L	100	-	-	-	1	4.8	7.8	5.6	5.6	3.7	4.7	4.9
Cations													
Calcium (tot)	mg/L	-	-	-	-	0.2	27	24	31	32	17	27	23
Magnesium (tot)	mg/L	-	-	-	-	0.05	1.2	1.9	2.1	2.4	0.94	1.1	1.2
Potassium (tot)	mg/L	-	-	-	-	0.2	0.89	2.7	2.8	3.9	0.54	0.59	1.2
Sodium (tot)	mg/L	-	-	-	-	0.1	3.8	7.6	7.4	8.9	4.5	4.1	3
Field Parameters													
pH (Field)	pH units	-	-	-	-		7.67	7.42	7.44	7.72	7.29	7.08	7.37
Temperature	deg. C	-	-	-	-		7.4	7.5	13	7.3	7.7	13.4	7.1
General Chemistry													
Alkalinity (as CaCO3)	mg/L	-	-	-	-	1	73	71	84	96	49	72	67
Ammonia as N	mg/L	-	-	-	-	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Biochemical Oxygen Demand	mg/L	-	-	-	-	2	<2	<2	<2	<2	<2	<2	<2
Colour	TCU	-	-	-	-	2	10	23	28	11	33	28	15
Electrical Conductivity	uS/cm	-	-	-	-	2	170	190	210	240	120	160	140
Hardness (as CaCO3)	mg/L	-	-	-	-	1	80	74	91	97	48	77	67
pH	pH units	6 - 9	-	6.5 - 8.5	-		7.93	7.85	7.88	7.95	7.6	7.85	7.8
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
Total Dissolved Solids	mg/L	-	-	-	-	10	50	140	135	100	105	110	75
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1	0.13	0.14	0.18	0.16	0.23	0.16	0.12
Total Phosphorus	mg/L	-	-	0.03	-	0.02	<0.02	<0.02	**0.038**	<0.02	<0.02	<0.02	<0.02
Total Suspended Solids	mg/L	-	-	-	-	10	<10	<10	14	<10	<10	<10	<10
Turbidity	NTU	-	-	-	-	0.1	0.9	0.7	5.7	0.9	1.2	2.5	1.6
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.00061	<0.00061	<0.00061	<0.00061	<0.00061	<0.00061	<0.00061	<0.00061
Metals													
Aluminum (diss, 0.2 µm)	mg/L	-	-	-	0.075	0.005	<0.005	0.022	0.017	<0.005	0.028	0.017	0.005
Aluminum (tot)	mg/L	-	-	-	-	0.0049	0.01	0.039	0.21	0.01	0.045	0.05	0.039
Arsenic (tot)	mg/L	-	-	-	0.005	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron (tot)	mg/L	3.55	1.5	-	0.2	0.01	<0.01	0.042	0.036	0.046	<0.01	<0.01	<0.01
Cadmium (tot)	mg/L	0.00021	0.000017	-	-	0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009
Chromium (tot)	mg/L	0.064	-	-	-	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Cobalt (tot)	mg/L	-	-	-	0.0009	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	<0.0009	<0.0009	0.0012	<0.0009	<0.0009	<0.0009	<0.0009
Iron (tot)	mg/L	1	-	0.3	-	0.1	0.11	0.21	**2**	0.12	**0.35**	**0.67**	**0.57**
Lead (tot)	mg/L	0.002	-	-	0.005	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Mercury (diss)	mg/L	-	-	0.0002	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Nickel (tot)	mg/L	-	-	0.025	-	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Selenium (tot)	mg/L	-	-	0.1	-	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Silver (tot)	mg/L	-	-	0.0001	-	0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009
Zinc (tot)	mg/L	0.089	0.03	-	0.02	0.005	<0.005	<0.005	<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 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: South Baptiste WDS Appendix D6: 2025 Surface Water QA/QC Results		Site Name	South Baptiste WDS	South Baptiste WDS	RPD	South Baptiste WDS	South Baptiste WDS	RPD	South Baptiste WDS	South Baptiste WDS	RPD
		Location	BAP-A	BAP-A		BAP-A	BAP-A		BAP-B	BAP-B	
Parameter	Units	Sample ID	BAP-A	SB-QAQC-SW1		BAP-A	SB-QAQC-SW1		BAP-B	SB-QAQC-SW1	
		Sample Date	2025-05-08	2025-05-08		2025-10-21	2025-10-21		2025-07-07	2025-07-07	
Anions		Detection Limit									
Chloride	mg/L	1	32	32	0%	44	47	7%	1.8	2.7	NC
Nitrate + Nitrite	mg/L	0.1	1.86	1.85	1%	1.8	1.82	1%	<0.1	<0.1	NC
Nitrate as N	mg/L	0.1	1.86	1.85	1%	1.8	1.82	1%	<0.1	<0.1	NC
Nitrite as N	mg/L	0.01	<0.01	<0.01	NC	<0.01	<0.01	NC	<0.01	<0.01	NC
Sulphate	mg/L	1	35	30	15%	11	11	0%	4.1	4.6	NC
Cations											
Calcium (tot)	mg/L	0.2	45	45	0%	54	52	4%	22	28	24%
Magnesium (tot)	mg/L	0.05	8.1	7.9	2%	9	8.7	3%	1.1	1.2	9%
Potassium (tot)	mg/L	0.2	17	17	0%	20	19	5%	0.68	0.58	NC
Sodium (tot)	mg/L	0.1	28	28	0%	32	31	3%	4.1	4.1	0%
Field Parameters											
Temperature	deg. C		7.3	7.3	0%	7.5	7.5	0%	12.5	12.5	0%
pH (Field)	pH units		7.46	7.46	0%	7.57	7.57	0%	7.37	7.37	0%
General Chemistry											
Alkalinity (as CaCO3)	mg/L	1	150	150	0%	190	190	0%	61	68	11%
Ammonia as N	mg/L	0.05	<0.05	<0.05	NC	<0.05	<0.05	NC	<0.05	<0.05	NC
Biochemical Oxygen Demand	mg/L	2	4	<2	NC	<2	<2	NC	<2	<2	NC
Colour	TCU	2	11	11	0%	13	13	0%	40	28	35%
Electrical Conductivity	uS/cm	2	490	500	2%	550	550	0%	140	160	13%
Hardness (as CaCO3)	mg/L	1	160	150	6%	180	180	0%	65	76	16%
Phenols	mg/L	0.001	<0.001	<0.001	NC	<0.001	<0.001	NC	<0.001	<0.001	NC
Total Dissolved Solids	mg/L	10	320	295	8%	295	285	3%	95	120	23%
Total Kjeldahl Nitrogen	mg/L	0.1	0.21	0.24	NC	0.31	0.28	NC	0.17	0.21	NC
Total Phosphorus	mg/L	0.02	<0.02	<0.02	NC	<0.02	<0.02	NC	0.026	<0.02	NC
Total Suspended Solids	mg/L	10	<10	<10	NC	<10	<10	NC	<10	<10	NC
Turbidity	NTU	0.1	0.3	0.3	NC	12	16	29%	4	2.4	50%
Unionized Ammonia (Calc)	mg/L	0.00061	<0.00061	<0.00061	NC	<0.00061	<0.00061	NC	<0.00061	<0.00061	NC
pH	pH units		7.91	7.89	0%	7.89	7.9	0%	7.68	7.72	1%
Metals											
Aluminum (diss, 0.2 µm)	mg/L	0.005	0.007	0.007	NC	<0.005	<0.005	NC	0.02	0.017	NC
Aluminum (tot)	mg/L	0.0049	0.01	0.0083	NC	0.16	0.18	12%	0.053	0.047	12%
Arsenic (tot)	mg/L	0.001	<0.001	<0.001	NC	<0.001	<0.001	NC	<0.001	<0.001	NC
Boron (tot)	mg/L	0.01	0.31	0.28	10%	0.25	0.23	8%	<0.01	<0.01	NC
Cadmium (tot)	mg/L	0.00009	<0.00009	<0.00009	NC	<0.00009	<0.00009	NC	<0.00009	<0.00009	NC
Chromium (tot)	mg/L	0.005	<0.005	<0.005	NC	<0.005	<0.005	NC	<0.005	<0.005	NC
Cobalt (tot)	mg/L	0.0005	<0.0005	<0.0005	NC	0.00093	0.00094	NC	<0.0005	<0.0005	NC
Copper (tot)	mg/L	0.0009	0.001	0.00095	NC	0.0017	0.0012	NC	<0.0009	<0.0009	NC
Iron (tot)	mg/L	0.1	<0.1	<0.1	NC	0.6	0.64	6%	0.94	0.66	35%
Lead (tot)	mg/L	0.0005	<0.0005	<0.0005	NC	0.0024	<0.0005	NC	<0.0005	<0.0005	NC
Mercury (diss)	mg/L	0.0001	<0.0001	<0.0001	NC	<0.0001	<0.0001	NC	<0.0001	<0.0001	NC
Nickel (tot)	mg/L	0.001	0.0013	0.0013	NC	0.0024	0.0024	NC	<0.001	<0.001	NC
Selenium (tot)	mg/L	0.002	<0.002	<0.002	NC	<0.002	<0.002	NC	<0.002	<0.002	NC
Silver (tot)	mg/L	0.00009	<0.00009	<0.00009	NC	<0.00009	<0.00009	NC	<0.00009	<0.00009	NC
Zinc (tot)	mg/L	0.005	<0.005	<0.005	NC	0.017	0.0074	NC	<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 10% for electrical conductivity, 20% for metals and inorganics, 30% for BTEX and PHC, and 40% for all other parameters

*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, 201

Figures





LEGEND

Property Boundary (PA Miller, 2018)

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.
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N W E S

0 1,000 2,000 Metres

1:50,000

CLIENT

Municipality of Hasting Highlands

PROJECT

South Baptiste 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
250253-09	February 09, 2026

DRAWN	CHECKED	FIG NO.	REV
MB	NW	01	0

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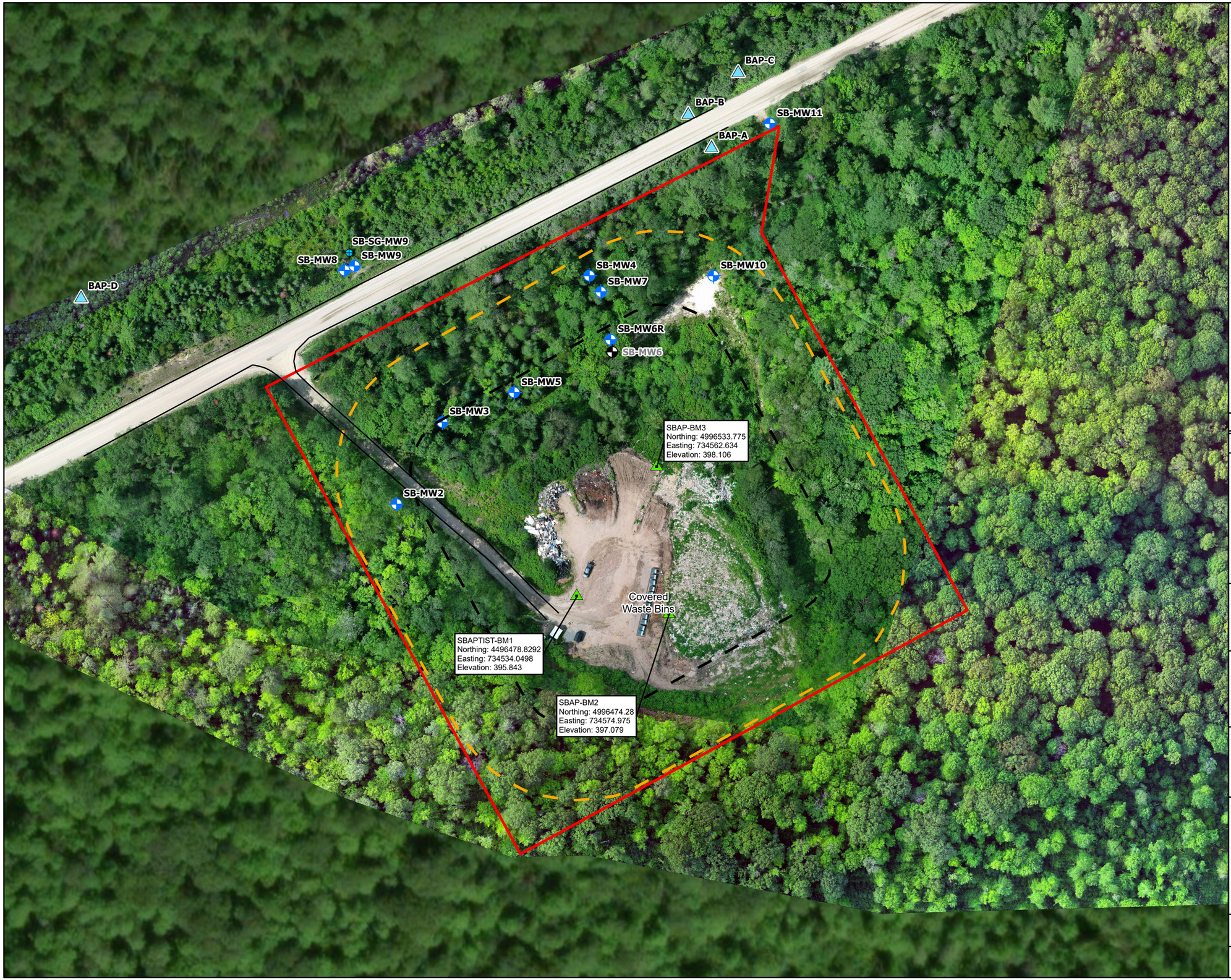

LEGEND

- Groundwater Monitoring Location
- Decommissioned Monitoring Well
- Staff Gauge
- Surface Water Sampling Location
- Benchmark
- Road
- Site Property Boundary (PA Miller, 2018)
- 30 m Firebreak Buffer
- Approved Waste Footpring (1.9 ha)

Note: Primary Orthographic imagery collected by BluMetric RPA survey, July 2024

REV.	DESCRIPTION	YY/MM/DD	BY	CHK
1				

REFERENCES

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N W E S

0 25 50 Metres

1:1,500

CLIENT

Municipality of Hasting Highlands

PROJECT

South Baptiste Waste Disposal Site

TITLE

Site Plan and Monitoring Locations

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		
250253-09	February 09, 2026		
DRAWN	CHECKED	FIG NO.	REV
MB	NW	02	0

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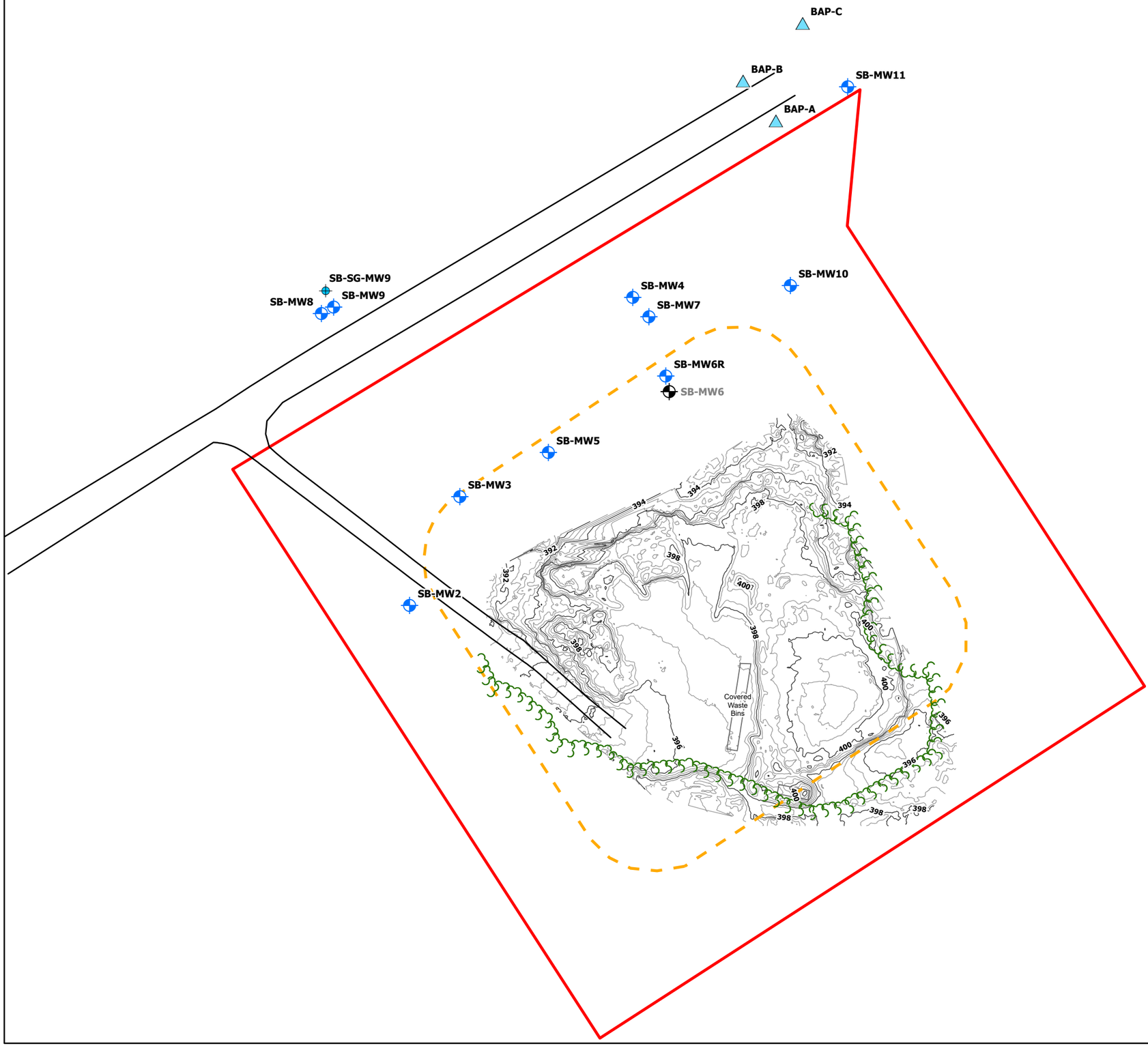

LEGEND

- Groundwater Monitoring Location
- Decommissioned Monitoring Well
- Staff Gauge
- Surface Water Sampling Location
- Road
- Treeline
- Property Boundary (PA Miller, 2018)
- Approved Buffer Design (1996)
- 2024 Topographic Contours (0.5 masl)
- 2024 Topographic Contours (2 masl)

REV.	DESCRIPTION	YY/MM/DD	BY	CHK
1				

REFERENCES

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N

0 25 50 Metres

1:1,300

CLIENT

Municipality of Hasting Highlands

PROJECT

South Baptiste
Waste Disposal Site

TITLE

Topography (2024) and Site Design

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
250253-09	**February 09, 2026**

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

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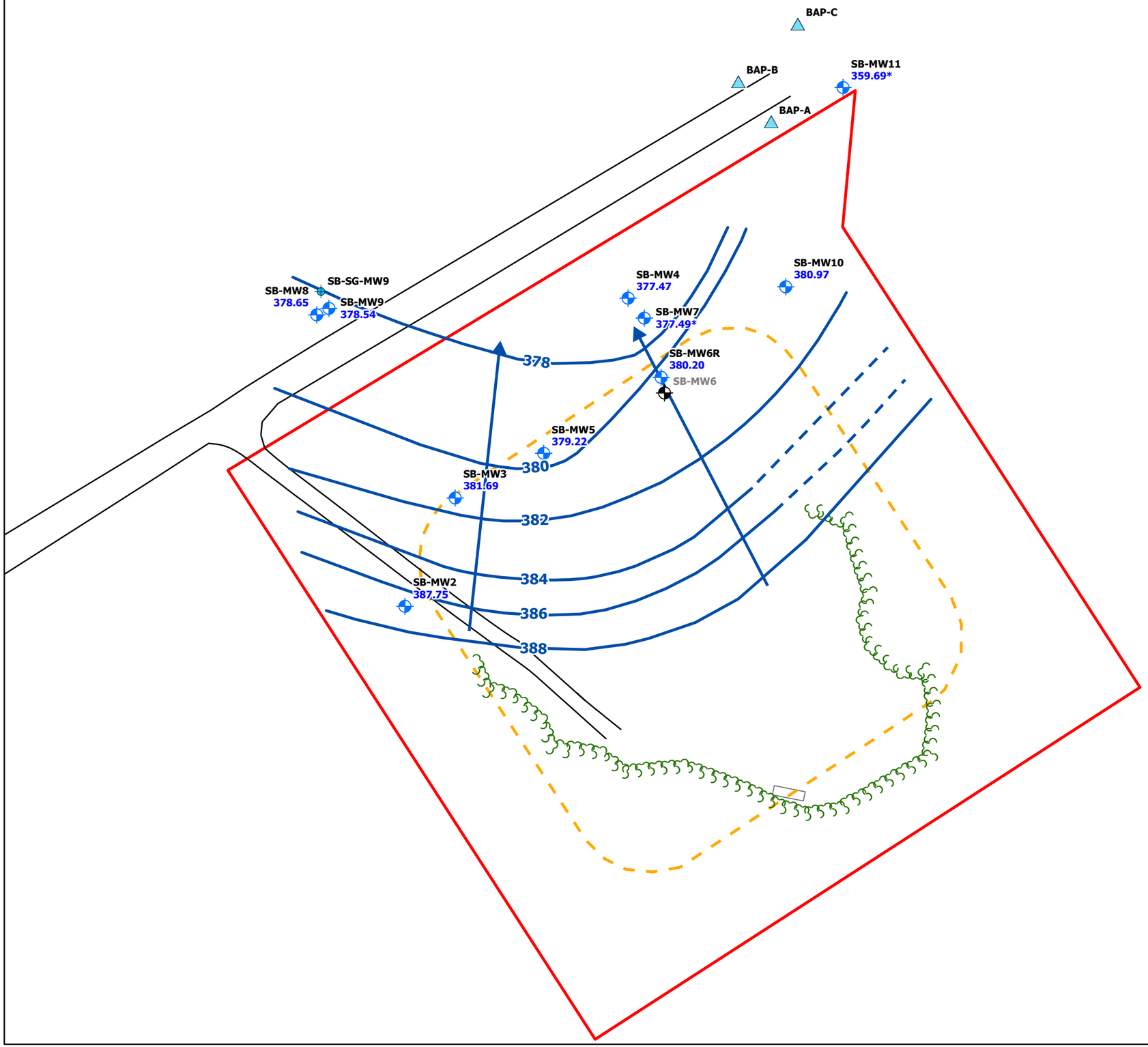

LEGEND

380.64 Groundwater Elevation (Spring, 2025)

- Groundwater Monitoring Location
- Decommissioned Monitoring Well
- Staff Gauge
- Surface Water Sampling Location
- Inferred Direction of Groundwater Flow
- Inferred Groundwater Elevation Contour (masl)
- Estimated Groundwater Elevation Contour (masl)
- Road
- Treeline
- Property Boundary (PA Miller, 2018)
- Approved Buffer Design (1996)
- 2024 Topographic Contours (0.5 masl)
- 2024 Topographic Contours (2 masl)

* Bedrock well not used to develop groundwater contours

REV.	DESCRIPTION	YY/MM/DD	BY	CHK
1				

REFERENCES

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N W E S

0 25 50 Metres

1:1,300

CLIENT

Municipality of Hasting Highlands

PROJECT

South Baptiste
Waste Disposal Site

TITLE

Groundwater Flow Direction
Spring 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
250253-09	February 09, 2026

DRAWN	CHECKED	FIG NO.	REV
MB	NW	04a	0

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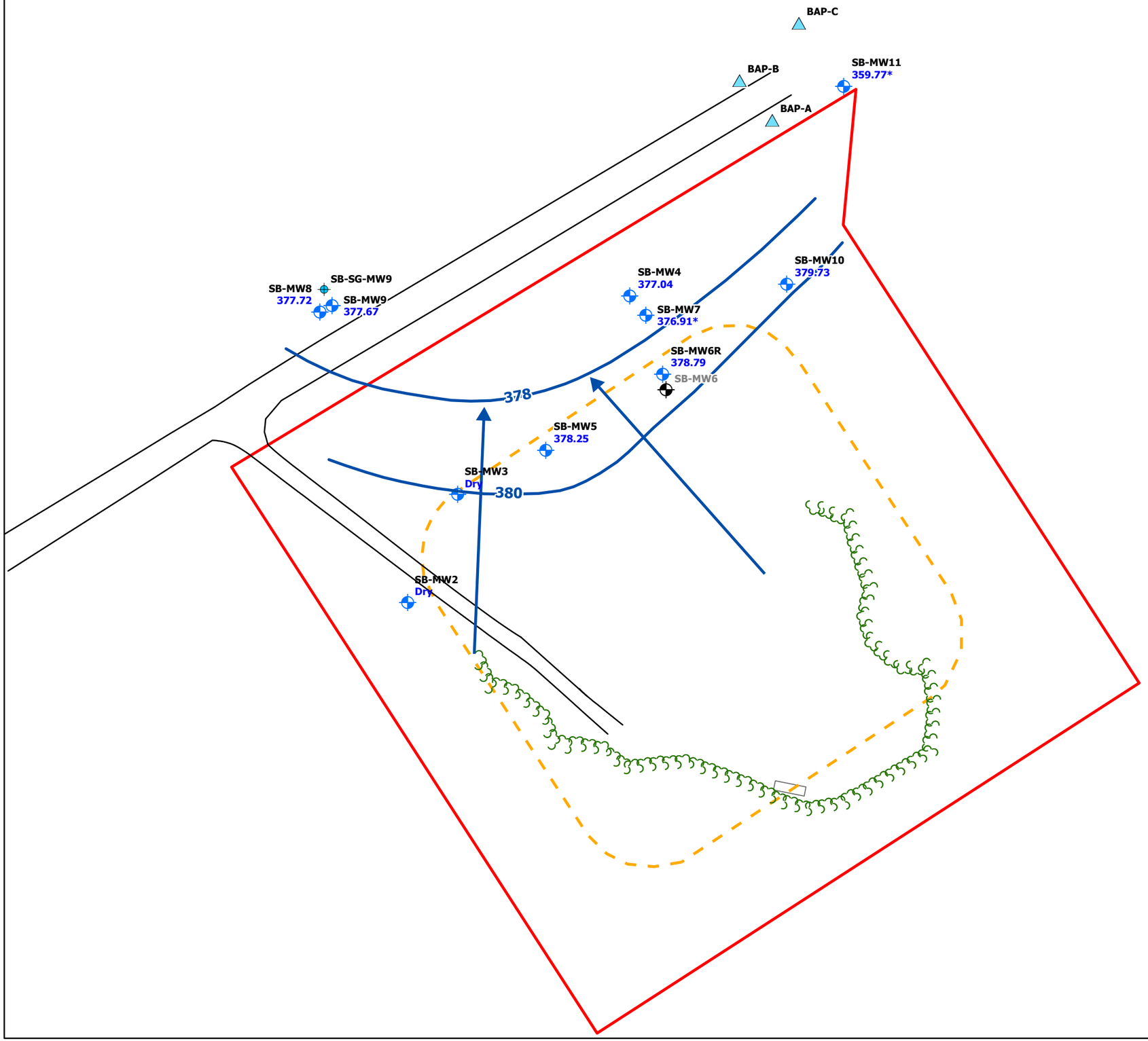

LEGEND

- **380.64** Groundwater Elevation (Fall, 2024)
- Groundwater Monitoring Location
- Decommissioned Monitoring Well
- Staff Gauge
- Surface Water Sampling Location
- Inferred Direction of Groundwater Flow
- Inferred Groundwater Elevation Contour (masl)
- Estimated Groundwater Elevation Contour (masl)
- Road
- Treeline
- Property Boundary (PA Miller, 2018)
- Approved Buffer Design (1996)
- 2024 Topographic Contours (0.5 masl)
- 2024 Topographic Contours (2 masl)

* Bedrock well not used to develop groundwater contours

REV.	DESCRIPTION	YY/MM/DD	BY	CHK
1				

REFERENCES

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N W E S

0 25 50 Metres

1:1,300

CLIENT

Municipality of Hasting Highlands

PROJECT

South Baptiste Waste Disposal Site

TITLE

Groundwater Flow Direction 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
250253-09	February 09, 2026

DRAWN	CHECKED	FIG NO.	REV
MB	NW	04b	0

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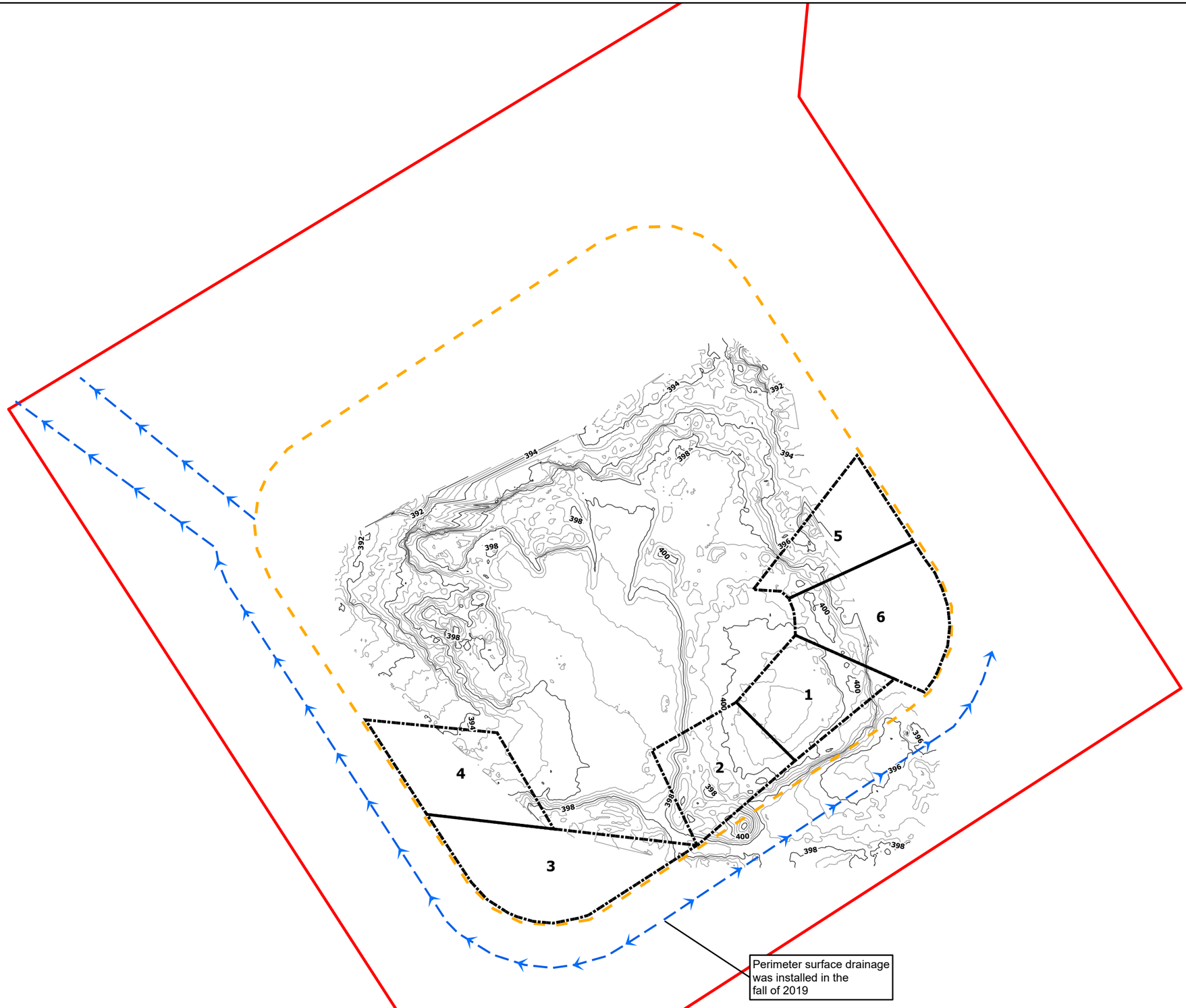

LEGEND

- Property Boundary (PA Miller, 2018)
- Approved Buffer Design (1996)
- Cell Boundaries
- DrainageSwale
- 2024 Topographic Contours (0.5 masl)
- 2024 Topographic Contours (2 masl)

Notes:
The final design contours were georeferenced and raised 283.048 m in elevation based on a 2017 geodetic survey of MW-6 noted on the original design.

REV.	DESCRIPTION	YY/MM/DD	BY	CHK
1				

REFERENCES

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N W E S

0 25 50 Metres

1:1,000

CLIENT

Municipality of Hasting Highlands

PROJECT

South Baptiste
Waste Disposal Site

TITLE

Cell Development - Phase 1
396 - 398 m asl

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
250253-09	February 09, 2026

DRAWN	CHECKED	FIG NO.	REV
MB	NW	05	0

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Site Photographs



Photo 1: Site entrance – May 8, 2025



Photo 2: Covered waste bins – May 8, 2025



Photo 3: Active landfill cell – May 8, 2025



Photo 4: Landfilling site, facing northwest – May 8, 2025



Photo 5: Tire pile and downed signage – May 8, 2025



Photo 6: Bulky Waste– May 8, 2025



Photo 7: Scrap metal pile – May 8, 2025



Photo 8: Brush and yard waste pile – May 8, 2025



Photo 9: BAP-A – May 8, 2025



Photo 10: BAP-B – May 8, 2025



Photo 11: BAP-C – May 8, 2025



Photo 12: BAP-D – May 8, 2025



Photo 13: Front entrance – July 7, 2025



Photo 14: Covered waste bins – July 7, 2025

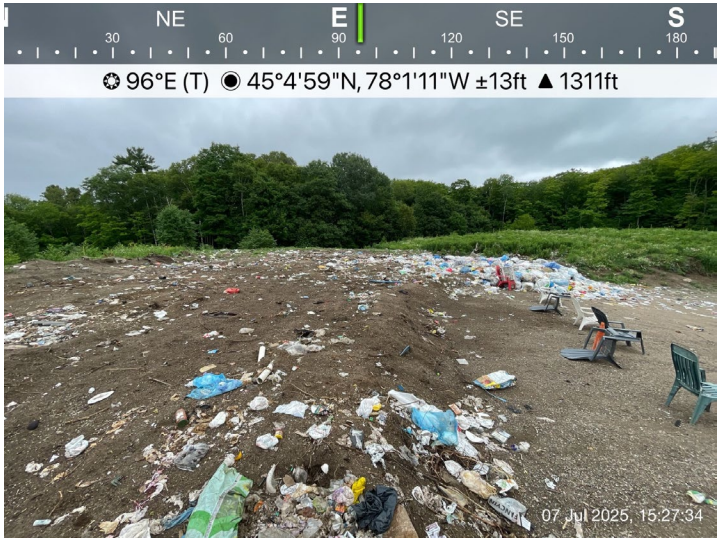


Photo 15: Active waste cell – July 7, 2025



Photo 16: Electronics bin – July 7, 2025



Photo 17: Bulky waste and tire pile – July 7, 2025



Photo 18: Bulky waste pile– July 7, 2025

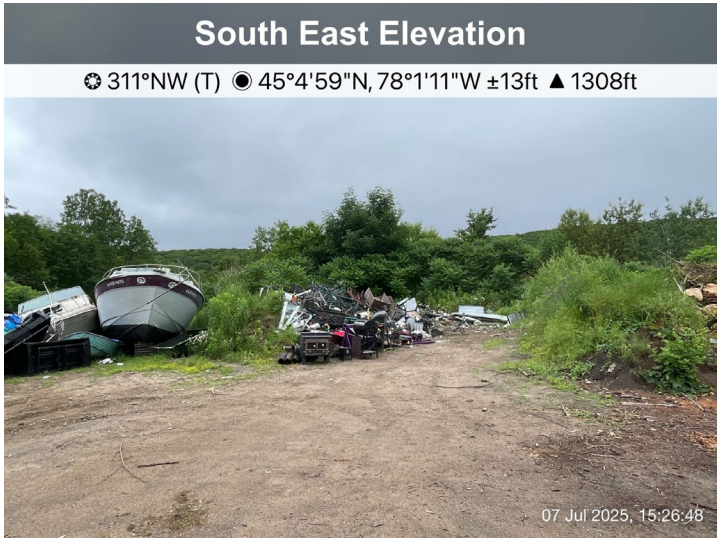


Photo 19: Scrap metal pile – July 7, 2025



Photo 20: Brush and yard waste pile – July 7, 2025



Photo 21: BAP-A – July 7, 2025



Photo 22: BAP-B– July 7, 2025



Photo 23: BAP-C – July 7, 2025



Photo 24: BAP-D – July 7, 2025



Photo 25: Site entrance signage – October 21, 2025



Photo 26: Site entrance gate – October 21, 2025



Photo 27: Attendant's hut – October 21, 2025



Photo 28: Covered waste bins – October 21, 2025



Photo 29: Tire pile – October 21, 2025



Photo 30: Bulky waste pile – October 21, 2025



Photo 31: Scrap metal pile – October 21, 2025



Photo 32: Brush and yard waste pile – October 21, 2025



Photo 33: BAP-A – October 21, 2025



Photo 34: BAP-B – October 21, 2025



Photo 35: BAP-C – October 21, 2025



Photo 36: BAP-D – October 21, 2025

Appendix A

A-1 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 A361602
Issue Date: October 24, 2019

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

Site Location: South Baptiste Waste Disposal Site
2539 South Baptiste Lake Road, Maynooth
Lot 28, Concession 4
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 2.02 hectare waste disposal/transfer site within a total site area of 4.46 hectares.

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

- *"Approval"* means this Environmental Compliance Approval and any Schedules to it, including the application and supporting documentation listed in Schedule "A";
- *"Contaminating Life Span"* means contaminating life span as defined in *Regulation 232* ;
- *"Director"* means any *Ministry* employee appointed in writing by the Minister pursuant to section 5 of the EPA as a Director for the purposes of Part II.1 of the *EPA;*
- *"District Manager"* means the District Manager of the local district office of the *Ministry* in which the *Site* is geographically located;
- *"EPA"* means *Environmental Protection Act* , R.S.O. 1990, c. E. 19, as amended;
- *"Ministry"* means the Ontario Ministry of the Environment, Conservation and Parks;
- *"NMA"* means *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;

- *"Operator"* means any person, other than the *Owner's* employees, authorized by the *Owner* as having the charge, management or control of any aspect of the *Site* and includes its successors or assigns;
- *"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 County 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;*
- *"Refrigerant Appliances"* means household appliances which use, or may use refrigerants, and which include, but is not restricted to, refrigerators, freezers and air-conditioning systems;
- *"Regional Director"* means the Regional Director of the local Regional Office of the *Ministry* in which the *Site* is located;
- *"Regulation 232"* means Ontario Regulation 232/98 (New Landfill Standards) made under the *EPA* , as amended from time to time;
- *"Regulation 347"* means Regulation 347, R.R.O. 1990, made under the EPA, as amended;
- *"Regulation 903"* means Regulation 903, R.R.O. 1990, made under the *OWRA,* as amended;
- *"SDWA"* means *Safe Drinking Water Act,* 2002, S.O. 2002, c. 32, as amended;
- *"Site"* means the entire waste disposal site, including the buffer lands, and contaminant attenuation zone at South Baptiste Waste Disposal Site, 2539 South Baptiste Lake Road, Maynooth, Lot 28, Concession 4
  Hastings Highlands Municipality, County of Hastings; and
- *"Trained Personnel"* means personnel knowledgeable in the following through instruction and/or practice:
    - relevant waste management legislation, regulations and guidelines;
    - major environmental concerns pertaining to the waste to be handled;
    - occupational health and safety concerns pertaining to the processes and wastes to be handled;
    - management procedures including the use and operation of equipment for the processes and wastes to be handled;
    - emergency response procedures;
    - specific written procedures for the control of nuisance conditions;
    - specific written procedures for refusal of unacceptable waste loads; and
    - 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) Except as otherwise provided by this *Approval,* the *Site* shall be designed, developed, built, operated and maintained in accordance with the documentation listed in the attached Schedule "A".

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 not 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 thirty (30) 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.

Inspections by the Ministry

(16) 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

(17) 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.

(18) 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.

19. 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.

20. 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, Regulation 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 recycling areas.

(4) The *Owner* shall provide signs at recycling depot 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* 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:

Summer (Victoria Day to Thanksgiving Day)

Wednesday	:12:00 p.m. - 5:00 p.m.
Saturday	:07:00 a.m. - 12:00 p.m.
Sunday	:12:00 p.m. - 7:00 p.m.
Statutory Holiday Monday	:12:00 p.m. - 7:00 p.m.

Winter (Thanksgiving Day to Victoria Day)

Wednesday	:12:00 p.m. - 5:00 p.m.
Saturday and Sunday	:12:00 p.m. - 5:00 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.*

(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) (a) 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.

(b) Waste/recyclables may be removed from the *Site* or brought into the *Site* by a registered/licensed waste hauler who are *Trained Personnel* during the hours of 7 a.m. to 5 p.m. Monday to Friday.

(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.

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 *Regulation 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, daily 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. 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 *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 *Regulation 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) Approved maximum volumetric capacity of the *Site,* consisting of the waste, daily cover and intermediate cover, but excluding the final cover is 82,785 cubic metres.

Service Area

(5) Only waste that is generated within the boundaries of the Municipality of Hastings Highlands may be accepted at the *Site.*

Cover

(6) Alternative materials to soil may be used as weekly and interim cover material, based on an application with supporting information and applicable fee for a trial use or permanent use, submitted by the *Owner* to the *Director,* copied to the *District Manager* and as approved by the *Director* via an amendment to this *Approval.* The alternative material

shall be non-hazardous according to *Regulation 347* and will be expected to perform at least as well as soil in relation to the following functions:

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

(7) Cover material shall be applied as follows:

a. **Weekly** Cover - Weather permitting, deposited waste shall be covered **weekly** 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.

Compliance

(2) 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.*

Surface Water and Groundwater

(3) The *Owner* shall monitor surface water and ground water in accordance with the monitoring programs outlined in Schedule "B".

(4) A certified Professional Geoscientist or Professional Engineer possessing appropriate hydrogeologic training and experience shall execute or directly supervise the execution of the groundwater monitoring and reporting program.

Groundwater Wells and Monitors

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

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

(7) 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

(8) a. Trigger mechanisms shall be in accordance with documents 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 the documents in Schedule "A".

(9) 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.

(10) 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.*

(11) 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 Programs, Trigger Mechanisms and Contingency Plans

(12) The *Owner* may request to make changes to the monitoring program(s), trigger mechanisms and/or contingency plan 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.

(13) Within fourteen (14) days of receiving the written correspondence from the *District Manager* confirming that the *District Manager* is in agreement with the proposed changes to the environmental monitoring program, trigger mechanisms and/or contingency plans, 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 *Director* requesting the *Approval* be amended to approve the proposed changes to the environmental monitoring plan prior to implementation.

9. CLOSURE PLAN

(1) At least two (2) 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.*

10. WASTE DIVERSION

(1) 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.

(2) The *Owner* shall provide a segregated area for the storage of *Refrigerant Appliances* so that the following are ensured:
a. all *Refrigerant Appliances* have been tagged to indicate that the refrigerant has been removed by a licensed technician. The tag number shall be recorded in the log book and shall remain affixed to the appliance until transferred from the *Site;*
or
b. all *Refrigerant Appliances* accepted at the *Site,* which have not been tagged by a licensed technician to verify that the equipment no longer contains refrigerants, are stored segregated, in a clearly marked area, in an upright position and in a manner which allows for the safe handling and transfer from the *Site* for removal

of refrigerants as required by Ontario Regulation 189/94 (O. Reg. 189/94); and

c. all *Refrigerant Appliances* received on-site shall either have the refrigerant removed prior to being transferred from the *Site* or shall be shipped off-site only to facilities where the refrigerants can be removed by a licensed technician in accordance with O. Reg. 189/94.

(3) 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;

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.

(4) 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.

(5) 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.

SCHEDULE "A"

1. Application and supporting information for Approval of a Waste Disposal Site to amend a Certificate of Approval for a Waste Disposal Site, dated October 27, 1996 and signed by Mrs. E. Dafoe, Clerk-Treasurer, the Corporation of the Township of Herschel.

2. Letter from Mrs. Erma Dafoe, Clerk-Treasurer, Municipality of Herschel to MOE, dated October 27, 1996, Re: Township of Herschel, Baptiste Lake South Road Waste Disposal Site, Provisional Certificate of Approval No. A361602.

3. Document entitled "The Corporation of the Township of Herschel, Baptiste Lake South Road Waste Disposal Site, Provisional Certificate of Approval No. A361602, Site Development Plan and Operations Report", dated September 1996 and prepared by the Greer Galloway Group Inc., Engineers and Planners.

4. Memo from Myron Zurawsky MOE to Jim Mulder, MOE, dated January 28, 1997, Re: Baptiste Lake South Road Waste Disposal Site, Amendment to Provisional C/A #A361602, Herschel Twp., Lot 28, Concession 4.

5. Memo from Ross Cholmondeley, MOE to Jim Mulder, MOE, January 17, 1997, Re: Baptiste Lake South Road Waste Disposal Site, Site Development Plan, Capacity and Operations Report, Provisional Certificate of Approval No. A361602.

6. Fax Cover Sheet and its attachment from Jim Mulder, MOE to J. S. Rybak, the Greer Galloway Group Inc., dated September 18, 1997, Client/Matter: Twp. Of Herschel, Baptiste and McGarry Landfill Site application.

7. Facsimile and its attachment from Mohsen Keyvani, MOE to Steve Clark, Greer Galloway Group Inc., dated February 7, 2000.

8. Facsimile and its attachment from Mohsen Keyvani, MOE to Erma Dafoe, Clerk-Treasurer, Municipality of Herschel, dated March 16, 2000.

9. Letter from Erma Dafoe, Clerk-Treasurer, Municipality of Herschel to Mohsen Keyvani, MOE, dated April 5, 2000, Re: Baptiste and McGarry Waste Disposal Site, Township of Herschel.

10. Letter from Steve Clark; Greer Galloway Group Inc. to Mohsen Keyvani, MOE, dated April 12, 2000, Re: Baptiste and McGarry Waste Disposal Sites, GGG Project No. 00-1-5313.

11. Letter from Mohsen Keyvani, MOE to Erma Dafoe, Clerk-Treasurer, Municipality of Herschel, dated May 3, 2000, Re: Amendment to Provisional Certificate of Approval, No.A361602, Baptiste Lake South Road Landfill Site, Located at Lot 28, Concession 4, and No. A361603, McGarry Landfill Site, Located at Part of Lot 3, Concession 10, Township of Herschel, County of Hastings.

12. Letter and its attachment from Steve Clarke, Greer Galloway Group Inc. to Mohsen Keyvani, MOE, dated May 31, 2000, Re: Amendment to the Provisional Certificate of Approvals: No. A361602, Baptiste Lake South Road Landfill Site, Located at Lot 28, Concession 4, and No. A361603, McGarry Landfill Site, Located at Part of Lot 3, Concession 10; Township of Herschel, County of Hastings.

13. Memo from Dana Cruikshank, MOE to Mohsen Keyvani, MOE, dated July 26 , 2000, Re: Baptiste Lake South Rd. Waste Disposal Sites , Interim Review Surface Water Sampling, Provisional Certificate of Approval No. A361602.

14. Letter from Steve Clark, the Greer Galloway Group Inc. to Mohsen Keyvani, MOE, dated October 17, 2000, Re: Response to Draft Certificate of Approvals: No . A361602, Baptiste Lake South Road Landfill Site; No. A361603, McGarry Landfill Site; GG Project 00-1-5313.

15. Letter from Steve Clark, Greer Galloway Group Inc. to Mohsen Keyvani, MOE, dated December 21, 2000, Re: No. 361602, Baptiste Lake South Road Landfill site; No. A361603, McGarry Landfill Site; GGG Project No. 00-1-5313.

16. Facsimile copy of letter from Mrs. Erma Dafoe, Deputy Clerk-Treasurer for Hastings Highlands to Mohsen Keyvani, MOE, dated January 8, 2001, re: amalgamation of the Towns hip of Herschel.

17. Environmental Compliance Approval Application dated February 2, 2018 and signed Pat Pilgrim, CAO/Clerk, Municipality of Hastings Highlands, including the attached supporting documentation.

18. Report titled "Development and Operations Plan, South Baptiste Waste Disposal Site, Environmental Compliance Approval No. A361602" dated January 2018 prepared by BluMetric Environmental Inc.

19. Surface Water Trigger Mechanism and Contingency Plan for South Baptiste Lake Waste Disposal Site revised and accepted June 25, 2018 prepare by BluMetric Environmental Inc.

20. Letter dated September 11, 2019 from Iris O'connor, P.Eng., BluMetric Environmental Inc. to Ranjani Munasinghe, P.Eng., Ministry of the Environment, Conservation and Park regarding additional site characterization, monitoring, trigger mechanisms and contingency plans.

Schedule "B"
Surface Water and Groundwater Monitoring Plan

Table B1: Annual (Spring & Fall) Groundwater Analysis

Monitoring Locations	Category	Parameters
MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10	Organic Parameters	Dissolved Organic Carbon (DOC), Phenols, Total Phosphorus, Total Kjeldahl Nitrogen (TKN), Volatile Organic Compounds ((full suite of VOCs at MW-6 only)
	Inorganic Parameters	Ammonia, Chloride, Nitrate, Nitrite, Major Ions (Sodium, Potassium, Calcium, Magnesium, Sulphate, Alkalinity)
	Metals	Aluminum, Arsenic, Barium, Beryllium, Boron, Cadmium, Chromium, Cobalt, Copper, Iron, Lead, Manganese, Molybdenum, Nickel, Silicon, Silver, Strontium, Thallium, Titanium, Vanadium, Zinc, Mercury
	Physical/Chemical Parameters	Chemical Oxygen Demand (COD), Conductivity, pH, Total Dissolved Solids (TDS), Total Suspended Solids (TSS)

Note: Full VOCs scan, to be sampled every five years in the fall at MW-6 if results are found to be non-detectable. Should impacts be detected then the VOCs scan shall be conducted for the following fall sampling event.

Schedule "B" continued...

Table B2: Annual (Spring, Summer & Fall) Surface Water Analysis

Monitoring Locations	Category	Parameters
BAP-A, BAP-B, BAP-C, BAP-D	Organic Parameters	Biological Oxygen Demand (BOD_5), Phenols, Total Phosphorus, Total Kjeldahl Nitrogen (TKN), Turbidity, Hardness
BAP-A, BAP-B, BAP-C, BAP-D	Inorganic Parameters	Ammonia, Chloride, Nitrate, Nitrite, Major Ions (Sodium, Potassium, Calcium, Magnesium, Sulphate, Alkalinity)
BAP-A, BAP-B, BAP-C, BAP-D	Metals	Total Aluminum (clay free), Arsenic, Boron, Cadmium, Chromium, Cobalt, Copper, Iron, Lead, Nickel, Selenium, Silver, Zinc, Dissolved Mercury
BAP-A, BAP-B, BAP-C, BAP-D	Physical/Chemical Parameters	Conductivity, pH, Total Dissolved Solids (TDS), Total Suspended Solids (TSS), Colour
BAP-A	Toxicity	Toxicity test (Single Concentration – Acute Lethality)

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

GENERAL

- The reason for Conditions 1(1), (2), (4), (5), (6), (7), (8), (9), (10), (17), (18) and (19) is to clarify the legal rights and responsibilities of the *Owner* and *Operator* under this *Approval.*

- The reasons for Condition 1(3) 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.

- 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.

- 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.*

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

- The reasons for Conditions 1(14) and (15) 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.

- The reason for Condition 1(16) 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.*

- Condition 1 (20) has been included in order to clarify what information may be subject to the Freedom of Information and Protection of Privacy Act, RSO 1990, CF-31.

SITE OPERATION

- The reasons for Conditions 2(1), 2(5) 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.

- The reason for Conditions 2 (2), 2(3) and 2(4) 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.*

- The reasons for Condition 2(6) 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.

- 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.

- The reasons for Condition 2(10) and 2(11) 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.

EMPLOYEE TRAINING

- 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.

COMPLAINTS RESPONSE PROCEDURE

- 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.

EMERGENCY RESPONSE

- Conditions 5(1) and 5(2) are included to ensure that emergency situations are reported to the Ministry to ensure public health and safety and environmental protection.

- Conditions 5(3), 5(4) and 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.

RECORD KEEPING AND REPORTING

- 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.

- 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.

- 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.

LANDFILL DESIGN AND DEVELOPMENT

- The reason for Conditions 7(1) to 7(5) 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.

- Condition 7(6) is to provide the Owner the process for getting the approval for alternative daily and intermediate cover material.

- The reasons for Condition 7(7) are to ensure that daily/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.*

LANDFILL MONITORING

- Reasons for Condition 8(1) 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*.

- Condition 8(2) is included to provide the groundwater and surface water limits to prevent water pollution at the *Site*.

- Conditions 8(3) and 8(4) are included 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.

- Conditions 8(5), 8(6) and 8(7) are included to ensure the integrity of the groundwater monitoring network so that accurate monitoring results are achieved and the natural environment is protected.

- Conditions 8(8) to 8(11) inclusive 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.

- Conditions 8(12), 8(13) and 8(14) are included to streamline the approval of the changes to the monitoring plan.

CLOSURE PLAN

- The reasons for Condition 9 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.

WASTE DIVERSION

- Condition 10 is included to ensure that the recyclable materials are stored in their temporary storage location and transferred off-site in a manner as to minimize a likelihood of an adverse effect or a hazard to the natural environment or any person.

Upon issuance of the environmental compliance approval, I hereby revoke Approval No(s). A361602 issued on September 20, 2018

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

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

Pursuant to subsection 139(3) of the Environmental Protection Act, a hearing may not be required with respect

to any terms and conditions in this environmental compliance approval, if the terms and conditions are substantially the same as those contained in an approval that is amended or revoked by this environmental compliance approval.

The Notice should also include:

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

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

This Notice must be served upon:

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

AND

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

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

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

DATED AT TORONTO this 24th day of October, 2019

THIS APPROVAL WAS MAILED
ON NOV 05 2019
(Signed)

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

RM/

c: Area Manager, MECP Belleville
c: District Manager, MECP Kingston - District
Iris O'Connor P. Eng., BluMetric Environmental

Appendix A

A-2 Land Use Permit

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

Ministère des Richesses naturelles et des Forêts

Telephone: (613) 332-3940
Facsimile: (613) 332-0608

Ontario

June 15, 2017

Municipality of Hastings Highlands (FEB)
33011 Hwy. 62
P.O. Box 130
Maynooth, ON K0L 2S0

Dear Sir/Madam:

SUBJECT: Waste Disposal Site at Pt. Lot 28, Con. 4, HERSCHEL Township
and New Land Use Permit #1634-1001004201

Enclosed please find two copies of your new Land Use Permit, as the existing permit expired on February 28, 2017.

In order to ensure that rental rates charged for Crown land are based on current market values, rental rate reviews are carried out periodically, depending on the terms and conditions of the Land Use Permit which, in this case, allow for a review of the annual rate (currently $235.00) in 2016. In keeping with this schedule, we have carried out a review of the rent for this site prior to its renewal.

After you have reviewed the application to make sure all information is correct, please sign and date the two copies. In addition to the signed and dated LUPs, please **remit a payment of $810.49** (administrative fee plus 13% HST included). Refer to the "Summary of Fees" on the second page, for a breakdown of the fees. Your cheque or money order is to be made **payable to the Minister of Finance** and should be sent in, along with both copies of your signed Land Use Permit, to the following address:

Ministry of Natural Resources and Forestry
Lands Business Unit, Program Services Section
300 Water Street, 5th Floor South
Peterborough, Ontario K9J 3C7
Attn: Financial Administrative Clerk

If you wish to pay by Visa or Master Card, please fill out the attached credit card payment form and submit with your signed and dated LUP copies. Credit card payments cannot be processed over the phone for the first payment of a new LUP.

Once the Peterborough office has processed your payment, they will forward the two copies of your signed Land Use Permit #1634-1004201 to our office for approval. A copy of the approved permit will then be sent to you for your files.

. . . /2

Summary of Fees:
New Annual Rent was derived as follows:

Waste Disposal Site – Sand Bay	=	11.02 acres
		x $ 3,549.25 (LBU value per acre)
Market Value	=	$39,100.00 (rounded)
		x 4% (LUP rate of return)
New Annual Rent	=	**$ 1,564.00 + Administrative Fee + HST**

As the increase in rent is more than four times the current rent, we will phase in the increase over a four-year period as per the following schedule:

Year	Old Rent + Increase
2017	$235.00 + $332.25 = $567.25 (plus $150.00 Admin. Fee and HST)
2018	$567.25 + $332.25 = $899.50 (plus HST)
2019	$899.50 + $332.25 = $1,231.75 (plus HST)
2020	$1,231.75 + $332.25 = $1,564.00 (plus HST)

This Land Use Permit has been issued for a 10-year term, with a termination date of February 28, 2027. Your fees for the first year include administration fees of $150.00 (plus HST), which will be removed in subsequent years. After the final phased-in increase is applied in 2020, your annual fees due will then be $1,767.32 (HST included). All future invoices will be administered by Ontario Shared Services and invoices will be generated annually, approximately six weeks prior to the anniversary date until the permit termination date. Statements reflecting the status of your account will be generated monthly if unpaid. Overdue accounts will be charged interest at a prescribed rate set by the Ministry of Finance.

If you have any questions regarding the payment of your LUP, please contact the Lands Business Unit at 705-755-1453 during regular business hours.

Any changes to the LUP during the term (e.g. address, client name, etc.) or changes to the improvements on the land must still be directed to the Bancroft office of the Ministry of Natural Resources and Forestry. This office is responsible for the administering of, and compliance with, the conditions of your Land Use Permit.

If you have any questions regarding your Land Use Permit, please call Christine Apostolov at 613-332-3940, extension 203.

Yours truly,

Jesse Van Allen
Resources Operations Supervisor

/et

Enclosures – Permit (2 copies), CC Payment Form, Return Envelope

Ontario

Land Use Permit

File: (FEB)

Public Lands Act

Permit No.
LUP1634-1004201

Use shaded areas for corrections.

Name of Applicant/Permittee (insert Corporate Name if Applicant is "Limited" or "Incorporated")	Area Code	Telephone No.
The Corporation of the Municipality of Hastings Highlands	613	338-2811

As Trustee for

Postal Address of Applicant/Permittee
33011 Hwy. 62 PO Box 130

City, Town or Village	Prov./State	Country	Postal Code
Maynooth	ON	Canada	K0L 2S0

Location of Land

Lot	Concession/Block No	Geographic Township	Municipality
28	4	HERSCHEL	HASTINGS HIGHLANDS M

U.T.M. Grid	Geographic Location	Area in ha.
Zone 18 E. 262356 N. 4996632		4.46

As per sketch and description which is attached to the original permit for this site and forms part of this permit. A copy of this sketch and description is on file at the District Office and available for inspection by the applicant at any time during normal business hours.

Improvement Type	Sales Tax I.D. Number
WASTE DISPOSAL, GARBAGE	R124668666

Fee(s) and Period of Land Use

Amount Due	Annual Fee (subject to adjustment)	Permit Effective Date	Permit Termination Date
$810.49	$567.25 + $73.74 (HST)	Mar 1, 2017	Feb 28, 2027

Note: Terms and Conditions applicable to all Land Use Permits are on the reverse side of this form.

Terms and Conditions applicable to this permit

Purpose

Waste Disposal Site

Sub-Purpose
Other

Applicant's certification

I certify that the information given herein is true and complete, and that I have read, fully understand, and agree to comply with all of the terms and conditions set out in this permit and that I am of the age of majority. I agree that this is the complete agreement between the parties hereto.

Signature of Applicant (Incl. Corporation Official)	Date Signed
	June 20/17

Corporation Use Only

I have authority to bind the herein-named Corporation

Initials and Surname of Corporation Official (Please Print)	Signature of Corporation Official	Position	
PETER KERR		CAO/Clerk	June 20/17

Ministry Approval

Under authority of the Regulations under the Public Lands Act, this Land Use Permit is hereby issued to the above applicant, subject to all terms and conditions contained herein and no other, and these shall be the exclusive terms and conditions applicable to the use of this land.

Signature of MNRF Official	Date Signed	Cash Register Validation or Receipt No.	Amount Paid

Personal information on this form is collected under authority of the Public Lands Act and will be used for the administration of that Act. Questions about this information should be directed to the local MNRF Office, whose address and telephone number appear in the Ontario Government Telephone Directory.

1620(95-03)

Return all parts of this form to the District/Area Office for authorization.

Appendix A

A-3 MECP 2024 Surface Water Review

Ministry of the Environment, Conservation and Parks
Eastern Region
1259 Gardiners Road, Unit 3
Kingston ON K7P 3J6
Phone: 613.549.4000
or 1.800.267.0974

Ministère de l'Environnement, de la Protection de la nature et des Parcs
Région de l'Est
1259, rue Gardiners, unité 3
Kingston (Ontario) K7P 3J6
Tél: 613 549-4000
ou 1 800 267-0974

Ontario

M E M O R A N D U M

August 7, 2025

TO: Jon Morrish
Sr. Environmental Officer
Belleville Area Office
Eastern Region

FROM: Dana Cruikshank
Surface Water Specialist
Water Resources Unit
Eastern Region

RE: 2024 Annual Monitoring Report
South Baptiste Waste Disposal Site
2539 South Baptiste Rd, Maynooth
Municipality of Hastings Highlands
C of A #: A361602
ECHO Ref #: 1-1453309367

I have reviewed the above report prepared by BluMetric dated March 2025 for surface water concerns only.

For the 2024 AMR Blumetric reports;

- The site is approved for use of 2.02 ha waste disposal/transfer site within a total area of 4.46 ha. Only 19 % of waste was being diverted from the landfill through recycling. It has been operating as a municipal landfill since the 1980's. the site historical used a trench disposal method but is now using an area fill method of operation.

- Groundwater flow from the west side of the site has been determined to be to the north-northeast towards Baptiste Lake and from the east side groundwater flow appears to be to the northeast.

- Surface water features include Baptiste Lake 900 m NE, Diamond Lake 1.2 km SW and a tributary to Baptiste Lake 70 m north of the site.

- A perimeter ditch was installed in 2019 along the south and west sides of the site to direct groundwater away from waste mound and to limit infiltration of surface water through the waste.

- Leachate from the waste mound is discharging to surface water on the north side of the mound and south side of South Baptiste Rd.

- Surface water monitoring events occurred on April 29, July 19, and October 30, 2024. Four stations are monitored;
    - BAP-A is located on watercourse flowing directly from the WDS property to the north.
    - BAP-B is located downstream of BAP-D.
    - BAP-C is located on Creek 2 downgradient of the culvert from confluence of BAP-A and BAP-B
    - BAP-D is 80 m upstream of the WDS.



- Flow and channel measurements were taken discharge calculations as well completed during each sampling event at all locations. See Table 7 of report.

- The following PWQO exceedances were noted.
    - BAP-A had PWQO exceedances of boron for all 3 sampling events and for iron, cobalt and TP in July only.
    - BAP-B had PWQO exceedances of iron in July and October
    - BAP-C has PWQO exceedances of iron in July and October
    - BAP-D had PWQO exceedances of iron for all 3 2024 sampling events.

- Concentrations of most parameters are all higher at BAP-A but have remained within the historical range of results except for boron which is showing a trend of increased concentrations. Chloride concentrations were increasing till 2010 but were declining after 2019.

- BAP-C has the second highest concentrations of the four sites.

- Total phosphorus (TP) had higher elevated levels at all sites except BAP-A. Blumetric attributes this to road refinishing work during the summer of 2024.

- Toxicity sampling was conducted at BAP-A during all three sampling events. The acute lethality toxicity test resulted in 0% mortality for rainbow trout and *Daphnia magna* and therefore did not trigger the contingency response plan.

- BluMetric concludes that South Baptiste WDS is having an impact on surface water quality in the creek tot eh north of the site along the north side of South Baptiste Rd.

Reviewer Comments:

BluMetric in addition to comparing sampling results to PWQO also used the 2010 WDS Guidance technical Guidance document. The 2010 document was a draft and was never adopted by MECP and therefore should not be used.

The reviewer used the data provided by BluMetric to calculate the average concentrations for the four surface water stations. The reviewer also calculated the percentage difference in average concentrations between the upgradient station (BAP-D) and the other surface water stations.

Table 1 shows the average concentrations from 2004-2024 for all four stations. Where the average concentration exceeded PWQO the value is in red. Percentage differences between BAP-D (background) and the downgradient stations is based on the average concentrations from 2004-2024. Average concentrations were calculated by converting cells that indicated concentrations as less than the method Detection Limit to the MDL value (i.e. <0.01 = 0.01). Yellow highlighted cells indicate percentage differences in concentrations at the downstream location exceeded upstream by 25%. Green coloured cells are where downstream concentrations were better than BAP-D by7 more than 25 %.

Table 1: South Baptiste WDS Percentage Differences of Surface Water Parameters

		Average Concentrations				Relative		Percentage Differences			
Parameter	Units	BAP-D	BAP-A	BAP-B	BAP-C	Conc		D vs A	D vs B	D vs C	B vs C
Chloride	mg/L	5.5468	34.525	5.4124	8.4261			-522	2	-52	-56
Nitrate as N	mg/L	0.1241	0.9256	0.1237	0.1631			-646	0	-31	-32
Nitrite as N	mg/L	0.0701	0.1074	0.0708	0.0701			-53	-1	0	1
Sulphate	mg/L	6.7215	30.593	7.9509	9.8561			-355	-18	-47	-24
Calcium	mg/L	21.387	46.151	836.46	1267.5			-116	-3811	-5826	-52
Magnesium	mg/L	1.1407	7.4663	1.2438	1.9816			-555	-9	-74	-59
Potassium	mg/L	0.9981	13.596	1.2178	2.1575			-1262	-22	-116	-77
Alkalinity (as CaCO3)	mg/L	56.493	151.17	67.773	75.76			-168	-20	-34	-12
Ammonia as N	mg/L	0.0436	0.1415	0.0355	0.0413			-224	19	5	-17
BOD (5)	mg/L	2.831	3.9859	2.7606	2.9429			-41	2	-4	-7
Colour	mg/L	49.023	20.438	35.281	33.557			58	28	32	5
Electrical Conductivity	µS/cm	142.99	471.42	161.75	196.66			-230	-13	-38	-22
pH	pH Units	7.4486	7.7633	7.5512	7.6278			-4	-1	-2	-1
Phenols	mg/L	0.002	0.0013	0.0011	0.0011			38	46	45	-3
Total Dissolved Solids	mg/L	90.608	281.52	101.27	121.26			-211	-12	-34	-20
Total Hardness (as Ca	mg/L	58.407	148.91	69.806	78.329			-155	-20	-34	-12
Total Kjeldahl Nitroge	mg/L	0.3201	0.7468	0.2665	0.2799			-133	17	13	-5
Total Organic Carbon	mg/L	5.8	3.9	7.3	5.3			33	-26	9	27
Total Phosphorus	mg/L	0.0236	0.0851	0.0235	0.0237			-261	1	-1	-1
Total Suspended Soli	mg/L	21.216	85.932	11.162	11.639			-305	47	45	-4
Turbidity	NTU	4.6362	9.4338	3.4899	3.4145			-103	25	26	2
Aluminum (Total)	mg/L	0.1184	0.2464	0.0842	0.0795			-108	29	33	6
Arsenic	mg/L	0.0026	0.0032	0.0026	0.0026			-24	0	0	0
Boron	mg/L	0.0102	0.2094	0.0107	0.0276			-1961	-5	-171	-157
Cadmium	mg/L	0.0002	0.0004	0.0002	0.0002			-58	0	0	0
Chromium	mg/L	0.0021	0.003	0.0021	0.0021			-44	3	1	-2
Cobalt	mg/L	0.0007	0.001	0.0006	0.0006			-49	8	6	-3
Copper	mg/L	0.0016	0.0019	0.0015	0.0015			-20	5	4	-2
Iron	mg/L	0.9439	1.589	0.7146	0.6184			-68	24	34	13
Lead	mg/L	0.0014	0.0018	0.0014	0.0014			-23	0	0	0
Nickel	mg/L	0.0041	0.0047	0.0042	0.0043			-15	-2	-4	-2
Selenium	mg/L	0.0022	0.0028	0.0022	0.0022			-30	0	0	0
Silver	mg/L	0.0002	0.0004	0.0002	0.0002			-51	0	0	0
Zinc	mg/L	0.0102	0.0173	0.0093	0.0092			-71	9	9	1

Water quality downstream at BAP-B when compared to the background station at BAP-D has elevated concentrations of calcium and TOC. In general water quality at BAP-B is similar to BAP-A since both are upstream of the runoff from the landfill. When BAP-D is compared to surface water leaving the WDS at BAP-A almost all the parameters at BAP-A have significantly higher concentrations than the background station. This indicates the potential for the landfill to impact water quality of the north creek at BAP-C. When BAP-C is compared to upstream BAP-A a significant number of parameters (Alk, TDS, Cond, Cl, SO4, Ca, Mg, NO3, K, Al, B, SO4) have significantly elevated concentrations. Interestingly, when BAP-B is compared to BAP-C, concentrations at BAP-C are lower than when compared to BAP-D. This would suggest that even though there was hardly any difference in water quality between D and B there must be more flow or another source that is diluting the runoff from BAP-A.

In previous reviews I noted that many elevated parameters can be associated with road salting activities and because of elevated concentrations in the wells on site the reviewer was wondering if South Baptiste is being used as a snow dump. This issue was again not addressed in the 2024 AMR.

Selected time-trend plots in the report show that some parameters are tending to increase over time especially the last few years and for surface water boron was the main parameter showing a steady increase in concentrations.

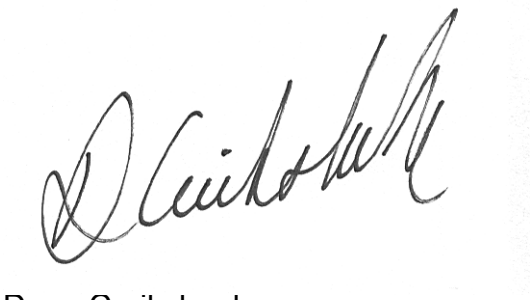
In summary, South Baptiste WDS is having a negative water quality impact on the Creek that flows to Baptiste Lake. However, the concentrations currently are unlikely to result in any impairment to aquatic life. The toxicity tests at BAP-A while showing elevated concentrations have not resulted in any mortality.

Recommendations:

1. Surface water monitoring should continue.

2. If snow from winter plowing is being stored at this site, then steps should be taken so that runoff melt doesn't impact on BAP-A.

If you have any questions or concerns regarding his review, I would be happy to discuss them with you.



Dana Cruikshank

c: Victor Castro (WRU Supervisor)
Christina Klein (TSS Manager)
Craig Dobiech (Belleville Area Supervisor(A))
Thomas Guo (Groundwater Reviewer)

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	South Baptiste Waste Disposal Site
Location (e.g. street address, lot, concession)	2539 South Baptiste Lake Road
GPS Location (taken within the property boundary at front gate/ front entry)	734410 m E, 4996556 m N
Municipality	Municipality of Hasting Highlands (formerly Twp. of Herschel)
Client and/or Site Owner	The Corporation of Hasting Highlands
Monitoring Period (Year)	2025
This Monitoring Report is being submitted under the following:	
Environmental Compliance Approval Number:	A 361602
Director's Order No.:	
Provincial Officer's Order No.:	
Other:	

Report Submission Frequency	◉ **Annual** ○ **Other**	March 31st of the following reporting period	
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	82,785	*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)	648	*Units*	Tonnes
Total Waste Received within Monitoring Period (Year) *Methodology*	Estimation		
Estimated Remaining Capacity	10,307	*Units*	Cubic Metres
Estimated Remaining Capacity *Methodology*	Aerial Photogrammetry		
Estimated Remaining Capacity *Date Last Determined*	31-Dec-2023		
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)*	1980	**Current ECA Issue Date**	24-Oct-2019
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:	Select 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**	Currently, the Site is believed to be in compliance along the north and east sides of the Site, however, future monitoring will determine if additional wells are required.
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**
SB-MW2	Dry	21-Oct-2025
SB-MW3	Dry	21-Oct-2025
SB-MW11	Insufficient water for sampling	8 May 2025 & 21 Oct 2025

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	

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**	Groundwater discharges to surface water on the north side of the Site. There is a SW trigger mechanism in place that includes groundwater monitors as triggers. There is no specific GW trigger mechanism approved as of yet.	
6) The site meets compliance and assessment criteria.	◉ **Yes** ○ **No**	Well nest SB-MW8 and SB-MW9 are located downgradient and off-site to the north of South Baptiste Lake Road.	
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**		
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**	Triggers have been exceeded, perimeter ditching has been put in place, and toxicity sampling is collected on a regular basis.	

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.

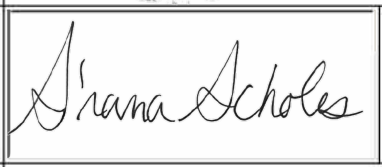
If any exceptions or potential concerns have been noted in the questions in the checklist attached to this declaration, it is my opinion that these exceptions and concerns are minor in nature and will be rectified for the next monitoring/reporting period. Where this is not the case, the circumstances 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:

16-Mar-2023

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:**	It is recommended that the Trigger Plan be updated to only trigger the Contingency Plan following an exceedance of a new trigger parameter or when an emerging increasing trend is present.
○ **No Changes to site design and operation are recommended**	
◉ **The following change(s) to the site design and operation is/ are recommended:**	Ensure operations and waste placement adhere to new D&O Plan (December 2017). The perimeter surface water diversion ditch put in place during the late fall of 2019 should be kept clear and flow maintained around the waste mound in 2025.

Name:	S'rana Scholes, P.Eng.		
Seal:			
Signature:		**Date:**	25-Mar-2026
CEP Contact Information:	Environmental Engineer		
Company:	BluMetric Environmental Inc.		
Address:	209 Frederick Street, Unit 3B Kitchener, ON N2H 2M7		
Telephone No.:	(877) 487-8436 x218	Fax No. :	(877) 487-8436
E-mail Address:	sscholes@blumetric.ca		
Co-signers for additional expertise provided:			
Signature:		**Date:**	Select Date
Signature:		**Date:**	Select Date

Surface Water WDS Verification:

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

Name (s)	South Baptiste Lake and the un-named creek (tributary to South Baptiste Lake
Distance(s)	1.0 km (east), 1.2 km (west), 20 m (north)

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	Field observations to identify potential impacts to background water sample should be made.
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 document		
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**	Boron exceedances are attributed to WDS activities, all other exceedances may be related to de-icing salt, road work activities, or natural conditions.

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**	BAP-A and BAP-C are showing an increasing trend in boron.
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	PWQO exceedances of phenols, total phosphorus, aluminum, boron, cadmium, cobalt, and iron were recorded in the groundwater monitoring wells adjacent to the WDS mound. Trigger Mechanisms and a Contingency Plan for surface water has been developed.
9) Have trigger values for contingency plans or site remedial actions been exceeded (where they exist):	◉ **Yes** ○ **No** ○ **Not Applicable**	The Contingency Plan was triggered at SB-MW4 during the fall sampling event with trigger parameter exceedances of alkalinity, TDS, boron, and cobalt. The contingency plan was also triggered at SB-MW7 during the spring and fall 2025 sampling events with trigger parameter exceedances of alkalinity, TDS, boron, and cobalt. The Tier 1 response of the Contingency Plan includes the tri-annual toxicity sampling at BAP-A. Based on the toxicity results at BAP-A, escalation to Tier 2 sampling was not required.

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:

16-Mar-2023

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:**	Perimeter drainage diversion to be maintained.

CEP Signature	
Relevant Discipline	Senior Environmental P.Eng. with > 20 years experience assessing landfill SW. Hydrology at UofW.
Date:	25-Mar-2026
CEP Contact Information:	S'rana Scholes, P.Eng.
Company:	BluMetric Environmental Inc.
Address:	209 Frederick St Unit 3B Kitchener, ON N2H 2M7
Telephone No.:	(877) 487-8436 x218
Fax No. :	(877) 487-8436
E-mail Address:	sscholes@blumetric.ca

Save As		**Print Form**

Appendix C

Monitoring Well Logs

Well Log: Lithology & Construction

Well Ident	Name
SB MW-1	

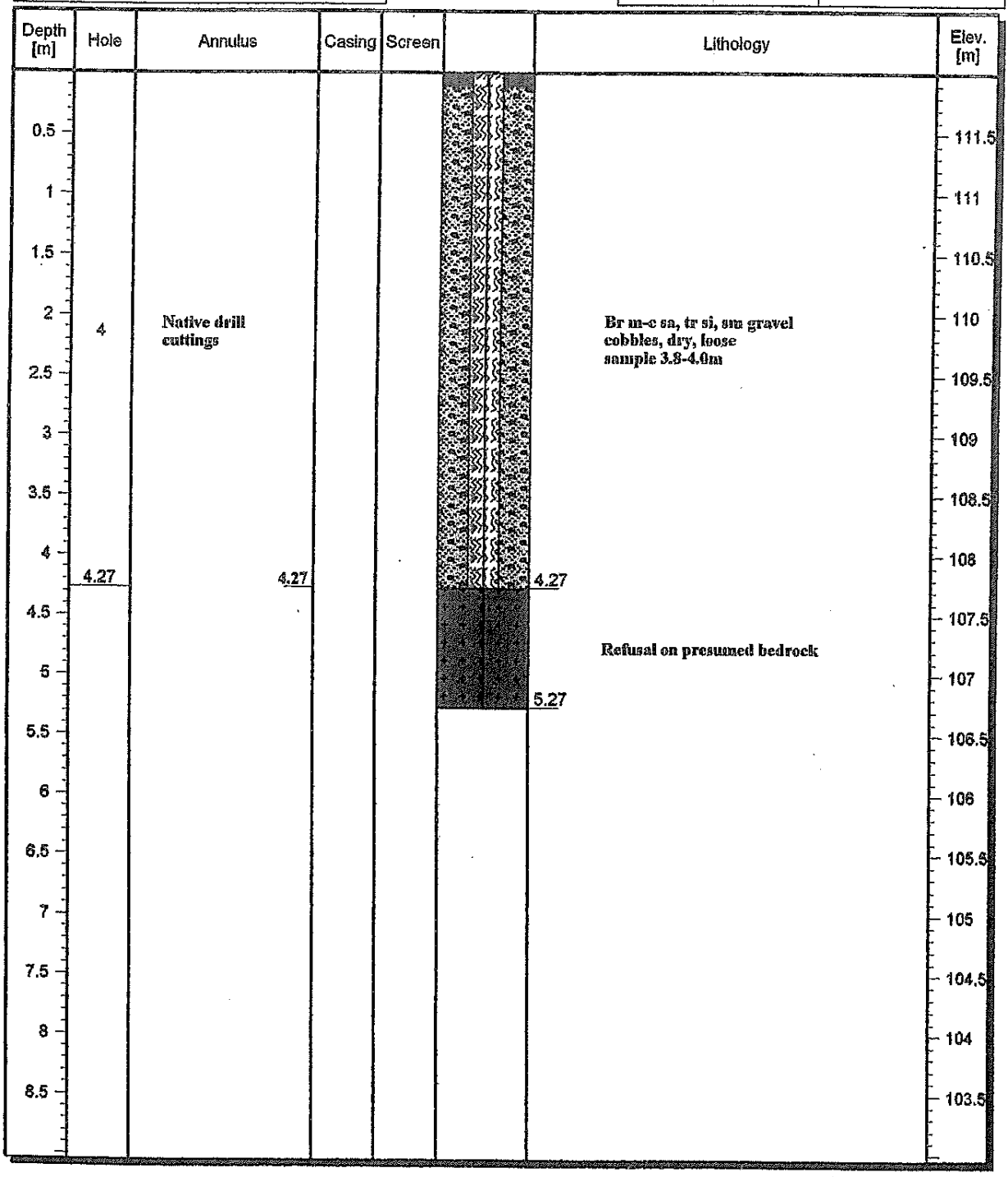
Drill. Method	Drill. Dates
auger	February 8, 1996

X	Y	Z	Meas. Pt. Elev.
1011	876	112.00	112.00

All measurements are in meters. Hole and casing diameters in inches.

Scales (1: xxx)

Water Level (m AMSL)	Vertical	Horizontal
	50.0	



Well Log: Lithology & Construction

Well Ident	Name
SB MW-2	

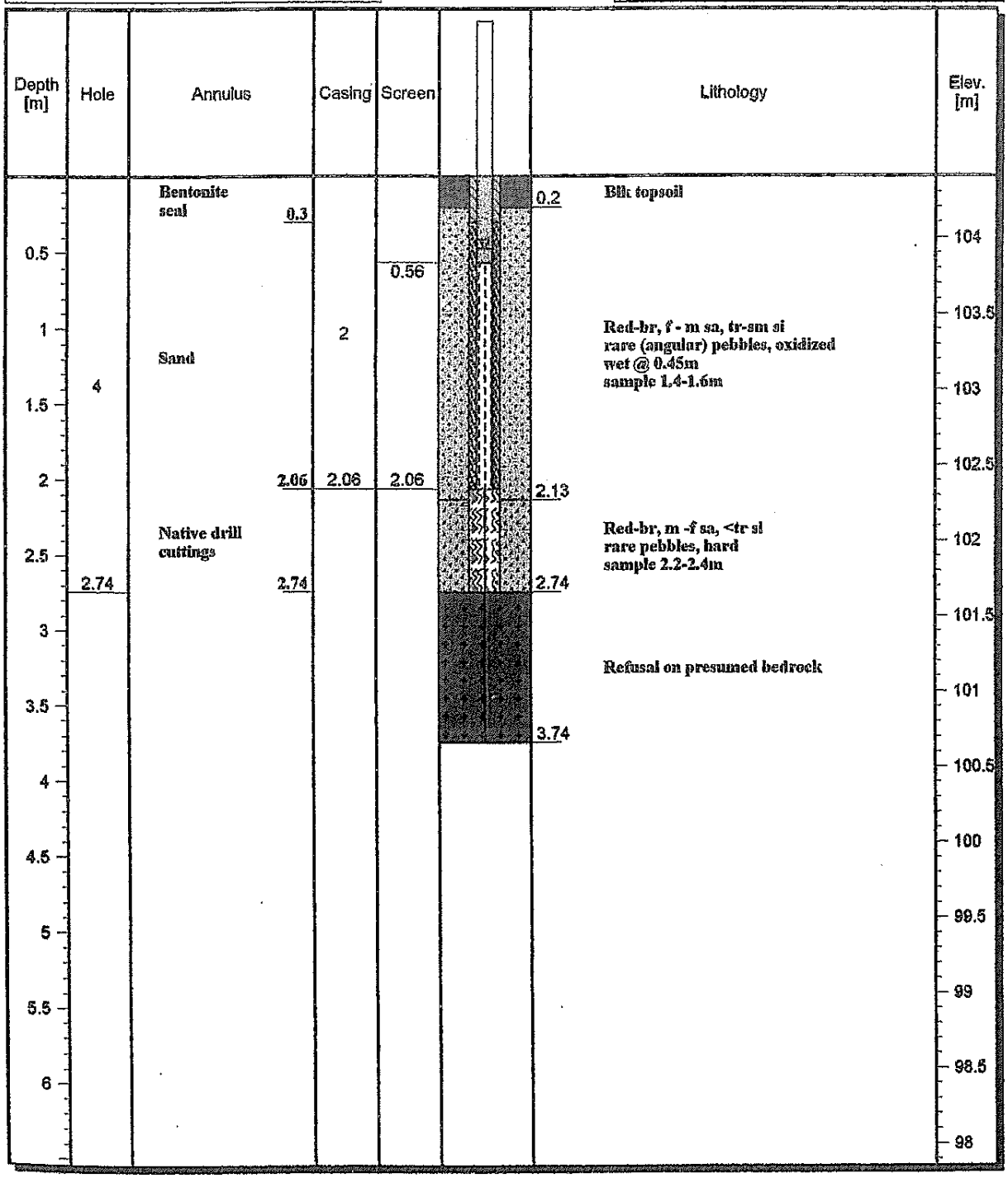
Drill. Method	Drill. Dates
auger	February 8, 1996

X	Y	Z	Meas. Pt. Elev.
1014	925	104.40	105.41

All measurements are in meters. Hole and casing diameters in inches.

Scales (1: xxx)

Water Level (m AMSL)	Vertical	Horizontal
103.93	40.0	



Well Log: Lithology & Construction

Well Ident	Name
SB MW-3	

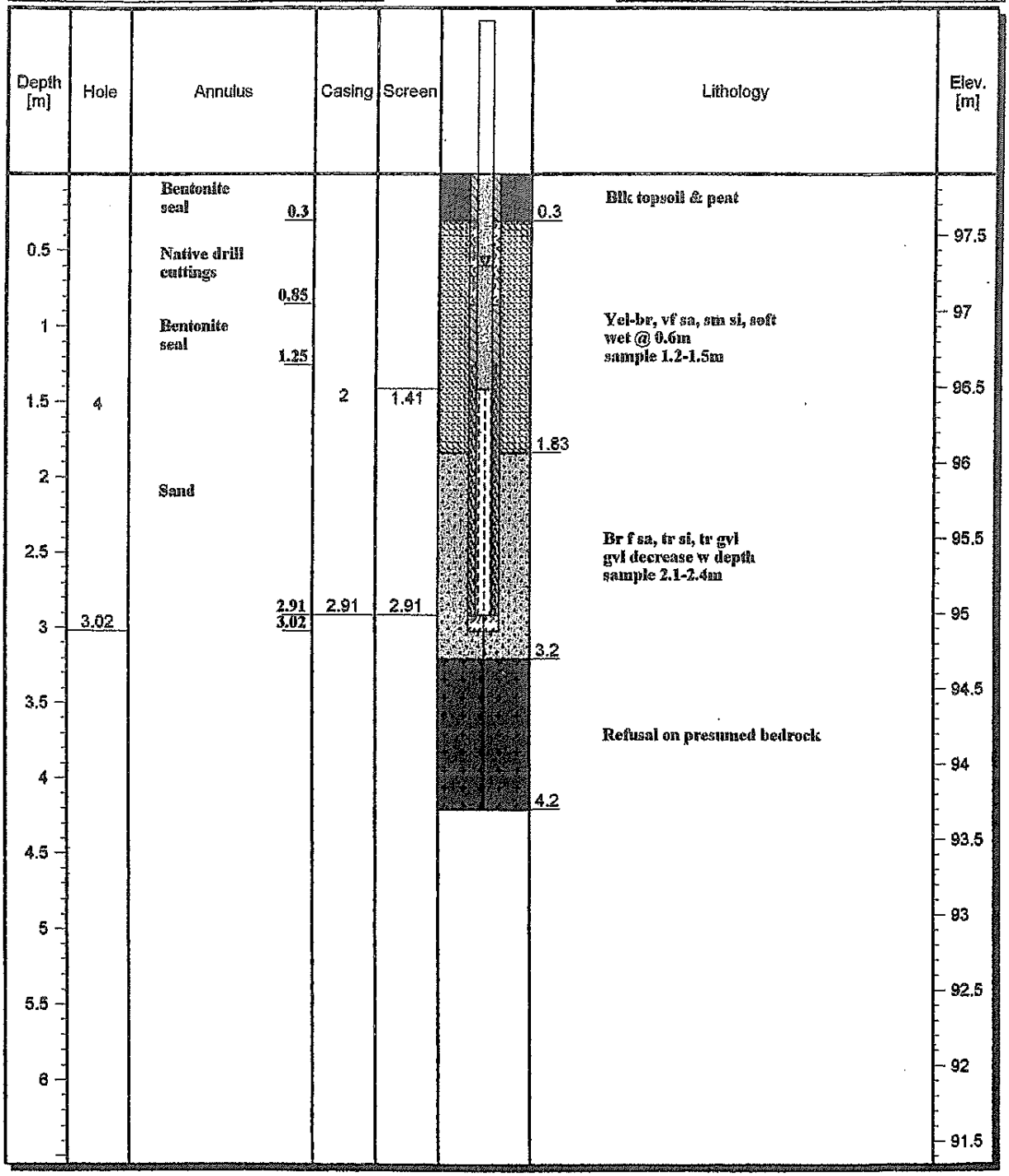
Drill. Method	Drill. Dates
auger	February 8, 1996

X	Y	Z	Meas. Pt. Elev.
1047	945	97.90	98.90

All measurements are in meters. Hole and casing diameters in inches.

Scales (1: xxx)

Water Level (m AMSL)	Vertical	Horizontal
97.30	40.0	



Well Log: Lithology & Construction

Well Ident	Name
SB MW-4	

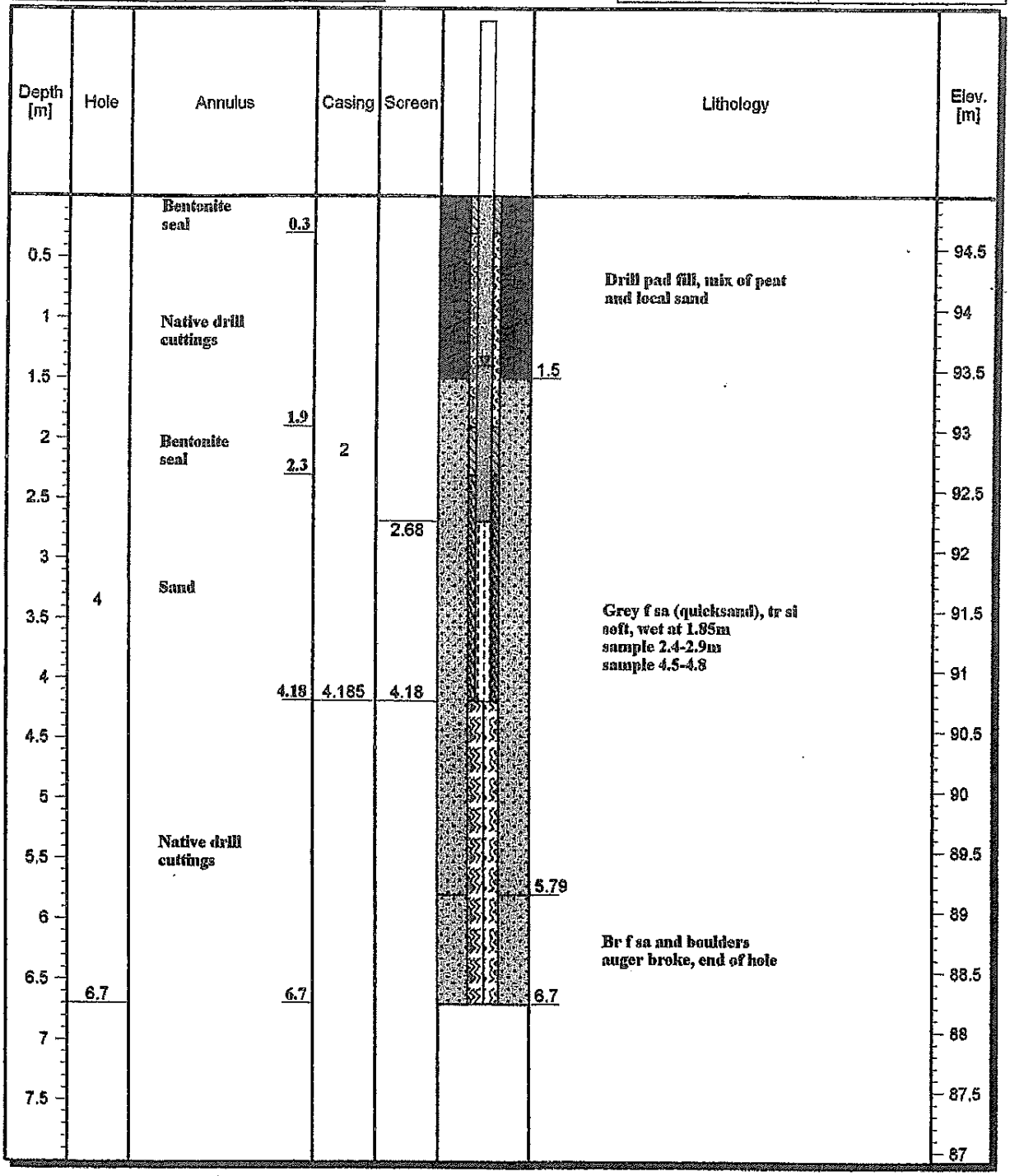
Drill. Method	Drill. Dates
auger	February 8, 1996

X	Y	Z	Meas. Pt. Elev.
1128	967	94.93	96.36

All measurements are in meters. Hole and casing diameters in inches.

Scales (1: xxx)

Water Level (m AMSL)	Vertical	Horizontal
93.54	50.0	



Well Log: Lithology & Construction

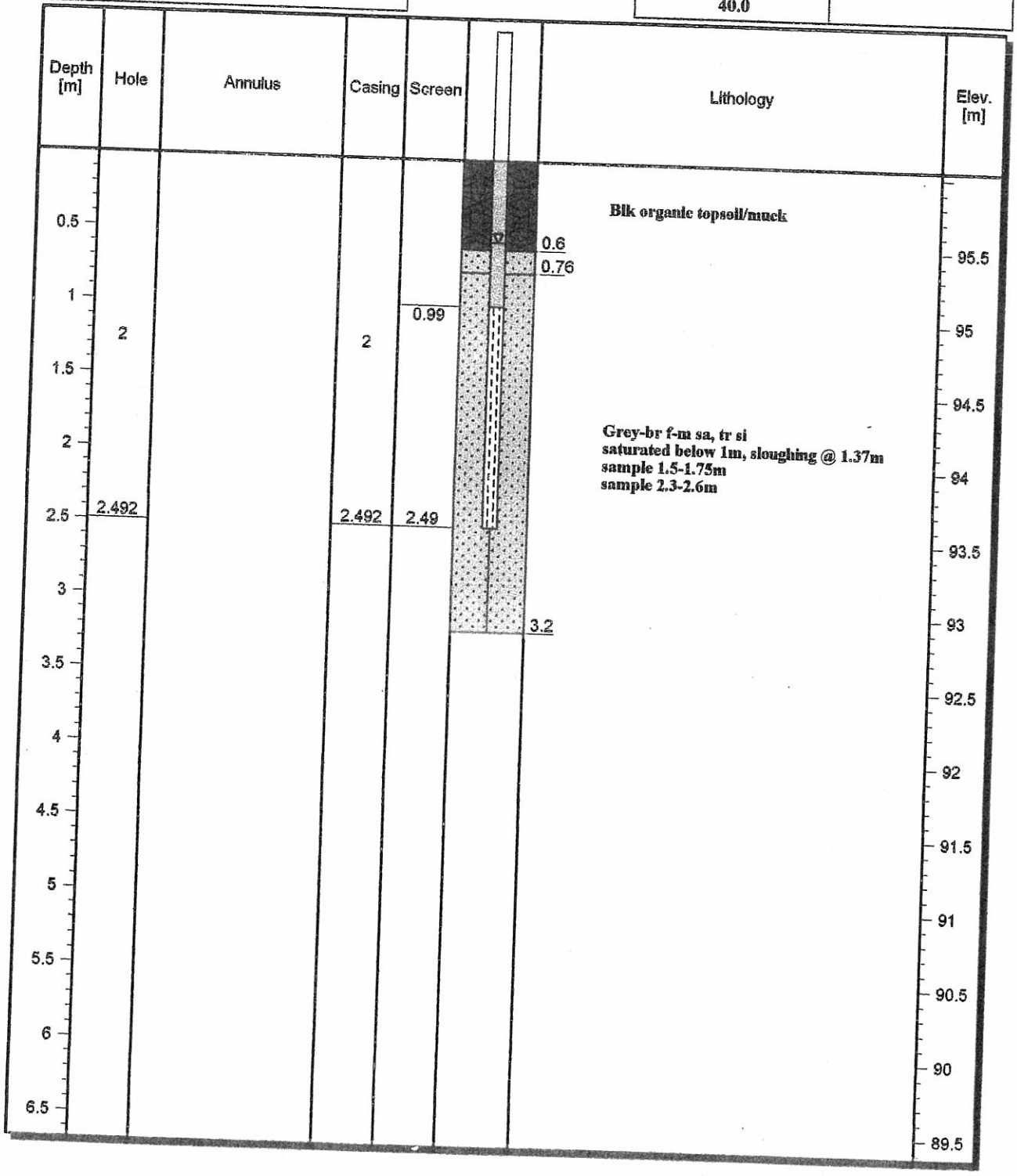
Well Ident	Name
SBMW5 ~~T-4~~	

Drill. Method	Drill. Dates
backhoe test pit	November 22, 1995

X	Y	Z	Meas. Pt. Elev.
1078	941	96.05	96.93

All measurements are in meters. Hole and casing diameters in inches.

Water Level (m AMSL)	Scales (1: xxx)	
95.50	Vertical 40.0	Horizontal



Well Log: Lithology & Construction

Well Ident	Name
SB MW6 T-3	

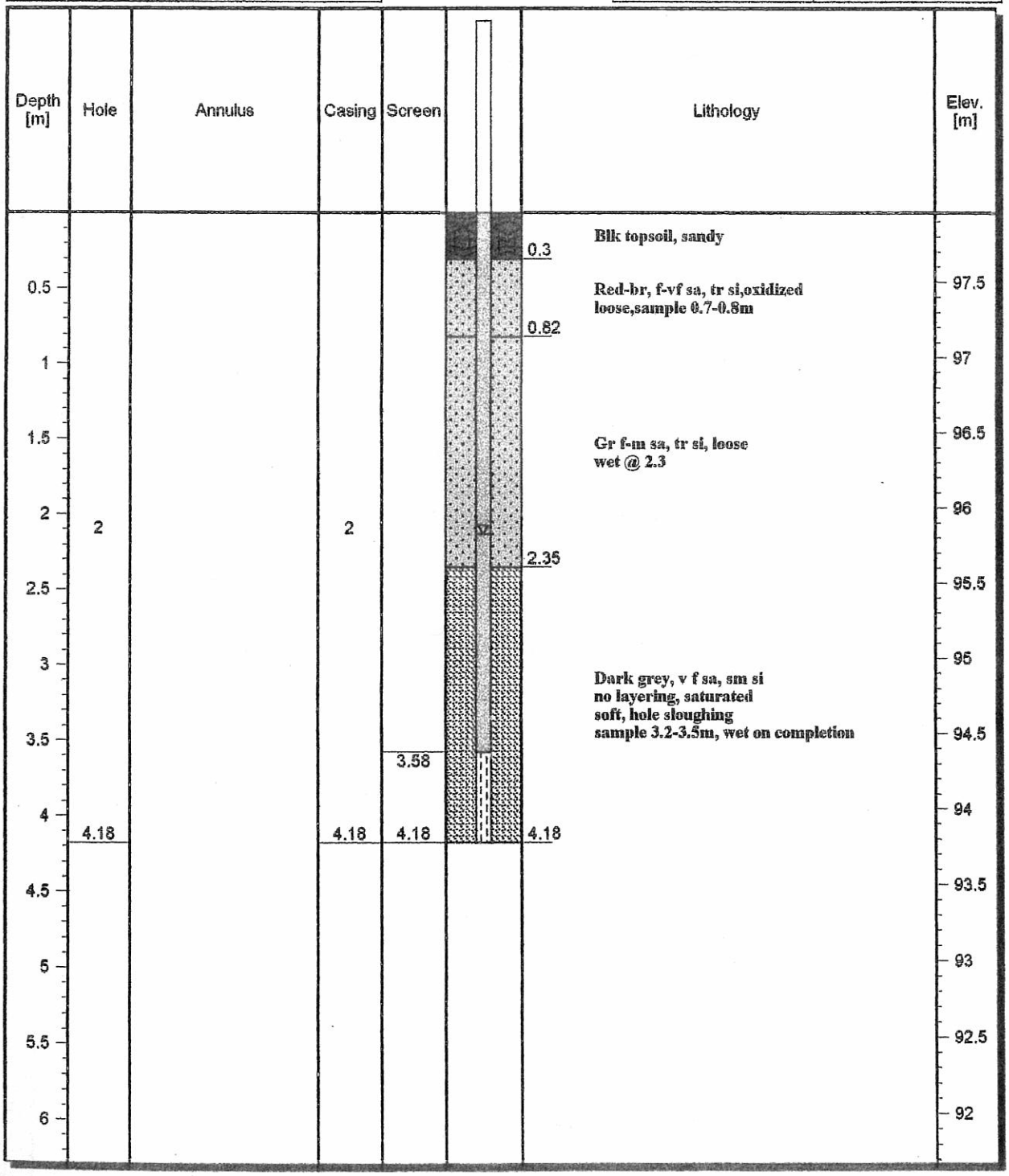
Drill. Method		Drill. Dates	
backhoe test pit		November 22, 1995	

X	Y	Z	Meas. Pt. Elev.
1121	935	97.96	99.23

All measurements are in meters. Hole and casing diameters in inches.

Scales (1: xxx)

Water Level (m AMSL)	Vertical	Horizontal
95.83	40.0	



BOREHOLE ID: SB-MW6R

Project No.: 170543
Client: Municipality of Hastings Highlands
Report: 2017 New Wells
Site Address: 2539 South Baptiste Lake Road

Elevation Ground: *382.16 m*
TOP: *382.99 m*

UTM (Zone 18N): 4996583.1 N
734540.2 E

Depth (m)	Description	Depth (m) / Elev. (m.a.s.l.)	Notes
	Ground Surface	0.00 / 382.16	0.825m PVC Stick-Up; 4" Square Protector, Locked
0	**OVERBURDEN** Fine SAND, Brown, Dry		
1.52	**OVERBURDEN** Fine Silty SAND, Grey/Brown, Moist	380.64	3/8" Bentonite Holeplug; 2" Solid PVC; #3 Silica Sand
3.05	**OVERBURDEN** Fine Silty SAND, Brown/Grey, Wet	379.11	2" Slot 10 PVC
4.57	**OVERBURDEN** Fine Silty SAND, Brown/Grey, Wet to Saturated	377.59	
6.00	End of borehole at 6.00 m Well Completion Details: Screened interval from 2.96 m to 6.00 m below surface Elevation at top of pipe (TOP) = 382.99 m	376.16	

Headspace Vapour Level (ppm): 10 | 100 | 1000

Drill Date: 2017 September 13
Drilled By: Lantech Drilling Services
Drilling Method: Hollow Stem Auger
Hole Diameter: 0.20 m (OD)
Logged By: KS
Checked By: BM

Notes:

Sheet 1 of 1

BH MW OB LOGV1.0 170543 - SOUTH BAPTISTE.GPJ VL TEMPLATE.GDT 18-1-5

BOREHOLE ID: SB-MW7

Project No.: 170543
Client: Municipality of Hastings Highlands
Report: 2017 New Wells
Site Address: 2539 South Baptiste Lake Road

Elevation Ground: *379.90 m*
TOP: *380.79 m*
MOECC Well Tag: A235170
UTM (Zone 18N): 4996602.1 N
734534.8 E

Depth (m)	Description	Depth (m) / Elev. (m.a.s.l.)	Notes
	Ground Surface	0.00 / 379.90	0.89m PVC Stick-Up 5.5" Round Steel Casing, Locked
0	**OVERBURDEN** Fine Silty SAND, Brown/Grey		
2.41	**Granite BEDROCK** Broken, Fractured	377.49	3/8" Bentonite Holeplug
3.32	**Granite BEDROCK**	376.58	2" Solid PVC
	3.99m Possible Fracture 4.39m Possible Fracture 5.12m Possible Fracture 5.49m Possible Fracture 6.37m Possible Fracture		#3 Silica Sand
7.89			2" Slot 10 PVC
8.50	**Granite BEDROCK** Possible Sediment Seams and Red Staining	372.01	
10.03	**Granite BEDROCK** 9.27m Large Fracture with Sediment and Red Staining	371.40	
	End of borehole at 10.03 m Well Completion Details: Screened interval from 4.57 m to 10.03 m below surface Elevation at top of pipe (TOP) = 380.79 m	369.87	

Headspace Vapour Level (ppm): 10 / 100 / 1000

Drill Date: 2017 September 13
Drilled By: Lantech Drilling Services
Drilling Method: Hollow Stem Auger/HQ Diamond Coring
Logged By: KS
Hole Diameter: 0.20/0.10 m (OD)
Checked By: BM

Notes:

Sheet 1 of 1

BH MW OB LOGV1.0 170543 - SOUTH BAPTISTE.GPJ VL TEMPLATE.GDT 18-1-5

BOREHOLE ID: SB-MW-8

Project No.: 180580-2
Client: South Baptiste Township
Report: South Baptiste Well Install 2018
Site Address: 2539, SOUTH BAPTISTE LAKE RD
HASTINGS HIGHLANDS, ONTARIO

Elevation Ground: *Not Surveyed*
TOP: *380.10 m*

Depth (m)	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
0	Ground Surface	0.00								50 mm solid PVC pipe
	Sand Silty Fine Sand, Soft, Grey-Brown, moist									
1										50 mm solid PVC pipe
2		2.10								GW = 377.31 m
	Sand Silty Fine Sand, Soft, Moist, Grey-Brown, Water encountered at 2.10, saturated	2.74								
3	**Sand** Silty Fine Sand, Soft, Moist, Grey, saturated									50 mm 010 slot PVC pipe
4		4.57								
	End of borehole at 4.57 m									
5										
6										
7										

Drill Date: 2018 October 23
Drilled By: Dedicated Environmental Drilling
Drilling Method: Hollow Stem Auger **Logged By:** AB
Hole Diameter: m (OD) **Checked By:** AB

Notes:

Sheet 1 of 1

BH MW OB LOGV1.0 SOUTH BAPTISTE_2018.GPJ VL TEMPLATE.GDT 19-2-14

BOREHOLE ID: SB-MW-9

Project No.: 180580-2
Client: South Baptiste Township
Report: South Baptiste Well Install 2018
Site Address: 2539, SOUTH BAPTISTE LAKE RD
HASTINGS HIGHLANDS, ONTARIO

Elevation Ground: *Not Surveyed*
TOP: *380.10 m*

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
0		Ground Surface	0.00								50 mm solid PVC pipe
		Sand Silty Fine Sand, Soft, dry									50 mm solid PVC pipe
1											GW = 377.32 m
2											
3			3.66								
		Sand Silty Fine Sand, Soft, Wet, wet	4.00								
4		**Sand** Silty Fine Sand, Soft, wet									50 mm 010 slot PVC pipe
5											
6			6.10								
		End of borehole at 6.10 m									
7											

Drill Date: 2018 October 23
Drilled By: Dedicated Environmental Drilling
Drilling Method: Hollow Stem Auger **Logged By:** AB
Hole Diameter: m (OD) **Checked By:** AB

Notes:

Sheet 1 of 1

BH MW OB LOGV1.0 SOUTH BAPTISTE_2018.GPJ VL TEMPLATE.GDT 19-2-14

BOREHOLE ID: SB-MW-10

Project No.: 180580-2
Client: South Baptiste Township
Report: South Baptiste Well Install 2018
Site Address: 2539, SOUTH BAPTISTE LAKE RD
HASTINGS HIGHLANDS, ONTARIO

Elevation Ground: *Not Surveyed*
TOP: *383.10 m*

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								50 mm solid PVC pipe
0		**Sand** Silty Fine Sand, Soft, dry									
1											
2											50 mm solid PVC pipe
3			3.57								
		Boulder Boulders and Cobbles, Sand mix, dry	4.00								
4		**Cobbles** Sand and gravel mix., moist									
5											silica sand
6											GW = 376.36 m 50 mm 010 slot PVC pipe
			6.71								
7		End of borehole at 6.71 m									

Drill Date: 2018 October 23
Drilled By: Dedicated Environmental Drilling
Drilling Method: Hollow Stem Auger **Logged By:** AB
Hole Diameter: m (OD) **Checked By:** AB

Notes:

Sheet 1 of 1

BH MW OB LOGV1.0 SOUTH BAPTISTE_2018.GPJ VL TEMPLATE.GDT 19-2-14

BOREHOLE ID: SB-MW11

Project No.: 200461
Client: Municipality of Hastings Highlands
Report: 2020 Additional Engineering Services
Site Address: 2539 South Baptiste Lake Road
Highland Grove, ON

Elevation Ground: *377.12 m*
TOP: *377.92 m*
MOECC Well Tag: A292955
UTM (Zone 17): 4996676 N
734598 E

Depth (m)	Description	Depth (m) / Elev. (m.a.s.l.)	Notes
	Ground Surface	0.00 / 377.12	jplug Stickup is 0.80m
0	**SAND and GRAVEL** Fill used to create drill rig access	0.91 / 376.21	Cement
1	**SAND** Trace gravel		
2			
3	Moist to wet below 3.05m	3.35 / 373.77	
4	**SAND and GRAVEL** With cobbles; wet to saturated	4.57 / 372.55	
5	**BEDROCK** Granite bedrock, dark grey to black		
6			3/8" Bentonite seal
7			
8			
9	Light grey below 9.1m		

SUBSURFACE PROFILE | SAMPLE | WELL COMPLETION

Symbol | Sample ID | Type | Blow Counts | Recovery (%) | Lab Analysis | Headspace Vapour Level (ppm) 10 100 | Construction

Drill Date: 2020 September 9
Drilled By: Canadian Environmental Drilling
Drilling Method: Hollow Stem Auger, Air Hammer
Hole Diameter: 0.20 m (OD)
Logged By: BM
Checked By: DK

Notes:

BH MW OB LOGV1.0 200461 MW11 DK.GPJ WESA TEMPLATE V1.2.GDT 21-1-21

BOREHOLE ID: SB-MW11

Project No.: 200461
Client: Municipality of Hastings Highlands
Report: 2020 Additional Engineering Services
Site Address: 2539 South Baptiste Lake Road
Highland Grove, ON

Elevation Ground: *377.12 m*
TOP: *377.92 m*
MOECC Well Tag: A292955
UTM (Zone 17): 4996676 N
734598 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	Construction	Notes
10											
11											
12											
13											
14		Grey to black below 13.7m									
15											
16											#3 Silica sand 38 mm 010 slot PVC pipe
17		Potentially water-bearing 16.7m and below									
18			18.49 358.63								end cap
19		End of borehole at 18.49 m Well Completion Details: Screened interval from 13.92 m to 18.49 m below surface Elevation at top of pipe (TOP) = 377.92 m									
20											

Drill Date: 2020 September 9
Drilled By: Canadian Environmental Drilling
Drilling Method: Hollow Stem Auger, Air Hammer
Hole Diameter: 0.20 m (OD)
Logged By: BM
Checked By: DK

Notes:

Sheet 2 of 2

Appendix D

Inspection Forms, Laboratory Reports and Chain of Custody Records

Appendix D

D-1 Operation and Inspection Forms

SMALL LANDFILL
OPERATION AND INSPECTION FORM

BluMetric Environmental

Site Name: South Baptiste WDS, MHHs	Date: May 8th, 2025	Weather Conditions: 3°C
Project #: 250253-09	BluMetric Staff: NW IBM	Sunny + 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~~ → Closed while on-site
- ❑ 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 ✓ → Large uncovered waste pile in active fill area
- ❑ 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 _ → No signage for tires, bulky items, metals, or brush
- ❑ Tires neat and appropriate size — Yes ✓ No _
- ❑ Bulky Items neat and appropriate size — Yes _ No ✓ → No seperation between tires & bulky items
- ❑ 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 building = 15 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.)

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:

******Confirm and take pictures of perimeter drainage ditch to the south and east.******

No water - ditches dry

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

Site Name: South Baptiste WDS, MHHs	**Date:** July 7th, 2025	**Weather Conditions:**
Project #: 250253-09	**BluMetric Staff:** NW / CR	20°C, Overcast, humid

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 _ → Closed and locked upon arrival	
❑ 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 _
❑ 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 _ → No sign
❑ Tires neat and appropriate size	Yes ✓	No _ → No sign
❑ Bulky Items neat and appropriate size	Yes _	No ✓ → Large and spilling over, no sign
❑ 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 _	→ Not assessed
❑ 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 _	→ Not assessed
❑ 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.)

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: South Baptiste WDS, MHHs	Date: Oct 21, 2025	Weather Conditions: Sun/Cloud 5°C Rain in late afternoon
Project #:	BluMetric Staff: BM / DK	

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 _
❑	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 _	All piles are large
❑	Tires neat and appropriate size	Yes _	✓	No _	Metals and brush are close together
❑	Bulky Items neat and appropriate size	Yes _	✓	No _	
❑	Brush pile neat and appropriate size	Yes _	✓	No _	
❑	Construction Debris neat and appropriate size	Yes _		No _	✓ N/A

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 _
❑	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.)

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 D

D-2 2025 Groundwater Analytical Results

Your P.O. #: 250253-09
Your Project #: 250253-09
Site Location: SOUTH BAPTISTE
Your C.O.C. #: 1041565-01-01

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 #: R8539473
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C552879
Received: 2025/05/09, 11:12

Sample Matrix: Water
Samples Received: 10

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Alkalinity	10	N/A	2025/05/15	CAM SOP-00448	SM 24 2320 B m
Chloride by Automated Colourimetry	10	N/A	2025/05/15	CAM SOP-00463	SM 24 4500-Cl E m
Chemical Oxygen Demand	10	N/A	2025/05/14	CAM SOP-00416	SM 24 5220 D m
Conductivity	10	N/A	2025/05/15	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
Dissolved Mercury in Water by CVAA	9	2025/05/14	2025/05/14	CAM SOP-00453	EPA 7470A m
Dissolved Mercury in Water by CVAA	1	2025/05/14	2025/05/15	CAM SOP-00453	EPA 7470A m
Dissolved Metals by ICPMS	10	N/A	2025/05/14	CAM SOP-00447	EPA 6020B m
Total Ammonia-N	10	N/A	2025/05/15	CAM SOP-00441	USGS I-2522-90 m
Nitrate & Nitrite as Nitrogen in Water (2)	10	N/A	2025/05/13	CAM SOP-00440	SM 24 4500-NO3I/NO2B
pH (3)	10	2025/05/13	2025/05/15	CAM SOP-00413	SM 24th - 4500H+ B
Phenols (4AAP)	8	N/A	2025/05/14	CAM SOP-00444	OMOE E3179 m
Phenols (4AAP)	2	N/A	2025/05/15	CAM SOP-00444	OMOE E3179 m
Sulphate by Automated Turbidimetry	10	N/A	2025/05/15	CAM SOP-00464	SM 24 4500-SO42- E m
Total Dissolved Solids	10	2025/05/14	2025/05/15	CAM SOP-00428	SM 24 2540C m
Total Kjeldahl Nitrogen in Water	6	2025/05/14	2025/05/14	CAM SOP-00938	SM 4500-N B m
Total Kjeldahl Nitrogen in Water	4	2025/05/14	2025/05/15	CAM SOP-00938	SM 4500-N B m
Total Phosphorus (Colourimetric)	2	2025/05/14	2025/05/14	CAM SOP-00407	SM 24 4500-P I
Total Phosphorus (Colourimetric)	8	2025/05/14	2025/05/15	CAM SOP-00407	SM 24 4500-P I
Total Suspended Solids	10	2025/05/14	2025/05/15	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 Uncertainty has not been accounted for when stating conformity to the referenced standard.

Your P.O. #: 250253-09
Your Project #: 250253-09
Site Location: SOUTH BAPTISTE
Your C.O.C. #: 1041565-01-01

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 #: R8539473
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C552879

Received: 2025/05/09, 11:12

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 #: C552879
Report Date: 2025/05/15

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: SOUTH BAPTISTE
Your P.O. #: 250253-09
Sampler Initials: BM

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		AQSL15			AQSL15		
Sampling Date		2025/05/08 12:15			2025/05/08 12:15		
COC Number		1041565-01-01			1041565-01-01		
	UNITS	SB-MW2	RDL	QC Batch	SB-MW2 Lab-Dup	RDL	QC Batch
Inorganics							
Total Ammonia-N	mg/L	ND	0.050	9928722			
Total Chemical Oxygen Demand (COD)	mg/L	ND	4.0	9928418	ND	4.0	9928418
Conductivity	umho/cm	44	2.0	9927765			
Total Dissolved Solids	mg/L	30	10	9928989			
Total Kjeldahl Nitrogen (TKN)	mg/L	ND	0.10	9928467			
Dissolved Organic Carbon	mg/L	1.4	0.4	9927822			
pH	pH	7.16		9927768			
Phenols-4AAP	mg/L	ND	0.0010	9928899	ND	0.0010	9928899
Total Phosphorus	mg/L	0.19	0.020	9928470			
Total Suspended Solids	mg/L	100	10	9928947			
Dissolved Sulphate (SO4)	mg/L	2.2	1.0	9927813			
Alkalinity (Total as CaCO3)	mg/L	17	1.0	9927763			
Dissolved Chloride (Cl-)	mg/L	ND	1.0	9927811			
Nitrite (N)	mg/L	ND	0.010	9927505			
Nitrate (N)	mg/L	ND	0.10	9927505			
Nitrate + Nitrite (N)	mg/L	ND	0.10	9927505			

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 #: C552879
Report Date: 2025/05/15

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: SOUTH BAPTISTE
Your P.O. #: 250253-09
Sampler Initials: BM

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		AQSL16			AQSL17		
Sampling Date		2025/05/08 12:05			2025/05/08 11:45		
COC Number		1041565-01-01			1041565-01-01		
	UNITS	SB-MW3	RDL	QC Batch	SB-MW4	RDL	QC Batch
Inorganics							
Total Ammonia-N	mg/L	ND	0.050	9928722	0.81	0.050	9928722
Total Chemical Oxygen Demand (COD)	mg/L	ND	4.0	9928418	47	4.0	9928418
Conductivity	umho/cm	120	2.0	9927765	130	2.0	9927765
Total Dissolved Solids	mg/L	105	10	9928989	235	10	9928989
Total Kjeldahl Nitrogen (TKN)	mg/L	ND	0.10	9928467	1.7	0.10	9928467
Dissolved Organic Carbon	mg/L	1.3	0.4	9927822	3.4	0.4	9927822
pH	pH	7.12		9927768	7.09		9927768
Phenols-4AAP	mg/L	ND	0.0010	9928899	ND	0.0010	9928899
Total Phosphorus	mg/L	5.1	0.020	9928470	82	0.40	9928470
Total Suspended Solids	mg/L	3300	50	9928944	160000	500	9928944
Dissolved Sulphate (SO4)	mg/L	8.2	1.0	9927813	14	1.0	9927818
Alkalinity (Total as CaCO3)	mg/L	32	1.0	9927763	33	1.0	9927763
Dissolved Chloride (Cl-)	mg/L	8.5	1.0	9927811	1.3	1.0	9927815
Nitrite (N)	mg/L	ND	0.010	9927505	ND	0.010	9927505
Nitrate (N)	mg/L	0.37	0.10	9927505	2.12	0.10	9927505
Nitrate + Nitrite (N)	mg/L	0.37	0.10	9927505	2.12	0.10	9927505

RDL = Reportable Detection Limit
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Bureau Veritas Job #: C552879
Report Date: 2025/05/15

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: SOUTH BAPTISTE
Your P.O. #: 250253-09
Sampler Initials: BM

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		AQSL18			AQSL19		
Sampling Date		2025/05/08 12:00			2025/05/08 11:25		
COC Number		1041565-01-01			1041565-01-01		
	UNITS	SB-MW5	RDL	QC Batch	SB-MW6R	RDL	QC Batch
Inorganics							
Total Ammonia-N	mg/L	1.0	0.050	9928722	38	0.25	9928722
Total Chemical Oxygen Demand (COD)	mg/L	19	4.0	9928418	170	8.0	9928418
Conductivity	umho/cm	500	2.0	9927765	1900	2.0	9927765
Total Dissolved Solids	mg/L	355	10	9928989	1110	10	9928989
Total Kjeldahl Nitrogen (TKN)	mg/L	1.4	0.10	9928467	42	2.0	9928467
Dissolved Organic Carbon	mg/L	4.4	0.4	9927822	51	0.4	9927822
pH	pH	7.26		9927768	7.41		9927768
Phenols-4AAP	mg/L	ND	0.0010	9928899	ND	0.0010	9928899
Total Phosphorus	mg/L	4.8	0.10	9928470	17	0.40	9928470
Total Suspended Solids	mg/L	9800	100	9928947	150000	500	9928944
Dissolved Sulphate (SO4)	mg/L	11	1.0	9927818	43	1.0	9927818
Alkalinity (Total as CaCO3)	mg/L	130	1.0	9927763	950	1.0	9927763
Dissolved Chloride (Cl-)	mg/L	60	1.0	9927815	39	1.0	9927815
Nitrite (N)	mg/L	ND	0.010	9927505	ND	0.010	9927505
Nitrate (N)	mg/L	ND	0.10	9927505	ND	0.10	9927505
Nitrate + Nitrite (N)	mg/L	ND	0.10	9927505	ND	0.10	9927505

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
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Bureau Veritas Job #: C552879
Report Date: 2025/05/15

BluMetric Environmental Inc
Client Project #: 250253-09
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Your P.O. #: 250253-09
Sampler Initials: BM

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		AQSL20			AQSL20		
Sampling Date		2025/05/08 11:50			2025/05/08 11:50		
COC Number		1041565-01-01			1041565-01-01		
	UNITS	SB-MW7	RDL	QC Batch	SB-MW7 Lab-Dup	RDL	QC Batch
Inorganics							
Total Ammonia-N	mg/L	9.1	0.050	9928722	9.1	0.050	9928722
Total Chemical Oxygen Demand (COD)	mg/L	50	4.0	9928418			
Conductivity	umho/cm	1600	2.0	9927765			
Total Dissolved Solids	mg/L	905	10	9928989			
Total Kjeldahl Nitrogen (TKN)	mg/L	13	1.0	9928467			
Dissolved Organic Carbon	mg/L	22	0.4	9927822			
pH	pH	7.69		9927768			
Phenols-4AAP	mg/L	0.0011	0.0010	9928899			
Total Phosphorus	mg/L	ND	0.020	9928470			
Total Suspended Solids	mg/L	29	10	9928947			
Dissolved Sulphate (SO4)	mg/L	47	1.0	9927818			
Alkalinity (Total as CaCO3)	mg/L	660	1.0	9927763			
Dissolved Chloride (Cl-)	mg/L	95	1.0	9927815			
Nitrite (N)	mg/L	ND	0.010	9927505			
Nitrate (N)	mg/L	0.33	0.10	9927505			
Nitrate + Nitrite (N)	mg/L	0.33	0.10	9927505			

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
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Bureau Veritas Job #: C552879
Report Date: 2025/05/15

BluMetric Environmental Inc
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Site Location: SOUTH BAPTISTE
Your P.O. #: 250253-09
Sampler Initials: BM

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		AQSL21			AQSL22		
Sampling Date		2025/05/08 10:30			2025/05/08 10:40		
COC Number		1041565-01-01			1041565-01-01		
	UNITS	SB-MW8	RDL	QC Batch	SB-MW9	RDL	QC Batch
Inorganics							
Total Ammonia-N	mg/L	ND	0.050	9928722	ND	0.050	9928722
Total Chemical Oxygen Demand (COD)	mg/L	ND	4.0	9928418	ND	4.0	9928418
Conductivity	umho/cm	320	2.0	9927765	210	2.0	9927765
Total Dissolved Solids	mg/L	275	10	9928989	150	10	9928989
Total Kjeldahl Nitrogen (TKN)	mg/L	0.14	0.10	9928467	ND	0.10	9928467
Dissolved Organic Carbon	mg/L	1.5	0.4	9927822	1.1	0.4	9927822
pH	pH	6.89		9927768	7.42		9927768
Phenols-4AAP	mg/L	ND	0.0010	9928899	ND	0.0010	9928899
Total Phosphorus	mg/L	31	0.40	9928470	1.1	0.020	9928470
Total Suspended Solids	mg/L	5800	50	9928944	430	10	9928947
Dissolved Sulphate (SO4)	mg/L	5.0	1.0	9927818	2.9	1.0	9927818
Alkalinity (Total as CaCO3)	mg/L	29	1.0	9927763	34	1.0	9927763
Dissolved Chloride (Cl-)	mg/L	65	1.0	9927815	35	1.0	9927815
Nitrite (N)	mg/L	ND	0.010	9927505	ND	0.010	9927505
Nitrate (N)	mg/L	0.46	0.10	9927505	0.31	0.10	9927505
Nitrate + Nitrite (N)	mg/L	0.46	0.10	9927505	0.31	0.10	9927505

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
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Bureau Veritas Job #: C552879
Report Date: 2025/05/15

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: SOUTH BAPTISTE
Your P.O. #: 250253-09
Sampler Initials: BM

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		AQSL23		AQSL24			AQSL24		
Sampling Date		2025/05/08 11:35		2025/05/08 10:40			2025/05/08 10:40		
COC Number		1041565-01-01		1041565-01-01			1041565-01-01		
	UNITS	SB-MW10	RDL	SB-QAQC-GW1	RDL	QC Batch	SB-QAQC-GW1 Lab-Dup	RDL	QC Batch
Inorganics									
Total Ammonia-N	mg/L	17	0.050	ND	0.050	9928722			
Total Chemical Oxygen Demand (COD)	mg/L	61	4.0	ND	4.0	9928418			
Conductivity	umho/cm	1500	2.0	200	2.0	9927765			
Total Dissolved Solids	mg/L	875	10	155	10	9928989			
Total Kjeldahl Nitrogen (TKN)	mg/L	23	1.0	ND	0.10	9928467	ND	0.10	9928467
Dissolved Organic Carbon	mg/L	21	0.4	1.0	0.4	9927822			
pH	pH	7.51		7.18		9927768			
Phenols-4AAP	mg/L	ND	0.0010	ND	0.0010	9928899			
Total Phosphorus	mg/L	0.62	0.020	1.1	0.020	9928470			
Total Suspended Solids	mg/L	310	10	540	10	9928944			
Dissolved Sulphate (SO4)	mg/L	28	1.0	3.8	1.0	9927818	4.2	1.0	9927818
Alkalinity (Total as CaCO3)	mg/L	600	1.0	28	1.0	9927763			
Dissolved Chloride (Cl-)	mg/L	82	1.0	33	1.0	9927815	33	1.0	9927815
Nitrite (N)	mg/L	ND	0.010	ND	0.010	9927505	ND	0.010	9927505
Nitrate (N)	mg/L	ND	0.10	0.30	0.10	9927505	0.30	0.10	9927505
Nitrate + Nitrite (N)	mg/L	ND	0.10	0.30	0.10	9927505	0.30	0.10	9927505

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
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Bureau Veritas Job #: C552879
Report Date: 2025/05/15

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: SOUTH BAPTISTE
Your P.O. #: 250253-09
Sampler Initials: BM

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Bureau Veritas ID		AQSL15		AQSL16		AQSL17		
Sampling Date		2025/05/08 12:15		2025/05/08 12:05		2025/05/08 11:45		
COC Number		1041565-01-01		1041565-01-01		1041565-01-01		
	UNITS	SB-MW2	QC Batch	SB-MW3	QC Batch	SB-MW4	RDL	QC Batch
Metals								
Dissolved Mercury (Hg)	ug/L	ND	9928963	ND	9928603	ND	0.10	9928603
Dissolved Aluminum (Al)	ug/L	ND	9926342	ND	9926342	47	4.9	9926343
Dissolved Arsenic (As)	ug/L	ND	9926342	ND	9926342	ND	1.0	9926343
Dissolved Barium (Ba)	ug/L	3.2	9926342	10	9926342	81	2.0	9926343
Dissolved Beryllium (Be)	ug/L	ND	9926342	ND	9926342	ND	0.40	9926343
Dissolved Boron (B)	ug/L	21	9926342	13	9926342	160	10	9926343
Dissolved Cadmium (Cd)	ug/L	ND	9926342	ND	9926342	ND	0.090	9926343
Dissolved Calcium (Ca)	ug/L	5200	9926342	11000	9926342	13000	200	9926343
Dissolved Chromium (Cr)	ug/L	ND	9926342	ND	9926342	ND	5.0	9926343
Dissolved Cobalt (Co)	ug/L	ND	9926342	ND	9926342	ND	0.50	9926343
Dissolved Copper (Cu)	ug/L	ND	9926342	1.2	9926342	3.1	0.90	9926343
Dissolved Iron (Fe)	ug/L	ND	9926342	ND	9926342	ND	100	9926343
Dissolved Lead (Pb)	ug/L	ND	9926342	ND	9926342	ND	0.50	9926343
Dissolved Magnesium (Mg)	ug/L	740	9926342	1500	9926342	1100	50	9926343
Dissolved Manganese (Mn)	ug/L	ND	9926342	ND	9926342	20	2.0	9926343
Dissolved Molybdenum (Mo)	ug/L	ND	9926342	ND	9926342	ND	0.50	9926343
Dissolved Nickel (Ni)	ug/L	ND	9926342	ND	9926342	ND	1.0	9926343
Dissolved Potassium (K)	ug/L	570	9926342	1800	9926342	5200	200	9926343
Dissolved Silicon (Si)	ug/L	5600	9926342	5200	9926342	2300	50	9926343
Dissolved Silver (Ag)	ug/L	ND	9926342	ND	9926342	ND	0.090	9926343
Dissolved Sodium (Na)	ug/L	1100	9926342	6500	9926342	2200	100	9926343
Dissolved Strontium (Sr)	ug/L	52	9926342	95	9926342	130	1.0	9926343
Dissolved Thallium (Tl)	ug/L	ND	9926342	ND	9926342	ND	0.050	9926343
Dissolved Titanium (Ti)	ug/L	ND	9926342	ND	9926342	ND	5.0	9926343
Dissolved Vanadium (V)	ug/L	ND	9926342	ND	9926342	ND	0.50	9926343
Dissolved Zinc (Zn)	ug/L	ND	9926342	ND	9926342	ND	5.0	9926343

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Bureau Veritas Job #: C552879
Report Date: 2025/05/15

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: SOUTH BAPTISTE
Your P.O. #: 250253-09
Sampler Initials: BM

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Bureau Veritas ID		AQSL17			AQSL18	AQSL19		AQSL20		
Sampling Date		2025/05/08 11:45			2025/05/08 12:00	2025/05/08 11:25		2025/05/08 11:50		
COC Number		1041565-01-01			1041565-01-01	1041565-01-01		1041565-01-01		
	UNITS	SB-MW4 Lab-Dup	RDL	QC Batch	SB-MW5	SB-MW6R	RDL	SB-MW7	RDL	QC Batch
Metals										
Dissolved Mercury (Hg)	ug/L				ND	ND	0.10	ND	0.10	9928603
Dissolved Aluminum (Al)	ug/L	48	4.9	9926343	7.0	71	4.9	ND	4.9	9926342
Dissolved Arsenic (As)	ug/L	ND	1.0	9926343	ND	ND	1.0	1.1	1.0	9926342
Dissolved Barium (Ba)	ug/L	82	2.0	9926343	56	270	2.0	200	2.0	9926342
Dissolved Beryllium (Be)	ug/L	ND	0.40	9926343	ND	ND	0.40	ND	0.40	9926342
Dissolved Boron (B)	ug/L	160	10	9926343	130	1700	10	830	10	9926342
Dissolved Cadmium (Cd)	ug/L	ND	0.090	9926343	ND	ND	0.090	0.12	0.090	9926342
Dissolved Calcium (Ca)	ug/L	13000	200	9926343	38000	210000	200	180000	200	9926342
Dissolved Chromium (Cr)	ug/L	ND	5.0	9926343	ND	ND	5.0	ND	5.0	9926342
Dissolved Cobalt (Co)	ug/L	ND	0.50	9926343	ND	35	0.50	14	0.50	9926342
Dissolved Copper (Cu)	ug/L	3.1	0.90	9926343	ND	4.2	0.90	8.5	0.90	9926342
Dissolved Iron (Fe)	ug/L	ND	100	9926343	2300	69000	100	630	100	9926342
Dissolved Lead (Pb)	ug/L	ND	0.50	9926343	ND	ND	0.50	ND	0.50	9926342
Dissolved Magnesium (Mg)	ug/L	1100	50	9926343	7500	38000	50	31000	50	9926342
Dissolved Manganese (Mn)	ug/L	20	2.0	9926343	2200	4000	2.0	13000	10	9926342
Dissolved Molybdenum (Mo)	ug/L	ND	0.50	9926343	1.4	2.6	0.50	8.1	0.50	9926342
Dissolved Nickel (Ni)	ug/L	ND	1.0	9926343	ND	8.7	1.0	29	1.0	9926342
Dissolved Potassium (K)	ug/L	5100	200	9926343	18000	83000	200	34000	200	9926342
Dissolved Silicon (Si)	ug/L	2300	50	9926343	5500	4200	50	7800	50	9926342
Dissolved Silver (Ag)	ug/L	ND	0.090	9926343	ND	ND	0.090	ND	0.090	9926342
Dissolved Sodium (Na)	ug/L	2200	100	9926343	30000	74000	100	96000	100	9926342
Dissolved Strontium (Sr)	ug/L	130	1.0	9926343	330	680	1.0	1400	1.0	9926342
Dissolved Thallium (Tl)	ug/L	ND	0.050	9926343	ND	0.10	0.050	0.057	0.050	9926342
Dissolved Titanium (Ti)	ug/L	ND	5.0	9926343	ND	ND	5.0	ND	5.0	9926342
Dissolved Vanadium (V)	ug/L	ND	0.50	9926343	0.76	2.4	0.50	0.71	0.50	9926342
Dissolved Zinc (Zn)	ug/L	ND	5.0	9926343	ND	ND	5.0	16	5.0	9926342

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C552879
Report Date: 2025/05/15

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: SOUTH BAPTISTE
Your P.O. #: 250253-09
Sampler Initials: BM

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Bureau Veritas ID		AQSL21		AQSL22			AQSL23		
Sampling Date		2025/05/08 10:30		2025/05/08 10:40			2025/05/08 11:35		
COC Number		1041565-01-01		1041565-01-01			1041565-01-01		
	UNITS	SB-MW8	QC Batch	SB-MW9	RDL	QC Batch	SB-MW10	RDL	QC Batch
Metals									
Dissolved Mercury (Hg)	ug/L	ND	9928603	ND	0.10	9928603	ND	0.10	9928603
Dissolved Aluminum (Al)	ug/L	8.4	9926342	ND	4.9	9926343	10	4.9	9926342
Dissolved Arsenic (As)	ug/L	ND	9926342	ND	1.0	9926343	ND	1.0	9926342
Dissolved Barium (Ba)	ug/L	19	9926342	12	2.0	9926343	110	2.0	9926342
Dissolved Beryllium (Be)	ug/L	ND	9926342	ND	0.40	9926343	ND	0.40	9926342
Dissolved Boron (B)	ug/L	11	9926342	ND	10	9926343	690	10	9926342
Dissolved Cadmium (Cd)	ug/L	ND	9926342	ND	0.090	9926343	0.21	0.090	9926342
Dissolved Calcium (Ca)	ug/L	29000	9926342	19000	200	9926343	120000	200	9926342
Dissolved Chromium (Cr)	ug/L	ND	9926342	ND	5.0	9926343	ND	5.0	9926342
Dissolved Cobalt (Co)	ug/L	ND	9926342	ND	0.50	9926343	43	0.50	9926342
Dissolved Copper (Cu)	ug/L	ND	9926342	ND	0.90	9926343	47	0.90	9926342
Dissolved Iron (Fe)	ug/L	ND	9926342	ND	100	9926343	ND	100	9926342
Dissolved Lead (Pb)	ug/L	ND	9926342	ND	0.50	9926343	ND	0.50	9926342
Dissolved Magnesium (Mg)	ug/L	3100	9926342	2200	50	9926343	23000	50	9926342
Dissolved Manganese (Mn)	ug/L	4.9	9926342	ND	2.0	9926343	14000	10	9926342
Dissolved Molybdenum (Mo)	ug/L	ND	9926342	ND	0.50	9926343	9.4	0.50	9926342
Dissolved Nickel (Ni)	ug/L	ND	9926342	ND	1.0	9926343	31	1.0	9926342
Dissolved Potassium (K)	ug/L	1800	9926342	1200	200	9926343	48000	200	9926342
Dissolved Silicon (Si)	ug/L	5500	9926342	5400	50	9926343	7400	50	9926342
Dissolved Silver (Ag)	ug/L	ND	9926342	ND	0.090	9926343	ND	0.090	9926342
Dissolved Sodium (Na)	ug/L	18000	9926342	9000	100	9926343	67000	100	9926342
Dissolved Strontium (Sr)	ug/L	310	9926342	200	1.0	9926343	770	1.0	9926342
Dissolved Thallium (Tl)	ug/L	ND	9926342	ND	0.050	9926343	0.24	0.050	9926342
Dissolved Titanium (Ti)	ug/L	ND	9926342	ND	5.0	9926343	ND	5.0	9926342
Dissolved Vanadium (V)	ug/L	ND	9926342	ND	0.50	9926343	ND	0.50	9926342
Dissolved Zinc (Zn)	ug/L	ND	9926342	ND	5.0	9926343	14	5.0	9926342

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 #: C552879
Report Date: 2025/05/15

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: SOUTH BAPTISTE
Your P.O. #: 250253-09
Sampler Initials: BM

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Bureau Veritas ID		AQSL24		
Sampling Date		2025/05/08 10:40		
COC Number		1041565-01-01		
	UNITS	SB-QAQC-GW1	RDL	QC Batch
Metals				
Dissolved Mercury (Hg)	ug/L	ND	0.10	9928603
Dissolved Aluminum (Al)	ug/L	ND	4.9	9926342
Dissolved Arsenic (As)	ug/L	ND	1.0	9926342
Dissolved Barium (Ba)	ug/L	12	2.0	9926342
Dissolved Beryllium (Be)	ug/L	ND	0.40	9926342
Dissolved Boron (B)	ug/L	10	10	9926342
Dissolved Cadmium (Cd)	ug/L	ND	0.090	9926342
Dissolved Calcium (Ca)	ug/L	18000	200	9926342
Dissolved Chromium (Cr)	ug/L	ND	5.0	9926342
Dissolved Cobalt (Co)	ug/L	ND	0.50	9926342
Dissolved Copper (Cu)	ug/L	ND	0.90	9926342
Dissolved Iron (Fe)	ug/L	ND	100	9926342
Dissolved Lead (Pb)	ug/L	ND	0.50	9926342
Dissolved Magnesium (Mg)	ug/L	2200	50	9926342
Dissolved Manganese (Mn)	ug/L	ND	2.0	9926342
Dissolved Molybdenum (Mo)	ug/L	ND	0.50	9926342
Dissolved Nickel (Ni)	ug/L	ND	1.0	9926342
Dissolved Potassium (K)	ug/L	1300	200	9926342
Dissolved Silicon (Si)	ug/L	6000	50	9926342
Dissolved Silver (Ag)	ug/L	ND	0.090	9926342
Dissolved Sodium (Na)	ug/L	9100	100	9926342
Dissolved Strontium (Sr)	ug/L	200	1.0	9926342
Dissolved Thallium (Tl)	ug/L	ND	0.050	9926342
Dissolved Titanium (Ti)	ug/L	ND	5.0	9926342
Dissolved Vanadium (V)	ug/L	ND	0.50	9926342
Dissolved Zinc (Zn)	ug/L	ND	5.0	9926342

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.

TEST SUMMARY

Bureau Veritas ID: AQSL15
Sample ID: SB-MW2
Matrix: Water

Collected: 2025/05/08
Shipped:
Received: 2025/05/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9927763	N/A	2025/05/15	Nachiketa Gohil
Chloride by Automated Colourimetry	SKAL	9927811	N/A	2025/05/15	Alina Dobreanu
Chemical Oxygen Demand	SPEC	9928418	N/A	2025/05/14	Kruti Jitesh Patel
Conductivity	AT	9927765	N/A	2025/05/15	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	9927822	N/A	2025/05/13	Gyulshen Idriz
Dissolved Mercury in Water by CVAA	CV/AA	9928963	2025/05/14	2025/05/15	Maitri PATIL
Dissolved Metals by ICPMS	ICP/MS	9926342	N/A	2025/05/14	Thuy Linh Nguyen
Total Ammonia-N	SKAL/NH4	9928722	N/A	2025/05/15	Massarat Jan
Nitrate & Nitrite as Nitrogen in Water	LACH	9927505	N/A	2025/05/13	Chandra Nandlal
pH	AT	9927768	2025/05/13	2025/05/15	Nachiketa Gohil
Phenols (4AAP)	TECH/PHEN	9928899	N/A	2025/05/14	Madhav Somani
Sulphate by Automated Turbidimetry	SKAL	9927813	N/A	2025/05/15	Alina Dobreanu
Total Dissolved Solids	BAL	9928989	2025/05/14	2025/05/15	Binuja Kodithuwakku Arachchilage
Total Kjeldahl Nitrogen in Water	SKAL	9928467	2025/05/14	2025/05/14	Rajni Tyagi
Total Phosphorus (Colourimetric)	SKAL/P	9928470	2025/05/14	2025/05/14	Vidhi Khatri
Total Suspended Solids	BAL	9928947	2025/05/14	2025/05/15	Tina Teng

Bureau Veritas ID: AQSL15 Dup
Sample ID: SB-MW2
Matrix: Water

Collected: 2025/05/08
Shipped:
Received: 2025/05/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Chemical Oxygen Demand	SPEC	9928418	N/A	2025/05/14	Kruti Jitesh Patel
Phenols (4AAP)	TECH/PHEN	9928899	N/A	2025/05/14	Madhav Somani

Bureau Veritas ID: AQSL16
Sample ID: SB-MW3
Matrix: Water

Collected: 2025/05/08
Shipped:
Received: 2025/05/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9927763	N/A	2025/05/15	Nachiketa Gohil
Chloride by Automated Colourimetry	SKAL	9927811	N/A	2025/05/15	Alina Dobreanu
Chemical Oxygen Demand	SPEC	9928418	N/A	2025/05/14	Kruti Jitesh Patel
Conductivity	AT	9927765	N/A	2025/05/15	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	9927822	N/A	2025/05/13	Gyulshen Idriz
Dissolved Mercury in Water by CVAA	CV/AA	9928603	2025/05/14	2025/05/14	Maitri PATIL
Dissolved Metals by ICPMS	ICP/MS	9926342	N/A	2025/05/14	Thuy Linh Nguyen
Total Ammonia-N	SKAL/NH4	9928722	N/A	2025/05/15	Massarat Jan
Nitrate & Nitrite as Nitrogen in Water	LACH	9927505	N/A	2025/05/13	Chandra Nandlal
pH	AT	9927768	2025/05/13	2025/05/15	Nachiketa Gohil
Phenols (4AAP)	TECH/PHEN	9928899	N/A	2025/05/14	Madhav Somani
Sulphate by Automated Turbidimetry	SKAL	9927813	N/A	2025/05/15	Alina Dobreanu
Total Dissolved Solids	BAL	9928989	2025/05/14	2025/05/15	Binuja Kodithuwakku Arachchilage

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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: AQSL16 **Collected:** 2025/05/08
Sample ID: SB-MW3 **Shipped:**
Matrix: Water **Received:** 2025/05/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Total Kjeldahl Nitrogen in Water	SKAL	9928467	2025/05/14	2025/05/14	Rajni Tyagi
Total Phosphorus (Colourimetric)	SKAL/P	9928470	2025/05/14	2025/05/14	Vidhi Khatri
Total Suspended Solids	BAL	9928944	2025/05/14	2025/05/15	Tina Teng

Bureau Veritas ID: AQSL17 **Collected:** 2025/05/08
Sample ID: SB-MW4 **Shipped:**
Matrix: Water **Received:** 2025/05/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9927763	N/A	2025/05/15	Nachiketa Gohil
Chloride by Automated Colourimetry	SKAL	9927815	N/A	2025/05/15	Alina Dobreanu
Chemical Oxygen Demand	SPEC	9928418	N/A	2025/05/14	Kruti Jitesh Patel
Conductivity	AT	9927765	N/A	2025/05/15	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	9927822	N/A	2025/05/13	Gyulshen Idriz
Dissolved Mercury in Water by CVAA	CV/AA	9928603	2025/05/14	2025/05/14	Maitri PATIL
Dissolved Metals by ICPMS	ICP/MS	9926343	N/A	2025/05/14	Nan Raykha
Total Ammonia-N	SKAL/NH4	9928722	N/A	2025/05/15	Massarat Jan
Nitrate & Nitrite as Nitrogen in Water	LACH	9927505	N/A	2025/05/13	Chandra Nandlal
pH	AT	9927768	2025/05/13	2025/05/15	Nachiketa Gohil
Phenols (4AAP)	TECH/PHEN	9928899	N/A	2025/05/14	Madhav Somani
Sulphate by Automated Turbidimetry	SKAL	9927818	N/A	2025/05/15	Alina Dobreanu
Total Dissolved Solids	BAL	9928989	2025/05/14	2025/05/15	Binuja Kodithuwakku Arachchilage
Total Kjeldahl Nitrogen in Water	SKAL	9928467	2025/05/14	2025/05/14	Rajni Tyagi
Total Phosphorus (Colourimetric)	SKAL/P	9928470	2025/05/14	2025/05/15	Vidhi Khatri
Total Suspended Solids	BAL	9928944	2025/05/14	2025/05/15	Tina Teng

Bureau Veritas ID: AQSL17 Dup **Collected:** 2025/05/08
Sample ID: SB-MW4 **Shipped:**
Matrix: Water **Received:** 2025/05/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dissolved Metals by ICPMS	ICP/MS	9926343	N/A	2025/05/14	Nan Raykha

Bureau Veritas ID: AQSL18 **Collected:** 2025/05/08
Sample ID: SB-MW5 **Shipped:**
Matrix: Water **Received:** 2025/05/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9927763	N/A	2025/05/15	Nachiketa Gohil
Chloride by Automated Colourimetry	SKAL	9927815	N/A	2025/05/15	Alina Dobreanu
Chemical Oxygen Demand	SPEC	9928418	N/A	2025/05/14	Kruti Jitesh Patel
Conductivity	AT	9927765	N/A	2025/05/15	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	9927822	N/A	2025/05/13	Gyulshen Idriz

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C552879
Report Date: 2025/05/15

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: SOUTH BAPTISTE
Your P.O. #: 250253-09
Sampler Initials: BM

TEST SUMMARY

Bureau Veritas ID: AQSL18
Sample ID: SB-MW5
Matrix: Water

Collected: 2025/05/08
Shipped:
Received: 2025/05/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dissolved Mercury in Water by CVAA	CV/AA	9928603	2025/05/14	2025/05/14	Maitri PATIL
Dissolved Metals by ICPMS	ICP/MS	9926342	N/A	2025/05/14	Thuy Linh Nguyen
Total Ammonia-N	SKAL/NH4	9928722	N/A	2025/05/15	Massarat Jan
Nitrate & Nitrite as Nitrogen in Water	LACH	9927505	N/A	2025/05/13	Chandra Nandlal
pH	AT	9927768	2025/05/13	2025/05/15	Nachiketa Gohil
Phenols (4AAP)	TECH/PHEN	9928899	N/A	2025/05/14	Madhav Somani
Sulphate by Automated Turbidimetry	SKAL	9927818	N/A	2025/05/15	Alina Dobreanu
Total Dissolved Solids	BAL	9928989	2025/05/14	2025/05/15	Binuja Kodithuwakku Arachchilage
Total Kjeldahl Nitrogen in Water	SKAL	9928467	2025/05/14	2025/05/14	Rajni Tyagi
Total Phosphorus (Colourimetric)	SKAL/P	9928470	2025/05/14	2025/05/15	Vidhi Khatri
Total Suspended Solids	BAL	9928947	2025/05/14	2025/05/15	Tina Teng

Bureau Veritas ID: AQSL19
Sample ID: SB-MW6R
Matrix: Water

Collected: 2025/05/08
Shipped:
Received: 2025/05/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9927763	N/A	2025/05/15	Nachiketa Gohil
Chloride by Automated Colourimetry	SKAL	9927815	N/A	2025/05/15	Alina Dobreanu
Chemical Oxygen Demand	SPEC	9928418	N/A	2025/05/14	Kruti Jitesh Patel
Conductivity	AT	9927765	N/A	2025/05/15	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	9927822	N/A	2025/05/13	Gyulshen Idriz
Dissolved Mercury in Water by CVAA	CV/AA	9928603	2025/05/14	2025/05/14	Maitri PATIL
Dissolved Metals by ICPMS	ICP/MS	9926342	N/A	2025/05/14	Thuy Linh Nguyen
Total Ammonia-N	SKAL/NH4	9928722	N/A	2025/05/15	Massarat Jan
Nitrate & Nitrite as Nitrogen in Water	LACH	9927505	N/A	2025/05/13	Chandra Nandlal
pH	AT	9927768	2025/05/13	2025/05/15	Nachiketa Gohil
Phenols (4AAP)	TECH/PHEN	9928899	N/A	2025/05/15	Madhav Somani
Sulphate by Automated Turbidimetry	SKAL	9927818	N/A	2025/05/15	Alina Dobreanu
Total Dissolved Solids	BAL	9928989	2025/05/14	2025/05/15	Binuja Kodithuwakku Arachchilage
Total Kjeldahl Nitrogen in Water	SKAL	9928467	2025/05/14	2025/05/15	Rajni Tyagi
Total Phosphorus (Colourimetric)	SKAL/P	9928470	2025/05/14	2025/05/15	Vidhi Khatri
Total Suspended Solids	BAL	9928944	2025/05/14	2025/05/15	Tina Teng

Bureau Veritas ID: AQSL20
Sample ID: SB-MW7
Matrix: Water

Collected: 2025/05/08
Shipped:
Received: 2025/05/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9927763	N/A	2025/05/15	Nachiketa Gohil
Chloride by Automated Colourimetry	SKAL	9927815	N/A	2025/05/15	Alina Dobreanu
Chemical Oxygen Demand	SPEC	9928418	N/A	2025/05/14	Kruti Jitesh Patel
Conductivity	AT	9927765	N/A	2025/05/15	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 #: C552879
Report Date: 2025/05/15

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: SOUTH BAPTISTE
Your P.O. #: 250253-09
Sampler Initials: BM

TEST SUMMARY

Bureau Veritas ID: AQSL20
Sample ID: SB-MW7
Matrix: Water

Collected: 2025/05/08
Shipped:
Received: 2025/05/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dissolved Organic Carbon (DOC)	TOCV/NDIR	9927822	N/A	2025/05/13	Gyulshen Idriz
Dissolved Mercury in Water by CVAA	CV/AA	9928603	2025/05/14	2025/05/14	Maitri PATIL
Dissolved Metals by ICPMS	ICP/MS	9926342	N/A	2025/05/14	Thuy Linh Nguyen
Total Ammonia-N	SKAL/NH4	9928722	N/A	2025/05/15	Massarat Jan
Nitrate & Nitrite as Nitrogen in Water	LACH	9927505	N/A	2025/05/13	Chandra Nandlal
pH	AT	9927768	2025/05/13	2025/05/15	Nachiketa Gohil
Phenols (4AAP)	TECH/PHEN	9928899	N/A	2025/05/14	Madhav Somani
Sulphate by Automated Turbidimetry	SKAL	9927818	N/A	2025/05/15	Alina Dobreanu
Total Dissolved Solids	BAL	9928989	2025/05/14	2025/05/15	Binuja Kodithuwakku Arachchilage
Total Kjeldahl Nitrogen in Water	SKAL	9928467	2025/05/14	2025/05/15	Rajni Tyagi
Total Phosphorus (Colourimetric)	SKAL/P	9928470	2025/05/14	2025/05/15	Vidhi Khatri
Total Suspended Solids	BAL	9928947	2025/05/14	2025/05/15	Tina Teng

Bureau Veritas ID: AQSL20 Dup
Sample ID: SB-MW7
Matrix: Water

Collected: 2025/05/08
Shipped:
Received: 2025/05/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Total Ammonia-N	SKAL/NH4	9928722	N/A	2025/05/15	Massarat Jan

Bureau Veritas ID: AQSL21
Sample ID: SB-MW8
Matrix: Water

Collected: 2025/05/08
Shipped:
Received: 2025/05/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9927763	N/A	2025/05/15	Nachiketa Gohil
Chloride by Automated Colourimetry	SKAL	9927815	N/A	2025/05/15	Alina Dobreanu
Chemical Oxygen Demand	SPEC	9928418	N/A	2025/05/14	Kruti Jitesh Patel
Conductivity	AT	9927765	N/A	2025/05/15	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	9927822	N/A	2025/05/13	Gyulshen Idriz
Dissolved Mercury in Water by CVAA	CV/AA	9928603	2025/05/14	2025/05/14	Maitri PATIL
Dissolved Metals by ICPMS	ICP/MS	9926342	N/A	2025/05/14	Thuy Linh Nguyen
Total Ammonia-N	SKAL/NH4	9928722	N/A	2025/05/15	Massarat Jan
Nitrate & Nitrite as Nitrogen in Water	LACH	9927505	N/A	2025/05/13	Chandra Nandlal
pH	AT	9927768	2025/05/13	2025/05/15	Nachiketa Gohil
Phenols (4AAP)	TECH/PHEN	9928899	N/A	2025/05/15	Madhav Somani
Sulphate by Automated Turbidimetry	SKAL	9927818	N/A	2025/05/15	Alina Dobreanu
Total Dissolved Solids	BAL	9928989	2025/05/14	2025/05/15	Binuja Kodithuwakku Arachchilage
Total Kjeldahl Nitrogen in Water	SKAL	9928467	2025/05/14	2025/05/15	Rajni Tyagi
Total Phosphorus (Colourimetric)	SKAL/P	9928470	2025/05/14	2025/05/15	Vidhi Khatri
Total Suspended Solids	BAL	9928944	2025/05/14	2025/05/15	Tina Teng

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C552879
Report Date: 2025/05/15

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: SOUTH BAPTISTE
Your P.O. #: 250253-09
Sampler Initials: BM

TEST SUMMARY

Bureau Veritas ID: AQSL22
Sample ID: SB-MW9
Matrix: Water

Collected: 2025/05/08
Shipped:
Received: 2025/05/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9927763	N/A	2025/05/15	Nachiketa Gohil
Chloride by Automated Colourimetry	SKAL	9927815	N/A	2025/05/15	Alina Dobreanu
Chemical Oxygen Demand	SPEC	9928418	N/A	2025/05/14	Kruti Jitesh Patel
Conductivity	AT	9927765	N/A	2025/05/15	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	9927822	N/A	2025/05/13	Gyulshen Idriz
Dissolved Mercury in Water by CVAA	CV/AA	9928603	2025/05/14	2025/05/14	Maitri PATIL
Dissolved Metals by ICPMS	ICP/MS	9926343	N/A	2025/05/14	Nan Raykha
Total Ammonia-N	SKAL/NH4	9928722	N/A	2025/05/15	Massarat Jan
Nitrate & Nitrite as Nitrogen in Water	LACH	9927505	N/A	2025/05/13	Chandra Nandlal
pH	AT	9927768	2025/05/13	2025/05/15	Nachiketa Gohil
Phenols (4AAP)	TECH/PHEN	9928899	N/A	2025/05/14	Madhav Somani
Sulphate by Automated Turbidimetry	SKAL	9927818	N/A	2025/05/15	Alina Dobreanu
Total Dissolved Solids	BAL	9928989	2025/05/14	2025/05/15	Binuja Kodithuwakku Arachchilage
Total Kjeldahl Nitrogen in Water	SKAL	9928467	2025/05/14	2025/05/14	Rajni Tyagi
Total Phosphorus (Colourimetric)	SKAL/P	9928470	2025/05/14	2025/05/15	Vidhi Khatri
Total Suspended Solids	BAL	9928947	2025/05/14	2025/05/15	Tina Teng

Bureau Veritas ID: AQSL23
Sample ID: SB-MW10
Matrix: Water

Collected: 2025/05/08
Shipped:
Received: 2025/05/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9927763	N/A	2025/05/15	Nachiketa Gohil
Chloride by Automated Colourimetry	SKAL	9927815	N/A	2025/05/15	Alina Dobreanu
Chemical Oxygen Demand	SPEC	9928418	N/A	2025/05/14	Kruti Jitesh Patel
Conductivity	AT	9927765	N/A	2025/05/15	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	9927822	N/A	2025/05/13	Gyulshen Idriz
Dissolved Mercury in Water by CVAA	CV/AA	9928603	2025/05/14	2025/05/14	Maitri PATIL
Dissolved Metals by ICPMS	ICP/MS	9926342	N/A	2025/05/14	Thuy Linh Nguyen
Total Ammonia-N	SKAL/NH4	9928722	N/A	2025/05/15	Massarat Jan
Nitrate & Nitrite as Nitrogen in Water	LACH	9927505	N/A	2025/05/13	Chandra Nandlal
pH	AT	9927768	2025/05/13	2025/05/15	Nachiketa Gohil
Phenols (4AAP)	TECH/PHEN	9928899	N/A	2025/05/14	Madhav Somani
Sulphate by Automated Turbidimetry	SKAL	9927818	N/A	2025/05/15	Alina Dobreanu
Total Dissolved Solids	BAL	9928989	2025/05/14	2025/05/15	Binuja Kodithuwakku Arachchilage
Total Kjeldahl Nitrogen in Water	SKAL	9928467	2025/05/14	2025/05/15	Rajni Tyagi
Total Phosphorus (Colourimetric)	SKAL/P	9928470	2025/05/14	2025/05/15	Vidhi Khatri
Total Suspended Solids	BAL	9928944	2025/05/14	2025/05/15	Tina Teng

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C552879
Report Date: 2025/05/15

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: SOUTH BAPTISTE
Your P.O. #: 250253-09
Sampler Initials: BM

TEST SUMMARY

Bureau Veritas ID: AQSL24
Sample ID: SB-QAQC-GW1
Matrix: Water

Collected: 2025/05/08
Shipped:
Received: 2025/05/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9927763	N/A	2025/05/15	Nachiketa Gohil
Chloride by Automated Colourimetry	SKAL	9927815	N/A	2025/05/15	Alina Dobreanu
Chemical Oxygen Demand	SPEC	9928418	N/A	2025/05/14	Kruti Jitesh Patel
Conductivity	AT	9927765	N/A	2025/05/15	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	9927822	N/A	2025/05/13	Gyulshen Idriz
Dissolved Mercury in Water by CVAA	CV/AA	9928603	2025/05/14	2025/05/14	Maitri PATIL
Dissolved Metals by ICPMS	ICP/MS	9926342	N/A	2025/05/14	Thuy Linh Nguyen
Total Ammonia-N	SKAL/NH4	9928722	N/A	2025/05/15	Massarat Jan
Nitrate & Nitrite as Nitrogen in Water	LACH	9927505	N/A	2025/05/13	Chandra Nandlal
pH	AT	9927768	2025/05/13	2025/05/15	Nachiketa Gohil
Phenols (4AAP)	TECH/PHEN	9928899	N/A	2025/05/14	Madhav Somani
Sulphate by Automated Turbidimetry	SKAL	9927818	N/A	2025/05/15	Alina Dobreanu
Total Dissolved Solids	BAL	9928989	2025/05/14	2025/05/15	Binuja Kodithuwakku Arachchilage
Total Kjeldahl Nitrogen in Water	SKAL	9928467	2025/05/14	2025/05/14	Rajni Tyagi
Total Phosphorus (Colourimetric)	SKAL/P	9928470	2025/05/14	2025/05/15	Vidhi Khatri
Total Suspended Solids	BAL	9928944	2025/05/14	2025/05/15	Tina Teng

Bureau Veritas ID: AQSL24 Dup
Sample ID: SB-QAQC-GW1
Matrix: Water

Collected: 2025/05/08
Shipped:
Received: 2025/05/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Chloride by Automated Colourimetry	SKAL	9927815	N/A	2025/05/15	Alina Dobreanu
Nitrate & Nitrite as Nitrogen in Water	LACH	9927505	N/A	2025/05/13	Chandra Nandlal
Sulphate by Automated Turbidimetry	SKAL	9927818	N/A	2025/05/15	Alina Dobreanu
Total Kjeldahl Nitrogen in Water	SKAL	9928467	2025/05/14	2025/05/14	Rajni Tyagi

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GENERAL COMMENTS

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

Package 1	2.7°C
Package 2	3.0°C

Results relate only to the items tested.

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QUALITY ASSURANCE REPORT

			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
9926342	Dissolved Aluminum (Al)	2025/05/14	99	80 - 120	98	80 - 120	ND, RDL=4.9	ug/L				
9926342	Dissolved Arsenic (As)	2025/05/14	100	80 - 120	100	80 - 120	ND, RDL=1.0	ug/L				
9926342	Dissolved Barium (Ba)	2025/05/14	99	80 - 120	99	80 - 120	ND, RDL=2.0	ug/L	0.88	20		
9926342	Dissolved Beryllium (Be)	2025/05/14	88	80 - 120	87	80 - 120	ND, RDL=0.40	ug/L				
9926342	Dissolved Boron (B)	2025/05/14	86	80 - 120	84	80 - 120	ND, RDL=10	ug/L	0.16	20		
9926342	Dissolved Cadmium (Cd)	2025/05/14	101	80 - 120	99	80 - 120	ND, RDL=0.090	ug/L				
9926342	Dissolved Calcium (Ca)	2025/05/14	NC	80 - 120	97	80 - 120	ND, RDL=200	ug/L	0.50	20		
9926342	Dissolved Chromium (Cr)	2025/05/14	95	80 - 120	94	80 - 120	ND, RDL=5.0	ug/L				
9926342	Dissolved Cobalt (Co)	2025/05/14	98	80 - 120	96	80 - 120	ND, RDL=0.50	ug/L				
9926342	Dissolved Copper (Cu)	2025/05/14	93	80 - 120	91	80 - 120	ND, RDL=0.90	ug/L				
9926342	Dissolved Iron (Fe)	2025/05/14	96	80 - 120	98	80 - 120	ND, RDL=100	ug/L	1.7	20		
9926342	Dissolved Lead (Pb)	2025/05/14	94	80 - 120	94	80 - 120	ND, RDL=0.50	ug/L				
9926342	Dissolved Magnesium (Mg)	2025/05/14	NC	80 - 120	98	80 - 120	ND, RDL=50	ug/L	0.93	20		
9926342	Dissolved Manganese (Mn)	2025/05/14	95	80 - 120	98	80 - 120	ND, RDL=2.0	ug/L	0.65	20		
9926342	Dissolved Molybdenum (Mo)	2025/05/14	98	80 - 120	95	80 - 120	ND, RDL=0.50	ug/L				
9926342	Dissolved Nickel (Ni)	2025/05/14	92	80 - 120	94	80 - 120	ND, RDL=1.0	ug/L				
9926342	Dissolved Potassium (K)	2025/05/14	102	80 - 120	100	80 - 120	ND, RDL=200	ug/L	0.25	20		
9926342	Dissolved Silicon (Si)	2025/05/14	99	80 - 120	98	80 - 120	ND, RDL=50	ug/L				
9926342	Dissolved Silver (Ag)	2025/05/14	83	80 - 120	92	80 - 120	ND, RDL=0.090	ug/L				
9926342	Dissolved Sodium (Na)	2025/05/14	96	80 - 120	99	80 - 120	ND, RDL=100	ug/L	0.18	20		
9926342	Dissolved Strontium (Sr)	2025/05/14	NC	80 - 120	100	80 - 120	ND, RDL=1.0	ug/L				
9926342	Dissolved Thallium (Tl)	2025/05/14	97	80 - 120	101	80 - 120	ND, RDL=0.050	ug/L				
9926342	Dissolved Titanium (Ti)	2025/05/14	99	80 - 120	98	80 - 120	ND, RDL=5.0	ug/L				
9926342	Dissolved Vanadium (V)	2025/05/14	98	80 - 120	97	80 - 120	ND, RDL=0.50	ug/L				
9926342	Dissolved Zinc (Zn)	2025/05/14	97	80 - 120	98	80 - 120	ND, RDL=5.0	ug/L				
9926343	Dissolved Aluminum (Al)	2025/05/14	91	80 - 120	93	80 - 120	ND, RDL=4.9	ug/L	1.9	20		
9926343	Dissolved Arsenic (As)	2025/05/14	98	80 - 120	98	80 - 120	ND, RDL=1.0	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
9926343	Dissolved Barium (Ba)	2025/05/14	96	80 - 120	96	80 - 120	ND, RDL=2.0	ug/L	1.4	20		
9926343	Dissolved Beryllium (Be)	2025/05/14	98	80 - 120	99	80 - 120	ND, RDL=0.40	ug/L	NC	20		
9926343	Dissolved Boron (B)	2025/05/14	92	80 - 120	93	80 - 120	ND, RDL=10	ug/L	2.1	20		
9926343	Dissolved Cadmium (Cd)	2025/05/14	95	80 - 120	94	80 - 120	ND, RDL=0.090	ug/L	NC	20		
9926343	Dissolved Calcium (Ca)	2025/05/14	88	80 - 120	93	80 - 120	ND, RDL=200	ug/L	0.33	20		
9926343	Dissolved Chromium (Cr)	2025/05/14	92	80 - 120	91	80 - 120	ND, RDL=5.0	ug/L	NC	20		
9926343	Dissolved Cobalt (Co)	2025/05/14	96	80 - 120	95	80 - 120	ND, RDL=0.50	ug/L	NC	20		
9926343	Dissolved Copper (Cu)	2025/05/14	95	80 - 120	92	80 - 120	ND, RDL=0.90	ug/L	0.68	20		
9926343	Dissolved Iron (Fe)	2025/05/14	96	80 - 120	95	80 - 120	ND, RDL=100	ug/L	NC	20		
9926343	Dissolved Lead (Pb)	2025/05/14	96	80 - 120	95	80 - 120	ND, RDL=0.50	ug/L	NC	20		
9926343	Dissolved Magnesium (Mg)	2025/05/14	94	80 - 120	94	80 - 120	ND, RDL=50	ug/L	1.3	20		
9926343	Dissolved Manganese (Mn)	2025/05/14	95	80 - 120	94	80 - 120	ND, RDL=2.0	ug/L	2.6	20		
9926343	Dissolved Molybdenum (Mo)	2025/05/14	95	80 - 120	93	80 - 120	ND, RDL=0.50	ug/L	NC	20		
9926343	Dissolved Nickel (Ni)	2025/05/14	94	80 - 120	93	80 - 120	ND, RDL=1.0	ug/L	NC	20		
9926343	Dissolved Potassium (K)	2025/05/14	88	80 - 120	88	80 - 120	ND, RDL=200	ug/L	1.2	20		
9926343	Dissolved Silicon (Si)	2025/05/14	88	80 - 120	90	80 - 120	ND, RDL=50	ug/L	0.51	20		
9926343	Dissolved Silver (Ag)	2025/05/14	94	80 - 120	93	80 - 120	ND, RDL=0.090	ug/L	NC	20		
9926343	Dissolved Sodium (Na)	2025/05/14	92	80 - 120	93	80 - 120	ND, RDL=100	ug/L	1.4	20		
9926343	Dissolved Strontium (Sr)	2025/05/14	96	80 - 120	96	80 - 120	ND, RDL=1.0	ug/L	2.1	20		
9926343	Dissolved Thallium (Tl)	2025/05/14	99	80 - 120	99	80 - 120	ND, RDL=0.050	ug/L	NC	20		
9926343	Dissolved Titanium (Ti)	2025/05/14	94	80 - 120	93	80 - 120	ND, RDL=5.0	ug/L	NC	20		
9926343	Dissolved Vanadium (V)	2025/05/14	95	80 - 120	94	80 - 120	ND, RDL=0.50	ug/L	NC	20		
9926343	Dissolved Zinc (Zn)	2025/05/14	96	80 - 120	94	80 - 120	ND, RDL=5.0	ug/L	NC	20		
9927505	Nitrate (N)	2025/05/13	98	80 - 120	97	80 - 120	ND, RDL=0.10	mg/L	0.73	20		
9927505	Nitrite (N)	2025/05/13	103	80 - 120	104	80 - 120	ND, RDL=0.010	mg/L	NC	20		
9927763	Alkalinity (Total as CaCO3)	2025/05/15			98	85 - 115	ND, RDL=1.0	mg/L	1.0	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
9927765	Conductivity	2025/05/15			102	85 - 115	ND, RDL=2.0	umho/cm	0.077	10		
9927768	pH	2025/05/15			102	98 - 103			1.1	N/A		
9927811	Dissolved Chloride (Cl-)	2025/05/15	98	80 - 120	98	80 - 120	ND, RDL=1.0	mg/L	NC	20		
9927813	Dissolved Sulphate (SO4)	2025/05/15	109	75 - 125	92	80 - 120	ND, RDL=1.0	mg/L	NC	20		
9927815	Dissolved Chloride (Cl-)	2025/05/15	NC	80 - 120	95	80 - 120	ND, RDL=1.0	mg/L	0.98	20		
9927818	Dissolved Sulphate (SO4)	2025/05/15	96	75 - 125	99	80 - 120	ND, RDL=1.0	mg/L	11	20		
9927822	Dissolved Organic Carbon	2025/05/13	93	80 - 120	96	80 - 120	ND, RDL=0.4	mg/L	1.0	20		
9928418	Total Chemical Oxygen Demand (COD)	2025/05/14	109	80 - 120	97	80 - 120	ND, RDL=4.0	mg/L	NC	20		
9928467	Total Kjeldahl Nitrogen (TKN)	2025/05/14	95	80 - 120	99	80 - 120	ND, RDL=0.10	mg/L	NC	20	102	80 - 120
9928470	Total Phosphorus	2025/05/14	102	80 - 120	98	80 - 120	ND, RDL=0.020	mg/L	1.1	20	93	80 - 120
9928603	Dissolved Mercury (Hg)	2025/05/14	98	75 - 125	99	80 - 120	ND, RDL=0.10	ug/L	NC	20		
9928722	Total Ammonia-N	2025/05/15	80	75 - 125	96	80 - 120	ND, RDL=0.050	mg/L	0.30	20		
9928899	Phenols-4AAP	2025/05/14	95	80 - 120	100	80 - 120	ND, RDL=0.0010	mg/L	NC	20		
9928944	Total Suspended Solids	2025/05/15			102	80 - 120	ND, RDL=10	mg/L	NC	20		
9928947	Total Suspended Solids	2025/05/15			101	80 - 120	ND, RDL=10	mg/L	9.5	20		
9928963	Dissolved Mercury (Hg)	2025/05/15	101	75 - 125	103	80 - 120	ND, RDL=0.10	ug/L	NC	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
9928989	Total Dissolved Solids	2025/05/15			95	80 - 120	ND, RDL=10	mg/L	13	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 #: C552879
Report Date: 2025/05/15

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: SOUTH BAPTISTE
Your P.O. #: 250253-09
Sampler Initials: BM

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.

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

C552879
2025/05/09 11:12

Page 1 of 2

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-2025-05-1795

Bottle Order #: 1041565

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:	
Company Name:	#1192 BluMetric Environmental Inc	Company Name:	#5638 BluMetric Environmental Inc	Quotation #:	C45783
Attention:	Accounts Payable	Attention:	S'rana Scholes	P.O. #:	250253-09
Address:	1682 Woodward Drive	Address:	The Tower - The Woolen Mill 4 Cataraqui St	Project:	250253-09
	Ottawa ON K2C 3R8		Kingston ON K7K 1Z7	Project Name:	
Tel:	(613) 839-3053 Fax: (613) 839-5376	Tel:	(613) 531-2725 Fax:	Site #:	South Baptiste
Email:	ap@blumetric.ca	Email:	sscholes@blumetric.ca, cbandler@blumetric.ca, edms	Sampled By:	BM/NW

COC #: C#1041565-01-01

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

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

Groundwater - ODWS

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		SB-MW2	25/05/08	12:15	GW	8	
2		SB-MW3	25/05/08	12:05	GW	8	
3		SB-MW4	25/05/08	11:45	GW	8	
4		SB-MW5	25/05/08	12:00	GW	8	
5		SB-MW6R	25/05/08	11:25	GW	8	
6		SB-MW7	25/05/08	11:50	GW	8	
7		SB-MW8	25/05/08	10:30	GW	8	
8		SB-MW9	25/05/08	10:40	GW	8	
9		SB-MW10	25/05/08	11:35	GW	8	
10		SB-MW[illegible]-GW1	25/05/08	10:40	GW	8	

* 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 Catlin / Brad M Catlin	2025/05/08	15:00	SUSAN SUWAN	2025/05/09	11:12	

Laboratory Use Only
Time Sensitive
Temperature (°C) on Recei: 3/2/3 3/2/4
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 Project #: 250253-09
Site Location: South Baptiste
Your C.O.C. #: C#1062829-01-01

Attention: MHH Distribution

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

Report Date: 2025/10/31
Report #: R8642884
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C5D4586
Received: 2025/10/23, 10:50

Sample Matrix: Water
Samples Received: 8

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Alkalinity	4	N/A	2025/10/30	CAM SOP-00448	SM 24 2320 B m
Alkalinity	4	N/A	2025/10/31	CAM SOP-00448	SM 24 2320 B m
Chloride by Automated Colourimetry	8	N/A	2025/10/29	CAM SOP-00463	SM 24 4500-Cl E m
Chemical Oxygen Demand	8	N/A	2025/10/30	CAM SOP-00416	SM 24 5220 D m
Conductivity	4	N/A	2025/10/30	CAM SOP-00414	SM 24 2510 m
Conductivity	4	N/A	2025/10/31	CAM SOP-00414	SM 24 2510 m
Dissolved Organic Carbon (DOC) (1)	8	N/A	2025/10/28	CAM SOP-00446	SM 24 5310 B m
Dissolved Mercury in Water by CVAA	8	2025/10/28	2025/10/28	CAM SOP-00453	EPA 7470A m
Dissolved Metals by ICPMS	8	N/A	2025/10/29	CAM SOP-00447	EPA 6020B m
Total Ammonia-N	8	N/A	2025/10/29	CAM SOP-00441	USGS I-2522-90 m
Nitrate & Nitrite as Nitrogen in Water (2)	8	N/A	2025/10/28	CAM SOP-00440	SM 24 4500-NO3I/NO2B
pH (3)	4	2025/10/28	2025/10/30	CAM SOP-00413	SM 24th - 4500H+ B
pH (3)	4	2025/10/28	2025/10/31	CAM SOP-00413	SM 24th - 4500H+ B
Phenols (4AAP)	8	N/A	2025/10/30	CAM SOP-00444	OMOE E3179 m
Sulphate by Automated Turbidimetry	8	N/A	2025/10/29	CAM SOP-00464	SM 24 4500-SO42- E m
Total Dissolved Solids	8	2025/10/28	2025/10/29	CAM SOP-00428	SM 24 2540C m
Total Kjeldahl Nitrogen in Water	8	2025/10/28	2025/10/30	CAM SOP-00938	SM 4500-N B m
Total Phosphorus (Colourimetric)	2	2025/10/29	2025/10/30	CAM SOP-00407	SM 24 4500-P I
Total Phosphorus (Colourimetric)	6	2025/10/29	2025/10/31	CAM SOP-00407	SM 24 4500-P I
Total Suspended Solids	8	2025/10/28	2025/10/29	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 Uncertainty has not been accounted for when stating conformity to the referenced standard.

Your Project #: 250253-09
Site Location: South Baptiste
Your C.O.C. #: C#1062829-01-01

Attention: MHH Distribution

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

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CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C5D4586

Received: 2025/10/23, 10:50

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

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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 #: C5D4586
Report Date: 2025/10/31

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: South Baptiste
Sampler Initials: DK

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		AWOS01			AWOS02		
Sampling Date		2025/10/21 14:35			2025/10/21 14:58		
COC Number		C#1062829-01-01			C#1062829-01-01		
	UNITS	SB-MW4	RDL	QC Batch	SB-MW5	RDL	QC Batch
Inorganics							
Total Ammonia-N	mg/L	9.6	0.050	A041778	1.7	0.050	A041778
Total Chemical Oxygen Demand (COD)	mg/L	74	4.0	A042151	ND	4.0	A042151
Conductivity	umho/cm	870	2.0	A042071	500	2.0	A042071
Total Dissolved Solids	mg/L	455	10	A042143	270	10	A042143
Total Kjeldahl Nitrogen (TKN)	mg/L	10	0.50	A042150	1.9	0.10	A042157
Dissolved Organic Carbon	mg/L	19	0.4	A041655	6.4	0.4	A041655
pH	pH	7.42		A042056	7.31		A042056
Phenols-4AAP	mg/L	ND	0.0010	A043541	ND	0.0010	A043541
Total Phosphorus	mg/L	78	0.20	A042591	2.7	0.10	A042591
Total Suspended Solids	mg/L	30000	200	A042117	6200	100	A042117
Dissolved Sulphate (SO4)	mg/L	38	1.0	A041920	5.0	1.0	A041920
Alkalinity (Total as CaCO3)	mg/L	320	1.0	A042051	180	1.0	A042051
Dissolved Chloride (Cl-)	mg/L	38	1.0	A041915	38	1.0	A041915
Nitrite (N)	mg/L	0.356	0.010	A041658	0.016	0.010	A041658
Nitrate (N)	mg/L	2.37	0.10	A041658	ND	0.10	A041658
Nitrate + Nitrite (N)	mg/L	2.72	0.10	A041658	ND	0.10	A041658

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 #: C5D4586
Report Date: 2025/10/31

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: South Baptiste
Sampler Initials: DK

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		AWOS03			AWOS04		
Sampling Date		2025/10/21 14:44			2025/10/21 14:30		
COC Number		C#1062829-01-01			C#1062829-01-01		
	UNITS	SB-MW6R	RDL	QC Batch	SB-MW7	RDL	QC Batch
Inorganics							
Total Ammonia-N	mg/L	43	0.25	A041778	19 (1)	0.050	A041778
Total Chemical Oxygen Demand (COD)	mg/L	250	12	A042151	58	4.0	A042151
Conductivity	umho/cm	1700	2.0	A042071	1700	2.0	A042071
Total Dissolved Solids	mg/L	915	10	A042105	880	10	A042143
Total Kjeldahl Nitrogen (TKN)	mg/L	50	2.0	A042150	19 (1)	1.0	A042150
Dissolved Organic Carbon	mg/L	35	0.4	A041655	25	0.4	A041655
pH	pH	7.46		A042056	7.67		A042056
Phenols-4AAP	mg/L	0.0013	0.0010	A043541	ND	0.0010	A043541
Total Phosphorus	mg/L	7.2	0.020	A042591	0.067	0.020	A042591
Total Suspended Solids	mg/L	250000	500	A042053	28	10	A042117
Dissolved Sulphate (SO4)	mg/L	45	1.0	A041920	54	1.0	A041920
Alkalinity (Total as CaCO3)	mg/L	850	1.0	A042051	690	1.0	A042051
Dissolved Chloride (Cl-)	mg/L	27	1.0	A041915	97	1.0	A041915
Nitrite (N)	mg/L	ND	0.010	A041658	ND	0.010	A041658
Nitrate (N)	mg/L	ND	0.10	A041658	0.39	0.10	A041658
Nitrate + Nitrite (N)	mg/L	ND	0.10	A041658	0.39	0.10	A041658

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ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.
(1) TKN < NH4: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

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Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C5D4586
Report Date: 2025/10/31

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: South Baptiste
Sampler Initials: DK

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		AWOS05		AWOS06			AWOS06		
Sampling Date		2025/10/21 13:50		2025/10/21 13:40			2025/10/21 13:40		
COC Number		C#1062829-01-01		C#1062829-01-01			C#1062829-01-01		
	UNITS	SB-MW8	RDL	SB-MW9	RDL	QC Batch	SB-MW9 Lab-Dup	RDL	QC Batch
Inorganics									
Total Ammonia-N	mg/L	0.063	0.050	ND	0.050	A041778			
Total Chemical Oxygen Demand (COD)	mg/L	ND	4.0	ND	4.0	A042151			
Conductivity	umho/cm	51	2.0	55	2.0	A042071	55	2.0	A042071
Total Dissolved Solids	mg/L	40	10	ND	10	A042143			
Total Kjeldahl Nitrogen (TKN)	mg/L	0.23	0.10	0.14	0.10	A042150			
Dissolved Organic Carbon	mg/L	2.1	0.4	1.6	0.4	A041655			
pH	pH	7.22		7.24		A042056	7.16		A042056
Phenols-4AAP	mg/L	ND	0.0010	ND	0.0010	A043541			
Total Phosphorus	mg/L	75	0.20	1.3	0.020	A042591			
Total Suspended Solids	mg/L	46000	200	1700	10	A042117			
Dissolved Sulphate (SO4)	mg/L	6.1	1.0	5.0	1.0	A041920			
Alkalinity (Total as CaCO3)	mg/L	21	1.0	21	1.0	A042051	22	1.0	A042051
Dissolved Chloride (Cl-)	mg/L	1.4	1.0	ND	1.0	A041915			
Nitrite (N)	mg/L	ND	0.010	ND	0.010	A041658			
Nitrate (N)	mg/L	ND	0.10	ND	0.10	A041658			
Nitrate + Nitrite (N)	mg/L	ND	0.10	ND	0.10	A041658			

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 #: C5D4586
Report Date: 2025/10/31

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: South Baptiste
Sampler Initials: DK

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		AWOS07			AWOS07		
Sampling Date		2025/10/21 14:48			2025/10/21 14:48		
COC Number		C#1062829-01-01			C#1062829-01-01		
	UNITS	SB-MW10	RDL	QC Batch	SB-MW10 Lab-Dup	RDL	QC Batch
Inorganics							
Total Ammonia-N	mg/L	6.2 (1)	0.050	A041778			
Total Chemical Oxygen Demand (COD)	mg/L	15	4.0	A042151			
Conductivity	umho/cm	740	2.0	A042071			
Total Dissolved Solids	mg/L	370	10	A042143			
Total Kjeldahl Nitrogen (TKN)	mg/L	6.2 (1)	0.50	A042150			
Dissolved Organic Carbon	mg/L	8.7	0.4	A041655			
pH	pH	7.62		A042056			
Phenols-4AAP	mg/L	ND	0.0010	A043541			
Total Phosphorus	mg/L	0.81	0.020	A042591			
Total Suspended Solids	mg/L	290	10	A042117			
Dissolved Sulphate (SO4)	mg/L	20	1.0	A041920	20	1.0	A041920
Alkalinity (Total as CaCO3)	mg/L	300	1.0	A042051			
Dissolved Chloride (Cl-)	mg/L	36	1.0	A041915	35	1.0	A041915
Nitrite (N)	mg/L	0.013	0.010	A041658			
Nitrate (N)	mg/L	0.57	0.10	A041658			
Nitrate + Nitrite (N)	mg/L	0.58	0.10	A041658			

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.
(1) TKN < NH4: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

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Chemistry testing is conducted at 6740 Campobello Rd.

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		AWOS08		
Sampling Date		2025/10/21 13:50		
COC Number		C#1062829-01-01		
	UNITS	SB-QAQC-GW1	RDL	QC Batch
Inorganics				
Total Ammonia-N	mg/L	0.063	0.050	A041778
Total Chemical Oxygen Demand (COD)	mg/L	4.4	4.0	A042151
Conductivity	umho/cm	51	2.0	A042071
Total Dissolved Solids	mg/L	30	10	A042143
Total Kjeldahl Nitrogen (TKN)	mg/L	0.29	0.10	A042150
Dissolved Organic Carbon	mg/L	2.2	0.4	A041655
pH	pH	7.19		A042056
Phenols-4AAP	mg/L	ND	0.0010	A043541
Total Phosphorus	mg/L	82	0.20	A042591
Total Suspended Solids	mg/L	41000	200	A042117
Dissolved Sulphate (SO4)	mg/L	5.4	1.0	A041920
Alkalinity (Total as CaCO3)	mg/L	21	1.0	A042051
Dissolved Chloride (Cl-)	mg/L	ND	1.0	A041915
Nitrite (N)	mg/L	ND	0.010	A041658
Nitrate (N)	mg/L	ND	0.10	A041658
Nitrate + Nitrite (N)	mg/L	ND	0.10	A041658

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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 #: C5D4586
Report Date: 2025/10/31

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: South Baptiste
Sampler Initials: DK

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Bureau Veritas ID		AWOS01	AWOS02	AWOS03		AWOS04		
Sampling Date		2025/10/21 14:35	2025/10/21 14:58	2025/10/21 14:44		2025/10/21 14:30		
COC Number		C#1062829-01-01	C#1062829-01-01	C#1062829-01-01		C#1062829-01-01		
	UNITS	SB-MW4	SB-MW5	SB-MW6R	RDL	SB-MW7	RDL	QC Batch
Metals								
Dissolved Mercury (Hg)	ug/L	ND	ND	ND	0.10	ND	0.10	A041518
Dissolved Aluminum (Al)	ug/L	35	12	52	4.9	5.4	4.9	A041019
Dissolved Arsenic (As)	ug/L	ND	ND	ND	1.0	ND	1.0	A041019
Dissolved Barium (Ba)	ug/L	1200	65	180	2.0	220	2.0	A041019
Dissolved Beryllium (Be)	ug/L	ND	ND	ND	0.40	ND	0.40	A041019
Dissolved Boron (B)	ug/L	740	200	2200	10	1000	10	A041019
Dissolved Cadmium (Cd)	ug/L	ND	ND	ND	0.090	0.59	0.090	A041019
Dissolved Calcium (Ca)	ug/L	87000	41000	230000	200	150000	200	A041019
Dissolved Chromium (Cr)	ug/L	ND	ND	ND	5.0	ND	5.0	A041019
Dissolved Cobalt (Co)	ug/L	3.6	ND	28	0.50	29	0.50	A041019
Dissolved Copper (Cu)	ug/L	23	ND	3.8	0.90	53	0.90	A041019
Dissolved Iron (Fe)	ug/L	ND	2700	59000	100	ND	100	A041019
Dissolved Lead (Pb)	ug/L	ND	ND	ND	0.50	ND	0.50	A041019
Dissolved Magnesium (Mg)	ug/L	9500	7600	23000	50	29000	50	A041019
Dissolved Manganese (Mn)	ug/L	180	2100	4000	2.0	16000	10	A041019
Dissolved Molybdenum (Mo)	ug/L	0.66	0.85	2.3	0.50	11	0.50	A041019
Dissolved Nickel (Ni)	ug/L	3.3	ND	6.7	1.0	34	1.0	A041019
Dissolved Potassium (K)	ug/L	30000	22000	54000	200	50000	200	A041019
Dissolved Silicon (Si)	ug/L	3500	7100	4900	50	6900	50	A041019
Dissolved Silver (Ag)	ug/L	ND	ND	ND	0.090	ND	0.090	A041019
Dissolved Sodium (Na)	ug/L	69000	30000	30000	100	95000	100	A041019
Dissolved Strontium (Sr)	ug/L	850	360	720	1.0	1300	1.0	A041019
Dissolved Thallium (Tl)	ug/L	0.17	ND	0.12	0.050	0.18	0.050	A041019
Dissolved Titanium (Ti)	ug/L	ND	ND	ND	5.0	ND	5.0	A041019
Dissolved Vanadium (V)	ug/L	ND	1.3	1.6	0.50	ND	0.50	A041019
Dissolved Zinc (Zn)	ug/L	ND	ND	ND	5.0	64	5.0	A041019

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Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C5D4586
Report Date: 2025/10/31

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: South Baptiste
Sampler Initials: DK

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Bureau Veritas ID		AWOS05			AWOS05			AWOS06		
Sampling Date		2025/10/21 13:50			2025/10/21 13:50			2025/10/21 13:40		
COC Number		C#1062829-01-01			C#1062829-01-01			C#1062829-01-01		
	UNITS	SB-MW8	RDL	QC Batch	SB-MW8 Lab-Dup	RDL	QC Batch	SB-MW9	RDL	QC Batch
Metals										
Dissolved Mercury (Hg)	ug/L	ND	0.10	A041518	ND	0.10	A041518	ND	0.10	A041518
Dissolved Aluminum (Al)	ug/L	14	4.9	A041019				ND	4.9	A041019
Dissolved Arsenic (As)	ug/L	ND	1.0	A041019				ND	1.0	A041019
Dissolved Barium (Ba)	ug/L	2.1	2.0	A041019				3.5	2.0	A041019
Dissolved Beryllium (Be)	ug/L	ND	0.40	A041019				ND	0.40	A041019
Dissolved Boron (B)	ug/L	ND	10	A041019				ND	10	A041019
Dissolved Cadmium (Cd)	ug/L	ND	0.090	A041019				ND	0.090	A041019
Dissolved Calcium (Ca)	ug/L	3700	200	A041019				5700	200	A041019
Dissolved Chromium (Cr)	ug/L	ND	5.0	A041019				ND	5.0	A041019
Dissolved Cobalt (Co)	ug/L	ND	0.50	A041019				ND	0.50	A041019
Dissolved Copper (Cu)	ug/L	1.5	0.90	A041019				ND	0.90	A041019
Dissolved Iron (Fe)	ug/L	ND	100	A041019				ND	100	A041019
Dissolved Lead (Pb)	ug/L	ND	0.50	A041019				ND	0.50	A041019
Dissolved Magnesium (Mg)	ug/L	390	50	A041019				650	50	A041019
Dissolved Manganese (Mn)	ug/L	4.6	2.0	A041019				ND	2.0	A041019
Dissolved Molybdenum (Mo)	ug/L	ND	0.50	A041019				ND	0.50	A041019
Dissolved Nickel (Ni)	ug/L	ND	1.0	A041019				ND	1.0	A041019
Dissolved Potassium (K)	ug/L	650	200	A041019				670	200	A041019
Dissolved Silicon (Si)	ug/L	4800	50	A041019				5500	50	A041019
Dissolved Silver (Ag)	ug/L	ND	0.090	A041019				ND	0.090	A041019
Dissolved Sodium (Na)	ug/L	6100	100	A041019				4100	100	A041019
Dissolved Strontium (Sr)	ug/L	35	1.0	A041019				57	1.0	A041019
Dissolved Thallium (Tl)	ug/L	ND	0.050	A041019				ND	0.050	A041019
Dissolved Titanium (Ti)	ug/L	ND	5.0	A041019				ND	5.0	A041019
Dissolved Vanadium (V)	ug/L	ND	0.50	A041019				ND	0.50	A041019
Dissolved Zinc (Zn)	ug/L	ND	5.0	A041019				ND	5.0	A041019

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.

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Bureau Veritas ID		AWOS07	AWOS08		
Sampling Date		2025/10/21 14:48	2025/10/21 13:50		
COC Number		C#1062829-01-01	C#1062829-01-01		
	UNITS	SB-MW10	SB-QAQC-GW1	RDL	QC Batch
Metals					
Dissolved Mercury (Hg)	ug/L	ND	ND	0.10	A041518
Dissolved Aluminum (Al)	ug/L	5.9	14	4.9	A041019
Dissolved Arsenic (As)	ug/L	ND	ND	1.0	A041019
Dissolved Barium (Ba)	ug/L	60	2.0	2.0	A041019
Dissolved Beryllium (Be)	ug/L	ND	ND	0.40	A041019
Dissolved Boron (B)	ug/L	440	ND	10	A041019
Dissolved Cadmium (Cd)	ug/L	0.10	ND	0.090	A041019
Dissolved Calcium (Ca)	ug/L	65000	3500	200	A041019
Dissolved Chromium (Cr)	ug/L	ND	ND	5.0	A041019
Dissolved Cobalt (Co)	ug/L	12	ND	0.50	A041019
Dissolved Copper (Cu)	ug/L	23	1.4	0.90	A041019
Dissolved Iron (Fe)	ug/L	ND	ND	100	A041019
Dissolved Lead (Pb)	ug/L	ND	ND	0.50	A041019
Dissolved Magnesium (Mg)	ug/L	11000	370	50	A041019
Dissolved Manganese (Mn)	ug/L	5800	ND	2.0	A041019
Dissolved Molybdenum (Mo)	ug/L	4.9	ND	0.50	A041019
Dissolved Nickel (Ni)	ug/L	12	ND	1.0	A041019
Dissolved Potassium (K)	ug/L	23000	630	200	A041019
Dissolved Silicon (Si)	ug/L	6100	4900	50	A041019
Dissolved Silver (Ag)	ug/L	ND	ND	0.090	A041019
Dissolved Sodium (Na)	ug/L	31000	6100	100	A041019
Dissolved Strontium (Sr)	ug/L	460	35	1.0	A041019
Dissolved Thallium (Tl)	ug/L	0.11	ND	0.050	A041019
Dissolved Titanium (Ti)	ug/L	ND	ND	5.0	A041019
Dissolved Vanadium (V)	ug/L	ND	ND	0.50	A041019
Dissolved Zinc (Zn)	ug/L	12	ND	5.0	A041019

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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Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C5D4586
Report Date: 2025/10/31

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: South Baptiste
Sampler Initials: DK

TEST SUMMARY

Bureau Veritas ID: AWOS01
Sample ID: SB-MW4
Matrix: Water

Collected: 2025/10/21
Shipped:
Received: 2025/10/23

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	A042051	N/A	2025/10/31	Surinder Rai
Chloride by Automated Colourimetry	SKAL	A041915	N/A	2025/10/29	Alina Dobreanu
Chemical Oxygen Demand	SPEC	A042151	N/A	2025/10/30	Arshdeep Jagayat
Conductivity	AT	A042071	N/A	2025/10/31	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	A041655	N/A	2025/10/28	Gyulshen Idriz
Dissolved Mercury in Water by CVAA	CV/AA	A041518	2025/10/28	2025/10/28	Maitri PATIL
Dissolved Metals by ICPMS	ICP/MS	A041019	N/A	2025/10/29	Azita Fazaeli
Total Ammonia-N	SKAL/NH4	A041778	N/A	2025/10/29	Kruti Jitesh Patel
Nitrate & Nitrite as Nitrogen in Water	LACH	A041658	N/A	2025/10/28	Chandra Nandlal
pH	AT	A042056	2025/10/28	2025/10/31	Surinder Rai
Phenols (4AAP)	TECH/PHEN	A043541	N/A	2025/10/30	Jency Sara Johnson
Sulphate by Automated Turbidimetry	SKAL	A041920	N/A	2025/10/29	Massarat Jan
Total Dissolved Solids	BAL	A042143	2025/10/28	2025/10/29	Manowalage shanika GUNASEKARA
Total Kjeldahl Nitrogen in Water	SKAL	A042150	2025/10/28	2025/10/30	Rajni Tyagi
Total Phosphorus (Colourimetric)	SKAL/P	A042591	2025/10/29	2025/10/31	Vidhi Khatri
Total Suspended Solids	BAL	A042117	2025/10/28	2025/10/29	Manowalage shanika GUNASEKARA

Bureau Veritas ID: AWOS02
Sample ID: SB-MW5
Matrix: Water

Collected: 2025/10/21
Shipped:
Received: 2025/10/23

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	A042051	N/A	2025/10/30	Surinder Rai
Chloride by Automated Colourimetry	SKAL	A041915	N/A	2025/10/29	Alina Dobreanu
Chemical Oxygen Demand	SPEC	A042151	N/A	2025/10/30	Arshdeep Jagayat
Conductivity	AT	A042071	N/A	2025/10/30	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	A041655	N/A	2025/10/28	Gyulshen Idriz
Dissolved Mercury in Water by CVAA	CV/AA	A041518	2025/10/28	2025/10/28	Maitri PATIL
Dissolved Metals by ICPMS	ICP/MS	A041019	N/A	2025/10/29	Azita Fazaeli
Total Ammonia-N	SKAL/NH4	A041778	N/A	2025/10/29	Kruti Jitesh Patel
Nitrate & Nitrite as Nitrogen in Water	LACH	A041658	N/A	2025/10/28	Chandra Nandlal
pH	AT	A042056	2025/10/28	2025/10/30	Surinder Rai
Phenols (4AAP)	TECH/PHEN	A043541	N/A	2025/10/30	Jency Sara Johnson
Sulphate by Automated Turbidimetry	SKAL	A041920	N/A	2025/10/29	Massarat Jan
Total Dissolved Solids	BAL	A042143	2025/10/28	2025/10/29	Manowalage shanika GUNASEKARA
Total Kjeldahl Nitrogen in Water	SKAL	A042157	2025/10/28	2025/10/30	Rajni Tyagi
Total Phosphorus (Colourimetric)	SKAL/P	A042591	2025/10/29	2025/10/31	Vidhi Khatri
Total Suspended Solids	BAL	A042117	2025/10/28	2025/10/29	Manowalage shanika GUNASEKARA

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Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C5D4586
Report Date: 2025/10/31

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: South Baptiste
Sampler Initials: DK

TEST SUMMARY

Bureau Veritas ID: AWOS03
Sample ID: SB-MW6R
Matrix: Water

Collected: 2025/10/21
Shipped:
Received: 2025/10/23

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	A042051	N/A	2025/10/31	Surinder Rai
Chloride by Automated Colourimetry	SKAL	A041915	N/A	2025/10/29	Alina Dobreanu
Chemical Oxygen Demand	SPEC	A042151	N/A	2025/10/30	Arshdeep Jagayat
Conductivity	AT	A042071	N/A	2025/10/31	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	A041655	N/A	2025/10/28	Gyulshen Idriz
Dissolved Mercury in Water by CVAA	CV/AA	A041518	2025/10/28	2025/10/28	Maitri PATIL
Dissolved Metals by ICPMS	ICP/MS	A041019	N/A	2025/10/29	Azita Fazaeli
Total Ammonia-N	SKAL/NH4	A041778	N/A	2025/10/29	Kruti Jitesh Patel
Nitrate & Nitrite as Nitrogen in Water	LACH	A041658	N/A	2025/10/28	Chandra Nandlal
pH	AT	A042056	2025/10/28	2025/10/31	Surinder Rai
Phenols (4AAP)	TECH/PHEN	A043541	N/A	2025/10/30	Jency Sara Johnson
Sulphate by Automated Turbidimetry	SKAL	A041920	N/A	2025/10/29	Massarat Jan
Total Dissolved Solids	BAL	A042105	2025/10/28	2025/10/29	Hiu Fung Yan (James)
Total Kjeldahl Nitrogen in Water	SKAL	A042150	2025/10/28	2025/10/30	Rajni Tyagi
Total Phosphorus (Colourimetric)	SKAL/P	A042591	2025/10/29	2025/10/30	Vidhi Khatri
Total Suspended Solids	BAL	A042053	2025/10/28	2025/10/29	Manowalage shanika GUNASEKARA

Bureau Veritas ID: AWOS04
Sample ID: SB-MW7
Matrix: Water

Collected: 2025/10/21
Shipped:
Received: 2025/10/23

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	A042051	N/A	2025/10/31	Surinder Rai
Chloride by Automated Colourimetry	SKAL	A041915	N/A	2025/10/29	Alina Dobreanu
Chemical Oxygen Demand	SPEC	A042151	N/A	2025/10/30	Arshdeep Jagayat
Conductivity	AT	A042071	N/A	2025/10/31	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	A041655	N/A	2025/10/28	Gyulshen Idriz
Dissolved Mercury in Water by CVAA	CV/AA	A041518	2025/10/28	2025/10/28	Maitri PATIL
Dissolved Metals by ICPMS	ICP/MS	A041019	N/A	2025/10/29	Azita Fazaeli
Total Ammonia-N	SKAL/NH4	A041778	N/A	2025/10/29	Kruti Jitesh Patel
Nitrate & Nitrite as Nitrogen in Water	LACH	A041658	N/A	2025/10/28	Chandra Nandlal
pH	AT	A042056	2025/10/28	2025/10/31	Surinder Rai
Phenols (4AAP)	TECH/PHEN	A043541	N/A	2025/10/30	Jency Sara Johnson
Sulphate by Automated Turbidimetry	SKAL	A041920	N/A	2025/10/29	Massarat Jan
Total Dissolved Solids	BAL	A042143	2025/10/28	2025/10/29	Manowalage shanika GUNASEKARA
Total Kjeldahl Nitrogen in Water	SKAL	A042150	2025/10/28	2025/10/30	Rajni Tyagi
Total Phosphorus (Colourimetric)	SKAL/P	A042591	2025/10/29	2025/10/31	Vidhi Khatri
Total Suspended Solids	BAL	A042117	2025/10/28	2025/10/29	Manowalage shanika GUNASEKARA

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Chemistry testing is conducted at 6740 Campobello Rd.

TEST SUMMARY

Bureau Veritas ID: AWOS05
Sample ID: SB-MW8
Matrix: Water

Collected: 2025/10/21
Shipped:
Received: 2025/10/23

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	A042051	N/A	2025/10/30	Surinder Rai
Chloride by Automated Colourimetry	SKAL	A041915	N/A	2025/10/29	Alina Dobreanu
Chemical Oxygen Demand	SPEC	A042151	N/A	2025/10/30	Arshdeep Jagayat
Conductivity	AT	A042071	N/A	2025/10/30	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	A041655	N/A	2025/10/28	Gyulshen Idriz
Dissolved Mercury in Water by CVAA	CV/AA	A041518	2025/10/28	2025/10/28	Maitri PATIL
Dissolved Metals by ICPMS	ICP/MS	A041019	N/A	2025/10/29	Azita Fazaeli
Total Ammonia-N	SKAL/NH4	A041778	N/A	2025/10/29	Kruti Jitesh Patel
Nitrate & Nitrite as Nitrogen in Water	LACH	A041658	N/A	2025/10/28	Chandra Nandlal
pH	AT	A042056	2025/10/28	2025/10/30	Surinder Rai
Phenols (4AAP)	TECH/PHEN	A043541	N/A	2025/10/30	Jency Sara Johnson
Sulphate by Automated Turbidimetry	SKAL	A041920	N/A	2025/10/29	Massarat Jan
Total Dissolved Solids	BAL	A042143	2025/10/28	2025/10/29	Manowalage shanika GUNASEKARA
Total Kjeldahl Nitrogen in Water	SKAL	A042150	2025/10/28	2025/10/30	Rajni Tyagi
Total Phosphorus (Colourimetric)	SKAL/P	A042591	2025/10/29	2025/10/31	Vidhi Khatri
Total Suspended Solids	BAL	A042117	2025/10/28	2025/10/29	Manowalage shanika GUNASEKARA

Bureau Veritas ID: AWOS05 Dup
Sample ID: SB-MW8
Matrix: Water

Collected: 2025/10/21
Shipped:
Received: 2025/10/23

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dissolved Mercury in Water by CVAA	CV/AA	A041518	2025/10/28	2025/10/28	Maitri PATIL

Bureau Veritas ID: AWOS06
Sample ID: SB-MW9
Matrix: Water

Collected: 2025/10/21
Shipped:
Received: 2025/10/23

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	A042051	N/A	2025/10/30	Surinder Rai
Chloride by Automated Colourimetry	SKAL	A041915	N/A	2025/10/29	Alina Dobreanu
Chemical Oxygen Demand	SPEC	A042151	N/A	2025/10/30	Arshdeep Jagayat
Conductivity	AT	A042071	N/A	2025/10/30	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	A041655	N/A	2025/10/28	Gyulshen Idriz
Dissolved Mercury in Water by CVAA	CV/AA	A041518	2025/10/28	2025/10/28	Maitri PATIL
Dissolved Metals by ICPMS	ICP/MS	A041019	N/A	2025/10/29	Azita Fazaeli
Total Ammonia-N	SKAL/NH4	A041778	N/A	2025/10/29	Kruti Jitesh Patel
Nitrate & Nitrite as Nitrogen in Water	LACH	A041658	N/A	2025/10/28	Chandra Nandlal
pH	AT	A042056	2025/10/28	2025/10/30	Surinder Rai
Phenols (4AAP)	TECH/PHEN	A043541	N/A	2025/10/30	Jency Sara Johnson
Sulphate by Automated Turbidimetry	SKAL	A041920	N/A	2025/10/29	Massarat Jan
Total Dissolved Solids	BAL	A042143	2025/10/28	2025/10/29	Manowalage shanika GUNASEKARA
Total Kjeldahl Nitrogen in Water	SKAL	A042150	2025/10/28	2025/10/30	Rajni Tyagi
Total Phosphorus (Colourimetric)	SKAL/P	A042591	2025/10/29	2025/10/30	Vidhi Khatri

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Chemistry testing is conducted at 6740 Campobello Rd.

TEST SUMMARY

Bureau Veritas ID: AWOS06 **Collected:** 2025/10/21
Sample ID: SB-MW9 **Shipped:**
Matrix: Water **Received:** 2025/10/23

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Total Suspended Solids	BAL	A042117	2025/10/28	2025/10/29	Manowalage shanika GUNASEKARA

Bureau Veritas ID: AWOS06 Dup **Collected:** 2025/10/21
Sample ID: SB-MW9 **Shipped:**
Matrix: Water **Received:** 2025/10/23

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	A042051	N/A	2025/10/30	Surinder Rai
Conductivity	AT	A042071	N/A	2025/10/30	Surinder Rai
pH	AT	A042056	2025/10/28	2025/10/30	Surinder Rai

Bureau Veritas ID: AWOS07 **Collected:** 2025/10/21
Sample ID: SB-MW10 **Shipped:**
Matrix: Water **Received:** 2025/10/23

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	A042051	N/A	2025/10/30	Surinder Rai
Chloride by Automated Colourimetry	SKAL	A041915	N/A	2025/10/29	Alina Dobreanu
Chemical Oxygen Demand	SPEC	A042151	N/A	2025/10/30	Arshdeep Jagayat
Conductivity	AT	A042071	N/A	2025/10/30	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	A041655	N/A	2025/10/28	Gyulshen Idriz
Dissolved Mercury in Water by CVAA	CV/AA	A041518	2025/10/28	2025/10/28	Maitri PATIL
Dissolved Metals by ICPMS	ICP/MS	A041019	N/A	2025/10/29	Azita Fazaeli
Total Ammonia-N	SKAL/NH4	A041778	N/A	2025/10/29	Kruti Jitesh Patel
Nitrate & Nitrite as Nitrogen in Water	LACH	A041658	N/A	2025/10/28	Chandra Nandlal
pH	AT	A042056	2025/10/28	2025/10/30	Surinder Rai
Phenols (4AAP)	TECH/PHEN	A043541	N/A	2025/10/30	Jency Sara Johnson
Sulphate by Automated Turbidimetry	SKAL	A041920	N/A	2025/10/29	Massarat Jan
Total Dissolved Solids	BAL	A042143	2025/10/28	2025/10/29	Manowalage shanika GUNASEKARA
Total Kjeldahl Nitrogen in Water	SKAL	A042150	2025/10/28	2025/10/30	Rajni Tyagi
Total Phosphorus (Colourimetric)	SKAL/P	A042591	2025/10/29	2025/10/31	Vidhi Khatri
Total Suspended Solids	BAL	A042117	2025/10/28	2025/10/29	Manowalage shanika GUNASEKARA

Bureau Veritas ID: AWOS07 Dup **Collected:** 2025/10/21
Sample ID: SB-MW10 **Shipped:**
Matrix: Water **Received:** 2025/10/23

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Chloride by Automated Colourimetry	SKAL	A041915	N/A	2025/10/29	Alina Dobreanu
Sulphate by Automated Turbidimetry	SKAL	A041920	N/A	2025/10/29	Massarat Jan

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Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C5D4586
Report Date: 2025/10/31

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: South Baptiste
Sampler Initials: DK

TEST SUMMARY

Bureau Veritas ID: AWOS08
Sample ID: SB-QAQC-GW1
Matrix: Water

Collected: 2025/10/21
Shipped:
Received: 2025/10/23

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	A042051	N/A	2025/10/31	Surinder Rai
Chloride by Automated Colourimetry	SKAL	A041915	N/A	2025/10/29	Alina Dobreanu
Chemical Oxygen Demand	SPEC	A042151	N/A	2025/10/30	Arshdeep Jagayat
Conductivity	AT	A042071	N/A	2025/10/31	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	A041655	N/A	2025/10/28	Gyulshen Idriz
Dissolved Mercury in Water by CVAA	CV/AA	A041518	2025/10/28	2025/10/28	Maitri PATIL
Dissolved Metals by ICPMS	ICP/MS	A041019	N/A	2025/10/29	Azita Fazaeli
Total Ammonia-N	SKAL/NH4	A041778	N/A	2025/10/29	Kruti Jitesh Patel
Nitrate & Nitrite as Nitrogen in Water	LACH	A041658	N/A	2025/10/28	Chandra Nandlal
pH	AT	A042056	2025/10/28	2025/10/31	Surinder Rai
Phenols (4AAP)	TECH/PHEN	A043541	N/A	2025/10/30	Jency Sara Johnson
Sulphate by Automated Turbidimetry	SKAL	A041920	N/A	2025/10/29	Massarat Jan
Total Dissolved Solids	BAL	A042143	2025/10/28	2025/10/29	Manowalage shanika GUNASEKARA
Total Kjeldahl Nitrogen in Water	SKAL	A042150	2025/10/28	2025/10/30	Rajni Tyagi
Total Phosphorus (Colourimetric)	SKAL/P	A042591	2025/10/29	2025/10/31	Vidhi Khatri
Total Suspended Solids	BAL	A042117	2025/10/28	2025/10/29	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	6.7°C
Package 2	2.0°C

Results relate only to the items tested.

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QUALITY ASSURANCE REPORT

			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
A041019	Dissolved Aluminum (Al)	2025/10/28	101	80 - 120	98	80 - 120	ND, RDL=4.9	ug/L	1.5	20		
A041019	Dissolved Arsenic (As)	2025/10/28	102	80 - 120	97	80 - 120	ND, RDL=1.0	ug/L	3.3	20		
A041019	Dissolved Barium (Ba)	2025/10/28	99	80 - 120	97	80 - 120	ND, RDL=2.0	ug/L	3.3	20		
A041019	Dissolved Beryllium (Be)	2025/10/28	101	80 - 120	98	80 - 120	ND, RDL=0.40	ug/L	NC	20		
A041019	Dissolved Boron (B)	2025/10/28	99	80 - 120	94	80 - 120	ND, RDL=10	ug/L	0.89	20		
A041019	Dissolved Cadmium (Cd)	2025/10/28	105	80 - 120	99	80 - 120	ND, RDL=0.090	ug/L	NC	20		
A041019	Dissolved Calcium (Ca)	2025/10/28	NC	80 - 120	97	80 - 120	ND, RDL=200	ug/L	1.3	20		
A041019	Dissolved Chromium (Cr)	2025/10/28	99	80 - 120	95	80 - 120	ND, RDL=5.0	ug/L	NC	20		
A041019	Dissolved Cobalt (Co)	2025/10/28	99	80 - 120	96	80 - 120	ND, RDL=0.50	ug/L	4.1	20		
A041019	Dissolved Copper (Cu)	2025/10/28	103	80 - 120	99	80 - 120	ND, RDL=0.90	ug/L	NC	20		
A041019	Dissolved Iron (Fe)	2025/10/28	NC	80 - 120	96	80 - 120	ND, RDL=100	ug/L	2.4	20		
A041019	Dissolved Lead (Pb)	2025/10/28	100	80 - 120	99	80 - 120	ND, RDL=0.50	ug/L	NC	20		
A041019	Dissolved Magnesium (Mg)	2025/10/28	NC	80 - 120	94	80 - 120	ND, RDL=50	ug/L	1.9	20		
A041019	Dissolved Manganese (Mn)	2025/10/28	NC	80 - 120	97	80 - 120	ND, RDL=2.0	ug/L	2.4	20		
A041019	Dissolved Molybdenum (Mo)	2025/10/28	106	80 - 120	99	80 - 120	ND, RDL=0.50	ug/L	19	20		
A041019	Dissolved Nickel (Ni)	2025/10/28	99	80 - 120	96	80 - 120	ND, RDL=1.0	ug/L	0.73	20		
A041019	Dissolved Potassium (K)	2025/10/28	NC	80 - 120	96	80 - 120	ND, RDL=200	ug/L	2.1	20		
A041019	Dissolved Silicon (Si)	2025/10/28	97	80 - 120	98	80 - 120	ND, RDL=50	ug/L				
A041019	Dissolved Silver (Ag)	2025/10/28	70 (1)	80 - 120	100	80 - 120	ND, RDL=0.090	ug/L	NC	20		
A041019	Dissolved Sodium (Na)	2025/10/28	96	80 - 120	96	80 - 120	ND, RDL=100	ug/L	0.49	20		
A041019	Dissolved Strontium (Sr)	2025/10/28	NC	80 - 120	97	80 - 120	ND, RDL=1.0	ug/L				
A041019	Dissolved Thallium (Tl)	2025/10/28	100	80 - 120	97	80 - 120	ND, RDL=0.050	ug/L				
A041019	Dissolved Titanium (Ti)	2025/10/28	102	80 - 120	98	80 - 120	ND, RDL=5.0	ug/L				
A041019	Dissolved Vanadium (V)	2025/10/28	101	80 - 120	96	80 - 120	ND, RDL=0.50	ug/L	3.1	20		
A041019	Dissolved Zinc (Zn)	2025/10/28	99	80 - 120	97	80 - 120	ND, RDL=5.0	ug/L	NC	20		
A041518	Dissolved Mercury (Hg)	2025/10/28	97	75 - 125	94	80 - 120	ND, RDL=0.10	ug/L	NC	20		
A041655	Dissolved Organic Carbon	2025/10/28	91	80 - 120	97	80 - 120	ND, RDL=0.4	mg/L	1.7	20		
A041658	Nitrate (N)	2025/10/28	92	80 - 120	94	80 - 120	ND, RDL=0.10	mg/L	0.28	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
A041658	Nitrite (N)	2025/10/28	102	80 - 120	102	80 - 120	ND, RDL=0.010	mg/L	NC	20		
A041778	Total Ammonia-N	2025/10/29	101	75 - 125	99	80 - 120	ND, RDL=0.050	mg/L	NC	20		
A041915	Dissolved Chloride (Cl-)	2025/10/29	NC	80 - 120	93	80 - 120	ND, RDL=1.0	mg/L	0.75	20		
A041920	Dissolved Sulphate (SO4)	2025/10/29	90	75 - 125	98	80 - 120	ND, RDL=1.0	mg/L	0.13	20		
A042051	Alkalinity (Total as CaCO3)	2025/10/30			96	85 - 115	ND, RDL=1.0	mg/L	3.3	20		
A042053	Total Suspended Solids	2025/10/29			98	80 - 120	ND, RDL=10	mg/L	NC	20		
A042056	pH	2025/10/30			102	98 - 103			1.0	N/A		
A042071	Conductivity	2025/10/30			101	85 - 115	ND, RDL=2.0	umho/cm	0.54	10		
A042105	Total Dissolved Solids	2025/10/29			105	80 - 120	ND, RDL=10	mg/L	0.13	20		
A042117	Total Suspended Solids	2025/10/29			99	80 - 120	ND, RDL=10	mg/L	NC	20		
A042143	Total Dissolved Solids	2025/10/29			103	80 - 120	ND, RDL=10	mg/L	2.6	20		
A042150	Total Kjeldahl Nitrogen (TKN)	2025/10/30	103	80 - 120	101	80 - 120	ND, RDL=0.10	mg/L	0	20	102	80 - 120
A042151	Total Chemical Oxygen Demand (COD)	2025/10/30	100	80 - 120	97	80 - 120	ND, RDL=4.0	mg/L	NC	20		
A042157	Total Kjeldahl Nitrogen (TKN)	2025/10/30	NC	80 - 120	94	80 - 120	ND, RDL=0.10	mg/L	1.8	20	93	80 - 120
A042591	Total Phosphorus	2025/10/30	105	80 - 120	105	80 - 120	ND, RDL=0.020	mg/L	4.0	20	107	80 - 120

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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
A043541	Phenols-4AAP	2025/10/30	96	80 - 120	101	80 - 120	ND, RDL=0.0010	mg/L	3.0	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).

(1) Matrix Spike exceeds acceptance limits, probable matrix interference

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Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C5D4586
Report Date: 2025/10/31

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: South Baptiste
Sampler Initials: DK

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

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

Chemistry testing is conducted at 6740 Campobello Rd.

C5D4586
2025/10/23 10:50

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

TR

NONT-2025-10-5182

Invoice To:		Report To:		PROJECT INFORMATION:	
Company:	#1192 BluMetric Environmental Inc	Company:	#5638 BluMetric Environmental Inc	Quotation #:	C45783
Attention:	Accounts Payable	Attention:	MHH Distribution	P.O. #:	
Address:	1682 Woodward Drive Ottawa ON K2C 3R8	Address:	The Tower - The Woolen Mill 4 Cataraqui St Kingston ON K7K 1Z7	Project:	250253-09
Tel:	(613) 839-3053 Fax: (613) 839-5376	Tel:	(613) 531-2725 Fax:	Project Name:	South Baptiste
Email:	ap@blumetric.ca	Email:	cbandler@blumetric.ca, cmiller@blumetric.ca, edms@bl	Site #:	
				Sampled By:	DK, BM

Bottle Order #: 1062829

COC #: C#1062829-01-01

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 - ODWS

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	Groundwater - ODWS	# of Bottles	Comments
1		~~SB-MW2~~ DK	2025/10/21		GW				
2		~~SB-MW3~~ DK							
3		SB-MW4	2025/10/21	14:35	GW	Y	X	8	
4		SB-MW5	2025/10/21	14:58	GW	Y	X	8	
5		SB-MW6R	2025/10/21	14:44	GW	Y	X	8	
6		SB-MW7	2025/10/21	14:30	GW	Y	X	8	
7		SB-MW8	2025/10/21	13:50	GW	Y	X	8	
8		SB-MW9	2025/10/21	13:40	GW	Y	X	8	
9		SB-MW10	2025/10/21	14:49	GW	Y	X	8	
10		~~SB-MW11~~ DK							

* Relinquished By (Print):	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
Brad McCallum	2025/10/22	8:00			1032	

Laboratory Use Only: Time Sensitive; Temperature (°C) on Recei 1.0 / 0.3 | 1.1; Custody Seal 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.

C5D4586
2025/10/23 10:50

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 #:	C45783	Bureau Veritas Job #:	Bottle Order #:
Attention:	Accounts Payable	Attention:	MHH Distribution	P.O. #:			1062829
Address:	1682 Woodward Drive Ottawa ON K2C 3R8	Address:	The Tower - The Woolen Mill 4 Cataraqui St Kingston ON K7K 1Z7	Project:	250253-09	COC #:	Project Manager:
Tel:	(613) 839-3053 Fax: (613) 839-5376	Tel:	(613) 531-2725 Fax:	Project Name:	South Baptiste	C#1062829-02-01	Deepthi Shaji
Email:	ap@blumetric.ca	Email:	cbandler@blumetric.ca, cmiller@blumetric.ca, edms@bl	Site #:			
				Sampled By:	DK, 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)? ___

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

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

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	Groundwater - ODWS	# of Bottles	Comments
1		SB-QAQC-GW1	2025/10/21	13:50	GW	X	6	
2								
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	Laboratory Use Only			
Brad McCallum	2025/10/22	8:00					Time Sensitive	Temperature (°C) on Recei	Custody Seal Present	Yes / No
								7.1 6.7 4.3 1.1	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-3 2025 Surface Water Analytical Results

Your P.O. #: 250253-09
Your Project #: 250253-09
Site Location: SOUTH BAPTISTE
Your C.O.C. #: 1041566-01-01

Attention: S'rana Scholes

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

Report Date: 2025/05/16
Report #: R8540079
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C552962
Received: 2025/05/09, 11:12

Sample Matrix: Water
Samples Received: 5

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Dissolved Aluminum (0.2 u, clay free)	5	N/A	2025/05/15	CAM SOP-00447	EPA 6020B m
Alkalinity	3	N/A	2025/05/13	CAM SOP-00448	SM 24 2320 B m
Alkalinity	2	N/A	2025/05/14	CAM SOP-00448	SM 24 2320 B m
Biochemical Oxygen Demand (BOD)	5	2025/05/11	2025/05/16	CAM SOP-00427	SM 24 5210B m
Chloride by Automated Colourimetry	1	N/A	2025/05/13	CAM SOP-00463	SM 24 4500-Cl E m
Chloride by Automated Colourimetry	2	N/A	2025/05/14	CAM SOP-00463	SM 24 4500-Cl E m
Chloride by Automated Colourimetry	2	N/A	2025/05/15	CAM SOP-00463	SM 24 4500-Cl E m
Colour	5	N/A	2025/05/15	CAM SOP-00412	SM 24 2120C m
Conductivity	3	N/A	2025/05/13	CAM SOP-00414	SM 24 2510 m
Conductivity	2	N/A	2025/05/14	CAM SOP-00414	SM 24 2510 m
Hardness (calculated as CaCO3)	5	N/A	2025/05/15	CAM SOP 00102/00408/00447	SM 2340 B
Dissolved Mercury in Water by CVAA	5	2025/05/14	2025/05/15	CAM SOP-00453	EPA 7470A m
Total Metals Analysis by ICPMS	5	2025/05/15	2025/05/15	CAM SOP-00447	EPA 6020B m
Total Ammonia-N	5	N/A	2025/05/15	CAM SOP-00441	USGS I-2522-90 m
Nitrate & Nitrite as Nitrogen in Water (1)	5	N/A	2025/05/12	CAM SOP-00440	SM 24 4500-NO3I/NO2B
pH (2)	3	2025/05/12	2025/05/13	CAM SOP-00413	SM 24th - 4500H+ B
pH (2)	2	2025/05/12	2025/05/14	CAM SOP-00413	SM 24th - 4500H+ B
Phenols (4AAP)	5	N/A	2025/05/14	CAM SOP-00444	OMOE E3179 m
Field Measured pH (3)	5	N/A	2025/05/13		Field pH Meter
Sulphate by Automated Turbidimetry	1	N/A	2025/05/13	CAM SOP-00464	SM 24 4500-SO42- E m
Sulphate by Automated Turbidimetry	2	N/A	2025/05/14	CAM SOP-00464	SM 24 4500-SO42- E m
Sulphate by Automated Turbidimetry	2	N/A	2025/05/15	CAM SOP-00464	SM 24 4500-SO42- E m
Total Dissolved Solids	5	2025/05/14	2025/05/15	CAM SOP-00428	SM 24 2540C m
Field Temperature (3)	5	N/A	2025/05/13		Field Thermometer
Total Kjeldahl Nitrogen in Water	5	2025/05/14	2025/05/14	CAM SOP-00938	SM 4500-N B m
Total Phosphorus (Colourimetric)	5	2025/05/14	2025/05/14	CAM SOP-00407	SM 24 4500-P I
Total Suspended Solids	5	2025/05/14	2025/05/15	CAM SOP-00428	SM 24 2540D m
Turbidity	5	N/A	2025/05/12	CAM SOP-00417	SM 24 2130 B
Un-ionized Ammonia (4)	5	2025/05/09	2025/05/15	Auto Calc.	PWQO

Your P.O. #: 250253-09
Your Project #: 250253-09
Site Location: SOUTH BAPTISTE
Your C.O.C. #: 1041566-01-01

Attention: S'rana Scholes

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

Report Date: 2025/05/16
Report #: R8540079
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C552962
Received: 2025/05/09, 11:12

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) 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. #: 250253-09
Your Project #: 250253-09
Site Location: SOUTH BAPTISTE
Your C.O.C. #: 1041566-01-01

Attention: S'rana Scholes

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

Report Date: 2025/05/16
Report #: R8540079
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C552962
Received: 2025/05/09, 11:12

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 #: C552962
Report Date: 2025/05/16

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: SOUTH BAPTISTE
Your P.O. #: 250253-09
Sampler Initials: BM

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		AQSO88			AQSO88			AQSO89		
Sampling Date		2025/05/08 09:55			2025/05/08 09:55			2025/05/08 09:45		
COC Number		1041566-01-01			1041566-01-01			1041566-01-01		
	UNITS	BAP-A	RDL	QC Batch	BAP-A Lab-Dup	RDL	QC Batch	BAP-B	RDL	QC Batch
Calculated Parameters										
Hardness (CaCO3)	mg/L	160	1.0	9926105				60	1.0	9926105
Total Un-ionized Ammonia	mg/L	ND	0.00061	9925845				ND	0.00061	9925845
Field Measurements										
Field Temperature	Celsius	7.3	N/A	ONSITE				7.6	N/A	ONSITE
Field Measured pH	pH	7.46		ONSITE				7.38		ONSITE
Inorganics										
Total Ammonia-N	mg/L	ND	0.050	9928749				ND	0.050	9928749
Total BOD	mg/L	4	2	9926516				ND	2	9926516
Colour	TCU	11	2	9928751				25	2	9928751
Conductivity	umho/cm	490	2.0	9927201				140	2.0	9927212
Total Dissolved Solids	mg/L	320	10	9928978				115	10	9928978
Total Kjeldahl Nitrogen (TKN)	mg/L	0.21	0.10	9928577				0.14	0.10	9928467
pH	pH	7.91		9927203				7.74		9927213
Phenols-4AAP	mg/L	ND	0.0010	9928960				ND	0.0010	9928960
Total Phosphorus	mg/L	ND	0.020	9928479	ND	0.020	9928479	ND	0.020	9928470
Total Suspended Solids	mg/L	ND	10	9928631				ND	10	9928631
Dissolved Sulphate (SO4)	mg/L	35	1.0	9927946				4.1	1.0	9927194
Turbidity	NTU	0.3	0.1	9927116				0.9	0.1	9927116
Alkalinity (Total as CaCO3)	mg/L	150	1.0	9927198				58	1.0	9927209
Dissolved Chloride (Cl-)	mg/L	32	1.0	9927942				3.9	1.0	9927184
Nitrite (N)	mg/L	ND	0.010	9927136	ND	0.010	9927136	ND	0.010	9926839
Nitrate (N)	mg/L	1.86	0.10	9927136	1.85	0.10	9927136	ND	0.10	9926839
Nitrate + Nitrite (N)	mg/L	1.86	0.10	9927136	1.85	0.10	9927136	ND	0.10	9926839

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 #: C552962
Report Date: 2025/05/16

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: SOUTH BAPTISTE
Your P.O. #: 250253-09
Sampler Initials: BM

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		AQSO89			AQSO90			AQSO90		
Sampling Date		2025/05/08 09:45			2025/05/08 09:35			2025/05/08 09:35		
COC Number		1041566-01-01			1041566-01-01			1041566-01-01		
	UNITS	BAP-B Lab-Dup	RDL	QC Batch	BAP-C	RDL	QC Batch	BAP-C Lab-Dup	RDL	QC Batch
Calculated Parameters										
Hardness (CaCO3)	mg/L				74	1.0	9926105			
Total Un-ionized Ammonia	mg/L				ND	0.00061	9925845			
Field Measurements										
Field Temperature	Celsius				7.5	N/A	ONSITE			
Field Measured pH	pH				7.42		ONSITE			
Inorganics										
Total Ammonia-N	mg/L				ND	0.050	9928749			
Total BOD	mg/L				ND	2	9926516			
Colour	TCU				23	2	9928754	23	2	9928754
Conductivity	umho/cm				190	2.0	9927212			
Total Dissolved Solids	mg/L				140	10	9928978			
Total Kjeldahl Nitrogen (TKN)	mg/L				0.14	0.10	9928467			
pH	pH				7.85		9927213			
Phenols-4AAP	mg/L				ND	0.0010	9928960			
Total Phosphorus	mg/L				ND	0.020	9928470			
Total Suspended Solids	mg/L				ND	10	9928631			
Dissolved Sulphate (SO4)	mg/L				7.8	1.0	9927194			
Turbidity	NTU	0.9	0.1	9927116	0.7	0.1	9927116			
Alkalinity (Total as CaCO3)	mg/L				71	1.0	9927209			
Dissolved Chloride (Cl-)	mg/L				7.9	1.0	9927184			
Nitrite (N)	mg/L				ND	0.010	9926839			
Nitrate (N)	mg/L				0.25	0.10	9926839			
Nitrate + Nitrite (N)	mg/L				0.25	0.10	9926839			

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Lab-Dup = Laboratory Initiated Duplicate
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 #: C552962
Report Date: 2025/05/16

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: SOUTH BAPTISTE
Your P.O. #: 250253-09
Sampler Initials: BM

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		AQSO91		AQSO92			AQSO92		
Sampling Date		2025/05/08 10:05		2025/05/08 09:55			2025/05/08 09:55		
COC Number		1041566-01-01		1041566-01-01			1041566-01-01		
	UNITS	BAP-D	QC Batch	SB-QAQC-SW1	RDL	QC Batch	SB-QAQC-SW1 Lab-Dup	RDL	QC Batch
Calculated Parameters									
Hardness (CaCO3)	mg/L	48	9926105	150	1.0	9926105			
Total Un-ionized Ammonia	mg/L	ND	9925845	ND	0.00061	9925845			
Field Measurements									
Field Temperature	Celsius	7.7	ONSITE	7.3	N/A	ONSITE			
Field Measured pH	pH	7.29	ONSITE	7.46		ONSITE			
Inorganics									
Total Ammonia-N	mg/L	ND	9928749	ND	0.050	9928749			
Total BOD	mg/L	ND	9926516	ND	2	9926516			
Colour	TCU	33	9928751	11	2	9928751			
Conductivity	umho/cm	120	9927201	500	2.0	9927201			
Total Dissolved Solids	mg/L	105	9928978	295	10	9928978			
Total Kjeldahl Nitrogen (TKN)	mg/L	0.23	9928577	0.24	0.10	9928577			
pH	pH	7.60	9927203	7.89		9927203			
Phenols-4AAP	mg/L	ND	9928960	ND	0.0010	9928960	ND	0.0010	9928960
Total Phosphorus	mg/L	ND	9928470	ND	0.020	9928470			
Total Suspended Solids	mg/L	ND	9928631	ND	10	9928631			
Dissolved Sulphate (SO4)	mg/L	3.7	9927946	30	1.0	9927174			
Turbidity	NTU	1.2	9927116	0.3	0.1	9927116			
Alkalinity (Total as CaCO3)	mg/L	49	9927198	150	1.0	9927198			
Dissolved Chloride (Cl-)	mg/L	4.5	9927942	32	1.0	9927173			
Nitrite (N)	mg/L	ND	9927136	ND	0.010	9927136			
Nitrate (N)	mg/L	ND	9927136	1.85	0.10	9927136			
Nitrate + Nitrite (N)	mg/L	ND	9927136	1.85	0.10	9927136			

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
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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 #: C552962
Report Date: 2025/05/16

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: SOUTH BAPTISTE
Your P.O. #: 250253-09
Sampler Initials: BM

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Bureau Veritas ID		AQSO88		AQSO89			AQSO89		
Sampling Date		2025/05/08 09:55		2025/05/08 09:45			2025/05/08 09:45		
COC Number		1041566-01-01		1041566-01-01			1041566-01-01		
	UNITS	BAP-A	QC Batch	BAP-B	RDL	QC Batch	BAP-B Lab-Dup	RDL	QC Batch
Metals									
Dissolved (0.2u) Aluminum (Al)	ug/L	7	9928950	25	5	9928950	26	5	9928950
Dissolved Mercury (Hg)	ug/L	ND	9928963	ND	0.10	9928964			
Total Aluminum (Al)	ug/L	10	9929608	55	4.9	9929608			
Total Arsenic (As)	ug/L	ND	9929608	ND	1.0	9929608			
Total Boron (B)	ug/L	310	9929608	ND	10	9929608			
Total Cadmium (Cd)	ug/L	ND	9929608	ND	0.090	9929608			
Total Calcium (Ca)	ug/L	45000	9929608	21000	200	9929608			
Total Chromium (Cr)	ug/L	ND	9929608	ND	5.0	9929608			
Total Cobalt (Co)	ug/L	ND	9929608	ND	0.50	9929608			
Total Copper (Cu)	ug/L	1.0	9929608	ND	0.90	9929608			
Total Iron (Fe)	ug/L	ND	9929608	270	100	9929608			
Total Lead (Pb)	ug/L	ND	9929608	ND	0.50	9929608			
Total Magnesium (Mg)	ug/L	8100	9929608	970	50	9929608			
Total Nickel (Ni)	ug/L	1.3	9929608	ND	1.0	9929608			
Total Potassium (K)	ug/L	17000	9929608	500	200	9929608			
Total Selenium (Se)	ug/L	ND	9929608	ND	2.0	9929608			
Total Silver (Ag)	ug/L	ND	9929608	ND	0.090	9929608			
Total Sodium (Na)	ug/L	28000	9929608	4300	100	9929608			
Total Zinc (Zn)	ug/L	ND	9929608	ND	5.0	9929608			

RDL = Reportable Detection Limit
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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 #: C552962
Report Date: 2025/05/16

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: SOUTH BAPTISTE
Your P.O. #: 250253-09
Sampler Initials: BM

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Bureau Veritas ID		AQSO90		AQSO91		AQSO92		
Sampling Date		2025/05/08 09:35		2025/05/08 10:05		2025/05/08 09:55		
COC Number		1041566-01-01		1041566-01-01		1041566-01-01		
	UNITS	BAP-C	QC Batch	BAP-D	QC Batch	SB-QAQC-SW1	RDL	QC Batch
Metals								
Dissolved (0.2u) Aluminum (Al)	ug/L	22	9928950	28	9928950	7	5	9928950
Dissolved Mercury (Hg)	ug/L	ND	9928963	ND	9928965	ND	0.10	9928964
Total Aluminum (Al)	ug/L	39	9929608	45	9929608	8.3	4.9	9929608
Total Arsenic (As)	ug/L	ND	9929608	ND	9929608	ND	1.0	9929608
Total Boron (B)	ug/L	42	9929608	ND	9929608	280	10	9929608
Total Cadmium (Cd)	ug/L	ND	9929608	ND	9929608	ND	0.090	9929608
Total Calcium (Ca)	ug/L	24000	9929608	17000	9929608	45000	200	9929608
Total Chromium (Cr)	ug/L	ND	9929608	ND	9929608	ND	5.0	9929608
Total Cobalt (Co)	ug/L	ND	9929608	ND	9929608	ND	0.50	9929608
Total Copper (Cu)	ug/L	ND	9929608	ND	9929608	0.95	0.90	9929608
Total Iron (Fe)	ug/L	210	9929608	350	9929608	ND	100	9929608
Total Lead (Pb)	ug/L	ND	9929608	ND	9929608	ND	0.50	9929608
Total Magnesium (Mg)	ug/L	1900	9929608	940	9929608	7900	50	9929608
Total Nickel (Ni)	ug/L	ND	9929608	ND	9929608	1.3	1.0	9929608
Total Potassium (K)	ug/L	2700	9929608	540	9929608	17000	200	9929608
Total Selenium (Se)	ug/L	ND	9929608	ND	9929608	ND	2.0	9929608
Total Silver (Ag)	ug/L	ND	9929608	ND	9929608	ND	0.090	9929608
Total Sodium (Na)	ug/L	7600	9929608	4500	9929608	28000	100	9929608
Total Zinc (Zn)	ug/L	ND	9929608	ND	9929608	ND	5.0	9929608

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 #: C552962
Report Date: 2025/05/16

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: SOUTH BAPTISTE
Your P.O. #: 250253-09
Sampler Initials: BM

TEST SUMMARY

Bureau Veritas ID: AQSO88
Sample ID: BAP-A
Matrix: Water

Collected: 2025/05/08
Shipped:
Received: 2025/05/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dissolved Aluminum (0.2 u, clay free)	ICP/MS	9928950	N/A	2025/05/15	Nan Raykha
Alkalinity	AT	9927198	N/A	2025/05/13	Nachiketa Gohil
Biochemical Oxygen Demand (BOD)	DO	9926516	2025/05/11	2025/05/16	Frank Zhang
Chloride by Automated Colourimetry	SKAL	9927942	N/A	2025/05/15	Alina Dobreanu
Colour	SPEC	9928751	N/A	2025/05/15	Gyulshen Idriz
Conductivity	AT	9927201	N/A	2025/05/13	Nachiketa Gohil
Hardness (calculated as CaCO3)		9926105	N/A	2025/05/15	Automated Statchk
Dissolved Mercury in Water by CVAA	CV/AA	9928963	2025/05/14	2025/05/15	Maitri PATIL
Total Metals Analysis by ICPMS	ICP/MS	9929608	2025/05/15	2025/05/15	Thuy Linh Nguyen
Total Ammonia-N	SKAL/NH4	9928749	N/A	2025/05/15	Massarat Jan
Nitrate & Nitrite as Nitrogen in Water	LACH	9927136	N/A	2025/05/12	Chandra Nandlal
pH	AT	9927203	2025/05/12	2025/05/13	Nachiketa Gohil
Phenols (4AAP)	TECH/PHEN	9928960	N/A	2025/05/14	Madhav Somani
Field Measured pH	PH	ONSITE	N/A	2025/05/13	Deepthi Shaji
Sulphate by Automated Turbidimetry	SKAL	9927946	N/A	2025/05/15	Alina Dobreanu
Total Dissolved Solids	BAL	9928978	2025/05/14	2025/05/15	Binuja Kodithuwakku Arachchilage
Field Measured pH	PH	ONSITE	N/A	2025/05/13	Deepthi Shaji
Total Kjeldahl Nitrogen in Water	SKAL	9928577	2025/05/14	2025/05/14	Rajni Tyagi
Total Phosphorus (Colourimetric)	SKAL/P	9928479	2025/05/14	2025/05/14	Vidhi Khatri
Total Suspended Solids	BAL	9928631	2025/05/14	2025/05/15	Tina Teng
Turbidity	AT	9927116	N/A	2025/05/12	Gurparteek KAUR
Un-ionized Ammonia	CALC/NH3	9925845	2025/05/15	2025/05/15	Automated Statchk

Bureau Veritas ID: AQSO88 Dup
Sample ID: BAP-A
Matrix: Water

Collected: 2025/05/08
Shipped:
Received: 2025/05/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Nitrate & Nitrite as Nitrogen in Water	LACH	9927136	N/A	2025/05/12	Chandra Nandlal
Total Phosphorus (Colourimetric)	SKAL/P	9928479	2025/05/14	2025/05/14	Vidhi Khatri

Bureau Veritas ID: AQSO89
Sample ID: BAP-B
Matrix: Water

Collected: 2025/05/08
Shipped:
Received: 2025/05/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dissolved Aluminum (0.2 u, clay free)	ICP/MS	9928950	N/A	2025/05/15	Nan Raykha
Alkalinity	AT	9927209	N/A	2025/05/14	Nachiketa Gohil
Biochemical Oxygen Demand (BOD)	DO	9926516	2025/05/11	2025/05/16	Frank Zhang
Chloride by Automated Colourimetry	SKAL	9927184	N/A	2025/05/14	Alina Dobreanu
Colour	SPEC	9928751	N/A	2025/05/15	Gyulshen Idriz
Conductivity	AT	9927212	N/A	2025/05/14	Nachiketa Gohil
Hardness (calculated as CaCO3)		9926105	N/A	2025/05/15	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 #: C552962
Report Date: 2025/05/16

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: SOUTH BAPTISTE
Your P.O. #: 250253-09
Sampler Initials: BM

TEST SUMMARY

Bureau Veritas ID: AQSO89
Sample ID: BAP-B
Matrix: Water

Collected: 2025/05/08
Shipped:
Received: 2025/05/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dissolved Mercury in Water by CVAA	CV/AA	9928964	2025/05/14	2025/05/15	Maitri PATIL
Total Metals Analysis by ICPMS	ICP/MS	9929608	2025/05/15	2025/05/15	Thuy Linh Nguyen
Total Ammonia-N	SKAL/NH4	9928749	N/A	2025/05/15	Massarat Jan
Nitrate & Nitrite as Nitrogen in Water	LACH	9926839	N/A	2025/05/12	Chandra Nandlal
pH	AT	9927213	2025/05/12	2025/05/14	Nachiketa Gohil
Phenols (4AAP)	TECH/PHEN	9928960	N/A	2025/05/14	Madhav Somani
Field Measured pH	PH	ONSITE	N/A	2025/05/13	Deepthi Shaji
Sulphate by Automated Turbidimetry	SKAL	9927194	N/A	2025/05/14	Alina Dobreanu
Total Dissolved Solids	BAL	9928978	2025/05/14	2025/05/15	Binuja Kodithuwakku Arachchilage
Field Measured pH	PH	ONSITE	N/A	2025/05/13	Deepthi Shaji
Total Kjeldahl Nitrogen in Water	SKAL	9928467	2025/05/14	2025/05/14	Rajni Tyagi
Total Phosphorus (Colourimetric)	SKAL/P	9928470	2025/05/14	2025/05/14	Vidhi Khatri
Total Suspended Solids	BAL	9928631	2025/05/14	2025/05/15	Tina Teng
Turbidity	AT	9927116	N/A	2025/05/12	Gurparteek KAUR
Un-ionized Ammonia	CALC/NH3	9925845	2025/05/15	2025/05/15	Automated Statchk

Bureau Veritas ID: AQSO89 Dup
Sample ID: BAP-B
Matrix: Water

Collected: 2025/05/08
Shipped:
Received: 2025/05/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dissolved Aluminum (0.2 u, clay free)	ICP/MS	9928950	N/A	2025/05/15	Nan Raykha
Turbidity	AT	9927116	N/A	2025/05/12	Gurparteek KAUR

Bureau Veritas ID: AQSO90
Sample ID: BAP-C
Matrix: Water

Collected: 2025/05/08
Shipped:
Received: 2025/05/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dissolved Aluminum (0.2 u, clay free)	ICP/MS	9928950	N/A	2025/05/15	Nan Raykha
Alkalinity	AT	9927209	N/A	2025/05/14	Nachiketa Gohil
Biochemical Oxygen Demand (BOD)	DO	9926516	2025/05/11	2025/05/16	Frank Zhang
Chloride by Automated Colourimetry	SKAL	9927184	N/A	2025/05/14	Alina Dobreanu
Colour	SPEC	9928754	N/A	2025/05/15	Gyulshen Idriz
Conductivity	AT	9927212	N/A	2025/05/14	Nachiketa Gohil
Hardness (calculated as CaCO3)		9926105	N/A	2025/05/15	Automated Statchk
Dissolved Mercury in Water by CVAA	CV/AA	9928963	2025/05/14	2025/05/15	Maitri PATIL
Total Metals Analysis by ICPMS	ICP/MS	9929608	2025/05/15	2025/05/15	Thuy Linh Nguyen
Total Ammonia-N	SKAL/NH4	9928749	N/A	2025/05/15	Massarat Jan
Nitrate & Nitrite as Nitrogen in Water	LACH	9926839	N/A	2025/05/12	Chandra Nandlal
pH	AT	9927213	2025/05/12	2025/05/14	Nachiketa Gohil
Phenols (4AAP)	TECH/PHEN	9928960	N/A	2025/05/14	Madhav Somani
Field Measured pH	PH	ONSITE	N/A	2025/05/13	Deepthi Shaji

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C552962
Report Date: 2025/05/16

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: SOUTH BAPTISTE
Your P.O. #: 250253-09
Sampler Initials: BM

TEST SUMMARY

Bureau Veritas ID: AQSO90
Sample ID: BAP-C
Matrix: Water

Collected: 2025/05/08
Shipped:
Received: 2025/05/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Sulphate by Automated Turbidimetry	SKAL	9927194	N/A	2025/05/14	Alina Dobreanu
Total Dissolved Solids	BAL	9928978	2025/05/14	2025/05/15	Binuja Kodithuwakku Arachchilage
Field Measured pH	PH	ONSITE	N/A	2025/05/13	Deepthi Shaji
Total Kjeldahl Nitrogen in Water	SKAL	9928467	2025/05/14	2025/05/14	Rajni Tyagi
Total Phosphorus (Colourimetric)	SKAL/P	9928470	2025/05/14	2025/05/14	Vidhi Khatri
Total Suspended Solids	BAL	9928631	2025/05/14	2025/05/15	Tina Teng
Turbidity	AT	9927116	N/A	2025/05/12	Gurparteek KAUR
Un-ionized Ammonia	CALC/NH3	9925845	2025/05/15	2025/05/15	Automated Statchk

Bureau Veritas ID: AQSO90 Dup
Sample ID: BAP-C
Matrix: Water

Collected: 2025/05/08
Shipped:
Received: 2025/05/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Colour	SPEC	9928754	N/A	2025/05/15	Gyulshen Idriz

Bureau Veritas ID: AQSO91
Sample ID: BAP-D
Matrix: Water

Collected: 2025/05/08
Shipped:
Received: 2025/05/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dissolved Aluminum (0.2 u, clay free)	ICP/MS	9928950	N/A	2025/05/15	Nan Raykha
Alkalinity	AT	9927198	N/A	2025/05/13	Nachiketa Gohil
Biochemical Oxygen Demand (BOD)	DO	9926516	2025/05/11	2025/05/16	Frank Zhang
Chloride by Automated Colourimetry	SKAL	9927942	N/A	2025/05/15	Alina Dobreanu
Colour	SPEC	9928751	N/A	2025/05/15	Gyulshen Idriz
Conductivity	AT	9927201	N/A	2025/05/13	Nachiketa Gohil
Hardness (calculated as CaCO3)		9926105	N/A	2025/05/15	Automated Statchk
Dissolved Mercury in Water by CVAA	CV/AA	9928965	2025/05/14	2025/05/15	Maitri PATIL
Total Metals Analysis by ICPMS	ICP/MS	9929608	2025/05/15	2025/05/15	Thuy Linh Nguyen
Total Ammonia-N	SKAL/NH4	9928749	N/A	2025/05/15	Massarat Jan
Nitrate & Nitrite as Nitrogen in Water	LACH	9927136	N/A	2025/05/12	Chandra Nandlal
pH	AT	9927203	2025/05/12	2025/05/13	Nachiketa Gohil
Phenols (4AAP)	TECH/PHEN	9928960	N/A	2025/05/14	Madhav Somani
Field Measured pH	PH	ONSITE	N/A	2025/05/13	Deepthi Shaji
Sulphate by Automated Turbidimetry	SKAL	9927946	N/A	2025/05/15	Alina Dobreanu
Total Dissolved Solids	BAL	9928978	2025/05/14	2025/05/15	Binuja Kodithuwakku Arachchilage
Field Measured pH	PH	ONSITE	N/A	2025/05/13	Deepthi Shaji
Total Kjeldahl Nitrogen in Water	SKAL	9928577	2025/05/14	2025/05/14	Rajni Tyagi
Total Phosphorus (Colourimetric)	SKAL/P	9928470	2025/05/14	2025/05/14	Vidhi Khatri
Total Suspended Solids	BAL	9928631	2025/05/14	2025/05/15	Tina Teng
Turbidity	AT	9927116	N/A	2025/05/12	Gurparteek KAUR
Un-ionized Ammonia	CALC/NH3	9925845	2025/05/15	2025/05/15	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 #: C552962
Report Date: 2025/05/16

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: SOUTH BAPTISTE
Your P.O. #: 250253-09
Sampler Initials: BM

TEST SUMMARY

Bureau Veritas ID: AQSO92
Sample ID: SB-QAQC-SW1
Matrix: Water

Collected: 2025/05/08
Shipped:
Received: 2025/05/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dissolved Aluminum (0.2 u, clay free)	ICP/MS	9928950	N/A	2025/05/15	Nan Raykha
Alkalinity	AT	9927198	N/A	2025/05/13	Nachiketa Gohil
Biochemical Oxygen Demand (BOD)	DO	9926516	2025/05/11	2025/05/16	Frank Zhang
Chloride by Automated Colourimetry	SKAL	9927173	N/A	2025/05/13	Alina Dobreanu
Colour	SPEC	9928751	N/A	2025/05/15	Gyulshen Idriz
Conductivity	AT	9927201	N/A	2025/05/13	Nachiketa Gohil
Hardness (calculated as CaCO3)		9926105	N/A	2025/05/15	Automated Statchk
Dissolved Mercury in Water by CVAA	CV/AA	9928964	2025/05/14	2025/05/15	Maitri PATIL
Total Metals Analysis by ICPMS	ICP/MS	9929608	2025/05/15	2025/05/15	Thuy Linh Nguyen
Total Ammonia-N	SKAL/NH4	9928749	N/A	2025/05/15	Massarat Jan
Nitrate & Nitrite as Nitrogen in Water	LACH	9927136	N/A	2025/05/12	Chandra Nandlal
pH	AT	9927203	2025/05/12	2025/05/13	Nachiketa Gohil
Phenols (4AAP)	TECH/PHEN	9928960	N/A	2025/05/14	Madhav Somani
Field Measured pH	PH	ONSITE	N/A	2025/05/13	Deepthi Shaji
Sulphate by Automated Turbidimetry	SKAL	9927174	N/A	2025/05/13	Alina Dobreanu
Total Dissolved Solids	BAL	9928978	2025/05/14	2025/05/15	Binuja Kodithuwakku Arachchilage
Field Measured pH	PH	ONSITE	N/A	2025/05/13	Deepthi Shaji
Total Kjeldahl Nitrogen in Water	SKAL	9928577	2025/05/14	2025/05/14	Rajni Tyagi
Total Phosphorus (Colourimetric)	SKAL/P	9928470	2025/05/14	2025/05/14	Vidhi Khatri
Total Suspended Solids	BAL	9928631	2025/05/14	2025/05/15	Tina Teng
Turbidity	AT	9927116	N/A	2025/05/12	Gurparteek KAUR
Un-ionized Ammonia	CALC/NH3	9925845	2025/05/15	2025/05/15	Automated Statchk

Bureau Veritas ID: AQSO92 Dup
Sample ID: SB-QAQC-SW1
Matrix: Water

Collected: 2025/05/08
Shipped:
Received: 2025/05/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Phenols (4AAP)	TECH/PHEN	9928960	N/A	2025/05/14	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 #: C552962
Report Date: 2025/05/16

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: SOUTH BAPTISTE
Your P.O. #: 250253-09
Sampler Initials: BM

GENERAL COMMENTS

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

Package 1	4.0°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 #: C552962
Report Date: 2025/05/16

QUALITY ASSURANCE REPORT

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: SOUTH BAPTISTE
Your P.O. #: 250253-09
Sampler Initials: BM

			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
9926516	Total BOD	2025/05/16					ND,RDL=2	mg/L	NC	30	101	80 - 120
9926839	Nitrate (N)	2025/05/12	97	80 - 120	95	80 - 120	ND, RDL=0.10	mg/L	0.14	20		
9926839	Nitrite (N)	2025/05/12	97	80 - 120	97	80 - 120	ND, RDL=0.010	mg/L	NC	20		
9927116	Turbidity	2025/05/12			98	80 - 120	ND, RDL=0.1	NTU	3.1	20		
9927136	Nitrate (N)	2025/05/12	101	80 - 120	96	80 - 120	ND, RDL=0.10	mg/L	0.11	20		
9927136	Nitrite (N)	2025/05/12	98	80 - 120	98	80 - 120	ND, RDL=0.010	mg/L	NC	20		
9927173	Dissolved Chloride (Cl-)	2025/05/13	NC	80 - 120	95	80 - 120	ND, RDL=1.0	mg/L	5.3	20		
9927174	Dissolved Sulphate (SO4)	2025/05/13	NC	75 - 125	92	80 - 120	ND, RDL=1.0	mg/L	1.3	20		
9927184	Dissolved Chloride (Cl-)	2025/05/14	NC	80 - 120	97	80 - 120	ND, RDL=1.0	mg/L	0.58	20		
9927194	Dissolved Sulphate (SO4)	2025/05/14	NC	75 - 125	95	80 - 120	ND, RDL=1.0	mg/L	0.86	20		
9927198	Alkalinity (Total as CaCO3)	2025/05/13			96	85 - 115	ND, RDL=1.0	mg/L	0.0043	20		
9927201	Conductivity	2025/05/13			100	85 - 115	ND, RDL=2.0	umho/cm	0.56	10		
9927203	pH	2025/05/13			102	98 - 103			0.27	N/A		
9927209	Alkalinity (Total as CaCO3)	2025/05/13			96	85 - 115	ND, RDL=1.0	mg/L	0.75	20		
9927212	Conductivity	2025/05/13			101	85 - 115	ND, RDL=2.0	umho/cm	0.17	10		
9927213	pH	2025/05/13			102	98 - 103			1.1	N/A		
9927942	Dissolved Chloride (Cl-)	2025/05/15	NC	80 - 120	101	80 - 120	ND, RDL=1.0	mg/L	0.12	20		
9927946	Dissolved Sulphate (SO4)	2025/05/15	95	75 - 125	101	80 - 120	ND, RDL=1.0	mg/L	12	20		
9928467	Total Kjeldahl Nitrogen (TKN)	2025/05/14	95	80 - 120	99	80 - 120	ND, RDL=0.10	mg/L	NC	20	102	80 - 120
9928470	Total Phosphorus	2025/05/14	102	80 - 120	98	80 - 120	ND, RDL=0.020	mg/L	1.1	20	93	80 - 120
9928479	Total Phosphorus	2025/05/14	97	80 - 120	95	80 - 120	ND, RDL=0.020	mg/L	NC	20	98	80 - 120
9928577	Total Kjeldahl Nitrogen (TKN)	2025/05/14	NC	80 - 120	106	80 - 120	ND, RDL=0.10	mg/L	4.2	20	103	80 - 120
9928631	Total Suspended Solids	2025/05/15			101	80 - 120	ND, RDL=10	mg/L	0	20		
9928749	Total Ammonia-N	2025/05/15	90	75 - 125	95	80 - 120	ND, RDL=0.050	mg/L	0.61	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
9928751	Colour	2025/05/15			97	80 - 120	ND,RDL=2	TCU	0.79	25		
9928754	Colour	2025/05/15			100	80 - 120	ND,RDL=2	TCU	0	25		
9928950	Dissolved (0.2u) Aluminum (Al)	2025/05/15	101	80 - 120	101	80 - 120	ND,RDL=5	ug/L	1.4	20		
9928960	Phenols-4AAP	2025/05/14	95	80 - 120	101	80 - 120	ND, RDL=0.0010	mg/L	NC	20		
9928963	Dissolved Mercury (Hg)	2025/05/15	101	75 - 125	103	80 - 120	ND, RDL=0.10	ug/L	NC	20		
9928964	Dissolved Mercury (Hg)	2025/05/15	101	75 - 125	105	80 - 120	ND, RDL=0.10	ug/L	NC	20		
9928965	Dissolved Mercury (Hg)	2025/05/15	100	75 - 125	104	80 - 120	ND, RDL=0.10	ug/L	NC	20		
9928978	Total Dissolved Solids	2025/05/15			102	80 - 120	ND, RDL=10	mg/L	5.7	20		
9929608	Total Aluminum (Al)	2025/05/15	98	80 - 120	94	80 - 120	ND, RDL=4.9	ug/L				
9929608	Total Arsenic (As)	2025/05/15	99	80 - 120	98	80 - 120	ND, RDL=1.0	ug/L				
9929608	Total Boron (B)	2025/05/15	97	80 - 120	99	80 - 120	ND, RDL=10	ug/L				
9929608	Total Cadmium (Cd)	2025/05/15	96	80 - 120	96	80 - 120	ND, RDL=0.090	ug/L				
9929608	Total Calcium (Ca)	2025/05/15	NC	80 - 120	97	80 - 120	ND, RDL=200	ug/L				
9929608	Total Chromium (Cr)	2025/05/15	92	80 - 120	94	80 - 120	ND, RDL=5.0	ug/L	NC	20		
9929608	Total Cobalt (Co)	2025/05/15	89	80 - 120	92	80 - 120	ND, RDL=0.50	ug/L				
9929608	Total Copper (Cu)	2025/05/15	91	80 - 120	90	80 - 120	ND, RDL=0.90	ug/L				
9929608	Total Iron (Fe)	2025/05/15	93	80 - 120	95	80 - 120	ND, RDL=100	ug/L				
9929608	Total Lead (Pb)	2025/05/15	92	80 - 120	94	80 - 120	ND, RDL=0.50	ug/L				
9929608	Total Magnesium (Mg)	2025/05/15	87	80 - 120	94	80 - 120	ND, RDL=50	ug/L				
9929608	Total Nickel (Ni)	2025/05/15	93	80 - 120	95	80 - 120	ND, RDL=1.0	ug/L				
9929608	Total Potassium (K)	2025/05/15	97	80 - 120	89	80 - 120	ND, RDL=200	ug/L				
9929608	Total Selenium (Se)	2025/05/15	105	80 - 120	105	80 - 120	ND, RDL=2.0	ug/L				
9929608	Total Silver (Ag)	2025/05/15	94	80 - 120	93	80 - 120	ND, RDL=0.090	ug/L				
9929608	Total Sodium (Na)	2025/05/15	NC	80 - 120	94	80 - 120	ND, RDL=100	ug/L				

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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
9929608	Total Zinc (Zn)	2025/05/15	98	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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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C552962
Report Date: 2025/05/16

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: SOUTH BAPTISTE
Your P.O. #: 250253-09
Sampler Initials: BM

VALIDATION SIGNATURE PAGE

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

Deepthi Shaji, Project Manager

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

Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

C552962
2025-05-09 11:12

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-2025-05-1799

Bottle Order #: 1041566

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:	
Company Name:	#1192 BluMetric Environmental Inc	Company Name:	#5638 BluMetric Environmental Inc	Quotation #:	C45783
Attention:	Accounts Payable	Attention:	S'rana Scholes	P.O. #:	250253-09
Address:	1682 Woodward Drive Ottawa ON K2C 3R8	Address:	The Tower - The Woolen Mill 4 Cataraqui St Kingston ON K7K 1Z7	Project:	250253-09
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 #:	South Baptiste
				Sampled By:	BM / NW

COC #: C#1041566-01-01

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)? ___

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 #)*

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI	Surface Water - PWQO									# of Bottles	Comments
1		BAP-A	25/05/08	9:55	SW	✓	✓									8	
2		BAP-B	25/05/08	9:45	SW	✓	✓									8	
3		BAP-C	25/05/08	9:35	SW	✓	✓									8	
4		BAP-D	25/05/08	10:05	SW	✓	✓									8	
5		SB-QAQC-SW1	25/05/08	9:55	SW	✓	✓									8	
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
Brad M'Callum / Brad M'Callum	2025/05/08	16:00	[illegible]	2025/05/09	11:12	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Recei	Custody Seal	Yes	No
	4 / 4	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
CBE

Bureau Veritas Canada (2019) Inc.

Your Project #: 250253-09
Site Location: SOUTH BAPTISTE
Your C.O.C. #: 1051679-01-01

Attention: S'rana Scholes

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

Report Date: 2025/07/16
Report #: R8576855
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C581588
Received: 2025/07/09, 09:31

Sample Matrix: Water
Samples Received: 5

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Dissolved Aluminum (0.2 u, clay free)	5	N/A	2025/07/11	CAM SOP-00447	EPA 6020B m
Alkalinity	5	N/A	2025/07/10	CAM SOP-00448	SM 24 2320 B m
Biochemical Oxygen Demand (BOD)	5	2025/07/09	2025/07/14	CAM SOP-00427	SM 24 5210B m
Chloride by Automated Colourimetry	5	N/A	2025/07/10	CAM SOP-00463	SM 24 4500-Cl E m
Colour	5	N/A	2025/07/09	CAM SOP-00412	SM 24 2120C m
Conductivity	5	N/A	2025/07/10	CAM SOP-00414	SM 24 2510 m
Hardness (calculated as CaCO3)	5	N/A	2025/07/16	CAM SOP 00102/00408/00447	SM 2340 B
Dissolved Mercury in Water by CVAA	5	2025/07/14	2025/07/14	CAM SOP-00453	EPA 7470A m
Total Metals Analysis by ICPMS	5	2025/07/15	2025/07/15	CAM SOP-00447	EPA 6020B m
Total Ammonia-N	5	N/A	2025/07/15	CAM SOP-00441	USGS I-2522-90 m
Nitrate & Nitrite as Nitrogen in Water (1)	5	N/A	2025/07/11	CAM SOP-00440	SM 24 4500-NO3I/NO2B
pH (2)	5	2025/07/09	2025/07/10	CAM SOP-00413	SM 24th - 4500H+ B
Phenols (4AAP)	4	N/A	2025/07/11	CAM SOP-00444	OMOE E3179 m
Phenols (4AAP)	1	N/A	2025/07/14	CAM SOP-00444	OMOE E3179 m
Field Measured pH (3)	5	N/A	2025/07/09		Field pH Meter
Sulphate by Automated Turbidimetry	5	N/A	2025/07/10	CAM SOP-00464	SM 24 4500-SO42- E m
Total Dissolved Solids	1	2025/07/11	2025/07/12	CAM SOP-00428	SM 24 2540C m
Total Dissolved Solids	4	2025/07/09	2025/07/10	CAM SOP-00428	SM 24 2540C m
Field Temperature (3)	5	N/A	2025/07/09		Field Thermometer
Total Kjeldahl Nitrogen in Water	5	2025/07/10	2025/07/14	CAM SOP-00938	SM 4500-N B m
Total Phosphorus (Colourimetric)	5	2025/07/10	2025/07/12	CAM SOP-00407	SM 24 4500-P I
Total Suspended Solids	1	2025/07/11	2025/07/14	CAM SOP-00428	SM 24 2540D m
Total Suspended Solids	4	2025/07/14	2025/07/14	CAM SOP-00428	SM 24 2540D m
Turbidity	5	N/A	2025/07/09	CAM SOP-00417	SM 24 2130 B
Un-ionized Ammonia (4)	5	2025/07/09	2025/07/15	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 Project #: 250253-09
Site Location: SOUTH BAPTISTE
Your C.O.C. #: 1051679-01-01

Attention: S'rana Scholes

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

Report Date: 2025/07/16
Report #: R8576855
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C581588
Received: 2025/07/09, 09:31

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 Project #: 250253-09
Site Location: SOUTH BAPTISTE
Your C.O.C. #: 1051679-01-01

Attention: S'rana Scholes

BluMetric Environmental Inc
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4 Cataraqui St
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CANADA K7K 1Z7

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CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C581588
Received: 2025/07/09, 09:31

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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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 #: C581588
Report Date: 2025/07/16

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: SOUTH BAPTISTE
Sampler Initials: NW

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		ASTH37		ASTH38		ASTH39		
Sampling Date		2025/07/07 14:30		2025/07/07 14:52		2025/07/07 14:42		
COC Number		1051679-01-01		1051679-01-01		1051679-01-01		
	UNITS	BAP-A	QC Batch	BAP-B	QC Batch	BAP-C	RDL	QC Batch
Calculated Parameters								
Hardness (CaCO3)	mg/L	160	9966040	65	9966040	91	1.0	9966040
Total Un-ionized Ammonia	mg/L	ND	9966041	ND	9966041	ND	0.00061	9966041
Field Measurements								
Field Temperature	Celsius	16.2	ONSITE	12.5	ONSITE	13.0	N/A	ONSITE
Field Measured pH	pH	7.23	ONSITE	7.37	ONSITE	7.44		ONSITE
Inorganics								
Total Ammonia-N	mg/L	ND	9967130	ND	9967130	ND	0.050	9967130
Total BOD	mg/L	ND	9965891	ND	9965891	ND	2	9965891
Colour	TCU	18	9966029	40	9966029	28	2	9966128
Conductivity	umho/cm	480	9966562	140	9966562	210	2.0	9966562
Total Dissolved Solids	mg/L	280	9968009	95	9966534	135	10	9966534
Total Kjeldahl Nitrogen (TKN)	mg/L	0.32	9967440	0.17	9967440	0.18	0.10	9967440
pH	pH	7.86	9966565	7.68	9966565	7.88		9966565
Phenols-4AAP	mg/L	ND	9968234	ND	9968234	ND	0.0010	9968234
Total Phosphorus	mg/L	ND	9967405	0.026	9967405	0.038	0.020	9967405
Total Suspended Solids	mg/L	ND	9968050	ND	9968888	14	10	9968888
Dissolved Sulphate (SO4)	mg/L	13	9966571	4.1	9966571	5.6	1.0	9966571
Turbidity	NTU	1.2	9966511	4.0	9966511	5.7	0.1	9966511
Alkalinity (Total as CaCO3)	mg/L	160	9966566	61	9966566	84	1.0	9966566
Dissolved Chloride (Cl-)	mg/L	33	9966570	1.8	9966570	6.8	1.0	9966570
Nitrite (N)	mg/L	0.027	9966561	ND	9966561	ND	0.010	9966561
Nitrate (N)	mg/L	1.09	9966561	ND	9966561	0.19	0.10	9966561
Nitrate + Nitrite (N)	mg/L	1.11	9966561	ND	9966561	0.19	0.10	9966561

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 #: C581588
Report Date: 2025/07/16

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: SOUTH BAPTISTE
Sampler Initials: NW

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		ASTH39			ASTH40			ASTH40		
Sampling Date		2025/07/07 14:42			2025/07/07 15:11			2025/07/07 15:11		
COC Number		1051679-01-01			1051679-01-01			1051679-01-01		
	UNITS	BAP-C Lab-Dup	RDL	QC Batch	BAP-D	RDL	QC Batch	BAP-D Lab-Dup	RDL	QC Batch
Calculated Parameters										
Hardness (CaCO3)	mg/L				77	1.0	9966040			
Total Un-ionized Ammonia	mg/L				ND	0.00061	9966041			
Field Measurements										
Field Temperature	Celsius				13.4	N/A	ONSITE			
Field Measured pH	pH				7.08		ONSITE			
Inorganics										
Total Ammonia-N	mg/L				ND	0.050	9967130			
Total BOD	mg/L				ND	2	9965891			
Colour	TCU	25	2	9966128	28	2	9966029			
Conductivity	umho/cm				160	2.0	9966562			
Total Dissolved Solids	mg/L				110	10	9966534			
Total Kjeldahl Nitrogen (TKN)	mg/L				0.16	0.10	9967440	0.20	0.10	9967440
pH	pH				7.85		9966565			
Phenols-4AAP	mg/L				ND	0.0010	9968234			
Total Phosphorus	mg/L				ND	0.020	9967405			
Total Suspended Solids	mg/L				ND	10	9968888			
Dissolved Sulphate (SO4)	mg/L				4.7	1.0	9966571			
Turbidity	NTU				2.5	0.1	9966511	2.6	0.1	9966511
Alkalinity (Total as CaCO3)	mg/L				72	1.0	9966566			
Dissolved Chloride (Cl-)	mg/L				2.7	1.0	9966570			
Nitrite (N)	mg/L				ND	0.010	9966561			
Nitrate (N)	mg/L				ND	0.10	9966561			
Nitrate + Nitrite (N)	mg/L				ND	0.10	9966561			

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

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Bureau Veritas Job #: C581588
Report Date: 2025/07/16

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: SOUTH BAPTISTE
Sampler Initials: NW

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		ASTH41			ASTH41		
Sampling Date		2025/07/07 14:52			2025/07/07 14:52		
COC Number		1051679-01-01			1051679-01-01		
	UNITS	SB-QAQC-SW1	RDL	QC Batch	SB-QAQC-SW1 Lab-Dup	RDL	QC Batch
Calculated Parameters							
Hardness (CaCO3)	mg/L	76	1.0	9966040			
Total Un-ionized Ammonia	mg/L	ND	0.00061	9966041			
Field Measurements							
Field Temperature	Celsius	12.5	N/A	ONSITE			
Field Measured pH	pH	7.37		ONSITE			
Inorganics							
Total Ammonia-N	mg/L	ND	0.050	9967130			
Total BOD	mg/L	ND	2	9965891			
Colour	TCU	28	2	9966029			
Conductivity	umho/cm	160	2.0	9966562	160	2.0	9966562
Total Dissolved Solids	mg/L	120	10	9966534			
Total Kjeldahl Nitrogen (TKN)	mg/L	0.21	0.10	9967440			
pH	pH	7.72		9966565	7.82		9966565
Phenols-4AAP	mg/L	ND	0.0010	9968234			
Total Phosphorus	mg/L	ND	0.020	9967405			
Total Suspended Solids	mg/L	ND	10	9968888			
Dissolved Sulphate (SO4)	mg/L	4.6	1.0	9966571			
Turbidity	NTU	2.4	0.1	9966511			
Alkalinity (Total as CaCO3)	mg/L	68	1.0	9966566	70	1.0	9966566
Dissolved Chloride (Cl-)	mg/L	2.7	1.0	9966570			
Nitrite (N)	mg/L	ND	0.010	9966561			
Nitrate (N)	mg/L	ND	0.10	9966561			
Nitrate + Nitrite (N)	mg/L	ND	0.10	9966561			

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

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Bureau Veritas Job #: C581588
Report Date: 2025/07/16

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: SOUTH BAPTISTE
Sampler Initials: NW

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Bureau Veritas ID		ASTH37	ASTH38	ASTH39	ASTH40	ASTH41		
Sampling Date		2025/07/07 14:30	2025/07/07 14:52	2025/07/07 14:42	2025/07/07 15:11	2025/07/07 14:52		
COC Number		1051679-01-01	1051679-01-01	1051679-01-01	1051679-01-01	1051679-01-01		
	UNITS	BAP-A	BAP-B	BAP-C	BAP-D	SB-QAQC-SW1	RDL	QC Batch
Metals								
Dissolved (0.2u) Aluminum (Al)	ug/L	ND	20	17	17	17	5	9967375
Dissolved Mercury (Hg)	ug/L	ND	ND	ND	ND	ND	0.10	9968999
Total Aluminum (Al)	ug/L	19	53	210	50	47	4.9	9969679
Total Arsenic (As)	ug/L	ND	ND	ND	ND	ND	1.0	9969679
Total Boron (B)	ug/L	250	ND	36	ND	ND	10	9969679
Total Cadmium (Cd)	ug/L	ND	ND	ND	ND	ND	0.090	9969679
Total Calcium (Ca)	ug/L	49000	22000	31000	27000	28000	200	9969679
Total Chromium (Cr)	ug/L	ND	ND	ND	ND	ND	5.0	9969679
Total Cobalt (Co)	ug/L	ND	ND	ND	ND	ND	0.50	9969679
Total Copper (Cu)	ug/L	0.93	ND	1.2	ND	ND	0.90	9969679
Total Iron (Fe)	ug/L	ND	940	2000	670	660	100	9969679
Total Lead (Pb)	ug/L	ND	ND	ND	ND	ND	0.50	9969679
Total Magnesium (Mg)	ug/L	7600	1100	2100	1100	1200	50	9969679
Total Nickel (Ni)	ug/L	1.7	ND	ND	ND	ND	1.0	9969679
Total Potassium (K)	ug/L	16000	680	2800	590	580	200	9969679
Total Selenium (Se)	ug/L	ND	ND	ND	ND	ND	2.0	9969679
Total Silver (Ag)	ug/L	ND	ND	ND	ND	ND	0.090	9969679
Total Sodium (Na)	ug/L	28000	4100	7400	4100	4100	100	9969679
Total Zinc (Zn)	ug/L	ND	ND	ND	ND	ND	5.0	9969679

RDL = Reportable Detection Limit
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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 #: C581588
Report Date: 2025/07/16

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: SOUTH BAPTISTE
Sampler Initials: NW

TEST SUMMARY

Bureau Veritas ID: ASTH37
Sample ID: BAP-A
Matrix: Water

Collected: 2025/07/07
Shipped:
Received: 2025/07/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dissolved Aluminum (0.2 u, clay free)	ICP/MS	9967375	N/A	2025/07/11	Prempal Bhatti
Alkalinity	AT	9966566	N/A	2025/07/10	Nachiketa Gohil
Biochemical Oxygen Demand (BOD)	DO	9965891	2025/07/09	2025/07/14	Prakash Piya
Chloride by Automated Colourimetry	SKAL	9966570	N/A	2025/07/10	Massarat Jan
Colour	SPEC	9966029	N/A	2025/07/09	Viorica Rotaru
Conductivity	AT	9966562	N/A	2025/07/10	Nachiketa Gohil
Hardness (calculated as CaCO3)		9966040	N/A	2025/07/16	Automated Statchk
Dissolved Mercury in Water by CVAA	CV/AA	9968999	2025/07/14	2025/07/14	Maitri PATIL
Total Metals Analysis by ICPMS	ICP/MS	9969679	2025/07/15	2025/07/15	Azita Fazaeli
Total Ammonia-N	SKAL/NH4	9967130	N/A	2025/07/15	Muskan
Nitrate & Nitrite as Nitrogen in Water	LACH	9966561	N/A	2025/07/11	Helen He
pH	AT	9966565	2025/07/09	2025/07/10	Nachiketa Gohil
Phenols (4AAP)	TECH/PHEN	9968234	N/A	2025/07/11	Jency Sara Johnson
Field Measured pH	PH	ONSITE	N/A	2025/07/09	Pradeepa Perera
Sulphate by Automated Turbidimetry	SKAL	9966571	N/A	2025/07/10	Massarat Jan
Total Dissolved Solids	BAL	9968009	2025/07/11	2025/07/12	Manowalage shanika GUNASEKARA
Field Measured pH	PH	ONSITE	N/A	2025/07/09	Pradeepa Perera
Total Kjeldahl Nitrogen in Water	SKAL	9967440	2025/07/10	2025/07/14	Rajni Tyagi
Total Phosphorus (Colourimetric)	SKAL/P	9967405	2025/07/10	2025/07/12	Vidhi Khatri
Total Suspended Solids	BAL	9968050	2025/07/11	2025/07/14	Razieh Tabesh
Turbidity	AT	9966511	N/A	2025/07/09	Nachiketa Gohil
Un-ionized Ammonia	CALC/NH3	9966041	2025/07/15	2025/07/15	Automated Statchk

Bureau Veritas ID: ASTH38
Sample ID: BAP-B
Matrix: Water

Collected: 2025/07/07
Shipped:
Received: 2025/07/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dissolved Aluminum (0.2 u, clay free)	ICP/MS	9967375	N/A	2025/07/11	Prempal Bhatti
Alkalinity	AT	9966566	N/A	2025/07/10	Nachiketa Gohil
Biochemical Oxygen Demand (BOD)	DO	9965891	2025/07/09	2025/07/14	Prakash Piya
Chloride by Automated Colourimetry	SKAL	9966570	N/A	2025/07/10	Massarat Jan
Colour	SPEC	9966029	N/A	2025/07/09	Viorica Rotaru
Conductivity	AT	9966562	N/A	2025/07/10	Nachiketa Gohil
Hardness (calculated as CaCO3)		9966040	N/A	2025/07/16	Automated Statchk
Dissolved Mercury in Water by CVAA	CV/AA	9968999	2025/07/14	2025/07/14	Maitri PATIL
Total Metals Analysis by ICPMS	ICP/MS	9969679	2025/07/15	2025/07/15	Azita Fazaeli
Total Ammonia-N	SKAL/NH4	9967130	N/A	2025/07/15	Muskan
Nitrate & Nitrite as Nitrogen in Water	LACH	9966561	N/A	2025/07/11	Helen He
pH	AT	9966565	2025/07/09	2025/07/10	Nachiketa Gohil
Phenols (4AAP)	TECH/PHEN	9968234	N/A	2025/07/11	Jency Sara Johnson
Field Measured pH	PH	ONSITE	N/A	2025/07/09	Pradeepa Perera
Sulphate by Automated Turbidimetry	SKAL	9966571	N/A	2025/07/10	Massarat Jan
Total Dissolved Solids	BAL	9966534	2025/07/09	2025/07/10	Razieh Tabesh

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C581588
Report Date: 2025/07/16

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: SOUTH BAPTISTE
Sampler Initials: NW

TEST SUMMARY

Bureau Veritas ID: ASTH38
Sample ID: BAP-B
Matrix: Water

Collected: 2025/07/07
Shipped:
Received: 2025/07/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Field Measured pH	PH	ONSITE	N/A	2025/07/09	Pradeepa Perera
Total Kjeldahl Nitrogen in Water	SKAL	9967440	2025/07/10	2025/07/14	Rajni Tyagi
Total Phosphorus (Colourimetric)	SKAL/P	9967405	2025/07/10	2025/07/12	Vidhi Khatri
Total Suspended Solids	BAL	9968888	2025/07/14	2025/07/14	Tina Teng
Turbidity	AT	9966511	N/A	2025/07/09	Nachiketa Gohil
Un-ionized Ammonia	CALC/NH3	9966041	2025/07/15	2025/07/15	Automated Statchk

Bureau Veritas ID: ASTH39
Sample ID: BAP-C
Matrix: Water

Collected: 2025/07/07
Shipped:
Received: 2025/07/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dissolved Aluminum (0.2 u, clay free)	ICP/MS	9967375	N/A	2025/07/11	Prempal Bhatti
Alkalinity	AT	9966566	N/A	2025/07/10	Nachiketa Gohil
Biochemical Oxygen Demand (BOD)	DO	9965891	2025/07/09	2025/07/14	Prakash Piya
Chloride by Automated Colourimetry	SKAL	9966570	N/A	2025/07/10	Massarat Jan
Colour	SPEC	9966128	N/A	2025/07/09	Viorica Rotaru
Conductivity	AT	9966562	N/A	2025/07/10	Nachiketa Gohil
Hardness (calculated as CaCO3)		9966040	N/A	2025/07/16	Automated Statchk
Dissolved Mercury in Water by CVAA	CV/AA	9968999	2025/07/14	2025/07/14	Maitri PATIL
Total Metals Analysis by ICPMS	ICP/MS	9969679	2025/07/15	2025/07/15	Azita Fazaeli
Total Ammonia-N	SKAL/NH4	9967130	N/A	2025/07/15	Muskan
Nitrate & Nitrite as Nitrogen in Water	LACH	9966561	N/A	2025/07/11	Helen He
pH	AT	9966565	2025/07/09	2025/07/10	Nachiketa Gohil
Phenols (4AAP)	TECH/PHEN	9968234	N/A	2025/07/11	Jency Sara Johnson
Field Measured pH	PH	ONSITE	N/A	2025/07/09	Pradeepa Perera
Sulphate by Automated Turbidimetry	SKAL	9966571	N/A	2025/07/10	Massarat Jan
Total Dissolved Solids	BAL	9966534	2025/07/09	2025/07/10	Razieh Tabesh
Field Measured pH	PH	ONSITE	N/A	2025/07/09	Pradeepa Perera
Total Kjeldahl Nitrogen in Water	SKAL	9967440	2025/07/10	2025/07/14	Rajni Tyagi
Total Phosphorus (Colourimetric)	SKAL/P	9967405	2025/07/10	2025/07/12	Vidhi Khatri
Total Suspended Solids	BAL	9968888	2025/07/14	2025/07/14	Tina Teng
Turbidity	AT	9966511	N/A	2025/07/09	Nachiketa Gohil
Un-ionized Ammonia	CALC/NH3	9966041	2025/07/15	2025/07/15	Automated Statchk

Bureau Veritas ID: ASTH39 Dup
Sample ID: BAP-C
Matrix: Water

Collected: 2025/07/07
Shipped:
Received: 2025/07/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Colour	SPEC	9966128	N/A	2025/07/09	Viorica Rotaru

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C581588
Report Date: 2025/07/16

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: SOUTH BAPTISTE
Sampler Initials: NW

TEST SUMMARY

Bureau Veritas ID: ASTH40
Sample ID: BAP-D
Matrix: Water

Collected: 2025/07/07
Shipped:
Received: 2025/07/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dissolved Aluminum (0.2 u, clay free)	ICP/MS	9967375	N/A	2025/07/11	Prempal Bhatti
Alkalinity	AT	9966566	N/A	2025/07/10	Nachiketa Gohil
Biochemical Oxygen Demand (BOD)	DO	9965891	2025/07/09	2025/07/14	Prakash Piya
Chloride by Automated Colourimetry	SKAL	9966570	N/A	2025/07/10	Massarat Jan
Colour	SPEC	9966029	N/A	2025/07/09	Viorica Rotaru
Conductivity	AT	9966562	N/A	2025/07/10	Nachiketa Gohil
Hardness (calculated as CaCO3)		9966040	N/A	2025/07/16	Automated Statchk
Dissolved Mercury in Water by CVAA	CV/AA	9968999	2025/07/14	2025/07/14	Maitri PATIL
Total Metals Analysis by ICPMS	ICP/MS	9969679	2025/07/15	2025/07/15	Azita Fazaeli
Total Ammonia-N	SKAL/NH4	9967130	N/A	2025/07/15	Muskan
Nitrate & Nitrite as Nitrogen in Water	LACH	9966561	N/A	2025/07/11	Helen He
pH	AT	9966565	2025/07/09	2025/07/10	Nachiketa Gohil
Phenols (4AAP)	TECH/PHEN	9968234	N/A	2025/07/11	Jency Sara Johnson
Field Measured pH	PH	ONSITE	N/A	2025/07/09	Pradeepa Perera
Sulphate by Automated Turbidimetry	SKAL	9966571	N/A	2025/07/10	Massarat Jan
Total Dissolved Solids	BAL	9966534	2025/07/09	2025/07/10	Razieh Tabesh
Field Measured pH	PH	ONSITE	N/A	2025/07/09	Pradeepa Perera
Total Kjeldahl Nitrogen in Water	SKAL	9967440	2025/07/10	2025/07/14	Rajni Tyagi
Total Phosphorus (Colourimetric)	SKAL/P	9967405	2025/07/10	2025/07/12	Vidhi Khatri
Total Suspended Solids	BAL	9968888	2025/07/14	2025/07/14	Tina Teng
Turbidity	AT	9966511	N/A	2025/07/09	Nachiketa Gohil
Un-ionized Ammonia	CALC/NH3	9966041	2025/07/15	2025/07/15	Automated Statchk

Bureau Veritas ID: ASTH40 Dup
Sample ID: BAP-D
Matrix: Water

Collected: 2025/07/07
Shipped:
Received: 2025/07/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Total Kjeldahl Nitrogen in Water	SKAL	9967440	2025/07/10	2025/07/14	Rajni Tyagi
Turbidity	AT	9966511	N/A	2025/07/09	Nachiketa Gohil

Bureau Veritas ID: ASTH41
Sample ID: SB-QAQC-SW1
Matrix: Water

Collected: 2025/07/07
Shipped:
Received: 2025/07/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dissolved Aluminum (0.2 u, clay free)	ICP/MS	9967375	N/A	2025/07/11	Prempal Bhatti
Alkalinity	AT	9966566	N/A	2025/07/10	Nachiketa Gohil
Biochemical Oxygen Demand (BOD)	DO	9965891	2025/07/09	2025/07/14	Prakash Piya
Chloride by Automated Colourimetry	SKAL	9966570	N/A	2025/07/10	Massarat Jan
Colour	SPEC	9966029	N/A	2025/07/09	Viorica Rotaru
Conductivity	AT	9966562	N/A	2025/07/10	Nachiketa Gohil
Hardness (calculated as CaCO3)		9966040	N/A	2025/07/16	Automated Statchk
Dissolved Mercury in Water by CVAA	CV/AA	9968999	2025/07/14	2025/07/14	Maitri PATIL

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C581588
Report Date: 2025/07/16

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: SOUTH BAPTISTE
Sampler Initials: NW

TEST SUMMARY

Bureau Veritas ID: ASTH41
Sample ID: SB-QAQC-SW1
Matrix: Water

Collected: 2025/07/07
Shipped:
Received: 2025/07/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Total Metals Analysis by ICPMS	ICP/MS	9969679	2025/07/15	2025/07/15	Azita Fazaeli
Total Ammonia-N	SKAL/NH4	9967130	N/A	2025/07/15	Muskan
Nitrate & Nitrite as Nitrogen in Water	LACH	9966561	N/A	2025/07/11	Helen He
pH	AT	9966565	2025/07/09	2025/07/10	Nachiketa Gohil
Phenols (4AAP)	TECH/PHEN	9968234	N/A	2025/07/14	Jency Sara Johnson
Field Measured pH	PH	ONSITE	N/A	2025/07/09	Pradeepa Perera
Sulphate by Automated Turbidimetry	SKAL	9966571	N/A	2025/07/10	Massarat Jan
Total Dissolved Solids	BAL	9966534	2025/07/09	2025/07/10	Razieh Tabesh
Field Measured pH	PH	ONSITE	N/A	2025/07/09	Pradeepa Perera
Total Kjeldahl Nitrogen in Water	SKAL	9967440	2025/07/10	2025/07/14	Rajni Tyagi
Total Phosphorus (Colourimetric)	SKAL/P	9967405	2025/07/10	2025/07/12	Vidhi Khatri
Total Suspended Solids	BAL	9968888	2025/07/14	2025/07/14	Tina Teng
Turbidity	AT	9966511	N/A	2025/07/09	Nachiketa Gohil
Un-ionized Ammonia	CALC/NH3	9966041	2025/07/15	2025/07/15	Automated Statchk

Bureau Veritas ID: ASTH41 Dup
Sample ID: SB-QAQC-SW1
Matrix: Water

Collected: 2025/07/07
Shipped:
Received: 2025/07/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9966566	N/A	2025/07/10	Nachiketa Gohil
Conductivity	AT	9966562	N/A	2025/07/10	Nachiketa Gohil
pH	AT	9966565	2025/07/09	2025/07/10	Nachiketa Gohil

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

GENERAL COMMENTS

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 #: C581588
Report Date: 2025/07/16

QUALITY ASSURANCE REPORT

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: SOUTH BAPTISTE
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
9965891	Total BOD	2025/07/14					ND,RDL=2	mg/L	0	30	92	80 - 120
9966029	Colour	2025/07/09			99	80 - 120	ND,RDL=2	TCU	NC	25		
9966128	Colour	2025/07/09			99	80 - 120	ND,RDL=2	TCU	8.8	25		
9966511	Turbidity	2025/07/09			98	80 - 120	ND, RDL=0.1	NTU	4.4	20		
9966534	Total Dissolved Solids	2025/07/10			100	80 - 120	ND, RDL=10	mg/L	3.9	20		
9966561	Nitrate (N)	2025/07/11	NC	80 - 120	94	80 - 120	ND, RDL=0.10	mg/L	2.8	20		
9966561	Nitrite (N)	2025/07/11	NC	80 - 120	105	80 - 120	ND, RDL=0.010	mg/L	1.8	20		
9966562	Conductivity	2025/07/10			102	85 - 115	ND, RDL=2.0	umho/cm	0.25	10		
9966565	pH	2025/07/10			102	98 - 103			1.2	N/A		
9966566	Alkalinity (Total as CaCO3)	2025/07/10			98	85 - 115	ND, RDL=1.0	mg/L	2.5	20		
9966570	Dissolved Chloride (Cl-)	2025/07/10	NC	80 - 120	99	80 - 120	ND, RDL=1.0	mg/L	0.31	20		
9966571	Dissolved Sulphate (SO4)	2025/07/10	NC	75 - 125	98	80 - 120	ND, RDL=1.0	mg/L	1.5	20		
9967130	Total Ammonia-N	2025/07/15	99	75 - 125	104	80 - 120	ND, RDL=0.050	mg/L	NC	20		
9967375	Dissolved (0.2u) Aluminum (Al)	2025/07/11	109	80 - 120	105	80 - 120	ND,RDL=5	ug/L	NC	20		
9967405	Total Phosphorus	2025/07/12	106	80 - 120	98	80 - 120	ND, RDL=0.020	mg/L	0.42	20	112	80 - 120
9967440	Total Kjeldahl Nitrogen (TKN)	2025/07/14	97	80 - 120	101	80 - 120	ND, RDL=0.10	mg/L	NC	20	110	80 - 120
9968009	Total Dissolved Solids	2025/07/12			100	80 - 120	ND, RDL=10	mg/L	0	20		
9968050	Total Suspended Solids	2025/07/14			98	80 - 120	ND, RDL=10	mg/L	NC	20		
9968234	Phenols-4AAP	2025/07/11	93	80 - 120	94	80 - 120	ND, RDL=0.0010	mg/L	NC	20		
9968888	Total Suspended Solids	2025/07/14			96	80 - 120	ND, RDL=10	mg/L	NC	20		
9968999	Dissolved Mercury (Hg)	2025/07/14	97	75 - 125	98	80 - 120	ND, RDL=0.10	ug/L	NC	20		
9969679	Total Aluminum (Al)	2025/07/15	104	80 - 120	99	80 - 120	ND, RDL=4.9	ug/L				
9969679	Total Arsenic (As)	2025/07/15	105	80 - 120	103	80 - 120	ND, RDL=1.0	ug/L	NC	20		
9969679	Total Boron (B)	2025/07/15	94	80 - 120	92	80 - 120	ND, RDL=10	ug/L				
9969679	Total Cadmium (Cd)	2025/07/15	104	80 - 120	100	80 - 120	ND, RDL=0.090	ug/L	NC	20		
9969679	Total Calcium (Ca)	2025/07/15	NC	80 - 120	99	80 - 120	ND, RDL=200	ug/L				

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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
9969679	Total Chromium (Cr)	2025/07/15	101	80 - 120	98	80 - 120	ND, RDL=5.0	ug/L	NC	20		
9969679	Total Cobalt (Co)	2025/07/15	103	80 - 120	101	80 - 120	ND, RDL=0.50	ug/L				
9969679	Total Copper (Cu)	2025/07/15	103	80 - 120	99	80 - 120	ND, RDL=0.90	ug/L	11	20		
9969679	Total Iron (Fe)	2025/07/15	100	80 - 120	100	80 - 120	ND, RDL=100	ug/L				
9969679	Total Lead (Pb)	2025/07/15	105	80 - 120	101	80 - 120	ND, RDL=0.50	ug/L	NC	20		
9969679	Total Magnesium (Mg)	2025/07/15	95	80 - 120	93	80 - 120	ND, RDL=50	ug/L				
9969679	Total Nickel (Ni)	2025/07/15	102	80 - 120	98	80 - 120	ND, RDL=1.0	ug/L	NC	20		
9969679	Total Potassium (K)	2025/07/15	96	80 - 120	93	80 - 120	ND, RDL=200	ug/L				
9969679	Total Selenium (Se)	2025/07/15	107	80 - 120	105	80 - 120	ND, RDL=2.0	ug/L	NC	20		
9969679	Total Silver (Ag)	2025/07/15	101	80 - 120	95	80 - 120	ND, RDL=0.090	ug/L	NC	20		
9969679	Total Sodium (Na)	2025/07/15	99	80 - 120	98	80 - 120	ND, RDL=100	ug/L				
9969679	Total Zinc (Zn)	2025/07/15	105	80 - 120	106	80 - 120	ND, RDL=5.0	ug/L	0.94	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 #: C581588
Report Date: 2025/07/16

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: SOUTH BAPTISTE
Sampler Initials: NW

VALIDATION SIGNATURE PAGE

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

Pradeepa

Pradeepa Perera, Sample Entry Technician

Louise A Harding

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.

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

C581588
2025/07/09 09:31

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

Received in Ottawa

CHAIN OF CUSTODY RECORD

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#1192 BluMetric Environmental Inc	Company Name:	#5638 BluMetric Environmental Inc	Quotation #:	C45783	Bureau Veritas Job #:	Bottle Order #: 1051679
Attention:	Accounts Payable	Attention:	S'rana 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:	250253-09	COC #: C#1051679-01-01	Project Manager: Deepthi Shaji
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 #:	South Baptiste		
				Sampled By:	NW / CR		

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		BAP-A	25/07/07	14:30	SW	✓	✓	8	16.2		7.23
2		BAP-B	25/07/07	14:52	SW	✓	✓	8	12.5		7.37
3		BAP-C	25/07/07	14:42	SW	✓	✓	8	13.0		7.44
4		BAP-D	25/07/07	15:11	SW	✓	✓	8	13.4		7.08
5		SB-QAQC-SW1	25/07/07	14:52	SW	✓	✓	8	12.5		7.37
6											
7											
8											
9											
10											

BCD

C581588
OTT-2025-07-059

* 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	25/07/08	14:00	Pedro da Silva / BAO	2025/07/08	16:10	

Laboratory Use Only
Time Sensitive
Temperature (°C) on Recei: 3/8/7 (ice)
Custody Seal: Present ☐ Yes ☐ No; 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 Project #: 250253-09
Site Location: South Baptiste
Your C.O.C. #: C#1062831-01-01

Attention: MHH Distribution

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

Report Date: 2025/10/31
Report #: R8642883
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C5D4594
Received: 2025/10/23, 10:48

Sample Matrix: Water
Samples Received: 5

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Dissolved Aluminum (0.2 u, clay free)	5	N/A	2025/10/30	CAM SOP-00447	EPA 6020B m
Alkalinity	5	N/A	2025/10/30	CAM SOP-00448	SM 24 2320 B m
Biochemical Oxygen Demand (BOD)	5	2025/10/25	2025/10/30	CAM SOP-00427	SM 24 5210B m
Chloride by Automated Colourimetry	4	N/A	2025/10/29	CAM SOP-00463	SM 24 4500-Cl E m
Chloride by Automated Colourimetry	1	N/A	2025/10/30	CAM SOP-00463	SM 24 4500-Cl E m
Colour	5	N/A	2025/10/28	CAM SOP-00412	SM 24 2120C m
Conductivity	5	N/A	2025/10/30	CAM SOP-00414	SM 24 2510 m
Hardness (calculated as CaCO3)	5	N/A	2025/10/30	CAM SOP 00102/00408/00447	SM 2340 B
Dissolved Mercury in Water by CVAA	5	2025/10/29	2025/10/30	CAM SOP-00453	EPA 7470A m
Total Metals Analysis by ICPMS	5	2025/10/29	2025/10/30	CAM SOP-00447	EPA 6020B m
Total Ammonia-N	5	N/A	2025/10/29	CAM SOP-00441	USGS I-2522-90 m
Nitrate & Nitrite as Nitrogen in Water (1)	5	N/A	2025/10/25	CAM SOP-00440	SM 24 4500-NO3I/NO2B
pH (2)	5	2025/10/25	2025/10/30	CAM SOP-00413	SM 24th - 4500H+ B
Phenols (4AAP)	5	N/A	2025/10/30	CAM SOP-00444	OMOE E3179 m
Field Measured pH (3)	5	N/A	2025/10/28		Field pH Meter
Sulphate by Automated Turbidimetry	4	N/A	2025/10/28	CAM SOP-00464	SM 24 4500-SO42- E m
Sulphate by Automated Turbidimetry	1	N/A	2025/10/30	CAM SOP-00464	SM 24 4500-SO42- E m
Total Dissolved Solids	5	2025/10/28	2025/10/30	CAM SOP-00428	SM 24 2540C m
Field Temperature (3)	5	N/A	2025/10/28		Field Thermometer
Total Kjeldahl Nitrogen in Water	5	2025/10/28	2025/10/30	CAM SOP-00938	SM 4500-N B m
Total Phosphorus (Colourimetric)	5	2025/10/29	2025/10/30	CAM SOP-00407	SM 24 4500-P I
Total Suspended Solids	5	2025/10/28	2025/10/29	CAM SOP-00428	SM 24 2540D m
Turbidity	5	N/A	2025/10/25	CAM SOP-00417	SM 24 2130 B
Un-ionized Ammonia (4)	5	2025/10/24	2025/10/29	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 Project #: 250253-09
Site Location: South Baptiste
Your C.O.C. #: C#1062831-01-01

Attention: MHH Distribution

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

Report Date: 2025/10/31
Report #: R8642883
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C5D4594

Received: 2025/10/23, 10:48

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.

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

Your Project #: 250253-09
Site Location: South Baptiste
Your C.O.C. #: C#1062831-01-01

Attention: MHH Distribution

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CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C5D4594
Received: 2025/10/23, 10:48

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.

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Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C5D4594
Report Date: 2025/10/31

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: South Baptiste
Sampler Initials: DK

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		AWOS23			AWOS23		
Sampling Date		2025/10/21 13:00			2025/10/21 13:00		
COC Number		C#1062831-01-01			C#1062831-01-01		
	UNITS	BAP-A	RDL	QC Batch	BAP-A Lab-Dup	RDL	QC Batch
Calculated Parameters							
Hardness (CaCO3)	mg/L	180	1.0	A039919			
Total Un-ionized Ammonia	mg/L	ND	0.00061	A039583			
Field Measurements							
Field Temperature	Celsius	7.5	N/A	ONSITE			
Field Measured pH	pH	7.57		ONSITE			
Inorganics							
Total Ammonia-N	mg/L	ND	0.050	A041940			
Total BOD	mg/L	ND	2	A040000			
Colour	TCU	13	2	A041488			
Conductivity	umho/cm	550	2.0	A040100			
Total Dissolved Solids	mg/L	295	10	A042144			
Total Kjeldahl Nitrogen (TKN)	mg/L	0.31	0.10	A042159			
pH	pH	7.89		A040101			
Phenols-4AAP	mg/L	ND	0.0010	A043578	ND	0.0010	A043578
Total Phosphorus	mg/L	ND	0.020	A042685			
Total Suspended Solids	mg/L	ND	10	A042142			
Dissolved Sulphate (SO4)	mg/L	11	1.0	A040188			
Turbidity	NTU	12	0.1	A040081			
Alkalinity (Total as CaCO3)	mg/L	190	1.0	A040097			
Dissolved Chloride (Cl-)	mg/L	44	1.0	A040186			
Nitrite (N)	mg/L	ND	0.010	A040079			
Nitrate (N)	mg/L	1.80	0.10	A040079			
Nitrate + Nitrite (N)	mg/L	1.80	0.10	A040079			

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

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Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C5D4594
Report Date: 2025/10/31

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: South Baptiste
Sampler Initials: DK

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		AWOS24		AWOS25			AWOS25		
Sampling Date		2025/10/21 12:47		2025/10/21 12:35			2025/10/21 12:35		
COC Number		C#1062831-01-01		C#1062831-01-01			C#1062831-01-01		
	UNITS	BAP-B	QC Batch	BAP-C	RDL	QC Batch	BAP-C Lab-Dup	RDL	QC Batch
Calculated Parameters									
Hardness (CaCO3)	mg/L	80	A039919	97	1.0	A039919			
Total Un-ionized Ammonia	mg/L	ND	A039583	ND	0.00061	A039583			
Field Measurements									
Field Temperature	Celsius	7.4	ONSITE	7.3	N/A	ONSITE			
Field Measured pH	pH	7.67	ONSITE	7.72		ONSITE			
Inorganics									
Total Ammonia-N	mg/L	ND	A042086	ND	0.050	A041940	ND	0.050	A041940
Total BOD	mg/L	ND	A040000	ND	2	A040000			
Colour	TCU	10	A041488	11	2	A041488			
Conductivity	umho/cm	170	A040100	240	2.0	A040100			
Total Dissolved Solids	mg/L	50	A042144	100	10	A042144	110	10	A042144
Total Kjeldahl Nitrogen (TKN)	mg/L	0.13	A042159	0.16	0.10	A042159			
pH	pH	7.93	A040101	7.95		A040101			
Phenols-4AAP	mg/L	ND	A043578	ND	0.0010	A043578			
Total Phosphorus	mg/L	ND	A042685	ND	0.020	A042685			
Total Suspended Solids	mg/L	ND	A042142	ND	10	A042142			
Dissolved Sulphate (SO4)	mg/L	4.8	A040188	5.6	1.0	A040188			
Turbidity	NTU	0.9	A040081	0.9	0.1	A040081			
Alkalinity (Total as CaCO3)	mg/L	73	A040097	96	1.0	A040097			
Dissolved Chloride (Cl-)	mg/L	3.1	A040186	9.8	1.0	A040186			
Nitrite (N)	mg/L	ND	A040079	ND	0.010	A040079			
Nitrate (N)	mg/L	ND	A040079	0.27	0.10	A040079			
Nitrate + Nitrite (N)	mg/L	ND	A040079	0.27	0.10	A040079			

RDL = Reportable Detection Limit
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Lab-Dup = Laboratory Initiated Duplicate
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N/A = Not Applicable

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Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C5D4594
Report Date: 2025/10/31

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: South Baptiste
Sampler Initials: DK

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		AWOS26		AWOS27		
Sampling Date		2025/10/21 13:20		2025/10/21 13:00		
COC Number		C#1062831-01-01		C#1062831-01-01		
	UNITS	BAP-D	QC Batch	SB-QAQC-SW1	RDL	QC Batch
Calculated Parameters						
Hardness (CaCO3)	mg/L	67	A039919	180	1.0	A039919
Total Un-ionized Ammonia	mg/L	ND	A039583	ND	0.00061	A039583
Field Measurements						
Field Temperature	Celsius	7.1	ONSITE	7.5	N/A	ONSITE
Field Measured pH	pH	7.37	ONSITE	7.57		ONSITE
Inorganics						
Total Ammonia-N	mg/L	ND	A041940	ND	0.050	A042086
Total BOD	mg/L	ND	A040000	ND	2	A040000
Colour	TCU	15	A041488	13	2	A041488
Conductivity	umho/cm	140	A040100	550	2.0	A040100
Total Dissolved Solids	mg/L	75	A042144	285	10	A042144
Total Kjeldahl Nitrogen (TKN)	mg/L	0.12	A042159	0.28	0.10	A042159
pH	pH	7.80	A040101	7.90		A040101
Phenols-4AAP	mg/L	ND	A043578	ND	0.0010	A043578
Total Phosphorus	mg/L	ND	A042685	ND	0.020	A042685
Total Suspended Solids	mg/L	ND	A042142	ND	10	A042142
Dissolved Sulphate (SO4)	mg/L	4.9	A041199	11	1.0	A040188
Turbidity	NTU	1.6	A040081	16	0.1	A040081
Alkalinity (Total as CaCO3)	mg/L	67	A040097	190	1.0	A040097
Dissolved Chloride (Cl-)	mg/L	1.3	A041198	47	1.0	A040186
Nitrite (N)	mg/L	ND	A040079	ND	0.010	A040079
Nitrate (N)	mg/L	ND	A040079	1.82	0.10	A040079
Nitrate + Nitrite (N)	mg/L	ND	A040079	1.82	0.10	A040079

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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Chemistry testing is conducted at 6740 Campobello Rd.

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Bureau Veritas ID		AWOS23	AWOS24	AWOS25	AWOS26		
Sampling Date		2025/10/21 13:00	2025/10/21 12:47	2025/10/21 12:35	2025/10/21 13:20		
COC Number		C#1062831-01-01	C#1062831-01-01	C#1062831-01-01	C#1062831-01-01		
	UNITS	BAP-A	BAP-B	BAP-C	BAP-D	RDL	QC Batch
Metals							
Dissolved (0.2u) Aluminum (Al)	ug/L	ND	ND	ND	5	5	A042893
Dissolved Mercury (Hg)	ug/L	ND	ND	ND	ND	0.10	A042449
Total Aluminum (Al)	ug/L	160	10	10	39	4.9	A042740
Total Arsenic (As)	ug/L	ND	ND	ND	ND	1.0	A042740
Total Boron (B)	ug/L	250	ND	46	ND	10	A042740
Total Cadmium (Cd)	ug/L	ND	ND	ND	ND	0.090	A042740
Total Calcium (Ca)	ug/L	54000	27000	32000	23000	200	A042740
Total Chromium (Cr)	ug/L	ND	ND	ND	ND	5.0	A042740
Total Cobalt (Co)	ug/L	0.93	ND	ND	ND	0.50	A042740
Total Copper (Cu)	ug/L	1.7	ND	ND	ND	0.90	A042740
Total Iron (Fe)	ug/L	600	110	120	570	100	A042740
Total Lead (Pb)	ug/L	2.4	ND	ND	ND	0.50	A042740
Total Magnesium (Mg)	ug/L	9000	1200	2400	1200	50	A042740
Total Nickel (Ni)	ug/L	2.4	ND	ND	ND	1.0	A042740
Total Potassium (K)	ug/L	20000	890	3900	1200	200	A042740
Total Selenium (Se)	ug/L	ND	ND	ND	ND	2.0	A042740
Total Silver (Ag)	ug/L	ND	ND	ND	ND	0.090	A042740
Total Sodium (Na)	ug/L	32000	3800	8900	3000	100	A042740
Total Zinc (Zn)	ug/L	17	ND	ND	ND	5.0	A042740

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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Chemistry testing is conducted at 6740 Campobello Rd.

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Bureau Veritas ID		AWOS27		
Sampling Date		2025/10/21 13:00		
COC Number		C#1062831-01-01		
	UNITS	SB-QAQC-SW1	RDL	QC Batch
Metals				
Dissolved (0.2u) Aluminum (Al)	ug/L	ND	5	A042893
Dissolved Mercury (Hg)	ug/L	ND	0.10	A042449
Total Aluminum (Al)	ug/L	180	4.9	A042740
Total Arsenic (As)	ug/L	ND	1.0	A042740
Total Boron (B)	ug/L	230	10	A042740
Total Cadmium (Cd)	ug/L	ND	0.090	A042740
Total Calcium (Ca)	ug/L	52000	200	A042740
Total Chromium (Cr)	ug/L	ND	5.0	A042740
Total Cobalt (Co)	ug/L	0.94	0.50	A042740
Total Copper (Cu)	ug/L	1.2	0.90	A042740
Total Iron (Fe)	ug/L	640	100	A042740
Total Lead (Pb)	ug/L	ND	0.50	A042740
Total Magnesium (Mg)	ug/L	8700	50	A042740
Total Nickel (Ni)	ug/L	2.4	1.0	A042740
Total Potassium (K)	ug/L	19000	200	A042740
Total Selenium (Se)	ug/L	ND	2.0	A042740
Total Silver (Ag)	ug/L	ND	0.090	A042740
Total Sodium (Na)	ug/L	31000	100	A042740
Total Zinc (Zn)	ug/L	7.4	5.0	A042740

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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Chemistry testing is conducted at 6740 Campobello Rd.

TEST SUMMARY

Bureau Veritas ID: AWOS23 **Collected:** 2025/10/21
Sample ID: BAP-A **Shipped:**
Matrix: Water **Received:** 2025/10/23

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dissolved Aluminum (0.2 u, clay free)	ICP/MS	A042893	N/A	2025/10/30	Indira HarryPaul
Alkalinity	AT	A040097	N/A	2025/10/30	Surinder Rai
Biochemical Oxygen Demand (BOD)	DO	A040000	2025/10/25	2025/10/30	Razieh Tabesh
Chloride by Automated Colourimetry	SKAL	A040186	N/A	2025/10/29	Alina Dobreanu
Colour	SPEC	A041488	N/A	2025/10/28	Viorica Rotaru
Conductivity	AT	A040100	N/A	2025/10/30	Surinder Rai
Hardness (calculated as CaCO3)		A039919	N/A	2025/10/30	Automated Statchk
Dissolved Mercury in Water by CVAA	CV/AA	A042449	2025/10/29	2025/10/30	Maitri PATIL
Total Metals Analysis by ICPMS	ICP/MS	A042740	2025/10/29	2025/10/30	Indira HarryPaul
Total Ammonia-N	SKAL/NH4	A041940	N/A	2025/10/29	Kruti Jitesh Patel
Nitrate & Nitrite as Nitrogen in Water	LACH	A040079	N/A	2025/10/25	Helen He
pH	AT	A040101	2025/10/25	2025/10/30	Surinder Rai
Phenols (4AAP)	TECH/PHEN	A043578	N/A	2025/10/30	Jency Sara Johnson
Field Measured pH	PH	ONSITE	N/A	2025/10/28	Harwin Grewal
Sulphate by Automated Turbidimetry	SKAL	A040188	N/A	2025/10/28	Massarat Jan
Total Dissolved Solids	BAL	A042144	2025/10/28	2025/10/30	Manowalage shanika GUNASEKARA
Field Measured pH	PH	ONSITE	N/A	2025/10/28	Harwin Grewal
Total Kjeldahl Nitrogen in Water	SKAL	A042159	2025/10/28	2025/10/30	Rajni Tyagi
Total Phosphorus (Colourimetric)	SKAL/P	A042685	2025/10/29	2025/10/30	Vidhi Khatri
Total Suspended Solids	BAL	A042142	2025/10/28	2025/10/29	Manowalage shanika GUNASEKARA
Turbidity	AT	A040081	N/A	2025/10/25	Pinky joy JANABAN
Un-ionized Ammonia	CALC/NH3	A039583	2025/10/29	2025/10/29	Automated Statchk

Bureau Veritas ID: AWOS23 Dup **Collected:** 2025/10/21
Sample ID: BAP-A **Shipped:**
Matrix: Water **Received:** 2025/10/23

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Phenols (4AAP)	TECH/PHEN	A043578	N/A	2025/10/30	Jency Sara Johnson

Bureau Veritas ID: AWOS24 **Collected:** 2025/10/21
Sample ID: BAP-B **Shipped:**
Matrix: Water **Received:** 2025/10/23

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dissolved Aluminum (0.2 u, clay free)	ICP/MS	A042893	N/A	2025/10/30	Indira HarryPaul
Alkalinity	AT	A040097	N/A	2025/10/30	Surinder Rai
Biochemical Oxygen Demand (BOD)	DO	A040000	2025/10/25	2025/10/30	Razieh Tabesh
Chloride by Automated Colourimetry	SKAL	A040186	N/A	2025/10/29	Alina Dobreanu
Colour	SPEC	A041488	N/A	2025/10/28	Viorica Rotaru
Conductivity	AT	A040100	N/A	2025/10/30	Surinder Rai
Hardness (calculated as CaCO3)		A039919	N/A	2025/10/30	Automated Statchk
Dissolved Mercury in Water by CVAA	CV/AA	A042449	2025/10/29	2025/10/30	Maitri PATIL
Total Metals Analysis by ICPMS	ICP/MS	A042740	2025/10/29	2025/10/30	Indira HarryPaul

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Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C5D4594
Report Date: 2025/10/31

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: South Baptiste
Sampler Initials: DK

TEST SUMMARY

Bureau Veritas ID: AWOS24
Sample ID: BAP-B
Matrix: Water

Collected: 2025/10/21
Shipped:
Received: 2025/10/23

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Total Ammonia-N	SKAL/NH4	A042086	N/A	2025/10/29	Kruti Jitesh Patel
Nitrate & Nitrite as Nitrogen in Water	LACH	A040079	N/A	2025/10/25	Helen He
pH	AT	A040101	2025/10/25	2025/10/30	Surinder Rai
Phenols (4AAP)	TECH/PHEN	A043578	N/A	2025/10/30	Jency Sara Johnson
Field Measured pH	PH	ONSITE	N/A	2025/10/28	Harwin Grewal
Sulphate by Automated Turbidimetry	SKAL	A040188	N/A	2025/10/28	Massarat Jan
Total Dissolved Solids	BAL	A042144	2025/10/28	2025/10/30	Manowalage shanika GUNASEKARA
Field Measured pH	PH	ONSITE	N/A	2025/10/28	Harwin Grewal
Total Kjeldahl Nitrogen in Water	SKAL	A042159	2025/10/28	2025/10/30	Rajni Tyagi
Total Phosphorus (Colourimetric)	SKAL/P	A042685	2025/10/29	2025/10/30	Vidhi Khatri
Total Suspended Solids	BAL	A042142	2025/10/28	2025/10/29	Manowalage shanika GUNASEKARA
Turbidity	AT	A040081	N/A	2025/10/25	Pinky joy JANABAN
Un-ionized Ammonia	CALC/NH3	A039583	2025/10/29	2025/10/29	Automated Statchk

Bureau Veritas ID: AWOS25
Sample ID: BAP-C
Matrix: Water

Collected: 2025/10/21
Shipped:
Received: 2025/10/23

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dissolved Aluminum (0.2 u, clay free)	ICP/MS	A042893	N/A	2025/10/30	Indira HarryPaul
Alkalinity	AT	A040097	N/A	2025/10/30	Surinder Rai
Biochemical Oxygen Demand (BOD)	DO	A040000	2025/10/25	2025/10/30	Razieh Tabesh
Chloride by Automated Colourimetry	SKAL	A040186	N/A	2025/10/29	Alina Dobreanu
Colour	SPEC	A041488	N/A	2025/10/28	Viorica Rotaru
Conductivity	AT	A040100	N/A	2025/10/30	Surinder Rai
Hardness (calculated as CaCO3)		A039919	N/A	2025/10/30	Automated Statchk
Dissolved Mercury in Water by CVAA	CV/AA	A042449	2025/10/29	2025/10/30	Maitri PATIL
Total Metals Analysis by ICPMS	ICP/MS	A042740	2025/10/29	2025/10/30	Indira HarryPaul
Total Ammonia-N	SKAL/NH4	A041940	N/A	2025/10/29	Kruti Jitesh Patel
Nitrate & Nitrite as Nitrogen in Water	LACH	A040079	N/A	2025/10/25	Helen He
pH	AT	A040101	2025/10/25	2025/10/30	Surinder Rai
Phenols (4AAP)	TECH/PHEN	A043578	N/A	2025/10/30	Jency Sara Johnson
Field Measured pH	PH	ONSITE	N/A	2025/10/28	Harwin Grewal
Sulphate by Automated Turbidimetry	SKAL	A040188	N/A	2025/10/28	Massarat Jan
Total Dissolved Solids	BAL	A042144	2025/10/28	2025/10/30	Manowalage shanika GUNASEKARA
Field Measured pH	PH	ONSITE	N/A	2025/10/28	Harwin Grewal
Total Kjeldahl Nitrogen in Water	SKAL	A042159	2025/10/28	2025/10/30	Rajni Tyagi
Total Phosphorus (Colourimetric)	SKAL/P	A042685	2025/10/29	2025/10/30	Vidhi Khatri
Total Suspended Solids	BAL	A042142	2025/10/28	2025/10/29	Manowalage shanika GUNASEKARA
Turbidity	AT	A040081	N/A	2025/10/25	Pinky joy JANABAN
Un-ionized Ammonia	CALC/NH3	A039583	2025/10/29	2025/10/29	Automated Statchk

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Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C5D4594
Report Date: 2025/10/31

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: South Baptiste
Sampler Initials: DK

TEST SUMMARY

Bureau Veritas ID: AWOS25 Dup
Sample ID: BAP-C
Matrix: Water

Collected: 2025/10/21
Shipped:
Received: 2025/10/23

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Total Ammonia-N	SKAL/NH4	A041940	N/A	2025/10/29	Kruti Jitesh Patel
Total Dissolved Solids	BAL	A042144	2025/10/28	2025/10/30	Manowalage shanika GUNASEKARA

Bureau Veritas ID: AWOS26
Sample ID: BAP-D
Matrix: Water

Collected: 2025/10/21
Shipped:
Received: 2025/10/23

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dissolved Aluminum (0.2 u, clay free)	ICP/MS	A042893	N/A	2025/10/30	Indira HarryPaul
Alkalinity	AT	A040097	N/A	2025/10/30	Surinder Rai
Biochemical Oxygen Demand (BOD)	DO	A040000	2025/10/25	2025/10/30	Razieh Tabesh
Chloride by Automated Colourimetry	SKAL	A041198	N/A	2025/10/30	Alina Dobreanu
Colour	SPEC	A041488	N/A	2025/10/28	Viorica Rotaru
Conductivity	AT	A040100	N/A	2025/10/30	Surinder Rai
Hardness (calculated as CaCO3)		A039919	N/A	2025/10/30	Automated Statchk
Dissolved Mercury in Water by CVAA	CV/AA	A042449	2025/10/29	2025/10/30	Maitri PATIL
Total Metals Analysis by ICPMS	ICP/MS	A042740	2025/10/29	2025/10/30	Indira HarryPaul
Total Ammonia-N	SKAL/NH4	A041940	N/A	2025/10/29	Kruti Jitesh Patel
Nitrate & Nitrite as Nitrogen in Water	LACH	A040079	N/A	2025/10/25	Helen He
pH	AT	A040101	2025/10/25	2025/10/30	Surinder Rai
Phenols (4AAP)	TECH/PHEN	A043578	N/A	2025/10/30	Jency Sara Johnson
Field Measured pH	PH	ONSITE	N/A	2025/10/28	Harwin Grewal
Sulphate by Automated Turbidimetry	SKAL	A041199	N/A	2025/10/30	Massarat Jan
Total Dissolved Solids	BAL	A042144	2025/10/28	2025/10/30	Manowalage shanika GUNASEKARA
Field Measured pH	PH	ONSITE	N/A	2025/10/28	Harwin Grewal
Total Kjeldahl Nitrogen in Water	SKAL	A042159	2025/10/28	2025/10/30	Rajni Tyagi
Total Phosphorus (Colourimetric)	SKAL/P	A042685	2025/10/29	2025/10/30	Vidhi Khatri
Total Suspended Solids	BAL	A042142	2025/10/28	2025/10/29	Manowalage shanika GUNASEKARA
Turbidity	AT	A040081	N/A	2025/10/25	Pinky joy JANABAN
Un-ionized Ammonia	CALC/NH3	A039583	2025/10/29	2025/10/29	Automated Statchk

Bureau Veritas ID: AWOS27
Sample ID: SB-QAQC-SW1
Matrix: Water

Collected: 2025/10/21
Shipped:
Received: 2025/10/23

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dissolved Aluminum (0.2 u, clay free)	ICP/MS	A042893	N/A	2025/10/30	Indira HarryPaul
Alkalinity	AT	A040097	N/A	2025/10/30	Surinder Rai
Biochemical Oxygen Demand (BOD)	DO	A040000	2025/10/25	2025/10/30	Razieh Tabesh
Chloride by Automated Colourimetry	SKAL	A040186	N/A	2025/10/29	Alina Dobreanu
Colour	SPEC	A041488	N/A	2025/10/28	Viorica Rotaru
Conductivity	AT	A040100	N/A	2025/10/30	Surinder Rai
Hardness (calculated as CaCO3)		A039919	N/A	2025/10/30	Automated Statchk
Dissolved Mercury in Water by CVAA	CV/AA	A042449	2025/10/29	2025/10/30	Maitri PATIL

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Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C5D4594
Report Date: 2025/10/31

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: South Baptiste
Sampler Initials: DK

TEST SUMMARY

Bureau Veritas ID: AWOS27
Sample ID: SB-QAQC-SW1
Matrix: Water

Collected: 2025/10/21
Shipped:
Received: 2025/10/23

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Total Metals Analysis by ICPMS	ICP/MS	A042740	2025/10/29	2025/10/30	Indira HarryPaul
Total Ammonia-N	SKAL/NH4	A042086	N/A	2025/10/29	Kruti Jitesh Patel
Nitrate & Nitrite as Nitrogen in Water	LACH	A040079	N/A	2025/10/25	Helen He
pH	AT	A040101	2025/10/25	2025/10/30	Surinder Rai
Phenols (4AAP)	TECH/PHEN	A043578	N/A	2025/10/30	Jency Sara Johnson
Field Measured pH	PH	ONSITE	N/A	2025/10/28	Harwin Grewal
Sulphate by Automated Turbidimetry	SKAL	A040188	N/A	2025/10/28	Massarat Jan
Total Dissolved Solids	BAL	A042144	2025/10/28	2025/10/30	Manowalage shanika GUNASEKARA
Field Measured pH	PH	ONSITE	N/A	2025/10/28	Harwin Grewal
Total Kjeldahl Nitrogen in Water	SKAL	A042159	2025/10/28	2025/10/30	Rajni Tyagi
Total Phosphorus (Colourimetric)	SKAL/P	A042685	2025/10/29	2025/10/30	Vidhi Khatri
Total Suspended Solids	BAL	A042142	2025/10/28	2025/10/29	Manowalage shanika GUNASEKARA
Turbidity	AT	A040081	N/A	2025/10/25	Pinky joy JANABAN
Un-ionized Ammonia	CALC/NH3	A039583	2025/10/29	2025/10/29	Automated Statchk

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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	4.0°C

Results relate only to the items tested.

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Bureau Veritas Job #: C5D4594
Report Date: 2025/10/31

QUALITY ASSURANCE REPORT

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: South Baptiste
Sampler Initials: DK

			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
A040000	Total BOD	2025/10/30					ND,RDL=2	mg/L	NC	30	91	80 - 120
A040079	Nitrate (N)	2025/10/25	102	80 - 120	101	80 - 120	ND, RDL=0.10	mg/L	NC	20		
A040079	Nitrite (N)	2025/10/25	105	80 - 120	104	80 - 120	ND, RDL=0.010	mg/L	NC	20		
A040081	Turbidity	2025/10/25			94	80 - 120	ND, RDL=0.1	NTU	3.7	20		
A040097	Alkalinity (Total as CaCO3)	2025/10/30			95	85 - 115	ND, RDL=1.0	mg/L	0.66	20		
A040100	Conductivity	2025/10/30			100	85 - 115	ND, RDL=2.0	umho/cm	0.40	10		
A040101	pH	2025/10/30			102	98 - 103			0.18	N/A		
A040186	Dissolved Chloride (Cl-)	2025/10/29	NC	80 - 120	96	80 - 120	ND, RDL=1.0	mg/L	0.57	20		
A040188	Dissolved Sulphate (SO4)	2025/10/28	91	75 - 125	95	80 - 120	ND, RDL=1.0	mg/L	6.4	20		
A041198	Dissolved Chloride (Cl-)	2025/10/30	NC	80 - 120	94	80 - 120	ND, RDL=1.0	mg/L	0.84	20		
A041199	Dissolved Sulphate (SO4)	2025/10/30	88	75 - 125	98	80 - 120	ND, RDL=1.0	mg/L	3.8	20		
A041488	Colour	2025/10/28			99	80 - 120	ND,RDL=2	TCU	NC	25		
A041940	Total Ammonia-N	2025/10/29	98	75 - 125	97	80 - 120	ND, RDL=0.050	mg/L	NC	20		
A042086	Total Ammonia-N	2025/10/29	96	75 - 125	101	80 - 120	ND, RDL=0.050	mg/L	4.2	20		
A042142	Total Suspended Solids	2025/10/29			97	80 - 120	ND, RDL=10	mg/L	NC	20		
A042144	Total Dissolved Solids	2025/10/30			98	80 - 120	ND, RDL=10	mg/L	9.5	20		
A042159	Total Kjeldahl Nitrogen (TKN)	2025/10/30	NC	80 - 120	107	80 - 120	ND, RDL=0.10	mg/L	3.1	20	102	80 - 120
A042449	Dissolved Mercury (Hg)	2025/10/30	99	75 - 125	102	80 - 120	ND, RDL=0.10	ug/L	NC	20		
A042685	Total Phosphorus	2025/10/30	101	80 - 120	105	80 - 120	ND, RDL=0.020	mg/L	0.043	20	96	80 - 120
A042740	Total Aluminum (Al)	2025/10/30	123 (1)	80 - 120	100	80 - 120	ND, RDL=4.9	ug/L				
A042740	Total Arsenic (As)	2025/10/30	103	80 - 120	102	80 - 120	ND, RDL=1.0	ug/L				
A042740	Total Boron (B)	2025/10/30	97	80 - 120	96	80 - 120	ND, RDL=10	ug/L				
A042740	Total Cadmium (Cd)	2025/10/30	105	80 - 120	103	80 - 120	ND, RDL=0.090	ug/L				
A042740	Total Calcium (Ca)	2025/10/30	NC	80 - 120	99	80 - 120	ND, RDL=200	ug/L				
A042740	Total Chromium (Cr)	2025/10/30	94	80 - 120	94	80 - 120	ND, RDL=5.0	ug/L				
A042740	Total Cobalt (Co)	2025/10/30	100	80 - 120	99	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
A042740	Total Copper (Cu)	2025/10/30	101	80 - 120	102	80 - 120	ND, RDL=0.90	ug/L				
A042740	Total Iron (Fe)	2025/10/30	97	80 - 120	96	80 - 120	ND, RDL=100	ug/L				
A042740	Total Lead (Pb)	2025/10/30	99	80 - 120	100	80 - 120	ND, RDL=0.50	ug/L				
A042740	Total Magnesium (Mg)	2025/10/30	93	80 - 120	96	80 - 120	ND, RDL=50	ug/L				
A042740	Total Nickel (Ni)	2025/10/30	97	80 - 120	97	80 - 120	ND, RDL=1.0	ug/L				
A042740	Total Potassium (K)	2025/10/30	102	80 - 120	98	80 - 120	ND, RDL=200	ug/L				
A042740	Total Selenium (Se)	2025/10/30	106	80 - 120	105	80 - 120	ND, RDL=2.0	ug/L				
A042740	Total Silver (Ag)	2025/10/30	97	80 - 120	96	80 - 120	ND, RDL=0.090	ug/L				
A042740	Total Sodium (Na)	2025/10/30	97	80 - 120	96	80 - 120	ND, RDL=100	ug/L				
A042740	Total Zinc (Zn)	2025/10/30	103	80 - 120	104	80 - 120	ND, RDL=5.0	ug/L				
A042893	Dissolved (0.2u) Aluminum (Al)	2025/10/30	103	80 - 120	97	80 - 120	ND,RDL=5	ug/L	NC	20		
A043578	Phenols-4AAP	2025/10/30	97	80 - 120	100	80 - 120	ND, RDL=0.0010	mg/L	NC	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).

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

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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:

Cristina Carriere

Cristina Carriere, Senior Scientific Specialist

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Chemistry testing is conducted at 6740 Campobello Rd.

C5D4594
2025/10/23 10:48

Bureau Veritas
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IMMEDIATE

Page 1 of 1

NONT-2025-10-5164

Bottle Order #: 1062831

Invoice To:		Report To:		PROJECT INFORMATION:	
Company:	#1192 BluMetric Environmental Inc	Company:	#5638 BluMetric Environmental Inc	Quotation #:	C45783
Attention:	Accounts Payable	Attention:	MHH Distribution	P.O. #:	
Address:	1682 Woodward Drive Ottawa ON K2C 3R8	Address:	The Tower - The Woolen Mill 4 Cataraqui St Kingston ON K7K 1Z7	Project:	250253-09
Tel:	(613) 839-3053 Fax: (613) 839-5376	Tel:	(613) 531-2725 Fax:	Project Name:	South Baptiste
Email:	ap@blumetric.ca	Email:	cbandler@blumetric.ca, cmiller@blumetric.ca, edms@bl	Site #:	
				Sampled By:	DK, BM

COC #: C#1062831-01-01

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)? ___

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 #)*

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI	Surface Water - PWQO									# of Bottles	Comments
1		BAP-A	2025/10/21	13:00	SW	Y	X									8	
2		BAP-B	2025/10/21	12:47	SW	Y	X									8	
3		BAP-C	2025/10/21	12:35	SW	Y	X									8	
4		BAP-D	2025/10/21	13:20	SW	Y	X									8	
5		SB-QAQC-SW1	2025/10/21	13:00	SW	Y	X									8	
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 McCall	2025/10/22	8:00		2025/10/23	10:48	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Recei	Custody Seal	Yes	No
	6/7/4	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 2025 Toxicity Test Results

Your Project #: 250253-09
Site Location: SOUTH BAPTISTE
Your C.O.C. #: C#1062834-01-01

Attention: MHH Distribution

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

Report Date: 2025/11/12
Report #: R8649522
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C5D3634
Received: 2025/10/23, 10:22

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 #: 250253-09
Site Location: SOUTH BAPTISTE
Your C.O.C. #: C#1062834-01-01

Attention: MHH Distribution

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

Report Date: 2025/11/12
Report #: R8649522
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C5D3634
Received: 2025/10/23, 10:22

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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Bureau Veritas Job #: C5D3634
Report Date: 2025/11/12

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: SOUTH BAPTISTE
Sampler Initials: DK

TEST SUMMARY

Bureau Veritas ID: AWMX99
Sample ID: BAP-A
Matrix: Water

Collected: 2025/10/21
Shipped:
Received: 2025/10/23

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
48-h Daphnia Magna Single Concentration		A052826	N/A		Lims Auto Schedule Runner
96-h Rainbow Trout Single Concentration		A052829	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

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	15.0°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

Bureau Veritas Job #: C5D3634
Report Date: 2025/11/12

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: SOUTH BAPTISTE
Sampler Initials: DK

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

Chemistry testing is conducted at 6740 Campobello Rd.

C5D3634
2025/10/23 10:22

Page 1 of 1

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 #:	C45783	Bureau Veritas Job #:	Bottle Order #:
Attention:	Accounts Payable	Attention:	MHH Distribution	P.O. #:			1052834
Address:	1682 Woodward Drive Ottawa ON K2C 3R8	Address:	The Tower - The Woolen Mill 4 Cataraqui St Kingston ON K7K 1Z7	Project:	250253-09	COC #:	Project Manager:
Tel:	(613) 839-3053 Fax: (613) 839-5376	Tel:	(613) 531-2725 Fax:	Project Name:	South Baptiste	C#1062834-01-01	Deepthi Shaji
Email:	ap@blumetric.ca	Email:	cbandler@blumetric.ca, cmiller@blumetric.ca, edms@bl	Site #:			
				Sampled By:	DK, BC		

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	Toxicity	# of Bottles	Comments
1		BAP-A	2025/10/21	13:00	SW	N	X	1	
2									
3									
4									
5									
6									
7									
8									
9									
10									

NONT-2025-10-5159

* 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	2025/10/22	8:00	Ashlee Buckner	2025/10/23	10:26			1/1/1/5	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

PRELIMINARY

ACUTE LETHALITY REPORT SUMMARY

Work Order : 259239

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 (%)
BAP-A	2025-10-21	2025-10-25	Dm SC	-	0
	2025-10-21	2025-10-25	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.

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 : 259239
Sample Number : 88972

SAMPLE IDENTIFICATION

Company :	Bureau Veritas Laboratories		
Location :	Mississauga ON	Sampling Date :	2025-10-21
Job Number :	C5D3634	Sampling Time :	13:00
Substance :	BAP-A	Date Received :	2025-10-24
Sampling Method :	Not provided	Time Received :	14:15
Sampled By :	Not provided	Temperature at Receipt :	11 °C
Sample Description :	Clear, grey	Date Tested :	2025-10-25

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 :	Dm25-22	Average Brood Size :	28.5
Culture Mortality :	2.7% (previous 7 days)		

TEST CONDITIONS

Sample Treatment :	None	Number of Replicates :	3
pH Adjustment :	None	Organisms per Replicate :	10
Pre-aeration Rate :	~30 mL/min/L	Organisms per Test Level :	30
Duration of Pre-Aeration :	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 :	2025-10-21	LC50 :	5.8 g/L
Organism Batch :	Dm25-22	95% Confidence Limits :	5.5 - 6.1 g/L
Analyst(s) :	ACS, MZG	Historical Mean LC50 :	6.3 g/L
Statistical Method :	Spearman-Kärber	Warning Limits (± 2SD) :	5.7 - 6.9 g/L

COMMENTS

•All test validity criteria as specified in the test method were satisfied.

Approved By : _____
Project Manager

Work Order : 259239
Sample Number : 88972

TEST DATA

	pH	Dissolved O_2 (mg/L)	Conductivity (µmhos/cm)	Temperature (°C)	O_2 Saturation (%)*	Hardness (as $CaCO_3$)
Initial Chemistry (100%) :	7.7	8.8	515	20	100	180 mg/L

0 HOURS

Date & Time : 2025-10-25 9:40
Analyst(s) : AW

Concentration (%)	Replicate	Dead	Immobile	pH	Dissolved O_2	Conductivity	Temperature	O_2 Saturation*	Hardness
100	A	0	0	7.7	8.8	515	20	100	180
100	B	0	0	7.7	8.8	515	20	100	180
100	C	0	0	7.7	8.8	515	20	100	180
Control	A	0	0	8.3	8.7	471	20	100	150
Control	B	0	0	8.3	8.7	471	20	100	150
Control	C	0	0	8.3	8.7	471	20	100	150

Notes:

24 HOURS

Date & Time : 2025-10-26 9:10
Analyst(s) : AW

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 : 2025-10-27 9:25
Analyst(s) : ACS (NM)

Concentration (%)	Replicate	Dead	Immobile	pH	Dissolved O_2	Conductivity	Temperature
100	A	0	0	8.5	8.6	518	19
100	B	0	0	8.5	8.7	517	19
100	C	0	0	8.5	8.6	519	19
Control	A	0	0	8.3	8.6	481	19
Control	B	0	0	8.3	8.6	480	19
Control	C	0	0	8.2	8.6	476	19

Notes: One test organism in Control replicate A was floating but mobile.

Number immobile does not include number dead.

"–" = not measured/not required
* adjusted for temperature and barometric pressure

Test Data Reviewed By : CYW
Date : 2025-10-29

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 : 259239
Sample Number : 88972

SAMPLE IDENTIFICATION

Company :	Bureau Veritas Laboratories		
Location :	Mississauga ON	Sampling Date :	2025-10-21
Job Number :	C5D3634	Sampling Time :	13:00
Substance :	BAP-A	Date Received :	2025-10-24
Sampling Method :	Not provided	Time Received :	14:15
Sampled By :	Not provided	Temperature at Receipt :	11 °C
Sample Description :	Clear, grey	Date Tested :	2025-10-25

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 :	39.1 mm
Organism Batch :	T25-27	Range of Fork Lengths :	36 - 42 mm
Control Sample Size :	10	Mean Wet Weight :	0.5 g
Cumulative stock mortality rate :	0.1% (previous 7 days)	Organism Loading Rate :	0.3 g/L
Control organisms showing stress :	0 (at test completion)		

TEST CONDITIONS

Test Type :	Single concentration	Number of Replicates :	1
Sample pH Adjustment :	None	Organisms Per Replicate :	10
Sample Pre-aeration/Aeration Rate :	6.5 ± 1 mL/min/L	Organisms Per Test Level :	10
Duration of Sample Pre-Aeration :	30 minutes	Volume of Sample :	18 L
Control Pre-aeration/Aeration Rate :	6.5 ± 1 mL/min/L	Volume of Control :	20 L
Duration of Control Pre-aeration:	30 minutes	Test Method Deviation(s) :	None

REFERENCE TOXICANT DATA

Toxicant :	Potassium Chloride		
Organism Batch :	T25-27	LC50 :	3871 mg/L
Date Tested :	2025-10-25	95% Confidence Limits :	3505 - 4275 mg/L
Analyst(s) :	JGR, JCS, OHC	Historical Mean LC50 :	3663 mg/L
Statistical Method :	Spearman-Kärber	Warning Limits (± 2SD) :	2942 - 4562 mg/L

COMMENTS

•All test validity criteria as specified in the test method were satisfied.

Approved By : _____
Project Manager

Work Order : 259239
Sample Number : 88972

TEST DATA

	pH	Dissolved O_2 (mg/L)	Conductivity (µmhos/cm)	Temperature (°C)	O_2 Saturation (%)[3]
Initial Water Chemistry (100%) :	7.4	9.1	474	14	91
After 30 min pre-aeration :	7.5	9.2	477	14	93

0 HOURS

Date & Time 2025-10-25 8:30
Analyst(s) : JGR

Concentration	Dead	Impaired	pH	Dissolved O_2	Conductivity	Temperature	O_2 Saturation[3]
100%	0	0	7.5	9.2	477	14	93
Control	0	0	8.2	9.9	668	14	100

Notes:

24 HOURS

Date & Time 2025-10-26 8:05
Analyst(s) : JGR

Concentration	Dead	Impaired	pH	Dissolved O_2	Conductivity	Temperature
100%	0	0	–	–	–	15
Control	0	0	–	–	–	15

Notes:

48 HOURS

Date & Time 2025-10-27 8:50
Analyst(s) : JCS

Concentration	Dead	Impaired	pH	Dissolved O_2	Conductivity	Temperature
100%	0	0	–	–	–	15
Control	0	0	–	–	–	15

Notes:

72 HOURS

Date & Time 2025-10-28 9:15
Analyst(s) : OHC (NWP)

Concentration	Dead	Impaired	pH	Dissolved O_2	Conductivity	Temperature
100%	0	0	–	–	–	15
Control	0	0	–	–	–	15

Notes:

96 HOURS

Date & Time 2025-10-29 8:25
Analyst(s) : JCS

Concentration	Dead	Impaired	pH	Dissolved O_2	Conductivity	Temperature
100%	0	0	8.2	9.0	477	15
Control	0	0	8.3	9.3	631	15

Notes:

"–" = not measured/not required
Number impaired does not include number dead.
[3] adjusted for temperature and barometric pressure

Test Data Reviewed By : JJ
Date : 2025-11-02

CHAIN OF CUSTODY RECORD

NAUTILUS ENVIRONMENTAL

Nautilus Work Order No: 259239

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: C5D3634

Field Sampler Name (print):

Signature:

Affiliation:

Sample Storage (prior to shipping):

Custody Relinquished by: Bhavjot Kaur BHAVJOT KAUR

Date/Time Shipped: 2025/10/24 11:35

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.)
2025-10-21	13:00	BAP-A	88972	11°C	✔		✔										1 Pail

For Lab Use Only

Received By: KP

Date: 2025-10-24

Time: 14:15

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

Your P.O. #: 250253-09
Your Project #: 250253-09
Site Location: SOUTH BAPTISTE
Your C.O.C. #: 1041564-01-01

Attention: S'rana Scholes

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

Report Date: 2025/05/16
Report #: R8539574
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C551206
Received: 2025/05/07, 09:25

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. #: 250253-09
Your Project #: 250253-09
Site Location: SOUTH BAPTISTE
Your C.O.C. #: 1041564-01-01

Attention: S'rana Scholes

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

Report Date: 2025/05/16
Report #: R8539574
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C551206
Received: 2025/05/07, 09:25

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 #: C551206
Report Date: 2025/05/16

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: SOUTH BAPTISTE
Your P.O. #: 250253-09
Sampler Initials: NW

TEST SUMMARY

Bureau Veritas ID: AQPO52
Sample ID: BAP-A
Matrix: Water

Collected: 2025/05/05
Shipped:
Received: 2025/05/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
48-h Daphnia Magna Single Concentration		9930287	N/A		Lims Auto Schedule Runner
96-h Rainbow Trout Single Concentration		9930290	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

Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C551206
Report Date: 2025/05/16

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: SOUTH BAPTISTE
Your P.O. #: 250253-09
Sampler Initials: NW

GENERAL COMMENTS

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

Package 1	19.3°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.

Bureau Veritas Job #: C551206
Report Date: 2025/05/16

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: SOUTH BAPTISTE
Your P.O. #: 250253-09
Sampler Initials: NW

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

Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

C551206
2025/05/07 09:25

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-2025-05-1006

Bottle Order #: 1041564

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:	
Company Name:	#1192 BluMetric Environmental Inc	Company Name:	#5638 BluMetric Environmental Inc	Quotation #:	C45783
Attention:	Accounts Payable	Attention:	S'rana Scholes	P.O. #:	250253-09
Address:	1682 Woodward Drive Ottawa ON K2C 3R8	Address:	The Tower - The Woolen Mill 4 Cataraqui St Kingston ON K7K 1Z7	Project:	250253-09
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 #:	South Baptiste
				Sampled By:	NW & BM

COC #: C#1041564-01-01

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: ☒
(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	Toxicity	# of Bottles	Comments
1		BAP-A	25/05/05	18:00	SW	None	✓	1	
2									
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	25/05/06	08:00	[illegible]	25/05/07	09:25	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Recei	Custody Seal	Yes	No
		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

18/20/20

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 : 257695

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 (%)
BAP - A	2025-05-05	2025-05-08	Dm SC	-	0
	2025-05-05	2025-05-08	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.

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 : 257695
Sample Number : 86733

SAMPLE IDENTIFICATION

Company :	Bureau Veritas Laboratories		
Location :	Mississauga ON	Sampling Date :	2025-05-05
Job Number :	C551206	Sampling Time :	18:00
Substance :	BAP - A	Date Received :	2025-05-07
Sampling Method :	Not provided	Time Received :	14:15
Sampled By :	Not provided	Temperature at Receipt :	22 °C
Sample Description :	Yellow, clear	Date Tested :	2025-05-08

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 :	8.6 days
Organism Batch :	Dm25-08	Average Brood Size :	33.1
Culture Mortality :	0.3% (previous 7 days)		

TEST CONDITIONS

Sample Treatment :	None	Number of Replicates :	3
pH Adjustment :	None	Organisms per Replicate :	10
Pre-aeration Rate :	~30 mL/min/L	Organisms per Test Level :	30
Duration of Pre-Aeration :	0 minutes	Organism Loading Rate :	15.0 mL/organism
Test Aeration :	None	Impaired Control Organisms :	0.0%
Hardness Adjustment :	None	Test Method Deviation(s) :	None

REFERENCE TOXICANT DATA

Toxicant :	Sodium Chloride		
Date Tested :	2025-05-06	LC50 :	6.4 g/L
Organism Batch :	Dm25-08	95% Confidence Limits :	6.1 - 6.8 g/L
Analyst(s) :	CYW	Historical Mean LC50 :	6.5 g/L
Statistical Method :	Linear Regression (MLE)	Warning Limits (± 2SD) :	5.7 - 7.4 g/L

COMMENTS

- All test validity criteria as specified in the test method were satisfied.

Approved By : _____
Project Manager

Work Order : 257695
Sample Number : 86733

TEST DATA

	pH	Dissolved O_2 (mg/L)	Conductivity (µmhos/cm)	Temperature (°C)	O_2 Saturation (%)*	Hardness (as $CaCO_3$)
Initial Chemistry (100%) :	7.2	8.6	460	21	100	160 mg/L

0 HOURS

Date & Time : 2025-05-08 9:30
Analyst(s) : SSF / CYW (SSF)

Concentration (%)	Replicate	Dead	Immobile	pH	Dissolved O_2	Conductivity	Temperature	O_2 Saturation*	Hardness
100	A	0	0	7.2	8.6	460	21	100	160
100	B	0	0	7.2	8.6	460	21	100	160
100	C	0	0	7.2	8.6	460	21	100	160
Control	A	0	0	8.1	8.6	463	20	99	150
Control	B	0	0	8.1	8.6	463	20	99	150
Control	C	0	0	8.1	8.6	463	20	99	150

Notes:

24 HOURS

Date & Time : 2025-05-09 9:45
Analyst(s) : ACS (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 : 2025-05-10 9:10
Analyst(s) : CYW (SF)

Concentration (%)	Replicate	Dead	Immobile	pH	Dissolved O_2	Conductivity	Temperature
100	A	0	0	8.3	8.4	467	20
100	B	0	0	8.3	8.4	466	20
100	C	0	0	8.3	8.4	466	20
Control	A	0	0	8.2	8.5	476	20
Control	B	0	0	8.2	8.5	476	20
Control	C	0	0	8.2	8.5	471	20

Notes:

Number immobile does not include number dead.

"–" = not measured/not required
* adjusted for temperature and barometric pressure

Test Data Reviewed By : JL
Date : 2025-05-13

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 : 257695
Sample Number : 86733

SAMPLE IDENTIFICATION

Company :	Bureau Veritas Laboratories		
Location :	Mississauga ON	Sampling Date :	2025-05-05
Job Number :	C551206	Sampling Time :	18:00
Substance :	BAP - A	Date Received :	2025-05-07
Sampling Method :	Not provided	Time Received :	14:15
Sampled By :	Not provided	Temperature at Receipt :	22 °C
Sample Description :	Yellow, clear	Date Tested :	2025-05-08

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 :	39.9 mm
Organism Batch :	T25-09	Range of Fork Lengths :	38 - 43 mm
Control Sample Size :	10	Mean Wet Weight :	0.5 g
Cumulative stock mortality rate :	0% (previous 7 days)	Organism Loading Rate :	0.3 g/L
Control organisms showing stress :	0 (at test completion)		

TEST CONDITIONS

Test Type :	Single concentration	Number of Replicates :	1
Sample pH Adjustment :	None	Organisms Per Replicate :	10
Sample Pre-aeration/Aeration Rate :	6.5 ± 1 mL/min/L	Organisms Per Test Level :	10
Duration of Sample Pre-Aeration :	30 minutes	Volume of Sample :	18 L
Control Pre-aeration/Aeration Rate :	6.5 ± 1 mL/min/L	Volume of Control :	20 L
Duration of Control Pre-aeration:	30 minutes	Test Method Deviation(s) :	None

REFERENCE TOXICANT DATA

Toxicant :	Potassium Chloride		
Organism Batch :	T25-09	LC50 :	4344 mg/L
Date Tested :	2025-05-02	95% Confidence Limits :	3959 - 4766 mg/L
Analyst(s) :	JGR, NM, GF	Historical Mean LC50 :	4255 mg/L
Statistical Method :	Trimmed Spearman-Kärber	Warning Limits (± 2SD) :	3438 - 5268 mg/L

COMMENTS

•All test validity criteria as specified in the test method were satisfied.

Approved By : _____
Project Manager

Work Order : 257695
Sample Number : 86733

TEST DATA

	pH	Dissolved O_2 (mg/L)	Conductivity (µmhos/cm)	Temperature (°C)	O_2 Saturation (%)[3]
Initial Water Chemistry (100%) :	7.3	9.0	450	15	94
After 30 min pre-aeration :	7.4	9.3	455	15	98

0 HOURS

Date & Time 2025-05-08 10:20
Analyst(s) : GF (NWP)

Concentration	Dead	Impaired	pH	Dissolved O_2	Conductivity	Temperature	O_2 Saturation[3]
100%	0	0	7.4	9.3	455	15	98
Control	0	0	8.1	9.6	683	15	99

Notes:

24 HOURS

Date & Time 2025-05-09 8:35
Analyst(s) : JGR

Concentration	Dead	Impaired	pH	Dissolved O_2	Conductivity	Temperature
100%	0	0	–	–	–	15
Control	0	0	–	–	–	15

Notes:

48 HOURS

Date & Time 2025-05-10 9:35
Analyst(s) : JGR

Concentration	Dead	Impaired	pH	Dissolved O_2	Conductivity	Temperature
100%	0	0	–	–	–	15
Control	0	0	–	–	–	15

Notes:

72 HOURS

Date & Time 2025-05-11 8:30
Analyst(s) : NWP

Concentration	Dead	Impaired	pH	Dissolved O_2	Conductivity	Temperature
100%	0	0	–	–	–	15
Control	0	0	–	–	–	15

Notes:

96 HOURS

Date & Time 2025-05-12 9:35
Analyst(s) : GF (NWP)

Concentration	Dead	Impaired	pH	Dissolved O_2	Conductivity	Temperature
100%	0	0	8.0	9.3	457	15
Control	0	0	8.0	9.0	646	15

Notes:

"–" = not measured/not required

Number impaired does not include number dead.

[3] adjusted for temperature and barometric pressure

Test Data Reviewed By : JJ

Date : 2025-05-12

Your Project #: 250253-09
Site#: SOUTH BAPTISTE
Site Location: SOUTH BAPTISTE
Your C.O.C. #: 1051680-01-01

Attention: S'rana Scholes

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

Report Date: 2025/07/28
Report #: R8583751
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C581529
Received: 2025/07/08, 16:10

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 #: 250253-09
Site#: SOUTH BAPTISTE
Site Location: SOUTH BAPTISTE
Your C.O.C. #: 1051680-01-01

Attention: S'rana Scholes

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

Report Date: 2025/07/28
Report #: R8583751
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C581529
Received: 2025/07/08, 16:10

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 #: C581529
Report Date: 2025/07/28

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: SOUTH BAPTISTE
Sampler Initials: NW

SUBCONTRACTED ANALYSIS (WATER)

Bureau Veritas ID		ASTD90	
Sampling Date		2025/07/07 14:30	
COC Number		1051680-01-01	
	UNITS	**BAP-A**	**QC Batch**
Subcontracted Analysis			
Subcontract Parameter	N/A	SEE ATTACH	9977904
QC Batch = Quality Control Batch			

Bureau Veritas Job #: C581529
Report Date: 2025/07/28

BluMetric Environmental Inc
Client Project #: 250253-09
Site Location: SOUTH BAPTISTE
Sampler Initials: NW

TEST SUMMARY

Bureau Veritas ID: ASTD90
Sample ID: BAP-A
Matrix: Water

Collected: 2025/07/07
Shipped:
Received: 2025/07/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
48-h Daphnia Magna Single Concentration		9977904	N/A		Lims Auto Schedule Runner
96-h Rainbow Trout Single Concentration		9978260	N/A		Kudrat Bajwa

GENERAL COMMENTS

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

Package 1	20.3°C

Results relate only to the items tested.

Bureau Veritas 100 – 36 Antares Dr. Nepean, ON, K2E 7W5 Phone: 613-274-0573 Website: www.bvna.com

VALIDATION SIGNATURE PAGE

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

Kudrat Bajwa

Kudrat Bajwa, B.Sc., 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.

Bureau Veritas 100 – 36 Antares Dr. Nepean, ON, K2E 7W5 Phone: 613-274-0573 Website: www.bvna.com

C581529
2025/07/08 16:10

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

Received in Ottawa

CHAIN OF CUSTODY RECORD

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#1192 BluMetric Environmental Inc	Company Name:	#5638 BluMetric Environmental Inc	Quotation #:	C45783	Bureau Veritas Job #:	Bottle Order #:
Attention:	Accounts Payable	Attention:	S'rana Scholes	P.O. #:			1051680
Address:	1682 Woodward Drive Ottawa ON K2C 3R8	Address:	The Tower - The Woolen Mill 4 Cataraqui St Kingston ON K7K 1Z7	Project:	250253-09	COC #:	Project Manager:
Tel:	(613) 839-3053 Fax: (613) 839-5376	Tel:	(613) 531-2725 Fax:	Project Name:		C#1051680-01-01	Deepthi Shaji
Email:	ap@blumetric.ca	Email:	sscholes@blumetric.ca, cbandler@blumetric.ca, edms	Site #:	South Baptiste		
				Sampled By:	NW / CR		

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:
(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	Toxicity	# of Bottles	Comments
1		BAP-A	25/07/07	14:30	SW	None	✓	1	pH = 7.23, Temp = 16.2°C
2									
3									
4									
5									
6									
7									
8									
9									
10									

OTT-2025-07-061

* 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	25/07/08	14:00	Pedro da Silva	2025/07/08	16:10	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Recei	Custody Seal	Yes	No
	20/20/21 (no ice)	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

PRELIMINARY

ACUTE LETHALITY REPORT SUMMARY

Work Order : 258311

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 (%)
BAP-A	2025-07-07	2025-07-11	Dm SC	-	0
	2025-07-07	2025-07-11	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: 258311

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: C581529

Field Sampler Name (print):

Signature:

Affiliation:

Sample Storage (prior to shipping):

Custody Relinquished by: Bhavjot Kaur BHAVJOT KAUR

Date/Time Shipped: 2025/07/10 09:12

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.)
2025-07-07	14:30	BAP-A	87600	23°C	✔		✔									1 Pail

For Lab Use Only

Received By: JJ/GF

Date: 2025-07-10

Time: 13:45

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

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 : 258311
Sample Number : 87600

SAMPLE IDENTIFICATION

Company :	Bureau Veritas Laboratories		
Location :	Mississauga ON	Sampling Date :	2025-07-07
Job Number :	C581529	Sampling Time :	14:30
Substance :	BAP-A	Date Received :	2025-07-10
Sampling Method :	Not provided	Time Received :	13:45
Sampled By :	Not provided	Temperature at Receipt :	23 °C
Sample Description :	Clear, yellow	Date Tested :	2025-07-11

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 :	Dm25-12	Average Brood Size :	30.8
Culture Mortality :	3.3% (previous 7 days)		

TEST CONDITIONS

Sample Treatment :	None	Number of Replicates :	3
pH Adjustment :	None	Organisms per Replicate :	10
Pre-aeration Rate :	~30 mL/min/L	Organisms per Test Level :	30
Duration of Pre-Aeration :	30 minutes	Organism Loading Rate :	15.0 mL/organism
Test Aeration :	None	Impaired Control Organisms :	0.0%
Hardness Adjustment :	None	Test Method Deviation(s) :	None

REFERENCE TOXICANT DATA

Toxicant :	Sodium Chloride		
Date Tested :	2025-06-28	LC50 :	6.3 g/L
Organism Batch :	Dm25-12	95% Confidence Limits :	5.8 - 6.8 g/L
Analyst(s) :	ACS	Historical Mean LC50 :	6.4 g/L
Statistical Method :	Binomial	Warning Limits (± 2SD) :	5.8 - 7.1 g/L

COMMENTS

- All test validity criteria as specified in the test method were satisfied.

Approved By : _____
Project Manager

Work Order : 258311
Sample Number : 87600

TEST DATA

	pH	Dissolved O_2 (mg/L)	Conductivity (µmhos/cm)	Temperature (°C)	O_2 Saturation (%)*	Hardness (as $CaCO_3$)
Initial Chemistry (100%) :	7.5	9.3	436	21	110	150 mg/L

0 HOURS

Date & Time : 2025-07-11 10:50
Analyst(s) : ACS (SSF)

Concentration (%)	Replicate	Dead	Immobile	pH	Dissolved O_2	Conductivity	Temperature	O_2 Saturation*	Hardness
100	A	0	0	7.9	8.8	437	21	103	150
100	B	0	0	7.9	8.8	437	21	103	150
100	C	0	0	7.9	8.8	437	21	103	150
Control	A	0	0	8.1	8.6	457	20	100	150
Control	B	0	0	8.1	8.6	457	20	100	150
Control	C	0	0	8.1	8.6	457	20	100	150

Notes:

24 HOURS

Date & Time : 2025-07-12 10:45
Analyst(s) : MK

Concentration (%)	Replicate	Dead	Immobile	pH	Dissolved O_2	Conductivity	Temperature
100	A	–	0	–	–	–	21
100	B	–	0	–	–	–	21
100	C	–	0	–	–	–	21
Control	A	–	0	–	–	–	21
Control	B	–	0	–	–	–	21
Control	C	–	0	–	–	–	21

Notes: 1 test organism in the control, replicate C was floating but mobile.

48 HOURS

Date & Time : 2025-07-13 10:20
Analyst(s) : MK / SSF

Concentration (%)	Replicate	Dead	Immobile	pH	Dissolved O_2	Conductivity	Temperature
100	A	0	0	8.5	7.9	442	21
100	B	0	0	8.5	7.9	443	21
100	C	0	0	8.5	8.0	444	21
Control	A	0	0	8.3	8.0	466	21
Control	B	0	0	8.3	7.9	468	21
Control	C	0	0	8.3	7.9	468	21

Notes:

Number immobile does not include number dead.

"–" = not measured/not required
* adjusted for temperature and barometric pressure

Test Data Reviewed By : FM
Date : 2025-07-16

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 : 258311
Sample Number : 87600

SAMPLE IDENTIFICATION

Company :	Bureau Veritas Laboratories		
Location :	Mississauga ON	Sampling Date :	2025-07-07
Job Number :	C581529	Sampling Time :	14:30
Substance :	BAP-A	Date Received :	2025-07-10
Sampling Method :	Not provided	Time Received :	13:45
Sampled By :	Not provided	Temperature at Receipt :	23 °C
Sample Description :	Clear, yellow	Date Tested :	2025-07-11

Test Method(s) : Reference Method for Determining Acute Lethality of Liquid Effluents to Rainbow Trout. Environment Canada, EPS 1/RM/13 (2nd Edition, December 2000, with May 2007, February 2016, and December 2023 amendments).

96-HOUR TEST RESULTS

Substance	Effect	Value
Control	Mean Impairment	0.0 %
	Mean Mortality	0.0 %
100%	Mean Impairment	0.0 %
	Mean Mortality	0.0 %

The results reported relate only to the sample tested and as received.

TEST ORGANISM

Test Organism :	*Oncorhynchus mykiss*	Mean Fork Length :	37.4 mm
Organism Batch :	T25-16	Range of Fork Lengths :	34 - 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 :	T25-16	LC50 :	2933 mg/L*
Date Tested :	2025-07-09	95% Confidence Limits :	2658 - 3237 mg/L
Analyst(s) :	GF, JGR	Historical Mean LC50 :	3898 mg/L
Statistical Method :	Spearman-Kärber	Warning Limits (± 2SD) :	2937 - 5172 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 : 258311
Sample Number : 87600

TEST DATA

	pH	Dissolved O_2 (mg/L)	Conductivity (µmhos/cm)	Temperature (°C)	O_2 Saturation (%)[3]
Initial Water Chemistry (100%) :	7.1	7.6	421	15	78
After 30 min pre-aeration :	7.2	9.0	421	16	95

0 HOURS

Date & Time 2025-07-11 9:25
Analyst(s) : GF (JGR)/JGR

Concentration	Dead	Impaired	pH	Dissolved O_2	Conductivity	Temperature	O_2 Saturation[3]
100%	0	0	7.2	9.0	421	16	95
Control	0	0	8.0	9.6	672	15	100

Notes:

24 HOURS

Date & Time 2025-07-12 10:25
Analyst(s) : GF (PG)

Concentration	Dead	Impaired	pH	Dissolved O_2	Conductivity	Temperature
100%	0	0	–	–	–	15
Control	0	0	–	–	–	15

Notes:

48 HOURS

Date & Time 2025-07-13 9:05
Analyst(s) : GF (PG)

Concentration	Dead	Impaired	pH	Dissolved O_2	Conductivity	Temperature
100%	0	0	–	–	–	15
Control	0	0	–	–	–	15

Notes:

72 HOURS

Date & Time 2025-07-14 8:55
Analyst(s) : NWP

Concentration	Dead	Impaired	pH	Dissolved O_2	Conductivity	Temperature
100%	0	0	–	–	–	15
Control	0	0	–	–	–	15

Notes:

96 HOURS

Date & Time 2025-07-15 9:45
Analyst(s) : OHC (JGR)

Concentration	Dead	Impaired	pH	Dissolved O_2	Conductivity	Temperature
100%	0	0	8.0	9.4	423	14
Control	0	0	8.1	9.5	633	14

Notes:

"–" = not measured/not required

Number impaired does not include number dead.

[3] adjusted for temperature and barometric pressure

Test Data Reviewed By : JL

Date : 2025-07-15

CHAIN OF CUSTODY RECORD

NAUTILUS ENVIRONMENTAL

Nautilus Work Order No: 258311

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: C581529

Field Sampler Name (print):

Signature:

Affiliation:

Sample Storage (prior to shipping):

Custody Relinquished by: Bhavjot Kaur BHAVJOT KAUR

Date/Time Shipped: 2025/07/10 09:12

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.)
2025-07-07	14:30	BAP-A	87600	23°C	✔		✔									1 Pail

For Lab Use Only

Received By: JJ/GF

Date: 2025-07-10

Time: 13:45

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

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 : 258311
Sample Number : 87600

SAMPLE IDENTIFICATION

Company :	Bureau Veritas Laboratories		
Location :	Mississauga ON	Sampling Date :	2025-07-07
Job Number :	C581529	Sampling Time :	14:30
Substance :	BAP-A	Date Received :	2025-07-10
Sampling Method :	Not provided	Time Received :	13:45
Sampled By :	Not provided	Temperature at Receipt :	23 °C
Sample Description :	Clear, yellow	Date Tested :	2025-07-11

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 :	Dm25-12	Average Brood Size :	30.8
Culture Mortality :	3.3% (previous 7 days)		

TEST CONDITIONS

Sample Treatment :	None	Number of Replicates :	3
pH Adjustment :	None	Organisms per Replicate :	10
Pre-aeration Rate :	~30 mL/min/L	Organisms per Test Level :	30
Duration of Pre-Aeration :	30 minutes	Organism Loading Rate :	15.0 mL/organism
Test Aeration :	None	Impaired Control Organisms :	0.0%
Hardness Adjustment :	None	Test Method Deviation(s) :	None

REFERENCE TOXICANT DATA

Toxicant :	Sodium Chloride		
Date Tested :	2025-06-28	LC50 :	6.3 g/L
Organism Batch :	Dm25-12	95% Confidence Limits :	5.8 - 6.8 g/L
Analyst(s) :	ACS	Historical Mean LC50 :	6.4 g/L
Statistical Method :	Binomial	Warning Limits (± 2SD) :	5.8 - 7.1 g/L

COMMENTS

- All test validity criteria as specified in the test method were satisfied.

Approved By : _____
Project Manager

Work Order : 258311
Sample Number : 87600

TEST DATA

	pH	Dissolved O_2 (mg/L)	Conductivity (µmhos/cm)	Temperature (°C)	O_2 Saturation (%)*	Hardness (as $CaCO_3$)
Initial Chemistry (100%) :	7.5	9.3	436	21	110	150 mg/L

0 HOURS

Date & Time : 2025-07-11 10:50
Analyst(s) : ACS (SSF)

Concentration (%)	Replicate	Dead	Immobile	pH	Dissolved O_2	Conductivity	Temperature	O_2 Saturation*	Hardness
100	A	0	0	7.9	8.8	437	21	103	150
100	B	0	0	7.9	8.8	437	21	103	150
100	C	0	0	7.9	8.8	437	21	103	150
Control	A	0	0	8.1	8.6	457	20	100	150
Control	B	0	0	8.1	8.6	457	20	100	150
Control	C	0	0	8.1	8.6	457	20	100	150

Notes:

24 HOURS

Date & Time : 2025-07-12 10:45
Analyst(s) : MK

Concentration (%)	Replicate	Dead	Immobile	pH	Dissolved O_2	Conductivity	Temperature
100	A	–	0	–	–	–	21
100	B	–	0	–	–	–	21
100	C	–	0	–	–	–	21
Control	A	–	0	–	–	–	21
Control	B	–	0	–	–	–	21
Control	C	–	0	–	–	–	21

Notes: 1 test organism in the control, replicate C was floating but mobile.

48 HOURS

Date & Time : 2025-07-13 10:20
Analyst(s) : MK / SSF

Concentration (%)	Replicate	Dead	Immobile	pH	Dissolved O_2	Conductivity	Temperature
100	A	0	0	8.5	7.9	442	21
100	B	0	0	8.5	7.9	443	21
100	C	0	0	8.5	8.0	444	21
Control	A	0	0	8.3	8.0	466	21
Control	B	0	0	8.3	7.9	468	21
Control	C	0	0	8.3	7.9	468	21

Notes:

Number immobile does not include number dead.

"–" = not measured/not required
* adjusted for temperature and barometric pressure

Test Data Reviewed By : FM
Date : 2025-07-16

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 : 258311
Sample Number : 87600

SAMPLE IDENTIFICATION

Company :	Bureau Veritas Laboratories		
Location :	Mississauga ON	Sampling Date :	2025-07-07
Job Number :	C581529	Sampling Time :	14:30
Substance :	BAP-A	Date Received :	2025-07-10
Sampling Method :	Not provided	Time Received :	13:45
Sampled By :	Not provided	Temperature at Receipt :	23 °C
Sample Description :	Clear, yellow	Date Tested :	2025-07-11

Test Method(s) : Reference Method for Determining Acute Lethality of Liquid Effluents to Rainbow Trout. Environment Canada, EPS 1/RM/13 (2nd Edition, December 2000, with May 2007, February 2016, and December 2023 amendments).

96-HOUR TEST RESULTS

Substance	Effect	Value
Control	Mean Impairment	0.0 %
	Mean Mortality	0.0 %
100%	Mean Impairment	0.0 %
	Mean Mortality	0.0 %

The results reported relate only to the sample tested and as received.

TEST ORGANISM

Test Organism :	*Oncorhynchus mykiss*	Mean Fork Length :	37.4 mm
Organism Batch :	T25-16	Range of Fork Lengths :	34 - 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 :	T25-16	LC50 :	2933 mg/L*
Date Tested :	2025-07-09	95% Confidence Limits :	2658 - 3237 mg/L
Analyst(s) :	GF, JGR	Historical Mean LC50 :	3898 mg/L
Statistical Method :	Spearman-Kärber	Warning Limits (± 2SD) :	2937 - 5172 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 : 258311
Sample Number : 87600

TEST DATA

	pH	Dissolved O_2 (mg/L)	Conductivity (µmhos/cm)	Temperature (°C)	O_2 Saturation (%)[3]
Initial Water Chemistry (100%) :	7.1	7.6	421	15	78
After 30 min pre-aeration :	7.2	9.0	421	16	95

0 HOURS

Date & Time 2025-07-11 9:25
Analyst(s) : GF (JGR)/JGR

Concentration	Dead	Impaired	pH	Dissolved O_2	Conductivity	Temperature	O_2 Saturation[3]
100%	0	0	7.2	9.0	421	16	95
Control	0	0	8.0	9.6	672	15	100

Notes:

24 HOURS

Date & Time 2025-07-12 10:25
Analyst(s) : GF (PG)

Concentration	Dead	Impaired	pH	Dissolved O_2	Conductivity	Temperature
100%	0	0	–	–	–	15
Control	0	0	–	–	–	15

Notes:

48 HOURS

Date & Time 2025-07-13 9:05
Analyst(s) : GF (PG)

Concentration	Dead	Impaired	pH	Dissolved O_2	Conductivity	Temperature
100%	0	0	–	–	–	15
Control	0	0	–	–	–	15

Notes:

72 HOURS

Date & Time 2025-07-14 8:55
Analyst(s) : NWP

Concentration	Dead	Impaired	pH	Dissolved O_2	Conductivity	Temperature
100%	0	0	–	–	–	15
Control	0	0	–	–	–	15

Notes:

96 HOURS

Date & Time 2025-07-15 9:45
Analyst(s) : OHC (JGR)

Concentration	Dead	Impaired	pH	Dissolved O_2	Conductivity	Temperature
100%	0	0	8.0	9.4	423	14
Control	0	0	8.1	9.5	633	14

Notes:

"–" = not measured/not required

Number impaired does not include number dead.

[3] adjusted for temperature and barometric pressure

Test Data Reviewed By : JL

Date : 2025-07-15

CHAIN OF CUSTODY RECORD

NAUTILUS ENVIRONMENTAL

Nautilus Work Order No: 258311

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: C581529

Field Sampler Name (print):

Signature:

Affiliation:

Sample Storage (prior to shipping):

Custody Relinquished by: Bhavjot Kaur BHAVJOT KAUR

Date/Time Shipped: 2025/07/10 09:12

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.)
2025-07-07	14:30	BAP-A	87600	23°C	✔		✔									1 Pail

For Lab Use Only

Received By: JJ/GF

Date: 2025-07-10

Time: 13:45

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

Appendix D

D-5 Groundwater QA/QC Results

Hastings Highlands: South Baptiste WDS Appendix D5: 2025 Groundwater QA/QC Results		Site Name	South Baptiste WDS	South Baptiste WDS	RPD	South Baptiste WDS	South Baptiste WDS	RPD
		Location	SB-MW8	SB-MW8		SB-MW9	SB-MW9	
Parameter	Units	Sample ID	SB-MW8	SB-QAQC-GW1		SB-MW9	SB-QAQC-GW1	
		Sample Date	2025-10-21	2025-10-21		2025-05-08	2025-05-08	
Anions		Detection Limit						
Chloride	mg/L	1	1.4	<1	NC	35	33	6%
Nitrate + Nitrite	mg/L	0.1	<0.1	<0.1	NC	0.31	0.3	NC
Nitrate as N	mg/L	0.1	<0.1	<0.1	NC	0.31	0.3	NC
Nitrite as N	mg/L	0.01	<0.01	<0.01	NC	<0.01	<0.01	NC
Sulphate	mg/L	1	6.1	5.4	12%	2.9	3.8	NC
Cations								
Calcium (diss)	mg/L	0.2	3.7	3.5	6%	19	18	5%
Magnesium (diss)	mg/L	0.05	0.39	0.37	5%	2.2	2.2	0%
Potassium (diss)	mg/L	0.2	0.65	0.63	NC	1.2	1.3	8%
Sodium (diss)	mg/L	0.1	6.1	6.1	0%	9	9.1	1%
General Chemistry								
Alkalinity (as CaCO3)	mg/L	1	21	21	0%	34	28	19%
Ammonia as N	mg/L	0.05	0.063	0.063	NC	<0.05	<0.05	NC
Chemical Oxygen Demand	mg/L	4	<4	4.4	NC	<4	<4	NC
Dissolved Organic Carbon	mg/L	0.4	2.1	2.2	5%	1.1	1	NC
Electrical Conductivity	uS/cm	2	51	51	0%	210	200	5%
Phenols	mg/L	0.001	<0.001	<0.001	NC	<0.001	<0.001	NC
Total Dissolved Solids	mg/L	10	40	30	NC	150	155	3%
Total Kjeldahl Nitrogen	mg/L	0.1	0.23	0.29	NC	<0.1	<0.1	NC
Total Phosphorus	mg/L	0.02, 0.2	75	82	9%	1.1	1.1	0%
Total Suspended Solids	mg/L	10, 200	46000	41000	11%	430	540	23%
pH	pH units		7.22	7.19	0%	7.42	7.18	3%
Metals								
Aluminum (diss, 0.45 µm)	mg/L	0.0049	0.014	0.014	NC	<0.0049	<0.0049	NC
Arsenic (diss)	mg/L	0.001	<0.001	<0.001	NC	<0.001	<0.001	NC
Barium (diss)	mg/L	0.002	0.0021	0.002	NC	0.012	0.012	0%
Beryllium (diss)	mg/L	0.0004	<0.0004	<0.0004	NC	<0.0004	<0.0004	NC
Boron (diss)	mg/L	0.01	<0.01	<0.01	NC	<0.01	0.01	NC
Cadmium (diss)	mg/L	0.00009	<0.00009	<0.00009	NC	<0.00009	<0.00009	NC
Chromium (diss)	mg/L	0.005	<0.005	<0.005	NC	<0.005	<0.005	NC
Cobalt (diss)	mg/L	0.0005	<0.0005	<0.0005	NC	<0.0005	<0.0005	NC
Copper (diss)	mg/L	0.0009	0.0015	0.0014	NC	<0.0009	<0.0009	NC
Iron (diss)	mg/L	0.1	<0.1	<0.1	NC	<0.1	<0.1	NC
Lead (diss)	mg/L	0.0005	<0.0005	<0.0005	NC	<0.0005	<0.0005	NC
Manganese (diss)	mg/L	0.002	0.0046	<0.002	NC	<0.002	<0.002	NC
Mercury (diss)	mg/L	0.0001	<0.0001	<0.0001	NC	<0.0001	<0.0001	NC
Molybdenum (diss)	mg/L	0.0005	<0.0005	<0.0005	NC	<0.0005	<0.0005	NC
Nickel (diss)	mg/L	0.001	<0.001	<0.001	NC	<0.001	<0.001	NC
Silicon (diss)	mg/L	0.05	4.8	4.9	2%	5.4	6	11%
Silver (diss)	mg/L	0.00009	<0.00009	<0.00009	NC	<0.00009	<0.00009	NC
Strontium (diss)	mg/L	0.001	0.035	0.035	0%	0.2	0.2	0%
Thallium (diss)	mg/L	0.00005	<0.00005	<0.00005	NC	<0.00005	<0.00005	NC
Titanium (diss)	mg/L	0.005	<0.005	<0.005	NC	<0.005	<0.005	NC
Vanadium (diss)	mg/L	0.0005	<0.0005	<0.0005	NC	<0.0005	<0.0005	NC
Zinc (diss)	mg/L	0.005	<0.005	<0.005	NC	<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 10% for electrical conductivity, 20% for metals and inorganics, and 30% for BTEX and PHC.

*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 QA/QC Results

Hastings Highlands: South Baptiste WDS Appendix D6: 2025 Surface Water QA/QC Results		Site Name	South Baptiste WDS	South Baptiste WDS		South Baptiste WDS	South Baptiste WDS		South Baptiste WDS	South Baptiste WDS	
		Location	BAP-A	BAP-A	RPD	BAP-A	BAP-A	RPD	BAP-B	BAP-B	RPD
Parameter	Units	Sample ID	BAP-A	SB-QAQC-SW1		BAP-A	SB-QAQC-SW1		BAP-B	SB-QAQC-SW1	
		Sample Date	2025-05-08	2025-05-08		2025-10-21	2025-10-21		2025-07-07	2025-07-07	
Anions		Detection Limit									
Chloride	mg/L	1	32	32	0%	44	47	7%	1.8	2.7	NC
Nitrate + Nitrite	mg/L	0.1	1.86	1.85	1%	1.8	1.82	1%	<0.1	<0.1	NC
Nitrate as N	mg/L	0.1	1.86	1.85	1%	1.8	1.82	1%	<0.1	<0.1	NC
Nitrite as N	mg/L	0.01	<0.01	<0.01	NC	<0.01	<0.01	NC	<0.01	<0.01	NC
Sulphate	mg/L	1	35	30	15%	11	11	0%	4.1	4.6	NC
Cations											
Calcium (tot)	mg/L	0.2	45	45	0%	54	52	4%	22	28	24%
Magnesium (tot)	mg/L	0.05	8.1	7.9	2%	9	8.7	3%	1.1	1.2	9%
Potassium (tot)	mg/L	0.2	17	17	0%	20	19	5%	0.68	0.58	NC
Sodium (tot)	mg/L	0.1	28	28	0%	32	31	3%	4.1	4.1	0%
Field Parameters											
Temperature	deg. C		7.3	7.3	0%	7.5	7.5	0%	12.5	12.5	0%
pH (Field)	pH units		7.46	7.46	0%	7.57	7.57	0%	7.37	7.37	0%
General Chemistry											
Alkalinity (as CaCO3)	mg/L	1	150	150	0%	190	190	0%	61	68	11%
Ammonia as N	mg/L	0.05	<0.05	<0.05	NC	<0.05	<0.05	NC	<0.05	<0.05	NC
Biochemical Oxygen Demand	mg/L	2	4	<2	NC	<2	<2	NC	<2	<2	NC
Colour	TCU	2	11	11	0%	13	13	0%	40	28	35%
Electrical Conductivity	uS/cm	2	490	500	2%	550	550	0%	140	160	13%
Hardness (as CaCO3)	mg/L	1	160	150	6%	180	180	0%	65	76	16%
Phenols	mg/L	0.001	<0.001	<0.001	NC	<0.001	<0.001	NC	<0.001	<0.001	NC
Total Dissolved Solids	mg/L	10	320	295	8%	295	285	3%	95	120	23%
Total Kjeldahl Nitrogen	mg/L	0.1	0.21	0.24	NC	0.31	0.28	NC	0.17	0.21	NC
Total Phosphorus	mg/L	0.02	<0.02	<0.02	NC	<0.02	<0.02	NC	0.026	<0.02	NC
Total Suspended Solids	mg/L	10	<10	<10	NC	<10	<10	NC	<10	<10	NC
Turbidity	NTU	0.1	0.3	0.3	NC	12	16	29%	4	2.4	50%
Unionized Ammonia (Calc)	mg/L	0.00061	<0.00061	<0.00061	NC	<0.00061	<0.00061	NC	<0.00061	<0.00061	NC
pH	pH units		7.91	7.89	0%	7.89	7.9	0%	7.68	7.72	1%
Metals											
Aluminum (diss, 0.2 µm)	mg/L	0.005	0.007	0.007	NC	<0.005	<0.005	NC	0.02	0.017	NC
Aluminum (tot)	mg/L	0.0049	0.01	0.0083	NC	0.16	0.18	12%	0.053	0.047	12%
Arsenic (tot)	mg/L	0.001	<0.001	<0.001	NC	<0.001	<0.001	NC	<0.001	<0.001	NC
Boron (tot)	mg/L	0.01	0.31	0.28	10%	0.25	0.23	8%	<0.01	<0.01	NC
Cadmium (tot)	mg/L	0.00009	<0.00009	<0.00009	NC	<0.00009	<0.00009	NC	<0.00009	<0.00009	NC
Chromium (tot)	mg/L	0.005	<0.005	<0.005	NC	<0.005	<0.005	NC	<0.005	<0.005	NC
Cobalt (tot)	mg/L	0.0005	<0.0005	<0.0005	NC	0.00093	0.00094	NC	<0.0005	<0.0005	NC
Copper (tot)	mg/L	0.0009	0.001	0.00095	NC	0.0017	0.0012	NC	<0.0009	<0.0009	NC
Iron (tot)	mg/L	0.1	<0.1	<0.1	NC	0.6	0.64	6%	0.94	0.66	35%
Lead (tot)	mg/L	0.0005	<0.0005	<0.0005	NC	0.0024	<0.0005	NC	<0.0005	<0.0005	NC
Mercury (diss)	mg/L	0.0001	<0.0001	<0.0001	NC	<0.0001	<0.0001	NC	<0.0001	<0.0001	NC
Nickel (tot)	mg/L	0.001	0.0013	0.0013	NC	0.0024	0.0024	NC	<0.001	<0.001	NC
Selenium (tot)	mg/L	0.002	<0.002	<0.002	NC	<0.002	<0.002	NC	<0.002	<0.002	NC
Silver (tot)	mg/L	0.00009	<0.00009	<0.00009	NC	<0.00009	<0.00009	NC	<0.00009	<0.00009	NC
Zinc (tot)	mg/L	0.005	<0.005	<0.005	NC	0.017	0.0074	NC	<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 10% for electrical conductivity, 20% for metals and inorganics, 30% for BTEX and PHC, and 40% for all other parameters

*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 E

Climatic Data

Daily Data Report for May 2025

BANCROFT AUTO
ONTARIO
Current Station Operator: ECCC - MSC

Latitude:	45°04'17.000" N
Longitude:	77°52'44.000" W
Elevation:	330.70 m
Climate ID:	616I001
WMO ID:	71294
TC ID:	WRK

DAY	Max Temp °C	Min Temp °C	Mean Temp °C	Heat Deg Days	Cool Deg Days	Total Rain mm	Total Snow cm	Total Precip mm	Snow on Grnd cm	Dir of Max Gust 10's deg	Spd of Max Gust km/h
01	15.9	-3.6	6.1	11.9	0.0			12.1			
02	13.7	2.7	8.2	9.8	0.0			0.3		25	33
03	14.0	0.7	7.3	10.7	0.0			0.0			
04	19.8	-1.8	9.0	9.0	0.0			0.0		7	34
05	19.9	7.4	13.7	4.3	0.0			6.0		6	34
06	20.8	12.9	16.9	1.1	0.0			2.9			
07	17.2	3.9	10.5	7.5	0.0			0.4		1	34
08	13.1	-1.9	5.6	12.4	0.0			0.0		1	32
09	16.8	-3.4	6.7	11.3	0.0			0.0		33	35
10	20.8	-2.2	9.3	8.7	0.0			0.0		34	37
11	17.8	-1.9	8.0	10.0	0.0			0.0			
12	27.7	1.4	14.6	3.4	0.0			0.0			
13	27.8	5.1	16.4	1.6	0.0			0.0		17	37
14	19.8	14.1	16.9	1.1	0.0			1.2			
15	20.2	9.8	15.0	3.0	0.0			1.3			
16	25.7	7.5	16.6	1.4	0.0			0.4			
17	20.6	7.2	13.9	4.1	0.0			26.2		25	40
18	11.7	4.8	8.3	9.7	0.0			1.2		33	32
19	11.4	-0.4	5.5	12.5	0.0			0.0		32	35
20	16.2	-1.2	7.5	10.5	0.0			0.0			
21	12.7	7.5	10.1	7.9	0.0			5.0			
22	9.7	6.4	8.1	9.9	0.0			7.9			
23	9.3	6.4	7.9	10.1	0.0			9.5			
24	12.2	5.9	9.0	9.0	0.0			4.1			

DAY	Max Temp °C	Min Temp °C	Mean Temp °C	Heat Deg Days	Cool Deg Days	Total Rain mm	Total Snow cm	Total Precip mm	Snow on Grnd cm	Dir of Max Gust 10's deg	Spd of Max Gust km/h
25	14.1	3.8	8.9	9.1	0.0			2.9			
26	22.8	1.4	12.1	5.9	0.0			0.0			
27	25.2	1.7	13.4	4.6	0.0			0.0			
28	24.6	2.7	13.7	4.3	0.0			2.4			
29	17.5	11.6	14.6	3.4	0.0			11.4			
30	23.0	11.2	17.1	0.9	0.0			0.7			
31	11.6	5.7	8.6	9.4	0.0			0.0		32	42
Sum				218.5	0.0			95.9			
Avg	17.9	4.0	11.0								
Xtrm	27.8	-3.6				M	M	26.2		32^	42^

Summary, average and extreme values are based on the data above.

Legend

- A = Accumulated
- C = Precipitation occurred, amount uncertain
- E = Estimated
- F = Accumulated and estimated
- L = Precipitation may or may not have occurred
- M = Missing
- N = Temperature missing but known to be > 0
- S = More than one occurrence
- T = Trace
- Y = Temperature missing but known to be < 0
- [empty] = Indicates an unobserved value
- ^ = The value displayed is based on incomplete data
- † = Data that is not subject to review by the National Climate Archives

Date modified:

2025-10-15

Daily Data Report for July 2025

BANCROFT AUTO
ONTARIO
Current Station Operator: ECCC - MSC

Latitude:	45°04'17.000" N
Longitude:	77°52'44.000" W
Elevation:	330.70 m
Climate ID:	616I001
WMO ID:	71294
TC ID:	WRK

DAY	Max Temp °C	Min Temp °C	Mean Temp °C	Heat Deg Days	Cool Deg Days	Total Rain mm	Total Snow cm	Total Precip mm	Snow on Grnd cm	Dir of Max Gust 10's deg	Spd of Max Gust km/h
01	27.9	15.3	21.6	0.0	3.6			0.9			
02	28.4	14.3	21.3	0.0	3.3			0.0		31	31
03	23.6	7.4	15.5	2.5	0.0			0.1		3	34
04	25.4	5.8	15.6	2.4	0.0			0.0			
05	30.9	10.1	20.5	0.0	2.5			3.1			
06	31.7	17.5	24.6	0.0	6.6			0.0		22	36
07	20.7	17.4	19.0	0.0	1.0			8.3			
08	25.6	13.0	19.3	0.0	1.3			0.0			
09	M	M	M	M	M			M		M	M
10	M	M	M	M	M			M		M	M
11	29.9	11.9	20.9	0.0	2.9			0.0			
12	32.1	13.3	22.7	0.0	4.7			0.0			
13	30.5	12.7	21.6	0.0	3.6			0.0			
14	29.5	12.1	20.8	0.0	2.8			0.0			
15	31.7	12.5	22.1	0.0	4.1			0.0			
16	32.5	14.2	23.3	0.0	5.3			0.0			
17	25.2	10.0	17.6	0.4	0.0			15.2		30	43
18	25.1	6.0	15.5	2.5	0.0			0.0			
19	26.1	10.3	18.2	0.0	0.2			5.4			
20	25.8	15.1	20.5	0.0	2.5			0.0			
21	20.7	6.3	13.5	4.5	0.0			0.0		1	31
22	22.9	4.3	13.6	4.4	0.0			0.0			
23	28.7	6.9	17.8	0.2	0.0			0.0			
24	34.1	15.9	25.0	0.0	7.0			0.3		35	67

DAY	Max Temp °C	Min Temp °C	Mean Temp °C	Heat Deg Days	Cool Deg Days	Total Rain mm	Total Snow cm	Total Precip mm	Snow on Grnd cm	Dir of Max Gust 10's deg	Spd of Max Gust km/h
25	27.9	13.7	20.8	0.0	2.8			0.0			
26	28.9	11.7	20.3	0.0	2.3			0.0			
27	29.3	17.2	23.2	0.0	5.2			1.8			
28	33.2	15.6	24.4	0.0	6.4			0.0		20	34
29	29.6	15.8	22.7	0.0	4.7			0.0			
30	26.2	12.9	19.6	0.0	1.6			0.0			
31	23.0	6.9	15.0	3.0	0.0			0.0			
Sum				19.9^	74.4^			35.1^			
Avg	27.8^	11.9^	19.9^								
Xtrm	34.1^	4.3^				M	M	15.2^		35^	67^

Summary, average and extreme values are based on the data above.

Legend

- A = Accumulated
- C = Precipitation occurred, amount uncertain
- E = Estimated
- F = Accumulated and estimated
- L = Precipitation may or may not have occurred
- M = Missing
- N = Temperature missing but known to be > 0
- S = More than one occurrence
- T = Trace
- Y = Temperature missing but known to be < 0
- [empty] = Indicates an unobserved value
- ^ = The value displayed is based on incomplete data
- † = Data that is not subject to review by the National Climate Archives

Date modified:

2025-10-15

Daily Data Report for October 2025

BANCROFT AUTO
ONTARIO
Current Station Operator: ECCC - MSC

Latitude:	45°04'17.000" N
Longitude:	77°52'44.000" W
Elevation:	330.70 m
Climate ID:	616I001
WMO ID:	71294
TC ID:	WRK

DAY	Max Temp °C	Min Temp °C	Mean Temp °C	Heat Deg Days	Cool Deg Days	Total Rain mm	Total Snow cm	Total Precip mm	Snow on Grnd cm	Dir of Max Gust 10's deg	Spd of Max Gust km/h
01	16.7	-1.8	7.4	10.6	0.0			0.0			
02	19.9	-2.2	8.9	9.1	0.0			0.0			
03	25.8	-1.3	12.2	5.8	0.0			0.0			
04	29.1	8.6	18.9	0.0	0.9			0.0			
05	29.4	8.6	19.0	0.0	1.0			0.0			
06	27.6	7.9	17.8	0.2	0.0			0.0		18	35
07	20.2	6.6	13.4	4.6	0.0			4.2			
08	11.9	-3.4	4.2	13.8	0.0			0.0		34	31
09	11.0	-6.4	2.3	15.7	0.0			0.0			
10	15.6	-6.3	4.7	13.3	0.0			0.4			
11	14.9	3.9	9.4	8.6	0.0			0.6			
12	19.5	-0.6	9.5	8.5	0.0			0.0			
13	21.5	-0.7	10.4	7.6	0.0			0.0			
14	22.2	0.1	11.2	6.8	0.0			0.0		2	35
15	13.2	0.9	7.0	11.0	0.0			0.0		M	M
16	13.6	-4.2	4.7	13.3	0.0			0.0		M	M
17	13.4	-4.5	4.4	13.6	0.0			1.5			
18	18.9	7.6	13.3	4.7	0.0			0.0			
19	21.3	12.2	16.8	1.2	0.0			5.4		20	43
20	14.0	-1.4	6.3	11.7	0.0			9.1		31	31
21	10.6	-1.4	4.6	13.4	0.0			0.4			
22	10.8	0.1	5.4	12.6	0.0			6.9			
23	10.7	-0.1	5.3	12.7	0.0			0.6			
24	7.0	0.5	3.8	14.2	0.0			0.9			

DAY	Max Temp °C	Min Temp °C	Mean Temp °C	Heat Deg Days	Cool Deg Days	Total Rain mm	Total Snow cm	Total Precip mm	Snow on Grnd cm	Dir of Max Gust 10's deg	Spd of Max Gust km/h
25	9.8	-5.3	2.2	15.8	0.0			0.0			
26	6.5	-7.4	-0.4	18.4	0.0			0.0			
27	9.9	-6.8	1.5	16.5	0.0			0.0			
28	12.3	-7.2	2.6	15.4	0.0			0.0			
29	12.4	-6.8	2.8	15.2	0.0			0.0			
30	4.2	-5.1	-0.4	18.4	0.0			13.5			
31	3.9	1.6	2.7	15.3	0.0			15.4		31	40
Sum				328.0	1.9			58.9			
Avg	15.4	-0.5	7.5								
Xtrm	29.4	-7.4				M	M	15.4		20^	43^

Summary, average and extreme values are based on the data above.

Legend

- A = Accumulated
- C = Precipitation occurred, amount uncertain
- E = Estimated
- F = Accumulated and estimated
- L = Precipitation may or may not have occurred
- M = Missing
- N = Temperature missing but known to be > 0
- S = More than one occurrence
- T = Trace
- Y = Temperature missing but known to be < 0
- [empty] = Indicates an unobserved value
- ^ = The value displayed is based on incomplete data
- † = Data that is not subject to review by the National Climate Archives

Date modified:

2025-10-15

Appendix F

Historical Water Chemistry Data

Appendix F

F-1 Historical Groundwater Chemistry

MHH - South Baptiste WDS Appendix F1: Historical Groundwater Chemistry						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	SB-MW2	SB-MW2	SB-MW2	SB-MW2	SB-MW2	SB-MW2
Parameter	Units	RUV-SB	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	Sample ID	SB-MW2	SB-MW2	SB-MW2	SB-MW2	SB-MW2	SB-MW2
						Sample Date	2006-May-10	2006-Nov-20	2007-May-02	2008-May-09	2008-Oct-09	2009-Jun-04
Anions						**Detection Limit**						
Chloride	mg/L	125.26	250	-	-	0.1, 0.12, 0.24, 0.5, 1	-	-	2	1	1	2
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-
Nitrate as N	mg/L	2.51875	10	-	-	0.05, 0.07, 0.1, 0.25, 0.5	<0.1	<0.1	<0.1	<0.1	0.11	<0.1
Nitrite as N	mg/L	-	1	-	-	0.01, 0.05, 0.25, 0.5	-	-	<0.1	<0.1	<0.1	<0.1
Sulphate	mg/L	-	500	-	-	0.1, 0.19, 0.5, 1, 2	7	7	7	6	5	6
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.25	7	9	7	6	9	6
Magnesium (diss)	mg/L	-	-	-	-	0.05, 0.25	1	1	1	<1	1	<1
Potassium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 2.5	<1	<1	<1	<1	<1	<1
Sodium (diss)	mg/L	100.6	200	-	-	0.05, 0.1, 0.25	<2	<2	<2	<2	<2	3
General Chemistry												
Alkalinity (as CaCO3)	mg/L	260.5	30 - 500	-	-	1, 5	21	32	22	17	35	14
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.07, 0.1, 0.18, 0.25, 0.3, 0.4, 0.5	-	-	<0.02	<0.02	<0.02	<0.02
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5, 8, 10, 12, 20, 31, 206	-	-	<5	<5	5	<5
Dissolved Organic Carbon	mg/L	3.2	5	-	-	0.4, 0.5	-	-	1.3	1.1	1.9	1.9
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	57	81	55	48	80	49
Hardness (as CaCO3)	mg/L	-	80 - 100	-	-		21.6	26.6	21.6	17	26.6	17
pH	pH units	-	6.5 - 8.5	6.5 - 8.5	-		6.64	6.78	6.4	6.98	7.08	6.64
Phenols	mg/L	-	-	0.001	-	0.001, 0.004	-	-	<0.001	<0.001	<0.001	<0.001
Total Dissolved Solids	mg/L	269	500	-	-	1, 10, 20	-	-	36	31	52	32
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1, 0.11, 0.2, 0.22, 0.5, 1, 2, 5	-	-	0.15	0.14	0.25	<0.1
Total Phosphorus	mg/L	-	-	0.03	-	0.02, 0.03, 0.06, 0.1, 0.12, 0.14, 0.2, 0.4, 0.6	-	-	**0.6**	**0.73**	**0.54**	**0.23**
Total Suspended Solids	mg/L	-	-	-	-	5, 10, 13, 14, 20, 25, 33, 50, 100, 200, 500, 1000	-	-	-	-	-	-
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.0525	0.1	-	-	0.004, 0.0049	0.16	<0.01	0.02	<0.01	<0.01	<0.01
Arsenic (diss)	mg/L	-	0.01	-	0.005	0.001, 0.003	-	-	<0.001	<0.001	<0.001	<0.001
Barium (diss)	mg/L	-	1	-	-	0.002	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Beryllium (diss)	mg/L	-	-	-	-	0.0004, 0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron (diss)	mg/L	1.25375	5	-	0.2	0.01, 0.02, 0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cadmium (diss)	mg/L	-	0.005	-	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium (diss)	mg/L	-	0.05	-	-	0.002, 0.003, 0.005	<0.001	<0.001	<0.001	0.002	<0.001	<0.001
Cobalt (diss)	mg/L	-	-	-	0.0009	0.0005	<0.0002	0.0032	<0.0002	<0.0002	0.0131	<0.0002
Copper (diss)	mg/L	0.50075	1	-	-	0.0009, 0.001, 0.002	0.002	0.002	0.001	0.003	0.005	0.002
Iron (diss)	mg/L	0.1575	0.3	0.3	-	0.01, 0.1	<0.03	<0.03	<0.03	<0.03	0.16	<0.03
Lead (diss)	mg/L	-	0.01	-	-	0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (diss)	mg/L	0.0275	0.05	-	-	0.002, 0.004, 0.01, 0.02	<0.01	0.39	<0.01	<0.01	1.01	<0.01
Mercury (diss)	mg/L	-	0.001	0.0002	-	0.0001	-	-	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum (diss)	mg/L	-	-	-	0.04	0.0005, 0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Nickel (diss)	mg/L	-	-	0.025	-	0.001, 0.003	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Selenium (diss)	mg/L	-	0.05	0.1	-	0.001	-	-	-	-	-	-
Silicon (diss)	mg/L	-	-	-	-	0.05, 0.25	6.4	6.4	5.5	5.4	7.7	5.8
Silver (diss)	mg/L	-	-	0.0001	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Strontium (diss)	mg/L	-	-	-	-	0.001, 0.005	0.069	0.083	0.067	0.052	0.096	0.067
Thallium (diss)	mg/L	-	-	-	0.0003	0.00005, 0.0003	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Titanium (diss)	mg/L	-	-	-	-	0.002, 0.005	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Uranium (diss)	mg/L	-	0.02	-	0.005	0.0005	-	-	-	-	-	-
Vanadium (diss)	mg/L	-	-	-	0.006	0.0005, 0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Zinc (diss)	mg/L	2.50125	5	-	0.02	0.005	<0.01	<0.01	<0.01	<0.01	0.01	0.02

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds RUV-SB	Reasonable Use Values South Baptiste
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

MHH - South Baptiste WDS Appendix F1: Historical Groundwater Chemistry						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	SB-MW2	SB-MW2	SB-MW2	SB-MW2	SB-MW2	SB-MW2
Parameter	Units	RUV-SB	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	Sample ID	SB-MW2	SB-MW2	SB-MW2	SB-MW2	SB-MW2	SB-MW2
						Sample Date	2009-Oct-23	2010-May-17	2010-Oct-18	2011-May-18	2012-Apr-17	2013-Apr-18
Anions						**Detection Limit**						
Chloride	mg/L	125.26	250	-	-	0.1, 0.12, 0.24, 0.5, 1	1	1	1	2	<1	0.61
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-
Nitrate as N	mg/L	2.51875	10	-	-	0.05, 0.07, 0.1, 0.25, 0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Nitrite as N	mg/L	-	1	-	-	0.01, 0.05, 0.25, 0.5	<0.1	<0.1	<0.1	<0.1	<0.05	<0.05
Sulphate	mg/L	-	500	-	-	0.1, 0.19, 0.5, 1, 2	7	6	6	6	5	5.51
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.25	6	7	7	6	8.39	6.7
Magnesium (diss)	mg/L	-	-	-	-	0.05, 0.25	<1	<1	<1	<1	0.955	1.01
Potassium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 2.5	<1	<1	<1	<1	0.708	0.67
Sodium (diss)	mg/L	100.6	200	-	-	0.05, 0.1, 0.25	<2	<2	<2	<2	1.4	1.69
General Chemistry												
Alkalinity (as CaCO3)	mg/L	260.5	30 - 500	-	-	1, 5	25	22	28	26	19	18
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.07, 0.1, 0.18, 0.25, 0.3, 0.4, 0.5	<0.02	<0.02	<0.02	<0.02	0.01	<0.02
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5, 8, 10, 12, 20, 31, 206	<5	<5	<5	5	18	<5
Dissolved Organic Carbon	mg/L	3.2	5	-	-	0.4, 0.5	1.4	1.4	1.2	1.3	1.5	1.4
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	61	57	67	54	47	54
Hardness (as CaCO3)	mg/L	-	80 - 100	-	-		17	19.5	19.5	17	24.9	20.9
pH	pH units	-	6.5 - 8.5	6.5 - 8.5	-		6.83	7.05	6.83	6.92	6.5	6.99
Phenols	mg/L	-	-	0.001	-	0.001, 0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total Dissolved Solids	mg/L	269	500	-	-	1, 10, 20	40	37	44	35	-	60
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1, 0.11, 0.2, 0.22, 0.5, 1, 2, 5	<0.1	<0.1	<0.1	<0.1	0.2	<0.1
Total Phosphorus	mg/L	-	-	0.03	-	0.02, 0.03, 0.06, 0.1, 0.12, 0.14, 0.2, 0.4, 0.6	**0.36**	**0.35**	**0.24**	**0.34**	**0.62**	**0.56**
Total Suspended Solids	mg/L	-	-	-	-	5, 10, 13, 14, 20, 25, 33, 50, 100, 200, 500, 1000	-	-	-	-	578	-
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.0525	0.1	-	-	0.004, 0.0049	<0.01	<0.01	<0.01	<0.01	0.002	0.006
Arsenic (diss)	mg/L	-	0.01	-	0.005	0.001, 0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.003
Barium (diss)	mg/L	-	1	-	-	0.002	<0.01	<0.01	<0.01	<0.01	0.005	0.005
Beryllium (diss)	mg/L	-	-	-	-	0.0004, 0.0005, 0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.001
Boron (diss)	mg/L	1.25375	5	-	0.2	0.01, 0.02, 0.1	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cadmium (diss)	mg/L	-	0.005	-	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.002
Chromium (diss)	mg/L	-	0.05	-	-	0.002, 0.003, 0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.003
Cobalt (diss)	mg/L	-	-	-	0.0009	0.0005	0.0005	<0.0002	0.0003	<0.0002	<0.0005	<0.001
Copper (diss)	mg/L	0.50075	1	-	-	0.0009, 0.001, 0.002	0.002	0.001	0.001	<0.001	0.0009	<0.003
Iron (diss)	mg/L	0.1575	0.3	0.3	-	0.01, 0.1	<0.03	<0.03	<0.03	<0.03	<0.1	<0.01
Lead (diss)	mg/L	-	0.01	-	-	0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.0001	<0.002
Manganese (diss)	mg/L	0.0275	0.05	-	-	0.002, 0.004, 0.01, 0.02	0.03	<0.01	0.02	<0.01	<0.005	0.011
Mercury (diss)	mg/L	-	0.001	0.0002	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum (diss)	mg/L	-	-	-	0.04	0.0005, 0.002	<0.005	<0.005	<0.005	<0.005	<0.0005	<0.002
Nickel (diss)	mg/L	-	-	0.025	-	0.001, 0.003	<0.005	<0.005	<0.005	<0.005	<0.001	<0.003
Selenium (diss)	mg/L	-	0.05	0.1	-	0.001	-	-	-	-	-	-
Silicon (diss)	mg/L	-	-	-	-	0.05, 0.25	6.9	6	6.4	5.9	4.94	3.89
Silver (diss)	mg/L	-	-	0.0001	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.002
Strontium (diss)	mg/L	-	-	-	-	0.001, 0.005	0.073	0.071	0.079	0.063	0.065	0.066
Thallium (diss)	mg/L	-	-	-	0.0003	0.00005, 0.0003	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.006
Titanium (diss)	mg/L	-	-	-	-	0.002, 0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.002
Uranium (diss)	mg/L	-	0.02	-	0.005	0.0005	-	-	-	-	-	-
Vanadium (diss)	mg/L	-	-	-	0.006	0.0005, 0.002	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.002
Zinc (diss)	mg/L	2.50125	5	-	0.02	0.005	<0.01	<0.01	<0.01	<0.01	0.006	<0.005

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds RUV-SB	Reasonable Use Values South Baptiste
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

MHH - South Baptiste WDS Appendix F1: Historical Groundwater Chemistry						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	SB-MW2	SB-MW2	SB-MW2	SB-MW2	SB-MW2	SB-MW2
Parameter	Units	RUV-SB	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	Sample ID	SB-MW2	SB-MW2	SB-MW2	SB-MW2	SB-MW2	SB-MW2
						Sample Date	2014-May-13	2014-Oct-14	2015-May-04	2016-Apr-28	2017-May-10	2017-Oct-23
Anions						**Detection Limit**						
Chloride	mg/L	125.26	250	-	-	0.1, 0.12, 0.24, 0.5, 1	0.52	0.56	0.47	0.44	0.43	0.48
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-
Nitrate as N	mg/L	2.51875	10	-	-	0.05, 0.07, 0.1, 0.25, 0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nitrite as N	mg/L	-	1	-	-	0.01, 0.05, 0.25, 0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	-	500	-	-	0.1, 0.19, 0.5, 1, 2	5.02	2.52	5	5.04	4.79	3.15
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.25	5.5	11.8	6.78	5.21	4.86	8.9
Magnesium (diss)	mg/L	-	-	-	-	0.05, 0.25	0.81	1.64	0.94	0.75	0.7	1.3
Potassium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 2.5	0.79	1.01	0.76	0.72	0.62	1.08
Sodium (diss)	mg/L	100.6	200	-	-	0.05, 0.1, 0.25	1.2	1.77	1.48	1.16	1.11	1.77
General Chemistry												
Alkalinity (as CaCO3)	mg/L	260.5	30 - 500	-	-	1, 5	17	37	18	17	18	33
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.07, 0.1, 0.18, 0.25, 0.3, 0.4, 0.5	<0.02	0.12	<0.02	<0.02	<0.02	<0.02
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5, 8, 10, 12, 20, 31, 206	5	<5	<5	<5	<5	<5
Dissolved Organic Carbon	mg/L	3.2	5	-	-	0.4, 0.5	1.2	1.8	1.2	1.7	1	1.7
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	51	79	51	45	47	64
Hardness (as CaCO3)	mg/L	-	80 - 100	-	-		17.1	36.2	20.8	16.1	15	27.6
pH	pH units	-	6.5 - 8.5	6.5 - 8.5	-		7.2	7.49	6.93	7.37	7.14	7.04
Phenols	mg/L	-	-	0.001	-	0.001, 0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total Dissolved Solids	mg/L	269	500	-	-	1, 10, 20	40	-	38	38	36	58
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1, 0.11, 0.2, 0.22, 0.5, 1, 2, 5	<0.1	0.49	0.19	0.2	<0.1	0.22
Total Phosphorus	mg/L	-	-	0.03	-	0.02, 0.03, 0.06, 0.1, 0.12, 0.14, 0.2, 0.4, 0.6	**0.72**	**0.67**	**0.4**	**0.36**	**0.36**	**0.26**
Total Suspended Solids	mg/L	-	-	-	-	5, 10, 13, 14, 20, 25, 33, 50, 100, 200, 500, 1000	-	-	-	-	-	-
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.0525	0.1	-	-	0.004, 0.0049	<0.004	0.005	0.007	<0.004	0.016	0.007
Arsenic (diss)	mg/L	-	0.01	-	0.005	0.001, 0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Barium (diss)	mg/L	-	1	-	-	0.002	0.005	0.011	0.006	0.005	0.005	0.009
Beryllium (diss)	mg/L	-	-	-	-	0.0004, 0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron (diss)	mg/L	1.25375	5	-	0.2	0.01, 0.02, 0.1	<0.01	<0.01	<0.01	<0.01	<0.01	0.013
Cadmium (diss)	mg/L	-	0.005	-	-	0.00009, 0.0001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Chromium (diss)	mg/L	-	0.05	-	-	0.002, 0.003, 0.005	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Cobalt (diss)	mg/L	-	-	-	0.0009	0.0005	<0.001	0.02	<0.001	<0.001	<0.001	0.014
Copper (diss)	mg/L	0.50075	1	-	-	0.0009, 0.001, 0.002	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Iron (diss)	mg/L	0.1575	0.3	0.3	-	0.01, 0.1	<0.01	5.94	<0.01	<0.01	<0.01	2.44
Lead (diss)	mg/L	-	0.01	-	-	0.0005, 0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Manganese (diss)	mg/L	0.0275	0.05	-	-	0.002, 0.004, 0.01, 0.02	0.003	0.784	0.003	0.002	0.027	0.506
Mercury (diss)	mg/L	-	0.001	0.0002	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum (diss)	mg/L	-	-	-	0.04	0.0005, 0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Nickel (diss)	mg/L	-	-	0.025	-	0.001, 0.003	<0.003	<0.003	<0.003	<0.003	<0.003	0.003
Selenium (diss)	mg/L	-	0.05	0.1	-	0.001	-	-	-	-	-	-
Silicon (diss)	mg/L	-	-	-	-	0.05, 0.25	4.79	7.28	5.59	5.25	5.55	7.6
Silver (diss)	mg/L	-	-	0.0001	-	0.00009, 0.0001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Strontium (diss)	mg/L	-	-	-	-	0.001, 0.005	0.063	0.112	0.066	0.05	0.051	0.12
Thallium (diss)	mg/L	-	-	-	0.0003	0.00005, 0.0003	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Titanium (diss)	mg/L	-	-	-	-	0.002, 0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Uranium (diss)	mg/L	-	0.02	-	0.005	0.0005	-	-	-	-	-	-
Vanadium (diss)	mg/L	-	-	-	0.006	0.0005, 0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Zinc (diss)	mg/L	2.50125	5	-	0.02	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.006

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds RUV-SB	Reasonable Use Values South Baptiste
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

MHH - South Baptiste WDS Appendix F1: Historical Groundwater Chemistry						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	SB-MW2	SB-MW2	SB-MW2	SB-MW2	SB-MW2	SB-MW2
Parameter	Units	RUV-SB	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	Sample ID	SB-MW2	SB-MW2	SB-MW2	SB MW2	SB MW2	SB-MW2
						Sample Date	2018-May-07	2019-May-07	2020-May-06	2021-Apr-20	2021-Oct-21	2022-May-05
Anions						**Detection Limit**						
Chloride	mg/L	125.26	250	-	-	0.1, 0.12, 0.24, 0.5, 1	0.38	0.4	0.6	0.76	0.46	0.37
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-
Nitrate as N	mg/L	2.51875	10	-	-	0.05, 0.07, 0.1, 0.25, 0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nitrite as N	mg/L	-	1	-	-	0.01, 0.05, 0.25, 0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	-	500	-	-	0.1, 0.19, 0.5, 1, 2	3.87	3.75	3.89	3.82	4.2	3.82
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.25	5.06	4.5	5.44	5.76	6.57	6.2
Magnesium (diss)	mg/L	-	-	-	-	0.05, 0.25	0.79	0.64	0.81	0.86	0.97	0.9
Potassium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 2.5	0.67	0.54	0.68	0.73	0.78	0.76
Sodium (diss)	mg/L	100.6	200	-	-	0.05, 0.1, 0.25	1.27	1.09	1.25	1.42	1.59	1.35
General Chemistry												
Alkalinity (as CaCO3)	mg/L	260.5	30 - 500	-	-	1, 5	21	18	21	17	27	24
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.07, 0.1, 0.18, 0.25, 0.3, 0.4, 0.5	0.04	<0.02	<0.02	<0.02	0.08	<0.02
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5, 8, 10, 12, 20, 31, 206	<5	<5	<5	<5	<5	<5
Dissolved Organic Carbon	mg/L	3.2	5	-	-	0.4, 0.5	2.1	2.2	1.2	3	1.4	1
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	42	39	58	47	57	51
Hardness (as CaCO3)	mg/L	-	80 - 100	-	-		15.9	13.9	16.9	17.9	20.4	19.2
pH	pH units	-	6.5 - 8.5	6.5 - 8.5	-		6.51	6.65	6.7	6.86	6.71	6.6
Phenols	mg/L	-	-	0.001	-	0.001, 0.004	<0.001	<0.001	<0.001	**0.002**	<0.001	<0.001
Total Dissolved Solids	mg/L	269	500	-	-	1, 10, 20	26	46	32	52	46	<10
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1, 0.11, 0.2, 0.22, 0.5, 1, 2, 5	0.38	<0.1	0.16	0.2	<0.1	0.12
Total Phosphorus	mg/L	-	-	0.03	-	0.02, 0.03, 0.06, 0.1, 0.12, 0.14, 0.2, 0.4, 0.6	**0.39**	**0.31**	**1.24**	**0.43**	**0.33**	**0.24**
Total Suspended Solids	mg/L	-	-	-	-	5, 10, 13, 14, 20, 25, 33, 50, 100, 200, 500, 1000	-	-	-	-	-	-
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.0525	0.1	-	-	0.004, 0.0049	<0.05	0.004	0.01	<0.004	0.007	0.019
Arsenic (diss)	mg/L	-	0.01	-	0.005	0.001, 0.003	<0.05	<0.003	<0.003	0.009	<0.003	<0.003
Barium (diss)	mg/L	-	1	-	-	0.002	0.005	0.005	0.004	0.004	<0.002	0.005
Beryllium (diss)	mg/L	-	-	-	-	0.0004, 0.0005, 0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001
Boron (diss)	mg/L	1.25375	5	-	0.2	0.01, 0.02, 0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cadmium (diss)	mg/L	-	0.005	-	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0003
Chromium (diss)	mg/L	-	0.05	-	-	0.002, 0.003, 0.005	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Cobalt (diss)	mg/L	-	-	-	0.0009	0.0005	<0.001	<0.0005	0.0013	<0.0005	0.0015	<0.0005
Copper (diss)	mg/L	0.50075	1	-	-	0.0009, 0.001, 0.002	<0.003	<0.001	<0.002	<0.002	<0.002	<0.002
Iron (diss)	mg/L	0.1575	0.3	0.3	-	0.01, 0.1	<0.01	<0.01	<0.01	0.064	0.177	0.058
Lead (diss)	mg/L	-	0.01	-	-	0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (diss)	mg/L	0.0275	0.05	-	-	0.002, 0.004, 0.01, 0.02	0.003	0.008	0.081	0.003	0.082	<0.002
Mercury (diss)	mg/L	-	0.001	0.0002	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum (diss)	mg/L	-	-	-	0.04	0.0005, 0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Nickel (diss)	mg/L	-	-	0.025	-	0.001, 0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.001
Selenium (diss)	mg/L	-	0.05	0.1	-	0.001	-	-	-	-	-	-
Silicon (diss)	mg/L	-	-	-	-	0.05, 0.25	5.26	4.5	5.59	5.65	5.88	6.07
Silver (diss)	mg/L	-	-	0.0001	-	0.00009, 0.0001	<0.002	<0.0001	<0.0001	<0.0001	<0.0001	0.0001
Strontium (diss)	mg/L	-	-	-	-	0.001, 0.005	0.056	0.052	0.062	0.069	0.074	0.065
Thallium (diss)	mg/L	-	-	-	0.0003	0.00005, 0.0003	<0.006	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Titanium (diss)	mg/L	-	-	-	-	0.002, 0.005	<0.002	<0.002	<0.002	<0.002	<0.002	0.004
Uranium (diss)	mg/L	-	0.02	-	0.005	0.0005	-	-	-	-	-	-
Vanadium (diss)	mg/L	-	-	-	0.006	0.0005, 0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Zinc (diss)	mg/L	2.50125	5	-	0.02	0.005	<0.005	<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 RUV-SB	Reasonable Use Values South Baptiste
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

MHH - South Baptiste WDS Appendix F1: Historical Groundwater Chemistry						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	SB-MW2	SB-MW2	SB-MW2	SB-MW3	SB-MW3	SB-MW3
Parameter	Units	RUV-SB	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	Sample ID	SB MW2	SB-MW2	SB-MW2	SB-MW3	SB-MW3	SB-MW3
						Sample Date	2023-May-04	2024-Apr-29	2025-May-08	2006-May-10	2006-Nov-20	2007-May-02
Anions						**Detection Limit**						
Chloride	mg/L	125.26	250	-	-	0.1, 0.12, 0.24, 0.5, 1	0.45	<1	<1	-	-	4
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	<0.1	<0.1	-	-	-
Nitrate as N	mg/L	2.51875	10	-	-	0.05, 0.07, 0.1, 0.25, 0.5	<0.05	<0.1	<0.1	0.16	1.5	0.37
Nitrite as N	mg/L	-	1	-	-	0.01, 0.05, 0.25, 0.5	<0.05	<0.01	<0.01	-	-	<0.1
Sulphate	mg/L	-	500	-	-	0.1, 0.19, 0.5, 1, 2	3.54	3.3	2.2	8	23	8
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.25	5.54	5.1	5.2	8	20	8
Magnesium (diss)	mg/L	-	-	-	-	0.05, 0.25	0.79	0.73	0.74	1	3	1
Potassium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 2.5	0.54	0.56	0.57	2	5	2
Sodium (diss)	mg/L	100.6	200	-	-	0.05, 0.1, 0.25	1.28	1.6	1.1	5	14	4
General Chemistry												
Alkalinity (as CaCO3)	mg/L	260.5	30 - 500	-	-	1, 5	23	22	17	27	65	27
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.07, 0.1, 0.18, 0.25, 0.3, 0.4, 0.5	<0.02	<0.05	<0.05	-	-	<0.02
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5, 8, 10, 12, 20, 31, 206	<5	<4	<4	-	-	<5
Dissolved Organic Carbon	mg/L	3.2	5	-	-	0.4, 0.5	1.9	1.2	1.4	-	-	5.6
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	44	44	44	84	226	83
Hardness (as CaCO3)	mg/L	-	80 - 100	-	-		-	-	-	24.1	62.3	24.1
pH	pH units	-	6.5 - 8.5	6.5 - 8.5	-		6.99	7.25	7.16	6.68	6.93	**6.43**
Phenols	mg/L	-	-	0.001	-	0.001, 0.004	<0.001	<0.001	<0.001	-	-	<0.001
Total Dissolved Solids	mg/L	269	500	-	-	1, 10, 20	38	30	30	-	-	54
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1, 0.11, 0.2, 0.22, 0.5, 1, 2, 5	0.15	0.12	<0.1	-	-	0.19
Total Phosphorus	mg/L	-	-	0.03	-	0.02, 0.03, 0.06, 0.1, 0.12, 0.14, 0.2, 0.4, 0.6	**0.54**	**0.37**	**0.19**	-	-	**6.23**
Total Suspended Solids	mg/L	-	-	-	-	5, 10, 13, 14, 20, 25, 33, 50, 100, 200, 500, 1000	196	170	100	-	-	-
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.0525	0.1	-	-	0.004, 0.0049	0.007	0.0084	<0.0049	0.07	0.02	0.02
Arsenic (diss)	mg/L	-	0.01	-	0.005	0.001, 0.003	<0.001	<0.001	<0.001	-	-	<0.001
Barium (diss)	mg/L	-	1	-	-	0.002	0.004	0.004	0.0032	0.01	0.03	<0.01
Beryllium (diss)	mg/L	-	-	-	-	0.0004, 0.0005, 0.001	<0.0005	<0.0004	<0.0004	<0.001	<0.001	<0.001
Boron (diss)	mg/L	1.25375	5	-	0.2	0.01, 0.02, 0.1	<0.01	<0.01	0.021	0.02	0.07	0.01
Cadmium (diss)	mg/L	-	0.005	-	-	0.00009, 0.0001	<0.0001	<0.00009	<0.00009	<0.0001	<0.0001	<0.0001
Chromium (diss)	mg/L	-	0.05	-	-	0.002, 0.003, 0.005	<0.002	<0.005	<0.005	<0.001	0.001	<0.001
Cobalt (diss)	mg/L	-	-	-	0.0009	0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0002
Copper (diss)	mg/L	0.50075	1	-	-	0.0009, 0.001, 0.002	0.005	0.0013	<0.0009	0.002	0.004	0.002
Iron (diss)	mg/L	0.1575	0.3	0.3	-	0.01, 0.1	0.019	<0.1	<0.1	0.12	0.04	<0.03
Lead (diss)	mg/L	-	0.01	-	-	0.0005, 0.001	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001
Manganese (diss)	mg/L	0.0275	0.05	-	-	0.002, 0.004, 0.01, 0.02	<0.002	<0.002	<0.002	<0.01	0.01	<0.01
Mercury (diss)	mg/L	-	0.001	0.0002	-	0.0001	<0.0001	<0.0001	<0.0001	-	-	<0.0001
Molybdenum (diss)	mg/L	-	-	-	0.04	0.0005, 0.002	<0.002	<0.0005	<0.0005	<0.005	<0.005	<0.005
Nickel (diss)	mg/L	-	-	0.025	-	0.001, 0.003	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005
Selenium (diss)	mg/L	-	0.05	0.1	-	0.001	-	-	-	-	-	-
Silicon (diss)	mg/L	-	-	-	-	0.05, 0.25	5.56	5.4	5.6	5.9	5.8	5.2
Silver (diss)	mg/L	-	-	0.0001	-	0.00009, 0.0001	<0.0001	<0.00009	<0.00009	<0.0001	<0.0001	<0.0001
Strontium (diss)	mg/L	-	-	-	-	0.001, 0.005	0.052	0.052	0.052	0.073	0.222	0.074
Thallium (diss)	mg/L	-	-	-	0.0003	0.00005, 0.0003	<0.0003	<0.00005	<0.00005	<0.0001	<0.0001	<0.0001
Titanium (diss)	mg/L	-	-	-	-	0.002, 0.005	<0.002	<0.005	<0.005	<0.01	<0.01	<0.01
Uranium (diss)	mg/L	-	0.02	-	0.005	0.0005	-	-	-	-	-	-
Vanadium (diss)	mg/L	-	-	-	0.006	0.0005, 0.002	<0.002	<0.0005	<0.0005	<0.001	<0.001	<0.001
Zinc (diss)	mg/L	2.50125	5	-	0.02	0.005	0.011	<0.005	<0.005	<0.01	<0.01	0.01

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds RUV-SB	Reasonable Use Values South Baptiste
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

MHH - South Baptiste WDS Appendix F1: Historical Groundwater Chemistry						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	SB-MW3	SB-MW3	SB-MW3	SB-MW3	SB-MW3	SB-MW3
Parameter	Units	RUV-SB	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	Sample ID	SB-MW3	SB-MW3	SB-MW3	SB-MW3	SB-MW3	SB-MW3
						Sample Date	2008-May-09	2008-Oct-09	2009-Jun-04	2009-Oct-23	2010-May-17	2010-Oct-18
Anions						**Detection Limit**						
Chloride	mg/L	125.26	250	-	-	0.1, 0.12, 0.24, 0.5, 1	5	16	4	10	5	2
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-
Nitrate as N	mg/L	2.51875	10	-	-	0.05, 0.07, 0.1, 0.25, 0.5	0.27	0.29	0.15	0.46	0.15	1.37
Nitrite as N	mg/L	-	1	-	-	0.01, 0.05, 0.25, 0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Sulphate	mg/L	-	500	-	-	0.1, 0.19, 0.5, 1, 2	9	12	8	12	7	8
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.25	10	22	7	14	8	13
Magnesium (diss)	mg/L	-	-	-	-	0.05, 0.25	1	3	1	2	1	4
Potassium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 2.5	2	4	2	4	3	4
Sodium (diss)	mg/L	100.6	200	-	-	0.05, 0.1, 0.25	5	16	5	14	5	7
General Chemistry												
Alkalinity (as CaCO3)	mg/L	260.5	30 - 500	-	-	1, 5	26	80	27	64	26	54
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.07, 0.1, 0.18, 0.25, 0.3, 0.4, 0.5	0.02	0.04	<0.02	0.06	<0.02	0.08
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5, 8, 10, 12, 20, 31, 206	20	10	10	10	8	5
Dissolved Organic Carbon	mg/L	3.2	5	-	-	0.4, 0.5	8.2	3.1	6.4	5.4	3.6	3.9
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	88	240	78	185	85	6
Hardness (as CaCO3)	mg/L	-	80 - 100	-	-		29.1	67.3	21.6	43.2	24.1	48.9
pH	pH units	-	6.5 - 8.5	6.5 - 8.5	-		7	6.9	6.72	6.87	6.89	7.11
Phenols	mg/L	-	-	0.001	-	0.001, 0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total Dissolved Solids	mg/L	269	500	-	-	1, 10, 20	57	156	51	120	55	101
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1, 0.11, 0.2, 0.22, 0.5, 1, 2, 5	0.37	0.25	<0.1	0.26	0.22	0.27
Total Phosphorus	mg/L	-	-	0.03	-	0.02, 0.03, 0.06, 0.1, 0.12, 0.14, 0.2, 0.4, 0.6	**5.81**	**0.95**	**6.32**	**6.11**	**4.22**	**3.39**
Total Suspended Solids	mg/L	-	-	-	-	5, 10, 13, 14, 20, 25, 33, 50, 100, 200, 500, 1000	-	-	-	-	-	-
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.0525	0.1	-	-	0.004, 0.0049	0.03	<0.01	0.05	0.02	<0.01	<0.01
Arsenic (diss)	mg/L	-	0.01	-	0.005	0.001, 0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Barium (diss)	mg/L	-	1	-	-	0.002	0.01	0.04	<0.01	0.02	0.01	0.02
Beryllium (diss)	mg/L	-	-	-	-	0.0004, 0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron (diss)	mg/L	1.25375	5	-	0.2	0.01, 0.02, 0.1	0.02	0.1	0.01	0.05	0.02	0.03
Cadmium (diss)	mg/L	-	0.005	-	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium (diss)	mg/L	-	0.05	-	-	0.002, 0.003, 0.005	0.002	<0.001	0.001	<0.001	<0.001	<0.001
Cobalt (diss)	mg/L	-	-	-	0.0009	0.0005	<0.0002	0.0002	<0.0002	0.0003	<0.0002	<0.0002
Copper (diss)	mg/L	0.50075	1	-	-	0.0009, 0.001, 0.002	0.004	0.004	0.002	0.023	0.003	0.002
Iron (diss)	mg/L	0.1575	0.3	0.3	-	0.01, 0.1	0.1	<0.03	0.11	<0.03	<0.03	<0.03
Lead (diss)	mg/L	-	0.01	-	-	0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (diss)	mg/L	0.0275	0.05	-	-	0.002, 0.004, 0.01, 0.02	<0.01	<0.01	<0.01	0.01	<0.01	<0.01
Mercury (diss)	mg/L	-	0.001	0.0002	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum (diss)	mg/L	-	-	-	0.04	0.0005, 0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Nickel (diss)	mg/L	-	-	0.025	-	0.001, 0.003	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Selenium (diss)	mg/L	-	0.05	0.1	-	0.001	-	-	-	-	-	-
Silicon (diss)	mg/L	-	-	-	-	0.05, 0.25	5	7.3	5.3	4.4	5.3	6.2
Silver (diss)	mg/L	-	-	0.0001	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Strontium (diss)	mg/L	-	-	-	-	0.001, 0.005	0.063	0.166	0.071	0.107	0.074	0.147
Thallium (diss)	mg/L	-	-	-	0.0003	0.00005, 0.0003	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Titanium (diss)	mg/L	-	-	-	-	0.002, 0.005	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Uranium (diss)	mg/L	-	0.02	-	0.005	0.0005	-	-	-	-	-	-
Vanadium (diss)	mg/L	-	-	-	0.006	0.0005, 0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Zinc (diss)	mg/L	2.50125	5	-	0.02	0.005	<0.01	<0.01	<0.01	0.09	<0.01	<0.01

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds RUV-SB	Reasonable Use Values South Baptiste
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

MHH - South Baptiste WDS Appendix F1: Historical Groundwater Chemistry						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	SB-MW3	SB-MW3	SB-MW3	SB-MW3	SB-MW3	SB-MW3
Parameter	Units	RUV-SB	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	Sample ID	SB-MW3	SB-MW3	SB-MW3	SB-MW3	SB-MW3	SB-MW3
						Sample Date	2011-May-18	2011-Nov-03	2012-Apr-17	2012-Oct-17	2013-Apr-18	2013-Oct-30
Anions						**Detection Limit**						
Chloride	mg/L	125.26	250	-	-	0.1, 0.12, 0.24, 0.5, 1	7	14	3	8	37.4	17.2
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-
Nitrate as N	mg/L	2.51875	10	-	-	0.05, 0.07, 0.1, 0.25, 0.5	<0.1	2.09	0.2	0.9	0.32	2.09
Nitrite as N	mg/L	-	1	-	-	0.01, 0.05, 0.25, 0.5	0.16	<0.1	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	-	500	-	-	0.1, 0.19, 0.5, 1, 2	7	12	6	11	7.82	14.8
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.25	9	24	11.6	11.3	19.3	31.1
Magnesium (diss)	mg/L	-	-	-	-	0.05, 0.25	1	4	1.29	2.65	2.79	4.29
Potassium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 2.5	2	6	2.04	3.6	3.5	6.23
Sodium (diss)	mg/L	100.6	200	-	-	0.05, 0.1, 0.25	5	18	4.54	11.9	8.91	23.1
General Chemistry												
Alkalinity (as CaCO3)	mg/L	260.5	30 - 500	-	-	1, 5	35	88	29	63	27	96
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.07, 0.1, 0.18, 0.25, 0.3, 0.4, 0.5	<0.02	0.08	0.01	0.02	<0.02	0.04
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5, 8, 10, 12, 20, 31, 206	18	22	12	74	<5	9
Dissolved Organic Carbon	mg/L	3.2	5	-	-	0.4, 0.5	5.4	3.6	5.1	3.2	0.9	2.5
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	95	247	76	186	195	287
Hardness (as CaCO3)	mg/L	-	80 - 100	-	-		26.6	76.4	34.3	39.1	59.7	95.3
pH	pH units	-	6.5 - 8.5	6.5 - 8.5	-		6.96	6.45	6.4	6.9	7.33	7.42
Phenols	mg/L	-	-	0.001	-	0.001, 0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total Dissolved Solids	mg/L	269	500	-	-	1, 10, 20	62	161	-	-	142	592
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1, 0.11, 0.2, 0.22, 0.5, 1, 2, 5	<0.1	0.31	1.4	1	<0.1	0.46
Total Phosphorus	mg/L	-	-	0.03	-	0.02, 0.03, 0.06, 0.1, 0.12, 0.14, 0.2, 0.4, 0.6	**2.8**	**2.4**	**10.2**	**5.38**	**15.6**	**3.58**
Total Suspended Solids	mg/L	-	-	-	-	5, 10, 13, 14, 20, 25, 33, 50, 100, 200, 500, 1000	-	-	10100	9200	-	-
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.0525	0.1	-	-	0.004, 0.0049	<0.01	0.01	0.019	0.01	0.008	0.049
Arsenic (diss)	mg/L	-	0.01	-	0.005	0.001, 0.003	<0.001	<0.001	<0.001	<0.001	<0.003	<0.003
Barium (diss)	mg/L	-	1	-	-	0.002	<0.01	0.03	0.009	0.021	0.02	0.034
Beryllium (diss)	mg/L	-	-	-	-	0.0004, 0.0005, 0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001
Boron (diss)	mg/L	1.25375	5	-	0.2	0.01, 0.02, 0.1	<0.01	0.08	0.015	0.062	0.014	0.148
Cadmium (diss)	mg/L	-	0.005	-	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.002	<0.002
Chromium (diss)	mg/L	-	0.05	-	-	0.002, 0.003, 0.005	<0.001	<0.001	<0.001	<0.001	<0.003	<0.003
Cobalt (diss)	mg/L	-	-	-	0.0009	0.0005	<0.0002	0.0002	<0.0005	<0.0005	<0.001	<0.001
Copper (diss)	mg/L	0.50075	1	-	-	0.0009, 0.001, 0.002	0.001	0.004	0.0011	0.0019	<0.003	0.004
Iron (diss)	mg/L	0.1575	0.3	0.3	-	0.01, 0.1	<0.03	<0.03	<0.1	<0.1	<0.01	<0.01
Lead (diss)	mg/L	-	0.01	-	-	0.0005, 0.001	<0.001	<0.001	<0.0001	<0.0001	<0.002	<0.002
Manganese (diss)	mg/L	0.0275	0.05	-	-	0.002, 0.004, 0.01, 0.02	<0.01	0.01	<0.005	<0.005	<0.002	0.009
Mercury (diss)	mg/L	-	0.001	0.0002	-	0.0001	<0.0001	0.0002	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum (diss)	mg/L	-	-	-	0.04	0.0005, 0.002	<0.005	<0.005	<0.0005	<0.0005	<0.002	<0.002
Nickel (diss)	mg/L	-	-	0.025	-	0.001, 0.003	<0.005	<0.005	<0.001	<0.001	<0.003	<0.003
Selenium (diss)	mg/L	-	0.05	0.1	-	0.001	-	-	-	-	-	-
Silicon (diss)	mg/L	-	-	-	-	0.05, 0.25	4.8	5.5	4.35	6.63	3.58	5.71
Silver (diss)	mg/L	-	-	0.0001	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.002	<0.002
Strontium (diss)	mg/L	-	-	-	-	0.001, 0.005	0.075	0.216	0.073	0.154	0.171	0.254
Thallium (diss)	mg/L	-	-	-	0.0003	0.00005, 0.0003	<0.0001	<0.0001	<0.0001	<0.0001	<0.006	<0.006
Titanium (diss)	mg/L	-	-	-	-	0.002, 0.005	<0.01	<0.01	<0.005	<0.005	<0.002	<0.002
Uranium (diss)	mg/L	-	0.02	-	0.005	0.0005	-	-	-	-	-	-
Vanadium (diss)	mg/L	-	-	-	0.006	0.0005, 0.002	<0.001	<0.001	0.0006	0.0009	<0.002	<0.002
Zinc (diss)	mg/L	2.50125	5	-	0.02	0.005	<0.01	<0.01	<0.005	0.007	<0.005	0.07

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds RUV-SB	Reasonable Use Values South Baptiste
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

MHH - South Baptiste WDS Appendix F1: Historical Groundwater Chemistry						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	SB-MW3	SB-MW3	SB-MW3	SB-MW3	SB-MW3	SB-MW3
Parameter	Units	RUV-SB	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	Sample ID	SB-MW3	SB-MW3	SB-MW3	SB-MW3	SB-MW3	SB-MW3
						Sample Date	2014-May-13	2014-Oct-10	2015-May-04	2015-Oct-26	2016-Apr-28	2017-May-10
Anions						**Detection Limit**						
Chloride	mg/L	125.26	250	-	-	0.1, 0.12, 0.24, 0.5, 1	6.83	14	20.7	23.7	12.7	16
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-
Nitrate as N	mg/L	2.51875	10	-	-	0.05, 0.07, 0.1, 0.25, 0.5	0.1	0.21	0.18	1.44	0.19	0.07
Nitrite as N	mg/L	-	1	-	-	0.01, 0.05, 0.25, 0.5	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05
Sulphate	mg/L	-	500	-	-	0.1, 0.19, 0.5, 1, 2	6.78	10.1	5.97	13.5	7	6
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.25	7.92	16.6	15.6	23	9.55	9.6
Magnesium (diss)	mg/L	-	-	-	-	0.05, 0.25	1.14	2.27	2.12	3.37	1.32	1.39
Potassium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 2.5	2.4	3.22	3.66	5.45	2.02	2
Sodium (diss)	mg/L	100.6	200	-	-	0.05, 0.1, 0.25	6.05	19.5	6.6	20.9	7.4	9.3
General Chemistry												
Alkalinity (as CaCO3)	mg/L	260.5	30 - 500	-	-	1, 5	27	68	28	77	29	30
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.07, 0.1, 0.18, 0.25, 0.3, 0.4, 0.5	0.06	0.05	<0.02	<0.02	<0.02	<0.02
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5, 8, 10, 12, 20, 31, 206	10	<5	<5	16	<5	6
Dissolved Organic Carbon	mg/L	3.2	5	-	-	0.4, 0.5	1.2	2.5	1.2	3.2	2.5	1.3
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	101	208	137	268	111	136
Hardness (as CaCO3)	mg/L	-	80 - 100	-	-		24.5	50.8	47.7	71.3	29.3	29.7
pH	pH units	-	6.5 - 8.5	6.5 - 8.5	-		7.37	7.39	6.95	7.29	7.63	7.53
Phenols	mg/L	-	-	0.001	-	0.001, 0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total Dissolved Solids	mg/L	269	500	-	-	1, 10, 20	92	112	100	150	72	70
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1, 0.11, 0.2, 0.22, 0.5, 1, 2, 5	0.89	0.21	0.28	0.41	0.45	0.18
Total Phosphorus	mg/L	-	-	0.03	-	0.02, 0.03, 0.06, 0.1, 0.12, 0.14, 0.2, 0.4, 0.6	**8.01**	**3.2**	**7.16**	**8.4**	**16.8**	**9.9**
Total Suspended Solids	mg/L	-	-	-	-	5, 10, 13, 14, 20, 25, 33, 50, 100, 200, 500, 1000	-	-	-	-	-	-
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.0525	0.1	-	-	0.004, 0.0049	0.005	0.005	0.006	0.015	0.012	<0.004
Arsenic (diss)	mg/L	-	0.01	-	0.005	0.001, 0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Barium (diss)	mg/L	-	1	-	-	0.002	0.009	0.022	0.017	0.039	0.011	0.01
Beryllium (diss)	mg/L	-	-	-	-	0.0004, 0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron (diss)	mg/L	1.25375	5	-	0.2	0.01, 0.02, 0.1	0.013	0.078	0.013	0.117	<0.01	0.01
Cadmium (diss)	mg/L	-	0.005	-	-	0.00009, 0.0001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Chromium (diss)	mg/L	-	0.05	-	-	0.002, 0.003, 0.005	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Cobalt (diss)	mg/L	-	-	-	0.0009	0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Copper (diss)	mg/L	0.50075	1	-	-	0.0009, 0.001, 0.002	<0.003	<0.003	<0.003	-	<0.003	<0.003
Iron (diss)	mg/L	0.1575	0.3	0.3	-	0.01, 0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Lead (diss)	mg/L	-	0.01	-	-	0.0005, 0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Manganese (diss)	mg/L	0.0275	0.05	-	-	0.002, 0.004, 0.01, 0.02	<0.002	0.004	<0.002	0.018	<0.002	<0.002
Mercury (diss)	mg/L	-	0.001	0.0002	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum (diss)	mg/L	-	-	-	0.04	0.0005, 0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Nickel (diss)	mg/L	-	-	0.025	-	0.001, 0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Selenium (diss)	mg/L	-	0.05	0.1	-	0.001	-	-	-	-	-	-
Silicon (diss)	mg/L	-	-	-	-	0.05, 0.25	4.06	5.64	5.25	6.19	4.89	5.02
Silver (diss)	mg/L	-	-	0.0001	-	0.00009, 0.0001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Strontium (diss)	mg/L	-	-	-	-	0.001, 0.005	0.077	0.163	0.126	0.238	0.091	0.091
Thallium (diss)	mg/L	-	-	-	0.0003	0.00005, 0.0003	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Titanium (diss)	mg/L	-	-	-	-	0.002, 0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Uranium (diss)	mg/L	-	0.02	-	0.005	0.0005	-	-	-	-	-	-
Vanadium (diss)	mg/L	-	-	-	0.006	0.0005, 0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Zinc (diss)	mg/L	2.50125	5	-	0.02	0.005	<0.005	<0.005	<0.005	0.01	0.01	<0.005

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds RUV-SB	Reasonable Use Values South Baptiste
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

MHH - South Baptiste WDS Appendix F1: Historical Groundwater Chemistry						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	SB-MW3	SB-MW3	SB-MW3	SB-MW3	SB-MW3	SB-MW3
Parameter	Units	RUV-SB	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	Sample ID	SB-MW3	SB-MW3	SB-MW3	SB-MW3	SB-MW3	SB-MW3
						Sample Date	2017-Oct-23	2018-May-07	2018-Oct-24	2019-May-07	2019-Oct-22	2020-May-06
Anions						**Detection Limit**						
Chloride	mg/L	125.26	250	-	-	0.1, 0.12, 0.24, 0.5, 1	13.7	26.9	42.1	28.2	41.9	16.7
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-
Nitrate as N	mg/L	2.51875	10	-	-	0.05, 0.07, 0.1, 0.25, 0.5	0.17	0.38	0.87	1.27	0.68	0.28
Nitrite as N	mg/L	-	1	-	-	0.01, 0.05, 0.25, 0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	-	500	-	-	0.1, 0.19, 0.5, 1, 2	9.49	5.97	9.4	23.1	9.96	15.1
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.25	15	14.1	33.8	19.6	28.5	12.4
Magnesium (diss)	mg/L	-	-	-	-	0.05, 0.25	1.93	1.78	4.09	2.43	3.6	1.6
Potassium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 2.5	2.74	2.52	4.35	3.14	3.57	1.82
Sodium (diss)	mg/L	100.6	200	-	-	0.05, 0.1, 0.25	17.6	8.89	22.9	12.5	30.2	11.4
General Chemistry												
Alkalinity (as CaCO3)	mg/L	260.5	30 - 500	-	-	1, 5	62	30	77	33	91	31
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.07, 0.1, 0.18, 0.25, 0.3, 0.4, 0.5	<0.02	0.05	<0.02	<0.02	0.04	<0.02
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5, 8, 10, 12, 20, 31, 206	6	<5	<5	8	<5	<5
Dissolved Organic Carbon	mg/L	3.2	5	-	-	0.4, 0.5	4.5	1.1	8.5	1.7	11	1.4
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	164	154	366	221	322	191
Hardness (as CaCO3)	mg/L	-	80 - 100	-	-		45.4	42.5	101.2	58.9	86	37.6
pH	pH units	-	6.5 - 8.5	6.5 - 8.5	-		7.35	6.62	7.32	6.77	7.33	6.54
Phenols	mg/L	-	-	0.001	-	0.001, 0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total Dissolved Solids	mg/L	269	500	-	-	1, 10, 20	108	78	190	134	200	84
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1, 0.11, 0.2, 0.22, 0.5, 1, 2, 5	0.18	0.61	0.21	<0.1	0.15	0.11
Total Phosphorus	mg/L	-	-	0.03	-	0.02, 0.03, 0.06, 0.1, 0.12, 0.14, 0.2, 0.4, 0.6	**2.22**	**6.59**	**3.54**	**8.82**	**0.87**	**3.11**
Total Suspended Solids	mg/L	-	-	-	-	5, 10, 13, 14, 20, 25, 33, 50, 100, 200, 500, 1000	-	-	-	-	-	-
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.0525	0.1	-	-	0.004, 0.0049	0.007	<0.004	0.006	0.006	0.008	0.009
Arsenic (diss)	mg/L	-	0.01	-	0.005	0.001, 0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Barium (diss)	mg/L	-	1	-	-	0.002	0.016	0.016	0.039	0.026	0.034	0.013
Beryllium (diss)	mg/L	-	-	-	-	0.0004, 0.0005, 0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.001
Boron (diss)	mg/L	1.25375	5	-	0.2	0.01, 0.02, 0.1	0.068	<0.01	0.124	0.011	0.154	<0.01
Cadmium (diss)	mg/L	-	0.005	-	-	0.00009, 0.0001	<0.002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium (diss)	mg/L	-	0.05	-	-	0.002, 0.003, 0.005	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Cobalt (diss)	mg/L	-	-	-	0.0009	0.0005	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005
Copper (diss)	mg/L	0.50075	1	-	-	0.0009, 0.001, 0.002	<0.003	<0.003	<0.003	0.002	0.003	<0.002
Iron (diss)	mg/L	0.1575	0.3	0.3	-	0.01, 0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Lead (diss)	mg/L	-	0.01	-	-	0.0005, 0.001	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (diss)	mg/L	0.0275	0.05	-	-	0.002, 0.004, 0.01, 0.02	0.004	<0.002	0.008	<0.002	0.007	<0.002
Mercury (diss)	mg/L	-	0.001	0.0002	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum (diss)	mg/L	-	-	-	0.04	0.0005, 0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Nickel (diss)	mg/L	-	-	0.025	-	0.001, 0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Selenium (diss)	mg/L	-	0.05	0.1	-	0.001	-	-	-	-	-	-
Silicon (diss)	mg/L	-	-	-	-	0.05, 0.25	6	5.54	6.22	4.96	6.39	4.91
Silver (diss)	mg/L	-	-	0.0001	-	0.00009, 0.0001	<0.002	<0.002	<0.002	<0.0001	<0.0001	<0.0001
Strontium (diss)	mg/L	-	-	-	-	0.001, 0.005	0.134	0.125	0.285	0.199	0.26	0.117
Thallium (diss)	mg/L	-	-	-	0.0003	0.00005, 0.0003	<0.006	<0.006	<0.006	<0.0003	<0.0003	<0.0003
Titanium (diss)	mg/L	-	-	-	-	0.002, 0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Uranium (diss)	mg/L	-	0.02	-	0.005	0.0005	-	-	-	-	-	-
Vanadium (diss)	mg/L	-	-	-	0.006	0.0005, 0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Zinc (diss)	mg/L	2.50125	5	-	0.02	0.005	<0.005	<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 RUV-SB	Reasonable Use Values South Baptiste
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

MHH - South Baptiste WDS Appendix F1: Historical Groundwater Chemistry						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	SB-MW3	SB-MW3	SB-MW3	SB-MW3	SB-MW3	SB-MW3
Parameter	Units	RUV-SB	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	Sample ID	SB-MW3	SB MW3	SB MW3	SB-MW3	SB MW3	SB MW3
						Sample Date	2020-Oct-06	2021-Apr-20	2021-Oct-21	2022-May-05	2022-Oct-19	2023-May-04
Anions						**Detection Limit**						
Chloride	mg/L	125.26	250	-	-	0.1, 0.12, 0.24, 0.5, 1	39.4	31.3	19.9	11.8	37.8	16.4
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-
Nitrate as N	mg/L	2.51875	10	-	-	0.05, 0.07, 0.1, 0.25, 0.5	0.59	0.67	0.21	0.32	0.41	0.55
Nitrite as N	mg/L	-	1	-	-	0.01, 0.05, 0.25, 0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	-	500	-	-	0.1, 0.19, 0.5, 1, 2	11.3	13.9	9.55	12.2	13	13
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.25	28.7	17.4	13.2	12	34.2	16.9
Magnesium (diss)	mg/L	-	-	-	-	0.05, 0.25	3.39	2.36	1.69	1.45	4.21	2.22
Potassium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 2.5	3.63	5.75	2.6	1.82	3.37	2.46
Sodium (diss)	mg/L	100.6	200	-	-	0.05, 0.1, 0.25	28.3	14.1	14.2	8.14	20.5	9.46
General Chemistry												
Alkalinity (as CaCO3)	mg/L	260.5	30 - 500	-	-	1, 5	75	34	46	29	86	39
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.07, 0.1, 0.18, 0.25, 0.3, 0.4, 0.5	<0.02	<0.02	0.13	<0.02	0.02	<0.02
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5, 8, 10, 12, 20, 31, 206	12	<5	<5	7	11	8
Dissolved Organic Carbon	mg/L	3.2	5	-	-	0.4, 0.5	2.7	5.8	1.9	1.2	2.4	1.4
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	275	205	175	128	316	160
Hardness (as CaCO3)	mg/L	-	80 - 100	-	-		85.6	53.2	39.9	35.9	102.7	-
pH	pH units	-	6.5 - 8.5	6.5 - 8.5	-		-	6.51	6.8	6.48	7.55	6.83
Phenols	mg/L	-	-	0.001	-	0.001, 0.004	<0.001	<0.001	**0.002**	**0.002**	**0.003**	<0.001
Total Dissolved Solids	mg/L	269	500	-	-	1, 10, 20	154	140	98	68	166	94
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1, 0.11, 0.2, 0.22, 0.5, 1, 2, 5	0.21	0.46	0.14	0.12	0.49	0.31
Total Phosphorus	mg/L	-	-	0.03	-	0.02, 0.03, 0.06, 0.1, 0.12, 0.14, 0.2, 0.4, 0.6	**1.06**	**11**	**5.56**	**16.9**	**1.78**	**7.4**
Total Suspended Solids	mg/L	-	-	-	-	5, 10, 13, 14, 20, 25, 33, 50, 100, 200, 500, 1000	-	-	-	-	-	5740
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.0525	0.1	-	-	0.004, 0.0049	0.007	0.014	0.063	0.009	0.008	0.011
Arsenic (diss)	mg/L	-	0.01	-	0.005	0.001, 0.003	<0.003	0.005	<0.003	<0.003	<0.001	<0.001
Barium (diss)	mg/L	-	1	-	-	0.002	0.025	0.024	0.016	0.012	0.026	0.014
Beryllium (diss)	mg/L	-	-	-	-	0.0004, 0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
Boron (diss)	mg/L	1.25375	5	-	0.2	0.01, 0.02, 0.1	0.083	0.012	0.014	<0.01	0.108	0.021
Cadmium (diss)	mg/L	-	0.005	-	-	0.00009, 0.0001	<0.0001	0.0004	<0.0001	<0.0001	<0.0001	<0.0001
Chromium (diss)	mg/L	-	0.05	-	-	0.002, 0.003, 0.005	<0.003	<0.003	<0.003	<0.003	<0.002	<0.002
Cobalt (diss)	mg/L	-	-	-	0.0009	0.0005	<0.0005	<0.0005	0.0015	<0.0005	0.0016	<0.0005
Copper (diss)	mg/L	0.50075	1	-	-	0.0009, 0.001, 0.002	<0.002	0.004	<0.002	<0.002	0.002	0.006
Iron (diss)	mg/L	0.1575	0.3	0.3	-	0.01, 0.1	<0.01	0.01	**0.521**	0.019	0.047	0.017
Lead (diss)	mg/L	-	0.01	-	-	0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
Manganese (diss)	mg/L	0.0275	0.05	-	-	0.002, 0.004, 0.01, 0.02	0.007	<0.002	0.128	0.024	0.28	0.003
Mercury (diss)	mg/L	-	0.001	0.0002	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum (diss)	mg/L	-	-	-	0.04	0.0005, 0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Nickel (diss)	mg/L	-	-	0.025	-	0.001, 0.003	<0.003	<0.003	<0.003	<0.001	0.002	0.002
Selenium (diss)	mg/L	-	0.05	0.1	-	0.001	-	-	-	-	<0.001	-
Silicon (diss)	mg/L	-	-	-	-	0.05, 0.25	5.92	5.1	5.95	5.45	5.2	6.07
Silver (diss)	mg/L	-	-	0.0001	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Strontium (diss)	mg/L	-	-	-	-	0.001, 0.005	0.226	0.143	0.113	0.101	0.238	0.128
Thallium (diss)	mg/L	-	-	-	0.0003	0.00005, 0.0003	0.0005	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Titanium (diss)	mg/L	-	-	-	-	0.002, 0.005	<0.002	0.007	0.01	<0.002	<0.002	<0.002
Uranium (diss)	mg/L	-	0.02	-	0.005	0.0005	-	-	-	-	0.0018	-
Vanadium (diss)	mg/L	-	-	-	0.006	0.0005, 0.002	<0.002	<0.002	<0.002	<0.002	-	<0.002
Zinc (diss)	mg/L	2.50125	5	-	0.02	0.005	<0.005	0.008	<0.005	<0.005	0.01	0.012

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds RUV-SB	Reasonable Use Values South Baptiste
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

MHH - South Baptiste WDS Appendix F1: Historical Groundwater Chemistry						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	SB-MW3	SB-MW3	SB-MW3	SB-MW4	SB-MW4	SB-MW4
Parameter	Units	RUV-SB	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	Sample ID	SB-MW3	SB-MW3	SB-MW3	SB-MW4	SB-MW4	SB-MW4
						Sample Date	2024-Apr-29	2024-Oct-30	2025-May-08	2006-May-10	2006-Nov-20	2007-May-02
Anions						**Detection Limit**						
Chloride	mg/L	125.26	250	-	-	0.1, 0.12, 0.24, 0.5, 1	19	25	8.5	-	-	31
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	0.53	0.21	0.37	-	-	-
Nitrate as N	mg/L	2.51875	10	-	-	0.05, 0.07, 0.1, 0.25, 0.5	0.53	0.21	0.37	<0.1	<0.1	<0.1
Nitrite as N	mg/L	-	1	-	-	0.01, 0.05, 0.25, 0.5	<0.01	<0.01	<0.01	-	-	<0.1
Sulphate	mg/L	-	500	-	-	0.1, 0.19, 0.5, 1, 2	6.1	8.6	8.2	8	13	23
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.25	13	20	11	3	6	44
Magnesium (diss)	mg/L	-	-	-	-	0.05, 0.25	1.8	2.6	1.5	<1	1	7
Potassium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 2.5	2.1	2.4	1.8	<1	<1	18
Sodium (diss)	mg/L	100.6	200	-	-	0.05, 0.1, 0.25	8.8	16	6.5	<2	3	26
General Chemistry												
Alkalinity (as CaCO3)	mg/L	260.5	30 - 500	-	-	1, 5	29	54	32	<5	<5	161
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.07, 0.1, 0.18, 0.25, 0.3, 0.4, 0.5	<0.05	<0.05	<0.05	-	-	0.72
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5, 8, 10, 12, 20, 31, 206	<4	5.6	<4	-	-	23
Dissolved Organic Carbon	mg/L	3.2	5	-	-	0.4, 0.5	1.4	1.7	1.3	-	-	14.1
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	140	220	120	36	76	468
Hardness (as CaCO3)	mg/L	-	80 - 100	-	-		-	-	-	9.6	19.1	138.7
pH	pH units	-	6.5 - 8.5	6.5 - 8.5	-		7.1	7.8	7.12	6.15	6.01	6.91
Phenols	mg/L	-	-	0.001	-	0.001, 0.004	<0.001	<0.001	<0.001	-	-	<0.001
Total Dissolved Solids	mg/L	269	500	-	-	1, 10, 20	135	75	105	-	-	304
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1, 0.11, 0.2, 0.22, 0.5, 1, 2, 5	0.16	<0.1	<0.1	-	-	0.92
Total Phosphorus	mg/L	-	-	0.03	-	0.02, 0.03, 0.06, 0.1, 0.12, 0.14, 0.2, 0.4, 0.6	**5.3**	**2**	**5.1**	-	-	**3.51**
Total Suspended Solids	mg/L	-	-	-	-	5, 10, 13, 14, 20, 25, 33, 50, 100, 200, 500, 1000	2200	2000	3300	-	-	-
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.0525	0.1	-	-	0.004, 0.0049	0.0074	0.0061	<0.0049	0.09	0.13	0.03
Arsenic (diss)	mg/L	-	0.01	-	0.005	0.001, 0.003	<0.001	<0.001	<0.001	-	-	<0.001
Barium (diss)	mg/L	-	1	-	-	0.002	0.013	0.02	0.01	<0.01	0.02	0.04
Beryllium (diss)	mg/L	-	-	-	-	0.0004, 0.0005, 0.001	<0.0004	<0.0004	<0.0004	<0.001	<0.001	<0.001
Boron (diss)	mg/L	1.25375	5	-	0.2	0.01, 0.02, 0.1	0.012	0.081	0.013	0.01	<0.01	0.13
Cadmium (diss)	mg/L	-	0.005	-	-	0.00009, 0.0001	<0.00009	<0.00009	<0.00009	<0.0001	<0.0001	<0.0001
Chromium (diss)	mg/L	-	0.05	-	-	0.002, 0.003, 0.005	<0.005	<0.005	<0.005	<0.001	0.001	0.002
Cobalt (diss)	mg/L	-	-	-	0.0009	0.0005	<0.0005	<0.0005	<0.0005	<0.0002	0.0002	0.0002
Copper (diss)	mg/L	0.50075	1	-	-	0.0009, 0.001, 0.002	0.00098	0.0014	0.0012	0.002	<0.001	<0.001
Iron (diss)	mg/L	0.1575	0.3	0.3	-	0.01, 0.1	<0.1	<0.1	<0.1	<0.03	<0.03	**11.5**
Lead (diss)	mg/L	-	0.01	-	-	0.0005, 0.001	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001
Manganese (diss)	mg/L	0.0275	0.05	-	-	0.002, 0.004, 0.01, 0.02	<0.002	0.0053	<0.002	<0.01	<0.01	1.22
Mercury (diss)	mg/L	-	0.001	0.0002	-	0.0001	<0.0001	<0.0001	<0.0001	-	-	<0.0001
Molybdenum (diss)	mg/L	-	-	-	0.04	0.0005, 0.002	<0.0005	<0.0005	<0.0005	<0.005	<0.005	<0.005
Nickel (diss)	mg/L	-	-	0.025	-	0.001, 0.003	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005
Selenium (diss)	mg/L	-	0.05	0.1	-	0.001	-	-	-	-	-	-
Silicon (diss)	mg/L	-	-	-	-	0.05, 0.25	5.3	5.9	5.2	4.7	5.1	5.8
Silver (diss)	mg/L	-	-	0.0001	-	0.00009, 0.0001	<0.00009	<0.00009	<0.00009	<0.0001	<0.0001	<0.0001
Strontium (diss)	mg/L	-	-	-	-	0.001, 0.005	0.11	0.16	0.095	0.022	0.055	0.255
Thallium (diss)	mg/L	-	-	-	0.0003	0.00005, 0.0003	<0.00005	<0.00005	<0.00005	<0.0001	<0.0001	0.0003
Titanium (diss)	mg/L	-	-	-	-	0.002, 0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01
Uranium (diss)	mg/L	-	0.02	-	0.005	0.0005	-	-	-	-	-	-
Vanadium (diss)	mg/L	-	-	-	0.006	0.0005, 0.002	<0.0005	<0.0005	<0.0005	<0.001	<0.001	0.003
Zinc (diss)	mg/L	2.50125	5	-	0.02	0.005	<0.005	0.0066	<0.005	<0.01	<0.01	<0.01

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds RUV-SB	Reasonable Use Values South Baptiste
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

MHH - South Baptiste WDS Appendix F1: Historical Groundwater Chemistry						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	SB-MW4	SB-MW4	SB-MW4	SB-MW4	SB-MW4	SB-MW4
Parameter	Units	RUV-SB	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	Sample ID	SB-MW4	SB-MW4	SB-MW4	SB-MW4	SB-MW4	SB-MW4
						Sample Date	2007-Nov-22	2008-May-09	2008-Oct-09	2009-Jun-04	2009-Oct-23	2010-May-17
Anions						**Detection Limit**						
Chloride	mg/L	125.26	250	-	-	0.1, 0.12, 0.24, 0.5, 1	33	2	4	2	2	2
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-
Nitrate as N	mg/L	2.51875	10	-	-	0.05, 0.07, 0.1, 0.25, 0.5	0.68	<0.1	0.12	0.1	0.1	<0.1
Nitrite as N	mg/L	-	1	-	-	0.01, 0.05, 0.25, 0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Sulphate	mg/L	-	500	-	-	0.1, 0.19, 0.5, 1, 2	19	9	7	6	7	8
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.25	13	3	4	2	3	3
Magnesium (diss)	mg/L	-	-	-	-	0.05, 0.25	3	<1	<1	<1	<1	<1
Potassium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 2.5	<1	<1	<1	<1	<1	<1
Sodium (diss)	mg/L	100.6	200	-	-	0.05, 0.1, 0.25	11	4	<2	2	3	<2
General Chemistry												
Alkalinity (as CaCO3)	mg/L	260.5	30 - 500	-	-	1, 5	7	8	<5	<5	<5	6
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.07, 0.1, 0.18, 0.25, 0.3, 0.4, 0.5	<0.02	<0.02	<0.02	0.02	0.05	<0.02
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5, 8, 10, 12, 20, 31, 206	30	63	55	70	73	60
Dissolved Organic Carbon	mg/L	3.2	5	-	-	0.4, 0.5	18.6	30.1	24.2	33.1	35.1	30.3
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	187	38	40	30	34	41
Hardness (as CaCO3)	mg/L	-	80 - 100	-	-		44.8	9.6	12	7.1	9.6	9.6
pH	pH units	-	6.5 - 8.5	6.5 - 8.5	-		**5.89**	**6.17**	**6.17**	**6.06**	**5.95**	**6.32**
Phenols	mg/L	-	-	0.001	-	0.001, 0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total Dissolved Solids	mg/L	269	500	-	-	1, 10, 20	122	25	26	20	22	27
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1, 0.11, 0.2, 0.22, 0.5, 1, 2, 5	0.25	0.49	0.32	0.56	0.53	0.64
Total Phosphorus	mg/L	-	-	0.03	-	0.02, 0.03, 0.06, 0.1, 0.12, 0.14, 0.2, 0.4, 0.6	**73.7**	**72**	**55**	**106**	**187**	**101**
Total Suspended Solids	mg/L	-	-	-	-	5, 10, 13, 14, 20, 25, 33, 50, 100, 200, 500, 1000	-	-	-	-	-	-
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.0525	0.1	-	-	0.004, 0.0049	0.35	0.16	0.18	0.11	0.2	0.1
Arsenic (diss)	mg/L	-	0.01	-	0.005	0.001, 0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Barium (diss)	mg/L	-	1	-	-	0.002	0.07	<0.01	0.01	<0.01	0.01	<0.01
Beryllium (diss)	mg/L	-	-	-	-	0.0004, 0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron (diss)	mg/L	1.25375	5	-	0.2	0.01, 0.02, 0.1	0.03	<0.01	<0.01	<0.01	0.01	<0.01
Cadmium (diss)	mg/L	-	0.005	-	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium (diss)	mg/L	-	0.05	-	-	0.002, 0.003, 0.005	0.001	0.001	<0.001	<0.001	<0.001	<0.001
Cobalt (diss)	mg/L	-	-	-	0.0009	0.0005	0.0007	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Copper (diss)	mg/L	0.50075	1	-	-	0.0009, 0.001, 0.002	0.002	0.002	0.001	<0.001	0.004	<0.001
Iron (diss)	mg/L	0.1575	0.3	0.3	-	0.01, 0.1	<0.03	0.1	0.08	0.03	0.07	<0.03
Lead (diss)	mg/L	-	0.01	-	-	0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (diss)	mg/L	0.0275	0.05	-	-	0.002, 0.004, 0.01, 0.02	0.02	<0.01	<0.01	<0.01	<0.01	<0.01
Mercury (diss)	mg/L	-	0.001	0.0002	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum (diss)	mg/L	-	-	-	0.04	0.0005, 0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Nickel (diss)	mg/L	-	-	0.025	-	0.001, 0.003	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Selenium (diss)	mg/L	-	0.05	0.1	-	0.001	-	-	-	-	-	-
Silicon (diss)	mg/L	-	-	-	-	0.05, 0.25	5.5	4.2	5.4	4.4	4.7	4.5
Silver (diss)	mg/L	-	-	0.0001	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Strontium (diss)	mg/L	-	-	-	-	0.001, 0.005	0.228	0.02	0.023	0.022	0.023	0.024
Thallium (diss)	mg/L	-	-	-	0.0003	0.00005, 0.0003	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Titanium (diss)	mg/L	-	-	-	-	0.002, 0.005	<0.01	0.01	0.02	<0.01	0.01	<0.01
Uranium (diss)	mg/L	-	0.02	-	0.005	0.0005	-	-	-	-	-	-
Vanadium (diss)	mg/L	-	-	-	0.006	0.0005, 0.002	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Zinc (diss)	mg/L	2.50125	5	-	0.02	0.005	<0.01	<0.01	<0.01	<0.01	0.02	<0.01

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds RUV-SB	Reasonable Use Values South Baptiste
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

MHH - South Baptiste WDS Appendix F1: Historical Groundwater Chemistry						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	SB-MW4	SB-MW4	SB-MW4	SB-MW4	SB-MW4	SB-MW4
Parameter	Units	RUV-SB	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	Sample ID	SB-MW4	SB-MW4	SB-MW4	SB-MW4	SB-MW4	SB-MW4
						Sample Date	2010-Oct-18	2011-May-18	2011-Nov-03	2012-Apr-17	2012-Oct-17	2013-Apr-18
Anions						**Detection Limit**						
Chloride	mg/L	125.26	250	-	-	0.1, 0.12, 0.24, 0.5, 1	3	3	25	1	112	4.05
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-
Nitrate as N	mg/L	2.51875	10	-	-	0.05, 0.07, 0.1, 0.25, 0.5	<0.1	<0.1	8.42	<0.1	13.4	0.23
Nitrite as N	mg/L	-	1	-	-	0.01, 0.05, 0.25, 0.5	<0.1	<0.1	<0.1	<0.05	<0.05	<0.05
Sulphate	mg/L	-	500	-	-	0.1, 0.19, 0.5, 1, 2	8	7	15	11	67	17.9
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.25	3	2	20	3.05	37.3	5.33
Magnesium (diss)	mg/L	-	-	-	-	0.05, 0.25	<1	<1	4	0.491	14.1	1.07
Potassium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 2.5	<1	<1	1	0.111	1.14	0.44
Sodium (diss)	mg/L	100.6	200	-	-	0.05, 0.1, 0.25	<2	<2	8	2.52	27.6	6.17
General Chemistry												
Alkalinity (as CaCO3)	mg/L	260.5	30 - 500	-	-	1, 5	5	<10	6	<5	9	5
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.07, 0.1, 0.18, 0.25, 0.3, 0.4, 0.5	<0.02	<0.02	0.06	0.01	0.16	<0.02
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5, 8, 10, 12, 20, 31, 206	90	70	110	51	250	44
Dissolved Organic Carbon	mg/L	3.2	5	-	-	0.4, 0.5	42.2	29.5	28.3	12.3	25.5	24.4
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	42	31	213	37	610	73
Hardness (as CaCO3)	mg/L	-	80 - 100	-	-		9.6	7.1	66.4	9.6	151.2	17.7
pH	pH units	-	6.5 - 8.5	6.5 - 8.5	-		**6.34**	**6.15**	**5.35**	**5.4**	**5.6**	6.54
Phenols	mg/L	-	-	0.001	-	0.001, 0.004	<0.001	<0.001	<0.001	<0.001	**0.003**	<0.001
Total Dissolved Solids	mg/L	269	500	-	-	1, 10, 20	27	20	138	-	-	66
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1, 0.11, 0.2, 0.22, 0.5, 1, 2, 5	0.99	0.39	0.22	1	2.1	0.41
Total Phosphorus	mg/L	-	-	0.03	-	0.02, 0.03, 0.06, 0.1, 0.12, 0.14, 0.2, 0.4, 0.6	**86**	**55**	**34.4**	**40.3**	**42.8**	**112**
Total Suspended Solids	mg/L	-	-	-	-	5, 10, 13, 14, 20, 25, 33, 50, 100, 200, 500, 1000	-	-	-	113000	559000	-
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.0525	0.1	-	-	0.004, 0.0049	0.1	0.14	0.37	0.108	0.486	0.077
Arsenic (diss)	mg/L	-	0.01	-	0.005	0.001, 0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.003
Barium (diss)	mg/L	-	1	-	-	0.002	<0.01	<0.01	0.07	0.007	0.239	0.013
Beryllium (diss)	mg/L	-	-	-	-	0.0004, 0.0005, 0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.001
Boron (diss)	mg/L	1.25375	5	-	0.2	0.01, 0.02, 0.1	<0.01	<0.01	<0.01	0.011	0.059	0.013
Cadmium (diss)	mg/L	-	0.005	-	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.002
Chromium (diss)	mg/L	-	0.05	-	-	0.002, 0.003, 0.005	<0.001	<0.001	<0.001	<0.001	0.003	<0.003
Cobalt (diss)	mg/L	-	-	-	0.0009	0.0005	<0.0002	<0.0002	0.0006	<0.0005	0.0021	<0.001
Copper (diss)	mg/L	0.50075	1	-	-	0.0009, 0.001, 0.002	<0.001	<0.001	0.004	0.0019	0.0103	<0.003
Iron (diss)	mg/L	0.1575	0.3	0.3	-	0.01, 0.1	<0.03	<0.03	<0.03	<0.1	<0.1	<0.01
Lead (diss)	mg/L	-	0.01	-	-	0.0005, 0.001	<0.001	<0.001	<0.001	<0.0001	<0.0001	<0.002
Manganese (diss)	mg/L	0.0275	0.05	-	-	0.002, 0.004, 0.01, 0.02	<0.01	<0.01	0.01	<0.005	0.027	0.003
Mercury (diss)	mg/L	-	0.001	0.0002	-	0.0001	<0.0001	<0.0001	0.0002	<0.0001	<0.0001	<0.0001
Molybdenum (diss)	mg/L	-	-	-	0.04	0.0005, 0.002	<0.005	<0.005	<0.005	<0.0005	<0.0005	<0.002
Nickel (diss)	mg/L	-	-	0.025	-	0.001, 0.003	<0.005	<0.005	<0.005	<0.001	0.002	<0.003
Selenium (diss)	mg/L	-	0.05	0.1	-	0.001	-	-	-	-	-	-
Silicon (diss)	mg/L	-	-	-	-	0.05, 0.25	4.5	3	3.7	2.98	4.83	2.71
Silver (diss)	mg/L	-	-	0.0001	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.002
Strontium (diss)	mg/L	-	-	-	-	0.001, 0.005	0.024	0.021	0.138	0.025	0.612	0.077
Thallium (diss)	mg/L	-	-	-	0.0003	0.00005, 0.0003	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.006
Titanium (diss)	mg/L	-	-	-	-	0.002, 0.005	<0.01	<0.01	<0.01	<0.005	<0.005	0.004
Uranium (diss)	mg/L	-	0.02	-	0.005	0.0005	-	-	-	-	-	-
Vanadium (diss)	mg/L	-	-	-	0.006	0.0005, 0.002	<0.001	<0.001	<0.001	<0.0005	0.0008	<0.002
Zinc (diss)	mg/L	2.50125	5	-	0.02	0.005	<0.01	<0.01	0.03	0.013	0.031	0.006

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds RUV-SB	Reasonable Use Values South Baptiste
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

MHH - South Baptiste WDS Appendix F1: Historical Groundwater Chemistry						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	SB-MW4	SB-MW4	SB-MW4	SB-MW4	SB-MW4	SB-MW4
Parameter	Units	RUV-SB	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	Sample ID	SB-MW4	SB-MW4	SB-MW4	SB-MW4	SB-MW4	SB-MW4
						Sample Date	2013-Oct-30	2014-May-13	2014-Oct-14	2015-May-04	2015-Oct-26	2016-Apr-28
Anions						**Detection Limit**						
Chloride	mg/L	125.26	250	-	-	0.1, 0.12, 0.24, 0.5, 1	10.6	2.67	2.31	36.8	117	5.17
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-
Nitrate as N	mg/L	2.51875	10	-	-	0.05, 0.07, 0.1, 0.25, 0.5	0.26	0.06	0.34	0.31	0.57	0.6
Nitrite as N	mg/L	-	1	-	-	0.01, 0.05, 0.25, 0.5	<0.05	<0.05	<0.05	<0.05	<0.25	<0.05
Sulphate	mg/L	-	500	-	-	0.1, 0.19, 0.5, 1, 2	9.48	10.6	9.2	6.26	13.3	15.9
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.25	7.95	3.4	6.25	16.5	31.6	6.5
Magnesium (diss)	mg/L	-	-	-	-	0.05, 0.25	1.41	0.63	1.3	3.35	6.91	1.37
Potassium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 2.5	0.95	0.55	1.29	1.47	4.92	1.47
Sodium (diss)	mg/L	100.6	200	-	-	0.05, 0.1, 0.25	6.38	2.77	3.49	5	62	5.26
General Chemistry												
Alkalinity (as CaCO3)	mg/L	260.5	30 - 500	-	-	1, 5	13	<5	11	13	77	16
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.07, 0.1, 0.18, 0.25, 0.3, 0.4, 0.5	<0.02	0.05	0.1	<0.02	<0.02	0.71
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5, 8, 10, 12, 20, 31, 206	95	43	117	99	156	<5
Dissolved Organic Carbon	mg/L	3.2	5	-	-	0.4, 0.5	2.1	3.4	43.3	5.2	23.2	3.6
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	88	52	60	164	565	89
Hardness (as CaCO3)	mg/L	-	80 - 100	-	-		25.7	11.1	21	55	107.4	21.9
pH	pH units	-	6.5 - 8.5	6.5 - 8.5	-		6.82	6.53	6.61	6.81	6.86	7.29
Phenols	mg/L	-	-	0.001	-	0.001, 0.004	0.001	<0.001	<0.001	<0.001	**0.002**	<0.001
Total Dissolved Solids	mg/L	269	500	-	-	1, 10, 20	50	58	58	136	378	70
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1, 0.11, 0.2, 0.22, 0.5, 1, 2, 5	2.1	0.56	1.33	1.43	2.17	1.61
Total Phosphorus	mg/L	-	-	0.03	-	0.02, 0.03, 0.06, 0.1, 0.12, 0.14, 0.2, 0.4, 0.6	**29.8**	**2.17**	**154**	**81.4**	**165**	**61.6**
Total Suspended Solids	mg/L	-	-	-	-	5, 10, 13, 14, 20, 25, 33, 50, 100, 200, 500, 1000	-	-	-	-	-	-
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.0525	0.1	-	-	0.004, 0.0049	0.11	0.072	0.069	0.178	0.177	0.09
Arsenic (diss)	mg/L	-	0.01	-	0.005	0.001, 0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Barium (diss)	mg/L	-	1	-	-	0.002	0.031	0.018	0.023	0.073	0.552	0.014
Beryllium (diss)	mg/L	-	-	-	-	0.0004, 0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron (diss)	mg/L	1.25375	5	-	0.2	0.01, 0.02, 0.1	0.06	0.014	0.042	0.016	0.073	0.011
Cadmium (diss)	mg/L	-	0.005	-	-	0.00009, 0.0001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Chromium (diss)	mg/L	-	0.05	-	-	0.002, 0.003, 0.005	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Cobalt (diss)	mg/L	-	-	-	0.0009	0.0005	<0.001	<0.001	<0.001	<0.001	0.003	<0.001
Copper (diss)	mg/L	0.50075	1	-	-	0.0009, 0.001, 0.002	<0.003	<0.003	<0.003	<0.003	0.008	<0.003
Iron (diss)	mg/L	0.1575	0.3	0.3	-	0.01, 0.1	<0.01	<0.01	0.025	<0.01	<0.01	0.029
Lead (diss)	mg/L	-	0.01	-	-	0.0005, 0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Manganese (diss)	mg/L	0.0275	0.05	-	-	0.002, 0.004, 0.01, 0.02	0.008	0.004	0.004	1.78	3.41	0.187
Mercury (diss)	mg/L	-	0.001	0.0002	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum (diss)	mg/L	-	-	-	0.04	0.0005, 0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Nickel (diss)	mg/L	-	-	0.025	-	0.001, 0.003	<0.003	<0.003	<0.003	<0.003	0.006	<0.003
Selenium (diss)	mg/L	-	0.05	0.1	-	0.001	-	-	-	-	-	-
Silicon (diss)	mg/L	-	-	-	-	0.05, 0.25	4.01	3.39	5.02	4.87	5.42	3.42
Silver (diss)	mg/L	-	-	0.0001	-	0.00009, 0.0001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Strontium (diss)	mg/L	-	-	-	-	0.001, 0.005	0.113	0.09	0.103	0.32	1.09	0.043
Thallium (diss)	mg/L	-	-	-	0.0003	0.00005, 0.0003	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Titanium (diss)	mg/L	-	-	-	-	0.002, 0.005	0.003	0.005	0.003	<0.002	<0.002	0.007
Uranium (diss)	mg/L	-	0.02	-	0.005	0.0005	-	-	-	-	-	-
Vanadium (diss)	mg/L	-	-	-	0.006	0.0005, 0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Zinc (diss)	mg/L	2.50125	5	-	0.02	0.005	0.08	<0.005	<0.005	0.007	0.006	<0.005

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds RUV-SB	Reasonable Use Values South Baptiste
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

MHH - South Baptiste WDS Appendix F1: Historical Groundwater Chemistry						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	SB-MW4	SB-MW4	SB-MW4	SB-MW4	SB-MW4	SB-MW4
Parameter	Units	RUV-SB	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	Sample ID	SB-MW4	SB-MW4	SB-MW4	SB-MW4	SB-MW4	SB-MW4
						Sample Date	2016-Oct-26	2017-May-10	2017-Oct-23	2018-May-07	2018-Oct-24	2019-May-07
Anions						**Detection Limit**						
Chloride	mg/L	125.26	250	-	-	0.1, 0.12, 0.24, 0.5, 1	327	4.24	52.6	1.57	61	2.91
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-
Nitrate as N	mg/L	2.51875	10	-	-	0.05, 0.07, 0.1, 0.25, 0.5	<0.25	2.35	0.5	1.11	10.4	2.04
Nitrite as N	mg/L	-	1	-	-	0.01, 0.05, 0.25, 0.5	<0.25	<0.05	<0.05	<0.05	<0.05	0.18
Sulphate	mg/L	-	500	-	-	0.1, 0.19, 0.5, 1, 2	97.8	33.8	26.2	13.6	18.1	15
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.25	68.9	8.1	26.1	3.68	36.3	6.27
Magnesium (diss)	mg/L	-	-	-	-	0.05, 0.25	11.7	1.85	5.72	0.88	6.55	1.88
Potassium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 2.5	13.5	2.85	5.01	1.12	4.63	3.7
Sodium (diss)	mg/L	100.6	200	-	-	0.05, 0.1, 0.25	179	13.7	34.2	5.49	45.4	6.13
General Chemistry												
Alkalinity (as CaCO3)	mg/L	260.5	30 - 500	-	-	1, 5	156	25	84	11	83	35
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.07, 0.1, 0.18, 0.25, 0.3, 0.4, 0.5	5.87	2.38	0.75	0.37	0.83	4.72
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5, 8, 10, 12, 20, 31, 206	255	80	55	26	52	24
Dissolved Organic Carbon	mg/L	3.2	5	-	-	0.4, 0.5	46	6	6.7	2.1	17.6	6.4
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	1510	176	337	66	551	128
Hardness (as CaCO3)	mg/L	-	80 - 100	-	-		220.2	27.8	88.7	12.8	117.6	23.4
pH	pH units	-	6.5 - 8.5	6.5 - 8.5	-		**6.11**	7.34	7.22	**6.33**	7.02	6.79
Phenols	mg/L	-	-	0.001	-	0.001, 0.004	**0.005**	<0.001	<0.001	<0.001	**0.003**	<0.001
Total Dissolved Solids	mg/L	269	500	-	-	1, 10, 20	838	108	208	64	356	98
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1, 0.11, 0.2, 0.22, 0.5, 1, 2, 5	12.2	3.41	1.45	1	2.22	6.05
Total Phosphorus	mg/L	-	-	0.03	-	0.02, 0.03, 0.06, 0.1, 0.12, 0.14, 0.2, 0.4, 0.6	**147**	**84.8**	**96**	**45.1**	**107**	**30**
Total Suspended Solids	mg/L	-	-	-	-	5, 10, 13, 14, 20, 25, 33, 50, 100, 200, 500, 1000	-	-	-	-	-	-
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.0525	0.1	-	-	0.004, 0.0049	0.216	0.067	0.046	0.063	0.102	0.056
Arsenic (diss)	mg/L	-	0.01	-	0.005	0.001, 0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Barium (diss)	mg/L	-	1	-	-	0.002	1.15	0.04	0.106	0.01	0.66	0.178
Beryllium (diss)	mg/L	-	-	-	-	0.0004, 0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005
Boron (diss)	mg/L	1.25375	5	-	0.2	0.01, 0.02, 0.1	0.063	0.017	0.054	0.023	0.197	0.281
Cadmium (diss)	mg/L	-	0.005	-	-	0.00009, 0.0001	<0.002	<0.002	<0.002	<0.0001	<0.0001	<0.0001
Chromium (diss)	mg/L	-	0.05	-	-	0.002, 0.003, 0.005	0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Cobalt (diss)	mg/L	-	-	-	0.0009	0.0005	0.005	<0.001	<0.001	<0.001	0.002	0.0011
Copper (diss)	mg/L	0.50075	1	-	-	0.0009, 0.001, 0.002	0.012	<0.003	0.003	<0.003	0.005	0.004
Iron (diss)	mg/L	0.1575	0.3	0.3	-	0.01, 0.1	0.065	<0.01	<0.01	<0.01	<0.01	<0.01
Lead (diss)	mg/L	-	0.01	-	-	0.0005, 0.001	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001
Manganese (diss)	mg/L	0.0275	0.05	-	-	0.002, 0.004, 0.01, 0.02	8.35	0.32	1.6	0.107	2.66	0.225
Mercury (diss)	mg/L	-	0.001	0.0002	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum (diss)	mg/L	-	-	-	0.04	0.0005, 0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Nickel (diss)	mg/L	-	-	0.025	-	0.001, 0.003	0.006	<0.003	<0.003	<0.003	<0.003	<0.003
Selenium (diss)	mg/L	-	0.05	0.1	-	0.001	-	-	-	-	-	-
Silicon (diss)	mg/L	-	-	-	-	0.05, 0.25	4.64	3.43	5.63	2.75	5.85	3.41
Silver (diss)	mg/L	-	-	0.0001	-	0.00009, 0.0001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.0001
Strontium (diss)	mg/L	-	-	-	-	0.001, 0.005	1.72	0.039	0.194	0.042	1.23	0.271
Thallium (diss)	mg/L	-	-	-	0.0003	0.00005, 0.0003	<0.006	<0.006	<0.006	<0.006	<0.006	<0.0003
Titanium (diss)	mg/L	-	-	-	-	0.002, 0.005	0.011	<0.002	<0.002	0.006	<0.002	0.003
Uranium (diss)	mg/L	-	0.02	-	0.005	0.0005	-	-	-	-	-	-
Vanadium (diss)	mg/L	-	-	-	0.006	0.0005, 0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Zinc (diss)	mg/L	2.50125	5	-	0.02	0.005	0.021	<0.005	<0.005	<0.005	0.007	<0.005

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds RUV-SB	Reasonable Use Values South Baptiste
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

MHH - South Baptiste WDS Appendix F1: Historical Groundwater Chemistry						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	SB-MW4	SB-MW4	SB-MW4	SB-MW4	SB-MW4	SB-MW4
Parameter	Units	RUV-SB	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	Sample ID	SB-MW4	SB-MW4	SB-MW4	SB MW4	SB MW4	SB-MW4
						Sample Date	2019-Oct-22	2020-May-06	2020-Oct-06	2021-Apr-20	2021-Oct-21	2022-May-05
Anions						**Detection Limit**						
Chloride	mg/L	125.26	250	-	-	0.1, 0.12, 0.24, 0.5, 1	8.98	1.1	117	9.48	1.79	1.31
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-
Nitrate as N	mg/L	2.51875	10	-	-	0.05, 0.07, 0.1, 0.25, 0.5	1.31	1.81	0.56	4.38	0.84	2.16
Nitrite as N	mg/L	-	1	-	-	0.01, 0.05, 0.25, 0.5	<0.05	<0.05	<0.25	0.14	<0.05	<0.05
Sulphate	mg/L	-	500	-	-	0.1, 0.19, 0.5, 1, 2	25.7	21	156	63.3	22	16.4
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.25	16.2	5.59	154	30.3	14.9	10.4
Magnesium (diss)	mg/L	-	-	-	-	0.05, 0.25	3.5	0.94	26	4.93	1.83	1.31
Potassium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 2.5	5.38	2.97	34	10.2	6.17	4.57
Sodium (diss)	mg/L	100.6	200	-	-	0.05, 0.1, 0.25	14.4	2.94	111	8.22	8.43	2.78
General Chemistry												
Alkalinity (as CaCO3)	mg/L	260.5	30 - 500	-	-	1, 5	59	23	642	55	57	32
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.07, 0.1, 0.18, 0.25, 0.3, 0.4, 0.5	3.1	1.91	12.6	4.56	0.23	1.34
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5, 8, 10, 12, 20, 31, 206	50	107	79	50	36	111
Dissolved Organic Carbon	mg/L	3.2	5	-	-	0.4, 0.5	6.6	2.8	34.5	6.5	4.8	3.1
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	207	141	1610	315	175	123
Hardness (as CaCO3)	mg/L	-	80 - 100	-	-		54.9	17.8	491.6	96	44.7	31.4
pH	pH units	-	6.5 - 8.5	6.5 - 8.5	-		7.07	6.47	-	6.61	6.83	6.35
Phenols	mg/L	-	-	0.001	-	0.001, 0.004	**0.003**	<0.001	**0.016**	<0.001	**0.003**	<0.001
Total Dissolved Solids	mg/L	269	500	-	-	1, 10, 20	136	104	1000	238	118	84
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1, 0.11, 0.2, 0.22, 0.5, 1, 2, 5	3.75	2.78	14.8	5.01	0.67	2.23
Total Phosphorus	mg/L	-	-	0.03	-	0.02, 0.03, 0.06, 0.1, 0.12, 0.14, 0.2, 0.4, 0.6	**65**	**87**	<0.02	**40.1**	**42.4**	**34.7**
Total Suspended Solids	mg/L	-	-	-	-	5, 10, 13, 14, 20, 25, 33, 50, 100, 200, 500, 1000	-	-	-	-	-	-
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.0525	0.1	-	-	0.004, 0.0049	0.051	0.053	0.013	0.149	0.183	0.069
Arsenic (diss)	mg/L	-	0.01	-	0.005	0.001, 0.003	<0.003	<0.003	<0.003	0.005	<0.003	<0.003
Barium (diss)	mg/L	-	1	-	-	0.002	0.166	0.029	0.239	0.101	0.075	0.05
Beryllium (diss)	mg/L	-	-	-	-	0.0004, 0.0005, 0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001
Boron (diss)	mg/L	1.25375	5	-	0.2	0.01, 0.02, 0.1	0.43	0.064	9.32	0.261	0.228	0.049
Cadmium (diss)	mg/L	-	0.005	-	-	0.00009, 0.0001	<0.0001	<0.0001	0.0004	<0.0001	<0.0001	0.0001
Chromium (diss)	mg/L	-	0.05	-	-	0.002, 0.003, 0.005	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Cobalt (diss)	mg/L	-	-	-	0.0009	0.0005	0.0012	<0.0005	0.0318	0.0011	0.0006	<0.0005
Copper (diss)	mg/L	0.50075	1	-	-	0.0009, 0.001, 0.002	0.007	<0.002	0.063	<0.002	0.004	0.002
Iron (diss)	mg/L	0.1575	0.3	0.3	-	0.01, 0.1	<0.01	<0.01	0.017	<0.01	0.07	<0.01
Lead (diss)	mg/L	-	0.01	-	-	0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (diss)	mg/L	0.0275	0.05	-	-	0.002, 0.004, 0.01, 0.02	0.338	0.093	129.6	0.144	0.045	0.02
Mercury (diss)	mg/L	-	0.001	0.0002	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum (diss)	mg/L	-	-	-	0.04	0.0005, 0.002	<0.002	<0.002	0.007	<0.002	<0.002	<0.002
Nickel (diss)	mg/L	-	-	0.025	-	0.001, 0.003	<0.003	<0.003	**0.046**	<0.003	<0.003	<0.001
Selenium (diss)	mg/L	-	0.05	0.1	-	0.001	-	-	-	-	-	-
Silicon (diss)	mg/L	-	-	-	-	0.05, 0.25	4.39	2.67	77.8	3.26	3.96	3.21
Silver (diss)	mg/L	-	-	0.0001	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Strontium (diss)	mg/L	-	-	-	-	0.001, 0.005	0.3	0.091	14.9	0.295	0.141	0.079
Thallium (diss)	mg/L	-	-	-	0.0003	0.00005, 0.0003	<0.0003	<0.0003	0.0003	<0.0003	<0.0003	<0.0003
Titanium (diss)	mg/L	-	-	-	-	0.002, 0.005	0.002	<0.002	0.008	0.008	<0.002	<0.002
Uranium (diss)	mg/L	-	0.02	-	0.005	0.0005	-	-	-	-	-	-
Vanadium (diss)	mg/L	-	-	-	0.006	0.0005, 0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Zinc (diss)	mg/L	2.50125	5	-	0.02	0.005	<0.005	<0.005	0.087	0.006	<0.005	<0.005

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds RUV-SB	Reasonable Use Values South Baptiste
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

MHH - South Baptiste WDS Appendix F1: Historical Groundwater Chemistry						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	SB-MW4	SB-MW4	SB-MW4	SB-MW4	SB-MW4	SB-MW4
Parameter	Units	RUV-SB	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	Sample ID	SB MW4	SB MW4	SB MW4	SB-MW4	SB-MW4	SB-MW4
						Sample Date	2022-Oct-19	2023-May-04	2023-Oct-19	2024-Apr-29	2024-Oct-30	2025-May-08
Anions						**Detection Limit**						
Chloride	mg/L	125.26	250	-	-	0.1, 0.12, 0.24, 0.5, 1	68.1	1.41	3.9	2.8	5.3	1.3
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	2.64	4.82	11.6	2.12
Nitrate as N	mg/L	2.51875	10	-	-	0.05, 0.07, 0.1, 0.25, 0.5	2.08	3.16	1.58	3.57	11.2	2.12
Nitrite as N	mg/L	-	1	-	-	0.01, 0.05, 0.25, 0.5	<0.05	0.32	1.07	1.25	0.444	<0.01
Sulphate	mg/L	-	500	-	-	0.1, 0.19, 0.5, 1, 2	41.9	15.9	54	61	14	14
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.25	51	13.4	54	35	38	13
Magnesium (diss)	mg/L	-	-	-	-	0.05, 0.25	6.39	1.82	4.8	6	3.3	1.1
Potassium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 2.5	13.4	6.03	13	16	9.1	5.2
Sodium (diss)	mg/L	100.6	200	-	-	0.05, 0.1, 0.25	52	3.58	20	2.6	5.6	2.2
General Chemistry												
Alkalinity (as CaCO3)	mg/L	260.5	30 - 500	-	-	1, 5	109	45	150	67	94	33
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.07, 0.1, 0.18, 0.25, 0.3, 0.4, 0.5	0.44	4.02	4.4	9.5	2.3	0.81
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5, 8, 10, 12, 20, 31, 206	47	47	59	59	85	47
Dissolved Organic Carbon	mg/L	3.2	5	-	-	0.4, 0.5	15.8	4.9	7.8	5.5	4.3	3.4
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	551	158	450	380	330	130
Hardness (as CaCO3)	mg/L	-	80 - 100	-	-		153.7	-	-	-	-	-
pH	pH units	-	6.5 - 8.5	6.5 - 8.5	-		6.91	7.03	7.4	7.28	7.35	7.09
Phenols	mg/L	-	-	0.001	-	0.001, 0.004	**0.006**	<0.001	<0.001	<0.001	<0.001	<0.001
Total Dissolved Solids	mg/L	269	500	-	-	1, 10, 20	298	116	265	310	295	235
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1, 0.11, 0.2, 0.22, 0.5, 1, 2, 5	1.63	4.23	5.7	9.9	2.7	1.7
Total Phosphorus	mg/L	-	-	0.03	-	0.02, 0.03, 0.06, 0.1, 0.12, 0.14, 0.2, 0.4, 0.6	**69**	**48.8**	**75**	**82**	**120**	**82**
Total Suspended Solids	mg/L	-	-	-	-	5, 10, 13, 14, 20, 25, 33, 50, 100, 200, 500, 1000	-	41400	67000	83000	120000	160000
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.0525	0.1	-	-	0.004, 0.0049	0.094	0.052	0.033	0.032	0.03	0.047
Arsenic (diss)	mg/L	-	0.01	-	0.005	0.001, 0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Barium (diss)	mg/L	-	1	-	-	0.002	0.488	0.096	0.49	0.31	0.2	0.081
Beryllium (diss)	mg/L	-	-	-	-	0.0004, 0.0005, 0.001	<0.0005	<0.0005	<0.0004	<0.0004	<0.0004	<0.0004
Boron (diss)	mg/L	1.25375	5	-	0.2	0.01, 0.02, 0.1	0.178	0.244	0.57	0.46	0.27	0.16
Cadmium (diss)	mg/L	-	0.005	-	-	0.00009, 0.0001	<0.0001	<0.0001	<0.00009	<0.00009	<0.00009	<0.00009
Chromium (diss)	mg/L	-	0.05	-	-	0.002, 0.003, 0.005	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005
Cobalt (diss)	mg/L	-	-	-	0.0009	0.0005	0.0013	0.0005	0.0013	0.00096	0.00066	<0.0005
Copper (diss)	mg/L	0.50075	1	-	-	0.0009, 0.001, 0.002	0.004	0.004	0.01	0.0065	0.0066	0.0031
Iron (diss)	mg/L	0.1575	0.3	0.3	-	0.01, 0.1	0.014	0.028	<0.1	<0.1	<0.1	<0.1
Lead (diss)	mg/L	-	0.01	-	-	0.0005, 0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Manganese (diss)	mg/L	0.0275	0.05	-	-	0.002, 0.004, 0.01, 0.02	0.129	0.023	0.1	0.13	0.14	0.02
Mercury (diss)	mg/L	-	0.001	0.0002	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum (diss)	mg/L	-	-	-	0.04	0.0005, 0.002	<0.002	<0.002	0.00052	<0.0005	<0.0005	<0.0005
Nickel (diss)	mg/L	-	-	0.025	-	0.001, 0.003	<0.001	<0.001	0.0011	<0.001	<0.001	<0.001
Selenium (diss)	mg/L	-	0.05	0.1	-	0.001	<0.001	-	-	-	-	-
Silicon (diss)	mg/L	-	-	-	-	0.05, 0.25	4.92	2.93	3.5	2.6	3.5	2.3
Silver (diss)	mg/L	-	-	0.0001	-	0.00009, 0.0001	<0.0001	<0.0001	<0.00009	<0.00009	<0.00009	<0.00009
Strontium (diss)	mg/L	-	-	-	-	0.001, 0.005	0.501	0.102	0.28	0.33	0.18	0.13
Thallium (diss)	mg/L	-	-	-	0.0003	0.00005, 0.0003	<0.0003	<0.0003	0.000081	0.000079	0.000064	<0.00005
Titanium (diss)	mg/L	-	-	-	-	0.002, 0.005	0.003	0.004	<0.005	<0.005	<0.005	<0.005
Uranium (diss)	mg/L	-	0.02	-	0.005	0.0005	<0.0005	-	-	-	-	-
Vanadium (diss)	mg/L	-	-	-	0.006	0.0005, 0.002	-	<0.002	<0.0005	<0.0005	<0.0005	<0.0005
Zinc (diss)	mg/L	2.50125	5	-	0.02	0.005	0.006	<0.005	0.014	0.015	0.014	<0.005

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds RUV-SB	Reasonable Use Values South Baptiste
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

MHH - South Baptiste WDS Appendix F1: Historical Groundwater Chemistry						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	SB-MW4	SB-MW5	SB-MW5	SB-MW5	SB-MW5	SB-MW5
Parameter	Units	RUV-SB	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	Sample ID	SB-MW4	SB-MW5	SB-MW5	SB-MW5	SB-MW5	SB-MW5
						Sample Date	2025-Oct-21	2006-May-10	2006-Nov-20	2007-May-02	2007-Nov-22	2008-May-09
Anions						**Detection Limit**						
Chloride	mg/L	125.26	250	-	-	0.1, 0.12, 0.24, 0.5, 1	38	-	-	3	20	29
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	2.72	-	-	-	-	-
Nitrate as N	mg/L	2.51875	10	-	-	0.05, 0.07, 0.1, 0.25, 0.5	2.37	<0.1	<0.1	<0.1	<0.1	0.22
Nitrite as N	mg/L	-	1	-	-	0.01, 0.05, 0.25, 0.5	0.356	-	-	<0.1	<0.1	<0.1
Sulphate	mg/L	-	500	-	-	0.1, 0.19, 0.5, 1, 2	38	17	20	8	6	41
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.25	87	37	42	4	46	36
Magnesium (diss)	mg/L	-	-	-	-	0.05, 0.25	9.5	6	7	<1	7	6
Potassium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 2.5	30	18	19	<1	21	17
Sodium (diss)	mg/L	100.6	200	-	-	0.05, 0.1, 0.25	69	23	25	<2	32	26
General Chemistry												
Alkalinity (as CaCO3)	mg/L	260.5	30 - 500	-	-	1, 5	320	155	197	7	224	108
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.07, 0.1, 0.18, 0.25, 0.3, 0.4, 0.5	9.6	-	-	<0.02	0.94	0.56
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5, 8, 10, 12, 20, 31, 206	74	-	-	10	20	23
Dissolved Organic Carbon	mg/L	3.2	5	-	-	0.4, 0.5	19	-	-	8.4	12.8	10.2
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	870	392	463	41	499	396
Hardness (as CaCO3)	mg/L	-	80 - 100	-	-		-	117.1	133.7	12	143.7	114.6
pH	pH units	-	6.5 - 8.5	6.5 - 8.5	-		7.42	7.18	7.18	6.05	7.33	7.46
Phenols	mg/L	-	-	0.001	-	0.001, 0.004	<0.001	-	-	<0.001	<0.001	<0.001
Total Dissolved Solids	mg/L	269	500	-	-	1, 10, 20	455	-	-	27	324	257
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1, 0.11, 0.2, 0.22, 0.5, 1, 2, 5	10	-	-	0.26	1.28	0.89
Total Phosphorus	mg/L	-	-	0.03	-	0.02, 0.03, 0.06, 0.1, 0.12, 0.14, 0.2, 0.4, 0.6	**78**	-	-	**24**	**2**	**2.83**
Total Suspended Solids	mg/L	-	-	-	-	5, 10, 13, 14, 20, 25, 33, 50, 100, 200, 500, 1000	30000	-	-	-	-	-
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.0525	0.1	-	-	0.004, 0.0049	0.035	0.06	0.02	0.1	0.1	0.02
Arsenic (diss)	mg/L	-	0.01	-	0.005	0.001, 0.003	<0.001	-	-	<0.001	<0.001	<0.001
Barium (diss)	mg/L	-	1	-	-	0.002	1.2	0.05	0.05	<0.01	0.05	0.04
Beryllium (diss)	mg/L	-	-	-	-	0.0004, 0.0005, 0.001	<0.0004	<0.001	<0.001	<0.001	<0.001	<0.001
Boron (diss)	mg/L	1.25375	5	-	0.2	0.01, 0.02, 0.1	0.74	0.18	0.2	<0.01	0.21	0.16
Cadmium (diss)	mg/L	-	0.005	-	-	0.00009, 0.0001	<0.00009	<0.0001	<0.0001	<0.0001	<0.0001	0.0001
Chromium (diss)	mg/L	-	0.05	-	-	0.002, 0.003, 0.005	<0.005	0.001	0.001	<0.001	0.002	0.009
Cobalt (diss)	mg/L	-	-	-	0.0009	0.0005	0.0036	0.0008	0.0007	<0.0002	0.0006	0.0013
Copper (diss)	mg/L	0.50075	1	-	-	0.0009, 0.001, 0.002	0.023	<0.001	<0.001	0.003	<0.001	0.011
Iron (diss)	mg/L	0.1575	0.3	0.3	-	0.01, 0.1	<0.1	15.1	15.6	0.04	17.6	4.79
Lead (diss)	mg/L	-	0.01	-	-	0.0005, 0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	0.031
Manganese (diss)	mg/L	0.0275	0.05	-	-	0.002, 0.004, 0.01, 0.02	0.18	1.15	1.53	<0.01	1.46	0.78
Mercury (diss)	mg/L	-	0.001	0.0002	-	0.0001	<0.0001	-	-	<0.0001	<0.0001	<0.0001
Molybdenum (diss)	mg/L	-	-	-	0.04	0.0005, 0.002	0.00066	<0.005	<0.005	<0.005	<0.005	<0.005
Nickel (diss)	mg/L	-	-	0.025	-	0.001, 0.003	0.0033	<0.005	<0.005	<0.005	<0.005	<0.005
Selenium (diss)	mg/L	-	0.05	0.1	-	0.001	-	-	-	-	-	-
Silicon (diss)	mg/L	-	-	-	-	0.05, 0.25	3.5	7	7.2	4.3	7.1	5
Silver (diss)	mg/L	-	-	0.0001	-	0.00009, 0.0001	<0.00009	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Strontium (diss)	mg/L	-	-	-	-	0.001, 0.005	0.85	0.275	0.373	0.022	0.272	0.237
Thallium (diss)	mg/L	-	-	-	0.0003	0.00005, 0.0003	0.00017	<0.0001	<0.0001	0.0002	<0.0001	<0.0001
Titanium (diss)	mg/L	-	-	-	-	0.002, 0.005	<0.005	<0.01	<0.01	<0.01	0.01	<0.01
Uranium (diss)	mg/L	-	0.02	-	0.005	0.0005	-	-	-	-	-	-
Vanadium (diss)	mg/L	-	-	-	0.006	0.0005, 0.002	<0.0005	0.004	0.003	<0.001	0.004	0.001
Zinc (diss)	mg/L	2.50125	5	-	0.02	0.005	<0.005	<0.01	<0.01	0.01	<0.01	0.04

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds RUV-SB	Reasonable Use Values South Baptiste
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

MHH - South Baptiste WDS Appendix F1: Historical Groundwater Chemistry						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	SB-MW5	SB-MW5	SB-MW5	SB-MW5	SB-MW5	SB-MW5
Parameter	Units	RUV-SB	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	Sample ID	SB-MW5	SB-MW5	SB-MW5	SB-MW5	SB-MW5	SB-MW5
						Sample Date	2008-Oct-09	2009-Jun-04	2009-Oct-23	2010-May-17	2010-Oct-18	2011-May-18
Anions						**Detection Limit**						
Chloride	mg/L	125.26	250	-	-	0.1, 0.12, 0.24, 0.5, 1	24	23	29	21	16	21
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-
Nitrate as N	mg/L	2.51875	10	-	-	0.05, 0.07, 0.1, 0.25, 0.5	0.26	0.16	<0.1	<0.1	<0.1	<0.1
Nitrite as N	mg/L	-	1	-	-	0.01, 0.05, 0.25, 0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Sulphate	mg/L	-	500	-	-	0.1, 0.19, 0.5, 1, 2	8	14	8	12	5	8
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.25	41	43	36	38	34	38
Magnesium (diss)	mg/L	-	-	-	-	0.05, 0.25	6	7	6	6	5	6
Potassium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 2.5	20	22	18	16	18	17
Sodium (diss)	mg/L	100.6	200	-	-	0.05, 0.1, 0.25	29	26	26	24	20	22
General Chemistry												
Alkalinity (as CaCO3)	mg/L	260.5	30 - 500	-	-	1, 5	185	180	170	169	167	164
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.07, 0.1, 0.18, 0.25, 0.3, 0.4, 0.5	0.8	0.93	0.97	0.82	1.24	1.27
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5, 8, 10, 12, 20, 31, 206	25	35	30	23	43	45
Dissolved Organic Carbon	mg/L	3.2	5	-	-	0.4, 0.5	10.3	14.4	12.4	10.2	17	12.1
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	453	458	444	429	381	399
Hardness (as CaCO3)	mg/L	-	80 - 100	-	-		127.1	136.2	114.6	119.6	105.5	119.6
pH	pH units	-	6.5 - 8.5	6.5 - 8.5	-		7.3	7.14	7.27	7.27	7.23	7.75
Phenols	mg/L	-	-	0.001	-	0.001, 0.004	<0.001	**0.01**	**0.003**	<0.001	<0.001	<0.001
Total Dissolved Solids	mg/L	269	500	-	-	1, 10, 20	294	298	289	279	248	259
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1, 0.11, 0.2, 0.22, 0.5, 1, 2, 5	1.16	1.42	1.32	0.93	1.38	1.48
Total Phosphorus	mg/L	-	-	0.03	-	0.02, 0.03, 0.06, 0.1, 0.12, 0.14, 0.2, 0.4, 0.6	**1.1**	**1.98**	**2.3**	**3.2**	**8.46**	**1.48**
Total Suspended Solids	mg/L	-	-	-	-	5, 10, 13, 14, 20, 25, 33, 50, 100, 200, 500, 1000	-	-	-	-	-	-
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.0525	0.1	-	-	0.004, 0.0049	0.02	0.01	0.02	0.02	0.04	0.01
Arsenic (diss)	mg/L	-	0.01	-	0.005	0.001, 0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Barium (diss)	mg/L	-	1	-	-	0.002	0.06	0.04	0.05	0.04	0.04	0.04
Beryllium (diss)	mg/L	-	-	-	-	0.0004, 0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005
Boron (diss)	mg/L	1.25375	5	-	0.2	0.01, 0.02, 0.1	0.25	0.16	0.17	0.13	0.19	0.1
Cadmium (diss)	mg/L	-	0.005	-	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium (diss)	mg/L	-	0.05	-	-	0.002, 0.003, 0.005	<0.001	0.001	0.002	<0.001	<0.001	0.002
Cobalt (diss)	mg/L	-	-	-	0.0009	0.0005	0.0007	0.0009	0.0013	<0.0002	0.0003	<0.0002
Copper (diss)	mg/L	0.50075	1	-	-	0.0009, 0.001, 0.002	<0.001	0.001	0.001	0.002	0.001	<0.001
Iron (diss)	mg/L	0.1575	0.3	0.3	-	0.01, 0.1	10	1.06	4.84	5.17	6.39	3.56
Lead (diss)	mg/L	-	0.01	-	-	0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (diss)	mg/L	0.0275	0.05	-	-	0.002, 0.004, 0.01, 0.02	1.17	0.43	1.09	0.45	0.58	0.43
Mercury (diss)	mg/L	-	0.001	0.0002	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum (diss)	mg/L	-	-	-	0.04	0.0005, 0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Nickel (diss)	mg/L	-	-	0.025	-	0.001, 0.003	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Selenium (diss)	mg/L	-	0.05	0.1	-	0.001	-	-	-	-	-	-
Silicon (diss)	mg/L	-	-	-	-	0.05, 0.25	8.1	3.4	6.8	5.7	6.6	5.4
Silver (diss)	mg/L	-	-	0.0001	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Strontium (diss)	mg/L	-	-	-	-	0.001, 0.005	0.273	0.197	0.311	0.393	0.333	0.313
Thallium (diss)	mg/L	-	-	-	0.0003	0.00005, 0.0003	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Titanium (diss)	mg/L	-	-	-	-	0.002, 0.005	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Uranium (diss)	mg/L	-	0.02	-	0.005	0.0005	-	-	-	-	-	-
Vanadium (diss)	mg/L	-	-	-	0.006	0.0005, 0.002	0.003	0.001	0.003	0.001	0.002	0.001
Zinc (diss)	mg/L	2.50125	5	-	0.02	0.005	<0.01	0.02	0.02	0.01	<0.01	<0.01

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds RUV-SB	Reasonable Use Values South Baptiste
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

MHH - South Baptiste WDS Appendix F1: Historical Groundwater Chemistry						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	SB-MW5	SB-MW5	SB-MW5	SB-MW5	SB-MW5	SB-MW5
Parameter	Units	RUV-SB	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	Sample ID	SB-MW5	SB-MW5	SB-MW5	SB-MW5	SB-MW5	SB-MW5
						Sample Date	2011-Nov-03	2012-Apr-17	2012-Oct-17	2013-Apr-18	2013-Oct-30	2014-May-13
Anions						**Detection Limit**						
Chloride	mg/L	125.26	250	-	-	0.1, 0.12, 0.24, 0.5, 1	18	28	23	31	22.6	25.2
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-
Nitrate as N	mg/L	2.51875	10	-	-	0.05, 0.07, 0.1, 0.25, 0.5	<0.1	<0.1	<0.1	<0.05	0.2	0.42
Nitrite as N	mg/L	-	1	-	-	0.01, 0.05, 0.25, 0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	-	500	-	-	0.1, 0.19, 0.5, 1, 2	3	9	2	16.1	5.21	9.2
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.25	39	26.8	47.7	32.4	43.5	27.3
Magnesium (diss)	mg/L	-	-	-	-	0.05, 0.25	7	5.59	7.24	5.48	6.85	4.6
Potassium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 2.5	20	16	19.7	17.3	23.1	14.9
Sodium (diss)	mg/L	100.6	200	-	-	0.05, 0.1, 0.25	21	17.2	27.1	18	23.6	16.3
General Chemistry												
Alkalinity (as CaCO3)	mg/L	260.5	30 - 500	-	-	1, 5	185	137	201	99	161	104
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.07, 0.1, 0.18, 0.25, 0.3, 0.4, 0.5	1.54	1.49	1.66	0.91	0.76	0.29
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5, 8, 10, 12, 20, 31, 206	98	96	154	46	18	30
Dissolved Organic Carbon	mg/L	3.2	5	-	-	0.4, 0.5	10.8	11.5	13.7	5.1	5.5	4.6
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	396	350	467	314	395	330
Hardness (as CaCO3)	mg/L	-	80 - 100	-	-		126.2	89.9	148.9	103.5	136.8	87.1
pH	pH units	-	6.5 - 8.5	6.5 - 8.5	-		6.67	6.8	7.2	7.88	7.69	7.59
Phenols	mg/L	-	-	0.001	-	0.001, 0.004	<0.001	<0.001	0.001	<0.001	<0.001	<0.001
Total Dissolved Solids	mg/L	269	500	-	-	1, 10, 20	257	-	-	234	614	212
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1, 0.11, 0.2, 0.22, 0.5, 1, 2, 5	2.53	2.3	3.2	1.33	1.18	0.78
Total Phosphorus	mg/L	-	-	0.03	-	0.02, 0.03, 0.06, 0.1, 0.12, 0.14, 0.2, 0.4, 0.6	**6.81**	**2.54**	**6.01**	**19.4**	**1.46**	**0.74**
Total Suspended Solids	mg/L	-	-	-	-	5, 10, 13, 14, 20, 25, 33, 50, 100, 200, 500, 1000	-	6820	10200	-	-	-
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.0525	0.1	-	-	0.004, 0.0049	0.13	0.016	0.046	0.031	0.047	0.014
Arsenic (diss)	mg/L	-	0.01	-	0.005	0.001, 0.003	<0.001	<0.001	<0.001	<0.003	<0.003	<0.003
Barium (diss)	mg/L	-	1	-	-	0.002	0.05	0.037	0.052	0.031	0.039	0.031
Beryllium (diss)	mg/L	-	-	-	-	0.0004, 0.0005, 0.001	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001
Boron (diss)	mg/L	1.25375	5	-	0.2	0.01, 0.02, 0.1	0.16	0.141	0.261	0.165	0.258	0.139
Cadmium (diss)	mg/L	-	0.005	-	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.002	<0.002	<0.002
Chromium (diss)	mg/L	-	0.05	-	-	0.002, 0.003, 0.005	<0.001	<0.001	<0.001	<0.003	<0.003	<0.003
Cobalt (diss)	mg/L	-	-	-	0.0009	0.0005	0.0003	<0.0005	<0.0005	<0.001	<0.001	<0.001
Copper (diss)	mg/L	0.50075	1	-	-	0.0009, 0.001, 0.002	0.003	<0.0005	0.0009	<0.003	<0.003	<0.003
Iron (diss)	mg/L	0.1575	0.3	0.3	-	0.01, 0.1	**2.72**	**6.5**	**4.07**	**6.72**	**6.09**	**4.71**
Lead (diss)	mg/L	-	0.01	-	-	0.0005, 0.001	<0.001	<0.0001	<0.0001	<0.002	<0.002	<0.002
Manganese (diss)	mg/L	0.0275	0.05	-	-	0.002, 0.004, 0.01, 0.02	0.53	0.568	0.534	0.793	0.755	0.756
Mercury (diss)	mg/L	-	0.001	0.0002	-	0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum (diss)	mg/L	-	-	-	0.04	0.0005, 0.002	<0.005	<0.0005	<0.0005	<0.002	<0.002	<0.002
Nickel (diss)	mg/L	-	-	0.025	-	0.001, 0.003	<0.005	0.001	0.002	<0.003	<0.003	<0.003
Selenium (diss)	mg/L	-	0.05	0.1	-	0.001	-	-	-	-	-	-
Silicon (diss)	mg/L	-	-	-	-	0.05, 0.25	6.4	5.32	8.61	4.45	6.36	4.32
Silver (diss)	mg/L	-	-	0.0001	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.002	<0.002	<0.002
Strontium (diss)	mg/L	-	-	-	-	0.001, 0.005	0.373	0.32	0.394	0.304	0.327	0.264
Thallium (diss)	mg/L	-	-	-	0.0003	0.00005, 0.0003	<0.0001	<0.0001	<0.0001	<0.006	<0.006	<0.006
Titanium (diss)	mg/L	-	-	-	-	0.002, 0.005	0.01	<0.005	0.007	0.003	<0.002	<0.002
Uranium (diss)	mg/L	-	0.02	-	0.005	0.0005	-	-	-	-	-	-
Vanadium (diss)	mg/L	-	-	-	0.006	0.0005, 0.002	0.002	0.0028	0.0032	<0.002	<0.002	<0.002
Zinc (diss)	mg/L	2.50125	5	-	0.02	0.005	0.02	<0.005	<0.005	<0.005	0.037	0.007

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds RUV-SB	Reasonable Use Values South Baptiste
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

MHH - South Baptiste WDS Appendix F1: Historical Groundwater Chemistry						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	SB-MW5	SB-MW5	SB-MW5	SB-MW5	SB-MW5	SB-MW5
Parameter	Units	RUV-SB	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	Sample ID	SB-MW5	SB-MW5	SB-MW5	SB-MW5	SB-MW5	SB-MW5
						Sample Date	2014-Oct-10	2015-May-04	2015-Oct-26	2016-Apr-28	2017-Oct-23	2018-May-07
Anions						**Detection Limit**						
Chloride	mg/L	125.26	250	-	-	0.1, 0.12, 0.24, 0.5, 1	24.9	29.2	21.1	30.7	32.4	25.5
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-
Nitrate as N	mg/L	2.51875	10	-	-	0.05, 0.07, 0.1, 0.25, 0.5	0.14	<0.05	<0.25	<0.1	<0.05	0.06
Nitrite as N	mg/L	-	1	-	-	0.01, 0.05, 0.25, 0.5	<0.05	<0.05	<0.25	<0.1	<0.05	<0.05
Sulphate	mg/L	-	500	-	-	0.1, 0.19, 0.5, 1, 2	2.39	8.91	2.76	13.1	1.23	9.4
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.25	38.6	35.8	36.1	33.9	37.6	28.4
Magnesium (diss)	mg/L	-	-	-	-	0.05, 0.25	6.14	6.06	5.79	5.96	5.88	4.95
Potassium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 2.5	21.5	18.9	22	19.2	20.3	14.6
Sodium (diss)	mg/L	100.6	200	-	-	0.05, 0.1, 0.25	22	19.9	24.9	19.8	21.8	18.1
General Chemistry												
Alkalinity (as CaCO3)	mg/L	260.5	30 - 500	-	-	1, 5	150	136	170	132	161	128
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.07, 0.1, 0.18, 0.25, 0.3, 0.4, 0.5	0.38	0.72	1	0.73	0.86	1.05
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5, 8, 10, 12, 20, 31, 206	24	19	19	26	23	18
Dissolved Organic Carbon	mg/L	3.2	5	-	-	0.4, 0.5	10.4	4.4	8	6.5	7.9	3.7
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	383	362	401	372	352	322
Hardness (as CaCO3)	mg/L	-	80 - 100	-	-		121.7	114.3	114	109.2	118.1	91.3
pH	pH units	-	6.5 - 8.5	6.5 - 8.5	-		7.6	7.37	7.57	7.7	7.73	7.33
Phenols	mg/L	-	-	0.001	-	0.001, 0.004	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total Dissolved Solids	mg/L	269	500	-	-	1, 10, 20	224	216	216	208	226	184
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1, 0.11, 0.2, 0.22, 0.5, 1, 2, 5	1.27	1.13	1.33	1.24	1.16	1.83
Total Phosphorus	mg/L	-	-	0.03	-	0.02, 0.03, 0.06, 0.1, 0.12, 0.14, 0.2, 0.4, 0.6	**4.42**	**1.94**	**3.75**	**0.79**	**1.6**	**4.15**
Total Suspended Solids	mg/L	-	-	-	-	5, 10, 13, 14, 20, 25, 33, 50, 100, 200, 500, 1000	-	-	-	-	-	-
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.0525	0.1	-	-	0.004, 0.0049	0.023	0.017	0.023	0.019	0.013	0.019
Arsenic (diss)	mg/L	-	0.01	-	0.005	0.001, 0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Barium (diss)	mg/L	-	1	-	-	0.002	0.047	0.041	0.045	0.037	0.047	0.042
Beryllium (diss)	mg/L	-	-	-	-	0.0004, 0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron (diss)	mg/L	1.25375	5	-	0.2	0.01, 0.02, 0.1	0.21	0.132	0.207	0.144	0.223	0.131
Cadmium (diss)	mg/L	-	0.005	-	-	0.00009, 0.0001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.0001
Chromium (diss)	mg/L	-	0.05	-	-	0.002, 0.003, 0.005	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Cobalt (diss)	mg/L	-	-	-	0.0009	0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Copper (diss)	mg/L	0.50075	1	-	-	0.0009, 0.001, 0.002	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Iron (diss)	mg/L	0.1575	0.3	0.3	-	0.01, 0.1	6.36	6.62	5.25	5.87	1.69	3.69
Lead (diss)	mg/L	-	0.01	-	-	0.0005, 0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.001
Manganese (diss)	mg/L	0.0275	0.05	-	-	0.002, 0.004, 0.01, 0.02	0.946	1.05	0.971	0.896	1.11	1.21
Mercury (diss)	mg/L	-	0.001	0.0002	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum (diss)	mg/L	-	-	-	0.04	0.0005, 0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.0001
Nickel (diss)	mg/L	-	-	0.025	-	0.001, 0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.002
Selenium (diss)	mg/L	-	0.05	0.1	-	0.001	-	-	-	-	-	-
Silicon (diss)	mg/L	-	-	-	-	0.05, 0.25	7.26	6.46	7.56	6.11	8.06	5.97
Silver (diss)	mg/L	-	-	0.0001	-	0.00009, 0.0001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Strontium (diss)	mg/L	-	-	-	-	0.001, 0.005	0.347	0.305	0.357	0.269	0.346	0.276
Thallium (diss)	mg/L	-	-	-	0.0003	0.00005, 0.0003	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Titanium (diss)	mg/L	-	-	-	-	0.002, 0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Uranium (diss)	mg/L	-	0.02	-	0.005	0.0005	-	-	-	-	-	-
Vanadium (diss)	mg/L	-	-	-	0.006	0.0005, 0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Zinc (diss)	mg/L	2.50125	5	-	0.02	0.005	<0.005	<0.005	<0.005	0.007	0.005	<0.005

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds RUV-SB	Reasonable Use Values South Baptiste
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

MHH - South Baptiste WDS Appendix F1: Historical Groundwater Chemistry						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	SB-MW5	SB-MW5	SB-MW5	SB-MW5	SB-MW5	SB-MW5
Parameter	Units	RUV-SB	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	Sample ID	SB-MW5	SB-MW5	SB-MW5	SB-MW5	SB-MW5	SB MW5
						Sample Date	2018-Oct-24	2019-May-07	2019-Oct-22	2020-May-06	2020-Oct-06	2021-Apr-20
Anions						**Detection Limit**						
Chloride	mg/L	125.26	250	-	-	0.1, 0.12, 0.24, 0.5, 1	33.8	43	46.3	58.9	44.4	61.7
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-
Nitrate as N	mg/L	2.51875	10	-	-	0.05, 0.07, 0.1, 0.25, 0.5	0.24	0.07	<0.05	<0.05	0.18	0.06
Nitrite as N	mg/L	-	1	-	-	0.01, 0.05, 0.25, 0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	-	500	-	-	0.1, 0.19, 0.5, 1, 2	5.54	10.8	3.07	8.36	8.47	13.1
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.25	33.5	31.4	40	30.6	33.6	31.9
Magnesium (diss)	mg/L	-	-	-	-	0.05, 0.25	5.5	5.21	6.92	5.38	5.56	5.91
Potassium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 2.5	20.5	16	21.1	15.4	19.2	16.6
Sodium (diss)	mg/L	100.6	200	-	-	0.05, 0.1, 0.25	21.8	18.2	26.1	21.1	26.5	26.3
General Chemistry												
Alkalinity (as CaCO3)	mg/L	260.5	30 - 500	-	-	1, 5	122	120	157	108	148	111
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.07, 0.1, 0.18, 0.25, 0.3, 0.4, 0.5	1.28	0.63	1.03	0.52	0.88	0.51
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5, 8, 10, 12, 20, 31, 206	9	14	40	49	75	44
Dissolved Organic Carbon	mg/L	3.2	5	-	-	0.4, 0.5	4.2	2.8	5	4	5.4	6.2
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	416	373	440	506	406	440
Hardness (as CaCO3)	mg/L	-	80 - 100	-	-		106.3	99.9	128.4	98.6	106.8	104
pH	pH units	-	6.5 - 8.5	6.5 - 8.5	-		7.6	7.18	7.27	6.83	-	6.94
Phenols	mg/L	-	-	0.001	-	0.001, 0.004	<0.001	<0.001	**0.002**	<0.001	0.001	**0.003**
Total Dissolved Solids	mg/L	269	500	-	-	1, 10, 20	220	218	276	244	246	264
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1, 0.11, 0.2, 0.22, 0.5, 1, 2, 5	1.61	0.92	1.54	1.02	2.16	1.08
Total Phosphorus	mg/L	-	-	0.03	-	0.02, 0.03, 0.06, 0.1, 0.12, 0.14, 0.2, 0.4, 0.6	**8**	**2.23**	**25.4**	**12.3**	**26.6**	**17.5**
Total Suspended Solids	mg/L	-	-	-	-	5, 10, 13, 14, 20, 25, 33, 50, 100, 200, 500, 1000	-	-	-	-	-	-
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.0525	0.1	-	-	0.004, 0.0049	0.011	0.012	0.016	0.017	0.011	0.01
Arsenic (diss)	mg/L	-	0.01	-	0.005	0.001, 0.003	<0.003	<0.003	<0.003	<0.003	<0.003	0.005
Barium (diss)	mg/L	-	1	-	-	0.002	0.047	0.044	0.061	0.043	0.052	0.043
Beryllium (diss)	mg/L	-	-	-	-	0.0004, 0.0005, 0.001	<0.001	<0.0005	<0.0005	<0.001	<0.001	<0.001
Boron (diss)	mg/L	1.25375	5	-	0.2	0.01, 0.02, 0.1	0.201	0.162	0.233	0.147	0.2	0.149
Cadmium (diss)	mg/L	-	0.005	-	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium (diss)	mg/L	-	0.05	-	-	0.002, 0.003, 0.005	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Cobalt (diss)	mg/L	-	-	-	0.0009	0.0005	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Copper (diss)	mg/L	0.50075	1	-	-	0.0009, 0.001, 0.002	<0.003	<0.001	<0.001	<0.002	<0.002	<0.002
Iron (diss)	mg/L	0.1575	0.3	0.3	-	0.01, 0.1	**1.17**	**1.55**	**4.48**	**2.77**	**1.7**	**3.87**
Lead (diss)	mg/L	-	0.01	-	-	0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (diss)	mg/L	0.0275	0.05	-	-	0.002, 0.004, 0.01, 0.02	1.12	1.05	1.46	1.09	1.52	1.32
Mercury (diss)	mg/L	-	0.001	0.0002	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum (diss)	mg/L	-	-	-	0.04	0.0005, 0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Nickel (diss)	mg/L	-	-	0.025	-	0.001, 0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Selenium (diss)	mg/L	-	0.05	0.1	-	0.001	-	-	-	-	-	-
Silicon (diss)	mg/L	-	-	-	-	0.05, 0.25	7.63	5.42	8.34	5.65	6.76	5.71
Silver (diss)	mg/L	-	-	0.0001	-	0.00009, 0.0001	<0.002	<0.0001	<0.0001	<0.0001	<0.0001	0.0001
Strontium (diss)	mg/L	-	-	-	-	0.001, 0.005	0.288	0.308	0.368	0.29	0.299	0.26
Thallium (diss)	mg/L	-	-	-	0.0003	0.00005, 0.0003	<0.006	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Titanium (diss)	mg/L	-	-	-	-	0.002, 0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Uranium (diss)	mg/L	-	0.02	-	0.005	0.0005	-	-	-	-	-	-
Vanadium (diss)	mg/L	-	-	-	0.006	0.0005, 0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Zinc (diss)	mg/L	2.50125	5	-	0.02	0.005	<0.005	<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 RUV-SB	Reasonable Use Values South Baptiste
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

MHH - South Baptiste WDS Appendix F1: Historical Groundwater Chemistry						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	SB-MW5	SB-MW5	SB-MW5	SB-MW5	SB-MW5	SB-MW5
Parameter	Units	RUV-SB	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	Sample ID	SB MW5	SB-MW5	SB MW5	SB MW5	SB-MW5	SB-MW5
						Sample Date	2021-Oct-21	2022-May-05	2022-Oct-19	2023-May-04	2023-Oct-19	2024-Apr-29
Anions						**Detection Limit**						
Chloride	mg/L	125.26	250	-	-	0.1, 0.12, 0.24, 0.5, 1	55	44	35	50.2	39	33
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	<0.1	<0.1
Nitrate as N	mg/L	2.51875	10	-	-	0.05, 0.07, 0.1, 0.25, 0.5	0.11	<0.05	<0.05	0.11	<0.1	<0.1
Nitrite as N	mg/L	-	1	-	-	0.01, 0.05, 0.25, 0.5	<0.05	<0.05	<0.05	<0.05	0.016	0.013
Sulphate	mg/L	-	500	-	-	0.1, 0.19, 0.5, 1, 2	11.1	13.1	6.97	11.2	3.7	13
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.25	33.6	34.4	38.1	34.8	42	31
Magnesium (diss)	mg/L	-	-	-	-	0.05, 0.25	6.09	6.86	7.1	6.83	7.7	6
Potassium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 2.5	19.7	17.7	22.5	17.6	23	16
Sodium (diss)	mg/L	100.6	200	-	-	0.05, 0.1, 0.25	34	33	28.3	28.1	31	21
General Chemistry												
Alkalinity (as CaCO3)	mg/L	260.5	30 - 500	-	-	1, 5	138	139	160	128	180	110
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.07, 0.1, 0.18, 0.25, 0.3, 0.4, 0.5	0.62	0.88	1.49	0.54	1	0.57
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5, 8, 10, 12, 20, 31, 206	41	122	8	29	20	20
Dissolved Organic Carbon	mg/L	3.2	5	-	-	0.4, 0.5	6.8	4.7	6	5.3	5.2	4.8
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	476	451	457	428	490	360
Hardness (as CaCO3)	mg/L	-	80 - 100	-	-		109	114.1	124.4	-	-	-
pH	pH units	-	6.5 - 8.5	6.5 - 8.5	-		7.2	6.88	7.61	7.28	7.55	7.63
Phenols	mg/L	-	-	0.001	-	0.001, 0.004	**0.017**	**0.009**	**0.003**	<0.001	<0.001	<0.001
Total Dissolved Solids	mg/L	269	500	-	-	1, 10, 20	266	264	262	232	250	260
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1, 0.11, 0.2, 0.22, 0.5, 1, 2, 5	1.59	1.57	2.13	1.26	1.4	0.88
Total Phosphorus	mg/L	-	-	0.03	-	0.02, 0.03, 0.06, 0.1, 0.12, 0.14, 0.2, 0.4, 0.6	**33.9**	**20**	**22.9**	**5.92**	**8.6**	**3.7**
Total Suspended Solids	mg/L	-	-	-	-	5, 10, 13, 14, 20, 25, 33, 50, 100, 200, 500, 1000	-	-	-	2590	2500	2500
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.0525	0.1	-	-	0.004, 0.0049	0.025	0.182	0.057	0.011	0.0089	0.012
Arsenic (diss)	mg/L	-	0.01	-	0.005	0.001, 0.003	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001
Barium (diss)	mg/L	-	1	-	-	0.002	0.051	0.049	0.051	0.04	0.06	0.04
Beryllium (diss)	mg/L	-	-	-	-	0.0004, 0.0005, 0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0004	<0.0004
Boron (diss)	mg/L	1.25375	5	-	0.2	0.01, 0.02, 0.1	0.202	0.117	0.176	0.159	0.25	0.19
Cadmium (diss)	mg/L	-	0.005	-	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.00009	<0.00009
Chromium (diss)	mg/L	-	0.05	-	-	0.002, 0.003, 0.005	<0.003	<0.003	<0.002	<0.002	<0.005	<0.005
Cobalt (diss)	mg/L	-	-	-	0.0009	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Copper (diss)	mg/L	0.50075	1	-	-	0.0009, 0.001, 0.002	<0.002	<0.002	0.002	<0.001	<0.0009	<0.0009
Iron (diss)	mg/L	0.1575	0.3	0.3	-	0.01, 0.1	**2.01**	**2.78**	**1.15**	**3.12**	**1.5**	**3.2**
Lead (diss)	mg/L	-	0.01	-	-	0.0005, 0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0005
Manganese (diss)	mg/L	0.0275	0.05	-	-	0.002, 0.004, 0.01, 0.02	1.36	1.5	1.64	1.52	1.7	1.3
Mercury (diss)	mg/L	-	0.001	0.0002	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum (diss)	mg/L	-	-	-	0.04	0.0005, 0.002	<0.002	<0.002	<0.002	<0.002	0.001	0.00052
Nickel (diss)	mg/L	-	-	0.025	-	0.001, 0.003	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001
Selenium (diss)	mg/L	-	0.05	0.1	-	0.001	-	-	<0.001	-	-	-
Silicon (diss)	mg/L	-	-	-	-	0.05, 0.25	6.25	5.25	6.63	6.63	7.5	6.2
Silver (diss)	mg/L	-	-	0.0001	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.00009	<0.00009
Strontium (diss)	mg/L	-	-	-	-	0.001, 0.005	0.338	0.301	0.308	0.282	0.36	0.25
Thallium (diss)	mg/L	-	-	-	0.0003	0.00005, 0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.00005	<0.00005
Titanium (diss)	mg/L	-	-	-	-	0.002, 0.005	<0.002	0.004	0.005	<0.002	<0.005	<0.005
Uranium (diss)	mg/L	-	0.02	-	0.005	0.0005	-	-	0.0017	-	-	-
Vanadium (diss)	mg/L	-	-	-	0.006	0.0005, 0.002	<0.002	<0.002	-	<0.002	0.0012	0.00068
Zinc (diss)	mg/L	2.50125	5	-	0.02	0.005	0.006	<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 RUV-SB	Reasonable Use Values South Baptiste
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

MHH - South Baptiste WDS Appendix F1: Historical Groundwater Chemistry						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	SB-MW5	SB-MW5	SB-MW5	SB-MW6	SB-MW6	SB-MW6
Parameter	Units	RUV-SB	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	Sample ID	SB-MW5	SB-MW5	SB-MW5	SB-MW6	SB-MW6	SB-MW6
						Sample Date	2024-Oct-30	2025-May-08	2025-Oct-21	2008-May-09	2008-Oct-09	2009-Jun-04
Anions						**Detection Limit**						
Chloride	mg/L	125.26	250	-	-	0.1, 0.12, 0.24, 0.5, 1	54	60	38	28	38	48
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	<0.1	<0.1	<0.1	-	-	-
Nitrate as N	mg/L	2.51875	10	-	-	0.05, 0.07, 0.1, 0.25, 0.5	<0.1	<0.1	<0.1	4.96	7	14.4
Nitrite as N	mg/L	-	1	-	-	0.01, 0.05, 0.25, 0.5	0.023	<0.01	0.016	0.22	<0.1	<0.1
Sulphate	mg/L	-	500	-	-	0.1, 0.19, 0.5, 1, 2	6	11	5	61	147	58
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.25	45	38	41	49	64	79
Magnesium (diss)	mg/L	-	-	-	-	0.05, 0.25	8.2	7.5	7.6	11	13	16
Potassium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 2.5	22	18	22	34	56	46
Sodium (diss)	mg/L	100.6	200	-	-	0.05, 0.1, 0.25	33	30	30	39	50	70
General Chemistry												
Alkalinity (as CaCO3)	mg/L	260.5	30 - 500	-	-	1, 5	170	130	180	158	220	306
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.07, 0.1, 0.18, 0.25, 0.3, 0.4, 0.5	0.98	1	1.7	0.17	5.63	2.05
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5, 8, 10, 12, 20, 31, 206	29	19	<4	48	60	45
Dissolved Organic Carbon	mg/L	3.2	5	-	-	0.4, 0.5	7.3	4.4	6.4	17.4	24.7	17.3
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	540	500	500	573	922	972
Hardness (as CaCO3)	mg/L	-	80 - 100	-	-		-	-	-	167.7	213.3	263.2
pH	pH units	-	6.5 - 8.5	6.5 - 8.5	-		7.38	7.26	7.31	7.61	7.7	7.32
Phenols	mg/L	-	-	0.001	-	0.001, 0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total Dissolved Solids	mg/L	269	500	-	-	1, 10, 20	315	355	270	372	599	632
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1, 0.11, 0.2, 0.22, 0.5, 1, 2, 5	1.3	1.4	1.9	0.7	6.91	2.83
Total Phosphorus	mg/L	-	-	0.03	-	0.02, 0.03, 0.06, 0.1, 0.12, 0.14, 0.2, 0.4, 0.6	**4.2**	**4.8**	**2.7**	0.02	0.01	**0.15**
Total Suspended Solids	mg/L	-	-	-	-	5, 10, 13, 14, 20, 25, 33, 50, 100, 200, 500, 1000	2400	9800	6200	-	-	-
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.0525	0.1	-	-	0.004, 0.0049	0.013	0.007	0.012	0.07	0.06	0.08
Arsenic (diss)	mg/L	-	0.01	-	0.005	0.001, 0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Barium (diss)	mg/L	-	1	-	-	0.002	0.065	0.056	0.065	0.04	0.06	0.06
Beryllium (diss)	mg/L	-	-	-	-	0.0004, 0.0005, 0.001	<0.0004	<0.0004	<0.0004	<0.001	<0.001	<0.001
Boron (diss)	mg/L	1.25375	5	-	0.2	0.01, 0.02, 0.1	0.23	0.13	0.2	0.31	0.41	0.46
Cadmium (diss)	mg/L	-	0.005	-	-	0.00009, 0.0001	<0.00009	<0.00009	<0.00009	<0.0001	<0.0001	<0.0001
Chromium (diss)	mg/L	-	0.05	-	-	0.002, 0.003, 0.005	<0.005	<0.005	<0.005	0.003	<0.001	0.002
Cobalt (diss)	mg/L	-	-	-	0.0009	0.0005	<0.0005	<0.0005	<0.0005	0.0006	0.0006	0.0009
Copper (diss)	mg/L	0.50075	1	-	-	0.0009, 0.001, 0.002	<0.0009	<0.0009	<0.0009	0.011	0.006	0.009
Iron (diss)	mg/L	0.1575	0.3	0.3	-	0.01, 0.1	**3.4**	**2.3**	**2.7**	0.04	0.05	<0.03
Lead (diss)	mg/L	-	0.01	-	-	0.0005, 0.001	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001
Manganese (diss)	mg/L	0.0275	0.05	-	-	0.002, 0.004, 0.01, 0.02	1.7	2.2	2.1	0.29	0.51	0.42
Mercury (diss)	mg/L	-	0.001	0.0002	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum (diss)	mg/L	-	-	-	0.04	0.0005, 0.002	0.00066	0.0014	0.00085	<0.005	<0.005	<0.005
Nickel (diss)	mg/L	-	-	0.025	-	0.001, 0.003	0.0011	<0.001	<0.001	<0.005	<0.005	<0.005
Selenium (diss)	mg/L	-	0.05	0.1	-	0.001	-	-	-	-	-	-
Silicon (diss)	mg/L	-	-	-	-	0.05, 0.25	6.8	5.5	7.1	0.9	1.2	1.4
Silver (diss)	mg/L	-	-	0.0001	-	0.00009, 0.0001	<0.00009	<0.00009	<0.00009	<0.0001	<0.0001	<0.0001
Strontium (diss)	mg/L	-	-	-	-	0.001, 0.005	0.37	0.33	0.36	0.185	0.242	0.369
Thallium (diss)	mg/L	-	-	-	0.0003	0.00005, 0.0003	<0.00005	<0.00005	<0.00005	<0.0001	<0.0001	<0.0001
Titanium (diss)	mg/L	-	-	-	-	0.002, 0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01
Uranium (diss)	mg/L	-	0.02	-	0.005	0.0005	-	-	-	-	-	-
Vanadium (diss)	mg/L	-	-	-	0.006	0.0005, 0.002	0.00066	0.00076	0.0013	<0.001	0.001	0.003
Zinc (diss)	mg/L	2.50125	5	-	0.02	0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds RUV-SB	Reasonable Use Values South Baptiste
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

MHH - South Baptiste WDS Appendix F1: Historical Groundwater Chemistry						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	SB-MW6	SB-MW6	SB-MW6	SB-MW6	SB-MW6	SB-MW6
Parameter	Units	RUV-SB	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	Sample ID	SB-MW6	SB-MW6	SB-MW6	SB-MW6	SB-MW6	SB-MW6
						Sample Date	2009-Oct-23	2010-May-17	2010-Oct-18	2011-May-18	2011-Nov-03	2012-Apr-17
Anions						**Detection Limit**						
Chloride	mg/L	125.26	250	-	-	0.1, 0.12, 0.24, 0.5, 1	38	37	37	44	122	49
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-
Nitrate as N	mg/L	2.51875	10	-	-	0.05, 0.07, 0.1, 0.25, 0.5	7.5	6.69	10.4	15.3	12.6	16.6
Nitrite as N	mg/L	-	1	-	-	0.01, 0.05, 0.25, 0.5	<0.1	<0.1	<0.1	<0.1	<0.1	0.15
Sulphate	mg/L	-	500	-	-	0.1, 0.19, 0.5, 1, 2	58	61	98	75	171	55
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.25	69	83	101	96	148	104
Magnesium (diss)	mg/L	-	-	-	-	0.05, 0.25	16	19	22	20	27	18
Potassium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 2.5	58	54	54	53	52	47
Sodium (diss)	mg/L	100.6	200	-	-	0.05, 0.1, 0.25	66	65	45	38	63	57.8
General Chemistry												
Alkalinity (as CaCO3)	mg/L	260.5	30 - 500	-	-	1, 5	334	390	374	289	311	295
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.07, 0.1, 0.18, 0.25, 0.3, 0.4, 0.5	5.23	3.46	6.03	5.76	5.61	5.37
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5, 8, 10, 12, 20, 31, 206	53	40	45	38	38	51
Dissolved Organic Carbon	mg/L	3.2	5	-	-	0.4, 0.5	22.7	18.5	19	15.8	15.1	18
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	935	1030	1070	965	1370	831
Hardness (as CaCO3)	mg/L	-	80 - 100	-	-		238.2	285.5	342.8	322.1	480.7	333.8
pH	pH units	-	6.5 - 8.5	6.5 - 8.5	-		7.4	7.48	7.53	7.88	6.99	7.3
Phenols	mg/L	-	-	0.001	-	0.001, 0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total Dissolved Solids	mg/L	269	500	-	-	1, 10, 20	608	670	696	627	890	-
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1, 0.11, 0.2, 0.22, 0.5, 1, 2, 5	5.69	4.66	6.53	7.1	6.94	6.2
Total Phosphorus	mg/L	-	-	0.03	-	0.02, 0.03, 0.06, 0.1, 0.12, 0.14, 0.2, 0.4, 0.6	0.02	**0.06**	0.02	<0.01	0.03	0.01
Total Suspended Solids	mg/L	-	-	-	-	5, 10, 13, 14, 20, 25, 33, 50, 100, 200, 500, 1000	-	-	-	-	-	30
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.0525	0.1	-	-	0.004, 0.0049	0.08	0.07	0.06	0.05	0.08	0.057
Arsenic (diss)	mg/L	-	0.01	-	0.005	0.001, 0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Barium (diss)	mg/L	-	1	-	-	0.002	0.07	0.08	0.08	0.07	0.1	0.065
Beryllium (diss)	mg/L	-	-	-	-	0.0004, 0.0005, 0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005
Boron (diss)	mg/L	1.25375	5	-	0.2	0.01, 0.02, 0.1	0.59	0.49	0.55	0.44	0.47	0.534
Cadmium (diss)	mg/L	-	0.005	-	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium (diss)	mg/L	-	0.05	-	-	0.002, 0.003, 0.005	0.004	<0.001	<0.001	0.003	0.002	<0.001
Cobalt (diss)	mg/L	-	-	-	0.0009	0.0005	0.0012	0.001	0.007	0.0008	0.0009	0.0009
Copper (diss)	mg/L	0.50075	1	-	-	0.0009, 0.001, 0.002	0.007	0.006	0.01	0.006	0.008	0.0063
Iron (diss)	mg/L	0.1575	0.3	0.3	-	0.01, 0.1	<0.03	<0.03	<0.03	<0.03	<0.03	<0.1
Lead (diss)	mg/L	-	0.01	-	-	0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0001
Manganese (diss)	mg/L	0.0275	0.05	-	-	0.002, 0.004, 0.01, 0.02	0.55	0.55	0.78	0.45	1.28	1.24
Mercury (diss)	mg/L	-	0.001	0.0002	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	<0.0001
Molybdenum (diss)	mg/L	-	-	-	0.04	0.0005, 0.002	<0.005	<0.005	<0.005	<0.005	<0.005	0.0013
Nickel (diss)	mg/L	-	-	0.025	-	0.001, 0.003	<0.005	<0.005	<0.005	<0.005	<0.005	0.004
Selenium (diss)	mg/L	-	0.05	0.1	-	0.001	-	-	-	-	-	-
Silicon (diss)	mg/L	-	-	-	-	0.05, 0.25	2.1	1.4	1.6	1.6	1.9	1.89
Silver (diss)	mg/L	-	-	0.0001	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Strontium (diss)	mg/L	-	-	-	-	0.001, 0.005	0.444	0.437	0.502	0.471	0.64	0.439
Thallium (diss)	mg/L	-	-	-	0.0003	0.00005, 0.0003	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	<0.0001
Titanium (diss)	mg/L	-	-	-	-	0.002, 0.005	<0.01	<0.01	<0.01	<0.01	<0.01	<0.005
Uranium (diss)	mg/L	-	0.02	-	0.005	0.0005	-	-	-	-	-	-
Vanadium (diss)	mg/L	-	-	-	0.006	0.0005, 0.002	0.006	0.001	0.001	0.002	0.002	0.0031
Zinc (diss)	mg/L	2.50125	5	-	0.02	0.005	<0.01	<0.01	<0.01	0.02	0.02	0.007

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds RUV-SB	Reasonable Use Values South Baptiste
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

MHH - South Baptiste WDS Appendix F1: Historical Groundwater Chemistry						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	SB-MW6	SB-MW6	SB-MW6	SB-MW6	SB-MW6	SB-MW6
Parameter	Units	RUV-SB	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	Sample ID	SB-MW6	SB-MW6	SB-MW6	SB-MW6	SB-MW6	SB-MW6
						Sample Date	2013-Apr-18	2014-Oct-10	2015-May-04	2015-Oct-26	2016-Apr-28	2016-Oct-26
Anions						**Detection Limit**						
Chloride	mg/L	125.26	250	-	-	0.1, 0.12, 0.24, 0.5, 1	103	406	231	135	169	141
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-
Nitrate as N	mg/L	2.51875	10	-	-	0.05, 0.07, 0.1, 0.25, 0.5	5.61	<0.5	1.5	1.7	1	<0.5
Nitrite as N	mg/L	-	1	-	-	0.01, 0.05, 0.25, 0.5	<0.25	<0.5	<0.5	<1	<0.5	<0.5
Sulphate	mg/L	-	500	-	-	0.1, 0.19, 0.5, 1, 2	150	481	282	283	380	130
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.25	87.1	209	148	122	124	94.4
Magnesium (diss)	mg/L	-	-	-	-	0.05, 0.25	19.2	42.3	29.1	22.9	21.5	17.8
Potassium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 2.5	73.2	119	131	120	103	170
Sodium (diss)	mg/L	100.6	200	-	-	0.05, 0.1, 0.25	101	370	231	210	192	196
General Chemistry												
Alkalinity (as CaCO3)	mg/L	260.5	30 - 500	-	-	1, 5	403	688	629	594	450	953
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.07, 0.1, 0.18, 0.25, 0.3, 0.4, 0.5	3.61	17.6	19.7	11.2	8.2	64.5
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5, 8, 10, 12, 20, 31, 206	37	322	194	134	108	207
Dissolved Organic Carbon	mg/L	3.2	5	-	-	0.4, 0.5	19.1	122	88.7	61.9	55.1	46.7
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	1360	3310	2300	2010	1920	2420
Hardness (as CaCO3)	mg/L	-	80 - 100	-	-		296.6	696.1	489.4	398.9	398.2	309
pH	pH units	-	6.5 - 8.5	6.5 - 8.5	-		7.54	7.26	7.16	8	8.03	7.43
Phenols	mg/L	-	-	0.001	-	0.001, 0.004	<0.001	0.001	<0.001	**0.002**	<0.001	**0.002**
Total Dissolved Solids	mg/L	269	500	-	-	1, 10, 20	790	2320	1750	1250	1470	1300
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1, 0.11, 0.2, 0.22, 0.5, 1, 2, 5	4.37	23.6	23.5	14.3	10.2	73.5
Total Phosphorus	mg/L	-	-	0.03	-	0.02, 0.03, 0.06, 0.1, 0.12, 0.14, 0.2, 0.4, 0.6	**2.65**	**0.06**	**0.07**	**0.07**	**0.08**	**0.48**
Total Suspended Solids	mg/L	-	-	-	-	5, 10, 13, 14, 20, 25, 33, 50, 100, 200, 500, 1000	-	-	-	-	-	-
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.0525	0.1	-	-	0.004, 0.0049	0.081	0.134	0.135	0.138	0.1	0.193
Arsenic (diss)	mg/L	-	0.01	-	0.005	0.001, 0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Barium (diss)	mg/L	-	1	-	-	0.002	0.079	0.278	0.197	0.141	0.146	0.191
Beryllium (diss)	mg/L	-	-	-	-	0.0004, 0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron (diss)	mg/L	1.25375	5	-	0.2	0.01, 0.02, 0.1	0.765	1.1	1.4	1.1	1.4	2.9
Cadmium (diss)	mg/L	-	0.005	-	-	0.00009, 0.0001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Chromium (diss)	mg/L	-	0.05	-	-	0.002, 0.003, 0.005	0.003	0.005	0.003	<0.003	<0.003	0.004
Cobalt (diss)	mg/L	-	-	-	0.0009	0.0005	0.001	0.005	0.015	0.005	0.005	0.009
Copper (diss)	mg/L	0.50075	1	-	-	0.0009, 0.001, 0.002	0.007	0.026	0.007	0.01	0.019	0.012
Iron (diss)	mg/L	0.1575	0.3	0.3	-	0.01, 0.1	<0.01	0.194	0.146	0.04	<0.01	0.233
Lead (diss)	mg/L	-	0.01	-	-	0.0005, 0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Manganese (diss)	mg/L	0.0275	0.05	-	-	0.002, 0.004, 0.01, 0.02	2.17	26.9	19.4	13.3	18.2	11.6
Mercury (diss)	mg/L	-	0.001	0.0002	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum (diss)	mg/L	-	-	-	0.04	0.0005, 0.002	<0.002	0.006	0.003	0.007	0.008	0.017
Nickel (diss)	mg/L	-	-	0.025	-	0.001, 0.003	0.004	0.006	0.007	0.006	<0.003	0.006
Selenium (diss)	mg/L	-	0.05	0.1	-	0.001	-	-	-	-	-	-
Silicon (diss)	mg/L	-	-	-	-	0.05, 0.25	2.07	3.96	2.67	2.09	2.07	2.79
Silver (diss)	mg/L	-	-	0.0001	-	0.00009, 0.0001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Strontium (diss)	mg/L	-	-	-	-	0.001, 0.005	0.517	1.28	0.849	0.529	0.647	0.576
Thallium (diss)	mg/L	-	-	-	0.0003	0.00005, 0.0003	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Titanium (diss)	mg/L	-	-	-	-	0.002, 0.005	0.004	0.011	0.012	0.007	0.007	0.01
Uranium (diss)	mg/L	-	0.02	-	0.005	0.0005	-	-	-	-	-	-
Vanadium (diss)	mg/L	-	-	-	0.006	0.0005, 0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Zinc (diss)	mg/L	2.50125	5	-	0.02	0.005	0.014	<0.005	<0.005	0.009	0.008	0.031

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds RUV-SB	Reasonable Use Values South Baptiste
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

MHH - South Baptiste WDS Appendix F1: Historical Groundwater Chemistry						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	SB-MW6	SB-MW6	SB-MW6	SB-MW6	SB-MW6	SB-MW6
Parameter	Units	RUV-SB	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	Sample ID	SB-MW6	SB-MW6	SB-MW6	SB-MW6	SB-MW6	SB-MW6
						Sample Date	2017-May-10	2017-Oct-23	2018-May-07	2018-Oct-24	2019-May-07	2019-Oct-22
Anions						**Detection Limit**						
Chloride	mg/L	125.26	250	-	-	0.1, 0.12, 0.24, 0.5, 1	178	162	79.8	141	79.2	45.1
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-
Nitrate as N	mg/L	2.51875	10	-	-	0.05, 0.07, 0.1, 0.25, 0.5	1.2	<0.25	2.7	<1	1	0.3
Nitrite as N	mg/L	-	1	-	-	0.01, 0.05, 0.25, 0.5	<0.5	<0.25	<0.5	<1	<0.5	<0.25
Sulphate	mg/L	-	500	-	-	0.1, 0.19, 0.5, 1, 2	151	51.2	82	18.9	35.5	128
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.25	113	140	86.8	153	103	141
Magnesium (diss)	mg/L	-	-	-	-	0.05, 0.25	29.6	40.1	26.2	42.2	30.1	25.4
Potassium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 2.5	139	125	85.3	139	101	77.1
Sodium (diss)	mg/L	100.6	200	-	-	0.05, 0.1, 0.25	244	222	147	197	123	66.4
General Chemistry												
Alkalinity (as CaCO3)	mg/L	260.5	30 - 500	-	-	1, 5	1050	1040	761	1010	967	638
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.07, 0.1, 0.18, 0.25, 0.3, 0.4, 0.5	51.7	87	44	57.3	46.5	27.6
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5, 8, 10, 12, 20, 31, 206	284	863	316	461	284	283
Dissolved Organic Carbon	mg/L	3.2	5	-	-	0.4, 0.5	136	101	61	143	82	51
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	2910	2080	1710	2780	1860	1460
Hardness (as CaCO3)	mg/L	-	80 - 100	-	-		404.1	514.7	324.6	555.8	381.1	456.7
pH	pH units	-	6.5 - 8.5	6.5 - 8.5	-		7.95	7.82	7.72	7.73	7.58	7.4
Phenols	mg/L	-	-	0.001	-	0.001, 0.004	<0.001	**0.003**	**0.002**	**0.013**	**0.005**	**0.01**
Total Dissolved Solids	mg/L	269	500	-	-	1, 10, 20	1490	1340	922	1330	938	860
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1, 0.11, 0.2, 0.22, 0.5, 1, 2, 5	58	106	44.3	59.5	53	31.8
Total Phosphorus	mg/L	-	-	0.03	-	0.02, 0.03, 0.06, 0.1, 0.12, 0.14, 0.2, 0.4, 0.6	<0.1	**374**	**22.2**	**52.6**	**19.2**	**13.8**
Total Suspended Solids	mg/L	-	-	-	-	5, 10, 13, 14, 20, 25, 33, 50, 100, 200, 500, 1000	-	-	-	-	-	-
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.0525	0.1	-	-	0.004, 0.0049	0.203	0.173	0.158	0.133	0.092	0.213
Arsenic (diss)	mg/L	-	0.01	-	0.005	0.001, 0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Barium (diss)	mg/L	-	1	-	-	0.002	0.163	0.354	0.186	0.445	0.293	0.223
Beryllium (diss)	mg/L	-	-	-	-	0.0004, 0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
Boron (diss)	mg/L	1.25375	5	-	0.2	0.01, 0.02, 0.1	2.25	1.61	1.42	1.62	2.01	1.91
Cadmium (diss)	mg/L	-	0.005	-	-	0.00009, 0.0001	<0.002	<0.002	<0.0001	<0.0001	<0.0001	<0.0001
Chromium (diss)	mg/L	-	0.05	-	-	0.002, 0.003, 0.005	<0.003	0.007	<0.003	0.004	0.011	<0.003
Cobalt (diss)	mg/L	-	-	-	0.0009	0.0005	0.011	0.102	0.093	0.111	0.0839	0.103
Copper (diss)	mg/L	0.50075	1	-	-	0.0009, 0.001, 0.002	0.038	0.071	0.025	0.02	0.02	0.015
Iron (diss)	mg/L	0.1575	0.3	0.3	-	0.01, 0.1	0.127	**10.3**	**4.64**	**38.4**	**29.6**	**43**
Lead (diss)	mg/L	-	0.01	-	-	0.0005, 0.001	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001
Manganese (diss)	mg/L	0.0275	0.05	-	-	0.002, 0.004, 0.01, 0.02	14.9	14.7	4.18	5.63	4.18	5.21
Mercury (diss)	mg/L	-	0.001	0.0002	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum (diss)	mg/L	-	-	-	0.04	0.0005, 0.002	0.015	0.01	0.007	0.007	0.007	0.005
Nickel (diss)	mg/L	-	-	0.025	-	0.001, 0.003	0.007	0.014	0.009	0.007	0.009	0.008
Selenium (diss)	mg/L	-	0.05	0.1	-	0.001	-	-	-	-	-	-
Silicon (diss)	mg/L	-	-	-	-	0.05, 0.25	2.72	4.83	3.49	3.93	4.45	3.21
Silver (diss)	mg/L	-	-	0.0001	-	0.00009, 0.0001	<0.002	<0.002	<0.002	<0.002	<0.0001	<0.0001
Strontium (diss)	mg/L	-	-	-	-	0.001, 0.005	0.572	0.675	0.376	0.627	0.438	0.465
Thallium (diss)	mg/L	-	-	-	0.0003	0.00005, 0.0003	<0.006	<0.006	<0.006	<0.006	0.0004	0.0004
Titanium (diss)	mg/L	-	-	-	-	0.002, 0.005	0.01	0.017	0.01	0.008	0.006	0.016
Uranium (diss)	mg/L	-	0.02	-	0.005	0.0005	-	-	-	-	-	-
Vanadium (diss)	mg/L	-	-	-	0.006	0.0005, 0.002	<0.002	0.003	<0.002	0.003	0.003	0.002
Zinc (diss)	mg/L	2.50125	5	-	0.02	0.005	<0.005	0.008	0.005	<0.005	<0.005	<0.005

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds RUV-SB	Reasonable Use Values South Baptiste
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

MHH - South Baptiste WDS Appendix F1: Historical Groundwater Chemistry						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	SB-MW6	SB-MW6	SB-MW6	SB-MW6	SB-MW6	SB-MW6R
Parameter	Units	RUV-SB	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	Sample ID	SB-MW6	SB-MW6	SB MW6	SB-MW6	SB-MW6	SB MW6R
						Sample Date	2020-May-06	2020-Oct-06	2021-Apr-20	2021-Oct-21	2022-May-05	2022-Oct-19
Anions						**Detection Limit**						
Chloride	mg/L	125.26	250	-	-	0.1, 0.12, 0.24, 0.5, 1	123	38.5	73	98.2	47.3	48
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-
Nitrate as N	mg/L	2.51875	10	-	-	0.05, 0.07, 0.1, 0.25, 0.5	1.6	0.33	1.6	<0.07	0.18	<0.07
Nitrite as N	mg/L	-	1	-	-	0.01, 0.05, 0.25, 0.5	<1	<0.25	<0.5	<0.05	<0.05	0.58
Sulphate	mg/L	-	500	-	-	0.1, 0.19, 0.5, 1, 2	258	125	120	64.4	64	33.2
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.25	190	185	181	162	89.8	201
Magnesium (diss)	mg/L	-	-	-	-	0.05, 0.25	31.9	24.4	36.1	40.9	18.8	29
Potassium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 2.5	76.8	72.4	89.6	107	50.4	70.4
Sodium (diss)	mg/L	100.6	200	-	-	0.05, 0.1, 0.25	126	69	107	131	59.4	73.2
General Chemistry												
Alkalinity (as CaCO3)	mg/L	260.5	30 - 500	-	-	1, 5	796	738	915	1050	526	1100
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.07, 0.1, 0.18, 0.25, 0.3, 0.4, 0.5	55.5	34.9	55	69.6	27.9	42.6
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5, 8, 10, 12, 20, 31, 206	353	144	304	261	341	31
Dissolved Organic Carbon	mg/L	3.2	5	-	-	0.4, 0.5	54.4	41.8	63.2	79.1	34.5	2.3
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	2880	1550	2070	2270	1270	2170
Hardness (as CaCO3)	mg/L	-	80 - 100	-	-		605.8	562.4	600.6	572.9	301.6	621.3
pH	pH units	-	6.5 - 8.5	6.5 - 8.5	-		6.85	-	7.25	7.36	7.16	7.52
Phenols	mg/L	-	-	0.001	-	0.001, 0.004	**0.01**	**0.027**	**0.045**	**0.034**	**0.009**	**0.022**
Total Dissolved Solids	mg/L	269	500	-	-	1, 10, 20	1340	898	1180	1190	648	1160
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1, 0.11, 0.2, 0.22, 0.5, 1, 2, 5	57	37.8	57.4	70.5	32	45.1
Total Phosphorus	mg/L	-	-	0.03	-	0.02, 0.03, 0.06, 0.1, 0.12, 0.14, 0.2, 0.4, 0.6	**21.2**	**3.76**	**2.62**	**1.95**	**3.31**	**6.46**
Total Suspended Solids	mg/L	-	-	-	-	5, 10, 13, 14, 20, 25, 33, 50, 100, 200, 500, 1000	-	-	-	-	-	-
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.0525	0.1	-	-	0.004, 0.0049	0.048	0.067	0.036	0.096	0.029	0.032
Arsenic (diss)	mg/L	-	0.01	-	0.005	0.001, 0.003	<0.003	<0.003	0.008	<0.003	<0.003	<0.001
Barium (diss)	mg/L	-	1	-	-	0.002	0.247	0.218	0.173	0.308	0.129	0.22
Beryllium (diss)	mg/L	-	-	-	-	0.0004, 0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005
Boron (diss)	mg/L	1.25375	5	-	0.2	0.01, 0.02, 0.1	1.47	1.62	2.18	2.37	<0.1	1.56
Cadmium (diss)	mg/L	-	0.005	-	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium (diss)	mg/L	-	0.05	-	-	0.002, 0.003, 0.005	<0.003	<0.003	<0.003	<0.003	<0.003	<0.002
Cobalt (diss)	mg/L	-	-	-	0.0009	0.0005	0.0558	0.0644	0.0357	0.0774	0.0238	0.0839
Copper (diss)	mg/L	0.50075	1	-	-	0.0009, 0.001, 0.002	0.018	0.018	0.014	0.019	0.007	0.017
Iron (diss)	mg/L	0.1575	0.3	0.3	-	0.01, 0.1	**7.84**	**10.2**	**7.76**	**54.1**	**21.2**	**14.1**
Lead (diss)	mg/L	-	0.01	-	-	0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005
Manganese (diss)	mg/L	0.0275	0.05	-	-	0.002, 0.004, 0.01, 0.02	2.64	4.07	2.47	6.91	2.52	3.67
Mercury (diss)	mg/L	-	0.001	0.0002	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum (diss)	mg/L	-	-	-	0.04	0.0005, 0.002	0.002	0.003	<0.002	0.007	0.002	<0.002
Nickel (diss)	mg/L	-	-	0.025	-	0.001, 0.003	0.007	0.008	0.005	0.013	0.005	0.01
Selenium (diss)	mg/L	-	0.05	0.1	-	0.001	-	-	-	-	-	0.002
Silicon (diss)	mg/L	-	-	-	-	0.05, 0.25	2.41	3.26	1.79	4.33	2.23	2.77
Silver (diss)	mg/L	-	-	0.0001	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Strontium (diss)	mg/L	-	-	-	-	0.001, 0.005	0.599	0.505	0.389	0.7	0.304	0.545
Thallium (diss)	mg/L	-	-	-	0.0003	0.00005, 0.0003	0.0003	0.0006	<0.0003	0.0005	<0.0003	<0.0003
Titanium (diss)	mg/L	-	-	-	-	0.002, 0.005	0.006	0.002	<0.002	0.007	<0.002	0.002
Uranium (diss)	mg/L	-	0.02	-	0.005	0.0005	-	-	-	-	-	0.0051
Vanadium (diss)	mg/L	-	-	-	0.006	0.0005, 0.002	<0.002	<0.002	<0.002	0.003	<0.002	-
Zinc (diss)	mg/L	2.50125	5	-	0.02	0.005	<0.005	<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 RUV-SB	Reasonable Use Values South Baptiste
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

MHH - South Baptiste WDS Appendix F1: Historical Groundwater Chemistry						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	SB-MW6R	SB-MW6R	SB-MW6R	SB-MW6R	SB-MW6R	SB-MW6R
Parameter	Units	RUV-SB	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	Sample ID	SB MW6R	SB-MW6R	SB-MW6R	SB-MW6R	SB-MW6R	SB-MW6R
						Sample Date	2023-May-04	2023-Oct-19	2024-Apr-29	2024-Oct-30	2025-May-08	2025-Oct-21
Anions						**Detection Limit**						
Chloride	mg/L	125.26	250	-	-	0.1, 0.12, 0.24, 0.5, 1	47.7	11	52	41	39	27
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	0.12	1.78	0.13	<0.1	<0.1
Nitrate as N	mg/L	2.51875	10	-	-	0.05, 0.07, 0.1, 0.25, 0.5	0.34	<0.1	1.69	0.11	<0.1	<0.1
Nitrite as N	mg/L	-	1	-	-	0.01, 0.05, 0.25, 0.5	<0.05	0.029	0.084	0.015	<0.01	<0.01
Sulphate	mg/L	-	500	-	-	0.1, 0.19, 0.5, 1, 2	92.1	16	110	47	43	45
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.25	159	180	190	230	210	230
Magnesium (diss)	mg/L	-	-	-	-	0.05, 0.25	30.7	29	27	38	38	23
Potassium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 2.5	74.2	84	68	88	83	54
Sodium (diss)	mg/L	100.6	200	-	-	0.05, 0.1, 0.25	81.6	69	80	93	74	30
General Chemistry												
Alkalinity (as CaCO3)	mg/L	260.5	30 - 500	-	-	1, 5	907	830	690	1100	950	850
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.07, 0.1, 0.18, 0.25, 0.3, 0.4, 0.5	45.5	50	53	53	38	43
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5, 8, 10, 12, 20, 31, 206	80	290	190	280	170	250
Dissolved Organic Carbon	mg/L	3.2	5	-	-	0.4, 0.5	44.9	48	40	62	51	35
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	1870	1800	1700	2100	1900	1700
Hardness (as CaCO3)	mg/L	-	80 - 100	-	-		-	-	-	-	-	-
pH	pH units	-	6.5 - 8.5	6.5 - 8.5	-		7.37	7.53	7.64	7.64	7.41	7.46
Phenols	mg/L	-	-	0.001	-	0.001, 0.004	**0.002**	**0.0011**	0.001	**0.0017**	<0.001	**0.0013**
Total Dissolved Solids	mg/L	269	500	-	-	1, 10, 20	982	770	1300	1180	1110	915
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1, 0.11, 0.2, 0.22, 0.5, 1, 2, 5	58.5	48	51	60	42	50
Total Phosphorus	mg/L	-	-	0.03	-	0.02, 0.03, 0.06, 0.1, 0.12, 0.14, 0.2, 0.4, 0.6	**3.4**	**52**	**8.8**	**7.4**	**17**	**7.2**
Total Suspended Solids	mg/L	-	-	-	-	5, 10, 13, 14, 20, 25, 33, 50, 100, 200, 500, 1000	54300	120000	140000	100000	150000	250000
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.0525	0.1	-	-	0.004, 0.0049	0.044	0.056	0.029	0.065	0.071	0.052
Arsenic (diss)	mg/L	-	0.01	-	0.005	0.001, 0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Barium (diss)	mg/L	-	1	-	-	0.002	0.18	0.27	0.19	0.29	0.27	0.18
Beryllium (diss)	mg/L	-	-	-	-	0.0004, 0.0005, 0.001	<0.0005	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
Boron (diss)	mg/L	1.25375	5	-	0.2	0.01, 0.02, 0.1	2.08	2.5	2	2.2	1.7	2.2
Cadmium (diss)	mg/L	-	0.005	-	-	0.00009, 0.0001	<0.0001	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009
Chromium (diss)	mg/L	-	0.05	-	-	0.002, 0.003, 0.005	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005
Cobalt (diss)	mg/L	-	-	-	0.0009	0.0005	0.0369	0.045	0.031	0.061	0.035	0.028
Copper (diss)	mg/L	0.50075	1	-	-	0.0009, 0.001, 0.002	0.01	0.0089	0.0087	0.012	0.0042	0.0038
Iron (diss)	mg/L	0.1575	0.3	0.3	-	0.01, 0.1	**37.7**	**63**	**20**	**69**	**69**	**59**
Lead (diss)	mg/L	-	0.01	-	-	0.0005, 0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Manganese (diss)	mg/L	0.0275	0.05	-	-	0.002, 0.004, 0.01, 0.02	4.3	4.3	2.2	4.1	4	4
Mercury (diss)	mg/L	-	0.001	0.0002	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum (diss)	mg/L	-	-	-	0.04	0.0005, 0.002	0.003	0.0061	0.002	0.0035	0.0026	0.0023
Nickel (diss)	mg/L	-	-	0.025	-	0.001, 0.003	0.008	0.0084	0.0059	0.01	0.0087	0.0067
Selenium (diss)	mg/L	-	0.05	0.1	-	0.001	-	-	-	-	-	-
Silicon (diss)	mg/L	-	-	-	-	0.05, 0.25	3.55	3.9	3	4.3	4.2	4.9
Silver (diss)	mg/L	-	-	0.0001	-	0.00009, 0.0001	<0.0001	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009
Strontium (diss)	mg/L	-	-	-	-	0.001, 0.005	0.56	0.61	0.59	0.76	0.68	0.72
Thallium (diss)	mg/L	-	-	-	0.0003	0.00005, 0.0003	<0.0003	0.0003	0.00025	0.00023	0.0001	0.00012
Titanium (diss)	mg/L	-	-	-	-	0.002, 0.005	0.01	<0.005	<0.005	<0.005	<0.005	<0.005
Uranium (diss)	mg/L	-	0.02	-	0.005	0.0005	-	-	-	-	-	-
Vanadium (diss)	mg/L	-	-	-	0.006	0.0005, 0.002	0.002	0.0028	0.0012	0.0023	0.0024	0.0016
Zinc (diss)	mg/L	2.50125	5	-	0.02	0.005	<0.005	<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 RUV-SB	Reasonable Use Values South Baptiste
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

MHH - South Baptiste WDS Appendix F1: Historical Groundwater Chemistry						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	SB-MW7	SB-MW7	SB-MW7	SB-MW7	SB-MW7	SB-MW7
Parameter	Units	RUV-SB	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	Sample ID	SB-MW7	SB-MW7	SB-MW7	SB-MW7	SB-MW7	SB-MW7
						Sample Date	2017-Oct-23	2018-May-07	2018-Jun-12	2018-Oct-24	2019-May-07	2019-Oct-22
Anions						**Detection Limit**						
Chloride	mg/L	125.26	250	-	-	0.1, 0.12, 0.24, 0.5, 1	169	79.8	168	143	78.4	115
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-
Nitrate as N	mg/L	2.51875	10	-	-	0.05, 0.07, 0.1, 0.25, 0.5	<0.25	2.7	-	<0.5	0.44	<0.25
Nitrite as N	mg/L	-	1	-	-	0.01, 0.05, 0.25, 0.5	<0.25	<0.5	-	<0.5	<0.25	<0.25
Sulphate	mg/L	-	500	-	-	0.1, 0.19, 0.5, 1, 2	126	82	-	160	98.8	136
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.25	182	159	-	171	138	141
Magnesium (diss)	mg/L	-	-	-	-	0.05, 0.25	29.8	29.1	-	29.4	20.9	25.8
Potassium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 2.5	33	39.9	-	46.6	13.4	41.9
Sodium (diss)	mg/L	100.6	200	-	-	0.05, 0.1, 0.25	144	134	-	151	89.7	135
General Chemistry												
Alkalinity (as CaCO3)	mg/L	260.5	30 - 500	-	-	1, 5	636	669	681	547	567	592
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.07, 0.1, 0.18, 0.25, 0.3, 0.4, 0.5	7.8	9.1	7.2	9.24	4.5	11.8
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5, 8, 10, 12, 20, 31, 206	95	75	-	81	54	78
Dissolved Organic Carbon	mg/L	3.2	5	-	-	0.4, 0.5	36.3	29.3	32.2	36.8	18.4	26.8
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	1510	1700	-	1970	1270	1540
Hardness (as CaCO3)	mg/L	-	80 - 100	-	-		577.2	516.9	-	548.1	430.7	458.3
pH	pH units	-	6.5 - 8.5	6.5 - 8.5	-		7.79	7.65	-	7.71	7.52	7.58
Phenols	mg/L	-	-	0.001	-	0.001, 0.004	<0.001	<0.001	-	**0.005**	**0.002**	**0.008**
Total Dissolved Solids	mg/L	269	500	-	-	1, 10, 20	1120	1040	1050	1100	784	926
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1, 0.11, 0.2, 0.22, 0.5, 1, 2, 5	7.68	10.9	-	11.8	6.24	13.5
Total Phosphorus	mg/L	-	-	0.03	-	0.02, 0.03, 0.06, 0.1, 0.12, 0.14, 0.2, 0.4, 0.6	**0.08**	**0.12**	-	**0.04**	**0.05**	**0.05**
Total Suspended Solids	mg/L	-	-	-	-	5, 10, 13, 14, 20, 25, 33, 50, 100, 200, 500, 1000	-	-	-	-	-	-
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.0525	0.1	-	-	0.004, 0.0049	0.008	0.006	0.009	0.01	0.004	0.009
Arsenic (diss)	mg/L	-	0.01	-	0.005	0.001, 0.003	<0.003	<0.003	-	<0.003	<0.003	<0.003
Barium (diss)	mg/L	-	1	-	-	0.002	0.221	0.221	-	0.239	0.174	0.184
Beryllium (diss)	mg/L	-	-	-	-	0.0004, 0.0005, 0.001	<0.001	<0.001	-	<0.001	<0.0005	<0.0005
Boron (diss)	mg/L	1.25375	5	-	0.2	0.01, 0.02, 0.1	0.83	0.883	0.883	1.02	0.827	0.922
Cadmium (diss)	mg/L	-	0.005	-	-	0.00009, 0.0001	<0.002	0.0006	-	0.0005	0.0004	0.0003
Chromium (diss)	mg/L	-	0.05	-	-	0.002, 0.003, 0.005	0.005	<0.003	-	<0.003	0.007	<0.003
Cobalt (diss)	mg/L	-	-	-	0.0009	0.0005	0.015	0.022	-	0.027	0.0151	0.0192
Copper (diss)	mg/L	0.50075	1	-	-	0.0009, 0.001, 0.002	0.043	0.056	-	0.069	0.044	0.041
Iron (diss)	mg/L	0.1575	0.3	0.3	-	0.01, 0.1	0.117	<0.01	0.011	<0.01	<0.01	0.145
Lead (diss)	mg/L	-	0.01	-	-	0.0005, 0.001	<0.002	<0.001	-	<0.001	<0.001	<0.001
Manganese (diss)	mg/L	0.0275	0.05	-	-	0.002, 0.004, 0.01, 0.02	7.6	12.4	10	11.1	6.66	7.81
Mercury (diss)	mg/L	-	0.001	0.0002	-	0.0001	<0.0001	<0.0001	-	<0.0001	<0.0001	<0.0001
Molybdenum (diss)	mg/L	-	-	-	0.04	0.0005, 0.002	0.005	0.008	-	0.006	0.007	0.005
Nickel (diss)	mg/L	-	-	0.025	-	0.001, 0.003	**0.039**	**0.045**	-	**0.043**	**0.035**	**0.036**
Selenium (diss)	mg/L	-	0.05	0.1	-	0.001	-	-	-	-	-	-
Silicon (diss)	mg/L	-	-	-	-	0.05, 0.25	9.84	7.99	-	9.55	7.62	8.62
Silver (diss)	mg/L	-	-	0.0001	-	0.00009, 0.0001	<0.002	<0.002	-	<0.002	<0.0001	<0.0001
Strontium (diss)	mg/L	-	-	-	-	0.001, 0.005	1.54	1.52	-	1.52	1.22	1.35
Thallium (diss)	mg/L	-	-	-	0.0003	0.00005, 0.0003	<0.006	<0.006	-	<0.006	<0.0003	<0.0003
Titanium (diss)	mg/L	-	-	-	-	0.002, 0.005	0.003	0.002	-	0.002	<0.002	0.002
Uranium (diss)	mg/L	-	0.02	-	0.005	0.0005	-	-	-	-	-	-
Vanadium (diss)	mg/L	-	-	-	0.006	0.0005, 0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002
Zinc (diss)	mg/L	2.50125	5	-	0.02	0.005	0.069	0.096	-	0.125	0.061	0.06

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds RUV-SB	Reasonable Use Values South Baptiste
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

MHH - South Baptiste WDS Appendix F1: Historical Groundwater Chemistry						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	SB-MW7	SB-MW7	SB-MW7	SB-MW7	SB-MW7	SB-MW7
Parameter	Units	RUV-SB	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	Sample ID	SB-MW7	SB-MW7	SB MW7	SB MW7	SB-MW7	SB MW7
						Sample Date	2020-May-06	2020-Oct-06	2021-Apr-20	2021-Oct-21	2022-May-05	2022-Oct-19
Anions						**Detection Limit**						
Chloride	mg/L	125.26	250	-	-	0.1, 0.12, 0.24, 0.5, 1	102	17.6	82.7	103	97.1	95.6
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-
Nitrate as N	mg/L	2.51875	10	-	-	0.05, 0.07, 0.1, 0.25, 0.5	<0.5	20.9	1.14	0.34	0.49	0.31
Nitrite as N	mg/L	-	1	-	-	0.01, 0.05, 0.25, 0.5	<0.5	<0.05	<0.25	<0.05	<0.05	<0.05
Sulphate	mg/L	-	500	-	-	0.1, 0.19, 0.5, 1, 2	97.9	33.7	90.2	99.3	81.6	96.2
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.25	137	33	139	149	149	171
Magnesium (diss)	mg/L	-	-	-	-	0.05, 0.25	24.8	4.52	24.3	26.4	26.8	27.5
Potassium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 2.5	32.1	9.85	24	31.6	34.2	33
Sodium (diss)	mg/L	100.6	200	-	-	0.05, 0.1, 0.25	103	12.7	94.5	98.6	101	93.5
General Chemistry												
Alkalinity (as CaCO3)	mg/L	260.5	30 - 500	-	-	1, 5	582	62	538	598	609	626
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.07, 0.1, 0.18, 0.25, 0.3, 0.4, 0.5	10.1	0.31	6.32	12.6	12.7	14.2
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5, 8, 10, 12, 20, 31, 206	65	78	32	62	69	67
Dissolved Organic Carbon	mg/L	3.2	5	-	-	0.4, 0.5	26.8	4.1	23	27	25.6	26.8
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	1920	386	1360	1550	1520	1620
Hardness (as CaCO3)	mg/L	-	80 - 100	-	-		444.2	101	447.2	480.8	482.4	540.2
pH	pH units	-	6.5 - 8.5	6.5 - 8.5	-		7.01	-	7.23	7.28	7.2	7.55
Phenols	mg/L	-	-	0.001	-	0.001, 0.004	**0.003**	0.001	**0.022**	**0.041**	**0.072**	**0.004**
Total Dissolved Solids	mg/L	269	500	-	-	1, 10, 20	874	246	872	904	866	908
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1, 0.11, 0.2, 0.22, 0.5, 1, 2, 5	11.7	1.87	7.5	14.5	14.8	14.4
Total Phosphorus	mg/L	-	-	0.03	-	0.02, 0.03, 0.06, 0.1, 0.12, 0.14, 0.2, 0.4, 0.6	0.03	**92.3**	**0.2**	<0.02	**0.05**	**0.14**
Total Suspended Solids	mg/L	-	-	-	-	5, 10, 13, 14, 20, 25, 33, 50, 100, 200, 500, 1000	-	-	-	-	-	-
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.0525	0.1	-	-	0.004, 0.0049	0.009	0.155	0.019	0.014	0.019	0.021
Arsenic (diss)	mg/L	-	0.01	-	0.005	0.001, 0.003	<0.003	<0.003	0.006	<0.003	<0.003	<0.001
Barium (diss)	mg/L	-	1	-	-	0.002	0.18	0.229	0.145	0.191	0.179	0.178
Beryllium (diss)	mg/L	-	-	-	-	0.0004, 0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005
Boron (diss)	mg/L	1.25375	5	-	0.2	0.01, 0.02, 0.1	0.821	0.224	0.822	0.838	0.758	0.95
Cadmium (diss)	mg/L	-	0.005	-	-	0.00009, 0.0001	0.0004	<0.0001	0.0003	<0.0001	0.0003	0.0001
Chromium (diss)	mg/L	-	0.05	-	-	0.002, 0.003, 0.005	<0.003	<0.003	<0.003	<0.003	<0.003	<0.002
Cobalt (diss)	mg/L	-	-	-	0.0009	0.0005	0.0182	0.001	0.0142	0.0199	0.0206	0.0194
Copper (diss)	mg/L	0.50075	1	-	-	0.0009, 0.001, 0.002	0.046	0.004	0.034	0.034	0.037	0.044
Iron (diss)	mg/L	0.1575	0.3	0.3	-	0.01, 0.1	<0.01	0.081	0.027	**0.496**	0.044	0.035
Lead (diss)	mg/L	-	0.01	-	-	0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005
Manganese (diss)	mg/L	0.0275	0.05	-	-	0.002, 0.004, 0.01, 0.02	9.98	0.369	6.68	8.64	9.19	9.16
Mercury (diss)	mg/L	-	0.001	0.0002	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum (diss)	mg/L	-	-	-	0.04	0.0005, 0.002	0.007	<0.002	0.005	0.007	0.008	0.007
Nickel (diss)	mg/L	-	-	0.025	-	0.001, 0.003	**0.037**	<0.003	**0.027**	**0.037**	**0.033**	**0.031**
Selenium (diss)	mg/L	-	0.05	0.1	-	0.001	-	-	-	-	-	<0.001
Silicon (diss)	mg/L	-	-	-	-	0.05, 0.25	7.1	4.71	7.01	7.61	6.14	7.21
Silver (diss)	mg/L	-	-	0.0001	-	0.00009, 0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	<0.0001
Strontium (diss)	mg/L	-	-	-	-	0.001, 0.005	1.27	0.571	1.21	1.47	1.13	1.42
Thallium (diss)	mg/L	-	-	-	0.0003	0.00005, 0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Titanium (diss)	mg/L	-	-	-	-	0.002, 0.005	<0.002	0.01	<0.002	<0.002	0.004	<0.002
Uranium (diss)	mg/L	-	0.02	-	0.005	0.0005	-	-	-	-	-	0.0634
Vanadium (diss)	mg/L	-	-	-	0.006	0.0005, 0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-
Zinc (diss)	mg/L	2.50125	5	-	0.02	0.005	0.06	0.006	0.046	0.056	0.037	0.087

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds RUV-SB	Reasonable Use Values South Baptiste
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

MHH - South Baptiste WDS Appendix F1: Historical Groundwater Chemistry						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	SB-MW7	SB-MW7	SB-MW7	SB-MW7	SB-MW7	SB-MW7
Parameter	Units	RUV-SB	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	Sample ID	SB MW7	SB-MW7	SB-QAQC-GW1 (SB-MW7)	SB-MW7	SB-MW7	SB-MW7
						Sample Date	2023-May-04	2023-Oct-19	2023-Oct-19	2024-Apr-29	2024-Oct-30	2025-May-08
Anions						**Detection Limit**						
Chloride	mg/L	125.26	250	-	-	0.1, 0.12, 0.24, 0.5, 1	90.9	97	90	81	110	95
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	0.28	0.28	1.45	0.15	0.33
Nitrate as N	mg/L	2.51875	10	-	-	0.05, 0.07, 0.1, 0.25, 0.5	0.32	0.28	0.28	1.45	0.14	0.33
Nitrite as N	mg/L	-	1	-	-	0.01, 0.05, 0.25, 0.5	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01
Sulphate	mg/L	-	500	-	-	0.1, 0.19, 0.5, 1, 2	67.5	72	66	50	54	47
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.25	142	170	170	150	170	180
Magnesium (diss)	mg/L	-	-	-	-	0.05, 0.25	24.5	29	28	27	30	31
Potassium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 2.5	33.9	29	28	33	51	34
Sodium (diss)	mg/L	100.6	200	-	-	0.05, 0.1, 0.25	87.2	91	89	81	98	96
General Chemistry												
Alkalinity (as CaCO3)	mg/L	260.5	30 - 500	-	-	1, 5	623	620	620	590	700	660
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.07, 0.1, 0.18, 0.25, 0.3, 0.4, 0.5	10.2	19	19	16	19	9.1
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5, 8, 10, 12, 20, 31, 206	51	75	76	58	75	50
Dissolved Organic Carbon	mg/L	3.2	5	-	-	0.4, 0.5	22.1	23	23	21	27	22
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	1470	1500	1500	1400	1800	1600
Hardness (as CaCO3)	mg/L	-	80 - 100	-	-		-	-	-	-	-	-
pH	pH units	-	6.5 - 8.5	6.5 - 8.5	-		7.29	7.64	7.74	7.89	7.61	7.69
Phenols	mg/L	-	-	0.001	-	0.001, 0.004	<0.001	<0.001	<0.001	<0.001	<0.001	**0.0011**
Total Dissolved Solids	mg/L	269	500	-	-	1, 10, 20	808	940	930	865	960	905
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1, 0.11, 0.2, 0.22, 0.5, 1, 2, 5	10.7	18	19	17	21	13
Total Phosphorus	mg/L	-	-	0.03	-	0.02, 0.03, 0.06, 0.1, 0.12, 0.14, 0.2, 0.4, 0.6	**0.09**	<0.02	0.029	**0.034**	<0.02	<0.02
Total Suspended Solids	mg/L	-	-	-	-	5, 10, 13, 14, 20, 25, 33, 50, 100, 200, 500, 1000	28	13	15	52	13	29
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.0525	0.1	-	-	0.004, 0.0049	<0.004	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049
Arsenic (diss)	mg/L	-	0.01	-	0.005	0.001, 0.003	<0.001	<0.001	<0.001	<0.001	<0.001	0.0011
Barium (diss)	mg/L	-	1	-	-	0.002	0.153	0.18	0.18	0.18	0.24	0.2
Beryllium (diss)	mg/L	-	-	-	-	0.0004, 0.0005, 0.001	<0.0005	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
Boron (diss)	mg/L	1.25375	5	-	0.2	0.01, 0.02, 0.1	0.885	0.94	0.94	0.87	1	0.83
Cadmium (diss)	mg/L	-	0.005	-	-	0.00009, 0.0001	0.0004	0.00033	0.00038	0.00035	0.00047	0.00012
Chromium (diss)	mg/L	-	0.05	-	-	0.002, 0.003, 0.005	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005
Cobalt (diss)	mg/L	-	-	-	0.0009	0.0005	0.0177	0.015	0.014	0.019	0.032	0.014
Copper (diss)	mg/L	0.50075	1	-	-	0.0009, 0.001, 0.002	0.039	0.037	0.037	0.038	0.058	0.0085
Iron (diss)	mg/L	0.1575	0.3	0.3	-	0.01, 0.1	0.024	<0.1	<0.1	<0.1	<0.1	0.63
Lead (diss)	mg/L	-	0.01	-	-	0.0005, 0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Manganese (diss)	mg/L	0.0275	0.05	-	-	0.002, 0.004, 0.01, 0.02	10.9	8.7	8.5	12	15	13
Mercury (diss)	mg/L	-	0.001	0.0002	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum (diss)	mg/L	-	-	-	0.04	0.0005, 0.002	0.008	0.006	0.0062	0.0077	0.011	0.0081
Nickel (diss)	mg/L	-	-	0.025	-	0.001, 0.003	**0.035**	**0.028**	**0.028**	**0.03**	**0.039**	**0.029**
Selenium (diss)	mg/L	-	0.05	0.1	-	0.001	-	-	-	-	-	-
Silicon (diss)	mg/L	-	-	-	-	0.05, 0.25	7.81	8.1	7.9	6.9	7.3	7.8
Silver (diss)	mg/L	-	-	0.0001	-	0.00009, 0.0001	<0.0001	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009
Strontium (diss)	mg/L	-	-	-	-	0.001, 0.005	1.19	1.5	1.5	1.3	1.4	1.4
Thallium (diss)	mg/L	-	-	-	0.0003	0.00005, 0.0003	<0.0003	0.00014	0.00014	0.00014	0.0002	0.000057
Titanium (diss)	mg/L	-	-	-	-	0.002, 0.005	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005
Uranium (diss)	mg/L	-	0.02	-	0.005	0.0005	-	-	-	-	-	-
Vanadium (diss)	mg/L	-	-	-	0.006	0.0005, 0.002	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	0.00071
Zinc (diss)	mg/L	2.50125	5	-	0.02	0.005	0.06	0.062	0.061	0.05	0.06	0.016

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds RUV-SB	Reasonable Use Values South Baptiste
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

MHH - South Baptiste WDS Appendix F1: Historical Groundwater Chemistry						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	SB-MW7	SB-MW8	SB-MW8	SB-MW8	SB-MW8	SB-MW8
Parameter	Units	RUV-SB	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	Sample ID	SB-MW7	SB-MW8	SB-MW8	SB-MW8	SB-MW8	SB-MW8-QAQC-F20 (SB-MW8)
						Sample Date	2025-Oct-21	2019-May-07	2019-Oct-22	2020-May-06	2020-Oct-06	2020-Oct-06
Anions						**Detection Limit**						
Chloride	mg/L	125.26	250	-	-	0.1, 0.12, 0.24, 0.5, 1	97	51.7	46.8	116	19.7	19
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	0.39	-	-	-	-	-
Nitrate as N	mg/L	2.51875	10	-	-	0.05, 0.07, 0.1, 0.25, 0.5	0.39	0.44	0.2	0.05	0.06	0.06
Nitrite as N	mg/L	-	1	-	-	0.01, 0.05, 0.25, 0.5	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	-	500	-	-	0.1, 0.19, 0.5, 1, 2	54	4.53	5.67	3.62	4.85	4.82
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.25	150	18.2	8.63	34.9	3.94	3.99
Magnesium (diss)	mg/L	-	-	-	-	0.05, 0.25	29	2.28	1.26	4.31	0.46	0.46
Potassium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 2.5	50	1.65	1.57	2.31	1.09	1.15
Sodium (diss)	mg/L	100.6	200	-	-	0.05, 0.1, 0.25	95	19.2	30.5	28.9	18.4	18.5
General Chemistry												
Alkalinity (as CaCO3)	mg/L	260.5	30 - 500	-	-	1, 5	690	37	22	26	34	34
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.07, 0.1, 0.18, 0.25, 0.3, 0.4, 0.5	19	<0.02	0.06	<0.02	<0.02	0.02
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5, 8, 10, 12, 20, 31, 206	58	8	<5	15	15	10
Dissolved Organic Carbon	mg/L	3.2	5	-	-	0.4, 0.5	25	1.1	2.2	1.3	2.4	2.3
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	1700	255	211	545	115	115
Hardness (as CaCO3)	mg/L	-	80 - 100	-	-		-	54.8	26.7	104.9	11.7	11.9
pH	pH units	-	6.5 - 8.5	6.5 - 8.5	-		7.67	6.6	6.55	6.48	-	-
Phenols	mg/L	-	-	0.001	-	0.001, 0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total Dissolved Solids	mg/L	269	500	-	-	1, 10, 20	880	176	160	324	72	86
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1, 0.11, 0.2, 0.22, 0.5, 1, 2, 5	19	<0.1	<0.1	0.22	0.23	0.27
Total Phosphorus	mg/L	-	-	0.03	-	0.02, 0.03, 0.06, 0.1, 0.12, 0.14, 0.2, 0.4, 0.6	**0.067**	**11.9**	**20.4**	**57**	**31.7**	**30.2**
Total Suspended Solids	mg/L	-	-	-	-	5, 10, 13, 14, 20, 25, 33, 50, 100, 200, 500, 1000	28	-	-	-	-	-
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.0525	0.1	-	-	0.004, 0.0049	0.0054	0.011	0.013	0.015	0.013	0.012
Arsenic (diss)	mg/L	-	0.01	-	0.005	0.001, 0.003	<0.001	<0.003	<0.003	<0.003	<0.003	<0.003
Barium (diss)	mg/L	-	1	-	-	0.002	0.22	0.016	0.01	0.026	0.004	0.004
Beryllium (diss)	mg/L	-	-	-	-	0.0004, 0.0005, 0.001	<0.0004	<0.0005	<0.0005	<0.001	<0.001	<0.001
Boron (diss)	mg/L	1.25375	5	-	0.2	0.01, 0.02, 0.1	1	0.013	0.056	<0.01	<0.01	<0.01
Cadmium (diss)	mg/L	-	0.005	-	-	0.00009, 0.0001	0.00059	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium (diss)	mg/L	-	0.05	-	-	0.002, 0.003, 0.005	<0.005	0.003	<0.003	<0.003	<0.003	<0.003
Cobalt (diss)	mg/L	-	-	-	0.0009	0.0005	0.029	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Copper (diss)	mg/L	0.50075	1	-	-	0.0009, 0.001, 0.002	0.053	<0.001	0.002	<0.002	0.002	<0.002
Iron (diss)	mg/L	0.1575	0.3	0.3	-	0.01, 0.1	<0.1	<0.01	<0.01	<0.01	0.023	0.025
Lead (diss)	mg/L	-	0.01	-	-	0.0005, 0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (diss)	mg/L	0.0275	0.05	-	-	0.002, 0.004, 0.01, 0.02	16	0.003	<0.002	0.003	<0.002	<0.002
Mercury (diss)	mg/L	-	0.001	0.0002	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum (diss)	mg/L	-	-	-	0.04	0.0005, 0.002	0.011	<0.002	<0.002	<0.002	<0.002	<0.002
Nickel (diss)	mg/L	-	-	0.025	-	0.001, 0.003	**0.034**	<0.003	<0.003	<0.003	<0.003	<0.003
Selenium (diss)	mg/L	-	0.05	0.1	-	0.001	-	-	-	-	-	-
Silicon (diss)	mg/L	-	-	-	-	0.05, 0.25	6.9	4.74	4.38	5.14	3.98	4.52
Silver (diss)	mg/L	-	-	0.0001	-	0.00009, 0.0001	<0.00009	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Strontium (diss)	mg/L	-	-	-	-	0.001, 0.005	1.3	0.244	0.101	0.445	0.057	0.059
Thallium (diss)	mg/L	-	-	-	0.0003	0.00005, 0.0003	0.00018	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Titanium (diss)	mg/L	-	-	-	-	0.002, 0.005	<0.005	<0.002	<0.002	<0.002	0.005	0.003
Uranium (diss)	mg/L	-	0.02	-	0.005	0.0005	-	-	-	-	-	-
Vanadium (diss)	mg/L	-	-	-	0.006	0.0005, 0.002	<0.0005	<0.002	<0.002	<0.002	<0.002	<0.002
Zinc (diss)	mg/L	2.50125	5	-	0.02	0.005	0.064	<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 RUV-SB	Reasonable Use Values South Baptiste
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

MHH - South Baptiste WDS Appendix F1: Historical Groundwater Chemistry						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	SB-MW8	SB-MW8	SB-MW8	SB-MW8	SB-MW8	SB-MW8
Parameter	Units	RUV-SB	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	Sample ID	SB MW8	SB MW8	SB-QAQC GW-F21 (SB-MW8)	SB-MW8	SB MW8	SB MW8
						Sample Date	2021-Apr-20	2021-Oct-21	2021-Oct-21	2022-May-05	2022-Oct-19	2023-May-04
Anions						**Detection Limit**						
Chloride	mg/L	125.26	250	-	-	0.1, 0.12, 0.24, 0.5, 1	79.8	53.7	21.7	22.7	24.9	138
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-
Nitrate as N	mg/L	2.51875	10	-	-	0.05, 0.07, 0.1, 0.25, 0.5	0.13	<0.05	<0.05	0.05	0.15	<0.05
Nitrite as N	mg/L	-	1	-	-	0.01, 0.05, 0.25, 0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	-	500	-	-	0.1, 0.19, 0.5, 1, 2	2.63	5.26	5.47	5.51	5.16	3.65
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.25	32	10.5	8.39	6.58	5.2	53.5
Magnesium (diss)	mg/L	-	-	-	-	0.05, 0.25	3.98	1.24	1	0.76	0.55	5.89
Potassium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 2.5	2.12	1.57	1.11	1.18	1.2	2.34
Sodium (diss)	mg/L	100.6	200	-	-	0.05, 0.1, 0.25	19.5	29.2	14.3	18.7	12.9	28
General Chemistry												
Alkalinity (as CaCO3)	mg/L	260.5	30 - 500	-	-	1, 5	29	49	36	34	31	34
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.07, 0.1, 0.18, 0.25, 0.3, 0.4, 0.5	<0.02	0.09	0.06	<0.02	<0.02	<0.02
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5, 8, 10, 12, 20, 31, 206	<5	<5	<5	9	<5	<5
Dissolved Organic Carbon	mg/L	3.2	5	-	-	0.4, 0.5	1.7	1.8	1.4	1.2	2.7	1.4
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	341	244	142	147	154	537
Hardness (as CaCO3)	mg/L	-	80 - 100	-	-		96.3	31.3	25.1	19.6	15.2	-
pH	pH units	-	6.5 - 8.5	6.5 - 8.5	-		6.59	6.82	6.85	6.63	7.11	6.61
Phenols	mg/L	-	-	0.001	-	0.001, 0.004	**0.003**	**0.002**	0.001	**0.002**	**0.005**	<0.001
Total Dissolved Solids	mg/L	269	500	-	-	1, 10, 20	290	136	76	84	84	336
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1, 0.11, 0.2, 0.22, 0.5, 1, 2, 5	0.17	0.12	<0.1	0.14	0.1	0.19
Total Phosphorus	mg/L	-	-	0.03	-	0.02, 0.03, 0.06, 0.1, 0.12, 0.14, 0.2, 0.4, 0.6	**31.4**	**45**	**3.1**	**41.8**	**19.4**	**27.9**
Total Suspended Solids	mg/L	-	-	-	-	5, 10, 13, 14, 20, 25, 33, 50, 100, 200, 500, 1000	-	-	-	-	-	8830
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.0525	0.1	-	-	0.004, 0.0049	0.011	0.037	0.007	0.018	0.005	0.019
Arsenic (diss)	mg/L	-	0.01	-	0.005	0.001, 0.003	0.004	<0.003	<0.003	<0.003	<0.001	<0.001
Barium (diss)	mg/L	-	1	-	-	0.002	0.019	0.011	0.007	0.007	0.004	0.031
Beryllium (diss)	mg/L	-	-	-	-	0.0004, 0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
Boron (diss)	mg/L	1.25375	5	-	0.2	0.01, 0.02, 0.1	0.016	<0.01	<0.01	<0.01	0.016	<0.01
Cadmium (diss)	mg/L	-	0.005	-	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium (diss)	mg/L	-	0.05	-	-	0.002, 0.003, 0.005	<0.003	<0.003	<0.003	<0.003	<0.002	<0.002
Cobalt (diss)	mg/L	-	-	-	0.0009	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Copper (diss)	mg/L	0.50075	1	-	-	0.0009, 0.001, 0.002	<0.002	<0.002	<0.002	0.002	0.001	0.001
Iron (diss)	mg/L	0.1575	0.3	0.3	-	0.01, 0.1	0.017	0.065	0.01	0.026	0.019	0.116
Lead (diss)	mg/L	-	0.01	-	-	0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	0.0008
Manganese (diss)	mg/L	0.0275	0.05	-	-	0.002, 0.004, 0.01, 0.02	<0.002	<0.002	<0.002	<0.002	<0.002	0.007
Mercury (diss)	mg/L	-	0.001	0.0002	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum (diss)	mg/L	-	-	-	0.04	0.0005, 0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Nickel (diss)	mg/L	-	-	0.025	-	0.001, 0.003	<0.003	<0.003	<0.003	<0.001	<0.001	0.003
Selenium (diss)	mg/L	-	0.05	0.1	-	0.001	-	-	-	-	<0.001	-
Silicon (diss)	mg/L	-	-	-	-	0.05, 0.25	5.6	4.44	5.11	6.3	4.34	5.66
Silver (diss)	mg/L	-	-	0.0001	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Strontium (diss)	mg/L	-	-	-	-	0.001, 0.005	0.405	0.143	0.101	0.089	0.061	0.592
Thallium (diss)	mg/L	-	-	-	0.0003	0.00005, 0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Titanium (diss)	mg/L	-	-	-	-	0.002, 0.005	<0.002	0.007	<0.002	<0.002	<0.002	<0.002
Uranium (diss)	mg/L	-	0.02	-	0.005	0.0005	-	-	-	-	<0.0005	-
Vanadium (diss)	mg/L	-	-	-	0.006	0.0005, 0.002	<0.002	<0.002	<0.002	<0.002	-	<0.002
Zinc (diss)	mg/L	2.50125	5	-	0.02	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.006

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds RUV-SB	Reasonable Use Values South Baptiste
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

MHH - South Baptiste WDS Appendix F1: Historical Groundwater Chemistry						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	SB-MW8	SB-MW8	SB-MW8	SB-MW8	SB-MW8	SB-MW8
Parameter	Units	RUV-SB	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	Sample ID	SB-MW8	SB-MW8	SB-MW8	SB-MW8	SB-MW8	SB-QAQC-GW1 (SB-MW8)
						Sample Date	2023-Oct-19	2024-Apr-29	2024-Oct-30	2025-May-08	2025-Oct-21	2025-Oct-21
Anions						**Detection Limit**						
Chloride	mg/L	125.26	250	-	-	0.1, 0.12, 0.24, 0.5, 1	5.4	42	42	65	1.4	<1
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	0.18	0.67	<0.1	0.46	<0.1	<0.1
Nitrate as N	mg/L	2.51875	10	-	-	0.05, 0.07, 0.1, 0.25, 0.5	0.18	0.67	<0.1	0.46	<0.1	<0.1
Nitrite as N	mg/L	-	1	-	-	0.01, 0.05, 0.25, 0.5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sulphate	mg/L	-	500	-	-	0.1, 0.19, 0.5, 1, 2	4.2	2.6	4.6	5	6.1	5.4
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.25	3	10	11	29	3.7	3.5
Magnesium (diss)	mg/L	-	-	-	-	0.05, 0.25	0.3	1.2	1.1	3.1	0.39	0.37
Potassium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 2.5	0.77	1.3	1.4	1.8	0.65	0.63
Sodium (diss)	mg/L	100.6	200	-	-	0.05, 0.1, 0.25	16	29	26	18	6.1	6.1
General Chemistry												
Alkalinity (as CaCO3)	mg/L	260.5	30 - 500	-	-	1, 5	31	38	14	29	21	21
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.07, 0.1, 0.18, 0.25, 0.3, 0.4, 0.5	<0.05	<0.05	<0.05	<0.05	0.063	0.063
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5, 8, 10, 12, 20, 31, 206	12	4	14	<4	<4	4.4
Dissolved Organic Carbon	mg/L	3.2	5	-	-	0.4, 0.5	3.2	1.5	1.9	1.5	2.1	2.2
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	91	220	210	320	51	51
Hardness (as CaCO3)	mg/L	-	80 - 100	-	-		-	-	-	-	-	-
pH	pH units	-	6.5 - 8.5	6.5 - 8.5	-		7.33	7.34	7.49	6.89	7.22	7.19
Phenols	mg/L	-	-	0.001	-	0.001, 0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total Dissolved Solids	mg/L	269	500	-	-	1, 10, 20	130	220	180	275	40	30
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1, 0.11, 0.2, 0.22, 0.5, 1, 2, 5	0.12	0.16	0.24	0.14	0.23	0.29
Total Phosphorus	mg/L	-	-	0.03	-	0.02, 0.03, 0.06, 0.1, 0.12, 0.14, 0.2, 0.4, 0.6	**36**	**37**	**60**	**31**	**75**	**82**
Total Suspended Solids	mg/L	-	-	-	-	5, 10, 13, 14, 20, 25, 33, 50, 100, 200, 500, 1000	28000	17000	76000	5800	46000	41000
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.0525	0.1	-	-	0.004, 0.0049	0.021	0.017	0.017	0.0084	0.014	0.014
Arsenic (diss)	mg/L	-	0.01	-	0.005	0.001, 0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Barium (diss)	mg/L	-	1	-	-	0.002	0.0029	0.01	0.01	0.019	0.0021	0.002
Beryllium (diss)	mg/L	-	-	-	-	0.0004, 0.0005, 0.001	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
Boron (diss)	mg/L	1.25375	5	-	0.2	0.01, 0.02, 0.1	0.013	<0.01	<0.01	0.011	<0.01	<0.01
Cadmium (diss)	mg/L	-	0.005	-	-	0.00009, 0.0001	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009
Chromium (diss)	mg/L	-	0.05	-	-	0.002, 0.003, 0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Cobalt (diss)	mg/L	-	-	-	0.0009	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Copper (diss)	mg/L	0.50075	1	-	-	0.0009, 0.001, 0.002	0.0047	0.0015	<0.0009	<0.0009	0.0015	0.0014
Iron (diss)	mg/L	0.1575	0.3	0.3	-	0.01, 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lead (diss)	mg/L	-	0.01	-	-	0.0005, 0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Manganese (diss)	mg/L	0.0275	0.05	-	-	0.002, 0.004, 0.01, 0.02	<0.002	<0.002	<0.002	0.0049	0.0046	<0.002
Mercury (diss)	mg/L	-	0.001	0.0002	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum (diss)	mg/L	-	-	-	0.04	0.0005, 0.002	0.00081	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Nickel (diss)	mg/L	-	-	0.025	-	0.001, 0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Selenium (diss)	mg/L	-	0.05	0.1	-	0.001	-	-	-	-	-	-
Silicon (diss)	mg/L	-	-	-	-	0.05, 0.25	4.2	5.4	4.8	5.5	4.8	4.9
Silver (diss)	mg/L	-	-	0.0001	-	0.00009, 0.0001	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009
Strontium (diss)	mg/L	-	-	-	-	0.001, 0.005	0.035	0.13	0.13	0.31	0.035	0.035
Thallium (diss)	mg/L	-	-	-	0.0003	0.00005, 0.0003	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Titanium (diss)	mg/L	-	-	-	-	0.002, 0.005	<0.005	<0.005	0.0052	<0.005	<0.005	<0.005
Uranium (diss)	mg/L	-	0.02	-	0.005	0.0005	-	-	-	-	-	-
Vanadium (diss)	mg/L	-	-	-	0.006	0.0005, 0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Zinc (diss)	mg/L	2.50125	5	-	0.02	0.005	<0.005	<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 RUV-SB	Reasonable Use Values South Baptiste
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

MHH - South Baptiste WDS Appendix F1: Historical Groundwater Chemistry						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	SB-MW9	SB-MW9	SB-MW9	SB-MW9	SB-MW9
Parameter	Units	RUV-SB	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	Sample ID	SB-MW9	SB-MW9	SB-MW9-QAQC-S19 (SB-MW9)	SB-MW9	SB-MW9-QAQC-F19 (SB-MW9)
						Sample Date	2018-Oct-24	2019-May-07	2019-May-07	2019-Oct-22	2019-Oct-22
Anions						**Detection Limit**					
Chloride	mg/L	125.26	250	-	-	0.1, 0.12, 0.24, 0.5, 1	5.42	12.2	12	2.74	2.72
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-
Nitrate as N	mg/L	2.51875	10	-	-	0.05, 0.07, 0.1, 0.25, 0.5	<0.05	0.2	0.2	<0.05	<0.05
Nitrite as N	mg/L	-	1	-	-	0.01, 0.05, 0.25, 0.5	<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	-	500	-	-	0.1, 0.19, 0.5, 1, 2	4.72	4.5	4.52	4.58	4.6
Cations											
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.25	10.2	9.01	9.02	4.61	4.71
Magnesium (diss)	mg/L	-	-	-	-	0.05, 0.25	1.19	1.2	1.26	0.62	0.63
Potassium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 2.5	1.32	1.08	1.12	0.73	0.7
Sodium (diss)	mg/L	100.6	200	-	-	0.05, 0.1, 0.25	6	8.53	8.46	5.4	5.3
General Chemistry											
Alkalinity (as CaCO3)	mg/L	260.5	30 - 500	-	-	1, 5	21	34	34	21	21
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.07, 0.1, 0.18, 0.25, 0.3, 0.4, 0.5	0.02	<0.02	<0.02	0.07	0.07
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5, 8, 10, 12, 20, 31, 206	<5	<5	<5	<5	<5
Dissolved Organic Carbon	mg/L	3.2	5	-	-	0.4, 0.5	3.8	0.9	0.8	1.2	1.1
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	80	112	112	57	57
Hardness (as CaCO3)	mg/L	-	80 - 100	-	-		30.4	27.4	27.7	14.1	14.4
pH	pH units	-	6.5 - 8.5	6.5 - 8.5	-		6.65	6.8	6.83	6.93	7.04
Phenols	mg/L	-	-	0.001	-	0.001, 0.004	<0.001	<0.001	<0.001	<0.001	<0.001
Total Dissolved Solids	mg/L	269	500	-	-	1, 10, 20	54	74	84	68	64
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1, 0.11, 0.2, 0.22, 0.5, 1, 2, 5	<0.1	<0.1	<0.1	<0.1	<0.1
Total Phosphorus	mg/L	-	-	0.03	-	0.02, 0.03, 0.06, 0.1, 0.12, 0.14, 0.2, 0.4, 0.6	**7.9**	**1.25**	**1.2**	**4.79**	**4.85**
Total Suspended Solids	mg/L	-	-	-	-	5, 10, 13, 14, 20, 25, 33, 50, 100, 200, 500, 1000	-	-	-	-	-
Metals											
Aluminum (diss, 0.45 µm)	mg/L	0.0525	0.1	-	-	0.004, 0.0049	0.01	0.009	0.006	0.037	0.011
Arsenic (diss)	mg/L	-	0.01	-	0.005	0.001, 0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Barium (diss)	mg/L	-	1	-	-	0.002	0.005	0.008	0.008	0.005	0.004
Beryllium (diss)	mg/L	-	-	-	-	0.0004, 0.0005, 0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0005
Boron (diss)	mg/L	1.25375	5	-	0.2	0.01, 0.02, 0.1	0.035	<0.01	<0.01	0.032	0.021
Cadmium (diss)	mg/L	-	0.005	-	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium (diss)	mg/L	-	0.05	-	-	0.002, 0.003, 0.005	<0.003	<0.003	<0.003	<0.003	<0.003
Cobalt (diss)	mg/L	-	-	-	0.0009	0.0005	<0.001	<0.0005	<0.0005	<0.0005	<0.0005
Copper (diss)	mg/L	0.50075	1	-	-	0.0009, 0.001, 0.002	<0.003	<0.001	<0.001	<0.001	<0.001
Iron (diss)	mg/L	0.1575	0.3	0.3	-	0.01, 0.1	<0.01	<0.01	<0.01	<0.01	<0.01
Lead (diss)	mg/L	-	0.01	-	-	0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (diss)	mg/L	0.0275	0.05	-	-	0.002, 0.004, 0.01, 0.02	0.01	<0.002	<0.002	<0.002	<0.002
Mercury (diss)	mg/L	-	0.001	0.0002	-	0.0001	-	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum (diss)	mg/L	-	-	-	0.04	0.0005, 0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Nickel (diss)	mg/L	-	-	0.025	-	0.001, 0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Selenium (diss)	mg/L	-	0.05	0.1	-	0.001	-	-	-	-	-
Silicon (diss)	mg/L	-	-	-	-	0.05, 0.25	6.6	5.13	5.09	5.5	5.48
Silver (diss)	mg/L	-	-	0.0001	-	0.00009, 0.0001	<0.002	<0.0001	<0.0001	<0.0001	<0.0001
Strontium (diss)	mg/L	-	-	-	-	0.001, 0.005	0.069	0.109	0.112	0.051	0.05
Thallium (diss)	mg/L	-	-	-	0.0003	0.00005, 0.0003	<0.006	<0.0003	<0.0003	<0.0003	<0.0003
Titanium (diss)	mg/L	-	-	-	-	0.002, 0.005	<0.002	<0.002	<0.002	<0.002	<0.002
Uranium (diss)	mg/L	-	0.02	-	0.005	0.0005	-	-	-	-	-
Vanadium (diss)	mg/L	-	-	-	0.006	0.0005, 0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Zinc (diss)	mg/L	2.50125	5	-	0.02	0.005	<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 RUV-SB	Reasonable Use Values South Baptiste
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

MHH - South Baptiste WDS Appendix F1: Historical Groundwater Chemistry						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	SB-MW9	SB-MW9	SB-MW9	SB-MW9	SB-MW9
Parameter	Units	RUV-SB	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	Sample ID	SB-MW9	SB-MW9-QAQC-S20 (SB-MW9)	SB-MW9	SB MW9	SB-QAQC GW-S21 (SB-MW9)
						Sample Date	2020-May-06	2020-May-06	2020-Oct-06	2021-Apr-20	2021-Apr-20
Anions						**Detection Limit**					
Chloride	mg/L	125.26	250	-	-	0.1, 0.12, 0.24, 0.5, 1	55.8	55.4	4.87	55.2	55.2
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-
Nitrate as N	mg/L	2.51875	10	-	-	0.05, 0.07, 0.1, 0.25, 0.5	0.11	0.11	<0.05	0.16	0.16
Nitrite as N	mg/L	-	1	-	-	0.01, 0.05, 0.25, 0.5	<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	-	500	-	-	0.1, 0.19, 0.5, 1, 2	3.22	3.17	4.07	2.58	2.58
Cations											
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.25	22	22	4.03	22.3	22.3
Magnesium (diss)	mg/L	-	-	-	-	0.05, 0.25	2.83	2.83	0.48	2.91	2.94
Potassium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 2.5	1.51	1.56	0.78	1.59	1.63
Sodium (diss)	mg/L	100.6	200	-	-	0.05, 0.1, 0.25	11.9	11.9	7.42	13.6	13.5
General Chemistry											
Alkalinity (as CaCO3)	mg/L	260.5	30 - 500	-	-	1, 5	25	25	21	24	26
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.07, 0.1, 0.18, 0.25, 0.3, 0.4, 0.5	<0.02	<0.02	<0.02	<0.02	<0.02
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5, 8, 10, 12, 20, 31, 206	<5	<5	9	<5	<5
Dissolved Organic Carbon	mg/L	3.2	5	-	-	0.4, 0.5	0.7	1	1.2	2.3	1.6
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	299	301	60	237	235
Hardness (as CaCO3)	mg/L	-	80 - 100	-	-		66.6	66.6	12	67.7	67.8
pH	pH units	-	6.5 - 8.5	6.5 - 8.5	-		6.49	6.66	-	6.75	6.71
Phenols	mg/L	-	-	0.001	-	0.001, 0.004	<0.001	<0.001	<0.001	<0.001	0.001
Total Dissolved Solids	mg/L	269	500	-	-	1, 10, 20	170	158	34	198	204
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1, 0.11, 0.2, 0.22, 0.5, 1, 2, 5	<0.1	<0.1	0.14	0.17	0.17
Total Phosphorus	mg/L	-	-	0.03	-	0.02, 0.03, 0.06, 0.1, 0.12, 0.14, 0.2, 0.4, 0.6	**5.19**	**5.5**	**2.35**	**5.98**	**8.6**
Total Suspended Solids	mg/L	-	-	-	-	5, 10, 13, 14, 20, 25, 33, 50, 100, 200, 500, 1000	-	-	-	-	-
Metals											
Aluminum (diss, 0.45 µm)	mg/L	0.0525	0.1	-	-	0.004, 0.0049	0.01	0.013	<0.004	0.006	0.006
Arsenic (diss)	mg/L	-	0.01	-	0.005	0.001, 0.003	<0.003	<0.003	<0.003	0.003	0.008
Barium (diss)	mg/L	-	1	-	-	0.002	0.015	0.015	0.003	0.014	0.014
Beryllium (diss)	mg/L	-	-	-	-	0.0004, 0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron (diss)	mg/L	1.25375	5	-	0.2	0.01, 0.02, 0.1	<0.01	<0.01	<0.01	<0.01	<0.01
Cadmium (diss)	mg/L	-	0.005	-	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium (diss)	mg/L	-	0.05	-	-	0.002, 0.003, 0.005	<0.003	<0.003	<0.003	<0.003	<0.003
Cobalt (diss)	mg/L	-	-	-	0.0009	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Copper (diss)	mg/L	0.50075	1	-	-	0.0009, 0.001, 0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Iron (diss)	mg/L	0.1575	0.3	0.3	-	0.01, 0.1	<0.01	<0.01	<0.01	0.026	<0.01
Lead (diss)	mg/L	-	0.01	-	-	0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (diss)	mg/L	0.0275	0.05	-	-	0.002, 0.004, 0.01, 0.02	<0.002	<0.002	<0.002	<0.002	<0.002
Mercury (diss)	mg/L	-	0.001	0.0002	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum (diss)	mg/L	-	-	-	0.04	0.0005, 0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Nickel (diss)	mg/L	-	-	0.025	-	0.001, 0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Selenium (diss)	mg/L	-	0.05	0.1	-	0.001	-	-	-	-	-
Silicon (diss)	mg/L	-	-	-	-	0.05, 0.25	5.71	5.75	4.69	5.56	6.39
Silver (diss)	mg/L	-	-	0.0001	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Strontium (diss)	mg/L	-	-	-	-	0.001, 0.005	0.257	0.254	0.044	0.253	0.259
Thallium (diss)	mg/L	-	-	-	0.0003	0.00005, 0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Titanium (diss)	mg/L	-	-	-	-	0.002, 0.005	<0.002	<0.002	0.005	<0.002	0.008
Uranium (diss)	mg/L	-	0.02	-	0.005	0.0005	-	-	-	-	-
Vanadium (diss)	mg/L	-	-	-	0.006	0.0005, 0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Zinc (diss)	mg/L	2.50125	5	-	0.02	0.005	<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 RUV-SB	Reasonable Use Values South Baptiste
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

MHH - South Baptiste WDS Appendix F1: Historical Groundwater Chemistry						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	SB-MW9	SB-MW9	SB-MW9	SB-MW9	SB-MW9
Parameter	Units	RUV-SB	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	Sample ID	SB MW9	SB-MW9	SB-QAQC GW-S22 (SB-MW9)	SB MW9	SB QAQC GW1-F22 (SB-MW9)
						Sample Date	2021-Oct-21	2022-May-05	2022-May-05	2022-Oct-19	2022-Oct-19
Anions						**Detection Limit**					
Chloride	mg/L	125.26	250	-	-	0.1, 0.12, 0.24, 0.5, 1	22.2	11.6	11.3	14.9	14.4
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-
Nitrate as N	mg/L	2.51875	10	-	-	0.05, 0.07, 0.1, 0.25, 0.5	<0.05	0.05	0.05	0.1	0.1
Nitrite as N	mg/L	-	1	-	-	0.01, 0.05, 0.25, 0.5	<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	-	500	-	-	0.1, 0.19, 0.5, 1, 2	5.44	7.31	7.26	3.38	3.43
Cations											
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.25	8.28	6.66	6.62	8.05	7.76
Magnesium (diss)	mg/L	-	-	-	-	0.05, 0.25	1.04	0.82	0.83	0.9	0.76
Potassium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 2.5	1.13	1	1.01	1.12	1.15
Sodium (diss)	mg/L	100.6	200	-	-	0.05, 0.1, 0.25	14.2	14.1	14.3	9.88	9.8
General Chemistry											
Alkalinity (as CaCO3)	mg/L	260.5	30 - 500	-	-	1, 5	28	30	36	21	25
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.07, 0.1, 0.18, 0.25, 0.3, 0.4, 0.5	<0.02	<0.02	<0.02	0.03	<0.02
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5, 8, 10, 12, 20, 31, 206	<5	<5	<5	25	<5
Dissolved Organic Carbon	mg/L	3.2	5	-	-	0.4, 0.5	1.5	0.9	1	0.9	0.9
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	142	119	118	101	102
Hardness (as CaCO3)	mg/L	-	80 - 100	-	-		25	20	19.9	23.8	22.5
pH	pH units	-	6.5 - 8.5	6.5 - 8.5	-		6.71	6.6	6.8	6.88	7.1
Phenols	mg/L	-	-	0.001	-	0.001, 0.004	0.001	0.001	**0.002**	<0.001	**0.004**
Total Dissolved Solids	mg/L	269	500	-	-	1, 10, 20	86	48	44	66	66
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1, 0.11, 0.2, 0.22, 0.5, 1, 2, 5	<0.1	<0.1	<0.1	<0.1	0.1
Total Phosphorus	mg/L	-	-	0.03	-	0.02, 0.03, 0.06, 0.1, 0.12, 0.14, 0.2, 0.4, 0.6	**4.33**	**6.94**	**5.39**	**3.72**	**4.24**
Total Suspended Solids	mg/L	-	-	-	-	5, 10, 13, 14, 20, 25, 33, 50, 100, 200, 500, 1000	-	-	-	-	-
Metals											
Aluminum (diss, 0.45 µm)	mg/L	0.0525	0.1	-	-	0.004, 0.0049	0.007	0.019	0.027	<0.004	0.011
Arsenic (diss)	mg/L	-	0.01	-	0.005	0.001, 0.003	<0.003	<0.003	<0.003	<0.001	<0.001
Barium (diss)	mg/L	-	1	-	-	0.002	0.007	0.005	0.005	0.005	0.005
Beryllium (diss)	mg/L	-	-	-	-	0.0004, 0.0005, 0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
Boron (diss)	mg/L	1.25375	5	-	0.2	0.01, 0.02, 0.1	<0.01	<0.01	<0.01	0.012	0.012
Cadmium (diss)	mg/L	-	0.005	-	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium (diss)	mg/L	-	0.05	-	-	0.002, 0.003, 0.005	<0.003	<0.003	<0.003	<0.002	<0.002
Cobalt (diss)	mg/L	-	-	-	0.0009	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Copper (diss)	mg/L	0.50075	1	-	-	0.0009, 0.001, 0.002	<0.002	<0.002	<0.002	<0.001	0.001
Iron (diss)	mg/L	0.1575	0.3	0.3	-	0.01, 0.1	<0.01	0.015	<0.01	<0.01	0.013
Lead (diss)	mg/L	-	0.01	-	-	0.0005, 0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
Manganese (diss)	mg/L	0.0275	0.05	-	-	0.002, 0.004, 0.01, 0.02	<0.002	<0.002	0.003	<0.002	<0.002
Mercury (diss)	mg/L	-	0.001	0.0002	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum (diss)	mg/L	-	-	-	0.04	0.0005, 0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Nickel (diss)	mg/L	-	-	0.025	-	0.001, 0.003	<0.003	<0.001	<0.001	<0.001	<0.001
Selenium (diss)	mg/L	-	0.05	0.1	-	0.001	-	-	-	<0.001	0.001
Silicon (diss)	mg/L	-	-	-	-	0.05, 0.25	5.16	6.2	6.06	5	5.64
Silver (diss)	mg/L	-	-	0.0001	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Strontium (diss)	mg/L	-	-	-	-	0.001, 0.005	0.105	0.079	0.066	0.064	0.069
Thallium (diss)	mg/L	-	-	-	0.0003	0.00005, 0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Titanium (diss)	mg/L	-	-	-	-	0.002, 0.005	<0.002	<0.002	<0.002	<0.002	<0.002
Uranium (diss)	mg/L	-	0.02	-	0.005	0.0005	-	-	-	<0.0005	<0.0005
Vanadium (diss)	mg/L	-	-	-	0.006	0.0005, 0.002	<0.002	<0.002	<0.002	-	-
Zinc (diss)	mg/L	2.50125	5	-	0.02	0.005	<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 RUV-SB	Reasonable Use Values South Baptiste
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

MHH - South Baptiste WDS Appendix F1: Historical Groundwater Chemistry						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	SB-MW9	SB-MW9	SB-MW9	SB-MW9	SB-MW9	SB-MW9
Parameter	Units	RUV-SB	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	Sample ID	SB MW9	SB QAQC-GW1 (SB-MW9)	SB-MW9	SB-MW9	SB-QAQC-GW1 (SB-MW9)	SB-MW9
						Sample Date	2023-May-04	2023-May-04	2023-Oct-19	2024-Apr-29	2024-Apr-29	2024-Oct-30
Anions						**Detection Limit**						
Chloride	mg/L	125.26	250	-	-	0.1, 0.12, 0.24, 0.5, 1	48.7	48.7	<1	3.7	4	24
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	0.13	0.22	0.22	<0.1
Nitrate as N	mg/L	2.51875	10	-	-	0.05, 0.07, 0.1, 0.25, 0.5	0.16	0.18	0.13	0.22	0.22	<0.1
Nitrite as N	mg/L	-	1	-	-	0.01, 0.05, 0.25, 0.5	<0.05	<0.05	<0.01	<0.01	<0.01	<0.01
Sulphate	mg/L	-	500	-	-	0.1, 0.19, 0.5, 1, 2	3.21	3.57	3.7	4	4.1	3
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.25	23.8	19.5	4.1	6.2	6.4	11
Magnesium (diss)	mg/L	-	-	-	-	0.05, 0.25	2.75	2.49	0.49	0.76	0.79	1.3
Potassium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 2.5	1.6	1.45	0.73	0.77	0.79	1.2
Sodium (diss)	mg/L	100.6	200	-	-	0.05, 0.1, 0.25	17.5	15	7.5	9.1	9.1	13
General Chemistry												
Alkalinity (as CaCO3)	mg/L	260.5	30 - 500	-	-	1, 5	35	37	24	30	31	25
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.07, 0.1, 0.18, 0.25, 0.3, 0.4, 0.5	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5, 8, 10, 12, 20, 31, 206	<5	<5	6.9	<4	<4	5.6
Dissolved Organic Carbon	mg/L	3.2	5	-	-	0.4, 0.5	1	0.8	1.3	1.1	1.1	1.4
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	232	237	59	78	79	140
Hardness (as CaCO3)	mg/L	-	80 - 100	-	-		-	-	-	-	-	-
pH	pH units	-	6.5 - 8.5	6.5 - 8.5	-		6.82	6.85	7.26	7.6	7.69	7.22
Phenols	mg/L	-	-	0.001	-	0.001, 0.004	<0.001	-	<0.001	<0.001	<0.001	<0.001
Total Dissolved Solids	mg/L	269	500	-	-	1, 10, 20	152	136	15	95	85	90
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1, 0.11, 0.2, 0.22, 0.5, 1, 2, 5	<0.1	<0.1	<0.1	<0.1	0.18	<0.1
Total Phosphorus	mg/L	-	-	0.03	-	0.02, 0.03, 0.06, 0.1, 0.12, 0.14, 0.2, 0.4, 0.6	**3.72**	**3.84**	**3.8**	**5.4**	**4.3**	**3.1**
Total Suspended Solids	mg/L	-	-	-	-	5, 10, 13, 14, 20, 25, 33, 50, 100, 200, 500, 1000	3690	1820	1000	2100	950	980
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.0525	0.1	-	-	0.004, 0.0049	0.007	0.007	<0.0049	0.0052	<0.0049	0.0093
Arsenic (diss)	mg/L	-	0.01	-	0.005	0.001, 0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Barium (diss)	mg/L	-	1	-	-	0.002	0.014	0.012	0.0029	0.0042	0.0043	0.0078
Beryllium (diss)	mg/L	-	-	-	-	0.0004, 0.0005, 0.001	<0.0005	<0.0005	<0.0004	<0.0004	<0.0004	<0.0004
Boron (diss)	mg/L	1.25375	5	-	0.2	0.01, 0.02, 0.1	<0.01	<0.01	<0.01	<0.01	0.01	<0.01
Cadmium (diss)	mg/L	-	0.005	-	-	0.00009, 0.0001	<0.0001	<0.0001	<0.00009	<0.00009	<0.00009	<0.00009
Chromium (diss)	mg/L	-	0.05	-	-	0.002, 0.003, 0.005	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005
Cobalt (diss)	mg/L	-	-	-	0.0009	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Copper (diss)	mg/L	0.50075	1	-	-	0.0009, 0.001, 0.002	<0.001	<0.001	0.0025	<0.0009	<0.0009	0.0028
Iron (diss)	mg/L	0.1575	0.3	0.3	-	0.01, 0.1	<0.01	<0.01	<0.1	<0.1	<0.1	<0.1
Lead (diss)	mg/L	-	0.01	-	-	0.0005, 0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Manganese (diss)	mg/L	0.0275	0.05	-	-	0.002, 0.004, 0.01, 0.02	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Mercury (diss)	mg/L	-	0.001	0.0002	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum (diss)	mg/L	-	-	-	0.04	0.0005, 0.002	<0.002	<0.002	<0.0005	<0.0005	<0.0005	<0.0005
Nickel (diss)	mg/L	-	-	0.025	-	0.001, 0.003	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Selenium (diss)	mg/L	-	0.05	0.1	-	0.001	-	-	-	-	-	-
Silicon (diss)	mg/L	-	-	-	-	0.05, 0.25	6.52	6.61	5.7	5.7	5.7	5.5
Silver (diss)	mg/L	-	-	0.0001	-	0.00009, 0.0001	<0.0001	<0.0001	<0.00009	**0.00018**	**0.00011**	<0.00009
Strontium (diss)	mg/L	-	-	-	-	0.001, 0.005	0.221	0.198	0.039	0.063	0.065	0.12
Thallium (diss)	mg/L	-	-	-	0.0003	0.00005, 0.0003	<0.0003	<0.0003	<0.00005	<0.00005	<0.00005	<0.00005
Titanium (diss)	mg/L	-	-	-	-	0.002, 0.005	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005
Uranium (diss)	mg/L	-	0.02	-	0.005	0.0005	-	-	-	-	-	-
Vanadium (diss)	mg/L	-	-	-	0.006	0.0005, 0.002	<0.002	<0.002	<0.0005	<0.0005	<0.0005	<0.0005
Zinc (diss)	mg/L	2.50125	5	-	0.02	0.005	0.006	<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 RUV-SB	Reasonable Use Values South Baptiste
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

MHH - South Baptiste WDS Appendix F1: Historical Groundwater Chemistry						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	SB-MW9	SB-MW9	SB-MW9	SB-MW10	SB-MW10	SB-MW10
Parameter	Units	RUV-SB	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	Sample ID	SB-MW9	SB-QAQC-GW1 (SB-MW9)	SB-MW9	SB-MW10	SB-MW10	SB MW10
						Sample Date	2025-May-08	2025-May-08	2025-Oct-21	2018-Oct-24	2019-May-07	2020-May-06
Anions						**Detection Limit**						
Chloride	mg/L	125.26	250	-	-	0.1, 0.12, 0.24, 0.5, 1	35	33	<1	30	2.81	3.4
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	0.31	0.3	<0.1	-	-	-
Nitrate as N	mg/L	2.51875	10	-	-	0.05, 0.07, 0.1, 0.25, 0.5	0.31	0.3	<0.1	0.44	0.53	2.38
Nitrite as N	mg/L	-	1	-	-	0.01, 0.05, 0.25, 0.5	<0.01	<0.01	<0.01	<0.25	<0.05	<0.05
Sulphate	mg/L	-	500	-	-	0.1, 0.19, 0.5, 1, 2	2.9	3.8	5	45.1	19.3	15.7
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.25	19	18	5.7	70.3	10.9	36
Magnesium (diss)	mg/L	-	-	-	-	0.05, 0.25	2.2	2.2	0.65	11.8	1.56	6.5
Potassium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 2.5	1.2	1.3	0.67	23.4	2.32	11.9
Sodium (diss)	mg/L	100.6	200	-	-	0.05, 0.1, 0.25	9	9.1	4.1	44.1	4.36	17.7
General Chemistry												
Alkalinity (as CaCO3)	mg/L	260.5	30 - 500	-	-	1, 5	34	28	21	250	29	31
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.07, 0.1, 0.18, 0.25, 0.3, 0.4, 0.5	<0.05	<0.05	<0.05	3.9	0.22	0.11
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5, 8, 10, 12, 20, 31, 206	<4	<4	<4	12	<5	<5
Dissolved Organic Carbon	mg/L	3.2	5	-	-	0.4, 0.5	1.1	1	1.6	11.4	1.7	26.8
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	210	200	55	788	115	168
Hardness (as CaCO3)	mg/L	-	80 - 100	-	-		-	-	-	224.1	33.6	116.7
pH	pH units	-	6.5 - 8.5	6.5 - 8.5	-		7.42	7.18	7.24	8	6.74	6.65
Phenols	mg/L	-	-	0.001	-	0.001, 0.004	<0.001	<0.001	<0.001	0.001	<0.001	<0.001
Total Dissolved Solids	mg/L	269	500	-	-	1, 10, 20	150	155	<10	402	84	92
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1, 0.11, 0.2, 0.22, 0.5, 1, 2, 5	<0.1	<0.1	0.14	4.09	0.3	0.57
Total Phosphorus	mg/L	-	-	0.03	-	0.02, 0.03, 0.06, 0.1, 0.12, 0.14, 0.2, 0.4, 0.6	**1.1**	**1.1**	**1.3**	**1.51**	**0.59**	**0.72**
Total Suspended Solids	mg/L	-	-	-	-	5, 10, 13, 14, 20, 25, 33, 50, 100, 200, 500, 1000	430	540	1700	-	-	-
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.0525	0.1	-	-	0.004, 0.0049	<0.0049	<0.0049	<0.0049	0.009	0.009	0.027
Arsenic (diss)	mg/L	-	0.01	-	0.005	0.001, 0.003	<0.001	<0.001	<0.001	<0.003	<0.003	<0.003
Barium (diss)	mg/L	-	1	-	-	0.002	0.012	0.012	0.0035	0.097	0.025	0.03
Beryllium (diss)	mg/L	-	-	-	-	0.0004, 0.0005, 0.001	<0.0004	<0.0004	<0.0004	<0.001	<0.0005	<0.001
Boron (diss)	mg/L	1.25375	5	-	0.2	0.01, 0.02, 0.1	<0.01	0.01	<0.01	0.551	0.039	0.209
Cadmium (diss)	mg/L	-	0.005	-	-	0.00009, 0.0001	<0.00009	<0.00009	<0.00009	0.0002	<0.0001	<0.0001
Chromium (diss)	mg/L	-	0.05	-	-	0.002, 0.003, 0.005	<0.005	<0.005	<0.005	<0.003	<0.003	<0.003
Cobalt (diss)	mg/L	-	-	-	0.0009	0.0005	<0.0005	<0.0005	<0.0005	0.008	0.0011	0.0092
Copper (diss)	mg/L	0.50075	1	-	-	0.0009, 0.001, 0.002	<0.0009	<0.0009	<0.0009	0.014	0.002	0.015
Iron (diss)	mg/L	0.1575	0.3	0.3	-	0.01, 0.1	<0.1	<0.1	<0.1	<0.01	<0.01	<0.01
Lead (diss)	mg/L	-	0.01	-	-	0.0005, 0.001	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001
Manganese (diss)	mg/L	0.0275	0.05	-	-	0.002, 0.004, 0.01, 0.02	<0.002	<0.002	<0.002	4.48	0.185	4.03
Mercury (diss)	mg/L	-	0.001	0.0002	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum (diss)	mg/L	-	-	-	0.04	0.0005, 0.002	<0.0005	<0.0005	<0.0005	0.01	<0.002	0.003
Nickel (diss)	mg/L	-	-	0.025	-	0.001, 0.003	<0.001	<0.001	<0.001	0.015	<0.003	0.01
Selenium (diss)	mg/L	-	0.05	0.1	-	0.001	-	-	-	-	-	-
Silicon (diss)	mg/L	-	-	-	-	0.05, 0.25	5.4	6	5.5	6.19	4.78	5.6
Silver (diss)	mg/L	-	-	0.0001	-	0.00009, 0.0001	<0.00009	<0.00009	<0.00009	<0.002	<0.0001	<0.0001
Strontium (diss)	mg/L	-	-	-	-	0.001, 0.005	0.2	0.2	0.057	0.61	0.117	0.299
Thallium (diss)	mg/L	-	-	-	0.0003	0.00005, 0.0003	<0.00005	<0.00005	<0.00005	<0.006	<0.0003	<0.0003
Titanium (diss)	mg/L	-	-	-	-	0.002, 0.005	<0.005	<0.005	<0.005	<0.002	<0.002	<0.002
Uranium (diss)	mg/L	-	0.02	-	0.005	0.0005	-	-	-	-	-	-
Vanadium (diss)	mg/L	-	-	-	0.006	0.0005, 0.002	<0.0005	<0.0005	<0.0005	<0.002	<0.002	<0.002
Zinc (diss)	mg/L	2.50125	5	-	0.02	0.005	<0.005	<0.005	<0.005	0.017	0.013	0.008

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds RUV-SB	Reasonable Use Values South Baptiste
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

MHH - South Baptiste WDS Appendix F1: Historical Groundwater Chemistry						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	SB-MW10	SB-MW10	SB-MW10	SB-MW10	SB-MW10	SB-MW10
Parameter	Units	RUV-SB	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	Sample ID	SB MW10	SB MW10	SB MW10	SB-MW10	SB MW10	SB MW10
						Sample Date	2020-Oct-06	2021-Apr-20	2021-Oct-21	2022-May-05	2022-Oct-19	2023-May-04
Anions						**Detection Limit**						
Chloride	mg/L	125.26	250	-	-	0.1, 0.12, 0.24, 0.5, 1	36.2	64.6	60.5	74.6	40.4	65.1
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-
Nitrate as N	mg/L	2.51875	10	-	-	0.05, 0.07, 0.1, 0.25, 0.5	0.37	<0.25	<0.05	0.25	0.26	<0.05
Nitrite as N	mg/L	-	1	-	-	0.01, 0.05, 0.25, 0.5	<0.1	<0.25	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	-	500	-	-	0.1, 0.19, 0.5, 1, 2	35.9	41.7	31.6	33.1	29.7	39.7
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.25	95.1	145	100	141	92.6	121
Magnesium (diss)	mg/L	-	-	-	-	0.05, 0.25	16.5	29.1	19.1	27.3	15.4	23.6
Potassium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 2.5	37.3	56.2	40.2	59.7	35.9	47.7
Sodium (diss)	mg/L	100.6	200	-	-	0.05, 0.1, 0.25	47.8	77.7	50.7	76.2	40.6	63.7
General Chemistry												
Alkalinity (as CaCO3)	mg/L	260.5	30 - 500	-	-	1, 5	359	576	516	558	367	565
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.07, 0.1, 0.18, 0.25, 0.3, 0.4, 0.5	6.81	17.9	11.5	18.5	7.36	15.5
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5, 8, 10, 12, 20, 31, 206	32	50	37	60	38	59
Dissolved Organic Carbon	mg/L	3.2	5	-	-	0.4, 0.5	16.8	31.7	18.1	25.5	13	20.8
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	784	1310	1200	1340	923	1240
Hardness (as CaCO3)	mg/L	-	80 - 100	-	-		305.4	481.9	328.4	464.5	294.6	-
pH	pH units	-	6.5 - 8.5	6.5 - 8.5	-		-	7.2	7.24	7.23	7.61	7.42
Phenols	mg/L	-	-	0.001	-	0.001, 0.004	**0.004**	**0.018**	**0.042**	**0.068**	**0.493**	<0.001
Total Dissolved Solids	mg/L	269	500	-	-	1, 10, 20	500	798	660	704	470	724
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1, 0.11, 0.2, 0.22, 0.5, 1, 2, 5	8.05	17.3	12.3	19.5	7.96	15.5
Total Phosphorus	mg/L	-	-	0.03	-	0.02, 0.03, 0.06, 0.1, 0.12, 0.14, 0.2, 0.4, 0.6	**1.02**	**1.3**	**0.91**	**0.32**	**0.63**	**0.45**
Total Suspended Solids	mg/L	-	-	-	-	5, 10, 13, 14, 20, 25, 33, 50, 100, 200, 500, 1000	-	-	-	-	-	164
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.0525	0.1	-	-	0.004, 0.0049	<0.004	<0.004	0.008	0.019	0.011	0.022
Arsenic (diss)	mg/L	-	0.01	-	0.005	0.001, 0.003	<0.003	<0.003	<0.003	<0.003	<0.001	<0.001
Barium (diss)	mg/L	-	1	-	-	0.002	0.085	<0.002	0.071	0.119	0.072	0.089
Beryllium (diss)	mg/L	-	-	-	-	0.0004, 0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
Boron (diss)	mg/L	1.25375	5	-	0.2	0.01, 0.02, 0.1	0.697	<0.01	0.728	0.939	0.561	0.879
Cadmium (diss)	mg/L	-	0.005	-	-	0.00009, 0.0001	0.0002	<0.0001	0.0002	<0.0001	0.0001	0.0002
Chromium (diss)	mg/L	-	0.05	-	-	0.002, 0.003, 0.005	<0.003	<0.003	<0.003	<0.003	<0.002	<0.002
Cobalt (diss)	mg/L	-	-	-	0.0009	0.0005	0.023	<0.0005	0.0291	0.0593	0.0174	0.045
Copper (diss)	mg/L	0.50075	1	-	-	0.0009, 0.001, 0.002	0.034	<0.002	0.041	0.061	0.028	0.047
Iron (diss)	mg/L	0.1575	0.3	0.3	-	0.01, 0.1	0.033	<0.01	0.021	<0.01	0.027	0.019
Lead (diss)	mg/L	-	0.01	-	-	0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
Manganese (diss)	mg/L	0.0275	0.05	-	-	0.002, 0.004, 0.01, 0.02	6.73	<0.002	11.7	20.1	9.29	16.5
Mercury (diss)	mg/L	-	0.001	0.0002	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum (diss)	mg/L	-	-	-	0.04	0.0005, 0.002	0.009	<0.002	0.009	0.015	0.007	0.01
Nickel (diss)	mg/L	-	-	0.025	-	0.001, 0.003	0.025	<0.003	0.025	**0.044**	0.017	**0.034**
Selenium (diss)	mg/L	-	0.05	0.1	-	0.001	-	-	-	-	<0.001	-
Silicon (diss)	mg/L	-	-	-	-	0.05, 0.25	7.01	<0.05	6.28	7.9	6.15	7.51
Silver (diss)	mg/L	-	-	0.0001	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Strontium (diss)	mg/L	-	-	-	-	0.001, 0.005	0.751	<0.005	0.684	0.895	0.569	0.744
Thallium (diss)	mg/L	-	-	-	0.0003	0.00005, 0.0003	0.0004	<0.0003	<0.0003	0.0003	<0.0003	<0.0003
Titanium (diss)	mg/L	-	-	-	-	0.002, 0.005	0.005	<0.002	<0.002	<0.002	<0.002	<0.002
Uranium (diss)	mg/L	-	0.02	-	0.005	0.0005	-	-	-	-	0.035	-
Vanadium (diss)	mg/L	-	-	-	0.006	0.0005, 0.002	<0.002	<0.002	<0.002	<0.002	-	<0.002
Zinc (diss)	mg/L	2.50125	5	-	0.02	0.005	0.016	<0.005	0.011	0.016	0.013	0.017

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds RUV-SB	Reasonable Use Values South Baptiste
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

MHH - South Baptiste WDS Appendix F1: Historical Groundwater Chemistry						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	SB-MW10	SB-MW10	SB-MW10	SB-MW10	SB-MW10	SB-MW11
Parameter	Units	RUV-SB	ODWQS-ALL-MERGED	PWQO-GENERAL	PWQO-INTERIM	Sample ID	SB-MW10	SB-MW10	SB-MW10	SB-MW10	SB-MW10	SB MW11
						Sample Date	2023-Oct-19	2024-Apr-29	2024-Oct-30	2025-May-08	2025-Oct-21	2023-May-04
Anions						**Detection Limit**						
Chloride	mg/L	125.26	250	-	-	0.1, 0.12, 0.24, 0.5, 1	33	92	79	82	36	18.2
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	0.45	<0.1	<0.1	<0.1	0.58	-
Nitrate as N	mg/L	2.51875	10	-	-	0.05, 0.07, 0.1, 0.25, 0.5	0.45	<0.1	<0.1	<0.1	0.57	0.42
Nitrite as N	mg/L	-	1	-	-	0.01, 0.05, 0.25, 0.5	<0.01	<0.01	<0.01	<0.01	0.013	<0.05
Sulphate	mg/L	-	500	-	-	0.1, 0.19, 0.5, 1, 2	27	30	23	28	20	652
Cations												
Calcium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.25	86	140	100	120	65	173
Magnesium (diss)	mg/L	-	-	-	-	0.05, 0.25	16	26	18	23	11	21.1
Potassium (diss)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 2.5	32	48	40	48	23	2.49
Sodium (diss)	mg/L	100.6	200	-	-	0.05, 0.1, 0.25	41	72	53	67	31	155
General Chemistry												
Alkalinity (as CaCO3)	mg/L	260.5	30 - 500	-	-	1, 5	310	640	550	600	300	177
Ammonia as N	mg/L	-	-	-	-	0.02, 0.03, 0.04, 0.05, 0.07, 0.1, 0.18, 0.25, 0.3, 0.4, 0.5	6.1	19	16	17	6.2	<0.02
Chemical Oxygen Demand	mg/L	-	-	-	-	4, 5, 8, 10, 12, 20, 31, 206	20	64	48	61	15	<5
Dissolved Organic Carbon	mg/L	3.2	5	-	-	0.4, 0.5	11	22	17	21	8.7	2.7
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	770	1500	1400	1500	740	1520
Hardness (as CaCO3)	mg/L	-	80 - 100	-	-		-	-	-	-	-	-
pH	pH units	-	6.5 - 8.5	6.5 - 8.5	-		7.55	7.71	7.68	7.51	7.62	7.87
Phenols	mg/L	-	-	0.001	-	0.001, 0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total Dissolved Solids	mg/L	269	500	-	-	1, 10, 20	420	940	630	875	370	1080
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1, 0.11, 0.2, 0.22, 0.5, 1, 2, 5	6.2	21	16	23	6.2	0.16
Total Phosphorus	mg/L	-	-	0.03	-	0.02, 0.03, 0.06, 0.1, 0.12, 0.14, 0.2, 0.4, 0.6	**0.36**	**0.14**	**0.91**	**0.62**	**0.81**	**0.4**
Total Suspended Solids	mg/L	-	-	-	-	5, 10, 13, 14, 20, 25, 33, 50, 100, 200, 500, 1000	980	130	470	310	290	409
Metals												
Aluminum (diss, 0.45 µm)	mg/L	0.0525	0.1	-	-	0.004, 0.0049	0.0059	0.0066	0.0081	0.01	0.0059	<0.004
Arsenic (diss)	mg/L	-	0.01	-	0.005	0.001, 0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Barium (diss)	mg/L	-	1	-	-	0.002	0.08	0.12	0.087	0.11	0.06	0.058
Beryllium (diss)	mg/L	-	-	-	-	0.0004, 0.0005, 0.001	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0005
Boron (diss)	mg/L	1.25375	5	-	0.2	0.01, 0.02, 0.1	0.61	0.85	0.58	0.69	0.44	1.36
Cadmium (diss)	mg/L	-	0.005	-	-	0.00009, 0.0001	0.0002	0.00025	0.00014	0.00021	0.0001	<0.0001
Chromium (diss)	mg/L	-	0.05	-	-	0.002, 0.003, 0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002
Cobalt (diss)	mg/L	-	-	-	0.0009	0.0005	0.015	0.037	0.032	0.043	0.012	<0.0005
Copper (diss)	mg/L	0.50075	1	-	-	0.0009, 0.001, 0.002	0.029	0.047	0.036	0.047	0.023	<0.001
Iron (diss)	mg/L	0.1575	0.3	0.3	-	0.01, 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.01
Lead (diss)	mg/L	-	0.01	-	-	0.0005, 0.001	<0.0005	<0.0005	0.00078	<0.0005	<0.0005	<0.0005
Manganese (diss)	mg/L	0.0275	0.05	-	-	0.002, 0.004, 0.01, 0.02	9	15	11	14	5.8	0.035
Mercury (diss)	mg/L	-	0.001	0.0002	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum (diss)	mg/L	-	-	-	0.04	0.0005, 0.002	0.0072	0.01	0.0087	0.0094	0.0049	0.036
Nickel (diss)	mg/L	-	-	0.025	-	0.001, 0.003	0.015	**0.031**	0.023	**0.031**	0.012	0.002
Selenium (diss)	mg/L	-	0.05	0.1	-	0.001	-	-	-	-	-	-
Silicon (diss)	mg/L	-	-	-	-	0.05, 0.25	6.5	6.7	6.5	7.4	6.1	4.9
Silver (diss)	mg/L	-	-	0.0001	-	0.00009, 0.0001	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.0001
Strontium (diss)	mg/L	-	-	-	-	0.001, 0.005	0.6	0.89	0.66	0.77	0.46	8.21
Thallium (diss)	mg/L	-	-	-	0.0003	0.00005, 0.0003	0.00013	0.0002	0.00018	0.00024	0.00011	<0.0003
Titanium (diss)	mg/L	-	-	-	-	0.002, 0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002
Uranium (diss)	mg/L	-	0.02	-	0.005	0.0005	-	-	-	-	-	-
Vanadium (diss)	mg/L	-	-	-	0.006	0.0005, 0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.002
Zinc (diss)	mg/L	2.50125	5	-	0.02	0.005	0.014	0.017	0.019	0.014	0.012	<0.005

-LEGEND-

Detection Limit	DL: May vary between sample locations and events
DL exceeds criteria	
Concentration exceeds RUV-SB	Reasonable Use Values South Baptiste
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

Appendix F

F-2 Historical Surface Water Chemistry

MHH - South Baptiste WDS Appendix F2: Historical Surface Water Quality						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A
Parameter	Units	PWQO-GENERAL	PWQO-INTERIM	MECP-GD-TA	MECP-GD-TB	Sample ID	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A
						Sample Date	2004-Apr-29	2004-Jun-23	2004-Aug-20	2004-Sep-10	2004-Oct-28	2005-May-03	2005-Jul-27
Anions						Detection Limit							
Chloride	mg/L	-	-	180	128	0.1, 0.2, 1	30	24	31	33	31	7.9	31.2
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-	-
Nitrate as N	mg/L	-	-	-	-	0.05, 0.1	1.15	<0.1	0.29	0.25	0.29	0.48	0.87
Nitrite as N	mg/L	-	-	-	-	0.01, 0.05, 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-
Sulphate	mg/L	-	-	100	-	0.1, 0.2, 1	45	25	23	25	26	13	23
Cations													
Calcium (tot)	mg/L	-	-	-	-	0.00005, 0.05, 0.16, 0.2, 0.32	49	42	47	49	49	21.7	53.6
Magnesium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.17, 0.34	8	6	7	7	8	<0.00006	7.55
Potassium (tot)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 0.58, 1.15	19	8	5	6	5	0.5	6.9
Sodium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.22, 0.45	28	22	22	24	24	2.9	28.8
Field Parameters													
pH (Field)	pH units	-	-	-	-		-	-	-	-	-	-	-
Temperature	deg. C	-	-	-	-		-	-	-	-	-	-	-
General Chemistry													
% Difference/ Ion Balance (Calcu	%	-	-	-	-		-	-	-	-	-	-	-
Alkalinity (as CaCO3)	mg/L	See Factsheet	-	-	-	1, 5	137	128	152	156	157	50	140
Ammonia as N	mg/L	-	-	-	-	0.02, 0.05	0.04	0.04	0.06	0.04	0.03	<0.05	<0.05
Biochemical Oxygen Demand	mg/L	-	-	-	-	2, 5	<1	<1	-	<1	-	2	-
Colour	TCU	-	-	-	-	2, 2.5, 5	19	15	14	20	11	30	7
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	462	386	425	409	458	128	304
Hardness (as CaCO3)	mg/L	-	-	-	-	0.5, 1	155	130	146	151	155	54.2	165
pH	pH units	6.5 - 8.5	-	6 - 9	-		6.93	7.37	7.52	7.23	7.25	-	6.83
Phenols	mg/L	0.001	-	0.04	0.004	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-
Total Dissolved Solids	mg/L	-	-	-	-	10, 20	300	251	276	266	298	84	-
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1	0.38	0.35	0.23	0.42	0.31	0.6	11
Total Organic Carbon	mg/L	-	-	-	-		-	-	-	-	-	3.9	-
Total Phosphorus	mg/L	0.03	-	-	-	0.01, 0.02	<0.01	0.04	0.04	0.03	0.05	0.02	1.8
Total Suspended Solids	mg/L	-	-	-	-	10	8	4	2	66	7	14	-
Turbidity	NTU	-	-	-	-	0.1, 0.5	1.3	1.6	2.3	2.5	1.9	-	-
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.000002, 0.00061, 0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05
Metals													
Aluminum (diss, 0.2 µm)	mg/L	-	Calculated	-	-	0.004, 0.005	-	-	-	-	-	-	-
Aluminum (diss, 0.45 µm)	mg/L	-	Calculated	-	-	0.004	-	-	-	-	-	-	-
Aluminum (tot)	mg/L	-	-	-	-	0.004, 0.0049, 0.01	0.02	0.05	0.03	0.03	0.03	0.1	2.19
Arsenic (tot)	mg/L	-	0.005	-	-	0.001, 0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.03
Boron (tot)	mg/L	-	0.2	3.55	1.5	0.01	-	-	-	-	-	-	-
Cadmium (tot)	mg/L	-	Calculated	0.00021	0.000017	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.005
Chromium (tot)	mg/L	-	-	0.064	-	0.003, 0.005	<0.001	<0.001	0.001	0.002	<0.001	<0.0002	0.004
Cobalt (tot)	mg/L	-	0.0009	-	-	0.0005	0.0003	0.0003	0.0003	0.0002	0.0003	0.0002	<0.005
Copper (tot)	mg/L	-	Calculated	0.0069	-	0.0009, 0.001, 0.002	0.001	<0.001	<0.001	<0.001	<0.001	-	-
Iron (tot)	mg/L	0.3	-	1	-	0.01, 0.1	0.1	0.31	0.31	0.18	0.21	0.384	**17.1**
Lead (tot)	mg/L	-	Calculated	0.002	-	0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.02
Manganese (tot)	mg/L	-	-	-	-	0.002	-	-	-	-	-	-	-
Mercury (diss)	mg/L	0.0002	-	-	-	0.0001	-	-	-	-	-	-	-
Mercury (tot)	mg/L	0.0002	-	-	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	-	-
Nickel (tot)	mg/L	0.025	-	-	-	0.001, 0.003	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01
Selenium (tot)	mg/L	0.1	-	-	-	0.002, 0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silicon (tot)	mg/L	-	-	-	-	0.18	-	-	-	-	-	-	-
Silver (tot)	mg/L	0.0001	-	-	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.005
Zinc (tot)	mg/L	-	0.02	0.089	0.03	0.005, 0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.005	0.092

-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

MHH - South Baptiste WDS Appendix F2: Historical Surface Water Quality						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A
Parameter	Units	PWQO-GENERAL	PWQO-INTERIM	MECP-GD-TA	MECP-GD-TB	Sample ID	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A
						Sample Date	2005-Sep-01	2005-Sep-16	2005-Oct-24	2006-May-10	2006-Jul-19	2006-Aug-21	2006-Sep-19
Anions						Detection Limit							
Chloride	mg/L	-	-	180	128	0.1, 0.2, 1	34	-	32	28	34	36	31
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-	-
Nitrate as N	mg/L	-	-	-	-	0.05, 0.1	0.8	-	0.4	0.6	0.24	0.27	<0.1
Nitrite as N	mg/L	-	-	-	-	0.01, 0.05, 0.1	-	-	-	<0.1	<0.1	<0.1	<0.1
Sulphate	mg/L	-	-	100	-	0.1, 0.2, 1	23	-	25	38	24	25	23
Cations													
Calcium (tot)	mg/L	-	-	-	-	0.00005, 0.05, 0.16, 0.2, 0.32	68.9	-	56.6	46	49	51	49
Magnesium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.17, 0.34	8.94	-	8.4	8	7	8	7
Potassium (tot)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 0.58, 1.15	7.5	-	7	19	7	7	8
Sodium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.22, 0.45	31.1	-	31.5	28	26	28	27
Field Parameters													
pH (Field)	pH units	-	-	-	-		-	-	-	-	-	-	-
Temperature	deg. C	-	-	-	-		-	-	-	-	-	-	-
General Chemistry													
% Difference/ Ion Balance (Calcu	%	-	-	-	-		-	-	-	-	-	-	-
Alkalinity (as CaCO3)	mg/L	See Factsheet	-	-	-	1, 5	134	-	134	149	151	168	139
Ammonia as N	mg/L	-	-	-	-	0.02, 0.05	<0.05	-	0.12	<0.02	0.24	0.1	0.04
Biochemical Oxygen Demand	mg/L	-	-	-	-	2, 5	-	9	17	1	3	<1	<1
Colour	TCU	-	-	-	-	2, 2.5, 5	18	-	11	15	17	19	35
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	406	375	404	474	435	481	421
Hardness (as CaCO3)	mg/L	-	-	-	-	0.5, 1	209	-	176	148	151	160	151
pH	pH units	6.5 - 8.5	-	6 - 9	-		-	-	6.85	7.98	7.57	7.68	7.29
Phenols	mg/L	0.001	-	0.04	0.004	0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	0.001
Total Dissolved Solids	mg/L	-	-	-	-	10, 20	-	248	267	308	283	313	274
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1	0.6	-	0.6	0.52	0.89	0.34	0.4
Total Organic Carbon	mg/L	-	-	-	-		-	-	-	-	-	-	-
Total Phosphorus	mg/L	0.03	-	-	-	0.01, 0.02	0.08	-	0.01	0.01	0.1	0.05	0.11
Total Suspended Solids	mg/L	-	-	-	-	10	-	2640	510	2	118	12	27
Turbidity	NTU	-	-	-	-	0.1, 0.5	-	-	-	0.4	16.2	3.4	7.2
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.000002, 0.00061, 0.1	<0.05	-	<0.05	-	-	-	-
Metals													
Aluminum (diss, 0.2 µm)	mg/L	-	Calculated	-	-	0.004, 0.005	-	-	-	-	-	-	-
Aluminum (diss, 0.45 µm)	mg/L	-	Calculated	-	-	0.004	-	-	-	-	-	-	-
Aluminum (tot)	mg/L	-	-	-	-	0.004, 0.0049, 0.01	4.85	0.67	1.62	0.24	0.26	0.1	0.1
Arsenic (tot)	mg/L	-	0.005	-	-	0.001, 0.003	<0.03	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron (tot)	mg/L	-	0.2	3.55	1.5	0.01	-	-	-	-	-	-	-
Cadmium (tot)	mg/L	-	Calculated	0.00021	0.000017	0.00009, 0.0001	<0.005	<0.001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium (tot)	mg/L	-	-	0.064	-	0.003, 0.005	0.007	0.002	0.004	-	<0.001	-	-
Cobalt (tot)	mg/L	-	0.0009	-	-	0.0005	<0.005	<0.005	<0.0005	0.0002	0.0009	0.0003	0.0004
Copper (tot)	mg/L	-	Calculated	0.0069	-	0.0009, 0.001, 0.002	-	-	-	<0.001	0.001	<0.001	<0.001
Iron (tot)	mg/L	0.3	-	1	-	0.01, 0.1	**38**	**6.12**	**16.4**	0.05	**1.34**	0.25	0.8
Lead (tot)	mg/L	-	Calculated	0.002	-	0.0005, 0.001	0.03	**0.003**	<0.0001	<0.001	<0.001	<0.001	<0.001
Manganese (tot)	mg/L	-	-	-	-	0.002	-	-	-	-	-	-	-
Mercury (diss)	mg/L	0.0002	-	-	-	0.0001	-	-	-	-	-	-	-
Mercury (tot)	mg/L	0.0002	-	-	-	0.0001	-	<0.00006	<0.00006	<0.0001	<0.0001	<0.0001	<0.0001
Nickel (tot)	mg/L	0.025	-	-	-	0.001, 0.003	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005
Selenium (tot)	mg/L	0.1	-	-	-	0.002, 0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silicon (tot)	mg/L	-	-	-	-	0.18	-	-	-	-	-	-	-
Silver (tot)	mg/L	0.0001	-	-	-	0.00009, 0.0001	<0.005	<0.001	<0.0005	<0.0001	<0.0001	<0.0001	<0.0001
Zinc (tot)	mg/L	-	0.02	0.089	0.03	0.005, 0.02	0.201	0.045	0.076	<0.01	<0.01	<0.01	<0.01

-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

MHH - South Baptiste WDS Appendix F2: Historical Surface Water Quality						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A
Parameter	Units	PWQO-GENERAL	PWQO-INTERIM	MECP-GD-TA	MECP-GD-TB	Sample ID	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A
						Sample Date	2006-Nov-20	2007-May-02	2007-Jun-04	2007-Aug-15	2007-Sep-27	2007-Nov-22	2008-May-09
Anions						Detection Limit							
Chloride	mg/L	-	-	180	128	0.1, 0.2, 1	28	32	28	32	33	30	31
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-	-
Nitrate as N	mg/L	-	-	-	-	0.05, 0.1	0.54	1.58	0.3	0.33	0.21	0.37	1.68
Nitrite as N	mg/L	-	-	-	-	0.01, 0.05, 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Sulphate	mg/L	-	-	100	-	0.1, 0.2, 1	32	61	37	24	27	34	51
Cations													
Calcium (tot)	mg/L	-	-	-	-	0.00005, 0.05, 0.16, 0.2, 0.32	43	53	45	62	55	49	50
Magnesium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.17, 0.34	7	9	7	9	8	8	9
Potassium (tot)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 0.58, 1.15	8	19	13	8	8	7	25
Sodium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.22, 0.45	26	31	27	33	31	29	35
Field Parameters													
pH (Field)	pH units	-	-	-	-		-	-	-	-	-	-	-
Temperature	deg. C	-	-	-	-		-	-	-	-	-	-	-
General Chemistry													
% Difference/ Ion Balance (Calcu	%	-	-	-	-		-	-	-	-	-	-	-
Alkalinity (as CaCO3)	mg/L	See Factsheet	-	-	-	1, 5	130	156	142	188	191	167	155
Ammonia as N	mg/L	-	-	-	-	0.02, 0.05	0.12	0.03	0.03	0.22	0.08	0.15	0.27
Biochemical Oxygen Demand	mg/L	-	-	-	-	2, 5	1	<1	<1	<1	34	12	<1
Colour	TCU	-	-	-	-	2, 2.5, 5	14	14	25	15	17	12	17
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	414	547	443	514	525	489	520
Hardness (as CaCO3)	mg/L	-	-	-	-	0.5, 1	136	169	141	192	170	155	162
pH	pH units	6.5 - 8.5	-	6 - 9	-		7.89	7.62	8.14	8.27	7.79	7.81	8.06
Phenols	mg/L	0.001	-	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	269	356	288	334	341	318	338
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1	0.58	0.42	0.24	0.77	2.17	0.53	0.98
Total Organic Carbon	mg/L	-	-	-	-		-	-	-	-	-	-	-
Total Phosphorus	mg/L	0.03	-	-	-	0.01, 0.02	0.08	0.02	0.09	0.21	0.31	1.63	<0.01
Total Suspended Solids	mg/L	-	-	-	-	10	110	34	10	12	284	1120	<2
Turbidity	NTU	-	-	-	-	0.1, 0.5	12.9	4.4	2.3	4	14.7	>100	0.7
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.000002, 0.00061, 0.1	-	-	-	-	-	-	<0.02
Metals													
Aluminum (diss, 0.2 µm)	mg/L	-	Calculated	-	-	0.004, 0.005	-	-	-	-	-	-	-
Aluminum (diss, 0.45 µm)	mg/L	-	Calculated	-	-	0.004	-	-	-	-	-	-	-
Aluminum (tot)	mg/L	-	-	-	-	0.004, 0.0049, 0.01	0.16	0.03	0.11	0.01	<0.01	0.02	0.02
Arsenic (tot)	mg/L	-	0.005	-	-	0.001, 0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron (tot)	mg/L	-	0.2	3.55	1.5	0.01	-	-	-	-	-	-	-
Cadmium (tot)	mg/L	-	Calculated	0.00021	0.000017	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.001	<0.0001
Chromium (tot)	mg/L	-	-	0.064	-	0.003, 0.005	0.001	0.001	0.002	0.002	0.002	0.002	0.002
Cobalt (tot)	mg/L	-	0.0009	-	-	0.0005	0.0007	0.0003	0.0005	0.0003	0.0018	0.011	0.0003
Copper (tot)	mg/L	-	Calculated	0.0069	-	0.0009, 0.001, 0.002	0.001	0.001	0.001	<0.001	0.003	0.016	0.001
Iron (tot)	mg/L	0.3	-	1	-	0.01, 0.1	1.45	0.08	0.57	0.09	4.49	12.9	0.08
Lead (tot)	mg/L	-	Calculated	0.002	-	0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.006	<0.001
Manganese (tot)	mg/L	-	-	-	-	0.002	-	-	-	-	-	-	-
Mercury (diss)	mg/L	0.0002	-	-	-	0.0001	-	-	-	-	-	-	-
Mercury (tot)	mg/L	0.0002	-	-	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Nickel (tot)	mg/L	0.025	-	-	-	0.001, 0.003	<0.005	<0.005	<0.005	<0.005	<0.005	0.011	<0.005
Selenium (tot)	mg/L	0.1	-	-	-	0.002, 0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silicon (tot)	mg/L	-	-	-	-	0.18	-	-	-	-	-	-	-
Silver (tot)	mg/L	0.0001	-	-	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Zinc (tot)	mg/L	-	0.02	0.089	0.03	0.005, 0.02	<0.01	<0.01	<0.01	<0.01	0.02	0.15	<0.01

-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

MHH - South Baptiste WDS Appendix F2: Historical Surface Water Quality						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A
Parameter	Units	PWQO-GENERAL	PWQO-INTERIM	MECP-GD-TA	MECP-GD-TB	Sample ID	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A
						Sample Date	2008-Jun-19	2008-Aug-21	2008-Sep-16	2008-Oct-09	2009-Jun-04	2009-Jul-16	2009-Aug-06
Anions						Detection Limit							
Chloride	mg/L	-	-	180	128	0.1, 0.2, 1	23	22	23	24	22	19	18
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-	-
Nitrate as N	mg/L	-	-	-	-	0.05, 0.1	0.46	0.5	0.35	0.28	0.8	0.42	0.37
Nitrite as N	mg/L	-	-	-	-	0.01, 0.05, 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Sulphate	mg/L	-	-	100	-	0.1, 0.2, 1	31	22	21	26	33	24	23
Cations													
Calcium (tot)	mg/L	-	-	-	-	0.00005, 0.05, 0.16, 0.2, 0.32	43	48	44	44	39	43	43
Magnesium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.17, 0.34	7	7	7	7	6	7	6
Potassium (tot)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 0.58, 1.15	14	8	8	8	14	9	9
Sodium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.22, 0.45	27	25	25	27	24	25	23
Field Parameters													
pH (Field)	pH units	-	-	-	-		-	-	-	-	-	-	-
Temperature	deg. C	-	-	-	-		-	-	-	-	-	-	-
General Chemistry													
% Difference/ Ion Balance (Calcu	%	-	-	-	-		-	-	-	-	-	-	-
Alkalinity (as CaCO3)	mg/L	See Factsheet	-	-	-	1, 5	148	158	150	149	146	151	144
Ammonia as N	mg/L	-	-	-	-	0.02, 0.05	0.11	0.11	0.14	0.12	0.08	0.09	0.14
Biochemical Oxygen Demand	mg/L	-	-	-	-	2, 5	3	2	1	<1	<1	3	2
Colour	TCU	-	-	-	-	2, 2.5, 5	23	17	25	21	14	18	26
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	434	419	409	419	427	408	378
Hardness (as CaCO3)	mg/L	-	-	-	-	0.5, 1	136	149	139	139	122	136	132
pH	pH units	6.5 - 8.5	-	6 - 9	-		7.94	7.94	7.85	7.78	7.84	8	7.74
Phenols	mg/L	0.001	-	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	282	272	266	272	278	265	246
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1	2.01	0.34	0.37	0.31	0.2	0.48	0.33
Total Organic Carbon	mg/L	-	-	-	-		-	-	-	-	-	-	-
Total Phosphorus	mg/L	0.03	-	-	-	0.01, 0.02	0.02	0.03	0.01	<0.01	<0.01	0.05	0.02
Total Suspended Solids	mg/L	-	-	-	-	10	4	215	<2	6	<2	9	8
Turbidity	NTU	-	-	-	-	0.1, 0.5	1.1	38.9	2.8	-	0.5	3.3	3.7
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.000002, 0.00061, 0.1	-	-	-	-	0.0002914	0.0002861	0.0003529
Metals													
Aluminum (diss, 0.2 µm)	mg/L	-	Calculated	-	-	0.004, 0.005	-	-	-	-	-	-	-
Aluminum (diss, 0.45 µm)	mg/L	-	Calculated	-	-	0.004	-	-	-	-	-	-	-
Aluminum (tot)	mg/L	-	-	-	-	0.004, 0.0049, 0.01	0.04	0.35	<0.01	0.01	0.01	0.09	0.06
Arsenic (tot)	mg/L	-	0.005	-	-	0.001, 0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron (tot)	mg/L	-	0.2	3.55	1.5	0.01	0.17	0.14	0.11	0.14	0.17	0.12	0.12
Cadmium (tot)	mg/L	-	Calculated	0.00021	0.000017	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	0.002	0.002	0.001	0.001	<0.001	0.002	0.001
Cobalt (tot)	mg/L	-	0.0009	-	-	0.0005	0.0003	0.0012	0.0003	0.0005	0.0003	0.0004	0.0004
Copper (tot)	mg/L	-	Calculated	0.0069	-	0.0009, 0.001, 0.002	0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001
Iron (tot)	mg/L	0.3	-	1	-	0.01, 0.1	0.2	**1.82**	0.23	0.13	0.06	0.45	0.31
Lead (tot)	mg/L	-	Calculated	0.002	-	0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (tot)	mg/L	-	-	-	-	0.002	-	-	-	-	-	-	-
Mercury (diss)	mg/L	0.0002	-	-	-	0.0001	-	-	-	-	-	-	-
Mercury (tot)	mg/L	0.0002	-	-	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0002
Nickel (tot)	mg/L	0.025	-	-	-	0.001, 0.003	<0.005	<0.005	<0.005	0.02	<0.005	<0.005	<0.005
Selenium (tot)	mg/L	0.1	-	-	-	0.002, 0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silicon (tot)	mg/L	-	-	-	-	0.18	-	-	-	-	-	-	-
Silver (tot)	mg/L	0.0001	-	-	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Zinc (tot)	mg/L	-	0.02	0.089	0.03	0.005, 0.02	<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 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

MHH - South Baptiste WDS Appendix F2: Historical Surface Water Quality						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A
Parameter	Units	PWQO-GENERAL	PWQO-INTERIM	MECP-GD-TA	MECP-GD-TB	Sample ID	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A
						Sample Date	2009-Sep-16	2009-Oct-23	2010-May-17	2010-Jul-19	2010-Oct-18	2011-May-18	2011-Aug-11
Anions						Detection Limit							
Chloride	mg/L	-	-	180	128	0.1, 0.2, 1	19	20	22	0.0006	18	24	19
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-	-
Nitrate as N	mg/L	-	-	-	-	0.05, 0.1	0.5	0.42	<0.1	0.1	<0.1	0.99	0.44
Nitrite as N	mg/L	-	-	-	-	0.01, 0.05, 0.1	<0.1	<0.1	0.82	0.48	0.41	<0.1	<0.1
Sulphate	mg/L	-	-	100	-	0.1, 0.2, 1	24	28	33	19	20	34	15
Cations													
Calcium (tot)	mg/L	-	-	-	-	0.00005, 0.05, 0.16, 0.2, 0.32	43	38	39	42	40	42	46
Magnesium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.17, 0.34	6	6	6	6	6	7	7
Potassium (tot)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 0.58, 1.15	9	10	13	9	7	18	10
Sodium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.22, 0.45	23	25	25	22	21	26	21
Field Parameters													
pH (Field)	pH units	-	-	-	-		-	-	-	-	-	-	-
Temperature	deg. C	-	-	-	-		-	-	-	-	-	-	-
General Chemistry													
% Difference/ Ion Balance (Calcu	%	-	-	-	-		-	-	-	-	-	-	-
Alkalinity (as CaCO3)	mg/L	See Factsheet	-	-	-	1, 5	158	146	139	154	141	145	158
Ammonia as N	mg/L	-	-	-	-	0.02, 0.05	0.17	0.18	0.09	0.16	0.11	0.06	0.2
Biochemical Oxygen Demand	mg/L	-	-	-	-	2, 5	-	<1	5	4	<1	<1	6
Colour	TCU	-	-	-	-	2, 2.5, 5	19	20	13	23	17	15	17
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	403	412	421	395	382	447	390
Hardness (as CaCO3)	mg/L	-	-	-	-	0.5, 1	132	120	122	130	125	134	144
pH	pH units	6.5 - 8.5	-	6 - 9	-		8.22	7.87	7.97	7.82	7.83	8.16	7.86
Phenols	mg/L	0.001	-	0.04	0.004	0.001	<0.001	<0.001	<0.001	0.002	<0.001	<0.001	<0.001
Total Dissolved Solids	mg/L	-	-	-	-	10, 20	262	268	274	257	248	291	254
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1	0.26	0.16	0.53	0.29	0.16	0.24	0.87
Total Organic Carbon	mg/L	-	-	-	-		-	-	-	-	-	-	-
Total Phosphorus	mg/L	0.03	-	-	-	0.01, 0.02	<0.01	<0.01	0.03	0.05	0.02	<0.01	0.1
Total Suspended Solids	mg/L	-	-	-	-	10	<2	<2	5	16	55	2	183
Turbidity	NTU	-	-	-	-	0.1, 0.5	2.1	1	0.9	4.3	1.2	1.4	17.4
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.000002, 0.00061, 0.1	-	0.000016	-	-	-	0.0000235	0.0014306
Metals													
Aluminum (diss, 0.2 µm)	mg/L	-	Calculated	-	-	0.004, 0.005	-	-	-	-	-	-	-
Aluminum (diss, 0.45 µm)	mg/L	-	Calculated	-	-	0.004	-	-	-	-	-	-	-
Aluminum (tot)	mg/L	-	-	-	-	0.004, 0.0049, 0.01	0.01	0.01	0.03	0.11	0.01	0.02	1.2
Arsenic (tot)	mg/L	-	0.005	-	-	0.001, 0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.05
Boron (tot)	mg/L	-	0.2	3.55	1.5	0.01	0.11	0.12	0.17	0.14	0.11	0.23	0.1
Cadmium (tot)	mg/L	-	Calculated	0.00021	0.000017	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.01
Chromium (tot)	mg/L	-	-	0.064	-	0.003, 0.005	0.002	0.001	<0.001	<0.001	<0.001	<0.001	<0.05
Cobalt (tot)	mg/L	-	0.0009	-	-	0.0005	0.0003	0.0003	0.0003	0.0006	0.0002	0.0002	<0.01
Copper (tot)	mg/L	-	Calculated	0.0069	-	0.0009, 0.001, 0.002	<0.001	<0.001	<0.001	0.001	<0.001	0.001	<0.01
Iron (tot)	mg/L	0.3	-	1	-	0.01, 0.1	0.18	0.09	0.12	0.68	0.13	0.07	4.2
Lead (tot)	mg/L	-	Calculated	0.002	-	0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.01
Manganese (tot)	mg/L	-	-	-	-	0.002	-	-	-	-	-	-	-
Mercury (diss)	mg/L	0.0002	-	-	-	0.0001	-	-	-	-	-	-	-
Mercury (tot)	mg/L	0.0002	-	-	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Nickel (tot)	mg/L	0.025	-	-	-	0.001, 0.003	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
Selenium (tot)	mg/L	0.1	-	-	-	0.002, 0.004	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.05
Silicon (tot)	mg/L	-	-	-	-	0.18	-	-	-	-	-	-	-
Silver (tot)	mg/L	0.0001	-	-	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.01
Zinc (tot)	mg/L	-	0.02	0.089	0.03	0.005, 0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05

-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

MHH - South Baptiste WDS Appendix F2: Historical Surface Water Quality						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A
Parameter	Units	PWQO-GENERAL	PWQO-INTERIM	MECP-GD-TA	MECP-GD-TB	Sample ID	BAP-A	BAP-A-Dup (BAP-A)	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A
						Sample Date	2011-Nov-03	2011-Nov-03	2012-Apr-17	2012-Jul-11	2012-Oct-17	2013-Apr-18	2013-Aug-15
Anions						Detection Limit							
Chloride	mg/L	-	-	180	128	0.1, 0.2, 1	22	-	23	26	31	22.9	33.1
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-	-
Nitrate as N	mg/L	-	-	-	-	0.05, 0.1	0.43	-	1.1	0.6	0.4	2	0.89
Nitrite as N	mg/L	-	-	-	-	0.01, 0.05, 0.1	<0.1	-	0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	-	-	100	-	0.1, 0.2, 1	23	-	42	20	23	35.7	26.3
Cations													
Calcium (tot)	mg/L	-	-	-	-	0.00005, 0.05, 0.16, 0.2, 0.32	48	48	39.4	47	46.7	29.7	47.4
Magnesium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.17, 0.34	8	8	7.35	5.93	7.85	5.19	7.35
Potassium (tot)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 0.58, 1.15	11	9	16.9	8.55	11.9	12.1	12
Sodium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.22, 0.45	22	20	28	18.1	24.1	21.2	22.1
Field Parameters													
pH (Field)	pH units	-	-	-	-		-	-	-	-	-	-	-
Temperature	deg. C	-	-	-	-		-	-	-	-	-	-	-
General Chemistry													
% Difference/ Ion Balance (Calcu	%	-	-	-	-		-	-	-	-	-	-	-
Alkalinity (as CaCO3)	mg/L	See Factsheet	-	-	-	1, 5	160	-	146	157	147	71	164
Ammonia as N	mg/L	-	-	-	-	0.02, 0.05	0.09	-	0.17	0.27	0.12	0.1	0.21
Biochemical Oxygen Demand	mg/L	-	-	-	-	2, 5	4	-	<2	3	<2	<5	<5
Colour	TCU	-	-	-	-	2, 2.5, 5	15	-	12	11	12	43	19
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	401	-	489	434	418	300	504
Hardness (as CaCO3)	mg/L	-	-	-	-	0.5, 1	153	152.8	128.6	141.8	148.9	95.5	149
pH	pH units	6.5 - 8.5	-	6 - 9	-		7.02	-	7.9	7.8	7.8	7.82	7.61
Phenols	mg/L	0.001	-	0.04	0.004	0.001	<0.001	-	<0.001	<0.001	0.001	<0.001	<0.001
Total Dissolved Solids	mg/L	-	-	-	-	10, 20	261	-	439	240	228	186	266
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1	<0.1	-	0.4	1.4	0.3	0.52	0.58
Total Organic Carbon	mg/L	-	-	-	-		-	-	-	-	-	-	-
Total Phosphorus	mg/L	0.03	-	-	-	0.01, 0.02	<0.01	-	<0.01	0.17	<0.01	0.06	0.07
Total Suspended Solids	mg/L	-	-	-	-	10	78	-	3	15	58	16	35
Turbidity	NTU	-	-	-	-	0.1, 0.5	4.5	-	0.9	3.3	4.1	14.3	9.4
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.000002, 0.00061, 0.1	0.000005	-	0.0001068	0.0010053	0.0000773	0.0000628	0.0007819
Metals													
Aluminum (diss, 0.2 µm)	mg/L	-	Calculated	-	-	0.004, 0.005	-	-	8	-	-	0.038	0.021
Aluminum (diss, 0.45 µm)	mg/L	-	Calculated	-	-	0.004	-	-	-	-	-	-	-
Aluminum (tot)	mg/L	-	-	-	-	0.004, 0.0049, 0.01	<0.01	<0.01	0.016	0.134	0.009	-	-
Arsenic (tot)	mg/L	-	0.005	-	-	0.001, 0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.003	<0.003
Boron (tot)	mg/L	-	0.2	3.55	1.5	0.01	0.1	0.13	0.245	0.143	0.143	0.134	0.15
Cadmium (tot)	mg/L	-	Calculated	0.00021	0.000017	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	<0.001	<0.001	0.003	<0.001	<0.001	<0.003	<0.003
Cobalt (tot)	mg/L	-	0.0009	-	-	0.0005	0.0002	0.0003	<0.0005	<0.0005	<0.0005	<0.0005	0.0005
Copper (tot)	mg/L	-	Calculated	0.0069	-	0.0009, 0.001, 0.002	<0.001	0.002	0.001	0.0013	<0.0005	<0.002	<0.002
Iron (tot)	mg/L	0.3	-	1	-	0.01, 0.1	0.09	0.04	<0.1	**1.65**	0.109	0.04	0.86
Lead (tot)	mg/L	-	Calculated	0.002	-	0.0005, 0.001	<0.001	<0.001	<0.0001	0.0016	<0.0001	<0.001	<0.001
Manganese (tot)	mg/L	-	-	-	-	0.002	-	-	-	-	-	-	-
Mercury (diss)	mg/L	0.0002	-	-	-	0.0001	-	-	-	-	-	-	-
Mercury (tot)	mg/L	0.0002	-	-	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001
Nickel (tot)	mg/L	0.025	-	-	-	0.001, 0.003	<0.005	<0.005	0.002	0.003	0.002	-	<0.003
Selenium (tot)	mg/L	0.1	-	-	-	0.002, 0.004	<0.001	<0.001	0.001	<0.001	<0.001	<0.004	<0.004
Silicon (tot)	mg/L	-	-	-	-	0.18	-	-	-	-	-	-	-
Silver (tot)	mg/L	0.0001	-	-	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Zinc (tot)	mg/L	-	0.02	0.089	0.03	0.005, 0.02	<0.01	<0.01	<0.005	0.028	<0.005	0.012	0.007

-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

MHH - South Baptiste WDS Appendix F2: Historical Surface Water Quality						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A
Parameter	Units	PWQO-GENERAL	PWQO-INTERIM	MECP-GD-TA	MECP-GD-TB	Sample ID	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A
						Sample Date	2013-Oct-30	2014-May-13	2014-Aug-19	2014-Oct-14	2015-May-04	2015-Sep-09	2015-Oct-26
Anions						Detection Limit							
Chloride	mg/L	-	-	180	128	0.1, 0.2, 1	36.5	37.3	34.1	41.3	40.6	44.1	47.6
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-	-
Nitrate as N	mg/L	-	-	-	-	0.05, 0.1	1.27	1.66	0.95	0.5	1.62	0.51	0.58
Nitrite as N	mg/L	-	-	-	-	0.01, 0.05, 0.1	<0.05	<0.1	<0.1	<0.05	<0.05	<0.1	<0.25
Sulphate	mg/L	-	-	100	-	0.1, 0.2, 1	37.7	58.1	39.3	49	63	30.3	43.9
Cations													
Calcium (tot)	mg/L	-	-	-	-	0.00005, 0.05, 0.16, 0.2, 0.32	52	50.9	50.8	57.1	50.1	47.3	55.2
Magnesium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.17, 0.34	8.87	9.15	8.23	9.25	9.02	7.74	8.84
Potassium (tot)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 0.58, 1.15	12.2	24.1	13.2	13.6	20	13.9	15.2
Sodium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.22, 0.45	27.1	36.4	29.2	35.4	36.8	32	36.9
Field Parameters													
pH (Field)	pH units	-	-	-	-		-	-	-	-	-	-	-
Temperature	deg. C	-	-	-	-		-	-	-	-	-	-	-
General Chemistry													
% Difference/ Ion Balance (Calcu	%	-	-	-	-		-	-	-	-	-	-	-
Alkalinity (as CaCO3)	mg/L	See Factsheet	-	-	-	1, 5	147	149	148	155	136	174	177
Ammonia as N	mg/L	-	-	-	-	0.02, 0.05	<0.02	-	0.32	0.1	0.16	0.12	0.2
Biochemical Oxygen Demand	mg/L	-	-	-	-	2, 5	<5	<5	<5	<5	<5	<5	<5
Colour	TCU	-	-	-	-	2, 2.5, 5	12	20	19	22	18	<5	17
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	483	549	530	545	540	542	553
Hardness (as CaCO3)	mg/L	-	-	-	-	0.5, 1	166	165	161	181	162	150	174
pH	pH units	6.5 - 8.5	-	6 - 9	-		7.81	7.97	7.93	7.87	7.88	8.14	7.8
Phenols	mg/L	0.001	-	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	276	316	296	332	304	314	308
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1	0.61	1.84	0.66	0.32	0.73	0.6	0.66
Total Organic Carbon	mg/L	-	-	-	-		-	-	-	-	-	-	-
Total Phosphorus	mg/L	0.03	-	-	-	0.01, 0.02	<0.02	<0.02	0.03	0.04	0.03	<0.01	0.01
Total Suspended Solids	mg/L	-	-	-	-	10	<10	<10	<10	<10	<10	<10	<10
Turbidity	NTU	-	-	-	-	0.1, 0.5	21.4	0.5	16.6	2.3	2	354	1.3
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.000002, 0.00061, 0.1	<0.0000129	0.000326	0.00225	0.000305	0.000424	0.0016	0.00002
Metals													
Aluminum (diss, 0.2 µm)	mg/L	-	Calculated	-	-	0.004, 0.005	0.016	0.01	0.009	0.005	0.01	0.009	0.005
Aluminum (diss, 0.45 µm)	mg/L	-	Calculated	-	-	0.004	-	-	-	-	-	-	-
Aluminum (tot)	mg/L	-	-	-	-	0.004, 0.0049, 0.01	-	-	-	-	-	-	-
Arsenic (tot)	mg/L	-	0.005	-	-	0.001, 0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Boron (tot)	mg/L	-	0.2	3.55	1.5	0.01	0.137	0.334	0.149	0.165	0.26	0.201	0.15
Cadmium (tot)	mg/L	-	Calculated	0.00021	0.000017	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	0.0011	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Cobalt (tot)	mg/L	-	0.0009	-	-	0.0005	<0.003	<0.0005	<0.0005	<0.0005	<0.0005	<0.003	<0.0005
Copper (tot)	mg/L	-	Calculated	0.0069	-	0.0009, 0.001, 0.002	0.003	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Iron (tot)	mg/L	0.3	-	1	-	0.01, 0.1	**2.85**	<0.01	0.29	0.1	0.08	0.25	0.02
Lead (tot)	mg/L	-	Calculated	0.002	-	0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (tot)	mg/L	-	-	-	-	0.002	-	-	-	-	-	-	-
Mercury (diss)	mg/L	0.0002	-	-	-	0.0001	-	-	-	-	-	-	-
Mercury (tot)	mg/L	0.0002	-	-	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Nickel (tot)	mg/L	0.025	-	-	-	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	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Silicon (tot)	mg/L	-	-	-	-	0.18	-	-	-	-	-	-	-
Silver (tot)	mg/L	0.0001	-	-	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Zinc (tot)	mg/L	-	0.02	0.089	0.03	0.005, 0.02	0.059	<0.005	<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 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

MHH - South Baptiste WDS Appendix F2: Historical Surface Water Quality						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A
Parameter	Units	PWQO-GENERAL	PWQO-INTERIM	MECP-GD-TA	MECP-GD-TB	Sample ID	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A
						Sample Date	2016-Apr-28	2016-Aug-17	2016-Oct-26	2017-May-10	2017-Jul-20	2017-Oct-23	2018-May-07
Anions						Detection Limit							
Chloride	mg/L	-	-	180	128	0.1, 0.2, 1	34.6	45.3	50	42.5	38.9	40.3	38.9
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-	-
Nitrate as N	mg/L	-	-	-	-	0.05, 0.1	1.24	0.38	0.88	2	1.22	0.88	1.21
Nitrite as N	mg/L	-	-	-	-	0.01, 0.05, 0.1	<0.1	<0.1	<0.25	<0.05	0.17	<0.1	<0.05
Sulphate	mg/L	-	-	100	-	0.1, 0.2, 1	41.7	23.3	28.9	48.2	34	25.8	43.2
Cations													
Calcium (tot)	mg/L	-	-	-	-	0.00005, 0.05, 0.16, 0.2, 0.32	37.4	42.9	57.5	41.5	44.3	51.2	36.1
Magnesium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.17, 0.34	6.73	6.75	8.89	7.43	7.38	7.79	5.9
Potassium (tot)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 0.58, 1.15	17.9	14.4	15.5	19.5	18.4	16.7	14.5
Sodium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.22, 0.45	28.2	39.5	39.5	34.2	31.9	39.1	28.7
Field Parameters													
pH (Field)	pH units	-	-	-	-		-	-	-	-	-	-	-
Temperature	deg. C	-	-	-	-		-	-	-	-	-	-	-
General Chemistry													
% Difference/ Ion Balance (Calcu	%	-	-	-	-		-	-	-	-	-	-	-
Alkalinity (as CaCO3)	mg/L	See Factsheet	-	-	-	1, 5	119	150	191	125	171	192	110
Ammonia as N	mg/L	-	-	-	-	0.02, 0.05	0.04	0.17	0.15	0.07	0.2	0.48	0.24
Biochemical Oxygen Demand	mg/L	-	-	-	-	2, 5	<5	<5	<5	<5	<5	<5	<5
Colour	TCU	-	-	-	-	2, 2.5, 5	18	37	17	23	30	25	25
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	421	507	585	552	532	486	417
Hardness (as CaCO3)	mg/L	-	-	-	-	0.5, 1	121	135	180	134	141	160	114
pH	pH units	6.5 - 8.5	-	6 - 9	-		8.18	8	8.14	8.12	8.1	8.15	7.29
Phenols	mg/L	0.001	-	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	250	272	308	262	192	304	<10
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1	0.49	1.29	0.57	0.55	0.68	0.93	0.84
Total Organic Carbon	mg/L	-	-	-	-		-	-	-	-	-	-	-
Total Phosphorus	mg/L	0.03	-	-	-	0.01, 0.02	0.02	0.14	0.01	0.01	0.02	0.03	<0.02
Total Suspended Solids	mg/L	-	-	-	-	10	<10	<10	<10	26	<10	<10	252
Turbidity	NTU	-	-	-	-	0.1, 0.5	1.5	3.5	1.6	0.6	2.8	1.8	0.8
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.000002, 0.00061, 0.1	0.0000332	0.0003549	0.00018	-	0.001302	0.00097	0.0000496
Metals													
Aluminum (diss, 0.2 µm)	mg/L	-	Calculated	-	-	0.004, 0.005	0.015	0.015	0.005	0.015	0.011	0.008	0.017
Aluminum (diss, 0.45 µm)	mg/L	-	Calculated	-	-	0.004	-	-	-	-	-	-	-
Aluminum (tot)	mg/L	-	-	-	-	0.004, 0.0049, 0.01	-	-	-	-	-	-	-
Arsenic (tot)	mg/L	-	0.005	-	-	0.001, 0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Boron (tot)	mg/L	-	0.2	3.55	1.5	0.01	0.278	0.207	0.186	0.321	0.224	0.205	0.215
Cadmium (tot)	mg/L	-	Calculated	0.00021	0.000017	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	<0.003	<0.003	0.005	<0.003	<0.003	<0.003	<0.003
Cobalt (tot)	mg/L	-	0.0009	-	-	0.0005	<0.0005	0.0022	<0.0005	<0.0005	0.0006	0.0008	<0.0005
Copper (tot)	mg/L	-	Calculated	0.0069	-	0.0009, 0.001, 0.002	<0.002	0.003	<0.002	<0.002	<0.002	<0.002	<0.002
Iron (tot)	mg/L	0.3	-	1	-	0.01, 0.1	0.06	**3.84**	0.16	0.17	0.24	0.21	0.06
Lead (tot)	mg/L	-	Calculated	0.002	-	0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (tot)	mg/L	-	-	-	-	0.002	-	-	-	-	-	-	-
Mercury (diss)	mg/L	0.0002	-	-	-	0.0001	-	-	-	-	-	-	-
Mercury (tot)	mg/L	0.0002	-	-	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Nickel (tot)	mg/L	0.025	-	-	-	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	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Silicon (tot)	mg/L	-	-	-	-	0.18	-	-	-	-	-	-	-
Silver (tot)	mg/L	0.0001	-	-	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Zinc (tot)	mg/L	-	0.02	0.089	0.03	0.005, 0.02	0.006	0.024	<0.005	0.011	0.012	0.006	<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

MHH - South Baptiste WDS Appendix F2: Historical Surface Water Quality						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A
Parameter	Units	PWQO-GENERAL	PWQO-INTERIM	MECP-GD-TA	MECP-GD-TB	Sample ID	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A
						Sample Date	2018-Jun-12	2018-Jul-30	2018-Oct-24	2019-May-07	2019-Aug-14	2019-Oct-22	2020-May-06
Anions						Detection Limit							
Chloride	mg/L	-	-	180	128	0.1, 0.2, 1	51.6	48.1	50.2	61.8	55.2	41.9	54.7
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-	-
Nitrate as N	mg/L	-	-	-	-	0.05, 0.1	-	1.29	1.5	2.37	1.55	0.45	2
Nitrite as N	mg/L	-	-	-	-	0.01, 0.05, 0.1	-	<0.1	<0.25	<0.05	<0.05	<0.05	<0.1
Sulphate	mg/L	-	-	100	-	0.1, 0.2, 1	-	18.3	27.5	55.4	17.3	27.8	49.6
Cations													
Calcium (tot)	mg/L	-	-	-	-	0.00005, 0.05, 0.16, 0.2, 0.32	-	<0.003	50	49.2	47	32.9	44.43
Magnesium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.17, 0.34	-	-	7.69	8.85	7.18	5.55	7.94
Potassium (tot)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 0.58, 1.15	-	-	17.6	22.3	16.7	15.5	18.77
Sodium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.22, 0.45	-	35.3	40.6	42.5	37.2	33.1	36.22
Field Parameters													
pH (Field)	pH units	-	-	-	-		-	-	-	-	-	-	-
Temperature	deg. C	-	-	-	-		-	-	-	-	-	-	-
General Chemistry													
% Difference/ Ion Balance (Calcu	%	-	-	-	-		-	-	-	-	-	-	-
Alkalinity (as CaCO3)	mg/L	See Factsheet	-	-	-	1, 5	165	155	162	185	160	113	139
Ammonia as N	mg/L	-	-	-	-	0.02, 0.05	0.22	0.43	0.52	0.82	0.15	0.58	0.09
Biochemical Oxygen Demand	mg/L	-	-	-	-	2, 5	-	<5	<5	<5	<5	<5	<5
Colour	TCU	-	-	-	-	2, 2.5, 5	-	-	6	13	22	67	18
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	-	545	605	625	572	387	675
Hardness (as CaCO3)	mg/L	-	-	-	-	0.5, 1	-	158	157	159	147	105	144
pH	pH units	6.5 - 8.5	-	6 - 9	-		-	7.81	8.07	7.58	7.65	7.54	7.5
Phenols	mg/L	0.001	-	0.04	0.004	0.001	-	<0.001	<0.001	<0.001	0.001	0.008	<0.001
Total Dissolved Solids	mg/L	-	-	-	-	10, 20	302	312	336	356	302	252	314
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1	-	0.79	1.22	1.47	0.64	0.92	0.57
Total Organic Carbon	mg/L	-	-	-	-		-	-	-	-	-	-	-
Total Phosphorus	mg/L	0.03	-	-	-	0.01, 0.02	-	0.03	0.05	<0.02	<0.02	0.04	<0.02
Total Suspended Solids	mg/L	-	-	-	-	10	-	17	32	<10	<10	<10	<10
Turbidity	NTU	-	-	-	-	0.1, 0.5	-	-	2.5	1.2	3.5	9.3	0.9
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.000002, 0.00061, 0.1	0.0007041	0.0009969	0.0013725	-	-	-	-
Metals													
Aluminum (diss, 0.2 µm)	mg/L	-	Calculated	-	-	0.004, 0.005	0.01	0.01	0.006	0.015	0.005	0.031	<0.004
Aluminum (diss, 0.45 µm)	mg/L	-	Calculated	-	-	0.004	-	-	-	-	-	-	-
Aluminum (tot)	mg/L	-	-	-	-	0.004, 0.0049, 0.01	-	-	-	-	-	-	0.044
Arsenic (tot)	mg/L	-	0.005	-	-	0.001, 0.003	-	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Boron (tot)	mg/L	-	0.2	3.55	1.5	0.01	0.27	0.234	0.235	0.339	0.255	0.218	0.298
Cadmium (tot)	mg/L	-	Calculated	0.00021	0.000017	0.00009, 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
Cobalt (tot)	mg/L	-	0.0009	-	-	0.0005	-	0.0009	0.0009	<0.0005	0.0008	0.0006	<0.0005
Copper (tot)	mg/L	-	Calculated	0.0069	-	0.0009, 0.001, 0.002	-	-	<0.002	0.002	<0.002	<0.002	<0.002
Iron (tot)	mg/L	0.3	-	1	-	0.01, 0.1	0.187	0.49	0.31	<0.01	0.12	0.5	0.029
Lead (tot)	mg/L	-	Calculated	0.002	-	0.0005, 0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (tot)	mg/L	-	-	-	-	0.002	-	-	-	-	-	-	-
Mercury (diss)	mg/L	0.0002	-	-	-	0.0001	-	-	-	<0.0001	<0.0001	<0.0001	<0.0001
Mercury (tot)	mg/L	0.0002	-	-	-	0.0001	-	<0.0001	<0.0001	-	-	-	-
Nickel (tot)	mg/L	0.025	-	-	-	0.001, 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	<0.004	<0.004	<0.004
Silicon (tot)	mg/L	-	-	-	-	0.18	-	-	-	-	-	-	-
Silver (tot)	mg/L	0.0001	-	-	-	0.00009, 0.0001	-	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Zinc (tot)	mg/L	-	0.02	0.089	0.03	0.005, 0.02	-	0.005	0.005	0.009	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

MHH - South Baptiste WDS Appendix F2: Historical Surface Water Quality						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A
Parameter	Units	PWQO-GENERAL	PWQO-INTERIM	MECP-GD-TA	MECP-GD-TB	Sample ID	BAP-A-QAQC-S20 (BAP-A)	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A
						Sample Date	2020-May-06	2020-Aug-25	2020-Oct-06	2021-Apr-20	2021-Jul-14	2021-Oct-21
Anions						**Detection Limit**						
Chloride	mg/L	-	-	180	128	0.1, 0.2, 1	54.9	49.5	49	49.4	43.7	39.3
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-
Nitrate as N	mg/L	-	-	-	-	0.05, 0.1	2.1	1.21	1.52	1.97	0.94	1.12
Nitrite as N	mg/L	-	-	-	-	0.01, 0.05, 0.1	<0.1	<0.05	<0.05	<0.1	<0.05	<0.05
Sulphate	mg/L	-	-	100	-	0.1, 0.2, 1	50.1	13	17.9	50.9	22.6	25
Cations												
Calcium (tot)	mg/L	-	-	-	-	0.00005, 0.05, 0.16, 0.2, 0.32	46.4	53.46	48.24	53	42	38.8
Magnesium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.17, 0.34	8.61	8.42	7.62	10.2	7.2	7
Potassium (tot)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 0.58, 1.15	19.21	18.16	17.38	20.8	16.7	17.8
Sodium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.22, 0.45	37.35	38.49	36.68	41.7	33.3	30.8
Field Parameters												
pH (Field)	pH units	-	-	-	-		-	-	-	-	-	-
Temperature	deg. C	-	-	-	-		-	-	-	-	-	-
General Chemistry												
% Difference/ Ion Balance (Calcu	%	-	-	-	-		-	-	-	-	-	-
Alkalinity (as CaCO3)	mg/L	See Factsheet	-	-	-	1, 5	136	194	180	147	152	131
Ammonia as N	mg/L	-	-	-	-	0.02, 0.05	0.1	<0.02	0.1	0.07	0.03	0.2
Biochemical Oxygen Demand	mg/L	-	-	-	-	2, 5	<5	<2	<5	<2	<2	3
Colour	TCU	-	-	-	-	2, 2.5, 5	18	22	27	16	30	31
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	678	536	500	620	479	454
Hardness (as CaCO3)	mg/L	-	-	-	-	0.5, 1	151	168	152	174	135	126
pH	pH units	6.5 - 8.5	-	6 - 9	-		7.58	7.72	7.7	7.89	7.71	7.47
Phenols	mg/L	0.001	-	0.04	0.004	0.001	<0.001	0.001	<0.001	0.001	0.002	0.003
Total Dissolved Solids	mg/L	-	-	-	-	10, 20	284	324	296	354	268	266
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1	0.59	0.6	0.63	0.62	0.33	0.62
Total Organic Carbon	mg/L	-	-	-	-		-	-	-	-	-	-
Total Phosphorus	mg/L	0.03	-	-	-	0.01, 0.02	<0.02	<0.02	0.03	<0.02	<0.02	0.03
Total Suspended Solids	mg/L	-	-	-	-	10	<10	<10	<10	<10	<10	<10
Turbidity	NTU	-	-	-	-	0.1, 0.5	0.8	2.1	1.6	1.6	1.6	3.4
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.000002, 0.00061, 0.1	-	-	-	-	-	-
Metals												
Aluminum (diss, 0.2 µm)	mg/L	-	Calculated	-	-	0.004, 0.005	0.01	0.005	0.005	-	-	-
Aluminum (diss, 0.45 µm)	mg/L	-	Calculated	-	-	0.004	-	-	-	0.006	0.01	0.012
Aluminum (tot)	mg/L	-	-	-	-	0.004, 0.0049, 0.01	0.043	0.025	0.029	0.016	0.041	0.033
Arsenic (tot)	mg/L	-	0.005	-	-	0.001, 0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Boron (tot)	mg/L	-	0.2	3.55	1.5	0.01	0.307	0.245	0.255	0.279	0.283	0.235
Cadmium (tot)	mg/L	-	Calculated	0.00021	0.000017	0.00009, 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
Cobalt (tot)	mg/L	-	0.0009	-	-	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Copper (tot)	mg/L	-	Calculated	0.0069	-	0.0009, 0.001, 0.002	<0.002	0.003	<0.002	<0.002	<0.002	<0.002
Iron (tot)	mg/L	0.3	-	1	-	0.01, 0.1	0.043	0.152	0.067	0.043	0.09	0.18
Lead (tot)	mg/L	-	Calculated	0.002	-	0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (tot)	mg/L	-	-	-	-	0.002	-	-	-	-	-	-
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	-	-	-	-	-	-
Nickel (tot)	mg/L	0.025	-	-	-	0.001, 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	<0.004	<0.002	<0.002
Silicon (tot)	mg/L	-	-	-	-	0.18	-	-	-	-	-	-
Silver (tot)	mg/L	0.0001	-	-	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Zinc (tot)	mg/L	-	0.02	0.089	0.03	0.005, 0.02	<0.005	<0.005	<0.005	0.008	0.009	<0.02

-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

MHH - South Baptiste WDS Appendix F2: Historical Surface Water Quality						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A
Parameter	Units	PWQO-GENERAL	PWQO-INTERIM	MECP-GD-TA	MECP-GD-TB	Sample ID	SB-QAQC SW-F21 (BAP-A)	BAP-A	SB-QAQC SW-S22 (BAP-A)	BAP-A	BAP-A	BAP-A
						Sample Date	2021-Oct-21	2022-May-03	2022-May-03	2022-Aug-04	2022-Oct-18	2023-May-04
Anions						**Detection Limit**						
Chloride	mg/L	-	-	180	128	0.1, 0.2, 1	39.1	39.8	39.7	36.9	40.3	40.2
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-
Nitrate as N	mg/L	-	-	-	-	0.05, 0.1	1.18	1.94	1.92	1.04	1.83	1.88
Nitrite as N	mg/L	-	-	-	-	0.01, 0.05, 0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	-	-	100	-	0.1, 0.2, 1	24.9	50.4	50.4	14.4	19.4	43.1
Cations												
Calcium (tot)	mg/L	-	-	-	-	0.00005, 0.05, 0.16, 0.2, 0.32	38.6	53.7	54.3	53.1	39.4	55
Magnesium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.17, 0.34	6.83	9.44	9.52	8.02	8.22	10.1
Potassium (tot)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 0.58, 1.15	17.7	21.5	21.5	19.6	17.8	21.9
Sodium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.22, 0.45	31	35.9	35.9	42.6	38.8	37.4
Field Parameters												
pH (Field)	pH units	-	-	-	-		-	-	-	-	-	-
Temperature	deg. C	-	-	-	-		-	-	-	-	-	-
General Chemistry												
% Difference/ Ion Balance (Calcu	%	-	-	-	-		-	-	-	-	0.612	-
Alkalinity (as CaCO3)	mg/L	See Factsheet	-	-	-	1, 5	137	145	140	158	153	147
Ammonia as N	mg/L	-	-	-	-	0.02, 0.05	0.17	<0.02	<0.02	<0.02	0.05	0.14
Biochemical Oxygen Demand	mg/L	-	-	-	-	2, 5	<2	2	<2	2	<2	<2
Colour	TCU	-	-	-	-	2, 2.5, 5	30	13.9	13.8	87.3	16.6	17.6
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	455	545	538	468	489	535
Hardness (as CaCO3)	mg/L	-	-	-	-	0.5, 1	125	173	175	166	132	179
pH	pH units	6.5 - 8.5	-	6 - 9	-		7.6	7.47	7.42	7.7	7.68	7.76
Phenols	mg/L	0.001	-	0.04	0.004	0.001	0.002	0.002	0.002	0.003	0.006	-
Total Dissolved Solids	mg/L	-	-	-	-	10, 20	262	276	304	268	266	302
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1	0.65	0.41	0.55	0.52	0.67	0.49
Total Organic Carbon	mg/L	-	-	-	-		-	-	-	-	-	-
Total Phosphorus	mg/L	0.03	-	-	-	0.01, 0.02	<0.02	<0.02	<0.02	0.05	<0.02	<0.02
Total Suspended Solids	mg/L	-	-	-	-	10	<10	<10	<10	<10	<10	<10
Turbidity	NTU	-	-	-	-	0.1, 0.5	2.1	<0.5	<0.5	2.6	<0.5	2
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.000002, 0.00061, 0.1	-	-	-	<0.000002	0.0642	0.000308
Metals												
Aluminum (diss, 0.2 µm)	mg/L	-	Calculated	-	-	0.004, 0.005	-	0.006	0.007	-	-	0.018
Aluminum (diss, 0.45 µm)	mg/L	-	Calculated	-	-	0.004	0.011	-	-	0.007	0.008	-
Aluminum (tot)	mg/L	-	-	-	-	0.004, 0.0049, 0.01	0.032	-	-	0.146	0.014	-
Arsenic (tot)	mg/L	-	0.005	-	-	0.001, 0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Boron (tot)	mg/L	-	0.2	3.55	1.5	0.01	0.23	0.375	0.361	0.306	-	0.374
Cadmium (tot)	mg/L	-	Calculated	0.00021	0.000017	0.00009, 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
Cobalt (tot)	mg/L	-	0.0009	-	-	0.0005	<0.0005	<0.0005	<0.0005	0.0007	0.0006	<0.0005
Copper (tot)	mg/L	-	Calculated	0.0069	-	0.0009, 0.001, 0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.003
Iron (tot)	mg/L	0.3	-	1	-	0.01, 0.1	0.186	0.024	0.028	0.354	0.03	0.046
Lead (tot)	mg/L	-	Calculated	0.002	-	0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (tot)	mg/L	-	-	-	-	0.002	-	-	-	-	0.094	-
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	-	-	-	-	-	-
Nickel (tot)	mg/L	0.025	-	-	-	0.001, 0.003	<0.003	<0.003	<0.003	<0.003	<0.003	0.012
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	-	-	-	-	0.18	-	-	-	-	-	3.77
Silver (tot)	mg/L	0.0001	-	-	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Zinc (tot)	mg/L	-	0.02	0.089	0.03	0.005, 0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02

-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

MHH - South Baptiste WDS Appendix F2: Historical Surface Water Quality						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A
Parameter	Units	PWQO-GENERAL	PWQO-INTERIM	MECP-GD-TA	MECP-GD-TB	Sample ID	SB-QAQC-SW1 (BAP-A)	BAP-A	BAP-A	BAP-A	SB-QAQC-SW1 (BAP-A)	BAP-A	SB-QAQC-SW1 (BAP-A)
						Sample Date	2023-May-04	2023-Aug-09	2023-Oct-19	2024-Apr-29	2024-Apr-29	2024-Jul-10	2024-Jul-10
Anions						Detection Limit							
Chloride	mg/L	-	-	180	128	0.1, 0.2, 1	39.6	36	40	43	43	35	35
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	1.33	1.62	2.15	2.32	1.17	1.12
Nitrate as N	mg/L	-	-	-	-	0.05, 0.1	1.92	1.31	1.62	2.15	2.32	1.12	1.08
Nitrite as N	mg/L	-	-	-	-	0.01, 0.05, 0.1	<0.05	0.023	<0.01	<0.01	<0.01	0.051	0.044
Sulphate	mg/L	-	-	100	-	0.1, 0.2, 1	43.3	13	16	39	39	12	12
Cations													
Calcium (tot)	mg/L	-	-	-	-	0.00005, 0.05, 0.16, 0.2, 0.32	52.1	48	53	51	52	43	45
Magnesium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.17, 0.34	9.74	7.4	8.9	9.2	8.7	6.9	6.7
Potassium (tot)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 0.58, 1.15	21.5	17	20	20	20	17	16
Sodium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.22, 0.45	37.4	30	35	35	35	28	27
Field Parameters													
pH (Field)	pH units	-	-	-	-		-	6.8	6.96	7.03	7.03	6.87	6.87
Temperature	deg. C	-	-	-	-		-	15.1	9.3	6.2	6.2	15.6	15.6
General Chemistry													
% Difference/ Ion Balance (Calcu	%	-	-	-	-		-	-	-	-	-	-	-
Alkalinity (as CaCO3)	mg/L	See Factsheet	-	-	-	1, 5	151	170	170	150	150	150	150
Ammonia as N	mg/L	-	-	-	-	0.02, 0.05	0.15	0.071	<0.05	<0.05	<0.05	0.11	0.11
Biochemical Oxygen Demand	mg/L	-	-	-	-	2, 5	<2	5	<2	<2	<2	4	3
Colour	TCU	-	-	-	-	2, 2.5, 5	17.5	18	14	13	13	25	25
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	535	480	520	530	530	450	450
Hardness (as CaCO3)	mg/L	-	-	-	-	0.5, 1	170	150	160	190	190	140	150
pH	pH units	6.5 - 8.5	-	6 - 9	-		7.87	7.84	8.06	8.42	8.08	7.87	7.92
Phenols	mg/L	0.001	-	0.04	0.004	0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total Dissolved Solids	mg/L	-	-	-	-	10, 20	298	265	290	320	320	215	210
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1	0.54	0.27	0.24	0.25	0.13	0.49	0.49
Total Organic Carbon	mg/L	-	-	-	-		-	-	-	-	-	-	-
Total Phosphorus	mg/L	0.03	-	-	-	0.01, 0.02	<0.02	0.041	<0.02	<0.02	<0.02	0.032	0.034
Total Suspended Solids	mg/L	-	-	-	-	10	<10	34	10	<10	<10	<10	<10
Turbidity	NTU	-	-	-	-	0.1, 0.5	1.6	1.3	0.5	0.2	0.3	2	2
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.000002, 0.00061, 0.1	0.00033	<0.00061	<0.00061	<0.00061	<0.00061	<0.00061	<0.00061
Metals													
Aluminum (diss, 0.2 µm)	mg/L	-	Calculated	-	-	0.004, 0.005	0.018	<0.005	<0.005	<0.005	<0.005	0.006	0.006
Aluminum (diss, 0.45 µm)	mg/L	-	Calculated	-	-	0.004	-	-	-	-	-	-	-
Aluminum (tot)	mg/L	-	-	-	-	0.004, 0.0049, 0.01	-	0.28	0.01	0.0095	0.011	0.07	0.14
Arsenic (tot)	mg/L	-	0.005	-	-	0.001, 0.003	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron (tot)	mg/L	-	0.2	3.55	1.5	0.01	0.364	0.24	0.24	0.31	0.3	0.27	0.25
Cadmium (tot)	mg/L	-	Calculated	0.00021	0.000017	0.00009, 0.0001	<0.0001	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009
Chromium (tot)	mg/L	-	-	0.064	-	0.003, 0.005	<0.003	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Cobalt (tot)	mg/L	-	0.0009	-	-	0.0005	<0.0005	0.0012	<0.0005	<0.0005	<0.0005	<0.0005	0.00056
Copper (tot)	mg/L	-	Calculated	0.0069	-	0.0009, 0.001, 0.002	0.001	0.0013	<0.0009	<0.0009	0.0014	0.001	0.0012
Iron (tot)	mg/L	0.3	-	1	-	0.01, 0.1	0.05	**1.2**	<0.1	<0.1	<0.1	0.28	0.46
Lead (tot)	mg/L	-	Calculated	0.002	-	0.0005, 0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Manganese (tot)	mg/L	-	-	-	-	0.002	-	-	-	-	-	-	-
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	<0.0001	-	-	-	-
Nickel (tot)	mg/L	0.025	-	-	-	0.001, 0.003	<0.003	0.0027	0.0018	0.0014	0.0013	0.0016	0.0017
Selenium (tot)	mg/L	0.1	-	-	-	0.002, 0.004	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Silicon (tot)	mg/L	-	-	-	-	0.18	3.84	-	-	-	-	-	-
Silver (tot)	mg/L	0.0001	-	-	-	0.00009, 0.0001	<0.0001	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009
Zinc (tot)	mg/L	-	0.02	0.089	0.03	0.005, 0.02	<0.02	0.011	<0.005	<0.005	0.0055	<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

MHH - South Baptiste WDS Appendix F2: Historical Surface Water Quality						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A	BAP-A
Parameter	Units	PWQO-GENERAL	PWQO-INTERIM	MECP-GD-TA	MECP-GD-TB	Sample ID	BAP-A	SB-QAQC-SW1 (BAP-A)	BAP-A	SB-QAQC-SW1 (BAP-A)	BAP-A	BAP-A	SB-QAQC-SW1 (BAP-A)
						Sample Date	2024-Oct-29	2024-Oct-29	2025-May-08	2025-May-08	2025-Jul-07	2025-Oct-21	2025-Oct-21
Anions						Detection Limit							
Chloride	mg/L	-	-	180	128	0.1, 0.2, 1	40	40	32	32	33	44	47
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	1.86	1.85	1.11	1.8	1.82
Nitrate as N	mg/L	-	-	-	-	0.05, 0.1	-	-	1.86	1.85	1.09	1.8	1.82
Nitrite as N	mg/L	-	-	-	-	0.01, 0.05, 0.1	-	-	<0.01	<0.01	0.027	<0.01	<0.01
Sulphate	mg/L	-	-	100	-	0.1, 0.2, 1	17	17	35	30	13	11	11
Cations													
Calcium (tot)	mg/L	-	-	-	-	0.00005, 0.05, 0.16, 0.2, 0.32	50	50	45	45	49	54	52
Magnesium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.17, 0.34	8	8.2	8.1	7.9	7.6	9	8.7
Potassium (tot)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 0.58, 1.15	19	17	17	17	16	20	19
Sodium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.22, 0.45	31	31	28	28	28	32	31
Field Parameters													
pH (Field)	pH units	-	-	-	-		-	-	7.46	7.46	7.23	7.57	7.57
Temperature	deg. C	-	-	-	-		-	-	7.3	7.3	16.2	7.5	7.5
General Chemistry													
% Difference/ Ion Balance (Calcu	%	-	-	-	-		-	-	-	-	-	-	-
Alkalinity (as CaCO3)	mg/L	See Factsheet	-	-	-	1, 5	150	150	150	150	160	190	190
Ammonia as N	mg/L	-	-	-	-	0.02, 0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Biochemical Oxygen Demand	mg/L	-	-	-	-	2, 5	<2	<2	4	<2	<2	<2	<2
Colour	TCU	-	-	-	-	2, 2.5, 5	12	12	11	11	18	13	13
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	500	500	490	500	480	550	550
Hardness (as CaCO3)	mg/L	-	-	-	-	0.5, 1	160	180	160	150	160	180	180
pH	pH units	6.5 - 8.5	-	6 - 9	-		7.86	7.89	7.91	7.89	7.86	7.89	7.9
Phenols	mg/L	0.001	-	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	335	290	320	295	280	295	285
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1	-	-	0.21	0.24	0.32	0.31	0.28
Total Organic Carbon	mg/L	-	-	-	-		-	-	-	-	-	-	-
Total Phosphorus	mg/L	0.03	-	-	-	0.01, 0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Total Suspended Solids	mg/L	-	-	-	-	10	<10	<10	<10	<10	<10	<10	<10
Turbidity	NTU	-	-	-	-	0.1, 0.5	0.5	0.4	0.3	0.3	1.2	12	16
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.000002, 0.00061, 0.1	<0.00061	<0.00061	<0.00061	<0.00061	<0.00061	<0.00061	<0.00061
Metals													
Aluminum (diss, 0.2 µm)	mg/L	-	Calculated	-	-	0.004, 0.005	<0.005	<0.005	0.007	0.007	<0.005	<0.005	<0.005
Aluminum (diss, 0.45 µm)	mg/L	-	Calculated	-	-	0.004	-	-	-	-	-	-	-
Aluminum (tot)	mg/L	-	-	-	-	0.004, 0.0049, 0.01	0.0083	0.011	0.01	0.0083	0.019	0.16	0.18
Arsenic (tot)	mg/L	-	0.005	-	-	0.001, 0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron (tot)	mg/L	-	0.2	3.55	1.5	0.01	0.22	0.21	0.31	0.28	0.25	0.25	0.23
Cadmium (tot)	mg/L	-	Calculated	0.00021	0.000017	0.00009, 0.0001	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009
Chromium (tot)	mg/L	-	-	0.064	-	0.003, 0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Cobalt (tot)	mg/L	-	0.0009	-	-	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.00093	0.00094
Copper (tot)	mg/L	-	Calculated	0.0069	-	0.0009, 0.001, 0.002	<0.0009	<0.0009	0.001	0.00095	0.00093	0.0017	0.0012
Iron (tot)	mg/L	0.3	-	1	-	0.01, 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.6	0.64
Lead (tot)	mg/L	-	Calculated	0.002	-	0.0005, 0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	**0.0024**	<0.0005
Manganese (tot)	mg/L	-	-	-	-	0.002	-	-	-	-	-	-	-
Mercury (diss)	mg/L	0.0002	-	-	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Mercury (tot)	mg/L	0.0002	-	-	-	0.0001	-	-	-	-	-	-	-
Nickel (tot)	mg/L	0.025	-	-	-	0.001, 0.003	0.0015	0.0015	0.0013	0.0013	0.0017	0.0024	0.0024
Selenium (tot)	mg/L	0.1	-	-	-	0.002, 0.004	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Silicon (tot)	mg/L	-	-	-	-	0.18	-	-	-	-	-	-	-
Silver (tot)	mg/L	0.0001	-	-	-	0.00009, 0.0001	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009
Zinc (tot)	mg/L	-	0.02	0.089	0.03	0.005, 0.02	<0.005	<0.005	<0.005	<0.005	<0.005	0.017	0.0074

-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

MHH - South Baptiste WDS Appendix F2: Historical Surface Water Quality						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B
Parameter	Units	PWQO-GENERAL	PWQO-INTERIM	MECP-GD-TA	MECP-GD-TB	Sample ID	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B
						Sample Date	2004-Apr-29	2004-Jun-23	2004-Aug-20	2004-Sep-10	2004-Oct-28	2005-May-03	2005-Jul-27
Anions						Detection Limit							
Chloride	mg/L	-	-	180	128	0.1, 0.2, 1	5	3	3	4	4	33.4	7.9
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-	-
Nitrate as N	mg/L	-	-	-	-	0.05, 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	2.2	0.69
Nitrite as N	mg/L	-	-	-	-	0.01, 0.05, 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-
Sulphate	mg/L	-	-	100	-	0.1, 0.2, 1	9	8	9	11	11	66	9
Cations													
Calcium (tot)	mg/L	-	-	-	-	0.00005, 0.05, 0.16, 0.2, 0.32	21	25	27	26	27	54.1	27.2
Magnesium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.17, 0.34	1	1	1	1	1	9.77	1.37
Potassium (tot)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 0.58, 1.15	<1	<1	<1	<1	1	24.1	0.7
Sodium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.22, 0.45	3	3	3	3	3	30.8	2.5
Field Parameters													
pH (Field)	pH units	-	-	-	-		-	-	-	-	-	-	-
Temperature	deg. C	-	-	-	-		-	-	-	-	-	-	-
General Chemistry													
% Difference/ Ion Balance (Calcu	%	-	-	-	-		-	-	-	-	-	-	-
Alkalinity (as CaCO3)	mg/L	See Factsheet	-	-	-	1, 5	55	67	79	71	74	152	70
Ammonia as N	mg/L	-	-	-	-	0.02, 0.05	<0.02	<0.02	<0.02	<0.02	0.02	0.27	<0.05
Biochemical Oxygen Demand	mg/L	-	-	-	-	2, 5	<1	<1	-	<1	-	<2	-
Colour	TCU	-	-	-	-	2, 2.5, 5	34	31	23	28	16	16	19
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	132	155	173	168	179	519	130
Hardness (as CaCO3)	mg/L	-	-	-	-	0.5, 1	57	67	72	69	72	175	74
pH	pH units	6.5 - 8.5	-	6 - 9	-		6.71	7.39	7.53	7.35	7.35	-	7
Phenols	mg/L	0.001	-	0.04	0.004	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-
Total Dissolved Solids	mg/L	-	-	-	-	10, 20	86	101	112	109	116	347	-
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1	0.27	0.3	0.19	0.14	0.15	1.1	0.6
Total Organic Carbon	mg/L	-	-	-	-		-	-	-	-	-	7.3	-
Total Phosphorus	mg/L	0.03	-	-	-	0.01, 0.02	0.01	0.02	0.03	0.03	0.02	0.09	0.15
Total Suspended Solids	mg/L	-	-	-	-	10	6	6	8	6	4	12	-
Turbidity	NTU	-	-	-	-	0.1, 0.5	1.5	2.3	2.8	2.5	4.3	-	-
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.000002, 0.00061, 0.1	<0.02	<0.1	<0.02	<0.02	<0.02	<0.05	<0.05
Metals													
Aluminum (diss, 0.2 µm)	mg/L	-	Calculated	-	-	0.004, 0.005	-	-	-	-	-	-	-
Aluminum (diss, 0.45 µm)	mg/L	-	Calculated	-	-	0.004	-	-	-	-	-	-	-
Aluminum (tot)	mg/L	-	-	-	-	0.004, 0.0049, 0.01	0.09	0.005	0.08	0.04	0.03	0.05	0.23
Arsenic (tot)	mg/L	-	0.005	-	-	0.001, 0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.03
Boron (tot)	mg/L	-	0.2	3.55	1.5	0.01	-	-	-	-	-	-	-
Cadmium (tot)	mg/L	-	Calculated	0.00021	0.000017	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.005
Chromium (tot)	mg/L	-	-	0.064	-	0.003, 0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0002	<0.002
Cobalt (tot)	mg/L	-	0.0009	-	-	0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.005
Copper (tot)	mg/L	-	Calculated	0.0069	-	0.0009, 0.001, 0.002	0.001	<0.001	<0.001	<0.001	<0.001	-	-
Iron (tot)	mg/L	0.3	-	1	-	0.01, 0.1	0.35	0.7	0.67	0.56	0.44	0.064	**1.15**
Lead (tot)	mg/L	-	Calculated	0.002	-	0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.02
Manganese (tot)	mg/L	-	-	-	-	0.002	-	-	-	-	-	-	-
Mercury (diss)	mg/L	0.0002	-	-	-	0.0001	-	-	-	-	-	-	-
Mercury (tot)	mg/L	0.0002	-	-	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.00006	-
Nickel (tot)	mg/L	0.025	-	-	-	0.001, 0.003	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01
Selenium (tot)	mg/L	0.1	-	-	-	0.002, 0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silicon (tot)	mg/L	-	-	-	-	0.18	-	-	-	-	-	-	-
Silver (tot)	mg/L	0.0001	-	-	-	0.00009, 0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.005
Zinc (tot)	mg/L	-	0.02	0.089	0.03	0.005, 0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.005	0.007

-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

MHH - South Baptiste WDS Appendix F2: Historical Surface Water Quality						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B
Parameter	Units	PWQO-GENERAL	PWQO-INTERIM	MECP-GD-TA	MECP-GD-TB	Sample ID	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B
						Sample Date	2005-Sep-01	2005-Sep-16	2005-Oct-24	2006-May-10	2006-Jul-19	2006-Aug-21	2006-Sep-19
Anions						Detection Limit							
Chloride	mg/L	-	-	180	128	0.1, 0.2, 1	7	-	4	4	5	6	5
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-	-
Nitrate as N	mg/L	-	-	-	-	0.05, 0.1	0.6	-	0.3	<0.1	<0.1	<0.1	<0.1
Nitrite as N	mg/L	-	-	-	-	0.01, 0.05, 0.1	-	-	-	<0.1	<0.1	<0.1	<0.1
Sulphate	mg/L	-	-	100	-	0.1, 0.2, 1	7	-	10	10	7	8	10
Cations													
Calcium (tot)	mg/L	-	-	-	-	0.00005, 0.05, 0.16, 0.2, 0.32	29.1	-	31.2	26	31	32	29
Magnesium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.17, 0.34	1.4	-	1.67	1	1	1	1
Potassium (tot)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 0.58, 1.15	-	-	1.1	<1	<1	<1	<1
Sodium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.22, 0.45	2.3	-	9.1	3	2	2	3
Field Parameters													
pH (Field)	pH units	-	-	-	-		-	-	-	-	-	-	-
Temperature	deg. C	-	-	-	-		-	-	-	-	-	-	-
General Chemistry													
% Difference/ Ion Balance (Calcu	%	-	-	-	-		-	-	-	-	-	-	-
Alkalinity (as CaCO3)	mg/L	See Factsheet	-	-	-	1, 5	76	-	70	62	79	86	72
Ammonia as N	mg/L	-	-	-	-	0.02, 0.05	0.05	-	0.08	<0.02	0.07	<0.02	0.02
Biochemical Oxygen Demand	mg/L	-	-	-	-	2, 5	-	4	<2	1	2	<1	<1
Colour	TCU	-	-	-	-	2, 2.5, 5	41	-	12	26	32	23	24
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	168	150	170	152	177	193	173
Hardness (as CaCO3)	mg/L	-	-	-	-	0.5, 1	79	-	85	69	82	84	77
pH	pH units	6.5 - 8.5	-	6 - 9	-		-	-	7.06	7.38	7.52	7.57	7.06
Phenols	mg/L	0.001	-	0.04	0.004	0.001	-	<0.001	<0.001	<0.001	<0.001	0.001	<0.001
Total Dissolved Solids	mg/L	-	-	-	-	10, 20	-	99	112	99	115	125	112
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1	0.4	-	0.1	0.18	0.47	0.22	<0.05
Total Organic Carbon	mg/L	-	-	-	-		-	-	-	-	-	-	-
Total Phosphorus	mg/L	0.03	-	-	-	0.01, 0.02	0.03	-	<0.01	0.02	<0.01	0.02	0.09
Total Suspended Solids	mg/L	-	-	-	-	10	-	144	26	4	3	2	11
Turbidity	NTU	-	-	-	-	0.1, 0.5	-	-	-	1.7	3.2	2.6	3.3
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.000002, 0.00061, 0.1	<0.05	-	<0.05	-	-	-	-
Metals													
Aluminum (diss, 0.2 µm)	mg/L	-	Calculated	-	-	0.004, 0.005	-	-	-	-	-	-	-
Aluminum (diss, 0.45 µm)	mg/L	-	Calculated	-	-	0.004	-	-	-	-	-	-	-
Aluminum (tot)	mg/L	-	-	-	-	0.004, 0.0049, 0.01	0.22	0.29	0.51	0.05	0.06	0.22	0.06
Arsenic (tot)	mg/L	-	0.005	-	-	0.001, 0.003	<0.03	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron (tot)	mg/L	-	0.2	3.55	1.5	0.01	-	-	-	-	-	-	-
Cadmium (tot)	mg/L	-	Calculated	0.00021	0.000017	0.00009, 0.0001	<0.005	<0.001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium (tot)	mg/L	-	-	0.064	-	0.003, 0.005	<0.002	<0.002	0.002	-	<0.001	-	-
Cobalt (tot)	mg/L	-	0.0009	-	-	0.0005	<0.005	<0.005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002
Copper (tot)	mg/L	-	Calculated	0.0069	-	0.0009, 0.001, 0.002	-	-	-	<0.001	<0.001	<0.001	<0.001
Iron (tot)	mg/L	0.3	-	1	-	0.01, 0.1	**2.24**	**3.45**	**2.79**	0.33	0.62	0.46	0.48
Lead (tot)	mg/L	-	Calculated	0.002	-	0.0005, 0.001	<0.02	<0.001	<0.0001	<0.001	<0.001	<0.001	<0.001
Manganese (tot)	mg/L	-	-	-	-	0.002	-	-	-	-	-	-	-
Mercury (diss)	mg/L	0.0002	-	-	-	0.0001	-	-	-	-	-	-	-
Mercury (tot)	mg/L	0.0002	-	-	-	0.0001	-	<0.00006	<0.00006	<0.0001	<0.0001	<0.0001	<0.0001
Nickel (tot)	mg/L	0.025	-	-	-	0.001, 0.003	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005
Selenium (tot)	mg/L	0.1	-	-	-	0.002, 0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silicon (tot)	mg/L	-	-	-	-	0.18	-	-	-	-	-	-	-
Silver (tot)	mg/L	0.0001	-	-	-	0.00009, 0.0001	<0.005	<0.001	<0.0005	<0.0001	<0.0001	<0.0001	<0.0001
Zinc (tot)	mg/L	-	0.02	0.089	0.03	0.005, 0.02	0.007	<0.005	0.016	<0.01	<0.01	<0.01	<0.01

-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

MHH - South Baptiste WDS Appendix F2: Historical Surface Water Quality						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B
Parameter	Units	PWQO-GENERAL	PWQO-INTERIM	MECP-GD-TA	MECP-GD-TB	Sample ID	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B
						Sample Date	2006-Nov-20	2007-May-02	2007-Jun-04	2007-Aug-15	2007-Sep-27	2007-Nov-22	2008-May-09
Anions						Detection Limit							
Chloride	mg/L	-	-	180	128	0.1, 0.2, 1	3	3	3	3	3	3	3
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-	-
Nitrate as N	mg/L	-	-	-	-	0.05, 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nitrite as N	mg/L	-	-	-	-	0.01, 0.05, 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Sulphate	mg/L	-	-	100	-	0.1, 0.2, 1	10	9	8	8	8	13	9
Cations													
Calcium (tot)	mg/L	-	-	-	-	0.00005, 0.05, 0.16, 0.2, 0.32	19	24	26	36	34	27	22
Magnesium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.17, 0.34	1	1	1	1	1	1	1
Potassium (tot)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 0.58, 1.15	<1	<1	<1	<1	<1	<1	<1
Sodium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.22, 0.45	2	2	2	<2	3	3	<2
Field Parameters													
pH (Field)	pH units	-	-	-	-		-	-	-	-	-	-	-
Temperature	deg. C	-	-	-	-		-	-	-	-	-	-	-
General Chemistry													
% Difference/ Ion Balance (Calcu	%	-	-	-	-		-	-	-	-	-	-	-
Alkalinity (as CaCO3)	mg/L	See Factsheet	-	-	-	1, 5	45	59	67	87	87	69	49
Ammonia as N	mg/L	-	-	-	-	0.02, 0.05	0.06	0.09	0.1	0.03	<0.02	0.04	0.02
Biochemical Oxygen Demand	mg/L	-	-	-	-	2, 5	<1	<1	1	<1	<1	<1	<1
Colour	TCU	-	-	-	-	2, 2.5, 5	46	37	57	19	20	15	42
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	121	141	153	193	192	174	126
Hardness (as CaCO3)	mg/L	-	-	-	-	0.5, 1	52	64	69	94	89	72	59
pH	pH units	6.5 - 8.5	-	6 - 9	-		7.17	6.95	8.01	8.22	7.86	7.89	7.72
Phenols	mg/L	0.001	-	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	79	92	100	125	125	113	82
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1	0.27	0.1	0.21	0.16	<0.1	<0.1	0.38
Total Organic Carbon	mg/L	-	-	-	-		-	-	-	-	-	-	-
Total Phosphorus	mg/L	0.03	-	-	-	0.01, 0.02	<0.01	0.02	0.02	0.03	<0.02	<0.02	<0.01
Total Suspended Solids	mg/L	-	-	-	-	10	2	<2	11	4	<2	4	<2
Turbidity	NTU	-	-	-	-	0.1, 0.5	1.7	1.7	4.9	2.1	1.9	3.5	1.1
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.000002, 0.00061, 0.1	-	-	-	-	-	-	<0.02
Metals													
Aluminum (diss, 0.2 µm)	mg/L	-	Calculated	-	-	0.004, 0.005	-	-	-	-	-	-	-
Aluminum (diss, 0.45 µm)	mg/L	-	Calculated	-	-	0.004	-	-	-	-	-	-	-
Aluminum (tot)	mg/L	-	-	-	-	0.004, 0.0049, 0.01	0.09	0.06	0.12	0.01	<0.01	<0.01	0.04
Arsenic (tot)	mg/L	-	0.005	-	-	0.001, 0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron (tot)	mg/L	-	0.2	3.55	1.5	0.01	-	-	-	-	-	-	-
Cadmium (tot)	mg/L	-	Calculated	0.00021	0.000017	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	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	0.001
Cobalt (tot)	mg/L	-	0.0009	-	-	0.0005	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Copper (tot)	mg/L	-	Calculated	0.0069	-	0.0009, 0.001, 0.002	0.002	0.001	0.001	<0.001	<0.001	<0.001	0.001
Iron (tot)	mg/L	0.3	-	1	-	0.01, 0.1	0.4	0.3	**1.25**	0.25	0.39	0.6	0.32
Lead (tot)	mg/L	-	Calculated	0.002	-	0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (tot)	mg/L	-	-	-	-	0.002	-	-	-	-	-	-	-
Mercury (diss)	mg/L	0.0002	-	-	-	0.0001	-	-	-	-	-	-	-
Mercury (tot)	mg/L	0.0002	-	-	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Nickel (tot)	mg/L	0.025	-	-	-	0.001, 0.003	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Selenium (tot)	mg/L	0.1	-	-	-	0.002, 0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silicon (tot)	mg/L	-	-	-	-	0.18	-	-	-	-	-	-	-
Silver (tot)	mg/L	0.0001	-	-	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Zinc (tot)	mg/L	-	0.02	0.089	0.03	0.005, 0.02	<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 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

MHH - South Baptiste WDS Appendix F2: Historical Surface Water Quality						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B
Parameter	Units	PWQO-GENERAL	PWQO-INTERIM	MECP-GD-TA	MECP-GD-TB	Sample ID	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B
						Sample Date	2008-Jun-19	2008-Aug-21	2008-Sep-16	2008-Oct-09	2009-Jun-04	2009-Jul-16	2009-Aug-06
Anions						Detection Limit							
Chloride	mg/L	-	-	180	128	0.1, 0.2, 1	3	2	4	4	2	2	2
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-	-
Nitrate as N	mg/L	-	-	-	-	0.05, 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nitrite as N	mg/L	-	-	-	-	0.01, 0.05, 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Sulphate	mg/L	-	-	100	-	0.1, 0.2, 1	6	7	11	9	7	7	5
Cations													
Calcium (tot)	mg/L	-	-	-	-	0.00005, 0.05, 0.16, 0.2, 0.32	20	27	22	24	23	29	21
Magnesium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.17, 0.34	1	1	1	1	1	1	1
Potassium (tot)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 0.58, 1.15	<1	<1	<1	1	<1	<1	<1
Sodium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.22, 0.45	2	4	2	2	3	<2	4
Field Parameters													
pH (Field)	pH units	-	-	-	-		-	-	-	-	-	-	-
Temperature	deg. C	-	-	-	-		-	-	-	-	-	-	-
General Chemistry													
% Difference/ Ion Balance (Calcu	%	-	-	-	-		-	-	-	-	-	-	-
Alkalinity (as CaCO3)	mg/L	See Factsheet	-	-	-	1, 5	51	69	54	59	60	73	54
Ammonia as N	mg/L	-	-	-	-	0.02, 0.05	0.03	<0.02	0.02	0.05	<0.02	<0.02	<0.02
Biochemical Oxygen Demand	mg/L	-	-	-	-	2, 5	2	<1	<1	<1	<1	<1	<1
Colour	TCU	-	-	-	-	2, 2.5, 5	71	29	69	46	34	27	111
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	122	156	143	150	140	161	119
Hardness (as CaCO3)	mg/L	-	-	-	-	0.5, 1	54	72	59	64	62	77	57
pH	pH units	6.5 - 8.5	-	6 - 9	-		7.7	7.89	7.73	7.75	7.67	7.92	7.6
Phenols	mg/L	0.001	-	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	79	101	93	98	91	105	77
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1	0.21	0.16	0.4	0.29	<0.1	<0.1	0.58
Total Organic Carbon	mg/L	-	-	-	-		-	-	-	-	-	-	-
Total Phosphorus	mg/L	0.03	-	-	-	0.01, 0.02	0.03	<0.01	0.02	0.01	<0.01	<0.01	<0.01
Total Suspended Solids	mg/L	-	-	-	-	10	6	8	2	5	3	7	6
Turbidity	NTU	-	-	-	-	0.1, 0.5	2.2	3.6	3.4	-	1.5	2.8	3.4
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.000002, 0.00061, 0.1	-	-	-	-	<0.00009	<0.00011	<0.00009
Metals													
Aluminum (diss, 0.2 µm)	mg/L	-	Calculated	-	-	0.004, 0.005	-	-	-	-	-	-	-
Aluminum (diss, 0.45 µm)	mg/L	-	Calculated	-	-	0.004	-	-	-	-	-	-	-
Aluminum (tot)	mg/L	-	-	-	-	0.004, 0.0049, 0.01	0.09	0.03	0.05	0.05	0.06	0.05	0.11
Arsenic (tot)	mg/L	-	0.005	-	-	0.001, 0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron (tot)	mg/L	-	0.2	3.55	1.5	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cadmium (tot)	mg/L	-	Calculated	0.00021	0.000017	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	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001
Cobalt (tot)	mg/L	-	0.0009	-	-	0.0005	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003
Copper (tot)	mg/L	-	Calculated	0.0069	-	0.0009, 0.001, 0.002	0.001	<0.001	0.002	<0.001	<0.001	<0.001	0.002
Iron (tot)	mg/L	0.3	-	1	-	0.01, 0.1	0.96	0.49	0.78	0.6	0.39	0.51	**1.28**
Lead (tot)	mg/L	-	Calculated	0.002	-	0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (tot)	mg/L	-	-	-	-	0.002	-	-	-	-	-	-	-
Mercury (diss)	mg/L	0.0002	-	-	-	0.0001	-	-	-	-	-	-	-
Mercury (tot)	mg/L	0.0002	-	-	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0002
Nickel (tot)	mg/L	0.025	-	-	-	0.001, 0.003	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Selenium (tot)	mg/L	0.1	-	-	-	0.002, 0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silicon (tot)	mg/L	-	-	-	-	0.18	-	-	-	-	-	-	-
Silver (tot)	mg/L	0.0001	-	-	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Zinc (tot)	mg/L	-	0.02	0.089	0.03	0.005, 0.02	<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 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

MHH - South Baptiste WDS Appendix F2: Historical Surface Water Quality						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B
Parameter	Units	PWQO-GENERAL	PWQO-INTERIM	MECP-GD-TA	MECP-GD-TB	Sample ID	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B
						Sample Date	2009-Sep-16	2009-Oct-23	2010-May-17	2010-Jul-19	2010-Oct-18	2011-May-18	2011-Aug-11
Anions						Detection Limit							
Chloride	mg/L	-	-	180	128	0.1, 0.2, 1	2	4	3	4	4	4	2
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-	-
Nitrate as N	mg/L	-	-	-	-	0.05, 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nitrite as N	mg/L	-	-	-	-	0.01, 0.05, 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Sulphate	mg/L	-	-	100	-	0.1, 0.2, 1	6	6	6	6	7	7	7
Cations													
Calcium (tot)	mg/L	-	-	-	-	0.00005, 0.05, 0.16, 0.2, 0.32	24	19	24	28	25	25	30
Magnesium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.17, 0.34	1	1	1	1	1	1	1
Potassium (tot)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 0.58, 1.15	<1	<1	<1	<1	<1	<1	<1
Sodium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.22, 0.45	2	3	2	2	<2	2	2
Field Parameters													
pH (Field)	pH units	-	-	-	-		-	-	-	-	-	-	-
Temperature	deg. C	-	-	-	-		-	-	-	-	-	-	-
General Chemistry													
% Difference/ Ion Balance (Calcu	%	-	-	-	-		-	-	-	-	-	-	-
Alkalinity (as CaCO3)	mg/L	See Factsheet	-	-	-	1, 5	74	60	67	78	64	71	83
Ammonia as N	mg/L	-	-	-	-	0.02, 0.05	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02
Biochemical Oxygen Demand	mg/L	-	-	-	-	2, 5	-	<1	3	1	1	<1	<1
Colour	TCU	-	-	-	-	2, 2.5, 5	28	58	33	65	50	35	28
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	158	138	153	165	146	152	171
Hardness (as CaCO3)	mg/L	-	-	-	-	0.5, 1	64	52	64	74	67	66	79
pH	pH units	6.5 - 8.5	-	6 - 9	-		7.89	7.79	7.83	7.89	7.88	7.92	7.36
Phenols	mg/L	0.001	-	0.04	0.004	0.001	<0.001	<0.001	<0.001	0.002	<0.001	<0.001	<0.001
Total Dissolved Solids	mg/L	-	-	-	-	10, 20	103	90	100	107	95	99	111
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1	0.14	0.39	0.36	0.38	0.18	0.13	<0.1
Total Organic Carbon	mg/L	-	-	-	-		-	-	-	-	-	-	-
Total Phosphorus	mg/L	0.03	-	-	-	0.01, 0.02	<0.01	<0.01	<0.01	0.03	<0.01	<0.01	<0.01
Total Suspended Solids	mg/L	-	-	-	-	10	<2	<2	2	9	<2	4	<2
Turbidity	NTU	-	-	-	-	0.1, 0.5	2	2.5	1.4	8.7	2	1.2	3.2
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.000002, 0.00061, 0.1	-	0.0000247	-	-	-	0.0000047	0.0002802
Metals													
Aluminum (diss, 0.2 µm)	mg/L	-	Calculated	-	-	0.004, 0.005	-	-	-	-	-	-	-
Aluminum (diss, 0.45 µm)	mg/L	-	Calculated	-	-	0.004	-	-	-	-	-	-	-
Aluminum (tot)	mg/L	-	-	-	-	0.004, 0.0049, 0.01	0.03	0.06	0.05	0.11	0.04	0.04	0.03
Arsenic (tot)	mg/L	-	0.005	-	-	0.001, 0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron (tot)	mg/L	-	0.2	3.55	1.5	0.01	<0.01	0.01	0.01	<0.01	<0.01	<0.01	<0.01
Cadmium (tot)	mg/L	-	Calculated	0.00021	0.000017	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	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001
Cobalt (tot)	mg/L	-	0.0009	-	-	0.0005	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	<0.0002
Copper (tot)	mg/L	-	Calculated	0.0069	-	0.0009, 0.001, 0.002	<0.001	0.001	<0.001	0.001	<0.001	<0.001	<0.001
Iron (tot)	mg/L	0.3	-	1	-	0.01, 0.1	0.38	0.6	0.32	**1.67**	0.39	0.29	0.57
Lead (tot)	mg/L	-	Calculated	0.002	-	0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (tot)	mg/L	-	-	-	-	0.002	-	-	-	-	-	-	-
Mercury (diss)	mg/L	0.0002	-	-	-	0.0001	-	-	-	-	-	-	-
Mercury (tot)	mg/L	0.0002	-	-	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Nickel (tot)	mg/L	0.025	-	-	-	0.001, 0.003	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Selenium (tot)	mg/L	0.1	-	-	-	0.002, 0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silicon (tot)	mg/L	-	-	-	-	0.18	-	-	-	-	-	-	-
Silver (tot)	mg/L	0.0001	-	-	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Zinc (tot)	mg/L	-	0.02	0.089	0.03	0.005, 0.02	<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 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

MHH - South Baptiste WDS Appendix F2: Historical Surface Water Quality						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B
Parameter	Units	PWQO-GENERAL	PWQO-INTERIM	MECP-GD-TA	MECP-GD-TB	Sample ID	BAP-B	BAP-B-Dup (BAP-B)	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B
						Sample Date	2011-Nov-03	2011-Nov-03	2012-Apr-17	2012-Jul-11	2012-Oct-17	2013-Apr-18	2013-Aug-15
Anions						Detection Limit							
Chloride	mg/L	-	-	180	128	0.1, 0.2, 1	3	-	2	3	5	2.22	3.39
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-	-
Nitrate as N	mg/L	-	-	-	-	0.05, 0.1	<0.1	-	<0.1	<0.1	<0.1	0.09	<0.05
Nitrite as N	mg/L	-	-	-	-	0.01, 0.05, 0.1	<0.1	-	<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	-	-	100	-	0.1, 0.2, 1	10	-	7	8	24	5.64	7.14
Cations													
Calcium (tot)	mg/L	-	-	-	-	0.00005, 0.05, 0.16, 0.2, 0.32	28	28	23	19.3	19.4	19	28.4
Magnesium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.17, 0.34	1	2	1.2	1.26	1.85	0.92	1.22
Potassium (tot)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 0.58, 1.15	<1	<1	0.597	0.55	1.31	0.54	0.53
Sodium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.22, 0.45	<2	<2	2.6	2.67	4.6	1.98	2.69
Field Parameters													
pH (Field)	pH units	-	-	-	-		-	-	-	-	-	-	-
Temperature	deg. C	-	-	-	-		-	-	-	-	-	-	-
General Chemistry													
% Difference/ Ion Balance (Calcu	%	-	-	-	-		-	-	-	-	-	-	-
Alkalinity (as CaCO3)	mg/L	See Factsheet	-	-	-	1, 5	76	-	64	81	65	40	83
Ammonia as N	mg/L	-	-	-	-	0.02, 0.05	<0.02	-	0.02	0.06	<0.01	<0.02	<0.02
Biochemical Oxygen Demand	mg/L	-	-	-	-	2, 5	2	-	<2	<2	<2	<5	<5
Colour	TCU	-	-	-	-	2, 2.5, 5	16	-	17	14	15	52	18
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	163	-	166	192	193	101	194
Hardness (as CaCO3)	mg/L	-	-	-	-	0.5, 1	74	78.2	62.4	53.4	56.1	51.2	75.9
pH	pH units	6.5 - 8.5	-	6 - 9	-		6.71	-	7.7	7.7	7.8	7.62	7.36
Phenols	mg/L	0.001	-	0.04	0.004	0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001
Total Dissolved Solids	mg/L	-	-	-	-	10, 20	106	-	147	107	109	74	112
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1	<0.1	-	0.2	0.1	0.1	0.18	<0.1
Total Organic Carbon	mg/L	-	-	-	-		-	-	-	-	-	-	-
Total Phosphorus	mg/L	0.03	-	-	-	0.01, 0.02	<0.01	-	0.04	0.04	<0.01	0.03	<0.02
Total Suspended Solids	mg/L	-	-	-	-	10	3	-	17	10	3	13	<10
Turbidity	NTU	-	-	-	-	0.1, 0.5	1.3	-	3.4	2	1.1	1.2	2.4
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.000002, 0.00061, 0.1	0.0000006	-	0.0000111	0.0003836	0.0000084	<0.0000111	<0.000129
Metals													
Aluminum (diss, 0.2 µm)	mg/L	-	Calculated	-	-	0.004, 0.005	-	-	17	-	-	0.034	0.031
Aluminum (diss, 0.45 µm)	mg/L	-	Calculated	-	-	0.004	-	-	-	-	-	-	-
Aluminum (tot)	mg/L	-	-	-	-	0.004, 0.0049, 0.01	<0.01	<0.01	0.126	0.057	0.017	-	-
Arsenic (tot)	mg/L	-	0.005	-	-	0.001, 0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.003	<0.003
Boron (tot)	mg/L	-	0.2	3.55	1.5	0.01	<0.01	<0.01	0.015	0.012	<0.01	<0.01	<0.01
Cadmium (tot)	mg/L	-	Calculated	0.00021	0.000017	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	<0.001	<0.001	0.001	<0.001	<0.001	<0.003	<0.003
Cobalt (tot)	mg/L	-	0.0009	-	-	0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Copper (tot)	mg/L	-	Calculated	0.0069	-	0.0009, 0.001, 0.002	<0.001	<0.001	0.0011	0.0009	0.0007	<0.002	<0.002
Iron (tot)	mg/L	0.3	-	1	-	0.01, 0.1	0.19	0.05	0.552	0.354	0.143	0.07	0.35
Lead (tot)	mg/L	-	Calculated	0.002	-	0.0005, 0.001	<0.001	<0.001	0.0002	0.0009	<0.0001	<0.001	<0.001
Manganese (tot)	mg/L	-	-	-	-	0.002	-	-	-	-	-	-	-
Mercury (diss)	mg/L	0.0002	-	-	-	0.0001	-	-	-	-	-	-	-
Mercury (tot)	mg/L	0.0002	-	-	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Nickel (tot)	mg/L	0.025	-	-	-	0.001, 0.003	<0.005	<0.005	<0.001	0.002	<0.001	-	<0.003
Selenium (tot)	mg/L	0.1	-	-	-	0.002, 0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.004	<0.004
Silicon (tot)	mg/L	-	-	-	-	0.18	-	-	-	-	-	-	-
Silver (tot)	mg/L	0.0001	-	-	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Zinc (tot)	mg/L	-	0.02	0.089	0.03	0.005, 0.02	<0.01	<0.01	<0.005	0.014	<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

MHH - South Baptiste WDS Appendix F2: Historical Surface Water Quality						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B
Parameter	Units	PWQO-GENERAL	PWQO-INTERIM	MECP-GD-TA	MECP-GD-TB	Sample ID	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B
						Sample Date	2013-Oct-30	2014-May-13	2014-Aug-08	2014-Oct-10	2015-May-04	2015-Sep-09	2015-Oct-26
Anions						Detection Limit							
Chloride	mg/L	-	-	180	128	0.1, 0.2, 1	4.35	4.6	3.32	4.25	4.44	4.94	7.02
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-	-
Nitrate as N	mg/L	-	-	-	-	0.05, 0.1	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05
Nitrite as N	mg/L	-	-	-	-	0.01, 0.05, 0.1	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05
Sulphate	mg/L	-	-	100	-	0.1, 0.2, 1	7.74	6.69	6.24	6.06	6.16	6.09	8.96
Cations													
Calcium (tot)	mg/L	-	-	-	-	0.00005, 0.05, 0.16, 0.2, 0.32	26.8	24.8	29.6	26.5	25.2	25.4	26.7
Magnesium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.17, 0.34	1.44	1.17	1.29	1.2	1.18	1.21	1.35
Potassium (tot)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 0.58, 1.15	0.9	0.7	0.59	0.75	0.73	1.09	1.34
Sodium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.22, 0.45	3.75	3.34	3.08	3.4	3.18	3.61	4.38
Field Parameters													
pH (Field)	pH units	-	-	-	-		-	-	-	-	-	-	-
Temperature	deg. C	-	-	-	-		-	-	-	-	-	-	-
General Chemistry													
% Difference/ Ion Balance (Calcu	%	-	-	-	-		-	-	-	-	-	-	-
Alkalinity (as CaCO3)	mg/L	See Factsheet	-	-	-	1, 5	65	59	71	68	60	74	68
Ammonia as N	mg/L	-	-	-	-	0.02, 0.05	<0.02	<0.02	0.04	0.15	<0.02	<0.02	<0.02
Biochemical Oxygen Demand	mg/L	-	-	-	-	2, 5	<5	<5	<5	<5	<5	<5	<5
Colour	TCU	-	-	-	-	2, 2.5, 5	25	39	25	28	33	<5	31
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	159	146	7.98	162	149	178	167
Hardness (as CaCO3)	mg/L	-	-	-	-	0.5, 1	72.8	66.7	79.2	71.1	67.8	68.4	72.2
pH	pH units	6.5 - 8.5	-	6 - 9	-		7.67	7.71	7.98	7.8	7.77	7.84	7.55
Phenols	mg/L	0.001	-	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	92	98	92	108	92	98	100
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1	0.24	1.46	0.12	0.23	0.31	0.27	0.22
Total Organic Carbon	mg/L	-	-	-	-		-	-	-	-	-	-	-
Total Phosphorus	mg/L	0.03	-	-	-	0.01, 0.02	<0.02	<0.02	<0.02	0.02	0.02	<0.01	0.01
Total Suspended Solids	mg/L	-	-	-	-	10	<10	<10	<10	<10	<10	<10	<10
Turbidity	NTU	-	-	-	-	0.1, 0.5	1.4	0.7	2.9	1.9	2.2	29.5	2.3
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.000002, 0.00061, 0.1	<0.0000169	0.000083	0.000478	0.000802	0.000063	0.0004	0.00003
Metals													
Aluminum (diss, 0.2 µm)	mg/L	-	Calculated	-	-	0.004, 0.005	0.015	0.037	0.013	0.011	0.023	0.016	0.013
Aluminum (diss, 0.45 µm)	mg/L	-	Calculated	-	-	0.004	-	-	-	-	-	-	-
Aluminum (tot)	mg/L	-	-	-	-	0.004, 0.0049, 0.01	-	-	-	-	-	-	-
Arsenic (tot)	mg/L	-	0.005	-	-	0.001, 0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Boron (tot)	mg/L	-	0.2	3.55	1.5	0.01	<0.01	0.016	<0.01	0.012	<0.01	<0.01	<0.01
Cadmium (tot)	mg/L	-	Calculated	0.00021	0.000017	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	<0.0005	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Cobalt (tot)	mg/L	-	0.0009	-	-	0.0005	<0.003	<0.0005	<0.0005	<0.0005	<0.0005	<0.003	<0.0005
Copper (tot)	mg/L	-	Calculated	0.0069	-	0.0009, 0.001, 0.002	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Iron (tot)	mg/L	0.3	-	1	-	0.01, 0.1	0.16	0.1	0.39	0.21	0.22	0.99	0.21
Lead (tot)	mg/L	-	Calculated	0.002	-	0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (tot)	mg/L	-	-	-	-	0.002	-	-	-	-	-	-	-
Mercury (diss)	mg/L	0.0002	-	-	-	0.0001	-	-	-	-	-	-	-
Mercury (tot)	mg/L	0.0002	-	-	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Nickel (tot)	mg/L	0.025	-	-	-	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	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Silicon (tot)	mg/L	-	-	-	-	0.18	-	-	-	-	-	-	-
Silver (tot)	mg/L	0.0001	-	-	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Zinc (tot)	mg/L	-	0.02	0.089	0.03	0.005, 0.02	0.036	<0.005	<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 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

MHH - South Baptiste WDS Appendix F2: Historical Surface Water Quality						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B
Parameter	Units	PWQO-GENERAL	PWQO-INTERIM	MECP-GD-TA	MECP-GD-TB	Sample ID	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B
						Sample Date	2016-Apr-28	2016-Aug-17	2016-Oct-26	2017-May-10	2017-Jul-20	2017-Oct-23	2018-May-07
Anions						Detection Limit							
Chloride	mg/L	-	-	180	128	0.1, 0.2, 1	5.6	7.15	5.36	6.33	5.3	4.85	7.17
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-	-
Nitrate as N	mg/L	-	-	-	-	0.05, 0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nitrite as N	mg/L	-	-	-	-	0.01, 0.05, 0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	-	-	100	-	0.1, 0.2, 1	7.26	13.6	6.99	5.94	4.35	4.56	4.89
Cations													
Calcium (tot)	mg/L	-	-	-	-	0.00005, 0.05, 0.16, 0.2, 0.32	20.7	21.5	26.7	19.9	21.7	24.4	20.7
Magnesium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.17, 0.34	1	1.06	1.29	0.98	1.09	1.21	1
Potassium (tot)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 0.58, 1.15	0.63	0.79	0.8	0.53	0.38	0.72	0.61
Sodium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.22, 0.45	3.43	5.49	3.8	3.6	3.57	4.3	<0.005
Field Parameters													
pH (Field)	pH units	-	-	-	-		-	-	-	-	-	-	-
Temperature	deg. C	-	-	-	-		-	-	-	-	-	-	-
General Chemistry													
% Difference/ Ion Balance (Calcu	%	-	-	-	-		-	-	-	-	-	-	-
Alkalinity (as CaCO3)	mg/L	See Factsheet	-	-	-	1, 5	55	60	71	52	68	69	61
Ammonia as N	mg/L	-	-	-	-	0.02, 0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.07
Biochemical Oxygen Demand	mg/L	-	-	-	-	2, 5	<5	<5	<5	<5	<5	<5	<5
Colour	TCU	-	-	-	-	2, 2.5, 5	32	82	13	42	102	31	58
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	135	159	173	149	157	139	140
Hardness (as CaCO3)	mg/L	-	-	-	-	0.5, 1	55.8	58.1	72	53.7	58.7	65.9	55.8
pH	pH units	6.5 - 8.5	-	6 - 9	-		7.83	7.7	7.77	7.74	7.58	7.56	6.99
Phenols	mg/L	0.001	-	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	88	96	96	82	72	88	<10
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1	0.23	0.51	<0.1	0.22	0.29	0.16	0.45
Total Organic Carbon	mg/L	-	-	-	-		-	-	-	-	-	-	-
Total Phosphorus	mg/L	0.03	-	-	-	0.01, 0.02	<0.01	0.02	<0.01	<0.01	0.03	0.01	<0.02
Total Suspended Solids	mg/L	-	-	-	-	10	<10	<10	<10	<10	10	<10	76
Turbidity	NTU	-	-	-	-	0.1, 0.5	1.4	3.7	1.2	1.1	12.2	3.2	2.5
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.000002, 0.00061, 0.1	0.0000128	0.0001774	0.00006	-	0.0001235	0.00006	0.0003517
Metals													
Aluminum (diss, 0.2 µm)	mg/L	-	Calculated	-	-	0.004, 0.005	0.029	0.034	0.007	0.03	0.032	0.014	0.026
Aluminum (diss, 0.45 µm)	mg/L	-	Calculated	-	-	0.004	-	-	-	-	-	-	-
Aluminum (tot)	mg/L	-	-	-	-	0.004, 0.0049, 0.01	-	-	-	-	-	-	-
Arsenic (tot)	mg/L	-	0.005	-	-	0.001, 0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Boron (tot)	mg/L	-	0.2	3.55	1.5	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.015
Cadmium (tot)	mg/L	-	Calculated	0.00021	0.000017	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	<0.003	<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	0.0007	<0.0005	<0.0005
Copper (tot)	mg/L	-	Calculated	0.0069	-	0.0009, 0.001, 0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Iron (tot)	mg/L	0.3	-	1	-	0.01, 0.1	0.17	0.85	0.11	0.13	**2.19**	0.32	0.35
Lead (tot)	mg/L	-	Calculated	0.002	-	0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (tot)	mg/L	-	-	-	-	0.002	-	-	-	-	-	-	-
Mercury (diss)	mg/L	0.0002	-	-	-	0.0001	-	-	-	-	-	-	-
Mercury (tot)	mg/L	0.0002	-	-	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Nickel (tot)	mg/L	0.025	-	-	-	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	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Silicon (tot)	mg/L	-	-	-	-	0.18	-	-	-	-	-	-	-
Silver (tot)	mg/L	0.0001	-	-	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Zinc (tot)	mg/L	-	0.02	0.089	0.03	0.005, 0.02	0.007	<0.005	0.014	0.006	0.016	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

MHH - South Baptiste WDS Appendix F2: Historical Surface Water Quality						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B
Parameter	Units	PWQO-GENERAL	PWQO-INTERIM	MECP-GD-TA	MECP-GD-TB	Sample ID	BAP-B	BAP-B	BAP-B	BAP-B-QAQC-S19 (BAP-B)	BAP-B	BAP-B	BAP-B
						Sample Date	2018-Jul-30	2018-Oct-24	2019-May-07	2019-May-07	2019-Aug-14	2019-Oct-22	2020-May-06
Anions						Detection Limit							
Chloride	mg/L	-	-	180	128	0.1, 0.2, 1	7.35	9.46	10.1	10	8.53	10.9	9.67
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-	-
Nitrate as N	mg/L	-	-	-	-	0.05, 0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nitrite as N	mg/L	-	-	-	-	0.01, 0.05, 0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	-	-	100	-	0.1, 0.2, 1	4.2	5.96	5.58	5.59	4.89	9.01	6.41
Cations													
Calcium (tot)	mg/L	-	-	-	-	0.00005, 0.05, 0.16, 0.2, 0.32	-	24.2	20.7	20.7	26.7	21	22.27
Magnesium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.17, 0.34	-	1.19	1.04	1.04	1.2	1.12	1.08
Potassium (tot)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 0.58, 1.15	-	1.03	0.61	0.59	0.52	1.91	0.72
Sodium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.22, 0.45	-	4.91	5.11	5.09	4.32	6.14	5.13
Field Parameters													
pH (Field)	pH units	-	-	-	-		-	-	-	-	-	-	-
Temperature	deg. C	-	-	-	-		-	-	-	-	-	-	-
General Chemistry													
% Difference/ Ion Balance (Calcu	%	-	-	-	-		-	-	-	-	-	-	-
Alkalinity (as CaCO3)	mg/L	See Factsheet	-	-	-	1, 5	66	60	60	62	69	46	70
Ammonia as N	mg/L	-	-	-	-	0.02, 0.05	<0.02	<0.02	<0.02	<0.02	<0.02	0.11	<0.02
Biochemical Oxygen Demand	mg/L	-	-	-	-	2, 5	<5	<5	<5	<5	<5	<5	<5
Colour	TCU	-	-	-	-	2, 2.5, 5	-	<5	11	11	23	52	32
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	180	184	150	150	195	142	186
Hardness (as CaCO3)	mg/L	-	-	-	-	0.5, 1	77.5	65.3	56	56	71.6	57	60.1
pH	pH units	6.5 - 8.5	-	6 - 9	-		7.61	7.63	7.18	7.32	7.62	7.31	7.44
Phenols	mg/L	0.001	-	0.04	0.004	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.005	<0.001
Total Dissolved Solids	mg/L	-	-	-	-	10, 20	106	102	106	92	90	100	92
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1	<0.1	<0.1	<0.1	<0.1	0.12	0.28	0.2
Total Organic Carbon	mg/L	-	-	-	-		-	-	-	-	-	-	-
Total Phosphorus	mg/L	0.03	-	-	-	0.01, 0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02
Total Suspended Solids	mg/L	-	-	-	-	10	<10	<10	<10	<10	<10	18	<10
Turbidity	NTU	-	-	-	-	0.1, 0.5	-	2.7	2	2.3	2.9	12.6	1.7
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.000002, 0.00061, 0.1	0.0000855	0.0000925	-	-	-	-	-
Metals													
Aluminum (diss, 0.2 µm)	mg/L	-	Calculated	-	-	0.004, 0.005	0.008	0.006	0.031	0.032	0.007	0.043	0.016
Aluminum (diss, 0.45 µm)	mg/L	-	Calculated	-	-	0.004	-	-	-	-	-	-	-
Aluminum (tot)	mg/L	-	-	-	-	0.004, 0.0049, 0.01	-	-	-	-	-	-	0.103
Arsenic (tot)	mg/L	-	0.005	-	-	0.001, 0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Boron (tot)	mg/L	-	0.2	3.55	1.5	0.01	<0.01	0.011	<0.01	<0.01	<0.01	0.015	<0.01
Cadmium (tot)	mg/L	-	Calculated	0.00021	0.000017	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	<0.003	<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
Copper (tot)	mg/L	-	Calculated	0.0069	-	0.0009, 0.001, 0.002	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Iron (tot)	mg/L	0.3	-	1	-	0.01, 0.1	-	0.22	0.22	0.24	0.43	**1.56**	0.362
Lead (tot)	mg/L	-	Calculated	0.002	-	0.0005, 0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (tot)	mg/L	-	-	-	-	0.002	-	-	-	-	-	-	-
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	<0.0001	-	-	-	-	-
Nickel (tot)	mg/L	0.025	-	-	-	0.001, 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	<0.004	<0.004	<0.004
Silicon (tot)	mg/L	-	-	-	-	0.18	-	-	-	-	-	-	-
Silver (tot)	mg/L	0.0001	-	-	-	0.00009, 0.0001	-	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Zinc (tot)	mg/L	-	0.02	0.089	0.03	0.005, 0.02	-	<0.005	<0.005	<0.005	0.015	<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

MHH - South Baptiste WDS Appendix F2: Historical Surface Water Quality						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B
Parameter	Units	PWQO-GENERAL	PWQO-INTERIM	MECP-GD-TA	MECP-GD-TB	Sample ID	BAP-B	BAP-B	BAP-B	SB-QAQC-SW-21 (BAP-B)	BAP-B	BAP-B	BAP-B
						Sample Date	2020-Aug-25	2020-Oct-06	2021-Apr-20	2021-Apr-20	2021-Jul-14	2021-Oct-21	2022-May-03
Anions						**Detection Limit**							
Chloride	mg/L	-	-	180	128	0.1, 0.2, 1	7.44	9.3	7.79	7.52	6.51	6.75	6.2
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-	-
Nitrate as N	mg/L	-	-	-	-	0.05, 0.1	<0.05	<0.05	<0.05	0.07	<0.05	<0.05	<0.05
Nitrite as N	mg/L	-	-	-	-	0.01, 0.05, 0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	-	-	100	-	0.1, 0.2, 1	4.42	4.22	4.97	4.79	2.78	3.24	4.58
Cations													
Calcium (tot)	mg/L	-	-	-	-	0.00005, 0.05, 0.16, 0.2, 0.32	30.07	23.99	24.4	24.8	23.9	23.8	24.7
Magnesium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.17, 0.34	1.36	1.27	1.27	1.27	1.32	1.18	1.14
Potassium (tot)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 0.58, 1.15	0.86	1.23	<0.58	0.63	<0.58	1.81	<1.15
Sodium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.22, 0.45	5.91	6.44	5.48	5.46	6.04	4.74	5.28
Field Parameters													
pH (Field)	pH units	-	-	-	-		-	-	-	-	-	-	-
Temperature	deg. C	-	-	-	-		-	-	-	-	-	-	-
General Chemistry													
% Difference/ Ion Balance (Calcu	%	-	-	-	-		-	-	-	-	-	-	-
Alkalinity (as CaCO3)	mg/L	See Factsheet	-	-	-	1, 5	81	70	56	55	65	59	59
Ammonia as N	mg/L	-	-	-	-	0.02, 0.05	<0.02	<0.02	<0.02	<0.02	0.02	0.08	<0.02
Biochemical Oxygen Demand	mg/L	-	-	-	-	2, 5	<2	<5	<2	<2	<2	<2	<2
Colour	TCU	-	-	-	-	2, 2.5, 5	30	40	33	33	110	46	22.5
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	177	159	162	161	151	148	154
Hardness (as CaCO3)	mg/L	-	-	-	-	0.5, 1	80.7	65.1	66.2	67.2	65.1	64.3	66.4
pH	pH units	6.5 - 8.5	-	6 - 9	-		6.99	7.01	7.66	7.62	7.4	7.31	7.13
Phenols	mg/L	0.001	-	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	110	100	100	98	114	100	76
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1	0.26	0.26	0.35	0.21	0.87	0.35	0.26
Total Organic Carbon	mg/L	-	-	-	-		-	-	-	-	-	-	-
Total Phosphorus	mg/L	0.03	-	-	-	0.01, 0.02	0.02	<0.02	<0.02	<0.02	0.04	0.04	<0.02
Total Suspended Solids	mg/L	-	-	-	-	10	<10	<10	<10	<10	<10	33	<10
Turbidity	NTU	-	-	-	-	0.1, 0.5	3.8	3.3	2.9	2.1	7.6	17.5	0.9
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.000002, 0.00061, 0.1	-	-	-	-	-	-	-
Metals													
Aluminum (diss, 0.2 µm)	mg/L	-	Calculated	-	-	0.004, 0.005	0.01	0.014	-	-	-	-	0.011
Aluminum (diss, 0.45 µm)	mg/L	-	Calculated	-	-	0.004	-	-	0.02	0.023	0.034	0.021	-
Aluminum (tot)	mg/L	-	-	-	-	0.004, 0.0049, 0.01	0.028	0.063	0.06	0.058	0.097	0.216	-
Arsenic (tot)	mg/L	-	0.005	-	-	0.001, 0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Boron (tot)	mg/L	-	0.2	3.55	1.5	0.01	<0.01	<0.01	0.011	<0.01	0.023	0.01	<0.01
Cadmium (tot)	mg/L	-	Calculated	0.00021	0.000017	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	<0.003	<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	0.0008	<0.0005
Copper (tot)	mg/L	-	Calculated	0.0069	-	0.0009, 0.001, 0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Iron (tot)	mg/L	0.3	-	1	-	0.01, 0.1	0.602	0.618	0.35	0.388	**2.36**	**4.29**	0.419
Lead (tot)	mg/L	-	Calculated	0.002	-	0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (tot)	mg/L	-	-	-	-	0.002	-	-	-	-	-	-	-
Mercury (diss)	mg/L	0.0002	-	-	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Mercury (tot)	mg/L	0.0002	-	-	-	0.0001	-	-	-	-	-	-	-
Nickel (tot)	mg/L	0.025	-	-	-	0.001, 0.003	<0.003	<0.003	<0.003	<0.003	0.004	<0.003	<0.003
Selenium (tot)	mg/L	0.1	-	-	-	0.002, 0.004	<0.004	<0.004	<0.004	<0.004	<0.002	<0.002	<0.002
Silicon (tot)	mg/L	-	-	-	-	0.18	-	-	-	-	-	-	-
Silver (tot)	mg/L	0.0001	-	-	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Zinc (tot)	mg/L	-	0.02	0.089	0.03	0.005, 0.02	<0.005	<0.005	<0.005	0.006	<0.005	<0.02	<0.02

-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

MHH - South Baptiste WDS Appendix F2: Historical Surface Water Quality						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B
Parameter	Units	PWQO-GENERAL	PWQO-INTERIM	MECP-GD-TA	MECP-GD-TB	Sample ID	BAP-B	BAP-B	SB-QAQC SW1-F22 (BAP-B)	BAP-B	BAP-B	BAP-B	SB-QAQC-SW1 (BAP-B)
						Sample Date	2022-Aug-04	2022-Oct-18	2022-Oct-18	2023-May-04	2023-Aug-09	2023-Oct-19	2023-Oct-19
Anions						Detection Limit							
Chloride	mg/L	-	-	180	128	0.1, 0.2, 1	5.08	7.72	7.68	4.83	3.6	6.7	6.9
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	<0.05	<0.05	<0.1	<0.1	<0.1
Nitrite as N	mg/L	-	-	-	-	0.01, 0.05, 0.1	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	<0.01
Sulphate	mg/L	-	-	100	-	0.1, 0.2, 1	4.14	4.07	3.83	3.79	4.1	5.9	6.1
Cations													
Calcium (tot)	mg/L	-	-	-	-	0.00005, 0.05, 0.16, 0.2, 0.32	32.4	22.9	24	22.9	29	28	29
Magnesium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.17, 0.34	1.43	1.38	1.43	1.11	1.3	1.3	1.3
Potassium (tot)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 0.58, 1.15	0.99	1.06	1.02	0.51	0.64	0.84	0.85
Sodium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.22, 0.45	5.91	6.99	7.36	4.31	4.9	5.7	5.7
Field Parameters													
pH (Field)	pH units	-	-	-	-		-	-	-	-	6.94	7.05	7.05
Temperature	deg. C	-	-	-	-		-	-	-	-	14	8.6	8.6
General Chemistry													
% Difference/ Ion Balance (Calcu	%	-	-	-	-		-	0.846	4.07	-	-	-	-
Alkalinity (as CaCO3)	mg/L	See Factsheet	-	-	-	1, 5	75	63	62	54	77	71	71
Ammonia as N	mg/L	-	-	-	-	0.02, 0.05	<0.02	<0.02	0.05	0.02	<0.05	<0.05	<0.05
Biochemical Oxygen Demand	mg/L	-	-	-	-	2, 5	<2	<2	<2	<2	<2	<2	<2
Colour	TCU	-	-	-	-	2, 2.5, 5	57.7	23.7	23.5	32.9	25	15	13
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	176	165	166	129	170	170	180
Hardness (as CaCO3)	mg/L	-	-	-	-	0.5, 1	86.8	62.9	65.8	61.8	81	74	75
pH	pH units	6.5 - 8.5	-	6 - 9	-		7.53	7.66	7.69	7.57	7.81	8.05	7.95
Phenols	mg/L	0.001	-	0.04	0.004	0.001	0.002	0.002	0.003	-	<0.001	<0.001	<0.001
Total Dissolved Solids	mg/L	-	-	-	-	10, 20	108	96	96	72	95	60	90
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1	0.39	0.29	0.36	0.19	0.16	0.18	<0.1
Total Organic Carbon	mg/L	-	-	-	-		-	-	-	-	-	-	-
Total Phosphorus	mg/L	0.03	-	-	-	0.01, 0.02	0.06	0.03	<0.02	<0.02	<0.02	<0.02	<0.02
Total Suspended Solids	mg/L	-	-	-	-	10	12	<10	<10	<10	<10	12	<10
Turbidity	NTU	-	-	-	-	0.1, 0.5	8.8	1.5	1.5	1.4	3.6	1.2	1.2
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.000002, 0.00061, 0.1	<0.000002	<0.000002	0.0642	0.000028	<0.00061	<0.00061	<0.00061
Metals													
Aluminum (diss, 0.2 µm)	mg/L	-	Calculated	-	-	0.004, 0.005	-	-	-	0.026	0.01	0.006	0.006
Aluminum (diss, 0.45 µm)	mg/L	-	Calculated	-	-	0.004	0.015	0.014	0.011	-	-	-	-
Aluminum (tot)	mg/L	-	-	-	-	0.004, 0.0049, 0.01	0.149	0.029	0.034	-	0.024	0.2	0.021
Arsenic (tot)	mg/L	-	0.005	-	-	0.001, 0.003	<0.003	<0.003	<0.003	<0.003	<0.001	<0.001	<0.001
Boron (tot)	mg/L	-	0.2	3.55	1.5	0.01	<0.01	-	-	<0.01	<0.01	<0.01	<0.01
Cadmium (tot)	mg/L	-	Calculated	0.00021	0.000017	0.00009, 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	<0.005	<0.005	<0.005
Cobalt (tot)	mg/L	-	0.0009	-	-	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.00075	<0.0005
Copper (tot)	mg/L	-	Calculated	0.0069	-	0.0009, 0.001, 0.002	<0.002	<0.002	<0.002	<0.001	<0.0009	0.001	<0.0009
Iron (tot)	mg/L	0.3	-	1	-	0.01, 0.1	**1.6**	0.339	0.361	0.282	0.75	**2.2**	0.25
Lead (tot)	mg/L	-	Calculated	0.002	-	0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005
Manganese (tot)	mg/L	-	-	-	-	0.002	-	0.019	0.021	-	-	-	-
Mercury (diss)	mg/L	0.0002	-	-	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	-	-	-
Mercury (tot)	mg/L	0.0002	-	-	-	0.0001	-	-	-	-	<0.0001	<0.0001	<0.0001
Nickel (tot)	mg/L	0.025	-	-	-	0.001, 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
Silicon (tot)	mg/L	-	-	-	-	0.18	-	-	-	3.02	-	-	-
Silver (tot)	mg/L	0.0001	-	-	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.00009	<0.00009	<0.00009
Zinc (tot)	mg/L	-	0.02	0.089	0.03	0.005, 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 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

MHH - South Baptiste WDS Appendix F2: Historical Surface Water Quality						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B
Parameter	Units	PWQO-GENERAL	PWQO-INTERIM	MECP-GD-TA	MECP-GD-TB	Sample ID	BAP-B	BAP-B	BAP-B	BAP-B	BAP-B	SB-QAQC-SW1 (BAP-B)	BAP-B
						Sample Date	2024-Apr-29	2024-Jul-10	2024-Oct-29	2025-May-08	2025-Jul-07	2025-Jul-07	2025-Oct-21
Anions						Detection Limit							
Chloride	mg/L	-	-	180	128	0.1, 0.2, 1	4	4.7	3.4	3.9	1.8	2.7	3.1
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1
Nitrate as N	mg/L	-	-	-	-	0.05, 0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1
Nitrite as N	mg/L	-	-	-	-	0.01, 0.05, 0.1	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01
Sulphate	mg/L	-	-	100	-	0.1, 0.2, 1	4.7	3.9	5.5	4.1	4.1	4.6	4.8
Cations													
Calcium (tot)	mg/L	-	-	-	-	0.00005, 0.05, 0.16, 0.2, 0.32	23	27	25	21	22	28	27
Magnesium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.17, 0.34	1	1.3	1.2	0.97	1.1	1.2	1.2
Potassium (tot)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 0.58, 1.15	0.5	0.8	0.67	0.5	0.68	0.58	0.89
Sodium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.22, 0.45	4.7	4.8	4.2	4.3	4.1	4.1	3.8
Field Parameters													
pH (Field)	pH units	-	-	-	-		6.47	6.36	-	7.38	7.37	7.37	7.67
Temperature	deg. C	-	-	-	-		6.3	12.8	-	7.6	12.5	12.5	7.4
General Chemistry													
% Difference/ Ion Balance (Calcu	%	-	-	-	-		-	-	-	-	-	-	-
Alkalinity (as CaCO3)	mg/L	See Factsheet	-	-	-	1, 5	58	72	72	58	61	68	73
Ammonia as N	mg/L	-	-	-	-	0.02, 0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Biochemical Oxygen Demand	mg/L	-	-	-	-	2, 5	<2	<2	<2	<2	<2	<2	<2
Colour	TCU	-	-	-	-	2, 2.5, 5	27	60	10	25	40	28	10
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	130	170	170	140	140	160	170
Hardness (as CaCO3)	mg/L	-	-	-	-	0.5, 1	67	73	82	60	65	76	80
pH	pH units	6.5 - 8.5	-	6 - 9	-		7.95	7.74	7.86	7.74	7.68	7.72	7.93
Phenols	mg/L	0.001	-	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	100	80	105	115	95	120	50
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1	0.21	0.33	-	0.14	0.17	0.21	0.13
Total Organic Carbon	mg/L	-	-	-	-		-	-	-	-	-	-	-
Total Phosphorus	mg/L	0.03	-	-	-	0.01, 0.02	<0.02	0.082	<0.02	<0.02	0.026	<0.02	<0.02
Total Suspended Solids	mg/L	-	-	-	-	10	<10	49	<10	<10	<10	<10	<10
Turbidity	NTU	-	-	-	-	0.1, 0.5	1	16	1.2	0.9	4	2.4	0.9
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.000002, 0.00061, 0.1	<0.00061	<0.00061	<0.00061	<0.00061	<0.00061	<0.00061	<0.00061
Metals													
Aluminum (diss, 0.2 µm)	mg/L	-	Calculated	-	-	0.004, 0.005	0.021	0.02	0.006	0.025	0.02	0.017	<0.005
Aluminum (diss, 0.45 µm)	mg/L	-	Calculated	-	-	0.004	-	-	-	-	-	-	-
Aluminum (tot)	mg/L	-	-	-	-	0.004, 0.0049, 0.01	0.065	0.47	0.013	0.055	0.053	0.047	0.01
Arsenic (tot)	mg/L	-	0.005	-	-	0.001, 0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron (tot)	mg/L	-	0.2	3.55	1.5	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cadmium (tot)	mg/L	-	Calculated	0.00021	0.000017	0.00009, 0.0001	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009
Chromium (tot)	mg/L	-	-	0.064	-	0.003, 0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Cobalt (tot)	mg/L	-	0.0009	-	-	0.0005	<0.0005	0.0014	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Copper (tot)	mg/L	-	Calculated	0.0069	-	0.0009, 0.001, 0.002	0.00095	0.0026	<0.0009	<0.0009	<0.0009	<0.0009	<0.0009
Iron (tot)	mg/L	0.3	-	1	-	0.01, 0.1	0.38	**8.4**	0.25	0.27	0.94	0.66	0.11
Lead (tot)	mg/L	-	Calculated	0.002	-	0.0005, 0.001	<0.0005	0.00078	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Manganese (tot)	mg/L	-	-	-	-	0.002	-	-	-	-	-	-	-
Mercury (diss)	mg/L	0.0002	-	-	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Mercury (tot)	mg/L	0.0002	-	-	-	0.0001	-	-	-	-	-	-	-
Nickel (tot)	mg/L	0.025	-	-	-	0.001, 0.003	<0.001	<0.001	<0.001	<0.001	<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
Silicon (tot)	mg/L	-	-	-	-	0.18	-	-	-	-	-	-	-
Silver (tot)	mg/L	0.0001	-	-	-	0.00009, 0.0001	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009
Zinc (tot)	mg/L	-	0.02	0.089	0.03	0.005, 0.02	<0.005	0.0057	<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 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

MHH - South Baptiste WDS Appendix F2: Historical Surface Water Quality						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C
Parameter	Units	PWQO-GENERAL	PWQO-INTERIM	MECP-GD-TA	MECP-GD-TB	Sample ID	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C
						Sample Date	2004-Apr-29	2004-Jun-23	2004-Aug-20	2004-Sep-10	2004-Oct-28	2005-May-03	2005-Jul-27
Anions						Detection Limit							
Chloride	mg/L	-	-	180	128	0.1, 0.2, 1	7	5	7	7	8	12.4	10.6
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-	-
Nitrate as N	mg/L	-	-	-	-	0.05, 0.1	0.11	<0.1	<0.1	<0.1	<0.1	0.71	0.86
Nitrite as N	mg/L	-	-	-	-	0.01, 0.05, 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-
Sulphate	mg/L	-	-	100	-	0.1, 0.2, 1	11	9	10	11	13	22	11
Cations													
Calcium (tot)	mg/L	-	-	-	-	0.00005, 0.05, 0.16, 0.2, 0.32	23	26	28	28	33	26.2	29.1
Magnesium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.17, 0.34	2	2	2	2	2	2.22	1.9
Potassium (tot)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 0.58, 1.15	2	1	<1	1	2	3.5	1.2
Sodium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.22, 0.45	5	4	5	5	6	6.7	4.6
Field Parameters													
pH (Field)	pH units	-	-	-	-		-	-	-	-	-	-	-
Temperature	deg. C	-	-	-	-		-	-	-	-	-	-	-
General Chemistry													
% Difference/ Ion Balance (Calcu	%	-	-	-	-		-	-	-	-	-	-	-
Alkalinity (as CaCO3)	mg/L	See Factsheet	-	-	-	1, 5	60	72	83	78	87	64	80
Ammonia as N	mg/L	-	-	-	-	0.02, 0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05
Biochemical Oxygen Demand	mg/L	-	-	-	-	2, 5	<1	<1	-	<1	-	<2	-
Colour	TCU	-	-	-	-	2, 2.5, 5	33	30	20	32	15	29	17
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	150	173	190	192	224	181	150
Hardness (as CaCO3)	mg/L	-	-	-	-	0.5, 1	66	73	78	78	91	75	81
pH	pH units	6.5 - 8.5	-	6 - 9	-		6.66	7.37	7.53	7.37	7.42	-	7.01
Phenols	mg/L	0.001	-	0.04	0.004	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-
Total Dissolved Solids	mg/L	-	-	-	-	10, 20	98	112	123	125	146	119	-
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1	0.23	0.26	0.07	0.31	0.26	0.6	0.5
Total Organic Carbon	mg/L	-	-	-	-		-	-	-	-	-	5.3	-
Total Phosphorus	mg/L	0.03	-	-	-	0.01, 0.02	0.02	0.04	0.03	<0.01	0.08	0.02	0.03
Total Suspended Solids	mg/L	-	-	-	-	10	11	3	22	7	44	9	-
Turbidity	NTU	-	-	-	-	0.1, 0.5	1.8	1.9	6.2	3.1	4.6	-	-
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.000002, 0.00061, 0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05
Metals													
Aluminum (diss, 0.2 µm)	mg/L	-	Calculated	-	-	0.004, 0.005	-	-	-	-	-	-	-
Aluminum (diss, 0.45 µm)	mg/L	-	Calculated	-	-	0.004	-	-	-	-	-	-	-
Aluminum (tot)	mg/L	-	-	-	-	0.004, 0.0049, 0.01	0.07	0.05	0.14	0.07	0.23	0.07	0.19
Arsenic (tot)	mg/L	-	0.005	-	-	0.001, 0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.03
Boron (tot)	mg/L	-	0.2	3.55	1.5	0.01	-	-	-	-	-	-	-
Cadmium (tot)	mg/L	-	Calculated	0.00021	0.000017	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.005
Chromium (tot)	mg/L	-	-	0.064	-	0.003, 0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0002	<0.002
Cobalt (tot)	mg/L	-	0.0009	-	-	0.0005	<0.0002	<0.0002	0.0002	<0.0002	0.0005	0.0002	<0.005
Copper (tot)	mg/L	-	Calculated	0.0069	-	0.0009, 0.001, 0.002	0.001	<0.001	<0.001	<0.001	0.001	-	-
Iron (tot)	mg/L	0.3	-	1	-	0.01, 0.1	0.35	0.71	0.79	0.66	**1.37**	0.305	**1.39**
Lead (tot)	mg/L	-	Calculated	0.002	-	0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.02
Manganese (tot)	mg/L	-	-	-	-	0.002	-	-	-	-	-	-	-
Mercury (diss)	mg/L	0.0002	-	-	-	0.0001	-	-	-	-	-	-	-
Mercury (tot)	mg/L	0.0002	-	-	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.00006	-
Nickel (tot)	mg/L	0.025	-	-	-	0.001, 0.003	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01
Selenium (tot)	mg/L	0.1	-	-	-	0.002, 0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silicon (tot)	mg/L	-	-	-	-	0.18	-	-	-	-	-	-	-
Silver (tot)	mg/L	0.0001	-	-	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.005
Zinc (tot)	mg/L	-	0.02	0.089	0.03	0.005, 0.02	<0.01	<0.01	<0.01	<0.01	<0.02	<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

MHH - South Baptiste WDS Appendix F2: Historical Surface Water Quality						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C
Parameter	Units	PWQO-GENERAL	PWQO-INTERIM	MECP-GD-TA	MECP-GD-TB	Sample ID	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C
						Sample Date	2005-Sep-01	2005-Sep-16	2005-Oct-24	2006-May-10	2006-Jul-19	2006-Aug-21	2006-Sep-19
Anions						Detection Limit							
Chloride	mg/L	-	-	180	128	0.1, 0.2, 1	11	-	<2	9	8	7	9
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-	-
Nitrate as N	mg/L	-	-	-	-	0.05, 0.1	0.6	-	0.5	<0.1	<0.1	<0.1	<0.1
Nitrite as N	mg/L	-	-	-	-	0.01, 0.05, 0.1	-	-	-	<0.1	<0.1	<0.1	<0.1
Sulphate	mg/L	-	-	100	-	0.1, 0.2, 1	10	-	16	13	8	8	12
Cations													
Calcium (tot)	mg/L	-	-	-	-	0.00005, 0.05, 0.16, 0.2, 0.32	34.8	-	38.9	28	33	33	36
Magnesium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.17, 0.34	2.43	-	4.21	2	2	2	2
Potassium (tot)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 0.58, 1.15	1.8	-	3.3	3	1	<1	2
Sodium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.22, 0.45	6.2	-	17.9	6	6	5	9
Field Parameters													
pH (Field)	pH units	-	-	-	-		-	-	-	-	-	-	-
Temperature	deg. C	-	-	-	-		-	-	-	-	-	-	-
General Chemistry													
% Difference/ Ion Balance (Calcu	%	-	-	-	-		-	-	-	-	-	-	-
Alkalinity (as CaCO3)	mg/L	See Factsheet	-	-	-	1, 5	86	-	98	71	87	90	83
Ammonia as N	mg/L	-	-	-	-	0.02, 0.05	0.14	-	0.11	<0.02	0.03	<0.02	0.16
Biochemical Oxygen Demand	mg/L	-	-	-	-	2, 5	-	2	-	<1	3	<1	<1
Colour	TCU	-	-	-	-	2, 2.5, 5	36	-	11	24	32	25	26
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	209	207	272	187	206	209	215
Hardness (as CaCO3)	mg/L	-	-	-	-	0.5, 1	97	-	114	78	91	91	98
pH	pH units	6.5 - 8.5	-	6 - 9	-		-	-	7.11	7.56	7.6	7.54	7.12
Phenols	mg/L	0.001	-	0.04	0.004	0.001	-	<0.001	<0.001	<0.001	<0.001	0.002	<0.001
Total Dissolved Solids	mg/L	-	-	-	-	10, 20	-	137	180	122	134	136	140
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1	0.4	-	0.2	0.15	0.29	0.44	0.19
Total Organic Carbon	mg/L	-	-	-	-		-	-	-	-	-	-	-
Total Phosphorus	mg/L	0.03	-	-	-	0.01, 0.02	0.02	-	<0.01	0.03	<0.01	0.04	0.04
Total Suspended Solids	mg/L	-	-	-	-	10	-	17	25	16	6	18	2
Turbidity	NTU	-	-	-	-	0.1, 0.5	-	-	-	1.9	2.4	9.5	2.6
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.000002, 0.00061, 0.1	<0.05	-	<0.05	-	-	-	-
Metals													
Aluminum (diss, 0.2 µm)	mg/L	-	Calculated	-	-	0.004, 0.005	-	-	-	-	-	-	-
Aluminum (diss, 0.45 µm)	mg/L	-	Calculated	-	-	0.004	-	-	-	-	-	-	-
Aluminum (tot)	mg/L	-	-	-	-	0.004, 0.0049, 0.01	0.22	0.09	0.11	0.5	0.06	0.28	0.05
Arsenic (tot)	mg/L	-	0.005	-	-	0.001, 0.003	<0.03	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron (tot)	mg/L	-	0.2	3.55	1.5	0.01	-	-	-	-	-	-	-
Cadmium (tot)	mg/L	-	Calculated	0.00021	0.000017	0.00009, 0.0001	<0.005	<0.001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium (tot)	mg/L	-	-	0.064	-	0.003, 0.005	<0.002	<0.002	<0.002	-	<0.001	-	-
Cobalt (tot)	mg/L	-	0.0009	-	-	0.0005	<0.005	<0.005	<0.0005	<0.0002	<0.0002	0.0003	<0.0002
Copper (tot)	mg/L	-	Calculated	0.0069	-	0.0009, 0.001, 0.002	-	-	-	<0.001	<0.001	0.001	<0.001
Iron (tot)	mg/L	0.3	-	1	-	0.01, 0.1	**2.44**	**1.4**	0.704	0.41	0.58	**1.12**	0.37
Lead (tot)	mg/L	-	Calculated	0.002	-	0.0005, 0.001	<0.02	<0.001	<0.0001	<0.001	<0.001	<0.001	<0.001
Manganese (tot)	mg/L	-	-	-	-	0.002	-	-	-	-	-	-	-
Mercury (diss)	mg/L	0.0002	-	-	-	0.0001	-	-	-	-	-	-	-
Mercury (tot)	mg/L	0.0002	-	-	-	0.0001	-	<0.00006	<0.00006	<0.0001	<0.0001	<0.0001	<0.0001
Nickel (tot)	mg/L	0.025	-	-	-	0.001, 0.003	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005
Selenium (tot)	mg/L	0.1	-	-	-	0.002, 0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silicon (tot)	mg/L	-	-	-	-	0.18	-	-	-	-	-	-	-
Silver (tot)	mg/L	0.0001	-	-	-	0.00009, 0.0001	<0.005	<0.001	<0.0005	<0.0001	<0.0001	<0.0001	<0.0001
Zinc (tot)	mg/L	-	0.02	0.089	0.03	0.005, 0.02	<0.005	<0.005	0.024	<0.01	<0.01	<0.01	<0.01

-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

MHH - South Baptiste WDS Appendix F2: Historical Surface Water Quality						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C
Parameter	Units	PWQO-GENERAL	PWQO-INTERIM	MECP-GD-TA	MECP-GD-TB	Sample ID	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C
						Sample Date	2006-Nov-20	2007-May-02	2007-Jun-04	2007-Aug-15	2007-Sep-27	2007-Nov-22	2008-May-09
Anions						Detection Limit							
Chloride	mg/L	-	-	180	128	0.1, 0.2, 1	5	7	4	7	8	6	10
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-	-
Nitrate as N	mg/L	-	-	-	-	0.05, 0.1	0.12	0.19	<0.1	<0.1	<0.1	<0.1	0.43
Nitrite as N	mg/L	-	-	-	-	0.01, 0.05, 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Sulphate	mg/L	-	-	100	-	0.1, 0.2, 1	12	15	9	10	11	15	19
Cations													
Calcium (tot)	mg/L	-	-	-	-	0.00005, 0.05, 0.16, 0.2, 0.32	21	27	27	38	39	29	29
Magnesium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.17, 0.34	2	2	2	2	3	2	3
Potassium (tot)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 0.58, 1.15	1	3	1	2	2	1	6
Sodium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.22, 0.45	5	7	4	7	9	6	11
Field Parameters													
pH (Field)	pH units	-	-	-	-		-	-	-	-	-	-	-
Temperature	deg. C	-	-	-	-		-	-	-	-	-	-	-
General Chemistry													
% Difference/ Ion Balance (Calcu	%	-	-	-	-		-	-	-	-	-	-	-
Alkalinity (as CaCO3)	mg/L	See Factsheet	-	-	-	1, 5	50	71	70	99	104	81	75
Ammonia as N	mg/L	-	-	-	-	0.02, 0.05	<0.02	0.03	0.08	0.05	0.04	0.04	0.06
Biochemical Oxygen Demand	mg/L	-	-	-	-	2, 5	<1	<1	1	<1	<1	<1	<1
Colour	TCU	-	-	-	-	2, 2.5, 5	40	34	55	18	20	17	37
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	143	193	171	235	248	209	228
Hardness (as CaCO3)	mg/L	-	-	-	-	0.5, 1	61	76	76	103	110	81	85
pH	pH units	6.5 - 8.5	-	6 - 9	-		7.26	7.07	8.01	8.27	7.95	7.98	7.86
Phenols	mg/L	0.001	-	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	93	125	111	153	161	136	148
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1	0.23	0.18	0.36	0.27	0.14	0.46	0.42
Total Organic Carbon	mg/L	-	-	-	-		-	-	-	-	-	-	-
Total Phosphorus	mg/L	0.03	-	-	-	0.01, 0.02	0.02	<0.01	0.04	0.05	<0.02	0.08	<0.01
Total Suspended Solids	mg/L	-	-	-	-	10	11	2	14	4	<2	27	3
Turbidity	NTU	-	-	-	-	0.1, 0.5	2.4	1.1	3.9	2	1.9	6.6	1.3
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.000002, 0.00061, 0.1	-	-	-	-	-	-	<0.02
Metals													
Aluminum (diss, 0.2 µm)	mg/L	-	Calculated	-	-	0.004, 0.005	-	-	-	-	-	-	-
Aluminum (diss, 0.45 µm)	mg/L	-	Calculated	-	-	0.004	-	-	-	-	-	-	-
Aluminum (tot)	mg/L	-	-	-	-	0.004, 0.0049, 0.01	0.1	0.06	0.12	0.01	<0.01	<0.01	0.04
Arsenic (tot)	mg/L	-	0.005	-	-	0.001, 0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron (tot)	mg/L	-	0.2	3.55	1.5	0.01	-	-	-	-	-	-	-
Cadmium (tot)	mg/L	-	Calculated	0.00021	0.000017	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	<0.001	<0.001	0.002	<0.001	0.001	<0.001	0.002
Cobalt (tot)	mg/L	-	0.0009	-	-	0.0005	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	0.0006	<0.0002
Copper (tot)	mg/L	-	Calculated	0.0069	-	0.0009, 0.001, 0.002	0.002	0.001	0.001	<0.001	<0.001	<0.001	0.001
Iron (tot)	mg/L	0.3	-	1	-	0.01, 0.1	0.41	0.27	**1.13**	0.22	0.36	**1.64**	0.26
Lead (tot)	mg/L	-	Calculated	0.002	-	0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (tot)	mg/L	-	-	-	-	0.002	-	-	-	-	-	-	-
Mercury (diss)	mg/L	0.0002	-	-	-	0.0001	-	-	-	-	-	-	-
Mercury (tot)	mg/L	0.0002	-	-	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Nickel (tot)	mg/L	0.025	-	-	-	0.001, 0.003	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Selenium (tot)	mg/L	0.1	-	-	-	0.002, 0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silicon (tot)	mg/L	-	-	-	-	0.18	-	-	-	-	-	-	-
Silver (tot)	mg/L	0.0001	-	-	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Zinc (tot)	mg/L	-	0.02	0.089	0.03	0.005, 0.02	<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 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

MHH - South Baptiste WDS Appendix F2: Historical Surface Water Quality						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C
Parameter	Units	PWQO-GENERAL	PWQO-INTERIM	MECP-GD-TA	MECP-GD-TB	Sample ID	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C
						Sample Date	2008-Jun-19	2008-Aug-21	2008-Sep-16	2008-Oct-09	2009-Jun-04	2009-Jul-16	2009-Aug-06
Anions						Detection Limit							
Chloride	mg/L	-	-	180	128	0.1, 0.2, 1	3	6	10	7	3	6	2
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-	-
Nitrate as N	mg/L	-	-	-	-	0.05, 0.1	<0.1	0.11	<0.1	<0.1	<0.1	0.11	<0.1
Nitrite as N	mg/L	-	-	-	-	0.01, 0.05, 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Sulphate	mg/L	-	-	100	-	0.1, 0.2, 1	5	10	13	12	9	12	5
Cations													
Calcium (tot)	mg/L	-	-	-	-	0.00005, 0.05, 0.16, 0.2, 0.32	20	33	28	26	24	31	23
Magnesium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.17, 0.34	1	2	3	2	1	3	1
Potassium (tot)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 0.58, 1.15	<1	2	2	2	1	3	<1
Sodium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.22, 0.45	<2	9	9	7	4	8	3
Field Parameters													
pH (Field)	pH units	-	-	-	-		-	-	-	-	-	-	-
Temperature	deg. C	-	-	-	-		-	-	-	-	-	-	-
General Chemistry													
% Difference/ Ion Balance (Calcu	%	-	-	-	-		-	-	-	-	-	-	-
Alkalinity (as CaCO3)	mg/L	See Factsheet	-	-	-	1, 5	51	87	78	74	65	95	56
Ammonia as N	mg/L	-	-	-	-	0.02, 0.05	0.02	0.02	0.06	0.07	<0.02	0.03	<0.02
Biochemical Oxygen Demand	mg/L	-	-	-	-	2, 5	2	<1	<1	<1	<1	<1	1
Colour	TCU	-	-	-	-	2, 2.5, 5	55	27	69	42	38	28	110
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	123	210	212	197	155	231	127
Hardness (as CaCO3)	mg/L	-	-	-	-	0.5, 1	54	91	82	73	64	90	62
pH	pH units	6.5 - 8.5	-	6 - 9	-		7.69	7.95	7.83	7.78	7.66	7.99	7.62
Phenols	mg/L	0.001	-	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	80	137	138	128	101	150	83
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1	0.28	0.19	0.41	0.25	0.12	<0.1	0.5
Total Organic Carbon	mg/L	-	-	-	-		-	-	-	-	-	-	-
Total Phosphorus	mg/L	0.03	-	-	-	0.01, 0.02	0.02	0.02	0.02	0.02	<0.01	0.02	0.03
Total Suspended Solids	mg/L	-	-	-	-	10	9	42	<2	2	<2	4	5
Turbidity	NTU	-	-	-	-	0.1, 0.5	1.9	10.2	3	-	2	2.5	3.1
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.000002, 0.00061, 0.1	-	-	-	-	<0.00015	0.0001005	<0.00008
Metals													
Aluminum (diss, 0.2 µm)	mg/L	-	Calculated	-	-	0.004, 0.005	-	-	-	-	-	-	-
Aluminum (diss, 0.45 µm)	mg/L	-	Calculated	-	-	0.004	-	-	-	-	-	-	-
Aluminum (tot)	mg/L	-	-	-	-	0.004, 0.0049, 0.01	0.09	0.09	0.04	0.05	0.06	0.05	0.1
Arsenic (tot)	mg/L	-	0.005	-	-	0.001, 0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron (tot)	mg/L	-	0.2	3.55	1.5	0.01	<0.01	0.03	0.03	0.03	0.01	0.04	<0.01
Cadmium (tot)	mg/L	-	Calculated	0.00021	0.000017	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	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	<0.001
Cobalt (tot)	mg/L	-	0.0009	-	-	0.0005	0.0004	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	0.0003
Copper (tot)	mg/L	-	Calculated	0.0069	-	0.0009, 0.001, 0.002	0.001	<0.001	0.001	<0.001	<0.001	<0.001	0.002
Iron (tot)	mg/L	0.3	-	1	-	0.01, 0.1	1	0.65	0.57	0.53	0.38	0.43	**1.14**
Lead (tot)	mg/L	-	Calculated	0.002	-	0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (tot)	mg/L	-	-	-	-	0.002	-	-	-	-	-	-	-
Mercury (diss)	mg/L	0.0002	-	-	-	0.0001	-	-	-	-	-	-	-
Mercury (tot)	mg/L	0.0002	-	-	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Nickel (tot)	mg/L	0.025	-	-	-	0.001, 0.003	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Selenium (tot)	mg/L	0.1	-	-	-	0.002, 0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silicon (tot)	mg/L	-	-	-	-	0.18	-	-	-	-	-	-	-
Silver (tot)	mg/L	0.0001	-	-	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Zinc (tot)	mg/L	-	0.02	0.089	0.03	0.005, 0.02	<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 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

MHH - South Baptiste WDS Appendix F2: Historical Surface Water Quality						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C
Parameter	Units	PWQO-GENERAL	PWQO-INTERIM	MECP-GD-TA	MECP-GD-TB	Sample ID	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C
						Sample Date	2009-Sep-16	2009-Oct-23	2010-May-17	2010-Jul-19	2010-Oct-18	2011-May-18	2011-Aug-11
Anions						Detection Limit							
Chloride	mg/L	-	-	180	128	0.1, 0.2, 1	3	4	3	5	6	5	4
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-	-
Nitrate as N	mg/L	-	-	-	-	0.05, 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nitrite as N	mg/L	-	-	-	-	0.01, 0.05, 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Sulphate	mg/L	-	-	100	-	0.1, 0.2, 1	8	7	7	7	8	8	8
Cations													
Calcium (tot)	mg/L	-	-	-	-	0.00005, 0.05, 0.16, 0.2, 0.32	27	20	25	29	25	24	34
Magnesium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.17, 0.34	1	1	1	2	5	1	2
Potassium (tot)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 0.58, 1.15	1	1	1	1	1	<1	1
Sodium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.22, 0.45	3	3	2	5	4	2	5
Field Parameters													
pH (Field)	pH units	-	-	-	-		-	-	-	-	-	-	-
Temperature	deg. C	-	-	-	-		-	-	-	-	-	-	-
General Chemistry													
% Difference/ Ion Balance (Calcu	%	-	-	-	-		-	-	-	-	-	-	-
Alkalinity (as CaCO3)	mg/L	See Factsheet	-	-	-	1, 5	80	67	70	85	69	71	90
Ammonia as N	mg/L	-	-	-	-	0.02, 0.05	<0.02	0.03	<0.02	0.09	<0.02	0.04	0.03
Biochemical Oxygen Demand	mg/L	-	-	-	-	2, 5	-	1	3	2	3	<1	<1
Colour	TCU	-	-	-	-	2, 2.5, 5	27	55	35	61	47	34	28
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	176	155	164	189	161	162	190
Hardness (as CaCO3)	mg/L	-	-	-	-	0.5, 1	72	54	67	81	71	64	93
pH	pH units	6.5 - 8.5	-	6 - 9	-		7.89	7.86	7.88	7.87	7.85	7.89	7.44
Phenols	mg/L	0.001	-	0.04	0.004	0.001	<0.001	<0.001	<0.001	0.002	<0.001	<0.001	<0.001
Total Dissolved Solids	mg/L	-	-	-	-	10, 20	114	101	107	123	105	105	124
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1	0.38	0.39	0.23	0.37	0.17	0.13	<0.1
Total Organic Carbon	mg/L	-	-	-	-		-	-	-	-	-	-	-
Total Phosphorus	mg/L	0.03	-	-	-	0.01, 0.02	0.02	<0.01	0.02	0.03	0.01	<0.01	<0.01
Total Suspended Solids	mg/L	-	-	-	-	10	2	3	<2	10	<2	5	4
Turbidity	NTU	-	-	-	-	0.1, 0.5	2.3	2.8	1.3	9.3	1.9	1.7	3
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.000002, 0.00061, 0.1	-	0.000013	-	-	-	0.0000144	0.000432
Metals													
Aluminum (diss, 0.2 µm)	mg/L	-	Calculated	-	-	0.004, 0.005	-	-	-	-	-	-	-
Aluminum (diss, 0.45 µm)	mg/L	-	Calculated	-	-	0.004	-	-	-	-	-	-	-
Aluminum (tot)	mg/L	-	-	-	-	0.004, 0.0049, 0.01	0.08	0.11	0.05	0.08	0.04	0.04	0.04
Arsenic (tot)	mg/L	-	0.005	-	-	0.001, 0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron (tot)	mg/L	-	0.2	3.55	1.5	0.01	0.01	0.01	0.01	0.02	0.01	<0.01	0.02
Cadmium (tot)	mg/L	-	Calculated	0.00021	0.000017	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	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt (tot)	mg/L	-	0.0009	-	-	0.0005	0.0003	0.0002	<0.0002	0.001	<0.0002	<0.0002	<0.0002
Copper (tot)	mg/L	-	Calculated	0.0069	-	0.0009, 0.001, 0.002	<0.001	0.001	<0.001	0.0003	<0.001	<0.001	<0.001
Iron (tot)	mg/L	0.3	-	1	-	0.01, 0.1	0.83	0.61	0.3	**1.37**	0.37	0.29	0.53
Lead (tot)	mg/L	-	Calculated	0.002	-	0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (tot)	mg/L	-	-	-	-	0.002	-	-	-	-	-	-	-
Mercury (diss)	mg/L	0.0002	-	-	-	0.0001	-	-	-	-	-	-	-
Mercury (tot)	mg/L	0.0002	-	-	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Nickel (tot)	mg/L	0.025	-	-	-	0.001, 0.003	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Selenium (tot)	mg/L	0.1	-	-	-	0.002, 0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silicon (tot)	mg/L	-	-	-	-	0.18	-	-	-	-	-	-	-
Silver (tot)	mg/L	0.0001	-	-	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Zinc (tot)	mg/L	-	0.02	0.089	0.03	0.005, 0.02	<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 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

MHH - South Baptiste WDS Appendix F2: Historical Surface Water Quality						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C
Parameter	Units	PWQO-GENERAL	PWQO-INTERIM	MECP-GD-TA	MECP-GD-TB	Sample ID	BAP-C	BAP-C-Dup (BAP-C)	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C
						Sample Date	2011-Nov-03	2011-Nov-03	2012-Apr-17	2012-Jul-11	2012-Oct-17	2013-Apr-18	2013-Aug-15
Anions						Detection Limit							
Chloride	mg/L	-	-	180	128	0.1, 0.2, 1	5	-	4	4	9	3.61	5.11
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-	-
Nitrate as N	mg/L	-	-	-	-	0.05, 0.1	<0.1	-	0.1	<0.1	<0.1	0.22	0.07
Nitrite as N	mg/L	-	-	-	-	0.01, 0.05, 0.1	<0.1	-	<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	-	-	100	-	0.1, 0.2, 1	12	-	11	9	23	7.76	8.21
Cations													
Calcium (tot)	mg/L	-	-	-	-	0.00005, 0.05, 0.16, 0.2, 0.32	31	30	25	20.4	48.9	20.5	29.9
Magnesium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.17, 0.34	2	2	1.88	1.56	2.83	1.24	1.59
Potassium (tot)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 0.58, 1.15	2	2	2.34	1.12	3.15	1.36	1.29
Sodium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.22, 0.45	6	5	5.42	3.78	7.93	3.4	3.98
Field Parameters													
pH (Field)	pH units	-	-	-	-		-	-	-	-	-	-	-
Temperature	deg. C	-	-	-	-		-	-	-	-	-	-	-
General Chemistry													
% Difference/ Ion Balance (Calcu	%	-	-	-	-		-	-	-	-	-	-	-
Alkalinity (as CaCO3)	mg/L	See Factsheet	-	-	-	1, 5	86	-	72	87	78	44	86
Ammonia as N	mg/L	-	-	-	-	0.02, 0.05	0.03	-	0.02	0.06	0.02	<0.02	<0.02
Biochemical Oxygen Demand	mg/L	-	-	-	-	2, 5	2	-	<2	<2	<2	<5	<5
Colour	TCU	-	-	-	-	2, 2.5, 5	16	-	16	9	16	45	17
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	190	-	202	213	230	116	213
Hardness (as CaCO3)	mg/L	-	-	-	-	0.5, 1	86	83.1	70.2	57.4	133.8	56.3	81.2
pH	pH units	6.5 - 8.5	-	6 - 9	-		6.78	-	7.7	7.8	7.8	7.63	7.35
Phenols	mg/L	0.001	-	0.04	0.004	0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001
Total Dissolved Solids	mg/L	-	-	-	-	10, 20	124	-	305	104	117	82	114
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1	<0.1	-	0.1	0.2	0.1	0.28	0.12
Total Organic Carbon	mg/L	-	-	-	-		-	-	-	-	-	-	-
Total Phosphorus	mg/L	0.03	-	-	-	0.01, 0.02	<0.01	-	<0.01	0.02	<0.01	0.03	0.02
Total Suspended Solids	mg/L	-	-	-	-	10	<2	-	-	10	-	18	<10
Turbidity	NTU	-	-	-	-	0.1, 0.5	2.2	-	1	2.5	1	2.9	2.7
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.000002, 0.00061, 0.1	0.0000006	-	0.0000073	0.0006979	0.000023	<0.0000073	<0.000233
Metals													
Aluminum (diss, 0.2 µm)	mg/L	-	Calculated	-	-	0.004, 0.005	-	-	16	-	-	0.042	0.011
Aluminum (diss, 0.45 µm)	mg/L	-	Calculated	-	-	0.004	-	-	-	-	-	-	-
Aluminum (tot)	mg/L	-	-	-	-	0.004, 0.0049, 0.01	0.01	0.01	0.028	0.055	0.014	-	-
Arsenic (tot)	mg/L	-	0.005	-	-	0.001, 0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.003	<0.003
Boron (tot)	mg/L	-	0.2	3.55	1.5	0.01	0.01	0.02	0.035	0.018	0.03	0.011	0.01
Cadmium (tot)	mg/L	-	Calculated	0.00021	0.000017	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	<0.001	<0.001	0.001	<0.001	<0.001	<0.003	<0.003
Cobalt (tot)	mg/L	-	0.0009	-	-	0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Copper (tot)	mg/L	-	Calculated	0.0069	-	0.0009, 0.001, 0.002	<0.001	0.002	0.0007	0.0009	0.0006	0.003	<0.002
Iron (tot)	mg/L	0.3	-	1	-	0.01, 0.1	0.16	0.04	0.19	0.298	0.116	0.08	0.34
Lead (tot)	mg/L	-	Calculated	0.002	-	0.0005, 0.001	<0.001	<0.001	<0.0001	0.0013	<0.0001	<0.001	<0.001
Manganese (tot)	mg/L	-	-	-	-	0.002	-	-	-	-	-	-	-
Mercury (diss)	mg/L	0.0002	-	-	-	0.0001	-	-	-	-	-	-	-
Mercury (tot)	mg/L	0.0002	-	-	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Nickel (tot)	mg/L	0.025	-	-	-	0.001, 0.003	<0.005	<0.005	<0.001	0.002	<0.001	-	<0.003
Selenium (tot)	mg/L	0.1	-	-	-	0.002, 0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.004	<0.004
Silicon (tot)	mg/L	-	-	-	-	0.18	-	-	-	-	-	-	-
Silver (tot)	mg/L	0.0001	-	-	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Zinc (tot)	mg/L	-	0.02	0.089	0.03	0.005, 0.02	<0.01	0.01	0.006	0.019	<0.005	0.011	<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

MHH - South Baptiste WDS Appendix F2: Historical Surface Water Quality						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C
Parameter	Units	PWQO-GENERAL	PWQO-INTERIM	MECP-GD-TA	MECP-GD-TB	Sample ID	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C
						Sample Date	2013-Oct-30	2014-May-13	2014-Aug-19	2014-Oct-10	2015-May-04	2015-Sep-09	2015-Oct-26
Anions						Detection Limit							
Chloride	mg/L	-	-	180	128	0.1, 0.2, 1	9.36	7.83	6.44	8.95	8.64	9.81	10.3
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-	-
Nitrate as N	mg/L	-	-	-	-	0.05, 0.1	0.21	0.18	0.1	<0.05	0.2	0.06	0.06
Nitrite as N	mg/L	-	-	-	-	0.01, 0.05, 0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	-	-	100	-	0.1, 0.2, 1	12.5	11.8	9.57	11.6	12.8	8.71	11.3
Cations													
Calcium (tot)	mg/L	-	-	-	-	0.00005, 0.05, 0.16, 0.2, 0.32	31.1	28	31.9	30	28.2	28	28.8
Magnesium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.17, 0.34	2.58	1.99	2.06	2.11	2.07	1.99	1.94
Potassium (tot)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 0.58, 1.15	2.71	3.09	1.86	2.21	2.95	2.61	2.31
Sodium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.22, 0.45	7.58	6.88	5.82	7.11	7.37	6.93	6.88
Field Parameters													
pH (Field)	pH units	-	-	-	-		-	-	-	-	-	-	-
Temperature	deg. C	-	-	-	-		-	-	-	-	-	-	-
General Chemistry													
% Difference/ Ion Balance (Calcu	%	-	-	-	-		-	-	-	-	-	-	-
Alkalinity (as CaCO3)	mg/L	See Factsheet	-	-	-	1, 5	79	66	79	79	69	85	77
Ammonia as N	mg/L	-	-	-	-	0.02, 0.05	<0.02	<0.02	0.15	0.06	<0.02	<0.02	<0.02
Biochemical Oxygen Demand	mg/L	-	-	-	-	2, 5	<5	<5	<5	<5	<5	<5	<5
Colour	TCU	-	-	-	-	2, 2.5, 5	22	18	27	29	34	6	28
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	213	187	215	214	197	222	198
Hardness (as CaCO3)	mg/L	-	-	-	-	0.5, 1	88.3	78.1	88.1	83.6	78.9	78.1	79.9
pH	pH units	6.5 - 8.5	-	6 - 9	-		7.75	7.78	8.01	7.88	7.83	7.98	7.78
Phenols	mg/L	0.001	-	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	124	126	120	130	122	144	110
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1	0.11	1.5	0.23	0.25	0.4	0.31	0.26
Total Organic Carbon	mg/L	-	-	-	-		-	-	-	-	-	-	-
Total Phosphorus	mg/L	0.03	-	-	-	0.01, 0.02	<0.02	<0.02	<0.02	0.04	0.03	<0.01	<0.01
Total Suspended Solids	mg/L	-	-	-	-	10	<10	<10	<10	<10	<10	<10	<10
Turbidity	NTU	-	-	-	-	0.1, 0.5	1.3	0.9	2.5	18.3	2.2	2.9	1.9
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.000002, 0.00061, 0.1	<0.0000229	0.000085	0.000117	0.000273	0.000078	0.00025	0.00004
Metals													
Aluminum (diss, 0.2 µm)	mg/L	-	Calculated	-	-	0.004, 0.005	0.027	0.025	0.013	0.009	0.023	0.016	0.01
Aluminum (diss, 0.45 µm)	mg/L	-	Calculated	-	-	0.004	-	-	-	-	-	-	-
Aluminum (tot)	mg/L	-	-	-	-	0.004, 0.0049, 0.01	-	-	-	-	-	-	-
Arsenic (tot)	mg/L	-	0.005	-	-	0.001, 0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Boron (tot)	mg/L	-	0.2	3.55	1.5	0.01	0.024	0.038	0.026	0.027	0.034	0.034	0.022
Cadmium (tot)	mg/L	-	Calculated	0.00021	0.000017	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	<0.0005	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Cobalt (tot)	mg/L	-	0.0009	-	-	0.0005	<0.003	<0.0005	<0.0005	<0.0005	<0.0005	<0.003	<0.0005
Copper (tot)	mg/L	-	Calculated	0.0069	-	0.0009, 0.001, 0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Iron (tot)	mg/L	0.3	-	1	-	0.01, 0.1	0.14	0.19	0.33	0.23	0.28	0.79	0.15
Lead (tot)	mg/L	-	Calculated	0.002	-	0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (tot)	mg/L	-	-	-	-	0.002	-	-	-	-	-	-	-
Mercury (diss)	mg/L	0.0002	-	-	-	0.0001	-	-	-	-	-	-	-
Mercury (tot)	mg/L	0.0002	-	-	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Nickel (tot)	mg/L	0.025	-	-	-	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	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Silicon (tot)	mg/L	-	-	-	-	0.18	-	-	-	-	-	-	-
Silver (tot)	mg/L	0.0001	-	-	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Zinc (tot)	mg/L	-	0.02	0.089	0.03	0.005, 0.02	0.034	<0.005	<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 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

MHH - South Baptiste WDS Appendix F2: Historical Surface Water Quality						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C
Parameter	Units	PWQO-GENERAL	PWQO-INTERIM	MECP-GD-TA	MECP-GD-TB	Sample ID	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C
						Sample Date	2016-Apr-28	2016-Aug-17	2016-Oct-26	2017-May-10	2017-Jul-20	2017-Oct-23	2018-May-07
Anions						Detection Limit							
Chloride	mg/L	-	-	180	128	0.1, 0.2, 1	9.48	10.6	12.4	11	8.18	8.9	9.98
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-	-
Nitrate as N	mg/L	-	-	-	-	0.05, 0.1	0.18	0.06	0.11	0.26	0.11	0.11	0.12
Nitrite as N	mg/L	-	-	-	-	0.01, 0.05, 0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	-	-	100	-	0.1, 0.2, 1	12	14.5	10.2	11.5	6.84	6.99	8.43
Cations													
Calcium (tot)	mg/L	-	-	-	-	0.00005, 0.05, 0.16, 0.2, 0.32	22.7	22.6	31.6	22.7	24	27.6	22.1
Magnesium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.17, 0.34	1.75	1.59	2.46	1.83	1.64	1.97	1.46
Potassium (tot)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 0.58, 1.15	2.91	2.02	2.96	2.93	1.97	2.61	2
Sodium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.22, 0.45	6.81	8.93	9.12	7.54	6.05	8.16	<0.005
Field Parameters													
pH (Field)	pH units	-	-	-	-		-	-	-	-	-	-	-
Temperature	deg. C	-	-	-	-		-	-	-	-	-	-	-
General Chemistry													
% Difference/ Ion Balance (Calcu	%	-	-	-	-		-	-	-	-	-	-	-
Alkalinity (as CaCO3)	mg/L	See Factsheet	-	-	-	1, 5	64	58	90	62	78	83	43
Ammonia as N	mg/L	-	-	-	-	0.02, 0.05	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.1
Biochemical Oxygen Demand	mg/L	-	-	-	-	2, 5	<5	<5	<5	<5	<5	<5	<5
Colour	TCU	-	-	-	-	2, 2.5, 5	30	75	12	38	94	32	48
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	174	189	241	202	191	180	177
Hardness (as CaCO3)	mg/L	-	-	-	-	0.5, 1	63.9	63	89	64.2	66.7	77	61.2
pH	pH units	6.5 - 8.5	-	6 - 9	-		7.99	7.89	7.99	7.95	7.82	7.82	7.05
Phenols	mg/L	0.001	-	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	106	120	124	112	92	116	13
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1	0.26	0.48	<0.1	0.23	0.3	0.27	0.49
Total Organic Carbon	mg/L	-	-	-	-		-	-	-	-	-	-	-
Total Phosphorus	mg/L	0.03	-	-	-	0.01, 0.02	<0.01	0.03	<0.01	<0.01	0.03	0.02	<0.02
Total Suspended Solids	mg/L	-	-	-	-	10	<10	<10	<10	<10	<10	<10	94
Turbidity	NTU	-	-	-	-	0.1, 0.5	1.7	3.7	1.3	1.1	10.8	4.1	3
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.000002, 0.00061, 0.1	0.0000155	0.0002411	0.00005	-	0.0001144	0.00009	0.000243
Metals													
Aluminum (diss, 0.2 µm)	mg/L	-	Calculated	-	-	0.004, 0.005	0.028	0.037	0.007	0.029	0.032	0.021	0.026
Aluminum (diss, 0.45 µm)	mg/L	-	Calculated	-	-	0.004	-	-	-	-	-	-	-
Aluminum (tot)	mg/L	-	-	-	-	0.004, 0.0049, 0.01	-	-	-	-	-	-	-
Arsenic (tot)	mg/L	-	0.005	-	-	0.001, 0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Boron (tot)	mg/L	-	0.2	3.55	1.5	0.01	0.03	0.026	0.026	0.04	0.036	0.031	0.034
Cadmium (tot)	mg/L	-	Calculated	0.00021	0.000017	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	<0.003	<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	0.0006	<0.0005	<0.0005
Copper (tot)	mg/L	-	Calculated	0.0069	-	0.0009, 0.001, 0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Iron (tot)	mg/L	0.3	-	1	-	0.01, 0.1	0.16	0.67	0.21	0.1	**1.89**	0.64	0.36
Lead (tot)	mg/L	-	Calculated	0.002	-	0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (tot)	mg/L	-	-	-	-	0.002	-	-	-	-	-	-	-
Mercury (diss)	mg/L	0.0002	-	-	-	0.0001	-	-	-	-	-	-	-
Mercury (tot)	mg/L	0.0002	-	-	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Nickel (tot)	mg/L	0.025	-	-	-	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	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Silicon (tot)	mg/L	-	-	-	-	0.18	-	-	-	-	-	-	-
Silver (tot)	mg/L	0.0001	-	-	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Zinc (tot)	mg/L	-	0.02	0.089	0.03	0.005, 0.02	0.008	0.005	<0.005	<0.005	0.006	<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

MHH - South Baptiste WDS Appendix F2: Historical Surface Water Quality						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C
Parameter	Units	PWQO-GENERAL	PWQO-INTERIM	MECP-GD-TA	MECP-GD-TB	Sample ID	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C-QAQC-SU19 (BAP-C)	BAP-C
						Sample Date	2018-Jul-30	2018-Oct-24	2019-May-07	2019-Aug-14	2019-Aug-14	2019-Oct-22
Anions						Detection Limit						
Chloride	mg/L	-	-	180	128	0.1, 0.2, 1	11.8	14.9	17.7	13.4	13.3	16.8
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-
Nitrate as N	mg/L	-	-	-	-	0.05, 0.1	0.13	0.2	0.37	0.16	0.16	0.1
Nitrite as N	mg/L	-	-	-	-	0.01, 0.05, 0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	-	-	100	-	0.1, 0.2, 1	5.67	8.65	12.9	6.27	6.19	11.3
Cations												
Calcium (tot)	mg/L	-	-	-	-	0.00005, 0.05, 0.16, 0.2, 0.32	-	27.9	24.9	28.9	28.6	23.5
Magnesium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.17, 0.34	-	2.04	2.22	1.76	1.75	2.07
Potassium (tot)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 0.58, 1.15	-	3.11	3.8	2.02	1.95	4.57
Sodium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.22, 0.45	-	9.62	10.7	7.58	7.43	11.4
Field Parameters												
pH (Field)	pH units	-	-	-	-		-	-	-	-	-	-
Temperature	deg. C	-	-	-	-		-	-	-	-	-	-
General Chemistry												
% Difference/ Ion Balance (Calcu	%	-	-	-	-		-	-	-	-	-	-
Alkalinity (as CaCO3)	mg/L	See Factsheet	-	-	-	1, 5	77	73	81	76	76	57
Ammonia as N	mg/L	-	-	-	-	0.02, 0.05	0.05	<0.02	0.1	0.03	0.04	0.19
Biochemical Oxygen Demand	mg/L	-	-	-	-	2, 5	<5	<5	<5	<5	<5	<5
Colour	TCU	-	-	-	-	2, 2.5, 5	-	<5	11	23	24	53
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	221	240	222	230	228	184
Hardness (as CaCO3)	mg/L	-	-	-	-	0.5, 1	86.4	78.1	71.3	79.4	78.6	67.2
pH	pH units	6.5 - 8.5	-	6 - 9	-		7.77	7.85	7.43	7.66	7.68	7.57
Phenols	mg/L	0.001	-	0.04	0.004	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.005
Total Dissolved Solids	mg/L	-	-	-	-	10, 20	126	132	128	118	118	122
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1	0.17	0.13	<0.1	0.23	0.24	0.36
Total Organic Carbon	mg/L	-	-	-	-		-	-	-	-	-	-
Total Phosphorus	mg/L	0.03	-	-	-	0.01, 0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04
Total Suspended Solids	mg/L	-	-	-	-	10	<10	<10	<10	<10	<10	14
Turbidity	NTU	-	-	-	-	0.1, 0.5	-	2.2	1.7	2.6	2.7	10.5
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.000002, 0.00061, 0.1	0.0002358	0.0000961	-	-	-	-
Metals												
Aluminum (diss, 0.2 µm)	mg/L	-	Calculated	-	-	0.004, 0.005	0.011	0.006	0.028	0.007	0.007	0.048
Aluminum (diss, 0.45 µm)	mg/L	-	Calculated	-	-	0.004	-	-	-	-	-	-
Aluminum (tot)	mg/L	-	-	-	-	0.004, 0.0049, 0.01	-	-	-	-	-	-
Arsenic (tot)	mg/L	-	0.005	-	-	0.001, 0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Boron (tot)	mg/L	-	0.2	3.55	1.5	0.01	0.028	0.033	0.053	0.028	0.028	0.047
Cadmium (tot)	mg/L	-	Calculated	0.00021	0.000017	0.00009, 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
Cobalt (tot)	mg/L	-	0.0009	-	-	0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Copper (tot)	mg/L	-	Calculated	0.0069	-	0.0009, 0.001, 0.002	-	<0.002	<0.002	<0.002	<0.002	<0.002
Iron (tot)	mg/L	0.3	-	1	-	0.01, 0.1	-	0.05	0.19	0.3	0.29	**1.26**
Lead (tot)	mg/L	-	Calculated	0.002	-	0.0005, 0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (tot)	mg/L	-	-	-	-	0.002	-	-	-	-	-	-
Mercury (diss)	mg/L	0.0002	-	-	-	0.0001	-	-	<0.0001	<0.0001	<0.0001	<0.0001
Mercury (tot)	mg/L	0.0002	-	-	-	0.0001	<0.0001	<0.0001	-	-	-	-
Nickel (tot)	mg/L	0.025	-	-	-	0.001, 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	<0.004	<0.004
Silicon (tot)	mg/L	-	-	-	-	0.18	-	-	-	-	-	-
Silver (tot)	mg/L	0.0001	-	-	-	0.00009, 0.0001	-	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Zinc (tot)	mg/L	-	0.02	0.089	0.03	0.005, 0.02	-	<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 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

MHH - South Baptiste WDS Appendix F2: Historical Surface Water Quality						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C
Parameter	Units	PWQO-GENERAL	PWQO-INTERIM	MECP-GD-TA	MECP-GD-TB	Sample ID	BAP-C-QAQC-F19 (BAP-C)	BAP-C	BAP-C	BAP-C	BAP-C-QAQC-F20 (BAP-C)	BAP-C
						Sample Date	2019-Oct-22	2020-May-06	2020-Aug-25	2020-Oct-06	2020-Oct-06	2021-Apr-20
Anions						Detection Limit						
Chloride	mg/L	-	-	180	128	0.1, 0.2, 1	15.5	14.1	12.4	14.4	14.3	11.3
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-
Nitrate as N	mg/L	-	-	-	-	0.05, 0.1	0.08	0.2	0.15	0.16	0.16	0.18
Nitrite as N	mg/L	-	-	-	-	0.01, 0.05, 0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	-	-	100	-	0.1, 0.2, 1	11	10.7	5.42	5.84	5.87	8.73
Cations												
Calcium (tot)	mg/L	-	-	-	-	0.00005, 0.05, 0.16, 0.2, 0.32	23.2	24.09	32.38	26.31	27.32	25.8
Magnesium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.17, 0.34	1.85	1.83	2.06	1.95	1.96	1.98
Potassium (tot)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 0.58, 1.15	3.94	2.61	2.58	3.14	3.33	2.59
Sodium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.22, 0.45	10.4	8.57	9.73	9.8	10.12	8.96
Field Parameters												
pH (Field)	pH units	-	-	-	-		-	-	-	-	-	-
Temperature	deg. C	-	-	-	-		-	-	-	-	-	-
General Chemistry												
% Difference/ Ion Balance (Calcu	%	-	-	-	-		-	-	-	-	-	-
Alkalinity (as CaCO3)	mg/L	See Factsheet	-	-	-	1, 5	57	61	102	83	83	63
Ammonia as N	mg/L	-	-	-	-	0.02, 0.05	0.16	0.03	<0.02	<0.02	<0.02	<0.02
Biochemical Oxygen Demand	mg/L	-	-	-	-	2, 5	<5	<5	<2	<5	<5	<2
Colour	TCU	-	-	-	-	2, 2.5, 5	49	31	28	41	40	31
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	180	234	218	202	203	206
Hardness (as CaCO3)	mg/L	-	-	-	-	0.5, 1	65.5	67.7	89.3	73.7	76.3	72.6
pH	pH units	6.5 - 8.5	-	6 - 9	-		7.56	7.45	7.1	7.24	7.23	7.71
Phenols	mg/L	0.001	-	0.04	0.004	0.001	0.005	<0.001	<0.001	<0.001	<0.001	<0.001
Total Dissolved Solids	mg/L	-	-	-	-	10, 20	118	108	126	122	124	116
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1	0.36	0.25	0.25	0.29	0.28	0.37
Total Organic Carbon	mg/L	-	-	-	-		-	-	-	-	-	-
Total Phosphorus	mg/L	0.03	-	-	-	0.01, 0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02
Total Suspended Solids	mg/L	-	-	-	-	10	12	<10	<10	<10	<10	<10
Turbidity	NTU	-	-	-	-	0.1, 0.5	12.3	2.1	3.4	2	1.8	1.6
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.000002, 0.00061, 0.1	-	-	-	-	-	-
Metals												
Aluminum (diss, 0.2 µm)	mg/L	-	Calculated	-	-	0.004, 0.005	0.048	<0.004	0.008	0.01	0.01	-
Aluminum (diss, 0.45 µm)	mg/L	-	Calculated	-	-	0.004	-	-	-	-	-	0.017
Aluminum (tot)	mg/L	-	-	-	-	0.004, 0.0049, 0.01	-	0.059	0.023	0.032	0.03	0.041
Arsenic (tot)	mg/L	-	0.005	-	-	0.001, 0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Boron (tot)	mg/L	-	0.2	3.55	1.5	0.01	0.046	0.039	0.033	0.035	0.033	0.037
Cadmium (tot)	mg/L	-	Calculated	0.00021	0.000017	0.00009, 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
Cobalt (tot)	mg/L	-	0.0009	-	-	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Copper (tot)	mg/L	-	Calculated	0.0069	-	0.0009, 0.001, 0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.005
Iron (tot)	mg/L	0.3	-	1	-	0.01, 0.1	**1.23**	0.288	0.496	0.271	0.266	0.294
Lead (tot)	mg/L	-	Calculated	0.002	-	0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (tot)	mg/L	-	-	-	-	0.002	-	-	-	-	-	-
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	-	-	-	-	-	-
Nickel (tot)	mg/L	0.025	-	-	-	0.001, 0.003	<0.003	<0.003	<0.003	<0.003	<0.003	0.009
Selenium (tot)	mg/L	0.1	-	-	-	0.002, 0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Silicon (tot)	mg/L	-	-	-	-	0.18	-	-	-	-	-	-
Silver (tot)	mg/L	0.0001	-	-	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Zinc (tot)	mg/L	-	0.02	0.089	0.03	0.005, 0.02	<0.005	<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 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

MHH - South Baptiste WDS Appendix F2: Historical Surface Water Quality						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C
Parameter	Units	PWQO-GENERAL	PWQO-INTERIM	MECP-GD-TA	MECP-GD-TB	Sample ID	BAP-C	BAP-C	BAP-C	BAP-C	SB-QAQC SW-SU22 (BAP-C)	BAP-C	BAP-C
						Sample Date	2021-Jul-14	2021-Oct-21	2022-May-03	2022-Aug-04	2022-Aug-04	2022-Oct-18	2023-May-03
Anions						Detection Limit							
Chloride	mg/L	-	-	180	128	0.1, 0.2, 1	9.65	11.2	9.15	8.44	8.33	12.1	-
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-	-
Nitrate as N	mg/L	-	-	-	-	0.05, 0.1	0.09	0.18	0.18	0.12	0.12	0.19	-
Nitrite as N	mg/L	-	-	-	-	0.01, 0.05, 0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-
Sulphate	mg/L	-	-	100	-	0.1, 0.2, 1	4.49	6.3	8.75	5.2	5.19	5.84	-
Cations													
Calcium (tot)	mg/L	-	-	-	-	0.00005, 0.05, 0.16, 0.2, 0.32	25.8	26.6	26.2	38.1	30.8	24.9	-
Magnesium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.17, 0.34	1.71	2.1	1.79	2.22	1.91	2.3	-
Potassium (tot)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 0.58, 1.15	2.2	4.14	2.23	3.08	2.43	3.2	-
Sodium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.22, 0.45	8.73	8.84	7.54	10.5	7.97	10.1	-
Field Parameters													
pH (Field)	pH units	-	-	-	-		-	-	-	-	-	-	-
Temperature	deg. C	-	-	-	-		-	-	-	-	-	-	-
General Chemistry													
% Difference/ Ion Balance (Calcu	%	-	-	-	-		-	-	-	-	-	0.464	-
Alkalinity (as CaCO3)	mg/L	See Factsheet	-	-	-	1, 5	72	72	66	85	84	73	-
Ammonia as N	mg/L	-	-	-	-	0.02, 0.05	0.02	0.09	<0.02	<0.02	<0.02	<0.02	-
Biochemical Oxygen Demand	mg/L	-	-	-	-	2, 5	<2	<2	<2	<2	<2	<2	-
Colour	TCU	-	-	-	-	2, 2.5, 5	102	41	21.5	60.8	60	22.8	-
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	181	194	190	204	204	202	-
Hardness (as CaCO3)	mg/L	-	-	-	-	0.5, 1	71.5	75.1	72.8	104	84.8	71.6	-
pH	pH units	6.5 - 8.5	-	6 - 9	-		7.4	7.41	7.16	7.63	7.6	7.77	-
Phenols	mg/L	0.001	-	0.04	0.004	0.001	<0.001	<0.001	<0.001	0.002	0.002	0.003	<0.001
Total Dissolved Solids	mg/L	-	-	-	-	10, 20	130	124	96	128	126	124	-
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1	0.38	0.32	0.17	0.33	0.45	0.38	-
Total Organic Carbon	mg/L	-	-	-	-		-	-	-	-	-	-	-
Total Phosphorus	mg/L	0.03	-	-	-	0.01, 0.02	0.03	0.04	<0.02	0.04	0.06	0.07	-
Total Suspended Solids	mg/L	-	-	-	-	10	<10	33	<10	<10	<10	<10	-
Turbidity	NTU	-	-	-	-	0.1, 0.5	7.4	13.6	0.9	5.8	5.4	2.1	-
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.000002, 0.00061, 0.1	-	-	-	<0.000002	<0.000002	<0.000002	-
Metals													
Aluminum (diss, 0.2 µm)	mg/L	-	Calculated	-	-	0.004, 0.005	-	-	0.021	-	-	-	-
Aluminum (diss, 0.45 µm)	mg/L	-	Calculated	-	-	0.004	0.036	0.019	-	0.01	0.019	0.011	-
Aluminum (tot)	mg/L	-	-	-	-	0.004, 0.0049, 0.01	0.095	0.175	-	0.061	0.102	0.029	-
Arsenic (tot)	mg/L	-	0.005	-	-	0.001, 0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	-
Boron (tot)	mg/L	-	0.2	3.55	1.5	0.01	0.044	0.041	0.037	0.039	0.04	-	-
Cadmium (tot)	mg/L	-	Calculated	0.00021	0.000017	0.00009, 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	-	-
Cobalt (tot)	mg/L	-	0.0009	-	-	0.0005	<0.0005	0.0009	<0.0005	<0.0005	<0.0005	<0.0005	-
Copper (tot)	mg/L	-	Calculated	0.0069	-	0.0009, 0.001, 0.002	<0.002	<0.002	<0.002	<0.002	0.006	<0.002	-
Iron (tot)	mg/L	0.3	-	1	-	0.01, 0.1	**2.21**	**3.35**	0.493	0.983	0.905	0.293	-
Lead (tot)	mg/L	-	Calculated	0.002	-	0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-
Manganese (tot)	mg/L	-	-	-	-	0.002	-	-	-	-	-	0.026	-
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	-	-	-	-	-	-	-
Nickel (tot)	mg/L	0.025	-	-	-	0.001, 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	<0.002	<0.002	<0.002	<0.002	<0.002	-
Silicon (tot)	mg/L	-	-	-	-	0.18	-	-	-	-	-	-	-
Silver (tot)	mg/L	0.0001	-	-	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	-
Zinc (tot)	mg/L	-	0.02	0.089	0.03	0.005, 0.02	<0.005	<0.02	<0.02	<0.02	<0.02	<0.02	-

-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

MHH - South Baptiste WDS Appendix F2: Historical Surface Water Quality						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C	BAP-C
Parameter	Units	PWQO-GENERAL	PWQO-INTERIM	MECP-GD-TA	MECP-GD-TB	Sample ID	BAP-C	BAP-C	SB-QAQC SW1 (BAP-C)	BAP-C	BAP-C	BAP-C	BAP-C
						Sample Date	2023-May-04	2023-Aug-09	2023-Aug-09	2023-Oct-19	2024-Apr-29	2024-Jul-10	2024-Oct-29
Anions						Detection Limit							
Chloride	mg/L	-	-	180	128	0.1, 0.2, 1	7.33	6.9	6.9	12	7.9	8.9	9.2
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	0.14	0.14	0.22	0.19	0.19	-
Nitrate as N	mg/L	-	-	-	-	0.05, 0.1	0.12	0.14	0.14	0.22	0.19	0.19	-
Nitrite as N	mg/L	-	-	-	-	0.01, 0.05, 0.1	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	-
Sulphate	mg/L	-	-	100	-	0.1, 0.2, 1	6.38	5.2	5.2	7.6	8.3	5	6.6
Cations													
Calcium (tot)	mg/L	-	-	-	-	0.00005, 0.05, 0.16, 0.2, 0.32	25.1	30	29	32	25	29	29
Magnesium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.17, 0.34	1.73	1.8	1.7	2.3	1.6	2	1.9
Potassium (tot)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 0.58, 1.15	1.87	2.1	2	3.3	1.9	2.7	2.4
Sodium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.22, 0.45	6.64	7.3	7.2	10	6.9	7.9	7
Field Parameters													
pH (Field)	pH units	-	-	-	-		-	7.5	7.5	7.33	6.62	6.32	-
Temperature	deg. C	-	-	-	-		-	13.9	13.9	8.5	6.2	13.1	-
General Chemistry													
% Difference/ Ion Balance (Calcu	%	-	-	-	-		-	-	-	-	-	-	-
Alkalinity (as CaCO3)	mg/L	See Factsheet	-	-	-	1, 5	60	86	85	87	70	82	82
Ammonia as N	mg/L	-	-	-	-	0.02, 0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Biochemical Oxygen Demand	mg/L	-	-	-	-	2, 5	<2	12	<2	<2	<2	3	<2
Colour	TCU	-	-	-	-	2, 2.5, 5	31.1	23	23	13	26	54	10
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	156	200	200	230	170	200	210
Hardness (as CaCO3)	mg/L	-	-	-	-	0.5, 1	69.8	89	84	88	77	83	90
pH	pH units	6.5 - 8.5	-	6 - 9	-		7.6	7.81	7.79	8.01	8	7.82	7.87
Phenols	mg/L	0.001	-	0.04	0.004	0.001	-	<0.001	0.001	<0.001	0.0013	<0.001	<0.001
Total Dissolved Solids	mg/L	-	-	-	-	10, 20	82	115	120	95	125	105	130
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1	0.22	0.16	0.17	0.22	0.2	0.4	-
Total Organic Carbon	mg/L	-	-	-	-		-	-	-	-	-	-	-
Total Phosphorus	mg/L	0.03	-	-	-	0.01, 0.02	<0.02	<0.02	<0.02	0.02	<0.02	0.061	<0.02
Total Suspended Solids	mg/L	-	-	-	-	10	<10	<10	<10	<10	<10	52	<10
Turbidity	NTU	-	-	-	-	0.1, 0.5	1.2	3	3	0.9	0.9	14	1.1
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.000002, 0.00061, 0.1	<0.000002	<0.00061	<0.00061	<0.00061	<0.00061	<0.00061	<0.00061
Metals													
Aluminum (diss, 0.2 µm)	mg/L	-	Calculated	-	-	0.004, 0.005	0.022	0.009	0.01	0.005	0.02	0.019	0.006
Aluminum (diss, 0.45 µm)	mg/L	-	Calculated	-	-	0.004	-	-	-	-	-	-	-
Aluminum (tot)	mg/L	-	-	-	-	0.004, 0.0049, 0.01	-	0.025	0.021	0.015	0.065	0.44	0.021
Arsenic (tot)	mg/L	-	0.005	-	-	0.001, 0.003	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron (tot)	mg/L	-	0.2	3.55	1.5	0.01	0.034	0.029	0.029	0.039	0.029	0.04	0.026
Cadmium (tot)	mg/L	-	Calculated	0.00021	0.000017	0.00009, 0.0001	<0.0001	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009
Chromium (tot)	mg/L	-	-	0.064	-	0.003, 0.005	<0.003	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Cobalt (tot)	mg/L	-	0.0009	-	-	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0013	<0.0005
Copper (tot)	mg/L	-	Calculated	0.0069	-	0.0009, 0.001, 0.002	<0.001	<0.0009	<0.0009	<0.0009	0.00094	0.0025	<0.0009
Iron (tot)	mg/L	0.3	-	1	-	0.01, 0.1	0.311	0.66	0.63	0.23	0.35	**7.1**	0.3
Lead (tot)	mg/L	-	Calculated	0.002	-	0.0005, 0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	0.00072	<0.0005
Manganese (tot)	mg/L	-	-	-	-	0.002	-	-	-	-	-	-	-
Mercury (diss)	mg/L	0.0002	-	-	-	0.0001	<0.0001	-	-	-	<0.0001	<0.0001	<0.0001
Mercury (tot)	mg/L	0.0002	-	-	-	0.0001	-	<0.0001	<0.0001	<0.0001	-	-	-
Nickel (tot)	mg/L	0.025	-	-	-	0.001, 0.003	<0.003	<0.001	<0.001	<0.001	<0.001	0.0015	<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
Silicon (tot)	mg/L	-	-	-	-	0.18	3.04	-	-	-	-	-	-
Silver (tot)	mg/L	0.0001	-	-	-	0.00009, 0.0001	<0.0001	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009
Zinc (tot)	mg/L	-	0.02	0.089	0.03	0.005, 0.02	<0.02	<0.005	<0.005	<0.005	<0.005	0.0058	<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

MHH - South Baptiste WDS Appendix F2: Historical Surface Water Quality						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	BAP-C	BAP-C	BAP-C	BAP-D	BAP-D	BAP-D	BAP-D
Parameter	Units	PWQO-GENERAL	PWQO-INTERIM	MECP-GD-TA	MECP-GD-TB	Sample ID	BAP-C	BAP-C	BAP-C	BAP-D	BAP-D	BAP-D	BAP-D
						Sample Date	2025-May-08	2025-Jul-07	2025-Oct-21	2004-Apr-29	2004-Jun-23	2004-Aug-20	2004-Sep-10
Anions						Detection Limit							
Chloride	mg/L	-	-	180	128	0.1, 0.2, 1	7.9	6.8	9.8	5	3	2	4
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	0.25	0.19	0.27	-	-	-	-
Nitrate as N	mg/L	-	-	-	-	0.05, 0.1	0.25	0.19	0.27	<0.1	<0.1	<0.1	<0.1
Nitrite as N	mg/L	-	-	-	-	0.01, 0.05, 0.1	<0.01	<0.01	<0.01	<0.1	<0.1	<0.1	<0.1
Sulphate	mg/L	-	-	100	-	0.1, 0.2, 1	7.8	5.6	5.6	8	8	9	10
Cations													
Calcium (tot)	mg/L	-	-	-	-	0.00005, 0.05, 0.16, 0.2, 0.32	24	31	32	14	25	27	26
Magnesium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.17, 0.34	1.9	2.1	2.4	<1	1	1	1
Potassium (tot)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 0.58, 1.15	2.7	2.8	3.9	<1	<1	<1	<1
Sodium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.22, 0.45	7.6	7.4	8.9	3	3	3	3
Field Parameters													
pH (Field)	pH units	-	-	-	-		7.42	7.44	7.72	-	-	-	-
Temperature	deg. C	-	-	-	-		7.5	13	7.3	-	-	-	-
General Chemistry													
% Difference/ Ion Balance (Calcu	%	-	-	-	-		-	-	-	-	-	-	-
Alkalinity (as CaCO3)	mg/L	See Factsheet	-	-	-	1, 5	71	84	96	38	67	80	70
Ammonia as N	mg/L	-	-	-	-	0.02, 0.05	<0.05	<0.05	<0.05	<0.02	0.02	<0.02	<0.02
Biochemical Oxygen Demand	mg/L	-	-	-	-	2, 5	<2	<2	<2	<1	<1	-	<1
Colour	TCU	-	-	-	-	2, 2.5, 5	23	28	11	48	36	20	28
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	190	210	240	94	155	173	165
Hardness (as CaCO3)	mg/L	-	-	-	-	0.5, 1	74	91	97	37	67	72	69
pH	pH units	6.5 - 8.5	-	6 - 9	-		7.85	7.88	7.95	6.53	7.26	7.49	7.32
Phenols	mg/L	0.001	-	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	140	135	100	61	101	112	107
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1	0.14	0.18	0.16	0.23	0.25	0.17	0.22
Total Organic Carbon	mg/L	-	-	-	-		-	-	-	-	-	-	-
Total Phosphorus	mg/L	0.03	-	-	-	0.01, 0.02	<0.02	0.038	<0.02	0.01	0.03	0.02	0.02
Total Suspended Solids	mg/L	-	-	-	-	10	<10	14	<10	8	7	3	2
Turbidity	NTU	-	-	-	-	0.1, 0.5	0.7	5.7	0.9	1.4	2.4	2.6	2.6
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.000002, 0.00061, 0.1	<0.00061	<0.00061	<0.00061	<0.02	<0.02	<0.02	<0.02
Metals													
Aluminum (diss, 0.2 µm)	mg/L	-	Calculated	-	-	0.004, 0.005	0.022	0.017	<0.005	-	-	-	-
Aluminum (diss, 0.45 µm)	mg/L	-	Calculated	-	-	0.004	-	-	-	-	-	-	-
Aluminum (tot)	mg/L	-	-	-	-	0.004, 0.0049, 0.01	0.039	0.21	0.01	0.08	0.05	0.04	0.05
Arsenic (tot)	mg/L	-	0.005	-	-	0.001, 0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron (tot)	mg/L	-	0.2	3.55	1.5	0.01	0.042	0.036	0.046	-	-	-	-
Cadmium (tot)	mg/L	-	Calculated	0.00021	0.000017	0.00009, 0.0001	<0.00009	<0.00009	<0.00009	<0.0001	<0.0001	<0.0001	<0.0001
Chromium (tot)	mg/L	-	-	0.064	-	0.003, 0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<0.001
Cobalt (tot)	mg/L	-	0.0009	-	-	0.0005	<0.0005	<0.0005	<0.0005	<0.0002	0.0003	<0.0002	<0.0002
Copper (tot)	mg/L	-	Calculated	0.0069	-	0.0009, 0.001, 0.002	<0.0009	0.0012	<0.0009	0.002	<0.001	<0.001	<0.001
Iron (tot)	mg/L	0.3	-	1	-	0.01, 0.1	0.21	**2**	0.12	0.38	0.88	0.72	0.73
Lead (tot)	mg/L	-	Calculated	0.002	-	0.0005, 0.001	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001
Manganese (tot)	mg/L	-	-	-	-	0.002	-	-	-	-	-	-	-
Mercury (diss)	mg/L	0.0002	-	-	-	0.0001	<0.0001	<0.0001	<0.0001	-	-	-	-
Mercury (tot)	mg/L	0.0002	-	-	-	0.0001	-	-	-	<0.0001	<0.0001	<0.0001	<0.0001
Nickel (tot)	mg/L	0.025	-	-	-	0.001, 0.003	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005
Selenium (tot)	mg/L	0.1	-	-	-	0.002, 0.004	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001
Silicon (tot)	mg/L	-	-	-	-	0.18	-	-	-	-	-	-	-
Silver (tot)	mg/L	0.0001	-	-	-	0.00009, 0.0001	<0.00009	<0.00009	<0.00009	<0.0001	<0.0001	<0.0001	<0.0001
Zinc (tot)	mg/L	-	0.02	0.089	0.03	0.005, 0.02	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01

-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

MHH - South Baptiste WDS Appendix F2: Historical Surface Water Quality						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D
Parameter	Units	PWQO-GENERAL	PWQO-INTERIM	MECP-GD-TA	MECP-GD-TB	Sample ID	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D
						Sample Date	2004-Oct-28	2005-May-03	2005-Jul-27	2005-Sep-01	2005-Sep-16	2005-Oct-24	2006-May-10
Anions						Detection Limit							
Chloride	mg/L	-	-	180	128	0.1, 0.2, 1	3	8.8	9.3	7	-	61	5
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-	-
Nitrate as N	mg/L	-	-	-	-	0.05, 0.1	<0.1	0.47	0.83	0.6	-	1.8	<0.1
Nitrite as N	mg/L	-	-	-	-	0.01, 0.05, 0.1	<0.1	-	-	-	-	-	<0.1
Sulphate	mg/L	-	-	100	-	0.1, 0.2, 1	11	12	10	10	-	11	10
Cations													
Calcium (tot)	mg/L	-	-	-	-	0.00005, 0.05, 0.16, 0.2, 0.32	28	16.1	25.1	29.8	-	19.1	26
Magnesium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.17, 0.34	1	1.04	1.28	3.56	-	1.02	1
Potassium (tot)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 0.58, 1.15	1	0.5	1	0.9	-	2	<1
Sodium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.22, 0.45	3	3.6	3	2.3	-	54.2	2
Field Parameters													
pH (Field)	pH units	-	-	-	-		-	-	-	-	-	-	-
Temperature	deg. C	-	-	-	-		-	-	-	-	-	-	-
General Chemistry													
% Difference/ Ion Balance (Calcu	%	-	-	-	-		-	-	-	-	-	-	-
Alkalinity (as CaCO3)	mg/L	See Factsheet	-	-	-	1, 5	74	34	70	74	-	40	61
Ammonia as N	mg/L	-	-	-	-	0.02, 0.05	0.04	<0.05	0.06	0.09	-	0.42	<0.02
Biochemical Oxygen Demand	mg/L	-	-	-	-	2, 5	-	3	-	-	3	2	1
Colour	TCU	-	-	-	-	2, 2.5, 5	17	56	59	37	-	65	27
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	177	95	131	166	148	307	151
Hardness (as CaCO3)	mg/L	-	-	-	-	0.5, 1	74	45	68	89	-	52	69
pH	pH units	6.5 - 8.5	-	6 - 9	-		7.26	-	6.45	-	-	6.26	7.37
Phenols	mg/L	0.001	-	0.04	0.004	0.001	<0.001	<0.001	-	-	0.07	<0.001	<0.001
Total Dissolved Solids	mg/L	-	-	-	-	10, 20	115	63	-	-	98	203	98
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1	0.18	0.5	0.8	0.4	-	0.9	0.26
Total Organic Carbon	mg/L	-	-	-	-		-	5.8	-	-	-	-	-
Total Phosphorus	mg/L	0.03	-	-	-	0.01, 0.02	0.03	0.01	0.02	0.03	-	0.01	0.03
Total Suspended Solids	mg/L	-	-	-	-	10	5	12	-	-	18	559	4
Turbidity	NTU	-	-	-	-	0.1, 0.5	2.4	-	-	-	-	-	1.2
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.000002, 0.00061, 0.1	<0.02	<0.05	<0.05	<0.05	-	<0.05	-
Metals													
Aluminum (diss, 0.2 µm)	mg/L	-	Calculated	-	-	0.004, 0.005	-	-	-	-	-	-	-
Aluminum (diss, 0.45 µm)	mg/L	-	Calculated	-	-	0.004	-	-	-	-	-	-	-
Aluminum (tot)	mg/L	-	-	-	-	0.004, 0.0049, 0.01	0.02	0.1	0.06	0.09	-	2.59	0.05
Arsenic (tot)	mg/L	-	0.005	-	-	0.001, 0.003	<0.001	<0.001	<0.03	<0.03	0.001	<0.001	<0.001
Boron (tot)	mg/L	-	0.2	3.55	1.5	0.01	-	-	-	-	-	-	-
Cadmium (tot)	mg/L	-	Calculated	0.00021	0.000017	0.00009, 0.0001	<0.0001	<0.0001	<0.005	<0.005	<0.001	<0.0001	<0.0001
Chromium (tot)	mg/L	-	-	0.064	-	0.003, 0.005	<0.001	-	<0.002	<0.002	<0.002	0.004	-
Cobalt (tot)	mg/L	-	0.0009	-	-	0.0005	<0.0002	0.0002	<0.005	<0.005	<0.005	<0.0005	<0.0002
Copper (tot)	mg/L	-	Calculated	0.0069	-	0.0009, 0.001, 0.002	<0.001	-	-	-	-	-	<0.001
Iron (tot)	mg/L	0.3	-	1	-	0.01, 0.1	0.53	0.593	**1.11**	0.784	0.753	**3.81**	0.27
Lead (tot)	mg/L	-	Calculated	0.002	-	0.0005, 0.001	<0.001	<0.0005	<0.02	<0.02	<0.001	0.0001	<0.001
Manganese (tot)	mg/L	-	-	-	-	0.002	-	-	-	-	-	-	-
Mercury (diss)	mg/L	0.0002	-	-	-	0.0001	-	-	-	-	-	-	-
Mercury (tot)	mg/L	0.0002	-	-	-	0.0001	<0.0001	<0.00006	-	-	<0.00006	<0.00006	<0.0001
Nickel (tot)	mg/L	0.025	-	-	-	0.001, 0.003	<0.005	<0.01	<0.01	<0.01	-	<0.01	<0.005
Selenium (tot)	mg/L	0.1	-	-	-	0.002, 0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silicon (tot)	mg/L	-	-	-	-	0.18	-	-	-	-	-	-	-
Silver (tot)	mg/L	0.0001	-	-	-	0.00009, 0.0001	<0.0001	<0.0001	<0.005	<0.005	<0.001	<0.0005	<0.0001
Zinc (tot)	mg/L	-	0.02	0.089	0.03	0.005, 0.02	<0.01	<0.005	0.007	0.011	<0.005	0.026	<0.01

-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

MHH - South Baptiste WDS Appendix F2: Historical Surface Water Quality						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D
Parameter	Units	PWQO-GENERAL	PWQO-INTERIM	MECP-GD-TA	MECP-GD-TB	Sample ID	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D
						Sample Date	2006-Jul-19	2006-Aug-21	2006-Sep-19	2006-Nov-20	2007-May-02	2007-Jun-04	2007-Aug-15
Anions						Detection Limit							
Chloride	mg/L	-	-	180	128	0.1, 0.2, 1	5	4	4	3	3	2	2
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-	-
Nitrate as N	mg/L	-	-	-	-	0.05, 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nitrite as N	mg/L	-	-	-	-	0.01, 0.05, 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Sulphate	mg/L	-	-	100	-	0.1, 0.2, 1	7	8	10	10	9	8	7
Cations													
Calcium (tot)	mg/L	-	-	-	-	0.00005, 0.05, 0.16, 0.2, 0.32	31	32	33	19	24	26	36
Magnesium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.17, 0.34	1	1	1	1	1	1	1
Potassium (tot)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 0.58, 1.15	<1	<1	<1	<1	<1	<1	<1
Sodium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.22, 0.45	2	<2	3	3	<2	2	<2
Field Parameters													
pH (Field)	pH units	-	-	-	-		-	-	-	-	-	-	-
Temperature	deg. C	-	-	-	-		-	-	-	-	-	-	-
General Chemistry													
% Difference/ Ion Balance (Calcu	%	-	-	-	-		-	-	-	-	-	-	-
Alkalinity (as CaCO3)	mg/L	See Factsheet	-	-	-	1, 5	80	86	73	45	59	66	87
Ammonia as N	mg/L	-	-	-	-	0.02, 0.05	0.1	<0.02	0.02	0.02	0.02	0.09	0.04
Biochemical Oxygen Demand	mg/L	-	-	-	-	2, 5	3	<1	<1	<1	<1	1	<1
Colour	TCU	-	-	-	-	2, 2.5, 5	35	25	23	49	37	63	19
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	180	190	172	123	141	151	193
Hardness (as CaCO3)	mg/L	-	-	-	-	0.5, 1	82	84	87	52	64	69	94
pH	pH units	6.5 - 8.5	-	6 - 9	-		7.45	7.34	7.06	7.23	6.9	8	8.22
Phenols	mg/L	0.001	-	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	117	123	112	80	92	98	125
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1	0.34	0.25	0.17	0.24	0.14	0.27	0.15
Total Organic Carbon	mg/L	-	-	-	-		-	-	-	-	-	-	-
Total Phosphorus	mg/L	0.03	-	-	-	0.01, 0.02	<0.01	<0.01	0.07	0.01	<0.01	0.02	0.03
Total Suspended Solids	mg/L	-	-	-	-	10	7	3	4	4	<2	<2	<2
Turbidity	NTU	-	-	-	-	0.1, 0.5	2.4	2.5	2.4	2.2	1.3	3.1	2
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.000002, 0.00061, 0.1	-	-	-	-	-	-	-
Metals													
Aluminum (diss, 0.2 µm)	mg/L	-	Calculated	-	-	0.004, 0.005	-	-	-	-	-	-	-
Aluminum (diss, 0.45 µm)	mg/L	-	Calculated	-	-	0.004	-	-	-	-	-	-	-
Aluminum (tot)	mg/L	-	-	-	-	0.004, 0.0049, 0.01	0.04	0.16	0.04	0.09	0.05	0.07	0.01
Arsenic (tot)	mg/L	-	0.005	-	-	0.001, 0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron (tot)	mg/L	-	0.2	3.55	1.5	0.01	-	-	-	-	-	-	-
Cadmium (tot)	mg/L	-	Calculated	0.00021	0.000017	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	<0.001	-	-	<0.001	<0.001	0.001	<0.001
Cobalt (tot)	mg/L	-	0.0009	-	-	0.0005	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002
Copper (tot)	mg/L	-	Calculated	0.0069	-	0.0009, 0.001, 0.002	<0.001	<0.001	<0.001	0.002	0.001	0.001	<0.001
Iron (tot)	mg/L	0.3	-	1	-	0.01, 0.1	0.57	0.58	0.38	0.38	0.26	**1.29**	0.33
Lead (tot)	mg/L	-	Calculated	0.002	-	0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (tot)	mg/L	-	-	-	-	0.002	-	-	-	-	-	-	-
Mercury (diss)	mg/L	0.0002	-	-	-	0.0001	-	-	-	-	-	-	-
Mercury (tot)	mg/L	0.0002	-	-	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Nickel (tot)	mg/L	0.025	-	-	-	0.001, 0.003	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Selenium (tot)	mg/L	0.1	-	-	-	0.002, 0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silicon (tot)	mg/L	-	-	-	-	0.18	-	-	-	-	-	-	-
Silver (tot)	mg/L	0.0001	-	-	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Zinc (tot)	mg/L	-	0.02	0.089	0.03	0.005, 0.02	<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 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

MHH - South Baptiste WDS Appendix F2: Historical Surface Water Quality						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D
Parameter	Units	PWQO-GENERAL	PWQO-INTERIM	MECP-GD-TA	MECP-GD-TB	Sample ID	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D
						Sample Date	2007-Sep-27	2007-Nov-22	2008-May-09	2008-Jun-19	2008-Aug-21	2008-Sep-16	2008-Oct-09
Anions						Detection Limit							
Chloride	mg/L	-	-	180	128	0.1, 0.2, 1	3	3	3	3	1	4	4
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-	-
Nitrate as N	mg/L	-	-	-	-	0.05, 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nitrite as N	mg/L	-	-	-	-	0.01, 0.05, 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Sulphate	mg/L	-	-	100	-	0.1, 0.2, 1	8	13	8	5	6	9	7
Cations													
Calcium (tot)	mg/L	-	-	-	-	0.00005, 0.05, 0.16, 0.2, 0.32	35	28	16	17	22	19	19
Magnesium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.17, 0.34	1	1	<1	1	1	1	1
Potassium (tot)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 0.58, 1.15	<1	<1	<1	<1	<1	<1	1
Sodium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.22, 0.45	3	2	2	3	3	3	3
Field Parameters													
pH (Field)	pH units	-	-	-	-		-	-	-	-	-	-	-
Temperature	deg. C	-	-	-	-		-	-	-	-	-	-	-
General Chemistry													
% Difference/ Ion Balance (Calcu	%	-	-	-	-		-	-	-	-	-	-	-
Alkalinity (as CaCO3)	mg/L	See Factsheet	-	-	-	1, 5	88	69	38	44	58	45	51
Ammonia as N	mg/L	-	-	-	-	0.02, 0.05	0.02	0.03	<0.02	0.03	<0.02	0.02	0.07
Biochemical Oxygen Demand	mg/L	-	-	-	-	2, 5	<1	<1	<1	2	<1	<1	<1
Colour	TCU	-	-	-	-	2, 2.5, 5	17	19	63	98	42	84	61
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	194	173	104	105	132	122	131
Hardness (as CaCO3)	mg/L	-	-	-	-	0.5, 1	92	74	42	47	59	52	52
pH	pH units	6.5 - 8.5	-	6 - 9	-		7.91	7.91	7.66	7.57	7.77	7.65	7.68
Phenols	mg/L	0.001	-	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	126	112	68	68	86	79	85
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1	0.31	0.25	0.44	0.34	0.39	0.74	0.38
Total Organic Carbon	mg/L	-	-	-	-		-	-	-	-	-	-	-
Total Phosphorus	mg/L	0.03	-	-	-	0.01, 0.02	<0.02	0.11	<0.01	0.02	0.01	0.03	0.02
Total Suspended Solids	mg/L	-	-	-	-	10	<2	26	<2	8	4	3	15
Turbidity	NTU	-	-	-	-	0.1, 0.5	1.9	5.3	1.6	2.8	6.4	4	-
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.000002, 0.00061, 0.1	-	-	<0.02	-	-	-	-
Metals													
Aluminum (diss, 0.2 µm)	mg/L	-	Calculated	-	-	0.004, 0.005	-	-	-	-	-	-	-
Aluminum (diss, 0.45 µm)	mg/L	-	Calculated	-	-	0.004	-	-	-	-	-	-	-
Aluminum (tot)	mg/L	-	-	-	-	0.004, 0.0049, 0.01	<0.01	<0.01	0.06	0.12	0.03	0.08	0.07
Arsenic (tot)	mg/L	-	0.005	-	-	0.001, 0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron (tot)	mg/L	-	0.2	3.55	1.5	0.01	-	-	-	<0.01	<0.01	<0.01	<0.01
Cadmium (tot)	mg/L	-	Calculated	0.00021	0.000017	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	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001
Cobalt (tot)	mg/L	-	0.0009	-	-	0.0005	<0.0002	0.0005	<0.0002	0.0006	0.0002	0.0003	0.0003
Copper (tot)	mg/L	-	Calculated	0.0069	-	0.0009, 0.001, 0.002	<0.001	0.001	0.001	0.002	<0.001	0.002	0.001
Iron (tot)	mg/L	0.3	-	1	-	0.01, 0.1	0.4	**1.86**	0.39	**1.83**	0.82	**1.07**	0.74
Lead (tot)	mg/L	-	Calculated	0.002	-	0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (tot)	mg/L	-	-	-	-	0.002	-	-	-	-	-	-	-
Mercury (diss)	mg/L	0.0002	-	-	-	0.0001	-	-	-	-	-	-	-
Mercury (tot)	mg/L	0.0002	-	-	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Nickel (tot)	mg/L	0.025	-	-	-	0.001, 0.003	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Selenium (tot)	mg/L	0.1	-	-	-	0.002, 0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silicon (tot)	mg/L	-	-	-	-	0.18	-	-	-	-	-	-	-
Silver (tot)	mg/L	0.0001	-	-	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Zinc (tot)	mg/L	-	0.02	0.089	0.03	0.005, 0.02	<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 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

MHH - South Baptiste WDS Appendix F2: Historical Surface Water Quality						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D
Parameter	Units	PWQO-GENERAL	PWQO-INTERIM	MECP-GD-TA	MECP-GD-TB	Sample ID	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D
						Sample Date	2009-Jun-04	2009-Jul-16	2009-Aug-06	2009-Sep-16	2009-Oct-23	2010-May-17	2010-Jul-19
Anions						Detection Limit							
Chloride	mg/L	-	-	180	128	0.1, 0.2, 1	2	1	1	2	3	2	3
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-	-
Nitrate as N	mg/L	-	-	-	-	0.05, 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nitrite as N	mg/L	-	-	-	-	0.01, 0.05, 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Sulphate	mg/L	-	-	100	-	0.1, 0.2, 1	6	6	5	6	5	5	4
Cations													
Calcium (tot)	mg/L	-	-	-	-	0.00005, 0.05, 0.16, 0.2, 0.32	18	22	22	20	16	19	22
Magnesium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.17, 0.34	<1	1	<1	1	1	<1	1
Potassium (tot)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 0.58, 1.15	<1	<1	<1	<1	1	<1	<1
Sodium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.22, 0.45	3	2	4	3	3	4	<2
Field Parameters													
pH (Field)	pH units	-	-	-	-		-	-	-	-	-	-	-
Temperature	deg. C	-	-	-	-		-	-	-	-	-	-	-
General Chemistry													
% Difference/ Ion Balance (Calcu	%	-	-	-	-		-	-	-	-	-	-	-
Alkalinity (as CaCO3)	mg/L	See Factsheet	-	-	-	1, 5	52	62	60	62	50	54	63
Ammonia as N	mg/L	-	-	-	-	0.02, 0.05	0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02
Biochemical Oxygen Demand	mg/L	-	-	-	-	2, 5	<1	<1	<1	-	<1	5	1
Colour	TCU	-	-	-	-	2, 2.5, 5	56	39	109	43	78	46	100
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	119	137	127	134	118	127	136
Hardness (as CaCO3)	mg/L	-	-	-	-	0.5, 1	47	59	57	54	44	49.5	59
pH	pH units	6.5 - 8.5	-	6 - 9	-		7.58	7.8	7.63	7.81	7.69	7.74	7.67
Phenols	mg/L	0.001	-	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	77	89	83	87	77	83	88
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1	0.13	0.24	0.44	0.48	0.47	0.16	0.39
Total Organic Carbon	mg/L	-	-	-	-		-	-	-	-	-	-	-
Total Phosphorus	mg/L	0.03	-	-	-	0.01, 0.02	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.02
Total Suspended Solids	mg/L	-	-	-	-	10	<2	16	8	<2	<2	<2	5
Turbidity	NTU	-	-	-	-	0.1, 0.5	1.7	6.2	4.6	5.1	2.6	1.4	11.5
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.000002, 0.00061, 0.1	0.0001582	<0.00013	0.0003022	-	<0.000003	-	-
Metals													
Aluminum (diss, 0.2 µm)	mg/L	-	Calculated	-	-	0.004, 0.005	-	-	-	-	-	-	-
Aluminum (diss, 0.45 µm)	mg/L	-	Calculated	-	-	0.004	-	-	-	-	-	-	-
Aluminum (tot)	mg/L	-	-	-	-	0.004, 0.0049, 0.01	0.06	0.08	0.12	0.03	0.08	0.05	0.08
Arsenic (tot)	mg/L	-	0.005	-	-	0.001, 0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron (tot)	mg/L	-	0.2	3.55	1.5	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cadmium (tot)	mg/L	-	Calculated	0.00021	0.000017	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	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt (tot)	mg/L	-	0.0009	-	-	0.0005	0.0002	0.0003	0.0007	0.0002	<0.0002	<0.0002	0.0005
Copper (tot)	mg/L	-	Calculated	0.0069	-	0.0009, 0.001, 0.002	<0.001	<0.001	0.002	<0.001	0.001	<0.001	0.001
Iron (tot)	mg/L	0.3	-	1	-	0.01, 0.1	0.52	0.99	**1.6**	0.71	0.66	0.37	**2.32**
Lead (tot)	mg/L	-	Calculated	0.002	-	0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (tot)	mg/L	-	-	-	-	0.002	-	-	-	-	-	-	-
Mercury (diss)	mg/L	0.0002	-	-	-	0.0001	-	-	-	-	-	-	-
Mercury (tot)	mg/L	0.0002	-	-	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Nickel (tot)	mg/L	0.025	-	-	-	0.001, 0.003	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Selenium (tot)	mg/L	0.1	-	-	-	0.002, 0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silicon (tot)	mg/L	-	-	-	-	0.18	-	-	-	-	-	-	-
Silver (tot)	mg/L	0.0001	-	-	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Zinc (tot)	mg/L	-	0.02	0.089	0.03	0.005, 0.02	<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 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

MHH - South Baptiste WDS Appendix F2: Historical Surface Water Quality						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D
Parameter	Units	PWQO-GENERAL	PWQO-INTERIM	MECP-GD-TA	MECP-GD-TB	Sample ID	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D-Dup (BAP-D)	BAP-D	BAP-D
						Sample Date	2010-Oct-18	2011-May-18	2011-Aug-11	2011-Nov-03	2011-Nov-03	2012-Apr-17	2012-Jul-11
Anions						Detection Limit							
Chloride	mg/L	-	-	180	128	0.1, 0.2, 1	3	4	2	3	-	3	2
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-	-
Nitrate as N	mg/L	-	-	-	-	0.05, 0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	0.1
Nitrite as N	mg/L	-	-	-	-	0.01, 0.05, 0.1	<0.1	<0.1	<0.1	<0.1	-	<0.05	<0.05
Sulphate	mg/L	-	-	100	-	0.1, 0.2, 1	6	5	6	11	-	6	6
Cations													
Calcium (tot)	mg/L	-	-	-	-	0.00005, 0.05, 0.16, 0.2, 0.32	20	19	26	23	22	17.6	15.2
Magnesium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.17, 0.34	1	<1	1	2	1	1.1	1.13
Potassium (tot)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 0.58, 1.15	<1	<1	<1	1	<1	0.643	0.504
Sodium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.22, 0.45	2	<2	2	3	2	2.88	3.22
Field Parameters													
pH (Field)	pH units	-	-	-	-		-	-	-	-	-	-	-
Temperature	deg. C	-	-	-	-		-	-	-	-	-	-	-
General Chemistry													
% Difference/ Ion Balance (Calcu	%	-	-	-	-		-	-	-	-	-	-	-
Alkalinity (as CaCO3)	mg/L	See Factsheet	-	-	-	1, 5	53	55	70	63	-	50	68
Ammonia as N	mg/L	-	-	-	-	0.02, 0.05	<0.02	<0.02	<0.02	<0.02	-	0.02	0.01
Biochemical Oxygen Demand	mg/L	-	-	-	-	2, 5	3	1	<1	2	-	<2	<2
Colour	TCU	-	-	-	-	2, 2.5, 5	74	45	47	29	-	28	22
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	123	121	146	142	-	136	162
Hardness (as CaCO3)	mg/L	-	-	-	-	0.5, 1	54	49.5	69	66	59.1	48.5	42.6
pH	pH units	6.5 - 8.5	-	6 - 9	-		7.73	7.63	7.1	6.57	-	7.5	7.5
Phenols	mg/L	0.001	-	0.04	0.004	0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001
Total Dissolved Solids	mg/L	-	-	-	-	10, 20	80	79	95	92	-	119	84
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1	0.31	0.14	<0.1	<0.1	-	0.1	0.2
Total Organic Carbon	mg/L	-	-	-	-		-	-	-	-	-	-	-
Total Phosphorus	mg/L	0.03	-	-	-	0.01, 0.02	0.02	<0.01	<0.01	<0.01	-	<0.01	0.03
Total Suspended Solids	mg/L	-	-	-	-	10	<2	8	<2	<2	-	119	84
Turbidity	NTU	-	-	-	-	0.1, 0.5	2.7	2.5	6.8	2.3	-	1.2	4.5
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.000002, 0.00061, 0.1	-	0.0000035	0.0002436	0.0000026	-	0.0000179	0.00003
Metals													
Aluminum (diss, 0.2 µm)	mg/L	-	Calculated	-	-	0.004, 0.005	-	-	-	-	-	0.025	-
Aluminum (diss, 0.45 µm)	mg/L	-	Calculated	-	-	0.004	-	-	-	-	-	-	-
Aluminum (tot)	mg/L	-	-	-	-	0.004, 0.0049, 0.01	0.06	0.05	0.04	0.02	0.02	0.036	0.07
Arsenic (tot)	mg/L	-	0.005	-	-	0.001, 0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron (tot)	mg/L	-	0.2	3.55	1.5	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01
Cadmium (tot)	mg/L	-	Calculated	0.00021	0.000017	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	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt (tot)	mg/L	-	0.0009	-	-	0.0005	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	<0.0005	<0.0005
Copper (tot)	mg/L	-	Calculated	0.0069	-	0.0009, 0.001, 0.002	<0.001	<0.001	<0.001	<0.001	<0.001	0.0007	0.0011
Iron (tot)	mg/L	0.3	-	1	-	0.01, 0.1	0.6	0.42	1	0.3	0.07	0.288	0.586
Lead (tot)	mg/L	-	Calculated	0.002	-	0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0001	0.0015
Manganese (tot)	mg/L	-	-	-	-	0.002	-	-	-	-	-	-	-
Mercury (diss)	mg/L	0.0002	-	-	-	0.0001	-	-	-	-	-	-	-
Mercury (tot)	mg/L	0.0002	-	-	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Nickel (tot)	mg/L	0.025	-	-	-	0.001, 0.003	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	0.002
Selenium (tot)	mg/L	0.1	-	-	-	0.002, 0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silicon (tot)	mg/L	-	-	-	-	0.18	-	-	-	-	-	-	-
Silver (tot)	mg/L	0.0001	-	-	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Zinc (tot)	mg/L	-	0.02	0.089	0.03	0.005, 0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.005	0.032

-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

MHH - South Baptiste WDS Appendix F2: Historical Surface Water Quality						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D
Parameter	Units	PWQO-GENERAL	PWQO-INTERIM	MECP-GD-TA	MECP-GD-TB	Sample ID	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D
						Sample Date	2012-Oct-17	2013-Apr-18	2013-Aug-15	2013-Oct-30	2014-May-13	2014-Aug-08	2014-Oct-10
Anions						Detection Limit							
Chloride	mg/L	-	-	180	128	0.1, 0.2, 1	7	2.95	2.12	3.7	4.89	2.69	3.38
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-	-
Nitrate as N	mg/L	-	-	-	-	0.05, 0.1	<0.1	0.16	0.06	<0.05	<0.05	<0.05	<0.05
Nitrite as N	mg/L	-	-	-	-	0.01, 0.05, 0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	-	-	100	-	0.1, 0.2, 1	36	5.02	5.1	6.82	5.13	4.83	4.62
Cations													
Calcium (tot)	mg/L	-	-	-	-	0.00005, 0.05, 0.16, 0.2, 0.32	18.1	12.8	22.8	22.8	20.5	24.3	22.8
Magnesium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.17, 0.34	2.03	0.76	1.16	1.48	1.12	1.28	1.3
Potassium (tot)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 0.58, 1.15	1.9	0.67	0.6	1.1	0.79	0.64	0.96
Sodium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.22, 0.45	6.29	2.47	2.94	4.03	3.75	3.42	3.72
Field Parameters													
pH (Field)	pH units	-	-	-	-		-	-	-	-	-	-	-
Temperature	deg. C	-	-	-	-		-	-	-	-	-	-	-
General Chemistry													
% Difference/ Ion Balance (Calcu	%	-	-	-	-		-	-	-	-	-	-	-
Alkalinity (as CaCO3)	mg/L	See Factsheet	-	-	-	1, 5	52	25	70	54	46	61	60
Ammonia as N	mg/L	-	-	-	-	0.02, 0.05	0.01	<0.02	<0.02	<0.02	<0.02	0.14	0.07
Biochemical Oxygen Demand	mg/L	-	-	-	-	2, 5	<2	<5	<5	<5	<5	<5	<5
Colour	TCU	-	-	-	-	2, 2.5, 5	26	64	25	42	55	42	41
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	201	75	164	139	122	154	139
Hardness (as CaCO3)	mg/L	-	-	-	-	0.5, 1	53.6	35.1	61.7	63	55.8	65.9	62.3
pH	pH units	6.5 - 8.5	-	6 - 9	-		7.7	7.38	7.11	7.19	7.52	7.83	7.75
Phenols	mg/L	0.001	-	0.04	0.004	0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total Dissolved Solids	mg/L	-	-	-	-	10, 20	112	56	96	84	90	82	94
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1	0.2	0.19	0.13	0.2	0.83	0.29	0.22
Total Organic Carbon	mg/L	-	-	-	-		-	-	-	-	-	-	-
Total Phosphorus	mg/L	0.03	-	-	-	0.01, 0.02	<0.01	0.03	<0.02	<0.02	<0.02	<0.02	0.04
Total Suspended Solids	mg/L	-	-	-	-	10	112	10	<10	<10	<10	<10	<10
Turbidity	NTU	-	-	-	-	0.1, 0.5	1.5	1.4	7.6	1.6	2.3	5.3	2.7
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.000002, 0.00061, 0.1	0.0000107	<0.0000179	<0.0000599	<0.0000213	0.00005	0.00225	0.000235
Metals													
Aluminum (diss, 0.2 µm)	mg/L	-	Calculated	-	-	0.004, 0.005	-	0.061	0.016	0.028	0.033	0.017	0.018
Aluminum (diss, 0.45 µm)	mg/L	-	Calculated	-	-	0.004	-	-	-	-	-	-	-
Aluminum (tot)	mg/L	-	-	-	-	0.004, 0.0049, 0.01	0.036	-	-	-	-	-	-
Arsenic (tot)	mg/L	-	0.005	-	-	0.001, 0.003	<0.001	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Boron (tot)	mg/L	-	0.2	3.55	1.5	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cadmium (tot)	mg/L	-	Calculated	0.00021	0.000017	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	<0.001	<0.003	<0.003	<0.0005	<0.003	<0.003	<0.003
Cobalt (tot)	mg/L	-	0.0009	-	-	0.0005	<0.0005	<0.0005	<0.0005	<0.003	<0.0005	<0.0005	<0.0005
Copper (tot)	mg/L	-	Calculated	0.0069	-	0.0009, 0.001, 0.002	0.001	0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Iron (tot)	mg/L	0.3	-	1	-	0.01, 0.1	0.281	0.15	**1.17**	0.39	0.37	0.79	0.4
Lead (tot)	mg/L	-	Calculated	0.002	-	0.0005, 0.001	<0.0001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (tot)	mg/L	-	-	-	-	0.002	-	-	-	-	-	-	-
Mercury (diss)	mg/L	0.0002	-	-	-	0.0001	-	-	-	-	-	-	-
Mercury (tot)	mg/L	0.0002	-	-	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Nickel (tot)	mg/L	0.025	-	-	-	0.001, 0.003	<0.001	-	<0.003	<0.003	<0.003	<0.003	<0.003
Selenium (tot)	mg/L	0.1	-	-	-	0.002, 0.004	<0.001	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Silicon (tot)	mg/L	-	-	-	-	0.18	-	-	-	-	-	-	-
Silver (tot)	mg/L	0.0001	-	-	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Zinc (tot)	mg/L	-	0.02	0.089	0.03	0.005, 0.02	<0.005	0.009	<0.005	0.087	<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

MHH - South Baptiste WDS Appendix F2: Historical Surface Water Quality						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D
Parameter	Units	PWQO-GENERAL	PWQO-INTERIM	MECP-GD-TA	MECP-GD-TB	Sample ID	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D
						Sample Date	2015-May-04	2015-Sep-09	2015-Oct-26	2016-Apr-28	2016-Aug-17	2016-Oct-26	2017-May-10
Anions						Detection Limit							
Chloride	mg/L	-	-	180	128	0.1, 0.2, 1	4.86	5.16	7.72	5.85	7.37	6.09	6.93
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-	-
Nitrate as N	mg/L	-	-	-	-	0.05, 0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nitrite as N	mg/L	-	-	-	-	0.01, 0.05, 0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	-	-	100	-	0.1, 0.2, 1	4.85	4.85	7.3	5.93	16	7.78	5.01
Cations													
Calcium (tot)	mg/L	-	-	-	-	0.00005, 0.05, 0.16, 0.2, 0.32	19.3	22.8	21.3	16.3	18.4	23.2	14.8
Magnesium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.17, 0.34	1.03	1.23	1.35	0.95	1.08	1.41	0.89
Potassium (tot)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 0.58, 1.15	0.71	1.32	1.86	0.67	0.92	1.18	0.55
Sodium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.22, 0.45	3.4	3.95	4.82	3.65	6.43	4.53	4.21
Field Parameters													
pH (Field)	pH units	-	-	-	-		-	-	-	-	-	-	-
Temperature	deg. C	-	-	-	-		-	-	-	-	-	-	-
General Chemistry													
% Difference/ Ion Balance (Calcu	%	-	-	-	-		-	-	-	-	-	-	-
Alkalinity (as CaCO3)	mg/L	See Factsheet	-	-	-	1, 5	44	63	56	44	42	60	41
Ammonia as N	mg/L	-	-	-	-	0.02, 0.05	<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
Colour	TCU	-	-	-	-	2, 2.5, 5	58	7	47	41	100	20	54
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	118	159	146	114	149	158	122
Hardness (as CaCO3)	mg/L	-	-	-	-	0.5, 1	52.4	62	58.7	44.6	50.4	63.7	40.6
pH	pH units	6.5 - 8.5	-	6 - 9	-		7.64	7.87	7.61	7.81	7.72	7.84	7.72
Phenols	mg/L	0.001	-	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	74	110	96	66	106	84	70
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1	0.42	0.42	0.29	0.26	0.59	0.12	0.25
Total Organic Carbon	mg/L	-	-	-	-		-	-	-	-	-	-	-
Total Phosphorus	mg/L	0.03	-	-	-	0.01, 0.02	0.03	<0.01	0.01	<0.01	0.04	0.01	0.02
Total Suspended Solids	mg/L	-	-	-	-	10	<10	<10	<10	<10	10	<10	<10
Turbidity	NTU	-	-	-	-	0.1, 0.5	3.6	0.6	2.7	1.8	8.2	5	1.5
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.000002, 0.00061, 0.1	0.0000799	0.00031	0.00003	0.0000073	0.0000557	0.00004	-
Metals													
Aluminum (diss, 0.2 µm)	mg/L	-	Calculated	-	-	0.004, 0.005	0.033	0.024	0.022	0.038	0.043	0.011	0.042
Aluminum (diss, 0.45 µm)	mg/L	-	Calculated	-	-	0.004	-	-	-	-	-	-	-
Aluminum (tot)	mg/L	-	-	-	-	0.004, 0.0049, 0.01	-	-	-	-	-	-	-
Arsenic (tot)	mg/L	-	0.005	-	-	0.001, 0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Boron (tot)	mg/L	-	0.2	3.55	1.5	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cadmium (tot)	mg/L	-	Calculated	0.00021	0.000017	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	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Cobalt (tot)	mg/L	-	0.0009	-	-	0.0005	<0.0005	<0.003	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Copper (tot)	mg/L	-	Calculated	0.0069	-	0.0009, 0.001, 0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Iron (tot)	mg/L	0.3	-	1	-	0.01, 0.1	0.4	**1.56**	0.27	0.32	**1.33**	0.15	0.19
Lead (tot)	mg/L	-	Calculated	0.002	-	0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (tot)	mg/L	-	-	-	-	0.002	-	-	-	-	-	-	-
Mercury (diss)	mg/L	0.0002	-	-	-	0.0001	-	-	-	-	-	-	-
Mercury (tot)	mg/L	0.0002	-	-	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Nickel (tot)	mg/L	0.025	-	-	-	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	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Silicon (tot)	mg/L	-	-	-	-	0.18	-	-	-	-	-	-	-
Silver (tot)	mg/L	0.0001	-	-	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Zinc (tot)	mg/L	-	0.02	0.089	0.03	0.005, 0.02	<0.005	<0.005	<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 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

MHH - South Baptiste WDS Appendix F2: Historical Surface Water Quality						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D
Parameter	Units	PWQO-GENERAL	PWQO-INTERIM	MECP-GD-TA	MECP-GD-TB	Sample ID	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D
						Sample Date	2017-Jul-20	2017-Oct-23	2018-May-07	2018-Jul-30	2018-Oct-24	2019-May-07	2019-Aug-14
Anions						Detection Limit							
Chloride	mg/L	-	-	180	128	0.1, 0.2, 1	4.5	4.08	8.63	6.94	7.99	11.8	4.48
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-	-
Nitrate as N	mg/L	-	-	-	-	0.05, 0.1	<0.05	<0.05	<0.05	0.06	<0.05	<0.05	0.07
Nitrite as N	mg/L	-	-	-	-	0.01, 0.05, 0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	-	-	100	-	0.1, 0.2, 1	3.09	4.15	3.97	3.52	5.46	4.29	3.88
Cations													
Calcium (tot)	mg/L	-	-	-	-	0.00005, 0.05, 0.16, 0.2, 0.32	18.8	19.9	15.5	-	18.7	16	20.3
Magnesium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.17, 0.34	1.08	1.22	0.9	-	1.18	1	1.12
Potassium (tot)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 0.58, 1.15	0.44	0.8	0.73	-	1.45	0.67	0.62
Sodium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.22, 0.45	3.75	4.52	<0.005	-	4.9	5.88	4.31
Field Parameters													
pH (Field)	pH units	-	-	-	-		-	-	-	-	-	-	-
Temperature	deg. C	-	-	-	-		-	-	-	-	-	-	-
General Chemistry													
% Difference/ Ion Balance (Calcu	%	-	-	-	-		-	-	-	-	-	-	-
Alkalinity (as CaCO3)	mg/L	See Factsheet	-	-	-	1, 5	61	56	36	54	48	49	58
Ammonia as N	mg/L	-	-	-	-	0.02, 0.05	<0.02	<0.02	0.62	<0.02	<0.02	<0.02	0.07
Biochemical Oxygen Demand	mg/L	-	-	-	-	2, 5	<5	<5	<5	<5	<5	<5	<5
Colour	TCU	-	-	-	-	2, 2.5, 5	163	59	75	-	<5	15	39
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	137	118	124	158	153	130	154
Hardness (as CaCO3)	mg/L	-	-	-	-	0.5, 1	51.4	54.7	42.4	56.7	51.6	44.1	55.3
pH	pH units	6.5 - 8.5	-	6 - 9	-		7.58	7.6	7.08	7.64	7.69	7.15	7.52
Phenols	mg/L	0.001	-	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	74	84	<10	102	82	86	82
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1	0.43	0.34	1.1	0.31	0.24	<0.1	0.17
Total Organic Carbon	mg/L	-	-	-	-		-	-	-	-	-	-	-
Total Phosphorus	mg/L	0.03	-	-	-	0.01, 0.02	0.05	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Total Suspended Solids	mg/L	-	-	-	-	10	13	<10	74	34	<10	<10	<10
Turbidity	NTU	-	-	-	-	0.1, 0.5	22.9	5.4	2.2	-	3.6	3.5	9.1
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.000002, 0.00061, 0.1	0.000089	0.00006	0.0016764	0.0000587	0.0001027	-	-
Metals													
Aluminum (diss, 0.2 µm)	mg/L	-	Calculated	-	-	0.004, 0.005	0.049	0.018	0.035	0.014	0.01	0.041	0.009
Aluminum (diss, 0.45 µm)	mg/L	-	Calculated	-	-	0.004	-	-	-	-	-	-	-
Aluminum (tot)	mg/L	-	-	-	-	0.004, 0.0049, 0.01	-	-	-	-	-	-	-
Arsenic (tot)	mg/L	-	0.005	-	-	0.001, 0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Boron (tot)	mg/L	-	0.2	3.55	1.5	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cadmium (tot)	mg/L	-	Calculated	0.00021	0.000017	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	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Cobalt (tot)	mg/L	-	0.0009	-	-	0.0005	0.0011	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005
Copper (tot)	mg/L	-	Calculated	0.0069	-	0.0009, 0.001, 0.002	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002
Iron (tot)	mg/L	0.3	-	1	-	0.01, 0.1	**4.25**	0.87	0.44	-	0.27	0.4	0.85
Lead (tot)	mg/L	-	Calculated	0.002	-	0.0005, 0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001
Manganese (tot)	mg/L	-	-	-	-	0.002	-	-	-	-	-	-	-
Mercury (diss)	mg/L	0.0002	-	-	-	0.0001	-	-	-	-	-	<0.0001	<0.0001
Mercury (tot)	mg/L	0.0002	-	-	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	-	-
Nickel (tot)	mg/L	0.025	-	-	-	0.001, 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	-	<0.004	<0.004	<0.004
Silicon (tot)	mg/L	-	-	-	-	0.18	-	-	-	-	-	-	-
Silver (tot)	mg/L	0.0001	-	-	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	-	<0.0001	<0.0001	<0.0001
Zinc (tot)	mg/L	-	0.02	0.089	0.03	0.005, 0.02	0.02	<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 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

MHH - South Baptiste WDS Appendix F2: Historical Surface Water Quality						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D
Parameter	Units	PWQO-GENERAL	PWQO-INTERIM	MECP-GD-TA	MECP-GD-TB	Sample ID	BAP-D	BAP-D	BAP-D	BAP-D-QAQC-SU20 (BAP-D)	BAP-D	BAP-D	BAP-D
						Sample Date	2019-Oct-22	2020-May-06	2020-Aug-25	2020-Aug-25	2020-Oct-06	2021-Apr-20	2021-Jul-14
Anions						Detection Limit							
Chloride	mg/L	-	-	180	128	0.1, 0.2, 1	10.4	9.86	5.78	5.78	8.7	8.04	5.32
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-	-
Nitrate as N	mg/L	-	-	-	-	0.05, 0.1	<0.05	<0.05	0.07	0.07	<0.05	0.07	<0.05
Nitrite as N	mg/L	-	-	-	-	0.01, 0.05, 0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	-	-	100	-	0.1, 0.2, 1	10.2	4.98	3.46	3.5	3	3.42	1.68
Cations													
Calcium (tot)	mg/L	-	-	-	-	0.00005, 0.05, 0.16, 0.2, 0.32	18.1	16.01	24.45	24.68	19.88	18.9	21.9
Magnesium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.17, 0.34	1.2	0.92	1.42	1.42	1.23	1.11	1.21
Potassium (tot)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 0.58, 1.15	2.52	0.72	0.99	0.83	1.53	0.69	0.87
Sodium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.22, 0.45	6.66	5.03	6.12	6.16	6.74	5.95	6.26
Field Parameters													
pH (Field)	pH units	-	-	-	-		-	-	-	-	-	-	-
Temperature	deg. C	-	-	-	-		-	-	-	-	-	-	-
General Chemistry													
% Difference/ Ion Balance (Calcu	%	-	-	-	-		-	-	-	-	-	-	-
Alkalinity (as CaCO3)	mg/L	See Factsheet	-	-	-	1, 5	40	42	70	70	61	42	58
Ammonia as N	mg/L	-	-	-	-	0.02, 0.05	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	0.03
Biochemical Oxygen Demand	mg/L	-	-	-	-	2, 5	<5	<5	<2	<2	<5	<2	<2
Colour	TCU	-	-	-	-	2, 2.5, 5	49	45	50	46	62	47	146
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	132	158	151	151	139	132	132
Hardness (as CaCO3)	mg/L	-	-	-	-	0.5, 1	50.1	43.8	66.9	67.5	54.7	51.8	59.7
pH	pH units	6.5 - 8.5	-	6 - 9	-		7.38	7.32	6.88	6.9	7.04	7.49	7.31
Phenols	mg/L	0.001	-	0.04	0.004	0.001	0.006	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total Dissolved Solids	mg/L	-	-	-	-	10, 20	102	82	102	108	90	86	104
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1	0.36	0.25	0.31	0.29	0.37	0.3	0.43
Total Organic Carbon	mg/L	-	-	-	-		-	-	-	-	-	-	-
Total Phosphorus	mg/L	0.03	-	-	-	0.01, 0.02	0.03	<0.02	0.04	0.03	<0.02	<0.02	0.04
Total Suspended Solids	mg/L	-	-	-	-	10	12	<10	<10	<10	<10	<10	<10
Turbidity	NTU	-	-	-	-	0.1, 0.5	9.7	2.1	9.8	12.2	11.3	2.1	12.9
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.000002, 0.00061, 0.1	-	-	-	-	-	-	-
Metals													
Aluminum (diss, 0.2 µm)	mg/L	-	Calculated	-	-	0.004, 0.005	0.049	<0.004	0.015	0.015	0.016	-	-
Aluminum (diss, 0.45 µm)	mg/L	-	Calculated	-	-	0.004	-	-	-	-	-	0.027	0.049
Aluminum (tot)	mg/L	-	-	-	-	0.004, 0.0049, 0.01	-	0.074	0.18	0.214	0.106	0.054	0.109
Arsenic (tot)	mg/L	-	0.005	-	-	0.001, 0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Boron (tot)	mg/L	-	0.2	3.55	1.5	0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.019
Cadmium (tot)	mg/L	-	Calculated	0.00021	0.000017	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	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Cobalt (tot)	mg/L	-	0.0009	-	-	0.0005	<0.0005	<0.0005	0.001	0.0007	<0.0005	<0.0005	0.0006
Copper (tot)	mg/L	-	Calculated	0.0069	-	0.0009, 0.001, 0.002	<0.002	0.002	0.003	0.003	<0.002	<0.002	<0.002
Iron (tot)	mg/L	0.3	-	1	-	0.01, 0.1	**1.09**	0.412	**2.3**	**2.34**	0.855	0.495	**3.32**
Lead (tot)	mg/L	-	Calculated	0.002	-	0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (tot)	mg/L	-	-	-	-	0.002	-	-	-	-	-	-	-
Mercury (diss)	mg/L	0.0002	-	-	-	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Mercury (tot)	mg/L	0.0002	-	-	-	0.0001	-	-	-	-	-	-	-
Nickel (tot)	mg/L	0.025	-	-	-	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	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.002
Silicon (tot)	mg/L	-	-	-	-	0.18	-	-	-	-	-	-	-
Silver (tot)	mg/L	0.0001	-	-	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Zinc (tot)	mg/L	-	0.02	0.089	0.03	0.005, 0.02	<0.005	<0.005	<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 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

MHH - South Baptiste WDS Appendix F2: Historical Surface Water Quality						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D
Parameter	Units	PWQO-GENERAL	PWQO-INTERIM	MECP-GD-TA	MECP-GD-TB	Sample ID	SB-QAQC SW-SU21 (BAP-D)	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D
						Sample Date	2021-Jul-14	2021-Oct-21	2022-May-03	2022-Aug-04	2022-Oct-18	2023-May-04	2023-Aug-09
Anions						Detection Limit							
Chloride	mg/L	-	-	180	128	0.1, 0.2, 1	5.35	5.89	6.26	4.1	7.42	5.67	1.9
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	-	-	-	-	-	-	<0.1
Nitrate as N	mg/L	-	-	-	-	0.05, 0.1	<0.05	<0.05	<0.05	0.05	<0.05	<0.05	<0.1
Nitrite as N	mg/L	-	-	-	-	0.01, 0.05, 0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01
Sulphate	mg/L	-	-	100	-	0.1, 0.2, 1	1.75	1.9	3.82	3.24	2.83	3.14	4.1
Cations													
Calcium (tot)	mg/L	-	-	-	-	0.00005, 0.05, 0.16, 0.2, 0.32	25.4	21.7	19.1	27	17.5	15.2	23
Magnesium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.17, 0.34	1.54	1.37	1.05	1.41	1.28	0.86	1.2
Potassium (tot)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 0.58, 1.15	1.2	2.25	<1.15	0.85	1.18	<0.5	0.74
Sodium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.22, 0.45	7.31	4.48	5.15	4.75	6.95	4.5	4.9
Field Parameters													
pH (Field)	pH units	-	-	-	-		-	-	-	-	-	-	7.27
Temperature	deg. C	-	-	-	-		-	-	-	-	-	-	14.5
General Chemistry													
% Difference/ Ion Balance (Calcu	%	-	-	-	-		-	-	-	-	1.71	-	-
Alkalinity (as CaCO3)	mg/L	See Factsheet	-	-	-	1, 5	56	56	43	63	50	39	61
Ammonia as N	mg/L	-	-	-	-	0.02, 0.05	0.03	<0.02	<0.02	<0.02	<0.02	0.05	<0.05
Biochemical Oxygen Demand	mg/L	-	-	-	-	2, 5	<2	<2	<2	2	<2	<2	<2
Colour	TCU	-	-	-	-	2, 2.5, 5	146	68	32	70.6	36.8	43.3	40
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	132	132	121	146	138	103	140
Hardness (as CaCO3)	mg/L	-	-	-	-	0.5, 1	69.8	59.8	52	73.2	49	41.5	66
pH	pH units	6.5 - 8.5	-	6 - 9	-		7.31	7.29	6.98	7.47	7.61	7.4	7.67
Phenols	mg/L	0.001	-	0.04	0.004	0.001	<0.001	0.001	<0.001	<0.001	0.002	-	<0.001
Total Dissolved Solids	mg/L	-	-	-	-	10, 20	116	98	58	98	92	62	85
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1	0.38	0.5	0.25	0.36	0.49	0.19	0.2
Total Organic Carbon	mg/L	-	-	-	-		-	-	-	-	-	-	-
Total Phosphorus	mg/L	0.03	-	-	-	0.01, 0.02	0.05	0.07	<0.02	0.05	0.08	0.02	<0.02
Total Suspended Solids	mg/L	-	-	-	-	10	<10	48	<10	<10	<10	<10	<10
Turbidity	NTU	-	-	-	-	0.1, 0.5	13	26.9	<0.5	11	2.1	2.4	6.6
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.000002, 0.00061, 0.1	-	-	-	<0.000002	<0.000002	0.000109	<0.00061
Metals													
Aluminum (diss, 0.2 µm)	mg/L	-	Calculated	-	-	0.004, 0.005	-	-	0.02	-	-	0.043	0.014
Aluminum (diss, 0.45 µm)	mg/L	-	Calculated	-	-	0.004	0.048	0.031	-	0.022	0.016	-	-
Aluminum (tot)	mg/L	-	-	-	-	0.004, 0.0049, 0.01	0.108	0.301	-	0.067	0.036	-	0.028
Arsenic (tot)	mg/L	-	0.005	-	-	0.001, 0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.001
Boron (tot)	mg/L	-	0.2	3.55	1.5	0.01	0.013	<0.01	<0.01	<0.01	-	<0.01	<0.01
Cadmium (tot)	mg/L	-	Calculated	0.00021	0.000017	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.00009
Chromium (tot)	mg/L	-	-	0.064	-	0.003, 0.005	<0.003	<0.003	<0.003	<0.003	-	<0.003	<0.005
Cobalt (tot)	mg/L	-	0.0009	-	-	0.0005	0.0007	0.0019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Copper (tot)	mg/L	-	Calculated	0.0069	-	0.0009, 0.001, 0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.001	<0.0009
Iron (tot)	mg/L	0.3	-	1	-	0.01, 0.1	**3.13**	**6.97**	0.528	**1.9**	0.444	0.513	**1.2**
Lead (tot)	mg/L	-	Calculated	0.002	-	0.0005, 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005
Manganese (tot)	mg/L	-	-	-	-	0.002	-	-	-	-	0.016	-	-
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	-	-	-	-	-	-	<0.0001
Nickel (tot)	mg/L	0.025	-	-	-	0.001, 0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<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
Silicon (tot)	mg/L	-	-	-	-	0.18	-	-	-	-	-	3.1	-
Silver (tot)	mg/L	0.0001	-	-	-	0.00009, 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.00009
Zinc (tot)	mg/L	-	0.02	0.089	0.03	0.005, 0.02	<0.005	<0.02	<0.02	<0.02	<0.02	<0.02	<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

MHH - South Baptiste WDS Appendix F2: Historical Surface Water Quality						Site Name	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS	South Baptiste WDS
						Location	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D
Parameter	Units	PWQO-GENERAL	PWQO-INTERIM	MECP-GD-TA	MECP-GD-TB	Sample ID	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D	BAP-D
						Sample Date	2023-Oct-19	2024-Apr-29	2024-Jul-10	2024-Oct-29	2025-May-08	2025-Jul-07	2025-Oct-21
Anions						Detection Limit							
Chloride	mg/L	-	-	180	128	0.1, 0.2, 1	5.1	5	3.9	2.7	4.5	2.7	1.3
Nitrate + Nitrite	mg/L	-	-	-	-	0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1
Nitrate as N	mg/L	-	-	-	-	0.05, 0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1
Nitrite as N	mg/L	-	-	-	-	0.01, 0.05, 0.1	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01
Sulphate	mg/L	-	-	100	-	0.1, 0.2, 1	4.6	3.7	3.6	4.3	3.7	4.7	4.9
Cations													
Calcium (tot)	mg/L	-	-	-	-	0.00005, 0.05, 0.16, 0.2, 0.32	23	17	22	21	17	27	23
Magnesium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.17, 0.34	1.3	0.86	1.2	1.1	0.94	1.1	1.2
Potassium (tot)	mg/L	-	-	-	-	0.05, 0.2, 0.5, 0.58, 1.15	1	0.5	0.86	0.85	0.54	0.59	1.2
Sodium (tot)	mg/L	-	-	-	-	0.05, 0.1, 0.22, 0.45	5.6	4.7	4.5	4.2	4.5	4.1	3
Field Parameters													
pH (Field)	pH units	-	-	-	-		7	6.66	6.82	-	7.29	7.08	7.37
Temperature	deg. C	-	-	-	-		8.6	6.7	14.2	-	7.7	13.4	7.1
General Chemistry													
% Difference/ Ion Balance (Calcu	%	-	-	-	-		-	-	-	-	-	-	-
Alkalinity (as CaCO3)	mg/L	See Factsheet	-	-	-	1, 5	55	45	63	64	49	72	67
Ammonia as N	mg/L	-	-	-	-	0.02, 0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Biochemical Oxygen Demand	mg/L	-	-	-	-	2, 5	<2	<2	<2	<2	<2	<2	<2
Colour	TCU	-	-	-	-	2, 2.5, 5	21	38	93	19	33	28	15
Electrical Conductivity	uS/cm	-	-	-	-	1, 2	150	110	140	140	120	160	140
Hardness (as CaCO3)	mg/L	-	-	-	-	0.5, 1	61	51	62	63	48	77	67
pH	pH units	6.5 - 8.5	-	6 - 9	-		7.83	7.65	7.65	7.7	7.6	7.85	7.8
Phenols	mg/L	0.001	-	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	85	85	85	85	105	110	75
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	0.1	0.2	0.19	0.43	-	0.23	0.16	0.12
Total Organic Carbon	mg/L	-	-	-	-		-	-	-	-	-	-	-
Total Phosphorus	mg/L	0.03	-	-	-	0.01, 0.02	<0.02	<0.02	0.061	<0.02	<0.02	<0.02	<0.02
Total Suspended Solids	mg/L	-	-	-	-	10	11	10	36	23	<10	<10	<10
Turbidity	NTU	-	-	-	-	0.1, 0.5	1.9	1.3	31	2.1	1.2	2.5	1.6
Unionized Ammonia (Calc)	mg/L	-	-	-	-	0.000002, 0.00061, 0.1	<0.00061	<0.00061	<0.00061	<0.00061	<0.00061	<0.00061	<0.00061
Metals													
Aluminum (diss, 0.2 µm)	mg/L	-	Calculated	-	-	0.004, 0.005	0.008	0.026	0.027	0.008	0.028	0.017	0.005
Aluminum (diss, 0.45 µm)	mg/L	-	Calculated	-	-	0.004	-	-	-	-	-	-	-
Aluminum (tot)	mg/L	-	-	-	-	0.004, 0.0049, 0.01	0.029	0.096	0.29	0.022	0.045	0.05	0.039
Arsenic (tot)	mg/L	-	0.005	-	-	0.001, 0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron (tot)	mg/L	-	0.2	3.55	1.5	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cadmium (tot)	mg/L	-	Calculated	0.00021	0.000017	0.00009, 0.0001	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009
Chromium (tot)	mg/L	-	-	0.064	-	0.003, 0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Cobalt (tot)	mg/L	-	0.0009	-	-	0.0005	<0.0005	<0.0005	0.0013	<0.0005	<0.0005	<0.0005	<0.0005
Copper (tot)	mg/L	-	Calculated	0.0069	-	0.0009, 0.001, 0.002	<0.0009	0.0012	0.0015	<0.0009	<0.0009	<0.0009	<0.0009
Iron (tot)	mg/L	0.3	-	1	-	0.01, 0.1	0.4	0.41	**8.8**	0.43	0.35	0.67	0.57
Lead (tot)	mg/L	-	Calculated	0.002	-	0.0005, 0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Manganese (tot)	mg/L	-	-	-	-	0.002	-	-	-	-	-	-	-
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	<0.0001	-	-	-	-	-	-
Nickel (tot)	mg/L	0.025	-	-	-	0.001, 0.003	<0.001	<0.001	<0.001	<0.001	<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
Silicon (tot)	mg/L	-	-	-	-	0.18	-	-	-	-	-	-	-
Silver (tot)	mg/L	0.0001	-	-	-	0.00009, 0.0001	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009
Zinc (tot)	mg/L	-	0.02	0.089	0.03	0.005, 0.02	<0.005	<0.005	<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 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

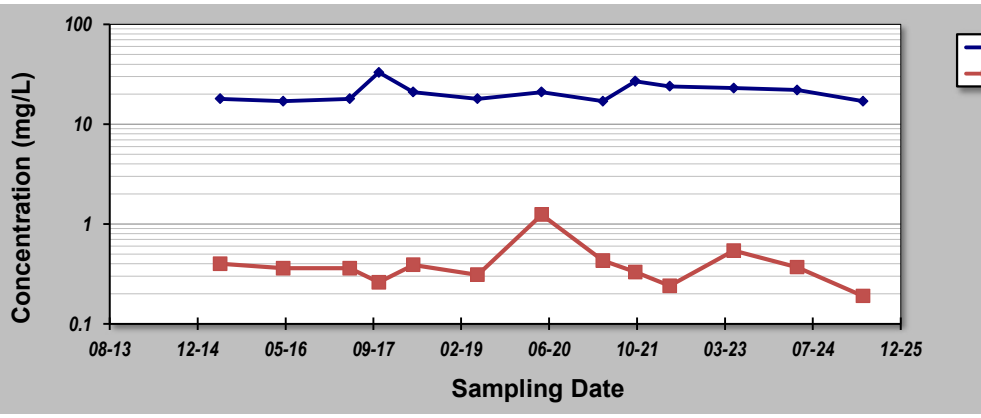
Appendix G

Mann-Kendall Trend Analysis

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	28-Jan-26	Job ID:	250253-09
Facility Name:	South Baptiste WDS	Constituent:	SB-MW2
Conducted By:	Nathan Wilson	Concentration Units:	mg/L

Sampling Point ID:	Alkalinity	otal Phosphorus					
Sampling Event	Sampling Date	SB-MW2 CONCENTRATION (mg/L)					
1	4-May-15	18	0.4				
2	28-Apr-16	17	0.36				
3	10-May-17	18	0.36				
4	23-Oct-17	33	0.26				
5	7-May-18	21	0.39				
6	7-May-19	18	0.31				
7	6-May-20	21	1.24				
8	20-Apr-21	17	0.43				
9	21-Oct-21	27	0.33				
10	5-May-22	24	0.24				
11	4-May-23	23	0.54				
12	29-Apr-24	22	0.37				
13	8-May-25	17	0.19				
14							
15							
16							
17							
18							
19							
20							
Coefficient of Variation:		0.22	0.63				
Mann-Kendall Statistic (S):		9	-11				
Confidence Factor:		68.4%	72.5%				
Concentration Trend:		No Trend	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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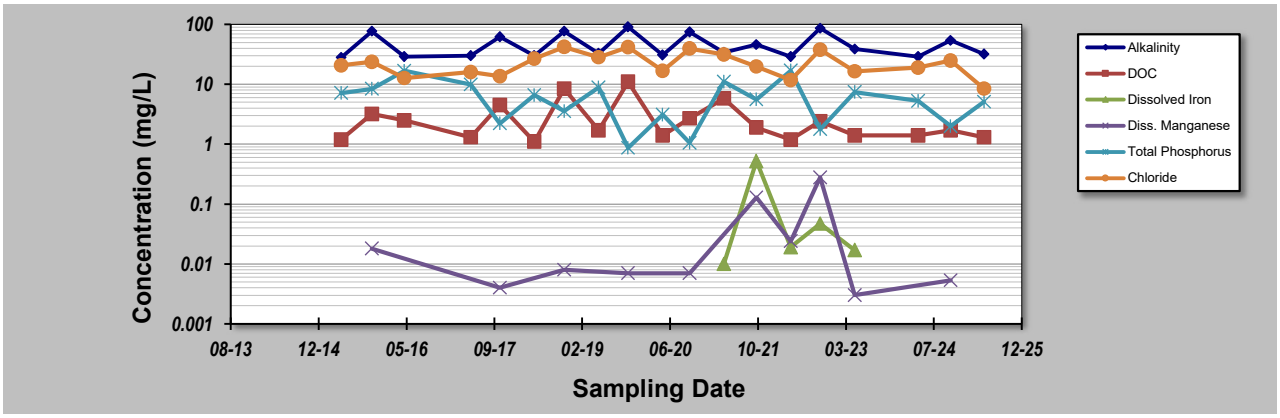
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	28-Jan-26	Job ID:	250253-09
Facility Name:	South Baptiste WDS	Constituent:	SB-MW3
Conducted By:	Nathan Wilson	Concentration Units:	mg/L

Sampling Point ID:	Alkalinity	DOC	Dissolved Iron	Diss. Manganese	Total Phosphoru	Chloride	
Sampling Event	Sampling Date	SB-MW3 CONCENTRATION (mg/L)					
1	4-May-15	28	1.2	<0.01	<0.002	7.16	20.7
2	26-Oct-15	77	3.2	<0.01	0.018	8.4	23.7
3	28-Apr-16	29	2.5	<0.01	<0.002	16.8	12.7
4	10-May-17	30	1.3	<0.01	<0.002	9.9	16
5	23-Oct-17	62	4.5	<0.01	0.004	2.22	13.7
6	7-May-18	30	1.1	<0.01	<0.002	6.59	26.9
7	24-Oct-18	77	8.5	<0.01	0.008	3.54	42.1
8	7-May-19	33	1.7	<0.01	<0.002	8.82	28.2
9	22-Oct-19	91	11	<0.01	0.007	0.87	41.9
10	6-May-20	31	1.4	<0.01	<0.002	3.11	16.7
11	6-Oct-20	75	2.7	<0.01	0.007	1.06	39.4
12	20-Apr-21	34	5.8	0.01	<0.002	11	31.3
13	21-Oct-21	46	1.9	0.521	0.128	5.56	19.9
14	5-May-22	29	1.2	0.019	0.024	16.9	11.8
15	19-Oct-22	86	2.4	0.047	0.28	1.78	37.8
16	4-May-23	39	1.4	0.017	0.003	7.4	16.4
17	29-Apr-24	29	1.4	<0.1	<0.002	5.3	19
18	30-Oct-24	54	1.7	<0.1	0.0053	2	25
19	8-May-25	32	1.3	<0.1	<0.002	5.1	8.5
20							
Coefficient of Variation:		0.47	0.92	1.82	1.85	0.73	0.44
Mann-Kendall Statistic (S):		16	-19	0	0	-31	-9
Confidence Factor:		69.8%	73.3%	40.8%	45.6%	85.1%	60.9%
Concentration Trend:		No Trend	Stable	No Trend	No Trend	Stable	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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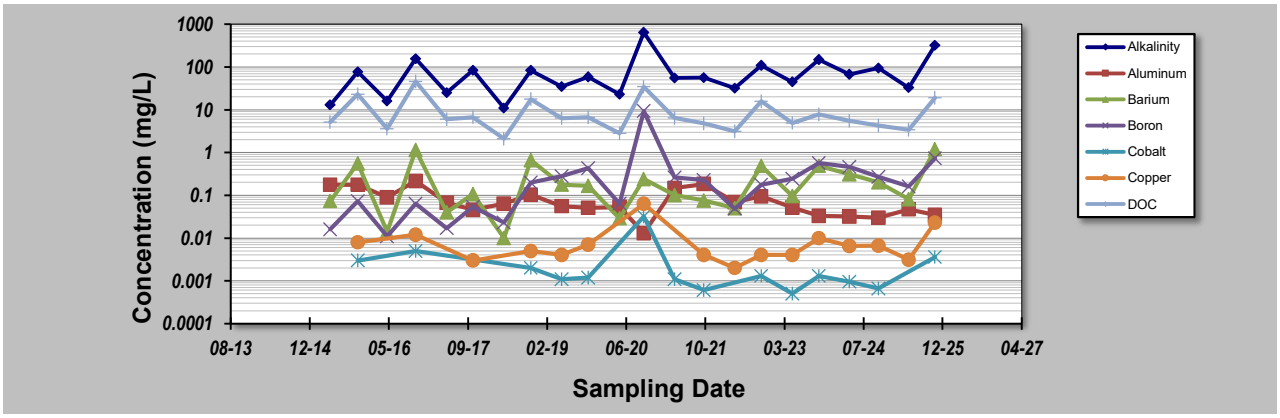
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	28-Jan-26	Job ID:	250253-09
Facility Name:	South Baptiste WDS	Constituent:	SB-MW4
Conducted By:	Nathan Wilson	Concentration Units:	mg/L

Sampling Point ID:	Alkalinity	Aluminum	Barium	Boron	Cobalt	Copper	DOC
Sampling Event	Sampling Date	SB-MW4 CONCENTRATION (mg/L)						
1	4-May-15	13	0.178	0.073	0.016	<0.001	<0.003	5.2
2	26-Oct-15	77	0.177	0.552	0.073	0.003	0.008	23.2
3	28-Apr-16	16	0.09	0.014	0.011	<0.001	<0.003	3.6
4	26-Oct-16	156	0.216	1.15	0.063	0.005	0.012	46
5	10-May-17	25	0.067	0.04	0.017	<0.001	<0.003	6
6	23-Oct-17	84	0.046	0.106	0.054	<0.001	0.003	6.7
7	7-May-18	11	0.063	0.01	0.023	<0.001	<0.003	2.1
8	24-Oct-18	83	0.102	0.66	0.197	0.002	0.005	17.6
9	7-May-19	35	0.056	0.178	0.281	0.0011	0.004	6.4
10	22-Oct-19	59	0.051	0.166	0.43	0.0012	0.007	6.6
11	6-May-20	23	0.053	0.029	0.064	<0.0005	<0.002	2.8
12	6-Oct-20	642	0.013	0.239	9.32	0.0318	0.063	34.5
13	20-Apr-21	55	0.149	0.101	0.261	0.0011	<0.002	6.5
14	21-Oct-21	57	0.183	0.075	0.228	0.0006	0.004	4.8
15	5-May-22	32	0.069	0.05	0.049	<0.0005	0.002	3.1
16	19-Oct-22	109	0.094	0.488	0.178	0.0013	0.004	15.8
17	4-May-23	45	0.052	0.096	0.244	0.0005	0.004	4.9
18	19-Oct-23	150	0.033	0.49	0.57	0.0013	0.01	7.8
19	29-Apr-24	67	0.032	0.31	0.46	0.00096	0.0065	5.5
20	30-Oct-24	94	0.03	0.2	0.27	0.00066	0.0066	4.3
21	8-May-25	33	0.047	0.081	0.16	<0.0005	0.0031	3.4
22	21-Oct-25	320	0.035	1.2	0.74	0.0036	0.023	19
23								
24								
25								
Coefficient of Variation:		1.40	0.70	1.20	3.13	2.11	1.45	1.05
Mann-Kendall Statistic (S):		57	-103	37	109	-27	0	-21
Confidence Factor:		94.2%	99.8%	84.3%	99.9%	92.1%	48.2%	71.1%
Concentration Trend:		Prob. Increasing	Decreasing	No Trend	Increasing	Prob. Decreasing	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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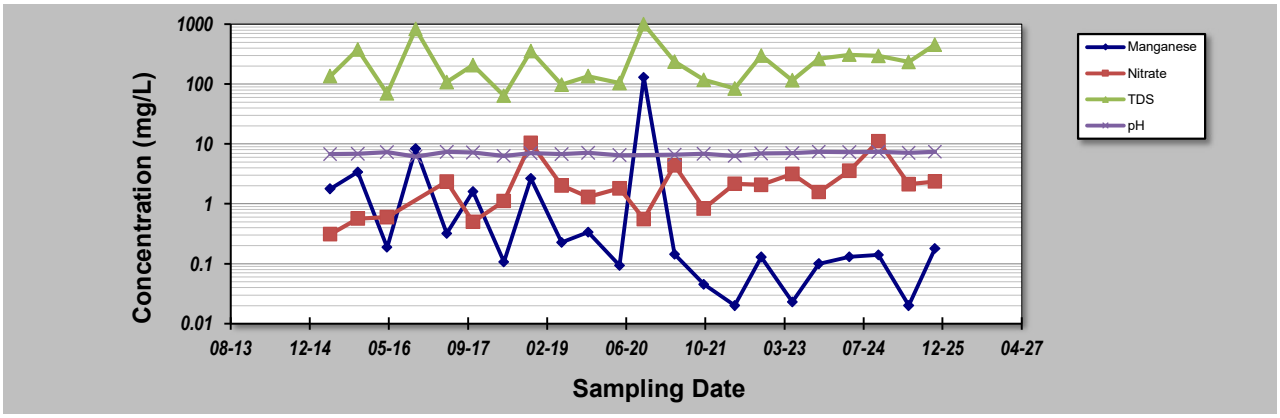
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	28-Jan-26	Job ID:	250253-09
Facility Name:	South Baptiste WDS	Constituent:	SB-MW4
Conducted By:	Nathan Wilson	Concentration Units:	mg/L

Sampling Point ID:	Manganese	Nitrate	TDS	pH			
Sampling Event	Sampling Date	SB-MW4 CONCENTRATION (mg/L)						
1	4-May-15	1.78	0.31	136	6.81			
2	26-Oct-15	3.41	0.57	378	6.86			
3	28-Apr-16	0.187	0.6	70	7.29			
4	26-Oct-16	8.35	<0.25	838	6.11			
5	10-May-17	0.32	2.35	108	7.34			
6	23-Oct-17	1.6	0.5	208	7.22			
7	7-May-18	0.107	1.11	64	6.33			
8	24-Oct-18	2.66	10.4	356	7.02			
9	7-May-19	0.225	2.04	98	6.79			
10	22-Oct-19	0.338	1.31	136	7.07			
11	6-May-20	0.093	1.81	104	6.47			
12	6-Oct-20	129.6	0.56	1000	-			
13	20-Apr-21	0.144	4.38	238	6.61			
14	21-Oct-21	0.045	0.84	118	6.83			
15	5-May-22	0.02	2.16	84	6.35			
16	19-Oct-22	0.129	2.08	298	6.91			
17	4-May-23	0.023	3.16	116	7.03			
18	19-Oct-23	0.1	1.58	265	7.4			
19	29-Apr-24	0.13	3.57	310	7.28			
20	30-Oct-24	0.14	11.2	295	7.35			
21	8-May-25	0.02	2.12	235	7.09			
22	21-Oct-25	0.18	2.37	455	7.42			
23								
24								
25								
Coefficient of Variation:		4.04	1.12	0.89	0.06			
Mann-Kendall Statistic (S):		-98	92	38	62			
Confidence Factor:		99.8%	99.8%	85.0%	96.8%			
Concentration Trend:		Decreasing	Increasing	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.
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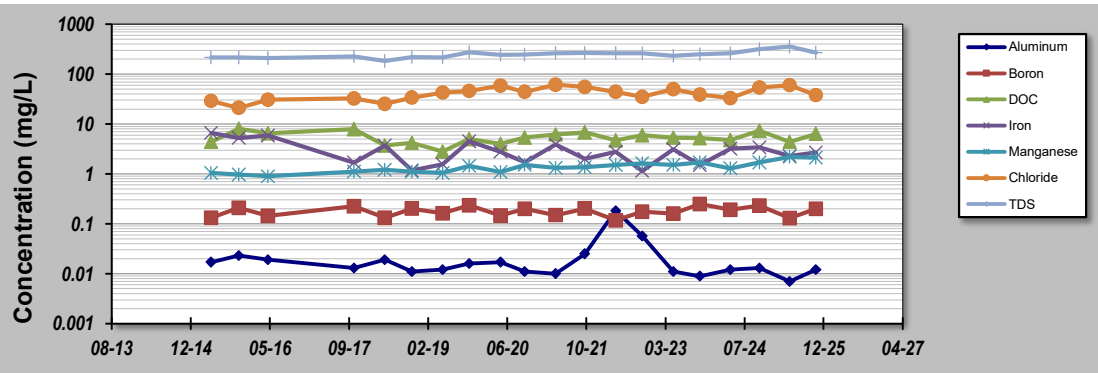
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	28-Jan-26	Job ID:	250253-09
Facility Name:	South Baptiste WDS	Constituent:	SB-MW5
Conducted By:	Nathan Wilson	Concentration Units:	mg/L

Sampling Point ID:	Aluminum	Boron	DOC	Iron	Manganese	Chloride	TDS
Sampling Event	Sampling Date	SB-MW5 CONCENTRATION (mg/L)						
1	4-May-15	0.017	0.132	4.4	6.62	1.05	29.2	216
2	26-Oct-15	0.023	0.207	8	5.25	0.971	21.1	216
3	28-Apr-16	0.019	0.144	6.5	5.87	0.896	30.7	208
4	23-Oct-17	0.013	0.223	7.9	1.69	1.11	32.4	226
5	7-May-18	0.019	0.131	3.7	3.69	1.21	25.5	184
6	24-Oct-18	0.011	0.201	4.2	1.17	1.12	33.8	220
7	7-May-19	0.012	0.162	2.8	1.55	1.05	43	218
8	22-Oct-19	0.016	0.233	5	4.48	1.46	46.3	276
9	6-May-20	0.017	0.147	4	2.77	1.09	58.9	244
10	6-Oct-20	0.011	0.2	5.4	1.7	1.52	44.4	246
11	20-Apr-21	0.01	0.149	6.2	3.87	1.32	61.7	264
12	21-Oct-21	0.025	0.202	6.8	2.01	1.36	55	266
13	5-May-22	0.182	0.117	4.7	2.78	1.5	44	264
14	19-Oct-22	0.057	0.176	6	1.15	1.64	35	262
15	4-May-23	0.011	0.159	5.3	3.12	1.52	50.2	232
16	19-Oct-23	0.0089	0.25	5.2	1.5	1.7	39	250
17	29-Apr-24	0.012	0.19	4.8	3.2	1.3	33	260
18	30-Oct-24	0.013	0.23	7.3	3.4	1.7	54	315
19	8-May-25	0.007	0.13	4.4	2.3	2.2	60	355
20	21-Oct-25	0.012	0.2	6.4	2.7	2.1	38	270
21								
22								
23								
24								
25								
Coefficient of Variation:		1.55	0.22	0.26	0.51	0.26	0.29	0.16
Mann-Kendall Statistic (S):		-49	15	9	-40	135	76	110
Confidence Factor:		94.0%	67.3%	60.1%	89.6%	>99.9%	99.3%	>99.9%
Concentration Trend:		Prob. Decreasing	No Trend	No Trend	Stable	Increasing	Increasing	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.
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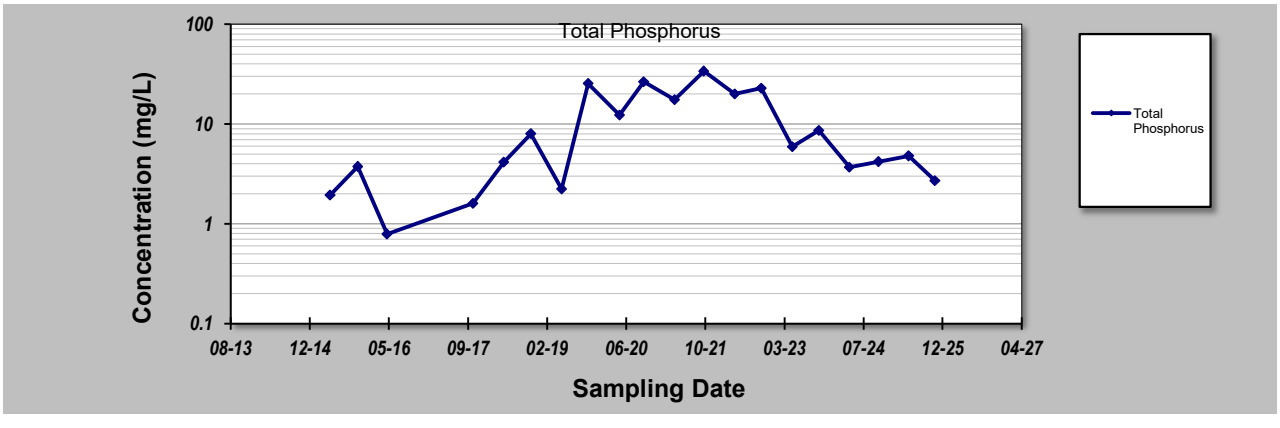
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	28-Jan-26	Job ID:	250253-09
Facility Name:	South Baptiste WDS	Constituent:	SB-MW5
Conducted By:	Nathan Wilson	Concentration Units:	mg/L
Sampling Point ID:	otal Phosphorus		

Sampling Event	Sampling Date	SB-MW5 CONCENTRATION (mg/L)
1	4-May-15	1.94
2	26-Oct-15	3.75
3	28-Apr-16	0.79
4	23-Oct-17	1.6
5	7-May-18	4.15
6	24-Oct-18	8
7	7-May-19	2.23
8	22-Oct-19	25.4
9	6-May-20	12.3
10	6-Oct-20	26.6
11	20-Apr-21	17.5
12	21-Oct-21	33.9
13	5-May-22	20
14	19-Oct-22	22.9
15	4-May-23	5.92
16	19-Oct-23	8.6
17	29-Apr-24	3.7
18	30-Oct-24	4.2
19	8-May-25	4.8
20	21-Oct-25	2.7
21		
22		
23		
24		
25		
Coefficient of Variation:		0.96
Mann-Kendall Statistic (S):		34
Confidence Factor:		85.6%
Concentration Trend:		No Trend



Notes:

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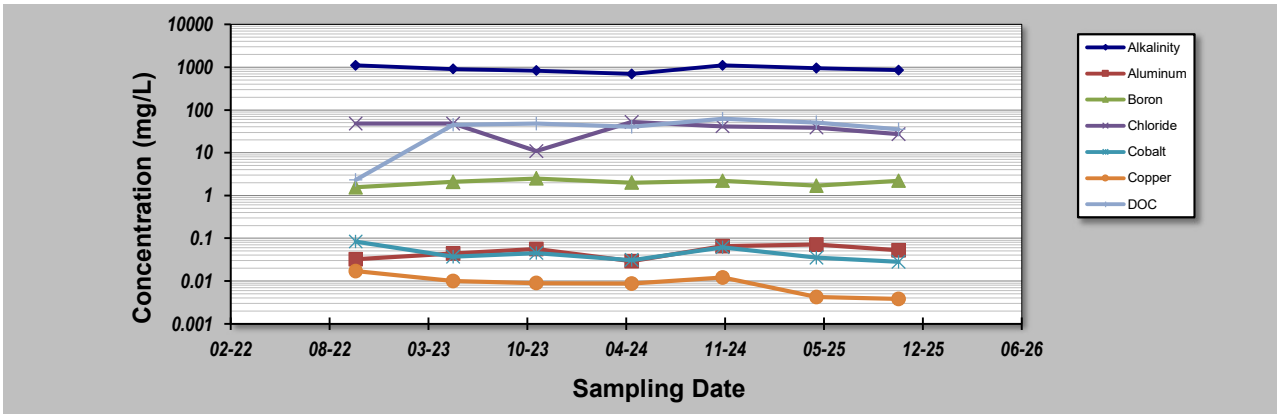
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	28-Jan-26	Job ID:	250253-09
Facility Name:	South Baptiste WDS	Constituent:	SB-MW6R
Conducted By:	Nathan Wilson	Concentration Units:	mg/L

Sampling Point ID:	Alkalinity	Aluminum	Boron	Chloride	Cobalt	Copper	DOC
Sampling Event	Sampling Date	SB-MW6R CONCENTRATION (mg/L)						
1	19-Oct-22	1100	0.032	1.56	48	0.0839	0.017	2.3
2	4-May-23	907	0.044	2.08	47.7	0.0369	0.01	44.9
3	19-Oct-23	830	0.056	2.5	11	0.045	0.0089	48
4	29-Apr-24	690	0.029	2	52	0.031	0.0087	40
5	30-Oct-24	1100	0.065	2.2	41	0.061	0.012	62
6	8-May-25	950	0.071	1.7	39	0.035	0.0042	51
7	21-Oct-25	850	0.052	2.2	27	0.028	0.0038	35
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.16	0.32	0.16	0.38	0.44	0.49	0.47
Mann-Kendall Statistic (S):		-4	9	4	-9	-11	-15	5
Confidence Factor:		66.7%	88.1%	66.7%	88.1%	93.2%	98.5%	71.9%
Concentration Trend:		Stable	No Trend	No Trend	Stable	Prob. Decreasing	Decreasing	No Trend



Notes:

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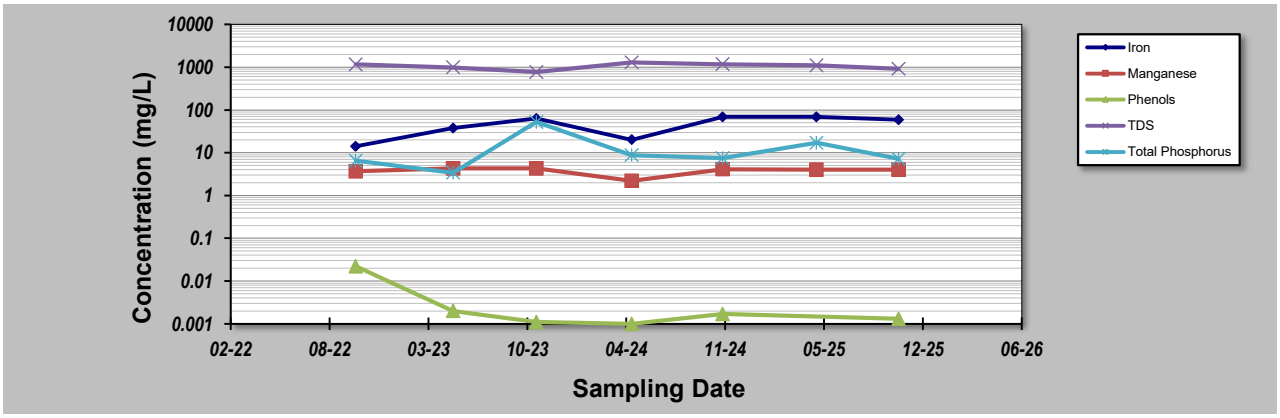
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	28-Jan-26	Job ID:	250253-09
Facility Name:	South Baptiste WDS	Constituent:	SB-MW6R
Conducted By:	Nathan Wilson	Concentration Units:	mg/L

Sampling Point ID:	Iron	Manganese	Phenols	TDS	Total Phosphorus		
Sampling Event	Sampling Date	SB-MW6R CONCENTRATION (mg/L)						
1	19-Oct-22	14.1	3.67	0.022	1160	6.46		
2	4-May-23	37.7	4.3	0.002	982	3.4		
3	19-Oct-23	63	4.3	0.0011	770	52		
4	29-Apr-24	20	2.2	0.001	1300	8.8		
5	30-Oct-24	69	4.1	0.0017	1180	7.4		
6	8-May-25	69	4	<0.001	1110	17		
7	21-Oct-25	59	4	0.0013	915	7.2		
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.49	0.19	1.73	0.17	1.16		
Mann-Kendall Statistic (S):		10	-3	-7	-3	3		
Confidence Factor:		90.7%	61.4%	86.4%	61.4%	61.4%		
Concentration Trend:		Prob. Increasing	Stable	No Trend	Stable	No Trend		



Notes:

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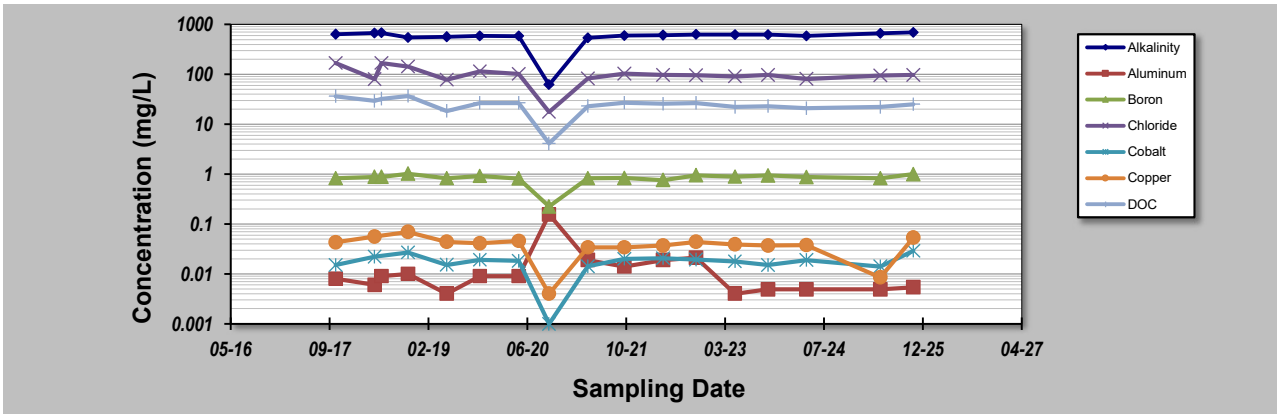
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	28-Jan-26	Job ID:	250253-09
Facility Name:	South Baptiste WDS	Constituent:	SB-MW7
Conducted By:	Nathan Wilson	Concentration Units:	mg/L

Sampling Point ID:	Alkalinity	Aluminum	Boron	Chloride	Cobalt	Copper	DOC
Sampling Event	Sampling Date	SB-MW7 CONCENTRATION (mg/L)						
1	23-Oct-17	636	0.008	0.83	169	0.015	0.043	36.3
2	7-May-18	669	0.006	0.883	79.8	0.022	0.056	29.3
3	12-Jun-18	681	0.009	0.883	168	-	-	32.2
4	24-Oct-18	547	0.01	1.02	143	0.027	0.069	36.8
5	7-May-19	567	0.004	0.827	78.4	0.0151	0.044	18.4
6	22-Oct-19	592	0.009	0.922	115	0.0192	0.041	26.8
7	6-May-20	582	0.009	0.821	102	0.0182	0.046	26.8
8	6-Oct-20	62	0.155	0.224	17.6	0.001	0.004	4.1
9	20-Apr-21	538	0.019	0.822	82.7	0.0142	0.034	23
10	21-Oct-21	598	0.014	0.838	103	0.0199	0.034	27
11	5-May-22	609	0.019	0.758	97.1	0.0206	0.037	25.6
12	19-Oct-22	626	0.021	0.95	95.6	0.0194	0.044	26.8
13	4-May-23	623	0.004	0.885	90.9	0.0177	0.039	22.1
14	19-Oct-23	620	0.0049	0.94	97	0.015	0.037	23
15	29-Apr-24	590	0.0049	0.87	81	0.019	0.038	21
16	8-May-25	660	0.0049	0.83	95	0.014	0.0085	22
17	21-Oct-25	690	0.0054	1	97	0.029	0.053	25
18								
19								
20								
Coefficient of Variation:		0.24	1.98	0.21	0.35	0.35	0.40	0.29
Mann-Kendall Statistic (S):		24	-6	14	-37	-5	-29	-58
Confidence Factor:		82.6%	58.0%	70.1%	93.0%	57.1%	89.5%	99.1%
Concentration Trend:		No Trend	No Trend	No Trend	Prob. Decreasing	Stable	Stable	Decreasing



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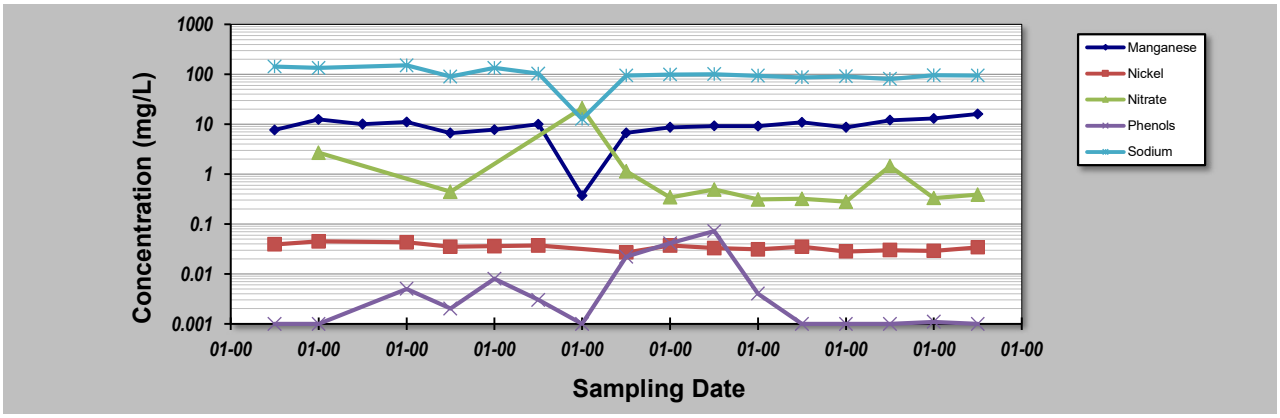
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	28-Jan-26	Job ID:	250253-09
Facility Name:	South Baptiste WDS	Constituent:	SB-MW7
Conducted By:	Nathan Wilson	Concentration Units:	mg/L

Sampling Point ID:	Iron	Manganese	Nickel	Nitrate	Phenols	Sodium	TDS
Sampling Event	Sampling Date	SB-MW7 CONCENTRATION (mg/L)						
1	23-Oct-17	0.117	7.6	0.039	<0.25	0.001	144	1120
2	7-May-18	<0.01	12.4	0.045	2.7	0.001	134	1040
3	12-Jun-18	0.011	10	-	-	-	-	1050
4	24-Oct-18	<0.01	11.1	0.043	<0.5	0.005	151	1100
5	7-May-19	<0.01	6.66	0.035	0.44	0.002	89.7	784
6	22-Oct-19	0.145	7.81	0.036	<0.25	0.008	135	926
7	6-May-20	<0.01	9.98	0.037	<0.5	0.003	103	874
8	6-Oct-20	0.081	0.369	<0.003	20.9	0.001	12.7	246
9	20-Apr-21	0.027	6.68	0.027	1.14	0.022	94.5	872
10	21-Oct-21	0.496	8.64	0.037	0.34	0.041	98.6	904
11	5-May-22	0.044	9.19	0.033	0.49	0.072	101	866
12	19-Oct-22	0.035	9.16	0.031	0.31	0.004	93.5	908
13	4-May-23	0.024	10.9	0.035	0.32	0.001	87.2	808
14	19-Oct-23	<0.1	8.7	0.028	0.28	0.001	91	940
15	29-Apr-24	<0.1	12	0.03	1.45	0.001	81	865
16	8-May-25	0.63	13	0.029	0.33	0.0011	96	905
17	21-Oct-25	<0.1	16	0.034	0.39	0.001	95	880
18								
19								
20								
Coefficient of Variation:		1.36	0.36	0.15	2.42	1.90	0.32	0.22
Mann-Kendall Statistic (S):		1	40	-55	-24	-7	-50	-40
Confidence Factor:		50.0%	94.6%	99.7%	94.2%	60.5%	98.7%	94.6%
Concentration Trend:		No Trend	Prob. Increasing	Decreasing	Prob. Decreasing	No Trend	Decreasing	Prob. Decreasing



Notes:

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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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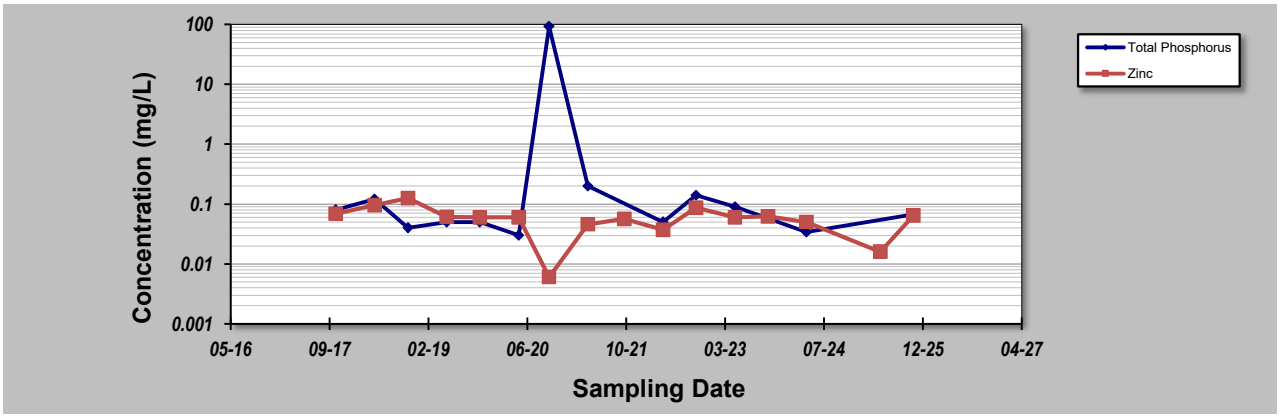
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	28-Jan-26	Job ID:	250253-09
Facility Name:	South Baptiste WDS	Constituent:	SB-MW7
Conducted By:	Nathan Wilson	Concentration Units:	mg/L

Sampling Point ID:	otal Phosphoru	Zinc					
Sampling Event	Sampling Date	SB-MW7 CONCENTRATION (mg/L)					
1	23-Oct-17	0.08	0.069				
2	7-May-18	0.12	0.096				
3	12-Jun-18	-	-				
4	24-Oct-18	0.04	0.125				
5	7-May-19	0.05	0.061				
6	22-Oct-19	0.05	0.06				
7	6-May-20	0.03	0.06				
8	6-Oct-20	92.3	0.006				
9	20-Apr-21	0.2	0.046				
10	21-Oct-21	<0.02	0.056				
11	5-May-22	0.05	0.037				
12	19-Oct-22	0.14	0.087				
13	4-May-23	0.09	0.06				
14	19-Oct-23	<0.02	0.062				
15	29-Apr-24	0.034	0.05				
16	8-May-25	<0.02	0.016				
17	21-Oct-25	0.067	0.064				
18							
19							
20							
Coefficient of Variation:		3.57	0.47				
Mann-Kendall Statistic (S):		-1	-33				
Confidence Factor:		50.0%	92.4%				
Concentration Trend:		No Trend	Prob. Decreasing				



Notes:

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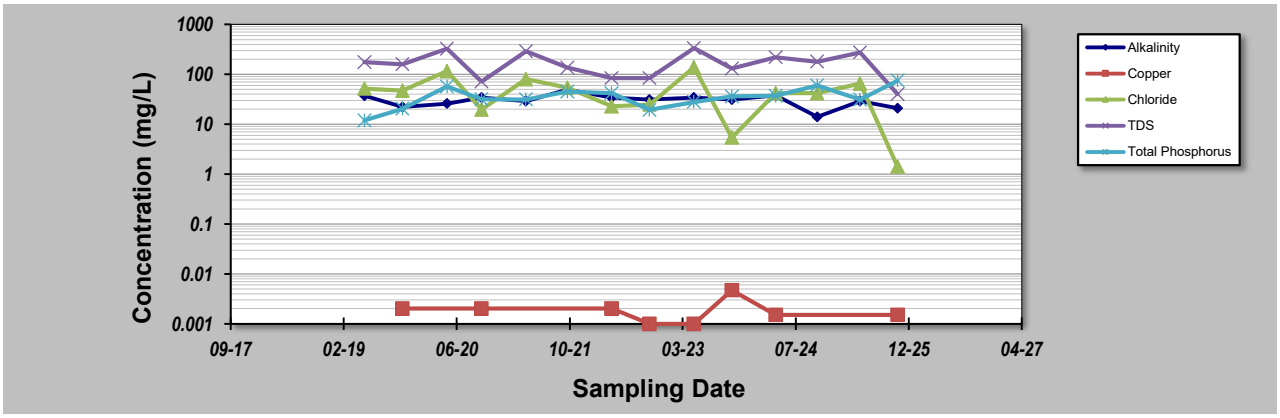
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	28-Jan-26	Job ID:	250253-09
Facility Name:	South Baptiste WDS	Constituent:	SB-MW8
Conducted By:	Nathan Wilson	Concentration Units:	mg/L

Sampling Point ID:	Alkalinity	Copper	Chloride	TDS	Total Phosphorus		
Sampling Event	Sampling Date	SB-MW8 CONCENTRATION (mg/L)						
1	7-May-19	37	<0.001	51.7	176	11.9		
2	22-Oct-19	22	0.002	46.8	160	20.4		
3	6-May-20	26	<0.002	116	324	57		
4	6-Oct-20	34	0.002	19.7	72	31.7		
5	20-Apr-21	29	<0.002	79.8	290	31.4		
6	21-Oct-21	49	<0.002	53.7	136	45		
7	5-May-22	34	0.002	22.7	84	41.8		
8	19-Oct-22	31	0.001	24.9	84	19.4		
9	4-May-23	34	0.001	138	336	27.9		
10	19-Oct-23	31	0.0047	5.4	130	36		
11	29-Apr-24	38	0.0015	42	220	37		
12	30-Oct-24	14	<0.0009	42	180	60		
13	8-May-25	29	<0.0009	65	275	31		
14	21-Oct-25	21	0.0015	1.4	40	75		
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.28	0.60	0.77	0.54	0.46		
Mann-Kendall Statistic (S):		-14	-5	-18	-6	29		
Confidence Factor:		75.8%	68.3%	82.1%	60.6%	93.7%		
Concentration Trend:		Stable	Stable	Stable	Stable	Prob. Increasing		



Notes:

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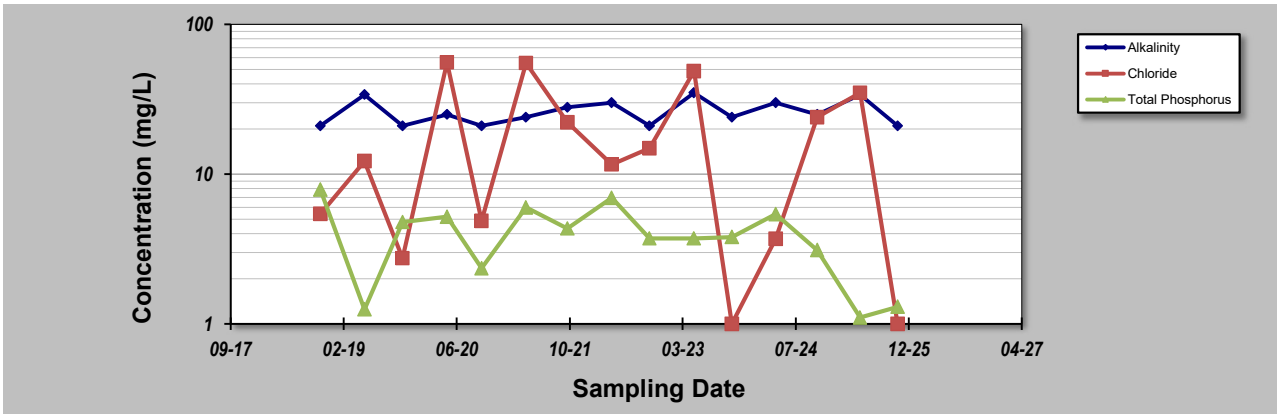
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	28-Jan-26	Job ID:	250253-09
Facility Name:	South Baptiste WDS	Constituent:	SB-MW9
Conducted By:	Nathan Wilson	Concentration Units:	mg/L

Sampling Point ID:	Alkalinity	Chloride	Total Phosphorus				
Sampling Event	Sampling Date	SB-MW9 CONCENTRATION (mg/L)						
1	24-Oct-18	21	5.42	7.9				
2	7-May-19	34	12.2	1.25				
3	22-Oct-19	21	2.74	4.79				
4	6-May-20	25	55.8	5.19				
5	6-Oct-20	21	4.87	2.35				
6	20-Apr-21	24	55.2	5.98				
7	21-Oct-21	28	22.2	4.33				
8	5-May-22	30	11.6	6.94				
9	19-Oct-22	21	14.9	3.72				
10	4-May-23	35	48.7	3.72				
11	19-Oct-23	24	1	3.8				
12	29-Apr-24	30	3.7	5.4				
13	30-Oct-24	25	24	3.1				
14	8-May-25	34	35	1.1				
15	21-Oct-25	21	1	1.3				
16								
17								
18								
19								
20								
Coefficient of Variation:		0.20	0.99	0.51				
Mann-Kendall Statistic (S):		19	-6	-32				
Confidence Factor:		81.0%	59.6%	93.7%				
Concentration Trend:		No Trend	Stable	Prob. Decreasing				



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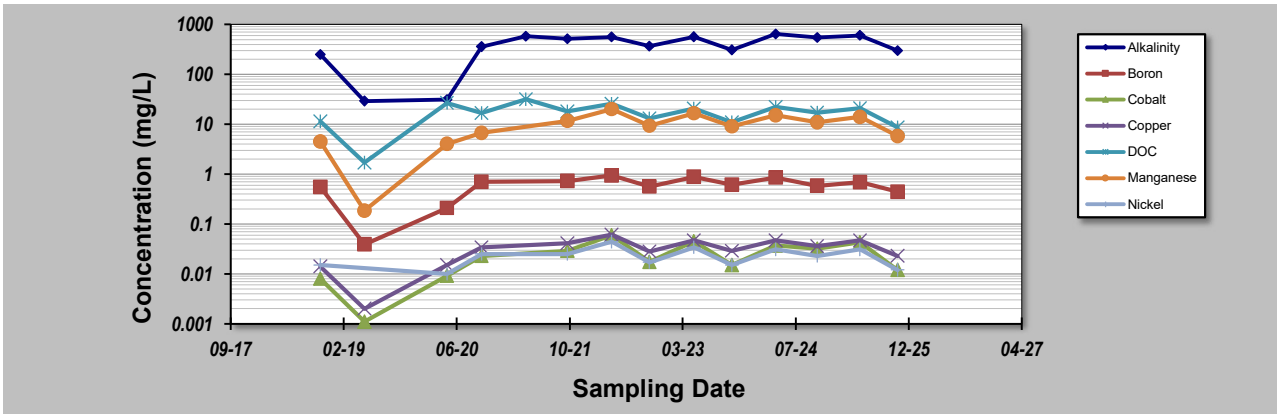
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	28-Jan-26	Job ID:	250253-09
Facility Name:	South Baptiste WDS	Constituent:	SB-MW10
Conducted By:	Nathan Wilson	Concentration Units:	mg/L

Sampling Point ID:	Alkalinity	Boron	Cobalt	Copper	DOC	Manganese	Nickel
Sampling Event	Sampling Date	SB-MW10 CONCENTRATION (mg/L)						
1	24-Oct-18	250	0.551	0.008	0.014	11.4	4.48	0.015
2	7-May-19	29	0.039	0.0011	0.002	1.7	0.185	<0.003
3	6-May-20	31	0.209	0.0092	0.015	26.8	4.03	0.01
4	6-Oct-20	359	0.697	0.023	0.034	16.8	6.73	0.025
5	20-Apr-21	576	<0.01	<0.0005	<0.002	31.7	<0.002	<0.003
6	21-Oct-21	516	0.728	0.0291	0.041	18.1	11.7	0.025
7	5-May-22	558	0.939	0.0593	0.061	25.5	20.1	0.044
8	19-Oct-22	367	0.561	0.0174	0.028	13	9.29	0.017
9	4-May-23	565	0.879	0.045	0.047	20.8	16.5	0.034
10	19-Oct-23	310	0.61	0.015	0.029	11	9	0.015
11	29-Apr-24	640	0.85	0.037	0.047	22	15	0.031
12	30-Oct-24	550	0.58	0.032	0.036	17	11	0.023
13	8-May-25	600	0.69	0.043	0.047	21	14	0.031
14	21-Oct-25	300	0.44	0.012	0.023	8.7	5.8	0.012
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.50	0.43	0.68	0.50	0.45	0.57	0.43
Mann-Kendall Statistic (S):		33	12	26	27	-3	24	5
Confidence Factor:		96.0%	74.5%	93.6%	94.3%	54.3%	91.8%	60.6%
Concentration Trend:		Increasing	No Trend	Prob. Increasing	Prob. Increasing	Stable	Prob. Increasing	No Trend



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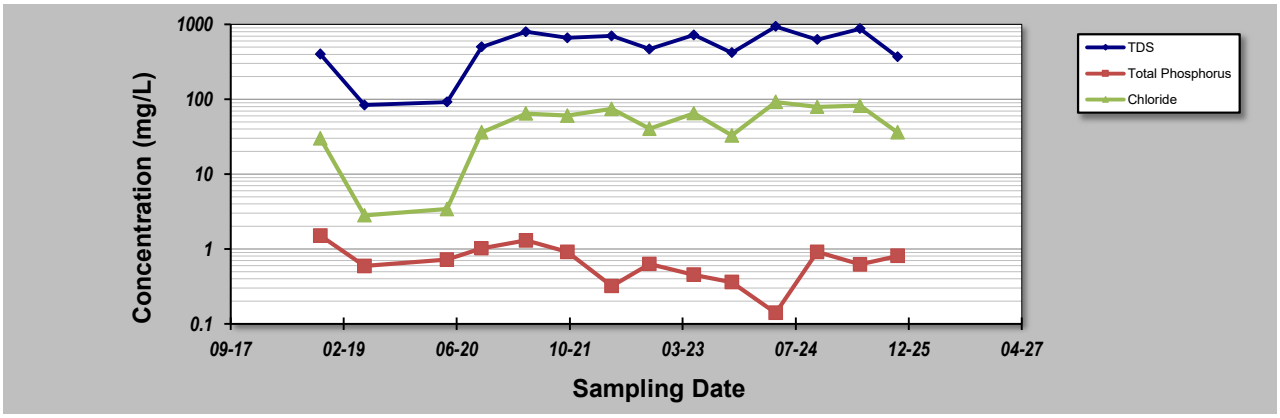
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	28-Jan-26	Job ID:	250253-09
Facility Name:	South Baptiste WDS	Constituent:	SB-MW10
Conducted By:	Nathan Wilson	Concentration Units:	mg/L

Sampling Point ID:	TDS	otal Phosphoru	Chloride				
Sampling Event	Sampling Date	SB-MW10 CONCENTRATION (mg/L)						
1	24-Oct-18	402	1.51	30				
2	7-May-19	84	0.59	2.81				
3	6-May-20	92	0.72	3.4				
4	6-Oct-20	500	1.02	36.2				
5	20-Apr-21	798	1.3	64.6				
6	21-Oct-21	660	0.91	60.5				
7	5-May-22	704	0.32	74.6				
8	19-Oct-22	470	0.63	40.4				
9	4-May-23	724	0.45	65.1				
10	19-Oct-23	420	0.36	33				
11	29-Apr-24	940	0.14	92				
12	30-Oct-24	630	0.91	79				
13	8-May-25	875	0.62	82				
14	21-Oct-25	370	0.81	36				
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.48	0.51	0.56				
Mann-Kendall Statistic (S):		27	-26	43				
Confidence Factor:		92.1%	91.3%	99.0%				
Concentration Trend:		Prob. Increasing	Prob. Decreasing	Increasing				



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GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	28-Jan-26	Job ID:	250253-09
Facility Name:	South Baptiste WDS	Constituent:	SB-MW11
Conducted By:	Nathan Wilson	Concentration Units:	mg/L

Sampling Point ID:	Boron	Manganese	Sodium	Sulphate	TDS	otal Phosphorus	
Sampling Event	Sampling Date	SB-MW11 CONCENTRATION (mg/L)						
1	4-May-23	1.36	0.035	155	652	1080	0.4	
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
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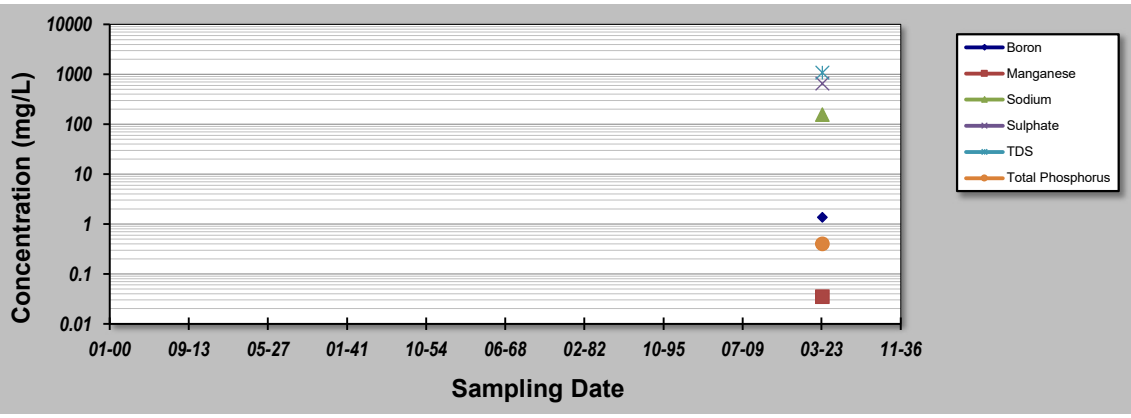
20								
Coefficient of Variation:								
Mann-Kendall Statistic (S):								
Confidence Factor:								
Concentration Trend:								



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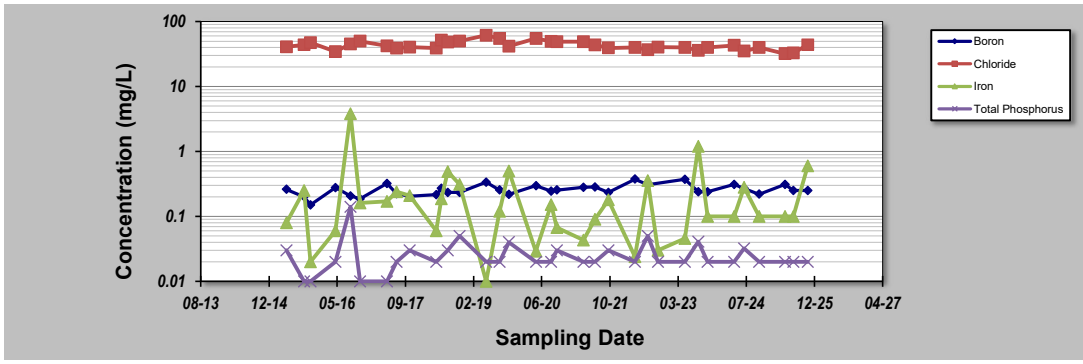
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	28-Jan-26	Job ID:	250253-09
Facility Name:	South Baptiste WDS	Constituent:	BAP-A
Conducted By:	Nathan Wilson	Concentration Units:	mg/L

Sampling Point ID:	Boron	Chloride	Iron	Total Phosphorus			
Sampling Event	Sampling Date	BAP-A CONCENTRATION (mg/L)						
1	4-May-15	0.26	40.6	0.08	0.03			
2	9-Sep-15	0.201	44.1	0.25	0.01			
3	26-Oct-15	0.15	47.6	0.02	0.01			
4	28-Apr-16	0.278	34.6	0.06	0.02			
5	17-Aug-16	0.207	45.3	3.84	0.14			
6	26-Oct-16	0.186	50	0.16	0.01			
7	10-May-17	0.321	42.5	0.17	0.01			
8	20-Jul-17	0.224	38.9	0.24	0.02			
9	23-Oct-17	0.205	40.3	0.21	0.03			
10	7-May-18	0.215	38.9	0.06	0.02			
11	12-Jun-18	0.27	51.6	0.187	-			
12	30-Jul-18	0.234	48.1	0.49	0.03			
13	24-Oct-18	0.235	50.2	0.31	0.05			
14	7-May-19	0.339	61.8	0.01	0.02			
15	14-Aug-19	0.255	55.2	0.12	0.02			
16	22-Oct-19	0.218	41.9	0.5	0.04			
17	6-May-20	0.298	54.7	0.029	0.02			
18	25-Aug-20	0.245	49.5	0.152	0.02			
19	6-Oct-20	0.255	49	0.067	0.03			
20	20-Apr-21	0.279	49.4	0.043	0.02			
21	14-Jul-21	0.283	43.7	0.09	0.02			
22	21-Oct-21	0.235	39.3	0.18	0.03			
23	3-May-22	0.375	39.8	0.024	0.02			
24	4-Aug-22	0.306	36.9	0.354	0.05			
25	18-Oct-22	-	40.3	0.03	0.02			
26	3-May-23	-	-	-	-			
27	4-May-23	0.374	40.2	0.046	0.02			
28	9-Aug-23	0.24	36	1.2	0.041			
29	19-Oct-23	0.24	40	0.1	0.02			
30	29-Apr-24	0.31	43	0.1	0.02			
31	10-Jul-24	0.27	35	0.28	0.032			
32	29-Oct-24	0.22	40	0.1	0.02			
33	8-May-25	0.31	32	0.1	0.02			
34	7-Jul-25	0.25	33	0.1	0.02			
35	21-Oct-25	0.25	44	0.6	0.02			
36								
37								
38								
39								
40								
Coefficient of Variation:		0.20	0.16	2.20	0.82			
Mann-Kendall Statistic (S):		160	-148	6	38			
Confidence Factor:		99.4%	98.6%	52.9%	71.5%			
Concentration Trend:		Increasing	Decreasing	No Trend	No Trend			



Notes:

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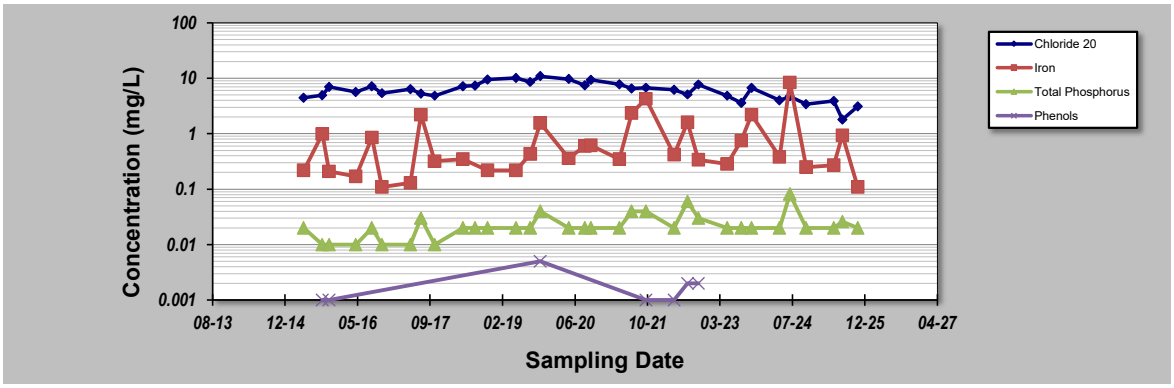
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	28-Jan-26	Job ID:	250253-09
Facility Name:	South Baptiste WDS	Constituent:	BAP-B
Conducted By:	Nathan Wilson	Concentration Units:	mg/L

Sampling Point ID:	Chloride	Iron	otal Phosphoru	Phenols			
Sampling Event	Sampling Date	BAP-B CONCENTRATION (mg/L)						
1	4-May-15	4.44	0.22	0.02	<0.001			
2	9-Sep-15	4.94	0.99	0.01	0.001			
3	26-Oct-15	7.02	0.21	0.01	0.001			
4	28-Apr-16	5.6	0.17	0.01	<0.001			
5	17-Aug-16	7.15	0.85	0.02	<0.001			
6	26-Oct-16	5.36	0.11	0.01	<0.001			
7	10-May-17	6.33	0.13	0.01	<0.001			
8	20-Jul-17	5.3	2.19	0.03	<0.001			
9	23-Oct-17	4.85	0.32	0.01	<0.001			
10	7-May-18	7.17	0.35	0.02	<0.001			
11	30-Jul-18	7.35	-	0.02	<0.001			
12	24-Oct-18	9.46	0.22	0.02	<0.001			
13	7-May-19	10.1	0.22	0.02	<0.001			
14	14-Aug-19	8.53	0.43	0.02	<0.001			
15	22-Oct-19	10.9	1.56	0.04	0.005			
16	6-May-20	9.67	0.362	0.02	<0.001			
17	25-Aug-20	7.44	0.602	0.02	<0.001			
18	6-Oct-20	9.3	0.618	0.02	<0.001			
19	20-Apr-21	7.79	0.35	0.02	<0.001			
20	14-Jul-21	6.51	2.36	0.04	<0.001			
21	21-Oct-21	6.75	4.29	0.04	0.001			
22	3-May-22	6.2	0.419	0.02	0.001			
23	4-Aug-22	5.08	1.6	0.06	0.002			
24	18-Oct-22	7.72	0.339	0.03	0.002			
25	3-May-23	-	-	-	<0.001			
26	4-May-23	4.83	0.282	0.02	-			
27	9-Aug-23	3.6	0.75	0.02	<0.001			
28	19-Oct-23	6.7	2.2	0.02	<0.001			
29	29-Apr-24	4	0.38	0.02	<0.001			
30	10-Jul-24	4.7	8.4	0.082	<0.001			
31	29-Oct-24	3.4	0.25	0.02	<0.001			
32	8-May-25	3.9	0.27	0.02	<0.001			
33	7-Jul-25	1.8	0.94	0.026	<0.001			
34	21-Oct-25	3.1	0.11	0.02	<0.001			
35								
Coefficient of Variation:		0.35	1.60	0.62	0.79			
Mann-Kendall Statistic (S):		-140	89	170	6			
Confidence Factor:		98.5%	92.3%	99.6%	76.4%			
Concentration Trend:		Decreasing	Prob. Increasing	Increasing	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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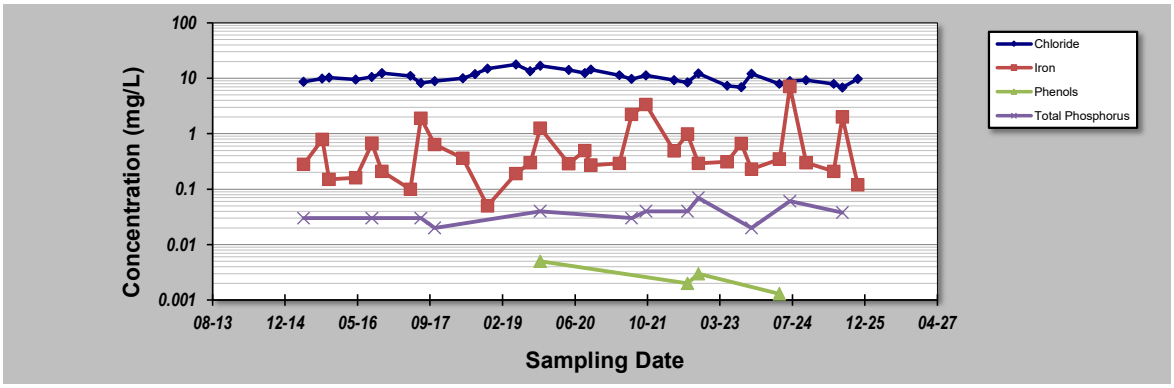
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	28-Jan-26	Job ID:	250253-09
Facility Name:	South Baptiste WDS	Constituent:	BAP-C
Conducted By:	Nathan Wilson	Concentration Units:	mg/L

Sampling Point ID:	Chloride	Iron	Phenols	otal Phosphorus			
Sampling Event	Sampling Date	BAP-C CONCENTRATION (mg/L)						
1	4-May-15	8.64	0.28	<0.001	0.03			
2	9-Sep-15	9.81	0.79	<0.001	<0.01			
3	26-Oct-15	10.3	0.15	<0.001	<0.01			
4	28-Apr-16	9.48	0.16	<0.001	<0.01			
5	17-Aug-16	10.6	0.67	<0.001	0.03			
6	26-Oct-16	12.4	0.21	<0.001	<0.01			
7	10-May-17	11	0.1	<0.001	<0.01			
8	20-Jul-17	8.18	1.89	<0.001	0.03			
9	23-Oct-17	8.9	0.64	<0.001	0.02			
10	7-May-18	9.98	0.36	<0.001	<0.02			
11	30-Jul-18	11.8	-	<0.001	<0.02			
12	24-Oct-18	14.9	0.05	<0.001	<0.02			
13	7-May-19	17.7	0.19	<0.001	<0.02			
14	14-Aug-19	13.4	0.3	<0.001	<0.02			
15	22-Oct-19	16.8	1.26	0.005	0.04			
16	6-May-20	14.1	0.288	<0.001	<0.02			
17	25-Aug-20	12.4	0.496	<0.001	<0.02			
18	6-Oct-20	14.4	0.271	<0.001	<0.02			
19	20-Apr-21	11.3	0.294	<0.001	<0.02			
20	14-Jul-21	9.65	2.21	<0.001	0.03			
21	21-Oct-21	11.2	3.35	<0.001	0.04			
22	3-May-22	9.15	0.493	<0.001	<0.02			
23	4-Aug-22	8.44	0.983	0.002	0.04			
24	18-Oct-22	12.1	0.293	0.003	0.07			
25	3-May-23	-	-	<0.001	-			
26	4-May-23	7.33	0.311	-	<0.02			
27	9-Aug-23	6.9	0.66	<0.001	<0.02			
28	19-Oct-23	12	0.23	<0.001	0.02			
29	29-Apr-24	7.9	0.35	0.0013	<0.02			
30	10-Jul-24	8.9	7.1	<0.001	0.061			
31	29-Oct-24	9.2	0.3	<0.001	<0.02			
32	8-May-25	7.9	0.21	<0.001	<0.02			
33	7-Jul-25	6.8	2	<0.001	0.038			
34	21-Oct-25	9.8	0.12	<0.001	<0.02			
35								
Coefficient of Variation:		0.25	1.61	0.57	0.40			
Mann-Kendall Statistic (S):		-107	58	-4	20			
Confidence Factor:		95.0%	82.1%	83.3%	90.2%			
Concentration Trend:		Prob. Decreasing	No Trend	Stable	Prob. Increasing			



Notes:

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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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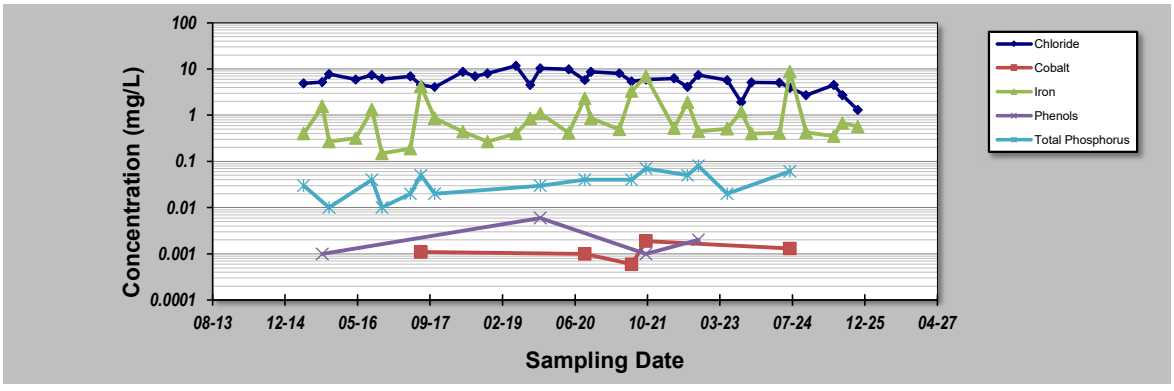
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	28-Jan-26	Job ID:	250253-09
Facility Name:	South Baptiste WDS	Constituent:	BAP-D
Conducted By:	Nathan Wilson	Concentration Units:	mg/L

Sampling Point ID:	Chloride	Cobalt	Iron	Phenols	Total Phosphorus		
Sampling Event	Sampling Date	BAP-D CONCENTRATION (mg/L)						
1	4-May-15	4.86	<0.0005	0.4	<0.001	0.03		
2	9-Sep-15	5.16	<0.003	1.56	0.001	<0.01		
3	26-Oct-15	7.72	<0.0005	0.27	<0.001	0.01		
4	28-Apr-16	5.85	<0.0005	0.32	<0.001	<0.01		
5	17-Aug-16	7.37	<0.0005	1.33	<0.001	0.04		
6	26-Oct-16	6.09	<0.0005	0.15	<0.001	0.01		
7	10-May-17	6.93	<0.0005	0.19	<0.001	0.02		
8	20-Jul-17	4.5	0.0011	4.25	<0.001	0.05		
9	23-Oct-17	4.08	<0.0005	0.87	<0.001	0.02		
10	7-May-18	8.63	<0.0005	0.44	<0.001	<0.02		
11	30-Jul-18	6.94	-	-	<0.001	<0.02		
12	24-Oct-18	7.99	<0.0005	0.27	<0.001	<0.02		
13	7-May-19	11.8	<0.0005	0.4	<0.001	<0.02		
14	14-Aug-19	4.48	<0.0005	0.85	<0.001	<0.02		
15	22-Oct-19	10.4	<0.0005	1.09	0.006	0.03		
16	6-May-20	9.86	<0.0005	0.412	<0.001	<0.02		
17	25-Aug-20	5.78	0.001	2.3	<0.001	0.04		
18	6-Oct-20	8.7	<0.0005	0.855	<0.001	<0.02		
19	20-Apr-21	8.04	<0.0005	0.495	<0.001	<0.02		
20	14-Jul-21	5.32	0.0006	3.32	<0.001	0.04		
21	21-Oct-21	5.89	0.0019	6.97	0.001	0.07		
22	3-May-22	6.26	<0.0005	0.528	<0.001	<0.02		
23	4-Aug-22	4.1	<0.0005	1.9	<0.001	0.05		
24	18-Oct-22	7.42	<0.0005	0.444	0.002	0.08		
25	3-May-23	-	-	-	<0.001	-		
26	4-May-23	5.67	<0.0005	0.513	-	0.02		
27	9-Aug-23	1.9	<0.0005	1.2	<0.001	<0.02		
28	19-Oct-23	5.1	<0.0005	0.4	<0.001	<0.02		
29	29-Apr-24	5	<0.0005	0.41	<0.001	<0.02		
30	10-Jul-24	3.9	0.0013	8.8	<0.001	0.061		
31	29-Oct-24	2.7	<0.0005	0.43	<0.001	<0.02		
32	8-May-25	4.5	<0.0005	0.35	<0.001	<0.02		
33	7-Jul-25	2.7	<0.0005	0.67	<0.001	<0.02		
34	21-Oct-25	1.3	<0.0005	0.57	<0.001	<0.02		
35								
Coefficient of Variation:		0.40	0.40	1.46	0.95	0.56		
Mann-Kendall Statistic (S):		-168	2	62	1	48		
Confidence Factor:		99.6%	59.2%	83.7%	50.0%	99.1%		
Concentration Trend:		Decreasing	No Trend	No Trend	No Trend	Increasing		



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Appendix H

Trigger Mechanisms and Contingency Plan

SOUTH BAPTISTE LAKE WASTE DISPOSAL SITE
TRIGGER MECHANISMS - (ACCEPTED 25-JUNE-2018 REV.01-AUG 2019)

OBJECTIVE AND BACKGROUND

The objective of the trigger mechanisms and contingency plan for the South Baptiste Lake Waste Disposal Site (WDS) is to identify the off-site migration of leachate impacted groundwater, and ensure timely action to prevent and mitigate any adverse impacts to the environment.

OBJECTIVE 1: SURFACE WATER IMPACTS

To identify migration of leachate impacted groundwater discharging to adjacent surface water bodies; to identify impacts to surface water bodies; and ensure timely action to prevent and mitigate any adverse impacts to the environment.

Northeast Property Boundary-Surface Water

Assessment Points- BAP-A
Trigger Parameter- Toxicity test (Single Concentration – Acute Lethality) collected from the assessment point.
Frequency-Sampling three times per year (Spring, Summer and Fall)
Contingency Plan is activated if test results are greater than 50% mortality and is deemed a "failure" of the test.

References:

1. Environment Canada, "Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to Rainbow Trout", Environmental Technology Centre, Ottawa, Ontario, Report EPS 1/RM/13 Second Edition - December 2000, including May 2007 and February 2016 Amendments.
2. Environment Canada, "Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to Daphnia magna", Environmental Technology Centre, Ottawa, Ontario, Report EPS 1/RM/14 Second Edition - December2000, including February 2016 Amendments.

Northeast Property Boundary-Surface Water

Assessment Points- MW-4, MW-7
Trigger Parameter- Toxicity test (Single Concentration – Acute Lethality) collected from the assessment point BAP-A.
Frequency-Sampling twice per year (Spring and Fall)
Contingency Plan is activated if three or more of the following triggers occur at the assessment point during one sampling event:

- Alkalinity, Boron, Chloride, Cobalt, Iron and TDS exceeds the Trigger Values identified in Table 1 below.

- Un-ionized ammonia exceeds the Provincial Water Quality Objectives (PWQO). At the assessment point during one sampling event.

The Trigger Values are based on the PWQO, Canadian Water Quality Guidelines (CWQG), or the 75th percentile of results from May 2006 to May 2017 for BAP-D (background) sampling location and are provided in Tables 1.

Table 1: BAP-A Trigger Values for Select Parameters

Parameter	PWQO mg/L	CWQG mg/L	75th Percentile Concentration mg/L
Alkalinity	*Lower limit 45 – Upper Limit 75*		
Boron	*0.20*		
Chloride		*128*	
Cobalt	*0.0009*		
Iron			*0.93*
TDS			*107*
Unionized Ammonia	*0.02*		

CONTINGENCY PLAN – SURFACE WATER

Tier 1: The tri-annual toxicity test results at BAP-A will serve as the first sampling event for the Tier 1 Contingency Plan for the MW-4 and MW7 assessment points in addition to the surface water BAP-A assessment point. If the tri-annual toxicity tests results fail at BAP-A proceed with Tier 2 measures.

Tier 2: If the exceedances are confirmed through Tier 1 sampling then the following measures will be implemented depending on the nature of the trigger activation:

1. A second toxicity test (Single Concentration – Acute Lethality) sample will be collected within one week to confirm the impacts to surface water at BAP-A. If the toxicity test passes then no additional mitigation measures will be required. If toxicity tests fail then proceed with:
    a. Identification of other potential causes for elevated concentrations through additional studies to be completed within two months of the second failed toxicity test. Following the three months and if no other potential causes for the elevated concentrations have been identified proceed to Tier 3 measures.

Tier 3: If the increased sampling and/or additional studies indicate a continuing issue resulting in impacts or potential significant impacts to the environment, then mitigation/remediation measures will be implemented to prevent further impact. These measures would be aimed at intercepting or diverting the impacted surface water/groundwater before it reaches a receptor. The specifics of the plan will be dependent on the nature of the impact.





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