Appendix F.4

Baseline Groundwater Program, Beaver Dam - March 20, 2021
Completed for the Updated 2021 Beaver Dam Mine EIS

Memorandum

March 20, 2021

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Subject: Baseline Groundwater Program, Beaver Dam

1. Introduction

GHD Limited (GHD) is pleased to provide you with the results of the quarterly groundwater monitoring event completed November 3 - 5, 2020 at the Beaver Dam Gold Project Site. The Site is located on Beaver Dam Mines Rd, in Marinette, Nova Scotia approximately 84.0 km northeast of Halifax, in Halifax County, Nova Scotia (Figure 1). The sampling was completed on behalf of Atlantic Mining NS Corp (Atlantic). The purpose of the sampling was to collect baseline groundwater quality and quantity data conditions to support the Environmental Impact Statement (EIS) process to develop the Project.

This Technical Memo presents the findings from the November 2020 monitoring event and summarizes the data for all sampling events since well installation in 2018 through to 2020 (9 events).

1.1 Coordinate, Datum and Unit Systems

All coordinates are referenced to North American Datum 1983 (NAD83[CSRS]). Universal Transverse Mercator (UTM) Grid Projection Zone 20. All vertical levels are referenced to Canadian Geodetic Vertical Datum of 1928 (CGVD28).

This memo presents the International System of Units (SI), and length in meters (m), mass in kilograms (kg), and pressure in Pascals (Pa).

2. Methodology

2.1 Monitoring Locations

Groundwater monitoring well ID's and coordinates are presented in Table 2.1, below.

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Table 2.1 Monitoring Well Locations and Elevations

Monitoring Well ID	Coordinates (UTM Zone 20, NAD83 [CSRS])		Recorded Drilled Depth (m bgs)	Reference Elevation (masl)
	Northing (m)	Easting (m)		
MW-01A	520942.252	4990095.110	6.30	150.959
MW-01B	520943.031	4990093.660	15.30	151.013
MW-01C	520944.122	4990092.462	30.06	151.185
MW-02A	520728.778	4989595.501	4.72	151.883
MW-02B	520730.397	4989594.708	15.60	151.943
MW-03A	521823.117	4989220.163	6.32	166.846
MW-03B	521823.540	4989222.229	15.32	166.798
MW-03C	521824.051	4989223.934	30.30	166.751
MW-04A	522649.993	4989640.335	5.96	164.919
MW-04B	522649.439	4989639.523	15.53	164.967
MW-05A	521746.140	4990210.163	6.10	141.092
MW-05B	521747.858	4990208.591	15.57	141.249
MW-05C	521745.609	4990207.042	60.43	141.351
MW-05D	521742.062	4990206.839	30.48	141.769
MW-07A	522676.986	4990257.899	7.49	130.800
MW-07B	522677.763	4990256.675	15.49	130.954
MW-07C	522676.908	4990255.360	60.96	130.988
MW-07D	522674.898	4990259.556	30.48	130.707
MW-09A	522024.415	4990682.566	7.14	134.380
MW-09B	522022.788	4990682.720	15.39	134.199
MW-09C	522022.547	4990680.996	63.37	134.152
MW-09D	522023.739	4990684.215	30.48	134.162
MW-11A	522324.169	4990130.598	6.09	148.188
MW-11B	522325.095	4990132.870	15.24	147.912
MW-11C	522323.713	4990132.377	26.01	147.950
MW-12A	521711.672	4991000.037	6.10	147.966
MW-12B	521710.995	4990999.179	25.83	147.947
MW-14A	523253.265	4989830.507	6.10	137.792
MW-14B	523253.939	4989828.780	26.04	137.902
MW-14C	523254.933	4989827.886	41.15	137.716
MW-16A	522898.761	4990744.060	7.14	154.224
MW-16B	522898.057	4990742.630	15.24	154.213
MW-17A	524121.346	4990324.445	4.57	154.859
MW-17B	524123.059	4990323.426	9.17	154.875
MW-17C	524124.712	4990324.229	15.44	154.659
MW-18A	523118.888	4991142.236	7.62	147.876

Table 2.1 Monitoring Well Locations and Elevations

Monitoring Well ID	Coordinates (UTM Zone 20, NAD83 [CSRS])		Recorded Drilled Depth (m bgs)	Reference Elevation (masl)
	Northing (m)	Easting (m)		
MW-18B	523120.436	4991141.883	15.77	147.743
MW-18C	523121.844	4991141.264	35.05	147.871
MW-19A	520765.986	4991427.087	4.72	133.973
MW-19B	520764.377	4991426.125	15.37	133.998
MW-19C	520762.233	4991425.291	30.30	133.985
MW-20A	520263.534	4990264.985	7.62	152.680
MW-20B	520263.490	4990263.750	15.27	152.616
MW-21A	521749.236	4987642.034	6.35	158.895
MW-21B	521747.935	4987641.733	15.42	158.915
MW-21C	521749.207	4987639.956	30.48	158.800
MW-22A	524377.001	4988520.078	6.55	139.440
MW-22B	524377.199	4988521.744	15.55	139.545
MW-22C	524377.504	4988523.209	29.03	139.504

Note: Groundwater locations were established, and monitoring wells were installed by GHD Ltd. in 2018 as part of the field activities[1] completed at the Site. Monitoring wells were surveyed by WSP in 2018.

[1] Field Activities Report – Beaver Dam Mine Project, Marinette, Nova Scotia, GHD Ltd., November 8, 2018.

2.2 Groundwater Levels

Groundwater static water levels were monitored relative to surveyed referenced points (top of PVC casing), and recorded with an electric water level probe in the field. Groundwater static levels are presented in Table 3.1. All monitoring wells on-site also have transducers (Leveloggers) installed to automatically record hourly water levels.

GHD removed the Leveloggers from the monitoring well and downloaded the data. GHD also downloaded BarroLogger data, to compensate the pressure data for the effects of atmospheric pressure and to facilitate compensation of the transducer data. Transducers were re-installed following the sampling event. Groundwater level hydrographs are presented in Appendix A.

2.3 Groundwater Sampling

GHD collected groundwater samples from all available monitoring wells on November 4-5, 2020, with the exception of monitoring wells MW-05C, MW-07C, and MW-09C. Monitoring wells MW-05C, MW-07C, and MW-09C were installed in 2018 to an approximate depth of 60.0 m for the purpose of completing slug/packer tests and advanced hydrogeological modelling. These monitoring wells are not sampled as part of the quarterly groundwater monitoring program. Prior to collecting the groundwater samples, the static water levels were measured in each monitoring well, and the groundwater purged. GHD purged a minimum of three well volumes from the wells, or until the went dry, and monitored stabilization parameters (temperature, pH, and conductivity) until groundwater in the monitoring well was representative of conditions of the aquifer.

The water level in each of the monitoring wells was allowed to recover to its approximate static water level prior to collecting groundwater samples. GHD returned to the well within 24 hours to collect the groundwater sample. This approach allowed any silt in the water column to settle to the bottom of the well and avoided it becoming entrained in the groundwater sample. This is intended to reduce the amount of turbidity, and associated filtering, required to prepare the groundwater samples collected for metals analysis.

All groundwater samples were collected using dedicated bailers, with the exception of the samples for dissolved metals (including mercury) and dissolved organic carbon (DOC) analysis, which were filtered first using a syringe and 0.45 µm filter or dedicated Waterra tubing and in-line filters. The groundwater samples were placed directly in new laboratory supplied sample bottles and then transferred to coolers with ice immediately after they were collected. The samples were maintained in cool storage until delivery to Bureau Veritas Laboratories (BV Labs) in Bedford, Nova Scotia. All waste generated from the sampling program was collected and disposed off-site, in accordance with provincial and municipal legislation, by GHD personnel.

The groundwater samples collected from the monitoring wells were submitted to BV Labs for the following analysis: total and dissolved mercury, general chemistry, total and dissolved metals, total and dissolved phosphorous, chemical oxygen demand, dissolved organic carbon (DOC), and total suspended solids.

QA/QC protocols included the collection of one field duplicate samples for every 10 samples. The results of the QA/QC sampling was used to evaluate the reliability of the sampling and analysis methods. A total of five field duplicates were collected during the November 2020 monitoring event, at the following locations: Dup-1 (Field duplicate of MW-02A), Dup-2 (Field duplicate of MW-01B), Dup-3 (Field duplicate of MW-09D), Dup-4 (Field duplicate of MW-05B), and Dup-5 (Field duplicate of MW-11A).

3. Quarterly Monitoring Results

3.1 Groundwater Levels

During the quarterly event in November 2020, the depth to groundwater ranged from 0.895 metres below top of riser (mbtr) (MW-05D) to 12.065 mbtr (MW-21C), with most of the static water levels ranging from approximately 1.0 m btr – 3.0 m btr. The groundwater surface elevations are shown in Table 2.1, and the groundwater elevations and total well depths are summarized in Table 3.1 below.

Groundwater elevations measured in November 2020 range from 128.58 metres above sea level (masl) (MW-07A) to 163.62 masl (MW-03A). Precipitation data shown on the hydrographs is from the Halifax Stanfield International Airport Weather Station (ID:8202251), located approximately 65 km from the Site. The November 2020 groundwater elevations are within the range of previous measurements. The separation of the groundwater elevations in the shallow wells (designated with a “A”) versus the shallow bedrock wells (designated with a “B”) range from 0.06 m to 2.75 m. The vertical hydraulic gradient is directed downward at 12 of the A/B well pairs and upward at five well pairs. The separation of the groundwater elevations in the shallow bedrock wells (designated with a “B”) versus the intermediate bedrock wells (designated with a “C”) range from 0.06 m to 5.82 m. The vertical hydraulic gradient is directed downward at seven of the B/C well pairs and upward at five well pairs.

The hydrographs generally show long-term fluctuations where elevations decline in late spring to reach seasonal lows in August and September and then recover in the fall and eventually reach seasonal highs in the spring. Superimposed on these seasonal trends are the short term fluctuations caused by precipitation events. The hydrograph for MW-09C shows no data past June 2020 as the cap was broken and the logger removed from the monitoring well. GHD personnel removed the logger during the July 2020 sampling event. The cap will be replaced and logger reinstalled in the monitoring well in 2021.

Table 3.1 Groundwater Monitoring Levels

Monitoring Well ID	Date	Reference Elevation (masl)	Static Water Level (m)	Total Recorded Depth (November 2020)	Groundwater Elevation (masl)
MW-01A	3-Nov-20	150.959	3.200	7.19	147.23
MW-01B	3-Nov-20	151.013	3.485	16.398	147.13
MW-01C	3-Nov-20	151.185	3.242	30.06	147.41
MW-02A	3-Nov-20	151.883	1.793	5.62	149.62
MW-02B	3-Nov-20	151.943	2.952	16.62	148.49
MW-03A	3-Nov-20	166.846	2.799	7.20	163.62
MW-03B	3-Nov-20	166.798	4.000	16.50	162.37
MW-03C	3-Nov-20	166.751	4.022	30.30	162.31
MW-04A	4-Nov-20	164.919	1.267	6.83	163.39
MW-04B	4-Nov-20	164.967	1.185	16.69	163.50
MW-05A	4-Nov-20	141.092	1.111	6.87	139.74
MW-05B	4-Nov-20	141.249	1.224	16.56	139.67
MW-05C	4-Nov-20	141.351	1.011	60.43	139.94
MW-05D	4-Nov-20	141.769	0.895	NM	140.45
MW-07A	4-Nov-20	130.800	1.882	NM	128.58
MW-07B	4-Nov-20	130.954	1.602	NM	129.00
MW-07C	4-Nov-20	130.988	1.969	60.96	128.62
MW-07D	4-Nov-20	130.707	1.552	NM	128.70
MW-09A	4-Nov-20	134.380	3.533	8.18	130.36
MW-09B	4-Nov-20	134.199	3.506	16.67	130.24
MW-09C	4-Nov-20	134.152	3.648	60.37	130.14
MW-09D	4-Nov-20	134.162	3.501	30.48	130.20
MW-11A	3-Nov-20	148.188	1.320	NM	146.52
MW-11B	3-Nov-20	147.912	2.904	NM	144.81
MW-11C	3-Nov-20	147.950	1.329	NM	146.47
MW-12A	4-Nov-20	147.966	1.905	6.84	146.00
MW-12B	4-Nov-20	147.947	7.418	27.08	140.40
MW-14A	3-Nov-20	137.792	2.689	NM	134.72
MW-14B	3-Nov-20	137.902	2.255	NM	135.19
MW-14C	3-Nov-20	137.716	1.674	NM	135.81

Table 3.1 Groundwater Monitoring Levels

Monitoring Well ID	Date	Reference Elevation (masl)	Static Water Level (m)	Total Recorded Depth (November 2020)	Groundwater Elevation (masl)
MW-16A	3-Nov-20	154.224	3.056	NM	150.69
MW-16B	3-Nov-20	154.213	2.898	NM	150.87
MW-17A	3-Nov-20	154.859	3.029	NM	151.48
MW-17B	3-Nov-20	154.875	3.023	NM	151.39
MW-17C	3-Nov-20	154.659	3.277	NM	151.08
MW-18A	3-Nov-20	147.876	1.816	NM	145.68
MW-18B	3-Nov-20	147.743	1.855	NM	145.64
MW-18C	3-Nov-20	147.871	1.774	NM	145.54
MW-19A	3-Nov-20	133.973	1.653	5.45	131.94
MW-19B	3-Nov-20	133.998	1.742	16.03	131.88
MW-19C	3-Nov-20	133.985	1.660	30.30	132.03
MW-20A	3-Nov-20	152.680	2.052	8.72	150.05
MW-20B	3-Nov-20	152.616	2.245	16.42	149.95
MW-21A	3-Nov-20	158.895	3.675	7.14	154.89
MW-21B	3-Nov-20	158.915	6.377	16.48	152.14
MW-21C	3-Nov-20	158.800	12.060	30.48	146.32
MW-22A	4-Nov-20	139.440	1.541	NM	137.59
MW-22B	4-Nov-20	139.545	2.143	NM	137.01
MW-22C	4-Nov-20	139.504	2.175	NM	136.95

Notes:
NM denotes 'Not Measured' during the November 2020 monitoring program. Well depths will be measured at all monitoring events in the future.

3.2 2018 – 2020 Monitoring Summary

Groundwater samples have been collected on near quarterly basis from the Beaver Dam Mine Project Site in June, September and November 2018, April, June and October 2019, April, July, and November 2020.

GHD compared all groundwater analytical results to the Canadian Drinking Water Quality Guidelines (CDWQG) and the Nova Scotia Environment (NSE) Pathway Specific Standards (PSS) for groundwater discharging to surface water (0-10 m from a freshwater body). All historical groundwater quality results collected between 2018 – 2020 compared to the applicable standards are presented in Table 3.2 (General Chemistry) and Table 3.3 (Metals) (both tables follow the text). Laboratory analytical certificates for all historical data collected from the Beaver Dam Mine Site are provided in Appendix B.

3.3 November 2020 Analytical Summary

The following section provides an overview of the November 2020 groundwater monitoring program analytical results and exceedances. GHD compared all groundwater analytical results to the CDWQG and

the NSE PSS for groundwater discharging to surface water (0-10 m from a freshwater body). Laboratory analytical certificates for the data are provided in Appendix B. Groundwater exceedances indicated in the analytical results from November 2020 are summarized in Table 3.4 (General Chemistry) and Table 3.5 (Metals) below.

Table 3.4 November 2020 Groundwater Exceedances – General Chemistry

Monitoring Well ID	Date	NSE PSS for GW; GW Discharge to Surface Water (0-10 m from a freshwater body)	Canadian Drinking Water Quality Guidelines; MAC	Canadian Drinking Water Quality Guidelines; AO
MW-01A	3-Nov-20	--	--	pH Turbidity
MW-01B	3-Nov-20	--	--	Turbidity
Dup-2 (Field Dup of MW-01B)		--	--	Turbidity
MW-01C	3-Nov-20	--	--	pH Turbidity
MW-02A	3-Nov-20	--	--	pH Turbidity
Dup-1 (Field Dup of MW-02A)		--	--	pH Turbidity
MW-02B	3-Nov-20	--	--	pH Turbidity
MW-03A	3-Nov-20	--	--	pH Turbidity
MW-03B	3-Nov-20	--	--	pH Turbidity
MW-03C	3-Nov-20	--	--	Turbidity
MW-04A	4-Nov-20	--	--	pH Turbidity
MW-04B	4-Nov-20	--	--	Turbidity
MW-05A	4-Nov-20	--	--	pH Turbidity
MW-05B	4-Nov-20	--	--	Turbidity
Dup-4 (Field Dup of MW-05B)		--	--	Turbidity
MW-05C	4-Nov-20	*Not Sampled*		
MW-05D	4-Nov-20	--	--	Turbidity
MW-07A	4-Nov-20	--	--	Colour Turbidity
MW-07B	4-Nov-20	--	--	Turbidity
MW-07C	4-Nov-20	*Not Sampled*		
MW-07D	4-Nov-20	--	--	Turbidity

Table 3.4 November 2020 Groundwater Exceedances – General Chemistry

Monitoring Well ID	Date	NSE PSS for GW; GW Discharge to Surface Water (0-10 m from a freshwater body)	Canadian Drinking Water Quality Guidelines; MAC	Canadian Drinking Water Quality Guidelines; AO
MW-09A	4-Nov-20	--	--	pH Turbidity
MW-09B	4-Nov-20	--	--	Turbidity
MW-09C	4-Nov-20	*Not Sampled*		
MW-09D	4-Nov-20	--	--	Turbidity
Dup-3 (Field Dup of MW-09D)		--	--	Turbidity
MW-11A	3-Nov-20	--	--	pH Turbidity
Dup-5 (Field Dup of MW-11A)		--	--	pH Turbidity
MW-11B	3-Nov-20	--	--	Turbidity
MW-11C	3-Nov-20	--	--	Turbidity
MW-12A	4-Nov-20	--	--	pH Turbidity
MW-12B	4-Nov-20	--	--	Turbidity
MW-14A	3-Nov-20	--	--	pH Turbidity
MW-14B	3-Nov-20	--	--	Turbidity
MW-14C	3-Nov-20	--	--	Turbidity
MW-16A	3-Nov-20	--	--	Turbidity
MW-16B	3-Nov-20	--	--	Turbidity
MW-17A	3-Nov-20	--	--	pH Turbidity
MW-17B	3-Nov-20	--	--	pH Turbidity
MW-17C	3-Nov-20	--	--	pH Turbidity
MW-18A	3-Nov-20	--	--	pH Turbidity
MW-18B	3-Nov-20	--	--	Turbidity
MW-18C	3-Nov-20	--	--	Turbidity
MW-19A	3-Nov-20	--	--	pH Turbidity
MW-19B	3-Nov-20	--	--	Turbidity
MW-19C	3-Nov-20	--	--	Turbidity
MW-20A	3-Nov-20	--	--	pH

Table 3.4 November 2020 Groundwater Exceedances – General Chemistry

Monitoring Well ID	Date	NSE PSS for GW; GW Discharge to Surface Water (0-10 m from a freshwater body)	Canadian Drinking Water Quality Guidelines; MAC	Canadian Drinking Water Quality Guidelines; AO
				Turbidity
MW-20B	3-Nov-20	--	--	pH
MW-21A	3-Nov-20	--	--	pH Turbidity
MW-21B	3-Nov-20	--	--	pH Turbidity
MW-21C	3-Nov-20	--	--	pH Turbidity
MW-22A	4-Nov-20	--	--	pH Turbidity
MW-22B	4-Nov-20	--	--	pH Turbidity
MW-22C	4-Nov-20	--	--	Turbidity

Notes:
-- Denotes no exceedance

Table 3.5 November 2020 Groundwater Exceedances - Metals

Monitoring Well ID	Date	NSE PSS for GW; GW Discharge to Surface Water (0-10 m from a freshwater body)	Canadian Drinking Water Quality Guidelines; MAC	Canadian Drinking Water Quality Guidelines; AO
MW-01A	3-Nov-20	Total Aluminum Total Cadmium	--	Total Aluminum Dissolved/Total Manganese
MW-01B	3-Nov-20	Total Aluminum	--	Total Aluminum
Dup-2 (Field Dup of MW-01B)		Total Aluminum	--	--
MW-01C	3-Nov-20	Total Aluminum Total Cadmium Total Copper	--	Total Aluminum Total Manganese
MW-02A	3-Nov-20	Total Aluminum Total Cadmium Total Copper Total Iron Total Lead Total Silver	--	Total Aluminum Total Iron Dissolved/Total Manganese

Table 3.5 November 2020 Groundwater Exceedances - Metals

Monitoring Well ID	Date	NSE PSS for GW; GW Discharge to Surface Water (0-10 m from a freshwater body)	Canadian Drinking Water Quality Guidelines; MAC	Canadian Drinking Water Quality Guidelines; AO
Dup-1 (Field Dup of MW-02A)		Total Aluminum Total Cadmium Total Copper Total Iron Total Lead Total Silver	--	Total Aluminum Total Iron Dissolved/Total Manganese
MW-02B	3-Nov-20	Total Aluminum Total Cadmium Total Zinc	--	--
MW-03A	3-Nov-20	Total Aluminum Total Cadmium Total Copper Total Iron Total Lead Total Silver	--	Dissolved/Total Aluminum Total Iron Dissolved/Total Manganese
MW-03B	3-Nov-20	Total Aluminum Total Cadmium Total Silver	--	--
MW-03C	3-Nov-20	Total Aluminum Total Silver	--	--
MW-04A	4-Nov-20	Total Aluminum Total Cadmium Total Silver	--	--
MW-04B	4-Nov-20	Total Aluminum Total Copper	--	--
MW-05A	4-Nov-20	Total Aluminum Total Cadmium Total Copper Total Silver	--	Dissolved/Total Manganese
MW-05B	4-Nov-20	Total Aluminum Total Cadmium Total Copper Total Iron Total Lead Total Silver	--	Total Aluminum Total Iron Total Manganese

Table 3.5 November 2020 Groundwater Exceedances - Metals

Monitoring Well ID	Date	NSE PSS for GW; GW Discharge to Surface Water (0-10 m from a freshwater body)	Canadian Drinking Water Quality Guidelines; MAC	Canadian Drinking Water Quality Guidelines; AO
Dup-4 (Field Dup of MW-05B)		Total Aluminum Total Cadmium Total Copper Total Iron Total Lead Total Silver	--	Total Aluminum Total Iron Dissolved/Total Manganese
MW-05C	4-Nov-20	*Not Sampled*		
MW-05D	4-Nov-20	Total Aluminum	--	Dissolved/Total Manganese
MW-07A	4-Nov-20	Total Aluminum Total Arsenic Total Iron	Dissolved/Total Arsenic Dissolved/Total Manganese	Total Aluminum Dissolved/Total Iron Dissolved/Total Manganese
MW-07B	4-Nov-20	Total Aluminum Total Arsenic Total Iron Total Manganese	Dissolved/Total Arsenic Dissolved/Total Manganese	Total Aluminum Total Iron Dissolved/Total Manganese
MW-07C	4-Nov-20	*Not Sampled*		
MW-07D	4-Nov-20	Total Aluminum Total Arsenic	Dissolved/Total Arsenic	Toral Aluminum Dissolved/Total Manganese
MW-09A	4-Nov-20	Total Aluminum Total Cadmium Total Copper Total Silver	--	Total Aluminum Total Manganese
MW-09B	4-Nov-20	Total Aluminum Total Arsenic	Dissolved/Total Arsenic	Total Aluminum Dissolved/Total Manganese
MW-09C	4-Nov-20	*Not Sampled*		
MW-09D	4-Nov-20	Total Aluminum Total Arsenic Total Silver	Dissolved/Total Arsenic	Dissolved/Total Manganese
Dup-3 (Field Dup of MW-09D)		Total Aluminum Total Arsenic	Dissolved/Total Arsenic	Dissolved/Total Manganese
MW-11A	3-Nov-20	Total Aluminum Total Cadmium	--	Total Aluminum Dissolved/Total Manganese

Table 3.5 November 2020 Groundwater Exceedances - Metals

Monitoring Well ID	Date	NSE PSS for GW; GW Discharge to Surface Water (0-10 m from a freshwater body)	Canadian Drinking Water Quality Guidelines; MAC	Canadian Drinking Water Quality Guidelines; AO
Dup-5 (Field Dup of MW-11A)		Total Aluminum Total Cadmium	--	Total Aluminum Dissolved/Total Manganese
MW-11B	3-Nov-20	Total Aluminum Total Arsenic	Total Arsenic	Dissolved/Total Manganese
MW-11C	3-Nov-20	Total Aluminum Total Arsenic Total Cadmium	Dissolved/Total Arsenic	Total Aluminum Dissolved/Total Manganese
MW-12A	4-Nov-20	Total Aluminum Total Cadmium Total Copper Total Iron Total Lead	Dissolved/Total Manganese	Total Aluminum Total Iron Dissolved/Total Manganese
MW-12B	4-Nov-20	Total Aluminum Total Arsenic	Dissolved/Total Arsenic Dissolved/Total Manganese	Dissolved/Total Manganese
MW-14A	3-Nov-20	Total Aluminum Total Arsenic Total Cadmium Total Copper Total Iron Total Lead	Total Arsenic	Total Aluminum Total Iron Dissolved/Total Manganese
MW-14B	3-Nov-20	Total Aluminum Total Arsenic Total Iron	Dissolved/Total Manganese	Total Aluminum Total Iron Dissolved/Total Manganese
MW-14C	3-Nov-20	Total Aluminum	--	--
MW-16A	3-Nov-20	Total Aluminum Total Cadmium Total Iron Total Silver	Dissolved Manganese	Total Aluminum Total Iron Dissolved/Total Manganese
MW-16B	3-Nov-20	Total Aluminum Total Arsenic	Total Arsenic	--
MW-17A	3-Nov-20	Total Aluminum Total Cadmium Total Copper Total Iron Total Silver	--	Total Aluminum Total Iron Dissolved/Total Manganese

Table 3.5 November 2020 Groundwater Exceedances - Metals

Monitoring Well ID	Date	NSE PSS for GW; GW Discharge to Surface Water (0-10 m from a freshwater body)	Canadian Drinking Water Quality Guidelines; MAC	Canadian Drinking Water Quality Guidelines; AO
MW-17B	3-Nov-20	Total Aluminum Total Cadmium Total Iron Total Silver	--	Total Aluminum Total Iron Total Manganese
MW-17C	3-Nov-20	Total Aluminum Total Cadmium Total Iron Total Silver	--	Total Aluminum Total Iron
MW-18A	3-Nov-20	Total Aluminum Total Arsenic Total Cadmium	Total Arsenic	--
MW-18B	3-Nov-20	Total Aluminum Total Arsenic Total Iron Total Silver	Dissolved/Total Arsenic	Total Aluminum Total Iron
MW-18C	3-Nov-20	Total Aluminum Total Arsenic	Dissolved/Total Arsenic	Dissolved/Total Manganese
MW-19A	3-Nov-20	Total Aluminum Total Cadmium Total Copper Total Iron Total Lead Total Silver	--	Total Aluminum Total Iron Total Manganese
MW-19B	3-Nov-20	Total Aluminum Total Arsenic	--	Total Aluminum
MW-19C	3-Nov-20	Total Aluminum Total Cadmium Total Copper Total Iron Total Lead Total Silver	--	Total Aluminum Total Iron Total Manganese
MW-20A	3-Nov-20	Total Aluminum Total Cadmium Total Copper Total Silver	--	Dissolved/Total Aluminum Dissolved/Total Manganese

Table 3.5 November 2020 Groundwater Exceedances - Metals

Monitoring Well ID	Date	NSE PSS for GW; GW Discharge to Surface Water (0-10 m from a freshwater body)	Canadian Drinking Water Quality Guidelines; MAC	Canadian Drinking Water Quality Guidelines; AO
MW-20B	3-Nov-20	Total Aluminum Total Cadmium	--	Dissolved/Total Aluminum Dissolved/Total Manganese
MW-21A	3-Nov-20	Total Aluminum Total Cadmium	Dissolved/Total Manganese	Dissolved/Total Aluminum Dissolved/Total Manganese
MW-21B	3-Nov-20	Total Aluminum Total Cadmium	Dissolved/Total Manganese	Dissolved/Total Aluminum Dissolved/Total Manganese
MW-21C	3-Nov-20	Total Aluminum Total Iron	Dissolved/Total Manganese	Dissolved/Total Iron Dissolved/Total Manganese
MW-22A	4-Nov-20	Total Aluminum Total Cadmium Total Copper Total Iron Total Silver	--	Dissolved/Total Aluminum Total Iron Dissolved/Total Manganese
MW-22B	4-Nov-20	Total Aluminum Total Cadmium Total Copper Total Silver	Dissolved/Total Manganese	Total Aluminum Dissolved/Total Manganese
MW-22C	4-Nov-20	Total Aluminum	--	Total Aluminum Dissolved/Total Manganese

Notes:
-- Denotes no exceedance

4. Trends 2018-2020

The monitoring well installation program was completed from March 29, 2018 to May 7, 2018. The seventeen drilling sites (Figure 1) consisted of 2 or 3 nested monitoring wells for a total of 49 wells that were developed initially to inform the groundwater model for the planned gold mine development and provide baseline groundwater chemistry. Data collected from sampling events in 2018 to 2020 (3 events per year n=9) are considered baseline since no activity except for geotechnical drilling has occurred on Site. Initially only dissolved metals were analyzed but in 2019 total metals were added to the package (n=5). In order to determine whether or not groundwater quality has been stable over the baseline period, statistical trend tests

have been conducted evaluating the 2018-2020 data, as described below. As noted above, the very-deep wells MW-05C, MW-07C, and MW-09C are not part of the regular sampling program, and therefore trend analyses were not possible for groundwater at these three wells, resulting in data from the remaining 46 wells being subjected to trend analysis.

4.1 Mann-Kendall Trend Analysis - Statistical Method

Statistical procedures for evaluating trends are discussed in United States Environmental Protection Agency (USEPA) and United States Geological Survey (USGS) guidance documents and other environmental statistics texts (e.g., USEPA, 2004; 2006; 2009; USGS, 2020). Different trend test procedures are available for a variety of purposes and data set characteristics. The selection of an appropriate test to conduct depends on satisfying any underlying assumptions of the statistical method, as well as the type of hypothesized trend investigated (e.g., trend over time or space, trend over time *and* space, trend overlaid with seasonal patterns or external influences such as rainfall patterns) and desired application of the test results (e.g., will a rate/slope estimate be required, or just the presence or absence of a trend?).

A detailed discussion of potentially applicable trend testing procedures under different scenarios is not provided herein, but may be found in related guidance (e.g., USEPA, 2006, 2009; USGS, 2020) and environmental statistics texts (e.g., Gilbert, 1987; Gibbons and Coleman, 2001).

For the purposes of evaluating trends in analyte concentrations over time in groundwater samples from Site monitoring wells, trend testing was performed using the Mann-Kendall (M-K) trend test. The Mann-Kendall trend test is commonly applied to evaluate environmental monitoring data (USGS 2020; USEPA 2006), and is a non-parametric (rank-based) method that evaluates a set of data for a monotonic (unidirectional) trend. The procedure makes no assumptions regarding the shape of the trend (e.g., linear, log linear), except that it is in a single direction (i.e., either consistently upward or downward). The test is a robust procedure suitable for general trend analysis. However, the Mann-Kendall procedure loses sensitivity if a large proportion of censored data (non-detect results) is present, and is not commonly applied for highly censored data sets (e.g., those comprised of more than 50 percent non-detects).

In conducting the Mann-Kendall trend tests, a significance level of 0.05 (i.e., 95 percent confidence) was used for data sets with more than four samples. This confidence level (95 percent) is commonly utilized and is frequently found in USEPA statistical guidance examples (e.g., Box 4-8 and Box 4-10 of USEPA, 2006). Performing the trend tests at a confidence level of 0.05 ensures a false positive rate (concluding a significant trend when none is present) of no more than 1 in 20. Results falling between 90-95 percent confidence were identified as probable trends. Specifically, the Air Force Center for Environmental Excellence (AFCEE) (2007) provides a decision matrix for the classification of trend results, given in the following table. Note that in the table, the coefficient of variation (CoV) is the standard deviation of the untransformed data divided by the mean, which is a relative measure of variation.

Probability of Significance	M-K Statistic (S)	Coefficient of Variation (CoV)	Classification of Concentration Trend
<0.05	Positive	--	Increasing
	Negative	--	Decreasing
0.05-0.10	Positive	--	Probably Increasing
	Negative	--	Probably Decreasing
>0.10	Positive	--	No Trend
	Negative or zero	≥ 1	No Trend
		< 1	Stable

These recommendations were implemented in carrying out the trend tests evaluating contaminant concentration trends over time in groundwater collected from Site wells.

For the purposes of performing the Mann-Kendall trend test, non-detects were considered to be tied (i.e., equal) values with concentrations lower than the detected observations. A value of the highest reporting limit was used for the non-detects, although any value below the lowest detected result would yield identical ranking in the Mann-Kendall trend test (which as a non-parametric method considers only whether a certain observation is above or below another and not the magnitude of the difference). This assumption was made in order to prevent any variation in detection limits influencing the Mann-Kendall trend test results. Any field duplicate results were averaged prior to carrying out trend analyses. If one field duplicate was a detected value and the other a non-detect, the detected result was conservatively retained to represent a maximum estimate of the analyte concentration.

Any individual observations with ambiguous rankings for the Mann-Kendall test (i.e., either a detected value - typically J-qualified - below other detection limits; or an elevated detection limit above other detected values) was dealt with on a case-by-case basis to obtain the most appropriate trend test. Specifically, to resolve such ambiguities an approach of maximizing the amount of usable data was taken:

- If a small proportion of non-detects with detection limits higher than some low detected values was present, these non-detects were removed from consideration, in order to remove ambiguous comparisons while retaining as many actual detected concentrations as possible. This was only done if a sufficient number of detected and estimated detected values remained (preferably 5-8 or more).
- When a data set contained only a small proportion of low estimated values below non-detects with higher detection limits, these low values were censored to the highest reporting/quantification limit (per USEPA's *ProUCL Version 5.1.002 Technical Guide*, 2015), as long as the resulting data set contained no more than 50 percent non-detects.
- If a data set contained non-detects with *elevated* (and varying) detection limits above detected concentrations (e.g., due to matrix interference), then the non-detects with elevated detection limits were removed from consideration (which is preferable to censoring all lower detected values and likely resulting in an untestable data set containing over 50 percent non-detects).

The Mann-Kendall trend test was applied for data sets with sufficient detected values over time to permit testing. The Mann-Kendall trend test requires that sampling frequencies be consistent, at least approximately, over the time frame considered. This assumption was generally met in all data sets considered.

4.2 Data Used for Analysis

Data generated for the analysis of groundwater collected at 46 wells at the Site (i.e., all existing wells except MW-05C, MW-07C, and MW-09C), consisted of 12 calculated parameters, 18 inorganics, and 31 metals (total and dissolved).

The trend tests included results available for samples collected between June 2018 and November 2020, three events per year, for the majority of analytes. The number of observations available by analyte/well varied between 1 to 9 samples.

4.3 Trend Results

Results from the trend tests are shown in Table 4.1. A summary of results for data sets with statistically significant trends is provided in Table 4.2.

As indicated in Table 4.1, many of the data sets (analyte x well) consist entirely or mainly of non-detect results and therefore were not subjected to trend testing. Of the initial list of 4,232 data sets considered (92 analytes x 46 wells), 2,125 were unsuitable for trend testing due to low detection rates (i.e., greater than 50 percent non-detects) (1,803 da sets), and due to insufficient data (less than 4 results) (322 data sets). This resulted in a total of 2,107 data sets for which temporal trend tests were carried out.

As shown in Table 4.1 and summarized in Table 4.2, the results of the trend tests include:

- 623 data sets with no statistically significant trend
- 1,004 data sets with stable analyte concentrations
- 236 data sets with statistically significant decreasing trends ($P \leq 0.05$, i.e., with 95 percent confidence)
- 124 data sets classified as probably decreasing ($0.05 < P \leq 0.10$, i.e., with 90 percent confidence)
- 76 data sets with statistically significant increasing trends
- 44 data set classified as probably increasing

The increasing and probably increasing trends that were identified include:

MW-01A: ion balance, dissolved barium

MW-01B: ion balance

MW-01C: dissolved calcium, dissolved zinc, total barium, total calcium, total magnesium, total potassium, total strontium, total zinc

MW-02A: dissolved sulphate

MW-02B: orthophosphate

MW-03A: ion balance, dissolved sulphate

MW-03B: dissolved sulphate, turbidity

MW-03C: dissolved sulphate, dissolved zinc

MW-05B: total iron, total lead, total titanium, total zinc

MW-05D: dissolved manganese

MW-07A: dissolved sulphate

MW-07B: saturation pH (@ 4C), saturation pH (@ 20C)

MW-07D: anion sum, bicarb. alkalinity (calc. as CaCO3), calculated TDS, carb. alkalinity (calc. as CaCO3), cation sum, Langelier Index (@ 4C), Langelier Index (@ 20C), pH, reactive silica, total alkalinity (Total as CaCO3), dissolved magnesium

MW-09A: nitrate, dissolved sulphate, nitrate + nitrate, turbidity

MW-09B: bicarb. alkalinity (calc. as CaCO3), hardness (CaCO3), total alkalinity (total as CaCO3), dissolved calcium

MW-09D: bicarb. alkalinity (calc. as CaCO3), ion balance, pH, total alkalinity (total as CaCO3)

MW-11B: total calcium, total magnesium, total uranium

MW-11C: anion sum, bicarb. alkalinity (calc. as CaCO3), calculated TDS, cation sum, conductivity, dissolved sulphate, total alkalinity (total as CaCO3), dissolved barium, dissolved potassium, dissolved sodium, dissolved strontium, total arsenic

MW-12A: saturation pH (@ 4C), saturation pH (@ 20C), nitrate, nitrate + nitrite, orthophosphate, dissolved aluminum

MW-12B: anion sum, bicarb. alkalinity (calc. as CaCO3), calculated TDS, cation sum, conductivity, dissolved sulphate, total alkalinity (total as CaCO3)

MW-14B: dissolved manganese

MW-14C: hardness (CaCO3), dissolved calcium

MW-17A: saturation pH (@ 4C), saturation pH (@ 20C), dissolved sulphate, turbidity

MW-17C: saturation pH (@ 4C), saturation pH (@ 20C), turbidity

MW-18B: hardness (CaCO3), dissolved calcium, dissolved magnesium

MW-18C: bicarb. alkalinity (calc. as CaCO3), hardness (CaCO3), reactive silica, total alkalinity (total as CaCO3), dissolved barium

MW-19A: anion sum

MW-19C: saturation pH (@ 4C), saturation pH (@ 20C)

MW-20A: nitrate, nitrate + nitrite, dissolved barium, dissolved zinc

MW-20B: saturation pH (@ 4C), saturation pH (@ 20C), nitrate, nitrate + nitrite, dissolved cadmium

MW-21B: saturation pH (@ 4C), saturation pH (@ 20C), dissolved aluminum, dissolved cadmium, dissolved, cobalt

MW-21C: dissolved iron, dissolve manganese, dissolved uranium

MW-22A: dissolved sulphate, turbidity, total sodium

MW-22B: total silver

4.4 Comparison to Criteria

Comparisons to CDWQG and NSE PSS values are presented along with the trend results in Table 3.2.

The pH values consistently exceed the drinking water criteria in all of the shallow wells (~ 7m depth), and also in all deeper intervals for the nested wells MW-01, -02, -03, -04, -17, -21 and -22. Turbidity consistently exceeds the aesthetic criteria for drinking water. There is no discernible trend in any well that turbidity is either increasing over time, and presents as variable from one sample event to the next.

Aluminum, cadmium, manganese, and silver usually always exceed one or more of the criteria for the total metals and for aluminum and manganese also in the dissolved metals results. Arsenic, copper, iron, lead, and zinc exceed the criteria occasionally for total metals. Vanadium was noted to exceed the criteria in one well. The exceedances for any of these analytes may occur in a single well or multiple wells in the nest at each site. No correlation between wells is noted and this may be a function of water accessed from various depths within the stratigraphy. All of these elements are known to exceed their respective criteria in this geologic setting, and since no development activity has occurred to date at the site these findings represent pre-existing natural conditions unrelated to any potential future development impacts.

4.5 Trend Plots

To assist with visualization and interpretation of the groundwater analytical results, concentration vs. time plots (trend plots) were generated for all data sets (analyte x well) with detected results. These are included in Attachment C.

On the trend plots, any non-detect results are plotted at their reporting limits using an empty symbol, to distinguish them from detected values (which have a filled-in symbol). Each discrete sample result is plotted separately including any field duplicate results but excluding any laboratory-generated QA/QC duplicates. The results from the trend tests are labelled at the bottom of each plot (see Table 1 for full trend tests results). Three criteria were included on the trend plots whenever available:

i) NSE PSS for Groundwater - Discharge to Surface Water (0-10 m from a freshwater body)

ii) CDWQG –Maximum Acceptable Concentration (MAC)

iii) CDWQG –Aesthetic Objective (AO)

A number of analytes were not plotted because they were not detected in any wells or were only analyzed for in a single sample collected between 2018-2020. These were:

A) Analytes that were not detected in any well:

- Inorganics: color, nitrite
- Metals (total and dissolved): antimony, beryllium, bismuth, selenium, thallium, and tin

B) Analytes with one result:

- Inorganics: total chemical oxygen demand, dissolved organic carbon, total and dissolved phosphorus, total suspended solids
- Metals: total and dissolved mercury

5. Background Values

One of the tools frequently employed in ongoing monitoring programs is the establishment of background values against which future sample results can be screened for quick identification of changing conditions. In the case of monitoring at the Site, intra-well background values have been generated for each analyte at each well, recognizing that spatial variability exists in groundwater quality between the different well locations and groundwater intervals considered. These background values have been calculated using the available baseline data (prior to any development activities at the Site), and thus represent reasonable limits on the pre-existing conditions in groundwater sampled. Once future development activities at the Site commence, groundwater quality measurements can be compared against the background values, and if outside of expected background (typically above the baseline concentrations, but with both upper and lower limits for pH) an investigation into potential changes from baseline conditions can be triggered. The calculated UTLs are shown in Table 3.

5.1 Statistical Method

A baseline threshold value (BTV) is a statistically-based limit above which a given sample measurement is unlikely to occur if conditions are consistent with baseline. The general approach found in USEPA guidance (2009, 2015) for determining BTVs is to estimate an upper bound on the baseline population using a method appropriate for the observed data distribution (i.e., normal, gamma-distributed, lognormal or none of these). Statistical limits such as upper tolerance limits (UTLs) or upper prediction limit (UPLs) may be used. Such values take into consideration sampling variability (both in baseline and subsequent sampling) and provide BTVs which are expected to rarely be exceeded in samples consistent with baseline conditions (e.g., no more frequently than 1 in 20 samples, if a 95 percent value is selected).

Methods for calculating UTLs are available in USEPA (2006, 2009, and 2015). An UTL represents an upper limit on a percentile of the population. If a future observation exceeds the baseline UTL, it is unlikely to belong to the same population (i.e., the future sample is above baseline conditions). For the present evaluation, 95 percent UTLs with 95 percent coverage (95/95 UTLs) and 95 percent UTLs with 99 percent coverage (95/99 UTLs) were selected as appropriate BTVs. These 95/95 and 95/99UTLs are statistical estimates of the 95th (1 in 20) and 99th (1 in 100) percentiles of the baseline groundwater concentrations, with

95 percent confidence. The utility of considering both percentiles is that if a future sample exceeds the upper limit (99th percentile UTL) an immediate verification sample can be collected for follow-up, whereas if a result exceeds the 95th percentile UTL only, this would be noted and the next regularly-scheduled sampling event be used for verification purposes. If both the original and verification sample exceed the 95/95UTL BTV, then a statistically significant increase is noted (or potentially a significant decrease for pH).

A number of statistical assumptions must be assessed for each baseline data set before UTL calculations are performed, as discussed below.

5.2 Assessment of Assumptions

The selection of appropriate UTL calculation methods varies with the characteristics of each data set (USEPA, 2015). In selecting a UTL method, one must assess: (i) the observed data distribution, and (ii) the percentage of non-detect values present. Methods for assessing these characteristics are provided in USEPA's ProUCL software[1].

Each data set was assessed for the following distribution patterns (in priority order): normal, gamma, and lognormal. If a data set is found to be described by one of these distributions, then a UTL calculation method for the observed data distribution is used. If, however, a particular data set does not follow one of these distributions, it is identified as having an unknown distribution and non-parametric (rank-based) statistical methods are used for subsequent calculations.

The calculation of UTLs when non-detect data are present is considered in Chapter 5 of USEPA (2015). In particular, when no more than half of a data set is comprised of non-detects, the Kaplan-Meier (KM) method for estimation of sample means and standard deviations is recommended (USEPA, 2015; Helsel, 2005), with which the UTL may be calculated. The KM method may be used when single or multiple detection limits are present. The method is described in Section 5.3 of USEPA (2015) and was used in the present UTL calculations.

Where present, the results from analysis of field duplicates were averaged prior to statistical calculations.

5.3 BTV Calculations

Descriptions of applicable methods for calculating UTLs are available in USEPA (2015). For the baseline data sets considered in the present evaluation, the following methods for calculating UTLs were identified, based on the evaluation of assumptions, and are indicated with each calculated BTV in Table 3:

- ***Normal UTL***: a 95 percent Student's-t upper tolerance limit; used when a normal or approximate normal data distribution is present with no non-detects (see Section 3.4.1 of USEPA, 2015)
- ***WH Approx. Gamma UTL***: a 95 percent approximate gamma upper tolerance limit; used when a gamma or approximate gamma distribution is encountered and no non-detects are present (see Section 3.4.3 of USEPA, 2015)

[1] Current version 5.1.002. Available at https://www.epa.gov/land-research/proucl-software.

- ***Lognormal UTL***: a 95 percent lognormal upper tolerance limit; used when a lognormal or approximate lognormal distribution is encountered and no non-detects are present (see Section 3.4.2 of USEPA, 2015)
- ***KM Normal, Approx. Gamma WH or Lognormal UTL***: a 95 percent upper tolerance limit using the Kaplan-Meier (KM) method to accommodate non-detect results; used when non-detects are present but comprise no more than 50 percent of the data, and the data fit a normal, gamma or lognormal data distribution (see Sections 4.6.1, 4.6.2, and 4.6.3 of USEPA, 2015)
- ***Non-Parametric UTL***: a non-parametric upper tolerance limit; used when more than 50 percent of the data are non-detects and/or a data set is not found to follow a normal, gamma, or lognormal distribution (see Section 3.4.4 of USEPA, 2015)
- ***Maximum***: the maximum concentration is used when fewer than four results are available, and no meaningful statistical evaluation can be performed
- ***Reporting Limit***: the maximum reporting limit is used when all data are non-detects

When the use of non-parametric UTLs is required, the desired percentile (95^{th}) of baseline is not achieved using the existing data. This is due to the number of baseline samples available, since the non-parametric UTL method requires 86 or more data points to achieve a 95^{th} percentile estimate with 95 percent confidence. In these cases, the UTLs calculated are conservatively low, but are the best estimates currently available.

As noted above, the calculated UTLs are shown in Table 3.

6. Closure

We trust this submission meets your request, however if you have any questions please contact the undersigned at your convenience.

Sincerely,

GHD

Jeff Parks, P. Geo., FGC
Senior Environmental Geoscientist/Project Manager

Alan Deal, P. Geo
Senior Hydrogeologist

Following Text:

Figure 1. Beaver Dam Mine Site Groundwater Monitoring Locations

Table 3.2: Groundwater Monitoring Results – General Chemistry

Table 33: Groundwater Monitoring Results – Metals

Table 4.1: Statistical Screening and Trend Test Results – Baseline Groundwater Quality Data

Table 4.2: Results Summary for Baseline Data Sets with Significant Trends in Groundwater over Time

Table 4.3: Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters

Appendix A – Groundwater Level Hydrographs

Appendix B – Laboratory Certificate of Analysis

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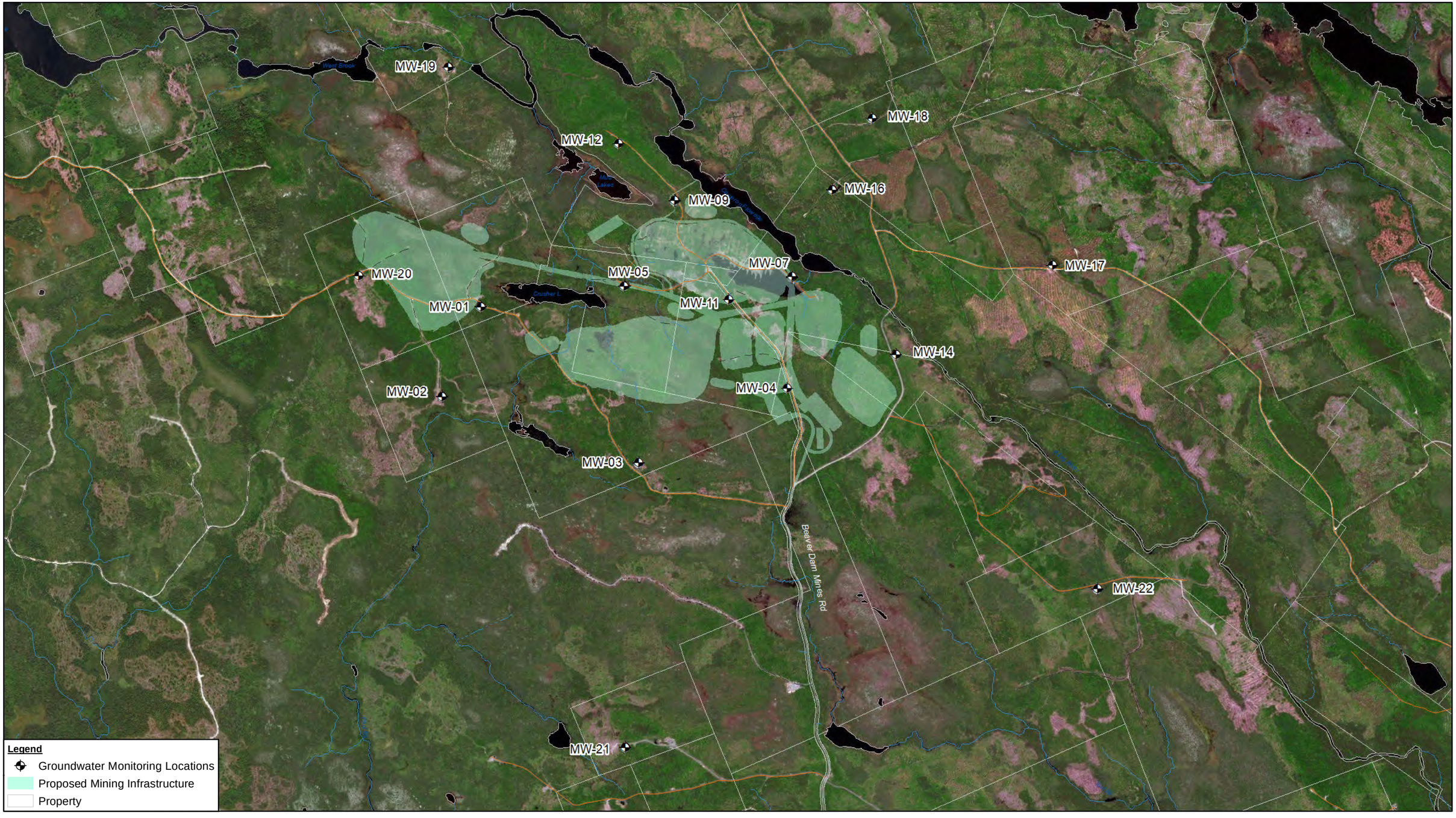

Source: GHD, Leading Edge Geomatics (Aerial 2015); Service Nova Scotia/ Service Layer Credits: © 2020 Microsoft Corporation © 2020 Maxar ©CNES (2020) Distribution Airbus DS

0 200 400 600
Meters

Coordinate System:
NAD 1983 CSRS UTM Zone 20N

ATLANTIC MINING NS CORP
BEAVER DAM MINE SITE
GROUNDWATER MONITORING PROGRAM

11210159-01
Jan 8, 2021

GROUNDWATER MONITORING LOCATIONS

FIGURE 1

GIS File: N:\CA\Halifax\Projects\661\11220159\GIS\Maps\Deliverables\11220159-01_GIS-HX001.mxd

Table 3.2: Groundwater Quality Data - MW-01
Beaver Dam Mine Project
Marinette, Nova Scotia

Sample		Criteria				MW-01A									MW-01B										MW-01C									
	Sample Date	NSE PSS for GW and NSE Tier 1 EQS: Potable Groundwater	NSE PSS for GW: Groundwater Discharge to Surface Water (>10 m)	GCDWQ; MAC	GCDWQ; AO	19-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20	19-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19	4-Apr-19 Field DUP2	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20	5-Nov-20 Field DUP2	19-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	27-Jun-20 Field DUP3	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20
Calculated Parameters	Units																																	
Anion Sum	me/L		-	-	-	0.56	0.46	0.5	0.31	0.35	0.46	0.34	0.77	0.25	1.56	1.5	1.58	1.55	1.56	1.52	1.54	1.57	1.51	1.5	1.58	1.35	0.93	0.95	0.51	0.4	0.39	0.5	0.55	0.54	0.54
Bicarb. Alkalinity (calc. as CaCO3)	mg/L		-	-	-	18	14	15	8.8	7.6	12	8.4	28	8.7	60	58	61	60	60	59	59	62	57	57	62	52	34	33	15	9.7	8.1	14	17	17	19
Calculated TDS	mg/L		-	-	500	37	34	33	20	23	32	21	43	20	91	89	92	90	90	88	89	89	88	87	90	79	57	58	31	25	26	31	32	34	34
Carb. Alkalinity (calc. as CaCO3)	mg/L		-	-	-	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Cation Sum	me/L		-	-	-	0.51	0.44	0.44	0.29	0.29	0.4	0.23	0.51	0.29	1.47	1.46	1.48	1.44	1.44	1.42	1.45	1.37	1.41	1.4	1.4	1.26	0.94	0.88	0.46	0.36	0.35	0.43	0.43	0.49	0.52
Hardness (CaCO3)	mg/L		-	-	-	2.2	7.4	11	6.8	6.6	10	4.1	17	6.2	54	58	60	59	59	59	60	57	59	58	59	40	33	27	14	9.2	9	13	12	15	17
Ion Balance (% Difference)	%		-	-	-	4.67	2.22	6.38	3.33	9.38	6.98	19.3	20.3	7.41	2.97	1.35	3.27	3.68	4	3.4	3.01	6.8	3.42	3.45	6.04	3.45	0.53	3.83	5.15	5.26	5.41	7.53	12.2	4.85	1.89
Langelier Index (@ 20C)	N/A		-	-	-	-3.54	-3.14	-3.07	-3.8	-3.58	-3.14	-4.26	-2.13	-3.84	-0.512	-0.286	-0.411	-0.569	-0.411	-0.475	-0.493	-0.434	-0.289	-0.432	-0.466	-1.03	-1.41	-1.93	-2.93	-3.02	-3.23	-2.76	-2.91	-2.65	-2.54
Langelier Index (@ 4C)	N/A		-	-	-	-3.79	-3.39	-3.32	-4.06	-3.83	-3.39	-4.52	-2.38	-4.1	-0.763	-0.537	-0.663	-0.82	-0.662	-0.726	-0.744	-0.685	-0.54	-0.683	-0.717	-1.28	-1.66	-2.18	-3.18	-3.27	-3.48	-3.01	-3.16	-2.9	-2.79
Nitrate (N)	mg/L		-	10	-	<0.050	0.065	<0.050	<0.050	<0.050	0.081	<0.050	0.095	0.057	<0.050	ND	<0.050	<0.050	<0.050	<0.050	<0.050	0.056	<0.050	<0.050	<0.050	<0.050	ND	<0.050	<0.050	<0.050	<0.050	<0.050	0.066	<0.050	0.063
Saturation pH (@ 20C)	N/A		-	-	-	10.3	9.88	9.66	10.1	10.2	9.78	10.3	9.13	10.1	8.29	8.28	8.24	8.26	8.25	8.26	8.25	8.25	8.27	8.28	8.24	8.5	8.75	8.84	9.45	9.83	9.92	9.52	9.46	9.37	9.28
Saturation pH (@ 4C)	N/A		-	-	-	10.5	10.1	9.92	10.3	10.4	10	10.6	9.38	10.3	8.55	8.53	8.49	8.51	8.5	8.52	8.5	8.5	8.52	8.53	8.5	8.75	9	9.09	9.7	10.1	10.2	9.77	9.72	9.62	9.54
Inorganics																																		
Total Alkalinity (Total as CaCO3)	mg/L		-	-	-	18	14	15	8.8	7.6	12	8.4	28	8.7	61	59	62	60	61	60	60	62	57	57	62	52	34	33	15	9.7	8.1	14	17	17	19
Total Chemical Oxygen Demand	mg/L		-	-	-	--	--	--	--	--	--	--	--	<20	--	--	--	--	--	--	--	--	--	<20	<20	--	--	--	--	--	--	--	--	--	<20
Dissolved Chloride (Cl)	mg/L	250	1500	-	250	4.8	4	5.3	4.7	4.2	4.6	3	3.7	2.7	4.4	4.1	4.3	4.4	4.3	3.7	4	3.4	4.5	4	3.4	4.7	5.1	5.1	5.5	5	4.6	5.2	4.2	4.7	3.3
Colour	TCU		-	-	15	<5.0	ND	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	6.5	ND	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Nitrate + Nitrite (N)	mg/L		-	-	-	<0.050	0.065	<0.050	<0.050	<0.050	0.081	<0.050	0.095	0.057	<0.050	ND	<0.050	<0.050	<0.050	<0.050	<0.050	0.056	<0.050	<0.050	<0.050	<0.050	ND	<0.050	<0.050	<0.050	<0.050	<0.050	0.066	<0.050	0.063
Nitrite (N)	mg/L		-	1	-	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.050	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Nitrogen (Ammonia Nitrogen)	mg/L		-	-	-	<0.050	ND	<0.050	<0.050	<0.050	0.053	0.29	<0.050	<0.050	<0.050	ND	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	ND	<0.050	<0.050	<0.050	<0.050	<0.050	0.12	<0.050	<0.050
Dissolved Organic Carbon (C)	mg/L		-	-	-	--	--	--	--	--	--	--	--	<0.5	--	--	--	--	--	--	--	--	--	<0.5	<0.5	--	--	--	--	--	--	--	--	--	0.6
Total Organic Carbon (C)	mg/L		-	-	-	1.3	ND (1)	<0.50	0.53	<0.50	<0.50	<0.50	<0.40	<0.50	2.6	ND	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.40	<0.50	<0.50	1.9	2.9	1.3	1.2	1.1	1.2	1.4	0.68	1.1	1.4
Orthophosphate (P)	mg/L		-	-	-	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
pH	pH		-	-	7.0;10.5	6.75	6.74	6.6	6.28	6.59	6.63	6.06	7	6.25	7.78	8	7.83	7.69	7.84	7.79	7.76	7.81	7.98	7.85	7.78	7.47	7.34	6.91	6.53	6.81	6.69	6.76	6.55	6.72	6.74
Dissolved Phosphorus	mg/L		-	-	-	--	--	--	--	--	--	--	--	<0.020	--	--	--	--	--	--	--	--	--	<0.020	<0.020	--	--	--	--	--	--	--	--	--	<0.020
Total Phosphorus	mg/L		-	-	-	--	--	--	--	--	--	--	--	<0.020	--	--	--	--	--	--	--	--	--	<0.020	<0.020	--	--	--	--	--	--	--	--	--	0.022
Reactive Silica (SiO2)	mg/L		-	-	-	6.3	8.4	6.3	3.9	4.3	7.1	3.5	6.4	5.3	9.4	10	10	10	10	9.6	9.5	9.9	9.7	9.5	9.5	7.5	7.1	6.8	4.7	3.7	4.1	4.4	4.5	5	5
Total Suspended Solids	mg/L		-	-	-	--	--	--	--	--	--	--	--	47	--	--	--	--	--	--	--	--	--	10	14	--	--	--	--	--	--	--	--	--	16
Dissolved Sulphate (SO4)	mg/L		-	-	500	3	3.2	2.8	<2.0	3.9	3.7	4	5	<2.0	11	10	11	11	11	11	11	11	12	11	11	8.7	5.1	7	2.4	3	4.7	3.2	4.6	3.9	3.4
Turbidity	NTU		-	-	0.3	29	75	0.24	1.3	4.3	23	9.2	2.3	3.8	7.1	13	6.2	2.8	5.3	2.9	2.1	13	2.7	2	3.7	17	10	3.5	3.8	1.6	2.9	0.55	5.6	0.86	4.6
Conductivity	uS/cm		-	-	-	54	47	50	36	32	45	27	56	34	140	150	150	140	140	140	140	140	140	140	140	120	100	92	49	39	39	48	46	54	56

Table 3.2: Groundwater Quality Data - MW-01
Beaver Dam Mine Project
Marinette, Nova Scotia

Sample		Criteria				MW-01A									MW-01B										MW-01C									
	Sample Date	NSE PSS for GW and NSE Tier 1 EQS: Potable Groundwater	NSE PSS for GW: Groundwater Discharge to Surface Water (>10 m)	GCDWQ; MAC	GCDWQ; AO	19-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20	19-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19	4-Apr-19 Field DUP2	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20	5-Nov-20 Field DUP2	19-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	27-Jun-20 Field DUP3	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20
Metals																																	
Dissolved Aluminum (Al)	ug/L	100	-	-	100	69	40	<5.0	12	10	<5.0	16	<5.0	9.1	20	14	13	11	10	12	8.7	7.7	7.8	8.2	12	19	8.2	7	5.6	6.3	5.7	5.7	5.8	<5.0	5.9
Total Aluminum (Al)	ug/L	-	50	-	100	--	--	--	--	520	710	500	120	200	--	--	--	--	--	190	160	550	230	120	86	--	--	--	--	160	140	120	270	120	190
Dissolved Antimony (Sb)	ug/L	6	-	6	-	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Antimony (Sb)	ug/L	-	200	6	-	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Arsenic (As)	ug/L	10	-	10	-	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	5.7	5	4.9	3.6	3.7	3.5	3.1	2.7	2.7	2.7	2.7	1.5	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Arsenic (As)	ug/L	-	50	10	-	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	--	3.8	3.1	2.7	2.9	2.9	2.9	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Barium (Ba)	ug/L	1000	-	2000	-	1.3	3.2	6.7	5.4	7.4	7.1	5.9	8	6.7	4	5.6	5.8	7.6	6.9	5.7	5.7	5.9	5.8	4.9	4.9	7.3	6.7	7.9	3.4	3.9	3.9	4.3	4.4	4.5	5.4
Total Barium (Ba)	ug/L	-	10000	2000	-	--	--	--	--	12	12	9.4	9	8.3	--	--	--	--	--	7	6.7	8.9	7.3	5.4	4.9	--	--	--	--	5.3	4.6	5.2	5.6	5.4	7
Dissolved Beryllium (Be)	ug/L	4	-	-	-	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Beryllium (Be)	ug/L	-	53	-	-	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Bismuth (Bi)	ug/L	-	-	-	-	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Bismuth (Bi)	ug/L	-	-	-	-	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Boron (B)	ug/L	5000	-	5000	-	<50	ND	<50	<50	<50	<50	<50	<50	<50	<50	ND	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	ND	<50	<50	<50	<50	<50	<50	<50	<50
Total Boron (B)	ug/L	-	12000	5000	-	--	--	--	--	<50	<50	<50	<50	<50	--	--	--	--	--	<50	<50	<50	<50	<50	<50	--	--	--	--	<50	<50	<50	<50	<50	<50
Dissolved Cadmium (Cd)	ug/L	5	-	7	-	<0.010	0.011	0.033	0.032	0.037	0.017	0.017	0.021	0.015	<0.010	ND	<0.010	0.012	<0.010	0.012	<0.010	<0.010	<0.010	0.011	0.014	<0.010	0.01	0.034	<0.010	0.014	<0.010	0.012	0.018	0.019	0.028
Total Cadmium (Cd)	ug/L	-	0.1	7	-	--	--	--	--	0.031	0.021	0.021	0.027	0.022	--	--	--	--	--	0.012	0.012	0.012	0.01	<0.010	<0.010	--	--	--	--	0.011	0.013	0.013	0.027	0.021	0.023
Dissolved Calcium (Ca)	ug/L	-	-	-	-	560	1900	2900	1800	1700	2700	1100	5400	1700	18000	20000	20000	20000	20000	20000	21000	20000	21000	20000	20000	13000	11000	9000	4600	2900	2900	4100	4100	5100	5500
Total Calcium (Ca)	ug/L	-	-	-	-	--	--	--	--	1900	3000	1100	5400	1800	--	--	--	--	--	21000	20000	20000	22000	21000	21000	--	--	--	--	3000	3000	4100	4000	5300	5800
Dissolved Chromium (Cr)	ug/L	50	-	50	-	<1.0	ND	<1.0	<1.0	1.4	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	1.2	1	1.7	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	1.2	<1.0	<1.0	<1.0	<1.0	<1.0
Total Chromium (Cr)	ug/L	-	-	50	-	--	--	--	--	1.7	1.7	1.2	<1.0	<1.0	--	--	--	--	--	1	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	1.6	1.1	<1.0	<1.0	<1.0	<1.0
Dissolved Cobalt (Co)	ug/L	10	-	-	-	<0.40	0.49	1.8	0.55	0.48	<0.40	<0.40	<0.40	<0.40	<0.40	ND	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	1	1.5	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Total Cobalt (Co)	ug/L	-	100	-	-	--	--	--	--	3.3	1.8	1.4	0.99	0.97	--	--	--	--	--	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	--	--	--	--	0.49	0.48	0.6	0.49	<0.40	<0.40
Dissolved Copper (Cu)	ug/L	1000	-	2000	1000	<2.0	ND	<2.0	1.4	1.1	<0.50	0.7	<0.50	<0.50	<2.0	ND	<2.0	1.2	0.9	0.76	<0.50	<0.50	0.52	0.73	<0.50	<2.0	7	<2.0	<0.50	0.79	0.52	0.76	<0.50	0.94	0.78
Total Copper (Cu)	ug/L	-	20	2000	1000	--	--	--	--	3.2	3.4	2.2	1.2	1.4	--	--	--	--	--	1.3	0.93	1.6	1.7	1.1	0.67	--	--	--	--	1.4	1.3	2.4	1.7	1.9	2.3
Dissolved Iron (Fe)	ug/L	300	-	-	300	<50	ND	<50	<50	<50	<50	<50	<50	<50	<50	ND	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	ND	<50	<50	<50	<50	<50	<50	<50	<50
Total Iron (Fe)	ug/L	-	3000	-	300	--	--	--	--	900	1200	860	200	300	--	--	--	--	--	200	160	430	270	150	91	--	--	--	--	210	120	150	180	110	210
Dissolved Lead (Pb)	ug/L	10	-	5	-	<0.50	ND	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	ND	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	ND	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total Lead (Pb)	ug/L	-	10	5	-	--	--	--	--	<0.50	<0.50	0.95	<0.50	<0.50	--	--	--	--	--	<0.50	<0.50	0.79	<0.50	<0.50	<0.50	--	--	--	--	<0.50	<0.50	<0.50	0.61	<0.50	<0.50
Dissolved Magnesium (Mg)	ug/L	-	-	-	-	190	650	840	580	570	810	360	870	460	2200	2200	2200	2100	2000	2200	2100	1900	2000	2000	2000	1800	1400	1200	560	470	450	560	530	630	700
Total Magnesium (Mg)	ug/L	-	-	-	-	--	--	--	--	820	1200	560	920	530	--	--	--	--	--	2200	2100	2100	2100	2100	2000	--	--	--	--	510	490	580	580	690	760
Dissolved Manganese (Mn)	ug/L	50	-	120	20	37	110	520	140	150	100	44	68	40	<2.0	8	2.8	4.9	2.7	3.2	<2.0	<2.0	<2.0	<2.0	<2.0	140	140	270	<2.0	6.5	6.4	14	15	9.6	12
Total Manganese (Mn)	ug/L	-	8200	120	20	--	--	--	--	380	220	110	120	86	--	--	--	--	--	5.8	4.6	9.8	9.2	4.4	3.7	--	--	--	--	36	33	55	39	25	29
Dissolved Molybdenum (Mo)	ug/L	70	-	-	-	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.1	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Molybdenum (Mo)	ug/L	-	730	-	-	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Nickel (Ni)	ug/L	100	-	-	-	<2.0	ND	4.2	<2.0	2.6	2.2	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	5.3	5.2	<2.0	2.7	<2.0	2	<2.0	2.2	2.1
Total Nickel (Ni)	ug/L	-	250	-	-	--	--	--	--	2.9	3.3	<2.0	<2.0	<2.0	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	2.6	2.6	3.3	2.2	3	2.8
Dissolved Phosphorus (P)	ug/L	-	-	-	-	<100	ND	<100	<100	<100	<100	<100	<100	<100	<100	ND	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	ND	<100	<100	<100	<100	<100	<100	<100	<100
Total Phosphorus (P)	ug/L	-	-	-	-	--	--	--	--	<100	<100	<100	<100	<100	--	--	--	--	--	<100	<100	<100	<100	<100	<100	--	--	--	--	<100	<100	<100	<100	<100	<100
Dissolved Potassium (K)	ug/L	-	-	-	-	1300	1200	1400	710	810	920	450	830	640	3100	2100	1900	1600	1500	1500	1400	1200	1200	1200	1100	3100	2100	1800	790	630	640	720	670	860	850
Total Potassium (K)	ug/L	-	-	-	-	--	--	--	--	990	1100	590	880	690	--	--	--	--	--	1500	1300	1300	1300	1200	1200	--	--	--	--	670	630	720	670	890	900
Dissolved Selenium (Se)	ug/L	10	-	50	-	<1.0	ND	<1.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50
Total Selenium (Se)	ug/L	-	10	50	-	--	--	--	--	<1.0	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50
Dissolved Silver (Ag)	ug/L	100	-	-	-	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Silver (Ag)	ug/L	-	1	-	-	--	--	--	--	<0.10	0.16	0.1	<0.10	<0.10	--	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	--	--	--	--	<0.10	<0.10	0.19	0.11	<0.10	<0.10
Dissolved Sodium (Na)	ug/L	200000	-	-	200000	9900	6100	4300	3100	3200	4000	2700	3400	3400	7100	5800	5200	5100	5000	4900	5000	4500	4400	4600	4600	8900	5300	6700	3700	3700	3500	3800	3500	3600	3800
Total Sodium (Na)	ug/L	-	-	-	200000	--	--	--	--	3300	4200	2900	3600	3500	--	--	--	--	--	5000	4800	4700	4700	4700	4600	--	--	--	--	3700	3600	3700	3400	3700	3700
Dissolved Strontium (Sr)	ug/L	4400	-	7000	-	6	12	19	13	12	16	9.6	29	13	69	66	66	58	59	59	54	47	49	50	49	77	56	51	24	18	19	22	23	27	30
Total Strontium (Sr)	ug/L	-	210000	7000	-	--	--	--	--	14	18	9.7	28	14	--	--	--	--	--	60	55	49	49	53	50	--	--	--	--	19	19	22	22	29	29
Dissolved Thallium (Tl)	ug/L	2	-	-	-	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Thallium (Tl)	ug/L	-	8	-	-	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10	--	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dissolved Tin (Sn)	ug/L	4400	-	-	-	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	4.4	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Tin (Sn)	ug/L	-	-	-	-	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Titanium (Ti)	ug/L	-	-	-	-	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Titanium (Ti)	ug/L	-	-	-	-	--	--	--	--	30	40	25	6.2	9.2	--	--	--	--	--	6.2	6.5	17	11	7.9	4	--	--	--	--	8.2	8	5.7	9.9	4.2	8.1
Dissolved Uranium (U)	ug/L	20	-	20	-	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.9	0.78	0.85	0.8	0.74	0.74	0.85	0.66	0.74	0.64	0.66	0.63	0.16	0.12	0.12	<0.10	0.11	0.12	0.15	0.17	<0.10
Total Uranium (U)	ug/L	-	3000	20	-	--	--	--	--	<0.10	<0.10	<0.10	0.11	<0.10	--	--	--	--	--	0.75	0.78	0.81	0.8	0.8	0.71	--	--	--	--	0.18	0.15	0.22	0.22	0.23	0.21
Dissolved Vanadium (V)	ug/L	6.2	-	-	-	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Vanadium (V)	ug/L	-	60	-	-	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Zinc (Zn)	ug/L	5000	-	-	5000	<5.0	ND	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<5.0	<5.0	<5.0	<5.0	<5.0	6	<5.0	5.8	<5.0	<5.0	9.7	12	<5.0	7.1	7.3	8.4	10	10	14
Total Zinc (Zn)	ug/L	-	300	-	5000	--	--	--	--	<5.0	<5.0	<5.0	<5.0	<5.0	--	--	--	--	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	--	--	--	--	6.2	6.5	7.3	6.8	9.6	14
Dissolved Mercury (Hg)	ug/L	1	-	1	-	--	--	--	--	--	--	--	--	<0.013	--	--	--	--	--	--	--	--	--	--	<0.013	--	--	--	--	--	--	--	--	--	<0.013
Total Mercury (Hg)	ug/L	-	0.26	1	-	--	--	--	--	--	--	--	--	<0.013	--	--	--	--	--	--	--	--	--	--	<0.013	--	--	--	--	--	--	--	--	--	<0.013

Table 3.2: Groundwater Quality Data - MW-02
Beaver Dam Mine Project
Marinette, Nova Scotia

Sample		Criteria				MW-02A										MW-02B										
Sample Date		NSE PSS for GW and NSE Tier 1 EQS: Potable Groundwater	NSE PSS for GW: Groundwater Discharge to Surface Water (>10 m)	GCDWQ; MAC	GCDWQ; AO	19-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19 (Frozen - Not sampled)	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20	5-Nov-20 Field DUP1	19-Jun-18	12-Sep-18	29-Nov-18	29-Nov-18 Field DUP4	4-Apr-19	27-Jun-19	27-Jun-19 Field DUP2	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20
Calculated Parameters	Units																									
Anion Sum	me/L		-	-	-	0.330	0.280	0.360	--	0.2	0.33	0.18	0.19	0.24	0.140	0.48	0.48	0.52	0.52	0.53	0.49	0.43	0.46	0.54	0.5	0.470
Bicarb. Alkalinity (calc. as CaCO3)	mg/L		-	-	-	6.0	6.2	7.0	--	<1.0	6.4	<1.0	<1.0	5.3	<1.0	17	16	18	18	18	14	13	14	17	15	16
Calculated TDS	mg/L		-	-	500	21	25	23	--	15	25	14	18	18	14	40	41	48	46	42	40	38	39	42	42	39
Carb. Alkalinity (calc. as CaCO3)	mg/L		-	-	-	<1.0	ND	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Cation Sum	me/L		-	-	-	0.260	0.270	0.310	--	0.21	0.25	0.18	0.21	0.21	0.220	0.44	0.45	0.73	0.62	0.44	0.42	0.41	0.41	0.41	0.43	0.420
Hardness (CaCO3)	mg/L		-	-	-	4.9	5.6	6.6	--	3.4	5.4	2.8	3.5	3.5	3.7	10	9.6	13	12	10	10	9.9	9.9	9.8	11	10
Ion Balance (% Difference)	%		-	-	-	11.9	1.82	7.46	--	2.44	13.8	0	5	6.67	22.2	4.35	3.23	16.8	8.77	9.28	7.69	2.38	5.75	13.7	7.53	5.62
Langelier Index (@ 20C)	N/A		-	-	-	-4.58	-4.24	-3.86	--	NC	-4.18	NC	NC	-5	NC	-3.2	-2.94	-2.77	-2.81	-3.05	-2.9	-2.99	-2.92	-3.17	-3.1	-3.19
Langelier Index (@ 4C)	N/A		-	-	-	-4.83	-4.50	-4.11	--	NC	-4.44	NC	NC	-5.25	NC	-3.45	-3.19	-3.03	-3.06	-3.31	-3.15	-3.24	-3.18	-3.42	-3.35	-3.44
Nitrate (N)	mg/L		-	10	-	<0.050	ND	<0.050	--	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.052	<0.050	<0.050	0.051	<0.050	<0.050	<0.050	<0.050	0.37	0.051
Saturation pH (@ 20C)	N/A		-	-	-	10.4	10.4	10.2	--	NC	10.4	NC	NC	10.7	NC	9.64	9.7	9.47	9.49	9.58	9.72	9.76	9.71	9.65	9.64	9.66
Saturation pH (@ 4C)	N/A		-	-	-	10.7	10.6	10.4	--	NC	10.6	NC	NC	10.9	NC	9.89	9.95	9.72	9.75	9.84	9.97	10	9.97	9.9	9.89	9.92
Inorganics																										
Total Alkalinity (Total as CaCO3)	mg/L		-	-	-	6.0	6.2	7	--	<5.0	6.4	<5.0	<5.0	5.3	<5.0	17	16	18	18	18	14	13	14	17	15	16
Total Chemical Oxygen Demand	mg/L		-	-	-	--	--	--	--	--	--	--	--	<20	<20	--	--	--	--	--	--	--	--	--	--	<20
Dissolved Chloride (Cl-)	mg/L	250	15000	-	250	5.4	3.3	5.8	--	4.4	4.9	3.5	4.1	2.3	2.6	2.7	3.3	3.1	3	3.4	4.7	3.4	3.4	3.5	3.6	3.3
Colour	TCU		-	-	15	<5.0	ND	<5.0	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Nitrate + Nitrite (N)	mg/L		-	-	-	<0.050	ND	<0.050	--	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.052	<0.050	<0.050	0.051	<0.050	<0.050	<0.050	<0.050	0.37	0.051
Nitrite (N)	mg/L		-	1	-	<0.010	ND	<0.010	--	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Nitrogen (Ammonia Nitrogen)	mg/L		-	-	-	<0.050	ND	<0.050	--	<0.050	<0.050	0.071	<0.050	<0.050	<0.050	<0.050	ND	<0.050	<0.050	0.052	<0.050	<0.050	0.052	0.09	<0.050	<0.050
Dissolved Organic Carbon (C)	mg/L		-	-	-	--	--	--	--	--	--	--	--	<0.5	<0.5	--	--	--	--	--	--	--	--	--	--	<0.5
Total Organic Carbon (C)	mg/L		-	-	-	1.2	ND	0.72	--	0.68	<0.50	0.51	0.42	<5.0 (1)	<0.50	1.9	ND	0.56	0.57	<0.50	<0.50	<0.50	<0.50	<0.50	<0.40	<0.50
Orthophosphate (P)	mg/L		-	-	-	<0.010	0.011	<0.010	--	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.058	0.068	0.065	0.066	0.071	0.075	0.074	0.072	0.075	0.07	0.087
pH	pH		-	-	7.0:10.5	5.83	6.12	6.31	--	6.03	6.2	5.51	5.89	5.69	5.78	6.44	6.76	6.69	6.69	6.53	6.82	6.77	6.79	6.48	6.55	6.47
Dissolved Phosphorus	mg/L		-	-	-	--	--	--	--	--	--	--	--	<0.020	<0.020	--	--	--	--	--	--	--	--	--	--	0.061
Total Phosphorus	mg/L		-	-	-	--	--	--	--	--	--	--	--	0.19	0.073	--	--	--	--	--	--	--	--	--	--	0.075
Reactive Silica (SiO2)	mg/L		-	-	-	3.2	9.2	4.1	--	3.2	8.5	2.9	5.3	4.6	4.1	15	15	15	15	15	14	15	15	15	15	15
Total Suspended Solids	mg/L		-	-	-	--	--	--	--	--	--	--	--	210	230	--	--	--	--	--	--	--	--	--	--	3.0
Dissolved Sulphate (SO4)	mg/L		-	-	500	2.6	2.8	2.8	--	3.4	2.9	4	3.6	3.2	3.2	2.7	3.2	3.1	3.4	3	3.5	3.6	3.3	4.5	3.6	3.0
Turbidity	NTU		-	-	0.3	22	1.7	2.1	--	180	13	77	2.6	59	63	4.6	4.6	22	33	4.6	2.9	2.9	1.8	0.74	0.23	1.5
Conductivity	uS/cm		-	-	-	34	32	38	--	27	32	26	29	26	26	46	49	51	52	48	44	43	43	45	49	47

Table 3.2: Groundwater Quality Data - MW-02
Beaver Dam Mine Project
Marinette, Nova Scotia

Sample		Criteria				MW-02A										MW-02B										
Sample Date		NSE PSS for GW and NSE Tier 1 EQS: Potable Groundwater	NSE PSS for GW: Groundwater Discharge to Surface Water (>10 m)	GCDWQ; MAC	GCDWQ; AO	19-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19 (Frozen - Not sampled)	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20	5-Nov-20 Field DUP1	19-Jun-18	12-Sep-18	29-Nov-18	29-Nov-18 Field DUP4	4-Apr-19	27-Jun-19	27-Jun-19 Field DUP2	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20
Metals																										
Dissolved Aluminum (Al)	ug/L	100	-	-	100	160	34	67	--	230	45	290	120	86	98	9.2	8.7	9	19	16	5.7	6.3	<5.0	<5.0	<5.0	<5.0
Total Aluminum (Al)	ug/L	-	50	-	100	--	--	--	--	2100	960	3600	560	3200	1500	--	--	--	--	--	210	270	57	35	28	39
Dissolved Antimony (Sb)	ug/L	6	-	6	-	<1.0	ND	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Antimony (Sb)	ug/L	-	200	6	-	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Arsenic (As)	ug/L	10	-	10	-	<1.0	ND	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.1	2.4	2.4	2.5	2.4	2.4	2.5	2.4	2.4	2.4	2.5
Total Arsenic (As)	ug/L	-	50	10	-	--	--	--	--	2.1	1.1	3.5	<1.0	3.7	1.8	--	--	--	--	--	2.6	2.6	2.4	2.4	2.6	2.5
Dissolved Barium (Ba)	ug/L	1000	-	2000	-	9.3	5.8	8.4	--	6.6	6.3	5.9	7.9	6.1	6	4.2	3.4	5.8	5.4	3.6	2.5	1.8	2.6	2.6	2.7	2.3
Total Barium (Ba)	ug/L	-	10000	2000	-	--	--	--	--	18	11	23	9.6	21	13	--	--	--	--	--	3.6	3.5	3.3	2.7	2.9	2.5
Dissolved Beryllium (Be)	ug/L	4	-	-	-	<1.0	ND	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Beryllium (Be)	ug/L	-	53	-	-	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Bismuth (Bi)	ug/L	-	-	-	-	<2.0	ND	<2.0	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Bismuth (Bi)	ug/L	-	-	-	-	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Boron (B)	ug/L	5000	-	5000	-	<50	ND	<50	--	<50	<50	<50	<50	<50	<50	<50	ND	<50	<50	<50	<50	<50	<50	<50	<50	<50
Total Boron (B)	ug/L	-	12000	5000	-	--	--	--	--	<50	<50	<50	<50	<50	<50	--	--	--	--	--	<50	<50	<50	<50	<50	<50
Dissolved Cadmium (Cd)	ug/L	5	-	7	-	0.025	0.02	0.036	--	0.027	0.018	0.019	0.023	0.024	0.023	0.6	0.65	0.58	0.66	0.44	0.45	0.46	0.42	0.44	0.41	0.44
Total Cadmium (Cd)	ug/L	-	0.1	7	-	--	--	--	--	0.029	0.024	0.026	0.021	0.031	0.028	--	--	--	--	--	0.51	0.5	0.43	0.43	0.44	0.46
Dissolved Calcium (Ca)	ug/L	-	-	-	-	1200	1300	1800	--	720	1300	450	770	740	790	2700	2600	3900	3600	2900	2800	2700	2700	2600	3100	2800
Total Calcium (Ca)	ug/L	-	-	-	-	--	--	--	--	1100	1400	520	920	850	640	--	--	--	--	--	3000	2900	2800	2700	3300	2700
Dissolved Chromium (Cr)	ug/L	50	-	50	-	<1.0	ND	<1.0	--	1.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	1.4	<1.0	<1.0	<1.0	<1.0	<1.0
Total Chromium (Cr)	ug/L	-	-	50	-	--	--	--	--	3	1.3	4.1	<1.0	3.6	1.8	--	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Cobalt (Co)	ug/L	10	-	-	-	1.8	ND	1.9	--	<0.40	<0.40	<0.40	1.2	0.46	0.47	<0.40	ND	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Total Cobalt (Co)	ug/L	-	100	-	-	--	--	--	--	1.7	0.76	2.1	1.4	2.2	1.3	--	--	--	--	--	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Dissolved Copper (Cu)	ug/L	1000	-	2000	1000	8.7	ND	5.8	--	1.4	0.83	2.1	3	2.1	1.4	<2.0	ND	7.5	10	2.2	1.1	0.79	0.89	0.61	0.66	0.61
Total Copper (Cu)	ug/L	-	20	2000	1000	--	--	--	--	7.2	5.4	11	3.9	9.2	4.9	--	--	--	--	--	1.4	1.4	1.1	0.8	1.1	0.93
Dissolved Iron (Fe)	ug/L	300	-	-	300	250	ND	<50	--	<50	<50	<50	<50	<50	<50	<50	ND	<50	<50	<50	<50	<50	<50	<50	<50	<50
Total Iron (Fe)	ug/L	-	3000	-	300	--	--	--	--	2700	1400	4600	640	4600	2100	--	--	--	--	--	96	100	<50	<50	<50	<50
Dissolved Lead (Pb)	ug/L	10	-	5	-	<0.50	ND	<0.50	--	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	ND	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total Lead (Pb)	ug/L	-	10	5	-	--	--	--	--	1.4	0.69	2.7	<0.50	2.3	1.1	--	--	--	--	--	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Magnesium (Mg)	ug/L	-	-	-	-	460	530	500	--	400	540	400	370	410	420	800	770	800	790	730	800	780	780	770	800	800
Total Magnesium (Mg)	ug/L	-	-	-	-	--	--	--	--	990	910	1400	560	1300	800	--	--	--	--	--	880	870	830	810	840	810
Dissolved Manganese (Mn)	ug/L	50	-	120	20	150	45	140	--	43	36	27	48	27	27	22	11	29	25	11	9.1	9.4	4.6	2.8	3.9	4.4
Total Manganese (Mn)	ug/L	-	8200	120	20	--	--	--	--	120	68	120	62	120	71	--	--	--	--	--	11	10	6	3.7	4.3	4.3
Dissolved Molybdenum (Mo)	ug/L	70	-	-	-	<2.0	ND	<2.0	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	2.7	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Molybdenum (Mo)	ug/L	-	730	-	-	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Nickel (Ni)	ug/L	100	-	-	-	7.8	ND	8.2	--	<2.0	<2.0	<2.0	2.6	<2.0	<2.0	2.1	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Nickel (Ni)	ug/L	-	250	-	-	--	--	--	--	3.8	2.1	4.9	3.5	5.5	3.1	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Phosphorus (P)	ug/L	-	-	-	-	<100	ND	<100	--	<100	<100	<100	<100	<100	<100	<100	120	100	<100	<100	110	100	120	<100	110	110
Total Phosphorus (P)	ug/L	-	-	-	-	--	--	--	--	110	120	160	<100	170	<100	--	--	--	--	--	110	<100	150	<100	140	120
Dissolved Potassium (K)	ug/L	-	-	-	-	250	320	260	--	120	310	110	240	240	220	640	560	840	710	520	560	530	510	490	560	600
Total Potassium (K)	ug/L	-	-	-	-	--	--	--	--	490	480	760	360	750	440	--	--	--	--	--	550	550	530	490	610	530
Dissolved Selenium (Se)	ug/L	10	-	50	-	<1.0	ND	<1.0	--	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50
Total Selenium (Se)	ug/L	-	10	50	-	--	--	--	--	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50
Dissolved Silver (Ag)	ug/L	100	-	-	-	<0.10	0.2	0.16	--	<0.10	0.2	<0.10	0.15	<0.10	0.1	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Silver (Ag)	ug/L	-	1	-	-	--	--	--	--	0.4	0.28	0.74	0.33	0.7	0.34	--	--	--	--	--	<0.10	<0.10	<0.10	0.11	<0.10	<0.10
Dissolved Sodium (Na)	ug/L	200000	-	-	200000	3400	3400	3800	--	3200	3100	2600	3000	3100	3100	5100	5700	10000	8200	5000	4700	4500	4500	4500	4400	4600
Total Sodium (Na)	ug/L	-	-	-	200000	--	--	--	--	3500	3400	2600	3300	3000	3000	--	--	--	--	--	4900	4800	4600	4600	4800	4500
Dissolved Strontium (Sr)	ug/L	4400	-	7000	-	6	14	7.8	--	5.3	16	4.8	7.7	9.2	8.4	20	18	31	26	20	18	18	18	17	20	18
Total Strontium (Sr)	ug/L	-	210000	7000	-	--	--	--	--	6.2	16	5.9	10	7.9	5.9	--	--	--	--	--	20	20	18	17	20	18
Dissolved Thallium (Tl)	ug/L	2	-	-	-	<0.10	ND	<0.10	--	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Thallium (Tl)	ug/L	-	8	-	-	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	--	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dissolved Tin (Sn)	ug/L	4400	-	-	-	<2.0	ND	<2.0	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Tin (Sn)	ug/L	-	-	-	-	--	--	--	--	<2.0	<2.0	<2.0	<2.0	2.4	4.8	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Titanium (Ti)	ug/L	-	-	-	-	<2.0	ND	<2.0	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Titanium (Ti)	ug/L	-	-	-	-	--	--	--	--	69	33	120	16	120	52	--	--	--	--	--	3.2	3	<2.0	<2.0	<2.0	<2.0
Dissolved Uranium (U)	ug/L	20	-	20	-	<0.10	ND	<0.10	--	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.56	0.82	1.3	0.99	0.85	0.67	0.64	0.88	0.9	1.1	0.78
Total Uranium (U)	ug/L	-	3000	20	-	--	--	--	--	0.14	<0.10	0.23	<0.10	0.23	0.12	--	--	--	--	--	0.94	0.89	1	0.94	1.3	1
Dissolved Vanadium (V)	ug/L	6.2	-	-	-	<2.0	ND	<2.0	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Vanadium (V)	ug/L	-	60	-	-	--	--	--	--	2.1	<2.0	3.9	<2.0	3.4	<2.0	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Zinc (Zn)	ug/L	5000	-	-	5000	12	ND	13	--	<5.0	<5.0	<5.0	6.7	5.1	<5.0	91	88	69	78	80	94	93	92	95	88	100
Total Zinc (Zn)	ug/L	-	300	-	5000	--	--	--	--	9.3	5.6	11	6.4	14	7.7	--	--	--	--	--	99	97	92	93	89	96
Dissolved Mercury (Hg)	ug/L	1	-	1	-	--	--	--	--	--	--	--	--	<0.013	<0.013	--	--	--	--	--	--	--	--	--	--	<0.013
Total Mercury (Hg)	ug/L	-	0.26	1	-	--	--	--	--	--	--	--	--	<0.013	<0.013	--	--	--	--	--	--	--	--	--	--	<0.013

Table 3.2: Groundwater Quality Data - MW-03
Beaver Dam Mine Project
Marinette, Nova Scotia

Sample		Criteria				MW-03A									MW-03B									MW-03C											
Sample Date		NSE PSS for GW and NSE Tier 1 EQS: Potable Groundwater	NSE PSS for GW: Groundwater Discharge to Surface Water (>10 m)	GCDWQ; MAC	GCDWQ; AO	19-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20	19-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20	19-Jun-18	19-Jun-18 Field DUP3	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	30-Jul-20 Field DUP3	5-Nov-20
Calculated Parameters	Units																																		
Anion Sum	me/L		-	-	-	0.28	0.42	0.37	0.23	0.16	0.34	0.28	0.2	0.36	0.98	1.05	1.03	0.98	0.95	1.12	0.99	0.96	0.96	1.87	1.77	1.97	2.09	2.02	2.07	2.13	1.96	1.87	1.92	1.73
Bicarb. Alkalinity (calc. as CaCO3)	mg/L		-	-	-	6.2	9.9	11	6	<1.0	5.3	6.1	<1.0	6.6	37	39	40	37	37	45	38	34	35	83	77	86	93	89	92	95	86	81	83	76
Calculated TDS	mg/L		-	-	500	20	31	27	15	17	26	19	19	25	62	65	63	61	59	67	60	59	59	110	100	110	120	110	120	120	110	110	110	100
Carb. Alkalinity (calc. as CaCO3)	mg/L		-	-	-	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Cation Sum	me/L		-	-	-	0.26	0.39	0.35	0.2	0.22	0.28	0.2	0.23	0.27	0.93	0.97	0.96	0.92	0.93	1.02	0.88	0.89	0.89	1.79	1.76	1.91	1.93	1.88	1.91	1.79	1.69	1.73	1.71	1.69
Hardness (CaCO3)	mg/L		-	-	-	5.9	9.5	4.9	4.1	5.1	6.5	3.4	5.3	5.8	35	36	37	35	36	40	34	34	34	67	66	75	80	79	80	75	70	72	72	71
Ion Balance (% Difference)	%		-	-	-	3.7	3.7	2.78	6.98	15.8	9.68	16.7	6.98	14.3	2.62	3.96	3.52	3.16	1.06	4.67	5.88	3.78	3.78	2.19	0.28	1.55	3.98	3.59	4.02	8.67	7.4	3.89	5.79	1.17
Langelier Index (@ 20C)	N/A		-	-	-	-4.37	-3.65	-3.92	-4.66	NC	-4.09	-4.65	NC	-4.45	-2.01	-1.67	-1.93	-1.93	-1.48	-1.35	-1.96	-1.99	-1.90	-0.247	-0.304	-0.09	-0.133	-0.222	-0.073	-0.315	-0.439	-0.45	-0.285	-0.457
Langelier Index (@ 4C)	N/A		-	-	-	-4.63	-3.91	-4.18	-4.92	NC	-4.34	-4.9	NC	-4.7	-2.26	-1.92	-2.18	-2.18	-1.73	-1.6	-2.21	-2.24	-2.15	-0.498	-0.556	-0.341	-0.384	-0.473	-0.324	-0.566	-0.69	-0.701	-0.536	-0.708
Nitrate (N)	mg/L		-	10	-	0.31	0.44	0.68	0.26	0.72	1.2	0.29	0.89	0.44	0.1	0.11	0.091	0.11	<0.050	0.12	0.12	0.16	0.097	<0.050	<0.050	0.074	0.052	0.11	<0.050	0.077	0.11	0.1	0.12	0.10
Saturation pH (@ 20C)	N/A		-	-	-	10.3	9.87	10.2	10.5	NC	10.4	10.6	NC	10.3	8.67	8.63	8.61	8.66	8.66	8.53	8.67	8.72	8.71	8.06	8.1	8	7.94	7.96	7.94	7.96	8.03	8.04	8.03	8.08
Saturation pH (@ 4C)	N/A		-	-	-	10.6	10.1	10.4	10.7	NC	10.6	10.8	NC	10.5	8.93	8.89	8.86	8.91	8.91	8.78	8.92	8.97	8.97	8.31	8.36	8.25	8.19	8.21	8.2	8.21	8.28	8.29	8.29	8.33
Inorganics																																			
Total Alkalinity (Total as CaCO3)	mg/L		-	-	-	6.2	9.9	11	6	<5.0	5.3	6.1	<5.0	6.6	37	39	40	37	37	45	38	34	35	84	77	87	93	90	93	95	86	81	84	76
Total Chemical Oxygen Demand	mg/L		-	-	-	--	--	--	--	--	--	--	--	<20	--	--	--	--	--	--	--	--	<20	--	--	--	--	--	--	--	--	--	--	--	<20
Dissolved Chloride (Cl-)	mg/L	250	1500	-	250	4.7	4.9	3.7	3.2	2.2	3.4	1.8	2.9	4.3	5.5	6.3	5.4	5.6	4.7	5	4.5	6.2	5.7	4.3	5.2	5.1	4.6	4.2	3.7	4.3	4	5	4.9	3.6
Colour	TCU		-	-	15	8.6	ND	6	12	<5.0	<5.0	6.7	<5.0	6.9	5.4	ND	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.3	<5.0	ND	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Nitrate + Nitrite (N)	mg/L		-	-	-	0.31	0.44	0.68	0.26	0.72	1.2	0.29	0.89	0.44	0.1	0.11	0.091	0.11	<0.050	0.12	0.12	0.16	0.097	<0.050	<0.050	0.074	0.052	0.11	<0.050	0.077	0.11	0.1	0.12	0.10
Nitrite (N)	mg/L		-	1	-	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Nitrogen (Ammonia Nitrogen)	mg/L		-	-	-	<0.050	ND	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	ND	<0.050	<0.050	0.089	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	ND	<0.050	<0.050	<0.050	<0.050	0.069	<0.050	0.052	<0.050
Dissolved Organic Carbon (C)	mg/L		-	-	-	--	--	--	--	--	--	--	--	2.3	--	--	--	--	--	--	--	--	<0.5	--	--	--	--	--	--	--	--	--	--	--	<0.5
Total Organic Carbon (C)	mg/L		-	-	-	3.6	2.3	2.6	3.3	1.2	<5.0 (1)	2.3	1.5	<5.0 (1)	1.1	0.88	<0.50	0.51	<0.50	<0.50	0.56	1.3	0.79	4.2	4.3	1.7	0.78	0.58	0.9	0.77	<0.50	0.75	0.84	<0.50
Orthophosphate (P)	mg/L		-	-	-	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
pH	pH		-	-	7.0:10.5	5.93	6.21	6.23	5.83	6.28	6.27	5.93	5.85	5.82	6.66	6.97	6.68	6.74	7.18	7.17	6.71	6.74	6.81	7.81	7.8	7.91	7.81	7.74	7.87	7.64	7.59	7.59	7.75	7.62
Dissolved Phosphorus	mg/L		-	-	-	--	--	--	--	--	--	--	--	<0.020	--	--	--	--	--	--	--	--	<0.020	--	--	--	--	--	--	--	--	--	--	--	<0.020
Total Phosphorus	mg/L		-	-	-	--	--	--	--	--	--	--	--	0.024	--	--	--	--	--	--	--	--	<0.020	--	--	--	--	--	--	--	--	--	--	--	<0.020
Reactive Silica (SiO2)	mg/L		-	-	-	4.1	7.4	5.6	3.1	4.3	5.7	4.1	5	5.7	10	11	10	10	9.7	9.9	9.9	9.7	9.7	9.6	9.4	11	12	13	13	12	12	13	12	12
Total Suspended Solids	mg/L		-	-	-	--	--	--	--	--	--	--	--	140	--	--	--	--	--	--	--	--	4.6	--	--	--	--	--	--	--	--	--	--	--	3.6
Dissolved Sulphate (SO4)	mg/L		-	-	500	<2.0	2.5	<2.0	<2.0	2.5	2.5	4.2	2.5	3.6	3.8	3.6	3.4	3.5	3.9	3.9	4.3	4.1	4.5	3.7	3.9	4.1	4.3	4.7	4.9	4.5	5.8	4.7	4.7	4.7
Turbidity	NTU		-	-	0.3	0.39	15	4.4	1.9	4.9	99	29	0.81	11	0.26	1.7	0.39	0.53	0.84	1.2	3.6	1	1.8	1.7	1.5	2.3	1.9	1.2	3.7	1.5	2.3	0.49	0.88	1.1
Conductivity	uS/cm		-	-	-	32	43	40	25	27	35	25	30	32	94	100	89	93	92	100	93	93	92	170	170	190	190	180	170	180	160	170	180	170

Table 3.2: Groundwater Quality Data - MW-03
Beaver Dam Mine Project
Marinette, Nova Scotia

Sample		Criteria				MW-03A									MW-03B									MW-03C										
Sample Date		NSE PSS for GW and NSE Tier 1 EQS: Potable Groundwater	NSE PSS for GW: Groundwater Discharge to Surface Water (>10 m)	GCDWQ; MAC	GCDWQ; AO	19-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20	19-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20	19-Jun-18	19-Jun-18 Field DUP3	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	30-Jul-20 Field DUP3	5-Nov-20
Metals																																		
Dissolved Aluminum (Al)	ug/L	100	-	-	100	190	96	140	200	130	160	130	130	120	<5.0	ND	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	26	30	16	11	7	8.1	7	<5.0	<5.0	5.1	<5.0
Total Aluminum (Al)	ug/L	-	50	-	100	--	--	--	--	1000	1900	1200	450	730	--	--	--	--	110	24	86	120	61	--	--	--	--	--	200	120	48	39	61	43
Dissolved Antimony (Sb)	ug/L	6	-	6	-	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Antimony (Sb)	ug/L	-	200	6	-	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Arsenic (As)	ug/L	10	-	10	-	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.5	1.7	2	2.1	2.2	2	1.7	1.6	1.6	1.6	1.5
Total Arsenic (As)	ug/L	-	50	10	-	--	--	--	--	<1.0	1.1	<1.0	<1.0	<1.0	--	--	--	--	<1.0	<1.0	<1.0	1	<1.0	--	--	--	--	--	2.3	2	1.8	1.8	1.8	1.7
Dissolved Barium (Ba)	ug/L	1000	-	2000	-	7.2	11	7	6.2	10	12	5	11	8.2	3.9	4.4	3.3	2.9	2.8	3	2.5	3.5	3	8.6	9.1	6.5	5.3	3.9	5.4	4.2	3.2	3.3	3.3	3
Total Barium (Ba)	ug/L	-	10000	2000	-	--	--	--	--	24	35	9.4	15	15	--	--	--	--	3.3	3.2	3.6	4.4	3.3	--	--	--	--	--	7.3	5.4	3.6	3.3	3.8	3.4
Dissolved Beryllium (Be)	ug/L	4	-	-	-	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Beryllium (Be)	ug/L	-	53	-	-	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Bismuth (Bi)	ug/L	-	-	-	-	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Bismuth (Bi)	ug/L	-	-	-	-	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Boron (B)	ug/L	5000	-	5000	-	<50	ND	<50	<50	<50	<50	<50	<50	<50	<50	ND	<50	<50	<50	<50	<50	<50	<50	<50	<50	ND	<50	<50	<50	<50	<50	<50	<50	<50
Total Boron (B)	ug/L	-	12000	5000	-	--	--	--	--	<50	<50	<50	<50	<50	--	--	--	--	<50	<50	<50	<50	<50	--	--	--	--	--	<50	<50	<50	<50	<50	<50
Dissolved Cadmium (Cd)	ug/L	5	-	7	-	0.03	0.031	0.025	0.024	0.031	0.031	0.02	0.029	0.034	0.038	0.039	0.03	0.025	0.021	0.014	0.02	0.022	0.023	<0.010	<0.010	ND	<0.010	0.011	0.014	<0.010	0.012	0.01	<0.010	0.012
Total Cadmium (Cd)	ug/L	-	0.1	7	-	--	--	--	--	0.043	0.056	0.021	0.033	0.038	--	--	--	--	0.019	0.013	0.026	0.023	0.016	--	--	--	--	--	0.021	0.014	<0.010	<0.010	0.011	0.01
Dissolved Calcium (Ca)	ug/L	-	-	-	-	1500	2700	1300	1000	1200	1600	820	1300	1600	12000	12000	13000	12000	12000	14000	12000	11000	12000	23000	23000	26000	28000	27000	28000	26000	24000	25000	25000	24000
Total Calcium (Ca)	ug/L	-	-	-	-	--	--	--	--	1600	2100	900	1300	1600	--	--	--	--	13000	14000	11000	12000	11000	--	--	--	--	--	28000	26000	24000	26000	25000	24000
Dissolved Chromium (Cr)	ug/L	50	-	50	-	<1.0	ND	<1.0	1.2	1.2	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	1.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	1.1	<1.0	<1.0	<1.0	<1.0	<1.0
Total Chromium (Cr)	ug/L	-	-	50	-	--	--	--	--	1.4	1.9	<1.0	<1.0	<1.0	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	--	1.2	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Cobalt (Co)	ug/L	10	-	-	-	0.46	0.53	<0.40	<0.40	0.5	0.6	<0.40	<0.40	<0.40	<0.40	ND	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	ND	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Total Cobalt (Co)	ug/L	-	100	-	-	--	--	--	--	0.77	0.98	<0.40	0.52	0.48	--	--	--	--	<0.40	<0.40	<0.40	<0.40	<0.40	--	--	--	--	--	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Dissolved Copper (Cu)	ug/L	1000	-	2000	1000	<2.0	2.2	2.7	2.4	1.9	2	2	1.2	2.4	<2.0	ND	27	1.5	<0.50	<0.50	0.54	1.2	0.65	<2.0	<2.0	ND	<2.0	1.6	1	<0.50	<0.50	0.71	0.76	<0.50
Total Copper (Cu)	ug/L	-	20	2000	1000	--	--	--	--	3.7	8.6	3	2	3.7	--	--	--	--	0.8	0.6	1.1	2	1.4	--	--	--	--	--	6.8	3	0.91	1.2	1.8	1
Dissolved Iron (Fe)	ug/L	300	-	-	300	<50	ND	<50	<50	<50	<50	<50	<50	<50	<50	ND	<50	<50	<50	<50	<50	<50	<50	<50	<50	ND	<50	<50	<50	<50	<50	<50	<50	<50
Total Iron (Fe)	ug/L	-	3000	-	300	--	--	--	--	1300	2200	600	300	900	--	--	--	--	170	<50	100	180	91	--	--	--	--	--	340	160	59	54	95	150
Dissolved Lead (Pb)	ug/L	10	-	5	-	<0.50	ND	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	ND	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	ND	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total Lead (Pb)	ug/L	-	10	5	-	--	--	--	--	3.2	4.6	1.2	0.75	1.4	--	--	--	--	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--	0.7	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Magnesium (Mg)	ug/L	-	-	-	-	510	690	440	400	530	610	330	490	450	1100	1200	1200	1200	1200	1300	1200	1200	1200	2300	2300	2600	2600	2600	2700	2500	2300	2500	2500	2400
Total Magnesium (Mg)	ug/L	-	-	-	-	--	--	--	--	730	930	490	560	580	--	--	--	--	1200	1300	1200	1300	1200	--	--	--	--	--	2700	2500	2400	2500	2500	2400
Dissolved Manganese (Mn)	ug/L	50	-	120	20	50	110	60	42	51	53	38	36	64	32	26	10	5	3.3	2.4	<2.0	10	4.3	120	120	170	84	28	38	53	3.8	7.2	7.2	2.5
Total Manganese (Mn)	ug/L	-	8200	120	20	--	--	--	--	140	160	61	50	120	--	--	--	--	7.4	2.9	3.9	14	7.1	--	--	--	--	--	81	68	16	6.9	14	7.1
Dissolved Molybdenum (Mo)	ug/L	70	-	-	-	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	6.6	6.4	5.5	4	2.1	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Molybdenum (Mo)	ug/L	-	730	-	-	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	--	2.1	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Nickel (Ni)	ug/L	100	-	-	-	3.5	4.7	4	2.7	3.6	3.1	2.6	2	2.6	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Nickel (Ni)	ug/L	-	250	-	-	--	--	--	--	4.1	5	3.3	2.3	3.3	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	--	2.2	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Phosphorus (P)	ug/L	-	-	-	-	<100	ND	<100	<100	<100	<100	<100	<100	<100	<100	ND	<100	<100	<100	<100	<100	<100	<100	<100	<100	ND	<100	<100	<100	<100	<100	<100	<100	<100
Total Phosphorus (P)	ug/L	-	-	-	-	--	--	--	--	<100	140	<100	<100	<100	--	--	--	--	<100	<100	<100	<100	<100	--	--	--	--	--	<100	<100	<100	<100	<100	<100
Dissolved Potassium (K)	ug/L	-	-	-	-	880	1200	830	390	640	800	510	640	690	1700	1500	1100	880	890	940	830	1000	830	4300	4300	3400	2800	2300	2300	2000	1700	1800	1700	1600
Total Potassium (K)	ug/L	-	-	-	-	--	--	--	--	900	1200	570	710	830	--	--	--	--	920	910	780	1100	840	--	--	--	--	--	2400	2100	1700	1800	1800	1600
Dissolved Selenium (Se)	ug/L	10	-	50	-	<1.0	ND	<1.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	ND	<1.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50
Total Selenium (Se)	ug/L	-	10	50	-	--	--	--	--	<1.0	<0.50	<0.50	<0.50	<0.50	--	--	--	--	<1.0	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Silver (Ag)	ug/L	100	-	-	-	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Silver (Ag)	ug/L	-	1	-	-	--	--	--	--	0.2	0.76	0.27	0.18	0.37	--	--	--	--	<0.10	<0.10	0.13	0.25	0.12	--	--	--	--	--	1	0.16	<0.10	0.12	0.57	0.12
Dissolved Sodium (Na)	ug/L	200000	-	-	200000	2700	3900	5300	2300	2400	3000	2600	2400	3200	4600	4900	4500	4400	4400	4300	4300	4500	4400	7700	7700	7600	6100	5800	5900	5400	5300	5400	5400	5300
Total Sodium (Na)	ug/L	-	-	-	200000	--	--	--	--	2400	3000	2500	2600	3300	--	--	--	--	4500	4300	4200	4600	4200	--	--	--	--	--	5800	5500	5300	5400	5600	5200
Dissolved Strontium (Sr)	ug/L	4400	-	7000	-	11	22	14	13	15	20	8.2	14	11	24	25	26	25	26	29	24	25	24	56	56	58	66	73	74	70	61	67	65	65
Total Strontium (Sr)	ug/L	-	210000	7000	-	--	--	--	--	19	26	9.3	14	12	--	--	--	--	26	27	24	25	24	--	--	--	--	--	75	68	64	67	64	64
Dissolved Thallium (Tl)	ug/L	2	-	-	-	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Thallium (Tl)	ug/L	-	8	-	-	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10	--	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dissolved Tin (Sn)	ug/L	4400	-	-	-	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	3.8	ND	2.7	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Tin (Sn)	ug/L	-	-	-	-	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Titanium (Ti)	ug/L	-	-	-	-	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Titanium (Ti)	ug/L	-	-	-	-	--	--	--	--	26	45	13	8.3	15	--	--	--	--	7.4	<2.0	5.3	9.5	5.3	--	--	--	--	--	13	8.4	3.5	2.9	5.4	3.7
Dissolved Uranium (U)	ug/L	20	-	20	-	<0.10	0.1	0.17	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.25	0.22	0.29	0.27	0.25	0.26	0.24	0.17	0.12	1.6	1.6	2	2.2	1.6	1.5	1.3	1.2	1.2	1.2	1.2
Total Uranium (U)	ug/L	-	3000	20	-	--	--	--	--	0.98	1.5	0.31	0.23	0.4	--	--	--	--	0.3	0.27	0.25	0.31	0.22	--	--	--	--	--	1.6	1.3	1.3	1.3	1.2	1.2
Dissolved Vanadium (V)	ug/L	6.2	-	-	-	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Vanadium (V)	ug/L	-	60	-	-	--	--	--	--	<2.0	2	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Zinc (Zn)	ug/L	5000	-	-	5000	<5.0	5.2	6.5	<5.0	5.9	<5.0	<5.0	<5.0	13	<5.0	7.6	6.6	<5.0	<5.0	<5.0	10	6.4	9	<5.0	<5.0	6	<5.0	6.6	8.8	5.8	14	12	12	9.2
Total Zinc (Zn)	ug/L	-	300	-	5000	--	--	--	--	9.6	10	<5.0	5.1	12	--	--	--	--	<5.0	<5.0	<5.0	5.5	7.3	--	--	--	--	--	13	6.8	11	7.5	13	7.8
Dissolved Mercury (Hg)	ug/L	1	-	1	-	--	--	--	--	--	--	--	--	<0.013	--	--	--	--	--	--	--	--	<0.013	--	--	--	--	--	--	--	--	--	--	<0.013
Total Mercury (Hg)	ug/L	-	0.26	1	-	--	--	--	--	--	--	--	--	<0.013	--	--	--	--	--	--	--	--	<0.013	--	--	--	--	--	--	--	--	--	--	<0.013

Table 3.2: Groundwater Quality Data - MW-04
Beaver Dam Mine Project
Marinette, Nova Scotia

Sample		Criteria				MW-04A										MW-04B									
Sample Date		NSE PSS for GW and NSE Tier 1 EQS: Potable Groundwater	NSE PSS for GW: Groundwater Discharge to Surface Water (>10 m)	GCDWQ; MAC	GCDWQ; AO	18-Jun-18	12-Sep-18	29-Nov-18	4-Apr-2019 (Frozen - Not sampled)	27-Jun-19	27-Jun-19 Field DUP4	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20	18-Jun-18	12-Sep-18	12-Sep-18 Field DUP3	29-Nov-18	4-Apr-19 (Frozen - Not Sampled)	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20
Calculated Parameters	Units																								
Anion Sum	me/L		-	-	-	0.440	0.420	0.340	--	0.23	0.13	0.36	0.31	0.37	0.31	1.16	1.03	0.39	1.01	--	0.86	0.87	0.9	0.91	0.92
Bicarb. Alkalinity (calc. as CaCO3)	mg/L		-	-	-	11	9.8	6.4	--	5.3	<1.0	8.7	5.6	7.8	7.9	41	36	11	36	--	29	29	31	29	29
Calculated TDS	mg/L		-	-	500	32	31	24	--	17	14	26	21	26	22	71	67	30	63	--	56	56	55	58	59
Carb. Alkalinity (calc. as CaCO3)	mg/L		-	-	-	<1.0	ND	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	ND	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0
Cation Sum	me/L		-	-	-	0.510	0.390	0.300	--	0.24	0.23	0.33	0.22	0.3	0.26	1.08	1.06	0.33	0.94	--	0.84	0.81	0.75	0.83	0.83
Hardness (CaCO3)	mg/L		-	-	-	17	11	7.2	--	5.9	5.8	8.8	5.2	7.6	6.0	44	41	8	37	--	33	32	29	31	32
Ion Balance (% Difference)	%		-	-	-	7.37	3.70	6.25	--	2.13	27.8	4.35	17	10.5	8.77	3.57	1.44	8.33	3.59	--	1.18	3.57	9.09	4.6	5.14
Langelier Index (@ 20C)	N/A		-	-	-	-3.26	-3.27	-4.15	--	-3.83	NC	-3.35	-4.31	-3.64	-4.00	-1.26	-1.22	-3.78	-1.41	--	-1.53	-1.59	-1.75	-1.69	-1.75
Langelier Index (@ 4C)	N/A		-	-	-	-3.51	-3.53	-4.40	--	-4.09	NC	-3.61	-4.56	-3.9	-4.26	-1.51	-1.47	-4.03	-1.66	--	-1.78	-1.84	-2	-1.94	-2.00
Nitrate (N)	mg/L		-	10	-	<0.050	0.060	<0.050	--	<0.050	<0.050	0.061	0.13	0.17	<0.050	<0.050	0.054	0.28	0.065	--	<0.050	<0.050	0.073	0.079	0.43
Saturation pH (@ 20C)	N/A		-	-	-	9.58	9.80	10.2	--	10.3	NC	9.94	10.4	10	10.2	8.54	8.62	9.97	8.67	--	8.8	8.82	8.82	8.83	8.82
Saturation pH (@ 4C)	N/A		-	-	-	9.83	10.1	10.4	--	10.6	NC	10.2	10.6	10.3	10.4	8.79	8.88	10.2	8.92	--	9.05	9.07	9.08	9.08	9.08
Inorganics																									
Total Alkalinity (Total as CaCO3)	mg/L		-	-	-	11	9.9	6.4	--	5.3	<5.0	8.7	5.6	7.8	7.9	41	36	11	36	--	29	29	31	29	29
Total Chemical Oxygen Demand	mg/L		-	-	-	--	--	--	--	--	--	--	--	--	<20	--	--	--	--	--	--	--	--	--	<20
Dissolved Chloride (Cl)	mg/L	250	1500	-	250	6.4	5	5.8	--	2.5	2.8	4	3.7	4.6	3.5	4.9	4.5	3.7	4.2	--	3.9	4.5	3.7	5.6	5.1
Colour	TCU		-	-	15	<5.0	ND	<5.0	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	ND	<5.0	--	<5.0	<5.0	5.6	<5.0	<5.0
Nitrate + Nitrite (N)	mg/L		-	-	-	<0.050	0.06	<0.050	--	<0.050	<0.050	0.061	0.13	0.17	<0.050	<0.050	0.054	0.28	0.065	--	<0.050	<0.050	0.073	0.079	0.43
Nitrite (N)	mg/L		-	1	-	<0.010	ND	<0.010	--	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND	ND	<0.010	--	<0.010	<0.010	<0.010	<0.010	<0.010
Nitrogen (Ammonia Nitrogen)	mg/L		-	-	-	<0.050	ND	<0.050	--	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	ND	ND	<0.050	--	<0.050	<0.050	0.07	<0.050	<0.050
Dissolved Organic Carbon (C)	mg/L		-	-	-	--	--	--	--	--					<0.5	--	--	--	--	--	--	--	--	--	<0.5
Total Organic Carbon (C)	mg/L		-	-	-	0.73	ND	<0.50	--	<0.50	<0.50	<0.50	0.53	1.2	<0.50	1.1	1.6	ND	0.82	--	<0.50	<0.50	0.75	1.8	0.70
Orthophosphate (P)	mg/L		-	-	-	<0.010	ND	<0.010	--	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND	0.01	<0.010	--	<0.010	<0.010	<0.010	<0.010	<0.010
pH	pH		-	-	7.0;10.5	6.32	6.53	6.03	--	6.5	6.48	6.58	6.06	6.4	6.16	7.28	7.41	6.19	7.26	--	7.27	7.22	7.08	7.14	7.07
Dissolved Phosphorous (P)	mg/L		-	-	-	--	--	--	--	--	--	--	--	--	<0.020	--	--	--	--	--	--	--	--	--	<0.020
Total Phosphorus (P)	mg/L		-	-	-	--	--	--	--	--	--	--	--	--	<0.020	--	--	--	--	--	--	--	--	--	<0.020
Reactive Silica (SiO2)	mg/L		-	-	-	6.4	8.4	6	--	3.8	3.7	6.1	4.4	6.3	6.1	9.6	10	9.3	10	--	9.4	9.4	9	9.6	9.4
Total Suspended Solids	mg/L		-	-	-	--	--	--	--	--	--	--	--	--	5.0	--	--	--	--	--	--	--	--	--	17
Dissolved Sulphate (SO4)	mg/L		-	-	500	2.3	3.5	2.2	--	2.3	2.4	3.4	3.8	3.4	2.3	9.6	8.9	2.5	8.4	--	8	7.8	8.3	8.1	8.4
Turbidity	NTU		-	-	0.3	0.79	130	0.22	--	1.6	1.2	1.2	1.2	1.5	1.7	5.9	2	15	3.6	--	0.85	0.29	2.6	1.3	2.5
Conductivity	uS/cm		-	-	-	41	45	35	--	26	24	36	26	35	32	110	110	42	97	--	83	85	81	91	87

Table 3.2: Groundwater Quality Data - MW-04
Beaver Dam Mine Project
Marinette, Nova Scotia

Sample		Criteria				MW-04A										MW-04B									
Sample Date		NSE PSS for GW and NSE Tier 1 EQS: Potable Groundwater	NSE PSS for GW: Groundwater Discharge to Surface Water (>10 m)	GCDWQ; MAC	GCDWQ; AO	18-Jun-18	12-Sep-18	29-Nov-18	4-Apr-2019 (Frozen - Not sampled)	27-Jun-19	27-Jun-19 Field DUP4	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20	18-Jun-18	12-Sep-18	12-Sep-18 Field DUP3	29-Nov-18	4-Apr-19 (Frozen - Not Sampled)	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20
Metals																									
Dissolved Aluminum (Al)	ug/L	100	-	-	100	6	13	31	--	42	61	17	36	17	29	9	7	17	6	--	<5.0	<5.0	<5.0	5.2	<5.0
Total Aluminum (Al)	ug/L	-	50	-	100	--	--	--	--	160	150	1600	67	120	51	--	--	--	--	--	64	29	63	92	79
Dissolved Antimony (Sb)	ug/L	6	-	6	-	<1.0	ND	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	ND	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0
Total Antimony (Sb)	ug/L	-	200	6	-	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	--	<1.0	<1.0	<1.0	1.6	<1.0
Dissolved Arsenic (As)	ug/L	10	-	10	-	<1.0	ND	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	ND	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0
Total Arsenic (As)	ug/L	-	50	10	-	--	--	--	--	<1.0	<1.0	2.4	<1.0	<1.0	<1.0	--	--	--	--	--	1	<1.0	<1.0	1.1	<1.0
Dissolved Barium (Ba)	ug/L	1000	-	2000	-	4.1	3.3	4.2	--	3.7	4.3	3.2	3.5	3	3.5	4	4.5	4.4	4.2	--	2	1.5	1.6	1.9	2.2
Total Barium (Ba)	ug/L	-	10000	2000	-	--	--	--	--	4.4	4.1	10	3.3	3.8	3.7	--	--	--	--	--	2.4	1.9	2	2.3	2.8
Dissolved Beryllium (Be)	ug/L	4	-	-	-	<1.0	ND	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	ND	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0
Total Beryllium (Be)	ug/L	-	53	-	-	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Bismuth (Bi)	ug/L	-	-	-	-	<2.0	ND	<2.0	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	ND	<2.0	--	<2.0	<2.0	<2.0	<2.0	<2.0
Total Bismuth (Bi)	ug/L	-	-	-	-	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Boron (B)	ug/L	5000	-	5000	-	<50	ND	<50	--	<50	<50	<50	<50	<50	<50	<50	ND	ND	<50	--	<50	<50	<50	<50	<50
Total Boron (B)	ug/L	-	12000	5000	-	--	--	--	--	<50	<50	<50	<50	<50	<50	--	--	--	--	--	<50	<50	<50	<50	<50
Dissolved Cadmium (Cd)	ug/L	5	-	7	-	0.011	0.013	0.015	--	0.014	0.015	0.014	0.014	0.011	0.015	<0.010	0.012	0.031	0.013	--	<0.010	<0.010	<0.010	<0.010	<0.010
Total Cadmium (Cd)	ug/L	-	0.1	7	-	--	--	--	--	0.017	0.015	0.015	0.015	0.013	0.016	--	--	--	--	--	0.011	<0.010	<0.010	<0.010	<0.010
Dissolved Calcium (Ca)	ug/L	-	-	-	-	4800	3200	2000	--	1600	1600	2600	1500	2200	1700	15000	14000	1900	13000	--	11000	11000	10000	11000	11000
Total Calcium (Ca)	ug/L	-	-	-	-	--	--	--	--	1600	1600	2900	1400	2400	1600	--	--	--	--	--	11000	11000	10000	11000	11000
Dissolved Chromium (Cr)	ug/L	50	-	50	-	<1.0	ND	<1.0	--	1.6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	ND	<1.0	--	1.2	<1.0	<1.0	<1.0	<1.0
Total Chromium (Cr)	ug/L	-	-	50	-	--	--	--	--	1.2	1.9	2.1	<1.0	<1.0	<1.0	--	--	--	--	--	1.1	<1.0	<1.0	<1.0	<1.0
Dissolved Cobalt (Co)	ug/L	10	-	-	-	0.87	0.92	0.45	--	<0.40	<0.40	0.51	<0.40	<0.40	<0.40	<0.40	ND	ND	<0.40	--	<0.40	<0.40	<0.40	<0.40	<0.40
Total Cobalt (Co)	ug/L	-	100	-	-	--	--	--	--	<0.40	<0.40	1.6	<0.40	<0.40	<0.40	--	--	--	--	--	<0.40	<0.40	<0.40	<0.40	<0.40
Dissolved Copper (Cu)	ug/L	1000	-	2000	1000	<2.0	ND	3.5	--	1.9	2.2	1.5	1.2	0.82	0.73	<2.0	2.1	2.1	30	--	3.8	1.6	1.7	3.7	1.7
Total Copper (Cu)	ug/L	-	20	2000	1000	--	--	--	--	3.7	3.5	13	1.5	2.2	1	--	--	--	--	--	6.4	3.4	3.8	5.2	3.6
Dissolved Iron (Fe)	ug/L	300	-	-	300	<50	ND	<50	--	<50	<50	<50	<50	<50	<50	<50	ND	ND	<50	--	<50	<50	<50	<50	<50
Total Iron (Fe)	ug/L	-	3000	-	300	--	--	--	--	170	160	2200	<50	100	<50	--	--	--	--	--	130	<50	89	130	110
Dissolved Lead (Pb)	ug/L	10	-	5	-	<0.50	ND	<0.50	--	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	ND	ND	<0.50	--	<0.50	<0.50	<0.50	<0.50	<0.50
Total Lead (Pb)	ug/L	-	10	5	-	--	--	--	--	<0.50	<0.50	1.2	<0.50	<0.50	<0.50	--	--	--	--	--	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Magnesium (Mg)	ug/L	-	-	-	-	1200	780	550	--	430	420	580	370	500	440	1600	1600	760	1400	--	1200	1200	1000	1100	1100
Total Magnesium (Mg)	ug/L	-	-	-	-	--	--	--	--	400	380	1100	380	560	440	--	--	--	--	--	1200	1200	1100	1200	1200
Dissolved Manganese (Mn)	ug/L	50	-	120	20	69	41	13	--	11	11	16	5.7	8.4	4.9	55	18	60	10	--	11	4.6	3	7.2	7.5
Total Manganese (Mn)	ug/L	-	8200	120	20	--	--	--	--	11	10	48	5.6	12	5.9	--	--	--	--	--	16	7.6	6.7	11	12
Dissolved Molybdenum (Mo)	ug/L	70	-	-	-	<2.0	ND	<2.0	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	2	<2.0	--	<2.0	<2.0	<2.0	<2.0	<2.0
Total Molybdenum (Mo)	ug/L	-	730	-	-	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Nickel (Ni)	ug/L	100	-	-	-	5.4	4.2	2.3	--	2.2	<2.0	2.4	<2.0	<2.0	<2.0	<2.0	ND	2.7	<2.0	--	<2.0	<2.0	<2.0	<2.0	<2.0
Total Nickel (Ni)	ug/L	-	250	-	-	--	--	--	--	<2.0	<2.0	5.7	<2.0	<2.0	<2.0	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Phosphorus (P)	ug/L	-	-	-	-	<100	ND	<100	--	<100	<100	<100	<100	<100	<100	<100	ND	ND	<100	--	<100	<100	<100	<100	<100
Total Phosphorus (P)	ug/L	-	-	-	-	--	--	--	--	<100	<100	110	<100	<100	<100	--	--	--	--	--	<100	<100	<100	<100	<100
Dissolved Potassium (K)	ug/L	-	-	-	-	1100	630	430	--	330	370	460	290	510	360	1300	1400	670	980	--	600	570	490	780	610
Total Potassium (K)	ug/L	-	-	-	-	--	--	--	--	390	380	800	280	640	350	--	--	--	--	--	610	580	470	790	590
Dissolved Selenium (Se)	ug/L	10	-	50	-	<1.0	ND	<1.0	--	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	ND	ND	<1.0	--	<1.0	<0.50	<0.50	<0.50	<0.50
Total Selenium (Se)	ug/L	-	10	50	-	--	--	--	--	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--	<1.0	<0.50	<0.50	<0.50	<0.50
Dissolved Silver (Ag)	ug/L	100	-	-	-	<0.10	ND	<0.10	--	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	ND	ND	<0.10	--	<0.10	<0.10	<0.10	<0.10	<0.10
Total Silver (Ag)	ug/L	-	1	-	-	--	--	--	--	0.25	0.11	1.5	0.11	0.1	0.13	--	--	--	--	--	<0.10	<0.10	<0.10	0.11	<0.10
Dissolved Sodium (Na)	ug/L	200000	-	-	200000	3300	3500	3200	--	2500	2400	3200	2500	3000	3000	4100	4600	3600	3900	--	3800	3700	3500	4200	4000
Total Sodium (Na)	ug/L	-	-	-	200000	--	--	--	--	2200	2200	3300	2500	3300	3000	--	--	--	--	--	3700	3800	3500	4300	3900
Dissolved Strontium (Sr)	ug/L	4400	-	7000	-	25	21	18	--	15	15	18	13	16	16	84	79	18	75	--	69	62	58	61	63
Total Strontium (Sr)	ug/L	-	210000	7000	-	--	--	--	--	13	12	21	12	18	15	--	--	--	--	--	67	65	58	63	61
Dissolved Thallium (Tl)	ug/L	2	-	-	-	<0.10	ND	<0.10	--	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	ND	ND	<0.10	--	<0.10	<0.10	<0.10	<0.10	<0.10
Total Thallium (Tl)	ug/L	-	8	-	-	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	--	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10
Dissolved Tin (Sn)	ug/L	4400	-	-	-	<2.0	ND	<2.0	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	2.8	<2.0	--	<2.0	<2.0	<2.0	<2.0	<2.0
Total Tin (Sn)	ug/L	-	-	-	-	--	--	--	--	<2.0	<2.0	<2.0	<2.0	2.7	<2.0	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Titanium (Ti)	ug/L	-	-	-	-	<2.0	ND	<2.0	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	ND	<2.0	--	<2.0	<2.0	<2.0	<2.0	<2.0
Total Titanium (Ti)	ug/L	-	-	-	-	--	--	--	--	5.1	7.4	59	<2.0	3.1	<2.0	--	--	--	--	--	2.8	<2.0	3.1	6.2	4.4
Dissolved Uranium (U)	ug/L	20	-	20	-	<0.10	ND	<0.10	--	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	ND	ND	<0.10	--	<0.10	<0.10	<0.10	<0.10	<0.10
Total Uranium (U)	ug/L	-	3000	20	-	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	--	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10
Dissolved Vanadium (V)	ug/L	6.2	-	-	-	<2.0	ND	<2.0	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	ND	<2.0	--	<2.0	<2.0	<2.0	<2.0	<2.0
Total Vanadium (V)	ug/L	-	60	-	-	--	--	--	--	<2.0	<2.0	2.6	<2.0	<2.0	<2.0	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Zinc (Zn)	ug/L	5000	-	-	5000	<5.0	ND	<5.0	--	<5.0	<5.0	<5.0	<5.0	5.2	<5.0	<5.0	15	7.1	22	--	8.7	6.3	12	14	14
Total Zinc (Zn)	ug/L	-	300	-	5000	--	--	--	--	<5.0	<5.0	8.9	<5.0	<5.0	<5.0	--	--	--	--	--	7.4	5.9	10	14	12
Dissolved Mercury (Hg)	ug/L	1	-	1	-	--	--	--	--	--	--	--	--	--	<0.013	--	--	--	--	--	--	--	--	--	<0.013
Total Mercury (Hg)	ug/L	-	0.26	1	-	--	--	--	--	--	--	--	--	--	<0.013	--	--	--	--	--	--	--	--	--	<0.013

Table 3.2: Groundwater Quality Data - MW-05
Beaver Dam Mine Project
Marinette, Nova Scotia

Sample		Criteria				MW-05A										MW-05B												MW-05D									
Sample Date		NSE PSS for GW and NSE Tier 1 EQS: Potable Groundwater	NSE PSS for GW: Groundwater Discharge to Surface Water (>10 m)	GCDWQ; MAC	GCDWQ; AO	27-Jun-18	27-Jun-18 Field DUP4	12-Sep-18	29-Nov-18	4-Apr-19 (Frozen - Not sampled)	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20	27-Jun-18	12-Sep-18	12-Sep-18 Field DUP2	29-Nov-18	4-Apr-19 (Frozen - Not sampled)	27-Jun-19	2-Oct-19	2-Oct-19 Field DUP2	30-Apr-20	30-Apr-20 Field DUP5	30-Jul-20	5-Nov-20	5-Nov-20 Field DUP4	27-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19 (Frozen - Not Sampled)	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20
Calculated Parameters	Units																																			
Anion Sum	me/L		-	-	-	0.41	0.42	0.45	0.35	--	0.34	0.39	0.32	0.3	0.33	0.99	1.84	1.78	1.29	--	1.46	1.12	1.15	1.11	1.05	1.12	0.990	1.03	1.73	1.7	1.75	--	1.9	1.76	1.75	1.83	1.65
Bicarb. Alkalinity (calc. as CaCO3)	mg/L		-	-	-	11	11	15	8.8	--	6.2	9.5	7.1	6.6	9.2	37	73	72	50	--	57	45	45	45	42	43	39	41	66	66	66	--	71	67	67	71	62
Calculated TDS	mg/L		-	-	500	27	28	30	24	--	23	26	20	21	23	60	100	100	80	--	87	68	69	66	64	70	60	61	100	100	100	--	110	100	100	100	98
Carb. Alkalinity (calc. as CaCO3)	mg/L		-	-	-	<1.0	<1.0	ND	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	ND	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0
Cation Sum	me/L		-	-	-	0.37	0.38	0.39	0.29	--	0.27	0.33	0.22	0.25	0.27	0.9	1.03	1.04	1.2	--	1.41	1.07	1.05	1.03	1.01	1.13	0.93	0.890	1.61	1.58	1.61	--	1.75	1.6	1.56	1.58	1.60
Hardness (CaCO3)	mg/L		-	-	-	10	10	11	8.2	--	6.3	8.8	5.2	6.2	6.9	27	34	35	40	--	53	36	36	38	38	42	34	33	56	56	56	--	54	56	54	55	56
Ion Balance (% Difference)	%		-	-	-	5.13	5	7.14	9.38	--	11.5	8.33	18.5	9.09	10.0	4.76	28.2	26.2	3.61	--	1.74	2.28	4.55	3.74	1.94	0.44	3.12	7.29	3.59	3.66	4.17	--	4.11	4.76	5.74	7.33	1.54
Langelier Index (@ 20C)	N/A		-	-	-	-3.37	-3.46	-3.35	-3.86	--	-3.97	-3.46	-4.3	-3.73	-4.04	-1.33	-0.614	-0.78	-1.08	--	-0.709	-1.18	-1.42	-1.31	-1.24	-1.22	-1.44	-1.42	-0.134	-0.184	-0.292	--	-0.21	-0.463	-0.231	-0.426	-0.297
Langelier Index (@ 4C)	N/A		-	-	-	-3.62	-3.71	-3.6	-4.12	--	-4.22	-3.71	-4.55	-3.98	-4.29	-1.58	-0.865	-1.03	-1.34	--	-0.96	-1.43	-1.67	-1.56	-1.49	-1.48	-1.69	-1.67	-0.385	-0.435	-0.543	--	-0.461	-0.714	-0.482	-0.676	-0.548
Nitrate (N)	mg/L		-	10	-	0.051	<0.050	ND	<0.050	--	<0.050	0.083	0.065	<0.050	<0.050	0.061	ND	ND	<0.050	--	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.075	0.11	<0.050	ND	<0.050	--	0.066	<0.050	<0.050	<0.050	<0.050
Saturation pH (@ 20C)	N/A		-	-	-	9.8	9.79	9.64	9.98	--	10.2	9.88	10.3	10.2	10.0	8.8	8.42	8.42	8.5	--	8.32	8.58	8.58	8.54	8.58	8.53	8.66	8.66	8.26	8.26	8.26	--	8.24	8.25	8.27	8.23	8.28
Saturation pH (@ 4C)	N/A		-	-	-	10.1	10	9.89	10.2	--	10.5	10.1	10.5	10.5	10.3	9.05	8.68	8.67	8.75	--	8.57	8.83	8.83	8.79	8.83	8.79	8.91	8.91	8.51	8.51	8.51	--	8.5	8.5	8.52	8.49	8.54
Inorganics																																				
Total Alkalinity (Total as CaCO3)	mg/L		-	-	-	11	11	15	8.8	--	6.2	9.5	7.1	6.6	9.2	37	74	72	50	--	58	45	45	46	42	44	39	41	66	66	66	--	72	67	67	71	63
Total Chemical Oxygen Demand	mg/L		-	-	-	--	--	--	--	--	--	--	--	--	<20	--	--	--	--	--	--	--	--	--	--	--	<20	<20	--	--	--	--	--	--	--	--	<20
Dissolved Chloride (Cl)	mg/L	250	1500	-	250	4.5	4.8	3.1	4	--	4.3	3.6	2.8	3.1	2.8	4	3.9	3.5	3.8	--	4.7	3.3	2.8	2.3	2.3	3.7	2.9	2.8	4.7	4.6	5	--	5.1	5	4.8	4.9	4.3
Colour	TCU		-	-	15	<5.0	<5.0	ND	<5.0	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	ND	<5.0	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<5.0	--	<5.0	<5.0	<5.0	<5.0	<5.0
Nitrate + Nitrite (N)	mg/L		-	-	-	0.051	<0.050	ND	<0.050	--	<0.050	0.083	0.065	<0.050	<0.050	0.061	ND	ND	<0.050	--	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.075	0.11	<0.050	ND	<0.050	--	0.066	<0.050	<0.050	<0.050	<0.050
Nitrite (N)	mg/L		-	1	-	<0.010	<0.010	ND	<0.010	--	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND	ND	<0.010	--	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND	<0.010	--	<0.010	<0.010	<0.010	<0.010	<0.010
Nitrogen (Ammonia Nitrogen)	mg/L		-	-	-	<0.050	<0.050	ND	<0.050	--	0.074	0.057	0.21	<0.050	<0.050	<0.050	ND	ND	<0.050	--	<0.050	<0.050	<0.050	0.2	0.18	0.074	<0.050	<0.050	<0.050	ND	<0.050	--	<0.050	<0.050	0.089	<0.050	<0.050
Dissolved Organic Carbon (C)	mg/L		-	-	-	--	--	--	--	--	--	--	--	--	<0.5	--	--	--	--	--	--	--	--	--	--	--	<0.5	<0.5	--	--	--	--	--	--	--	--	<0.5
Total Organic Carbon (C)	mg/L		-	-	-	1.5	1.5	0.61	0.64	--	0.62	0.81	0.57	0.86	0.91	2	7.6	8	2	--	0.95	0.9	0.9	0.75	0.72	1.7	<5.0 (1)	<5.0 (1)	1.3	ND	0.78	--	1.1	0.65	0.89	0.44	<0.50
Orthophosphate (P)	mg/L		-	-	-	<0.010	<0.010	ND	<0.010	--	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND	ND	<0.010	--	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND	<0.010	--	<0.010	<0.010	<0.010	<0.010	<0.010
pH	pH		-	-	7.0;10.5	6.43	6.33	6.29	6.12	--	6.27	6.42	5.97	6.48	5.97	7.47	7.81	7.64	7.41	--	7.61	7.4	7.16	7.24	7.34	7.31	7.22	7.24	8.13	8.08	7.97	--	8.03	7.78	8.04	7.81	7.99
Dissolved Phosphorous (P)	mg/L		-	-	-	--	--	--	--	--	--	--	--	--	<0.020	--	--	--	--	--	--	--	--	--	--	--	<0.020	<0.020	--	--	--	--	--	--	--	--	0.027
Total Phosphorus (P)	mg/L		-	-	-	--	--	--	--	--	--	--	--	--	<0.020	--	--	--	--	--	--	--	--	--	--	--	<0.020	<0.020	--	--	--	--	--	--	--	--	<0.020
Reactive Silica (SiO2)	mg/L		-	-	-	5.1	5.2	6.4	5.3	--	4.5	4.8	4.1	4.7	5.4	8.2	21	20	13	--	11	8.6	8.6	9	9	9.5	8.5	8.8	12	12	12	--	12	12	12	12	11
Total Suspended Solids	mg/L		-	-	-	--	--	--	--	--	--	--	--	--	6.4	--	--	--	--	--	--	--	--	--	--	--	27	38	--	--	--	--	--	--	--	--	2.6
Dissolved Sulphate (SO4)	mg/L		-	-	500	3	3	3.1	3	--	4.5	4.4	4.4	3.8	3.3	6.6	12	11	8.4	--	8.3	6.4	8.2	6.4	6.5	7.2	6.1	5.7	13	12	14	--	15	13	13	13	13
Turbidity	NTU		-	-	0.3	1.5	0.77	1.8	1	--	3.8	1.6	1.5	1.1	0.98	11	20	24	20	--	12	11	17	14	14	14	15	15	2.2	0.4	17	--	16	3.7	8.8	12	2.3
Conductivity	uS/cm		-	-	-	44	43	47	36	--	28	36	26	31	32	100	170	170	120	--	140	100	100	110	100	110	96	96	170	160	160	--	160	160	160	170	160

Table 3.2: Groundwater Quality Data - MW-05
Beaver Dam Mine Project
Marinette, Nova Scotia

Sample		Criteria				MW-05A										MW-05B												MW-05D									
Sample Date		NSE PSS for GW and NSE Tier 1 EQS: Potable Groundwater	NSE PSS for GW: Groundwater Discharge to Surface Water (>10 m)	GCDWQ; MAC	GCDWQ; AO	27-Jun-18	27-Jun-18 Field DUP4	12-Sep-18	29-Nov-18	4-Apr-19 (Frozen - Not sampled)	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20	27-Jun-18	12-Sep-18	12-Sep-18 Field DUP2	29-Nov-18	4-Apr-19 (Frozen – Not sampled)	27-Jun-19	2-Oct-19	2-Oct-19 Field DUP2	30-Apr-20	30-Apr-20 Field DUP5	30-Jul-20	5-Nov-20	5-Nov-20 Field DUP4	27-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19 (Frozen - Not Sampled)	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20
Metals																																					
Dissolved Aluminum (Al)	ug/L	100	-	-	100	8.3	8.8	14	23	--	21	18	34	20	28	10	11	6.5	6.6	--	10	11	6.2	<5.0	<5.0	38	7.4	7.4	29	7.4	16	--	27	10	18	9.6	6.8
Total Aluminum (Al)	ug/L	-	50	-	100	--	--	--	--	--	260	140	94	76	100	--	--	--	--	--	700	560	610	1100	1300	1300	730	1500	--	--	--	--	1600	140	510	650	75
Dissolved Antimony (Sb)	ug/L	6	-	6	-	<1.0	<1.0	ND	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	ND	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0
Total Antimony (Sb)	ug/L	-	200	6	-	--	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	1.6	<1.0	<1.0	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Arsenic (As)	ug/L	10	-	10	-	<1.0	<1.0	ND	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	1	1.4	1.3	<1.0	--	2.8	<1.0	<1.0	<1.0	<1.0	1	<1.0	<1.0	<1.0	ND	<1.0	--	1.4	<1.0	<1.0	<1.0	<1.0
Total Arsenic (As)	ug/L	-	50	10	-	--	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	--	3.9	<1.0	<1.0	2	2.4	2.3	1.7	1.7	--	--	--	--	1.6	<1.0	<1.0	1.2	<1.0
Dissolved Barium (Ba)	ug/L	1000	-	2000	-	5.9	5.7	9.9	8.7	--	7.6	8	5.6	5.9	6.1	5.8	6.6	6.3	6	--	5.5	27	24	7.9	8	7.2	9.6	11	3.4	2.2	3.4	--	7.6	5.7	5	7.1	4
Total Barium (Ba)	ug/L	-	10000	2000	-	--	--	--	--	--	9.4	9.1	5.7	6.1	6.4	--	--	--	--	--	8.4	18	18	11	12	11	22	23	--	--	--	--	13	5.8	6.2	9.3	4.5
Dissolved Beryllium (Be)	ug/L	4	-	-	-	<1.0	<1.0	ND	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	ND	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0
Total Beryllium (Be)	ug/L	-	53	-	-	--	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Bismuth (Bi)	ug/L	-	-	-	-	<2.0	<2.0	ND	<2.0	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	ND	<2.0	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	--	<2.0	<2.0	<2.0	<2.0	<2.0
Total Bismuth (Bi)	ug/L	-	-	-	-	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Boron (B)	ug/L	5000	-	5000	-	<50	<50	ND	<50	--	<50	<50	<50	<50	<50	<50	ND	ND	<50	--	<50	<50	<50	<50	<50	<50	<50	<50	<50	ND	<50	--	<50	<50	<50	<50	<50
Total Boron (B)	ug/L	-	12000	5000	-	--	--	--	--	--	<50	<50	<50	<50	<50	--	--	--	--	--	<50	<50	<50	<50	<50	<50	<50	<50	--	--	--	--	<50	<50	<50	<50	<50
Dissolved Cadmium (Cd)	ug/L	5	-	7	-	0.031	0.031	0.035	0.025	--	0.027	0.023	0.019	0.022	0.019	0.018	0.014	0.011	<0.010	--	<0.010	0.021	0.01	<0.010	<0.010	0.011	<0.010	0.01	<0.010	ND	<0.010	--	<0.010	<0.010	<0.010	<0.010	<0.010
Total Cadmium (Cd)	ug/L	-	0.1	7	-	--	--	--	--	--	0.021	0.023	0.019	0.022	0.016	--	--	--	--	--	0.021	0.017	0.015	<0.010	0.013	0.015	0.023	0.023	--	--	--	--	<0.010	<0.010	<0.010	<0.010	<0.010
Dissolved Calcium (Ca)	ug/L	-	-	-	-	2900	2900	3000	2300	--	1800	2700	1400	1800	2000	9000	11000	12000	14000	--	18000	12000	12000	13000	13000	14000	12000	11000	18000	18000	18000	--	18000	19000	18000	18000	18000
Total Calcium (Ca)	ug/L	-	-	-	-	--	--	--	--	--	1800	2500	1400	1800	2000	--	--	--	--	--	18000	13000	13000	13000	13000	14000	13000	12000	--	--	--	--	19000	19000	18000	19000	19000
Dissolved Chromium (Cr)	ug/L	50	-	50	-	<1.0	<1.0	ND	<1.0	--	1.5	<1.0	<1.0	<1.0	<1.0	<1.0	ND	ND	<1.0	--	1.3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	--	1.1	<1.0	<1.0	<1.0	<1.0
Total Chromium (Cr)	ug/L	-	-	50	-	--	--	--	--	--	1.1	<1.0	<1.0	<1.0	<1.0	--	--	--	--	--	1.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	1.7	<1.0	<1.0	<1.0	<1.0
Dissolved Cobalt (Co)	ug/L	10	-	-	-	2.2	2.1	3.7	3.6	--	1.8	1.3	1.1	0.91	0.86	1.3	1.9	1.6	<0.40	--	<0.40	1.8	1.4	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	ND	<0.40	--	<0.40	<0.40	<0.40	<0.40	<0.40
Total Cobalt (Co)	ug/L	-	100	-	-	--	--	--	--	--	1.9	1.6	1.2	0.98	0.89	--	--	--	--	--	<0.40	1.1	1.2	<0.40	0.52	0.62	0.54	0.6	--	--	--	--	<0.40	<0.40	<0.40	<0.40	<0.40
Dissolved Copper (Cu)	ug/L	1000	-	2000	1000	4.7	5	10	17	--	12	5.1	12	6.9	3.6	4.8	ND	ND	<2.0	--	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	ND	<2.0	--	0.67	<0.50	<0.50	<0.50	<0.50
Total Copper (Cu)	ug/L	-	20	2000	1000	--	--	--	--	--	16	9.9	12	8.6	3.8	--	--	--	--	--	2	1.6	1.2	1.4	1.7	2.2	3.2	3.1	--	--	--	--	1.1	<0.50	<0.50	0.87	<0.50
Dissolved Iron (Fe)	ug/L	300	-	-	300	<50	<50	310	<50	--	<50	<50	<50	<50	<50	100	340	270	<50	--	<50	58	50	<50	<50	<50	<50	<50	<50	ND	<50	--	<50	<50	<50	<50	<50
Total Iron (Fe)	ug/L	-	3000	-	300	--	--	--	--	--	450	170	61	96	110	--	--	--	--	--	530	430	370	570	760	740	710	920	--	--	--	--	640	110	290	550	85
Dissolved Lead (Pb)	ug/L	10	-	5	-	<0.50	<0.50	ND	<0.50	--	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	ND	ND	<0.50	--	<0.50	<0.50	<0.50	<0.50	<0.50	1.2	<0.50	<0.50	<0.50	ND	<0.50	--	<0.50	<0.50	<0.50	<0.50	<0.50
Total Lead (Pb)	ug/L	-	10	5	-	--	--	--	--	--	<0.50	0.59	0.96	<0.50	<0.50	--	--	--	--	--	0.57	0.59	<0.50	0.74	0.81	0.77	1.2	1.3	--	--	--	--	0.78	<0.50	0.61	0.95	<0.50
Dissolved Magnesium (Mg)	ug/L	-	-	-	-	770	760	780	610	--	430	490	380	420	450	1200	1400	1400	1500	--	1900	1200	1200	1300	1300	1500	1200	1200	2400	2400	2500	--	2400	2400	2300	2400	2400
Total Magnesium (Mg)	ug/L	-	-	-	-	--	--	--	--	--	480	510	390	440	490	--	--	--	--	--	2000	1400	1400	1500	1500	1700	1500	1500	--	--	--	--	2700	2500	2400	2600	2500
Dissolved Manganese (Mn)	ug/L	50	-	120	20	110	110	290	140	--	34	43	27	28	37	130	250	240	31	--	2.3	160	140	42	46	33	17	31	20	17	19	--	26	28	23	31	28
Total Manganese (Mn)	ug/L	-	8200	120	20	--	--	--	--	--	39	55	28	29	40	--	--	--	--	--	43	130	140	46	64	70	55	54	--	--	--	--	34	31	31	40	30
Dissolved Molybdenum (Mo)	ug/L	70	-	-	-	<2.0	<2.0	ND	<2.0	--	<2.0	<2.0	<2.0	<2.0	<2.0	4.2	2.8	3	3.8	--	5.1	<2.0	2.2	2	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	--	<2.0	<2.0	<2.0	<2.0	<2.0
Total Molybdenum (Mo)	ug/L	-	730	-	-	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	--	5.5	2.5	2.2	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Nickel (Ni)	ug/L	100	-	-	-	8.8	8.4	8.3	10	--	7	4.3	4.7	3.3	<2.0	3.9	3.4	2.4	<2.0	--	<2.0	2.4	2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	--	2	<2.0	<2.0	<2.0	<2.0
Total Nickel (Ni)	ug/L	-	250	-	-	--	--	--	--	--	7.1	5.1	4.8	3.7	<2.0	--	--	--	--	--	<2.0	2.2	2.1	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Phosphorus (P)	ug/L	-	-	-	-	<100	<100	ND	<100	--	<100	<100	<100	<100	<100	<100	ND	ND	<100	--	<100	<100	<100	<100	<100	<100	<100	<100	<100	ND	<100	--	<100	<100	<100	<100	<100
Total Phosphorus (P)	ug/L	-	-	-	-	--	--	--	--	--	<100	<100	<100	<100	<100	--	--	--	--	--	<100	<100	<100	<100	<100	<100	<100	<100	--	--	--	--	<100	<100	<100	<100	<100
Dissolved Potassium (K)	ug/L	-	-	-	-	990	1000	960	630	--	530	620	330	530	490	1400	1300	1300	1200	--	1300	1200	1200	950	970	1300	990	940	980	1000	1000	--	1100	1000	930	1000	970
Total Potassium (K)	ug/L	-	-	-	-	--	--	--	--	--	550	620	330	540	490	--	--	--	--	--	1400	1200	1200	980	1100	1400	1300	1300	--	--	--	--	1300	1000	990	1200	970
Dissolved Selenium (Se)	ug/L	10	-	50	-	<1.0	<1.0	ND	<1.0	--	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	ND	ND	<1.0	--	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	ND	<1.0	--	<1.0	<0.50	<0.50	<0.50	<0.50
Total Selenium (Se)	ug/L	-	10	50	-	--	--	--	--	--	<1.0	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	<1.0	<0.50	<0.50	<0.50	<0.50
Dissolved Silver (Ag)	ug/L	100	-	-	-	<0.10	<0.10	ND	<0.10	--	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	ND	ND	<0.10	--	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	ND	<0.10	--	<0.10	<0.10	<0.10	<0.10	<0.10
Total Silver (Ag)	ug/L	-	1	-	-	--	--	--	--	--	0.13	<0.10	0.12	0.17	0.24	--	--	--	--	--	<0.10	<0.10	<0.10	<0.10	0.12	0.16	0.11	0.11	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10
Dissolved Sodium (Na)	ug/L	200000	-	-	200000	3300	3300	3300	2600	--	2900	3100	2200	2500	2700	7200	7000	7000	8400	--	7200	7400	7000	5100	5100	5900	4900	4900	11000	10000	11000	--	15000	10000	10000	10000	11000
Total Sodium (Na)	ug/L	-	-	-	200000	--	--	--	--	--	2700	3000	2200	2600	2700	--	--	--	--	--	6900	6900	6700	5200	5200	5700	5400	5500	--	--	--	--	15000	11000	11000	11000	11000
Dissolved Strontium (Sr)	ug/L	4400	-	7000	-	14	15	15	12	--	10	13	9	9.6	11	34	47	48	61	--	79	160	140	80	83	78	71	71	160	160	160	--	180	170	160	170	170
Total Strontium (Sr)	ug/L	-	210000	7000	-	--	--	--	--	--	11	12	8.2	9.9	11	--	--	--	--	--	80	120	120	79	82	82	76	73	--	--	--	--	190	170	160	170	170
Dissolved Thallium (Tl)	ug/L	2	-	-	-	<0.10	<0.10	ND	<0.10	--	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	ND	ND	<0.10	--	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	ND	<0.10	--	<0.10	<0.10	<0.10	<0.10	<0.10
Total Thallium (Tl)	ug/L	-	8	-	-	--	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10	--	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10
Dissolved Tin (Sn)	ug/L	4400	-	-	-	3.5	2.5	ND	<2.0	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	ND	<2.0	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	--	<2.0	<2.0	2.5	<2.0	<2.0
Total Tin (Sn)	ug/L	-	-	-	-	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	--	<2.0	<2.0	<2.0	5.7	<2.0	<2.0	2.7	2.9	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Titanium (Ti)	ug/L	-	-	-	-	<2.0	<2.0	ND	<2.0	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	ND	<2.0	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	--	<2.0	<2.0	<2.0	<2.0	<2.0
Total Titanium (Ti)	ug/L	-	-	-	-	--	--	--	--	--	9.6	4.9	<2.0	2.8	3.5	--	--	--	--	--	<20 (1)	9.5	11	20	24	25	24	38	--	--	--	--	30	4.3	11	14	2.5
Dissolved Uranium (U)	ug/L	20	-	20	-	<0.10	<0.10	ND	<0.10	--	<0.10	<0.10	<0.10	<0.10	<0.10	0.14	0.19	0.19	0.15	--	0.48	0.23	0.26	0.24	0.26	0.22	0.18	0.18	0.35	0.21	0.42	--	0.51	0.26	0.31	0.49	0.31
Total Uranium (U)	ug/L	-	3000	20	-	--	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10	--	--	--	--	--	0.54	0.33	0.3	0.4	0.45	0.45	0.38	0.4	--	--	--	--	0.69	0.28	0.42	0.56	0.34
Dissolved Vanadium (V)	ug/L	6.2	-	-	-	<2.0	<2.0	ND	<2.0	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	ND	<2.0	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	--	<2.0	<2.0	<2.0	<2.0	<2.0
Total Vanadium (V)	ug/L	-	60	-	-	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Zinc (Zn)	ug/L	5000	-	-	5000	8.7	8.2	5.2	<5.0	--	23	26	11	9.6	<5.0	8.7	8.2	5.2	<5.0	--	<5.0	<5.0	<5.0	7	6	13	7.5	<5.0	<5.0	ND	<5.0	--	8.5	<5.0	<5.0	<5.0	<5.0
Total Zinc (Zn)	ug/L	-	300	-	5000	--	--	--	--	--	18	13	9.1	8.3	<5.0	--	--	--	--	--	5.3	6.1	5.8	7.5	6.8	15	16	17	--	--	--	--	6.2	<5.0	<5.0	<5.0	<5.0
Dissolved Mercury (Hg)	ug/L	1	-	1	-	--	--	--	--	--	--	--	--	--	<0.013	--	--	--	--	--	--	--	--	--	--	--	<0.013	<0.013	--	--	--	--	--	--	--	--	<0.013
Total Mercury (Hg	ug/L	-	0.26	1	-	--	--	--	--	--	--	--	--	--	<0.013	--	--	--	--	--	--	--	--	--	--	--	<0.013	<0.013	--	--	--	--	--	--	--	--	<0.013

Table 3.2: Groundwater Quality Data - MW-07
Beaver Dam Mine Project
Marinette, Nova Scotia

Sample		Criteria				MW-07A									MW-07B										MW-07D								
	Sample Date	NSE PSS for GW and NSE Tier 1 EQS: Potable Groundwater	NSE PSS for GW: Groundwater Discharge to Surface Water (>10 m)	GCDWQ; MAC	GCDWQ; AO	27-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20	27-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	2-Oct-19	30-Apr-20	30-Apr-20 Field DUP2	30-Jul-20	5-Nov-20	27-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20
Calculated Parameters	Units																																
Anion Sum	me/L		-	-	-	2.47	2.46	2.50	2.67	2.55	2.54	2.4	2.52	2.41	7.02	6.93	6.81	6.65	6.47	6.47	6.2	6.26	3.25	5.91	2.59	2.91	3.03	3.35	4.14	3.47	2.92	6.39	3.46
Bicarb. Alkalinity (calc. as CaCO3)	mg/L		-	-	-	100	100	110	110	110	110	100	110	100	320	310	310	300	290	300	290	290	130	270	110	120	120	130	160	130	120	300	140
Calculated TDS	mg/L		-	-	500	150	150	150	160	150	150	150	150	150	380	370	360	360	350	350	330	330	190	320	150	170	180	190	240	200	170	340	210
Carb. Alkalinity (calc. as CaCO3)	mg/L		-	-	-	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.2	2.0	2.4	2.3	3	1.4	2.1	2	1.8	2.0	1.1	1.3	1.2	1.3	1.9	1.5	1.7	3.5	3.3
Cation Sum	me/L		-	-	-	2.53	2.70	2.58	2.73	2.66	2.63	2.45	2.46	2.59	6.68	6.50	6.32	6.36	6.28	6.31	5.83	5.76	3.18	5.83	2.75	2.86	2.93	3.25	3.91	3.36	2.89	5.95	3.27
Hardness (CaCO3)	mg/L		-	-	-	93	100	99	110	100	100	94	98	100	290	280	270	270	270	270	250	240	120	250	120	110	120	120	130	120	120	260	110
Ion Balance (% Difference)	%		-	-	-	1.20	4.65	1.57	1.11	2.11	1.74	1.03	1.2	3.60	2.48	3.20	3.73	2.23	1.49	1.25	3.08	4.16	1.09	0.680	3	0.87	1.68	1.52	2.86	1.61	0.52	3.57	2.82
Langelier Index (@ 20C)	N/A		-	-	-	-0.988	-0.642	-0.919	-0.746	-0.757	-0.718	-0.92	-0.803	-0.830	0.935	0.874	0.947	0.922	1.04	0.709	0.868	0.818	0.486	0.851	0.288	0.346	0.292	0.354	0.523	0.407	0.468	1.09	0.686
Langelier Index (@ 4C)	N/A		-	-	-	-1.24	-0.892	-1.17	-0.996	-1.01	-0.969	-1.17	-1.05	-1.08	0.686	0.625	0.698	0.674	0.788	0.46	0.619	0.569	0.236	0.602	0.038	0.096	0.042	0.104	0.273	0.157	0.218	0.845	0.436
Nitrate (N)	mg/L		-	10	-	<0.050	ND	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	ND	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	ND	<0.050	<0.050	0.17	<0.050	<0.050	<0.050	<0.050
Saturation pH (@ 20C)	N/A		-	-	-	7.93	7.90	7.89	7.84	7.87	7.88	7.93	7.9	7.91	6.93	6.96	6.96	6.98	7	6.98	7.03	7.04	7.68	7.05	7.77	7.73	7.72	7.67	7.59	7.65	7.7	7	7.70
Saturation pH (@ 4C)	N/A		-	-	-	8.18	8.15	8.14	8.09	8.12	8.13	8.18	8.15	8.16	7.18	7.21	7.21	7.23	7.25	7.23	7.28	7.29	7.93	7.29	8.02	7.98	7.97	7.92	7.84	7.9	7.95	7.25	7.95
Inorganics																																	
Total Alkalinity (Total as CaCO3)	mg/L		-	-	-	100	100	110	110	110	110	100	110	100	320	310	310	300	300	300	290	290	130	270	110	120	120	140	160	140	130	300	150
Total Chemical Oxygen Demand	mg/L		-	-	-	--	--	--	--	--	--	--	--	<20	--	--	--	--	--	--	--	--	--	<20	--	--	--	--	--	--	--	--	<20
Dissolved Chloride (Cl)	mg/L	250	1500	-	250	4.4	4.5	4.0	4.8	4.5	4	2.9	3.7	3.6	6.7	6.2	6.2	6.3	5.5	5.4	4.7	4.3	8.2	4.5	6.9	6.5	7.5	7.3	9.2	7.9	6	5.2	6.1
Colour	TCU		-	-	15	8.0	70	49	110	52	34	51	6.9	34	<5.0	ND	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Nitrate + Nitrite (N)	mg/L		-	-	-	<0.050	ND	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	ND	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	ND	<0.050	<0.050	0.17	<0.050	<0.050	<0.050	<0.050
Nitrite (N)	mg/L		-	1	-	<0.010	ND	0.022	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Nitrogen (Ammonia Nitrogen)	mg/L		-	-	-	<0.050	ND	<0.050	<0.050	<0.050	<0.050	0.091	<0.050	<0.050	0.060	ND	<0.050	0.059	<0.050	<0.050	0.094	0.13	<0.050	<0.050	<0.050	ND	<0.050	0.15	0.087	0.071	0.13	0.061	0.15
Dissolved Organic Carbon (C)	mg/L		-	-	-	--	--	--	--	--	--	--	--	0.6	--	--	--	--	--	--	--	--	--	1.5	--	--	--	--	--	--	--	--	1.9
Total Organic Carbon (C)	mg/L		-	-	-	1.1	0.72	0.75	1.1	<0.50	0.86	0.92	0.73	0.61	3.2	3.4	2.4	3.4	3.3	2.5	4.2	4.1	2.1	2.4	2.2	3.3	3.6	3.1	4.8	5	1.9	1.8	2.5
Orthophosphate (P)	mg/L		-	-	-	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.013	0.013	0.012	<0.010	0.012	0.011	<0.010	<0.010	0.026	<0.010	0.035	0.038	0.043	0.03	0.034	0.036	<0.010	<0.010	0.030
pH	pH		-	-	7.0;10.5	6.94	7.26	6.97	7.09	7.12	7.16	7.01	7.1	7.08	7.86	7.83	7.91	7.90	8.04	7.69	7.90	7.85	8.17	7.90	8.05	8.08	8.01	8.03	8.11	8.06	8.16	8.1	8.38
Dissolved Phosphorous (P)	mg/L		-	-	-	--	--	--	--	--	--	--	--	<0.020	--	--	--	--	--	--	--	--	--	<0.020	--	--	--	--	--	--	--	--	0.033
Total Phosphorus (P)	mg/L		-	-	-	--	--	--	--	--	--	--	--	<0.020	--	--	--	--	--	--	--	--	--	<0.020	--	--	--	--	--	--	--	--	0.022
Reactive Silica (SiO2)	mg/L		-	-	-	21	22	22	20	20	20	20	20 (1)	21	24	24	24	23	24	22	16 (1)	24	20	23	15	15	20	19	20	17	16	23	32
Total Suspended Solids	mg/L		-	-	-	--	--	--	--	--	--	--	--	18	--	--	--	--	--	--	--	--	--	12	--	--	--	--	--	--	--	--	11
Dissolved Sulphate (SO4)	mg/L		-	-	500	13	12	13	12	12	14	14	15	15	19	22	17	21	20	16	13	15	17	14	12	16	17	21	33	25	12	13	16
Turbidity	NTU		-	-	0.3	30	31	41	50	55	35	54	16	27	4.6	8.7	7.5	4.2	7.8	3.8	19	23	0.94	11	9.5	5.1	15	17	5.4	6.8	24	2.5	3.1
Conductivity	uS/cm		-	-	-	240	250	240	250	240	240	230	240	240	620	620	580	580	550	580	550	550	310	540	280	290	280	310	360	340	280	550	300

Table 3.2: Groundwater Quality Data - MW-07
Beaver Dam Mine Project
Marinette, Nova Scotia

	Sample	Criteria				MW-07A									MW-07B										MW-07D								
	Sample Date	NSE PSS for GW and NSE Tier 1 EQS: Potable Groundwater	NSE PSS for GW: Groundwater Discharge to Surface Water (>10 m)	GCDWQ; MAC	GCDWQ; AO	27-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20	27-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	2-Oct-19	30-Apr-20	30-Apr-20 Field DUP2	30-Jul-20	5-Nov-20	27-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20
Metals																																	
Dissolved Aluminum (Al)	ug/L	100	-	-	100	<5.0	ND	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.7	7.2	5.3	5.2	5.9	<5.0	<5.0	5.1	<5.0	<5.0	10	14	19	8.6	<5.0	5.2	<5.0	80	<5.0
Total Aluminum (Al)	ug/L	-	50	-	100	--	--	--	--	87	65	160	69	260	--	--	--	--	240	130	580	790	93	350	--	--	--	--	320	420	1700	9.5	200
Dissolved Antimony (Sb)	ug/L	6	-	6	-	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.9	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Antimony (Sb)	ug/L	-	200	6	-	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	<1.0	<1.0	<1.0	<1.0	1.6	<1.0	--	--	--	--	<1.0	<1.0	<1.0	<1.0	1.1
Dissolved Arsenic (As)	ug/L	10	-	10	-	**12**	**14**	2.1	6.1	6.1	**20**	5.3	8.7	**19**	**39**	**36**	**29**	**38**	**30**	**34**	**31**	**32**	**170**	**30**	**170**	**170**	**170**	**150**	**160**	**160**	**170**	**37**	**180**
Total Arsenic (As)	ug/L	-	50	10	-	--	--	--	--	**22**	**29**	**33**	**21**	**33**	--	--	--	--	**36**	**38**	**36**	**36**	**180**	**36**	--	--	--	--	**170**	**180**	**180**	**37**	**180**
Dissolved Barium (Ba)	ug/L	1000	-	2000	-	11	9.9	8.2	7.9	5.7	6.2	5.5	4.5	5.6	13	15	15	15	15	15	17	18	7.2	16	5.5	8.2	7.7	10	8.9	11	5.9	18	6.7
Total Barium (Ba)	ug/L	-	10000	2000	-	--	--	--	--	7.5	6.6	5.6	4.9	7	--	--	--	--	16	15	24	26	7.6	19	--	--	--	--	10	12	14	18	13
Dissolved Beryllium (Be)	ug/L	4	-	-	-	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Beryllium (Be)	ug/L	-	53	-	-	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Bismuth (Bi)	ug/L	-	-	-	-	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Bismuth (Bi)	ug/L	-	-	-	-	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Boron (B)	ug/L	5000	-	5000	-	<50	ND	<50	<50	<50	<50	<50	<50	<50	<50	ND	<50	<50	<50	<50	<50	<50	<50	<50	<50	ND	<50	<50	<50	<50	<50	<50	<50
Total Boron (B)	ug/L	-	12000	5000	-	--	--	--	--	<50	<50	<50	<50	<50	--	--	--	--	<50	<50	<50	<50	<50	<50	--	--	--	--	<50	<50	<50	<50	<50
Dissolved Cadmium (Cd)	ug/L	5	-	7	-	<0.010	ND	<0.010	0.013	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Total Cadmium (Cd)	ug/L	-	0.1	7	-	--	--	--	--	0.012	<0.010	0.012	<0.010	<0.010	--	--	--	--	0.01	<0.010	0.025	0.025	<0.010	<0.010	--	--	--	--	<0.010	<0.010	<0.010	<0.010	<0.010
Dissolved Calcium (Ca)	ug/L	-	-	-	-	27000	28000	28000	30000	29000	29000	27000	28000	29000	100000	97000	95000	95000	93000	95000	87000	85000	38000	88000	38000	37000	37000	38000	41000	40000	39000	91000	34000
Total Calcium (Ca)	ug/L	-	-	-	-	--	--	--	--	30000	30000	26000	29000	28000	--	--	--	--	98000	94000	85000	87000	39000	90000	--	--	--	--	42000	43000	40000	96000	36000
Dissolved Chromium (Cr)	ug/L	50	-	50	-	6.2	ND	<1.0	<1.0	1.2	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	1.4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	1.2	<1.0	<1.0	<1.0	<1.0
Total Chromium (Cr)	ug/L	-	-	50	-	--	--	--	--	1.1	<1.0	<1.0	<1.0	<1.0	--	--	--	--	1.3	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	1.1	<1.0	1.1	<1.0	<1.0
Dissolved Cobalt (Co)	ug/L	10	-	-	-	0.55	0.44	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	0.43	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	ND	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Total Cobalt (Co)	ug/L	-	100	-	-	--	--	--	--	<0.40	<0.40	<0.40	<0.40	<0.40	--	--	--	--	<0.40	<0.40	0.4	0.43	<0.40	<0.40	--	--	--	--	<0.40	<0.40	0.69	<0.40	<0.40
Dissolved Copper (Cu)	ug/L	1000	-	2000	1000	<2.0	ND	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	ND	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	ND	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total Copper (Cu)	ug/L	-	20	2000	1000	--	--	--	--	0.51	<0.50	0.6	<0.50	<0.50	--	--	--	--	0.65	<0.50	1.5	2.1	<0.50	0.82	--	--	--	--	0.6	0.52	1.8	<0.50	0.98
Dissolved Iron (Fe)	ug/L	300	-	-	300	5100	3900	3300	4500	3800	3000	3900	2000	2400	<50	ND	<50	<50	<50	<50	<50	<50	<50	<50	<50	ND	<50	<50	<50	<50	<50	140	<50
Total Iron (Fe)	ug/L	-	3000	-	300	--	--	--	--	5200	3900	6300	3500	3800	--	--	--	--	350	200	790	870	110	440	--	--	--	--	480	320	1600	<50	260
Dissolved Lead (Pb)	ug/L	10	-	5	-	<0.50	ND	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	ND	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	ND	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total Lead (Pb)	ug/L	-	10	5	-	--	--	--	--	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	<0.50	<0.50	0.9	0.94	<0.50	<0.50	--	--	--	--	<0.50	<0.50	1.4	<0.50	<0.50
Dissolved Magnesium (Mg)	ug/L	-	-	-	-	6400	7500	6800	7300	7500	7400	6600	6900	7300	8600	8100	8400	7600	7900	7600	7400	7300	6000	7400	5400	5300	5700	5400	6300	5700	5800	7500	5900
Total Magnesium (Mg)	ug/L	-	-	-	-	--	--	--	--	7400	7200	6600	7300	7000	--	--	--	--	8000	8300	7300	7500	6000	7300	--	--	--	--	5900	6500	6300	8000	5900
Dissolved Manganese (Mn)	ug/L	50	-	120	20	**530**	**530**	**520**	**540**	**540**	**600**	**490**	**630**	**600**	**970**	**1000**	**400**	**1200**	**1100**	**1200**	**990**	**1000**	**53**	**830**	44	38	41	56	**160**	99	52	**1300**	40
Total Manganese (Mn)	ug/L	-	8200	120	20	--	--	--	--	**550**	**640**	**510**	**590**	**590**	--	--	--	--	**1100**	**1300**	**1000**	**1000**	57	**980**	--	--	--	--	**170**	120	81	**1300**	55
Dissolved Molybdenum (Mo)	ug/L	70	-	-	-	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	4.1	3.4	2.7	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Molybdenum (Mo)	ug/L	-	730	-	-	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Nickel (Ni)	ug/L	100	-	-	-	2.4	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	3.3	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Nickel (Ni)	ug/L	-	250	-	-	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Phosphorus (P)	ug/L	-	-	-	-	<100	ND	<100	<100	<100	<100	<100	<100	<100	<100	ND	<100	<100	<100	<100	<100	<100	<100	<100	<100	ND	<100	<100	<100	<100	<100	<100	<100
Total Phosphorus (P)	ug/L	-	-	-	-	--	--	--	--	<100	<100	<100	<100	<100	--	--	--	--	<100	<100	<100	<100	<100	<100	--	--	--	--	<100	<100	<100	<100	<100
Dissolved Potassium (K)	ug/L	-	-	-	-	1800	2000	2000	1800	1800	2000	1700	1800	2000	3600	3300	3400	3100	3100	3200	2900	3000	1300	3000	1200	1300	1100	1100	1500	1400	1200	3000	1200
Total Potassium (K)	ug/L	-	-	-	-	--	--	--	--	1800	2000	1700	1900	2000	--	--	--	--	3300	3300	3000	3100	1300	3100	--	--	--	--	1500	1500	1400	3100	1300
Dissolved Selenium (Se)	ug/L	10	-	50	-	<1.0	ND	<1.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	ND	<1.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	ND	<1.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50
Total Selenium (Se)	ug/L	-	10	50	-	--	--	--	--	<1.0	<0.50	<0.50	<0.50	<0.50	--	--	--	--	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	<1.0	<0.50	<0.50	<0.50	<0.50
Dissolved Silver (Ag)	ug/L	100	-	-	-	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Silver (Ag)	ug/L	-	1	-	-	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10	--	--	--	--	<0.10	<0.10	0.21	<0.10	<0.10	<0.10	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10
Dissolved Sodium (Na)	ug/L	200000	-	-	200000	10000	11000	10000	9600	9500	9800	8800	8900	9600	18000	21000	18000	20000	21000	20000	19000	19000	17000	17000	9200	12000	13000	20000	29000	20000	10000	16000	24000
Total Sodium (Na)	ug/L	-	-	-	200000	--	--	--	--	9600	9700	8900	9400	9400	--	--	--	--	21000	21000	19000	19000	17000	17000	--	--	--	--	29000	22000	10000	17000	27000
Dissolved Strontium (Sr)	ug/L	4400	-	7000	-	140	140	140	160	150	160	140	150	150	340	320	320	320	310	360	330	340	350	340	310	320	310	310	380	350	330	350	330
Total Strontium (Sr)	ug/L	-	210000	7000	-	--	--	--	--	160	160	140	160	150	--	--	--	--	320	370	330	330	350	340	--	--	--	--	390	380	340	370	340
Dissolved Thallium (Tl)	ug/L	2	-	-	-	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Thallium (Tl)	ug/L	-	8	-	-	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10
Dissolved Tin (Sn)	ug/L	4400	-	-	-	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	11	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Tin (Sn)	ug/L	-	-	-	-	--	--	--	--	<2.0	2.3	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	2.6	4.8	<2.0	<2.0	--	--	--	--	<2.0	5	<2.0	<2.0	<2.0
Dissolved Titanium (Ti)	ug/L	-	-	-	-	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	2	<2.0
Total Titanium (Ti)	ug/L	-	-	-	-	--	--	--	--	2.7	2.7	6.1	2.1	9.3	--	--	--	--	7.8	4.5	19	24	2.8	9.5	--	--	--	--	9	11	40	<2.0	8.6
Dissolved Uranium (U)	ug/L	20	-	20	-	0.11	0.11	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	2.3	2.5	2.2	3.4	3.1	2.9	2.3	2.3	0.62	2	0.73	0.86	0.77	1.2	2.9	1.4	0.63	1.9	0.64
Total Uranium (U)	ug/L	-	3000	20	-	--	--	--	--	0.12	<0.10	<0.10	<0.10	0.12	--	--	--	--	3.2	3.1	2.4	2.4	0.67	2	--	--	--	--	2.9	1.6	0.97	1.9	0.69
Dissolved Vanadium (V)	ug/L	6.2	-	-	-	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Vanadium (V)	ug/L	-	60	-	-	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Zinc (Zn)	ug/L	5000	-	-	5000	9.5	5.7	<5.0	<5.0	<5.0	6.9	<5.0	<5.0	5.5	<5.0	ND	6.2	<5.0	<5.0	6	<5.0	<5.0	<5.0	<5.0	<5.0	5.8	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Zinc (Zn)	ug/L	-	300	-	5000	--	--	--	--	<5.0	6.3	<5.0	<5.0	<5.0	--	--	--	--	<5.0	<5.0	6.5	7.8	<5.0	<5.0	--	--	--	--	<5.0	<5.0	5.2	<5.0	<5.0
Dissolved Mercury (Hg)	ug/L	1	-	1	-	--	--	--	--	--	--	--	--	<0.013	--	--	--	--	--	--	--	--	--	<0.013	--	--	--	--	--	--	--	--	<0.013
Total Mercury (Hg)	ug/L	-	0.26	1	-	--	--	--	--	--	--	--	--	<0.013	--	--	--	--	--	--	--	--	--	<0.013	--	--	--	--	--	--	--	--	<0.013

Table 3.2: Groundwater Quality Data - MW-09
Beaver Dam Mine Project
Marinette, Nova Scotia

Sample		Criteria				MW-09A										MW-09B										MW-09D										
	Sample Date	NSE PSS for GW and NSE Tier 1 EQS: Potable Groundwater	NSE PSS for GW: Groundwater Discharge to Surface Water (>10 m)	GCDWQ; MAC	GCDWQ; AO	18-Jun-18	18-Jun-18 Field DUP1	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20	18-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	2-Oct-19	3-Apr-20	30-Jul-20	5-Nov-20	18-Jun-18	12-Sep-18	29-Nov-18	29-Nov-18 Field DUP5	4-Apr-19	4-Apr-19 Field DUP3	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20	5-Nov-20 Field DUP3
Calculated Parameters	Units																																			
Anion Sum	me/L		-	-	-	0.340	0.320	0.930	0.420	0.550	0.44	0.45	0.72	0.55	0.400	2.46	2.75	2.46	2.23	2.2	2.31	2.17	2.08	2.17	2.97	4.21	3.31	3.20	3.19	3.21	2.86	3.02	2.61	2.66	2.66	2.68
Bicarb. Alkalinity (calc. as CaCO3)	mg/L		-	-	-	9.2	8.8	37	12	18	15	12	28	19	13	71	74	76	75	77	83	81	75	80	65	79	70	69	75	74	74	78	78	80	88	89
Calculated TDS	mg/L		-	-	500	30	29	56	28	35	30	31	43	36	29	150	170	140	130	130	130	120	120	120	190	260	200	200	200	200	170	180	160	160	160
Carb. Alkalinity (calc. as CaCO3)	mg/L		-	-	-	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Cation Sum	me/L		-	-	-	0.630	0.630	0.870	0.360	0.470	0.45	0.37	0.66	0.45	0.390	2.37	2.53	2.24	2.05	2.04	2.11	1.95	1.93	2.01	2.89	4.01	3.02	3.04	2.97	2.95	2.7	2.86	2.42	2.44	2.48	2.45
Hardness (CaCO3)	mg/L		-	-	-	25	25	36	12	18	14	13	23	16	10	72	66	78	79	71	72	78	81	81	93	120	110	110	100	100	98	100	86	84	84	82
Ion Balance (% Difference)	%		-	-	-	29.9	32.6	3.33	7.69	7.84	1.12	9.76	4.35	10	1.27	1.86	4.17	4.68	4.21	3.77	4.52	5.34	3.74	3.83	1.37	2.43	4.58	2.56	3.57	4.22	2.88	2.72	3.78	4.31	3.50	4.48
Langelier Index (@ 20C)	N/A		-	-	-	-3.07	-2.95	-1.79	-3.15	-2.95	-2.88	-3.02	-1.92	-2.4	-3.11	-0.174	-0.0840	-0.296	-0.146	-0.134	-0.434	0.023	0.012	0.00200	-0.547	-0.0610	-0.186	-0.240	-0.238	-0.312	-0.147	-0.229	-0.049	-0.097	-0.0670	-0.126
Langelier Index (@ 4C)	N/A		-	-	-	-3.32	-3.20	-2.04	-3.40	-3.20	-3.13	-3.27	-2.17	-2.65	-3.37	-0.424	-0.335	-0.546	-0.396	-0.385	-0.684	-0.227	-0.239	-0.249	-0.798	-0.311	-0.436	-0.490	-0.488	-0.562	-0.397	-0.479	-0.3	-0.347	-0.317	-0.376
Nitrate (N)	mg/L		-	10	-	<0.050	<0.050	0.051	0.059	0.14	0.08	0.17	0.079	0.14	0.17	<0.050	ND	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	ND	<0.050	<0.050	0.067	0.062	<0.050	<0.050	<0.050	<0.050	<0.050	0.052
Saturation pH (@ 20C)	N/A		-	-	-	9.37	9.39	8.64	9.60	9.25	9.43	9.58	8.94	9.27	9.65	8.11	8.13	8.04	8.04	8.07	8.03	8.01	8.02	8.00	8.09	7.90	8.00	8.01	7.98	7.99	8	7.97	8.02	8.02	7.99	7.99
Saturation pH (@ 4C)	N/A		-	-	-	9.62	9.64	8.89	9.85	9.51	9.69	9.83	9.19	9.52	9.90	8.36	8.38	8.29	8.29	8.32	8.28	8.26	8.27	8.25	8.34	8.15	8.25	8.26	8.23	8.24	8.25	8.22	8.27	8.27	8.24	8.24
Inorganics																																				
Total Alkalinity (Total as CaCO3)	mg/L		-	-	-	9.2	8.8	37	12	18	15	12	28	19	13	72	75	77	76	78	83	82	76	81	65	80	70	69	75	75	74	79	79	81	89	89
Total Chemical Oxygen Deman	mg/L		-	-	-	--	--	--	--	--	--	--	--	--	<20	--	--	--	--	--	--	--	--	<20	--	--	--	--	--	--	--	--	--	--	--	<20	<20
Dissolved Chloride (Cl)	mg/L	250	1500	-	250	3.5	2.9	3.3	3.9	4	2.2	4	1.5	2.4	1.6	5.1	4.6	4.2	4	3.4	3.4	2.5	3.1	2.6	8.6	11	8.9	8.9	8.2	8	6.6	7.1	5.3	6.1	4.4	4.3
Colour	TCU		-	-	15	<5.0	<5.0	ND	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Nitrate + Nitrite (N)	mg/L		-	-	-	<0.050	<0.050	0.051	0.059	0.14	0.08	0.17	0.079	0.14	0.17	<0.050	ND	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	ND	<0.050	<0.050	0.067	0.062	<0.050	<0.050	<0.050	<0.050	<0.050	0.052
Nitrite (N)	mg/L		-	1	-	<0.010	0.021	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Nitrogen (Ammonia Nitrogen)	mg/L		-	-	-	<0.050	<0.050	ND	<0.050	<0.050	<0.050	<0.050	0.12	<0.050	<0.050	<0.050	ND	<0.050	<0.050	<0.050	<0.050	<0.050	0.18	<0.050	<0.050	<0.050	ND	<0.050	<0.050	0.050	<0.050	<0.050	<0.050	0.13	<0.050	<0.050	<0.050
Dissolved Organic Carbon (C)	mg/L		-	-	-	--	--	--	--	--	--	--	--	--	<0.5	--	--	--	--	--	--	--	--	0.8	--	--	--	--	--	--	--	--	--	--	--	4.1	4.2
Total Organic Carbon (C)	mg/L		-	-	-	0.59	0.61	ND	<0.50	0.76	<0.50	<0.50	0.52	0.74	<0.50	2.5	5.4	2.9	1.7	1.4	2	0.8	0.83	0.68	9.1	17	10	10	8.6	8.7	8.7	8.1	5.1	4.5	3.9	3.8
Orthophosphate (P)	mg/L		-	-	-	<0.010	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	0.17	<0.010	0.027	0.016	0.022	0.015	0.025	0.025	0.014	0.014	0.020	0.012	0.013	0.015	0.015	0.014	0.014	0.015	0.014	<0.010	0.012	0.013	0.012
pH	pH		-	-	7.0;10.5	6.30	6.44	6.85	6.45	6.30	6.55	6.57	7.02	6.87	6.53	7.94	8.05	7.75	7.89	7.94	7.6	8.03	8.03	8.00	7.54	7.84	7.82	7.77	7.74	7.68	7.86	7.74	7.97	7.93	7.92	7.87
Dissolved Phosphorous (P)	mg/L		-	-	-	--	--	--	--	--	--	--	--	--	<0.020	--	--	--	--	--	--	--	--	0.031	--	--	--	--	--	--	--	--	--	--	--	<0.020	0.032
Total Phosphorus (P)	mg/L		-	-	-	--	--	--	--	--	--	--	--	--	<0.020	--	--	--	--	--	--	--	--	<0.020	--	--	--	--	--	--	--	--	--	--	--	<0.020	<0.020
Reactive Silica (SiO2)	mg/L		-	-	-	5.1	5.1	8.6	6.1	6.2	5.8	7.1	5.5	7.3	6.1	9.3	9.0	9.3	9.7	9.2	9.3	9.5	9.8	9.1	12	11	12	12	12	12	11	11	12	12	11	12
Total Suspended Solids	mg/L		-	-	-	--	--	--	--	--	--	--	--	--	9.2	--	--	--	--	--	--	--	--	8.2	--	--	--	--	--	--	--	--	--	--	--	3.6	2.8
Dissolved Sulphate (SO4)	mg/L		-	-	500	2.9	2.9	4.6	2.9	3.3	3.4	3.5	5.1	4.1	4.4	42	53	39	29	26	27	22	23	23	68	110	80	75	70	71	57	60	42	42	37	37
Turbidity	NTU		-	-	0.3	0.29	0.33	2.9	0.40	<0.10	3	1.2	4.4	3	3.2	6.1	36	6.3	7.9	5.7	10	4.9	3.5	7.0	2.4	14	3.2	4.1	4.5	7.4	10	3	5.3	0.87	2.5	3.0
Conductivity	uS/cm		-	-	-	30	31	93	42	51	47	42	68	57	42	230	270	230	200	200	210	200	200	200	300	430	310	310	300	300	260	300	250	250	250	240

Table 3.2: Groundwater Quality Data - MW-09
Beaver Dam Mine Project
Marinette, Nova Scotia

Sample		Criteria				MW-09A									MW-09B									MW-09D											
	Sample Date	NSE PSS for GW and NSE Tier 1 EQS: Potable Groundwater	NSE PSS for GW: Groundwater Discharge to Surface Water (>10 m)	GCDWQ; MAC	GCDWQ; AO	18-Jun-18	18-Jun-18 Field DUP1	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20	18-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	2-Oct-19	3-Apr-20	30-Jul-20	5-Nov-20	18-Jun-18	12-Sep-18	29-Nov-18	29-Nov-18 Field DUP5	4-Apr-19	4-Apr-19 Field DUP3	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20	5-Nov-20 Field DUP3
Metals																																		
Dissolved Aluminum (Al)	ug/L	100	-	-	100	<5.0	81	36	21	16	15	15	6.7	8.3	13	61	11	8.2	8.1	5.6	<5.0	<5.0	9.6	10	8.9	ND	6.2	6.9	13	5.4	5.6	5.1	<5.0	5.3	5.7	15
Total Aluminum (Al)	ug/L	-	50	-	100	--	--	--	--	--	290	58	210	160	260	--	--	--	--	1000	1100	280	290	340	--	--	--	--	--	--	200	70	190	27	47	30
Dissolved Antimony (Sb)	ug/L	6	-	6	-	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Antimony (Sb)	ug/L	-	200	6	-	--	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Arsenic (As)	ug/L	10	-	10	-	1	<1.0	5.5	1.8	3.1	3	2.6	2.8	3.5	2.1	120	120	100	100	120	110	96	96	110	140	110	130	130	110	110	130	120	110	90	84	88
Total Arsenic (As)	ug/L	-	50	10	-	--	--	--	--	--	5.5	3.4	3.6	6	2.8	--	--	--	--	130	120	99	100	100	--	--	--	--	--	--	140	130	130	110	120	120
Dissolved Barium (Ba)	ug/L	1000	-	2000	-	6.1	5.7	3.8	11	8.9	11	15	4.6	6.6	8.2	12	14	14	14	14	17	14	13	13	8.9	16	8.4	8.2	11	11	10	8.6	9.4	10	11	11
Total Barium (Ba)	ug/L	-	10000	2000	-	--	--	--	--	--	13	14	6.6	7.7	8.9	--	--	--	--	15	19	14	13	13	--	--	--	--	--	--	10	8.9	9.5	10	11	12
Dissolved Beryllium (Be)	ug/L	4	-	-	-	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Beryllium (Be)	ug/L	-	53	-	-	--	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Bismuth (Bi)	ug/L	-	-	-	-	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Bismuth (Bi)	ug/L	-	-	-	-	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Boron (B)	ug/L	5000	-	5000	-	<50	<50	ND	<50	<50	<50	<50	<50	<50	<50	<50	ND	<50	<50	<50	<50	<50	<50	<50	<50	ND	<50	<50	<50	<50	<50	<50	<50	<50	<50
Total Boron (B)	ug/L	-	12000	5000	-	--	--	--	--	--	<50	<50	<50	<50	<50	--	--	--	--	<50	<50	<50	<50	<50	--	--	--	--	--	--	<50	<50	<50	<50	<50	<50
Dissolved Cadmium (Cd)	ug/L	5	-	7	-	0.03	0.026	0.039	0.06	0.063	0.069	0.066	0.029	0.042	0.039	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Total Cadmium (Cd)	ug/L	-	0.1	7	-	--	--	--	--	--	0.081	0.065	0.029	0.044	0.039	--	--	--	--	<0.010	<0.010	<0.010	<0.010	<0.010	--	--	--	--	--	--	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Dissolved Calcium (Ca)	ug/L	-	-	-	-	9100	9000	13000	4100	6200	4800	4100	8100	5600	3500	25000	23000	27000	28000	25000	26000	27000	28000	28000	30000	41000	35000	35000	34000	33000	32000	33000	28000	28000	27000	27000
Total Calcium (Ca)	ug/L	-	-	-	-	--	--	--	--	--	5100	4300	7900	5800	3100	--	--	--	--	26000	27000	28000	29000	27000	--	--	--	--	--	--	33000	32000	28000	27000	25000	26000
Dissolved Chromium (Cr)	ug/L	50	-	50	-	<1.0	<1.0	ND	<1.0	<1.0	1.2	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	1.3	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	1.3	<1.0	<1.0	<1.0	<1.0
Total Chromium (Cr)	ug/L	-	-	50	-	--	--	--	--	--	2.2	<1.0	<1.0	<1.0	<1.0	--	--	--	--	1.1	<1.0	<1.0	<1.0	<1.0	--	--	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Cobalt (Co)	ug/L	10	-	-	-	1.2	1.3	0.42	0.96	0.48	0.77	<0.40	0.71	<0.40	0.5	<0.40	ND	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	ND	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Total Cobalt (Co)	ug/L	-	100	-	-	--	--	--	--	--	1	<0.40	0.83	0.63	0.66	--	--	--	--	<0.40	<0.40	<0.40	<0.40	<0.40	--	--	--	--	--	--	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Dissolved Copper (Cu)	ug/L	1000	-	2000	1000	<2.0	<2.0	ND	5.1	2.2	3.3	3.4	0.96	1.4	1.5	<2.0	ND	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	ND	<2.0	<2.0	<0.50	<0.50	<0.50	0.69	<0.50	<0.50	<0.50
Total Copper (Cu)	ug/L	-	20	2000	1000	--	--	--	--	--	5.1	4.2	2.1	2.7	2.7	--	--	--	--	<0.50	0.68	<0.50	1.1	0.7	--	--	--	--	--	--	0.9	<0.50	0.96	<0.50	1.3	<0.50
Dissolved Iron (Fe)	ug/L	300	-	-	300	<50	<50	ND	<50	<50	<50	<50	<50	<50	<50	<50	ND	<50	<50	<50	<50	<50	<50	<50	<50	ND	<50	<50	<50	<50	<50	<50	<50	<50	<50
Total Iron (Fe)	ug/L	-	3000	-	300	--	--	--	--	--	210	71	140	230	150	--	--	--	--	230	260	110	150	180	--	--	--	--	--	--	200	60	130	<50	81	<50
Dissolved Lead (Pb)	ug/L	10	-	5	-	<0.50	<0.50	ND	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	ND	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	ND	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total Lead (Pb)	ug/L	-	10	5	-	--	--	--	--	--	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--	--	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Magnesium (Mg)	ug/L	-	-	-	-	640	640	900	480	610	530	530	610	510	360	2300	1800	2300	2400	2300	2000	2300	2500	2500	4100	5400	4700	4600	4500	4500	4400	4500	3700	3700	3800	3600
Total Magnesium (Mg)	ug/L	-	-	-	-	--	--	--	--	--	600	560	620	570	360	--	--	--	--	2400	2400	2300	2600	2400	--	--	--	--	--	--	4300	4500	3900	3500	3300	3500
Dissolved Manganese (Mn)	ug/L	50	-	120	20	110	110	35	65	29	45	23	38	20	20	11	69	44	61	45	58	42	41	41	46	160	75	74	88	88	54	64	53	51	45	47
Total Manganese (Mn)	ug/L	-	8200	120	20	--	--	--	--	--	59	25	43	31	30	--	--	--	--	49	64	45	45	41	--	--	--	--	--	--	55	63	56	49	48	54
Dissolved Molybdenum (Mo)	ug/L	70	-	-	-	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	9.2	8.6	9.1	6.8	6	5.6	4.5	4.7	4.2	10	15	7.3	7.7	6.6	7.2	6.7	4.8	3.5	3	2.7	2.9
Total Molybdenum (Mo)	ug/L	-	730	-	-	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	6.3	5.7	4.5	4.7	4	--	--	--	--	--	--	7.5	4.9	3.7	3.2	3.4	3.4
Dissolved Nickel (Ni)	ug/L	100	-	-	-	3.3	3.6	2.8	4.6	2.8	4.8	2.1	3.9	<2.0	2.2	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Nickel (Ni)	ug/L	-	250	-	-	--	--	--	--	--	5.1	2.3	4.3	<2.0	2.4	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Phosphorus (P)	ug/L	-	-	-	-	<100	<100	ND	<100	<100	<100	<100	<100	<100	<100	<100	ND	<100	<100	<100	<100	<100	<100	<100	<100	ND	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Total Phosphorus (P)	ug/L	-	-	-	-	--	--	--	--	--	<100	<100	<100	<100	<100	--	--	--	--	<100	<100	<100	<100	<100	--	--	--	--	--	--	<100	<100	<100	<100	<100	<100
Dissolved Potassium (K)	ug/L	-	-	-	-	720	670	710	610	510	540	740	430	630	510	1700	1500	1500	1200	1200	1300	1100	1200	1300	1200	1400	1200	1100	1200	1200	1200	1100	1000	1100	1000	1000
Total Potassium (K)	ug/L	-	-	-	-	--	--	--	--	--	590	720	430	640	510	--	--	--	--	1300	1400	1100	1200	1100	--	--	--	--	--	--	1100	1100	1000	1000	1000	1100
Dissolved Selenium (Se)	ug/L	10	-	50	-	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	ND	<1.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50
Total Selenium (Se)	ug/L	-	10	50	-	--	--	--	--	--	<1.0	<0.50	<0.50	<0.50	<0.50	--	--	--	--	<1.0	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--	--	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Silver (Ag)	ug/L	100	-	-	-	<0.10	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.71	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Silver (Ag)	ug/L	-	1	-	-	--	--	--	--	--	0.67	<0.10	0.42	0.32	1.4	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10	--	--	--	--	--	--	0.15	<0.10	0.11	<0.10	0.11	<0.10
Dissolved Sodium (Na)	ug/L	200000	-	-	200000	2400	2500	3200	2400	2400	3400	2400	4200	2600	4000	20000	27000	15000	10000	13000	15000	8100	6400	8400	23000	34000	20000	20000	20000	20000	16000	19000	15000	17000	18000	18000
Total Sodium (Na)	ug/L	-	-	-	200000	--	--	--	--	--	3400	2500	4100	2700	4000	--	--	--	--	13000	16000	8300	6700	7500	--	--	--	--	--	--	16000	18000	15000	16000	18000	20000
Dissolved Strontium (Sr)	ug/L	4400	-	7000	-	14	14	20	14	17	16	17	16	15	11	340	310	360	370	420	410	370	390	370	680	890	750	730	740	730	710	720	610	590	600	600
Total Strontium (Sr)	ug/L	-	210000	7000	-	--	--	--	--	--	16	18	16	16	11	--	--	--	--	440	410	390	400	360	--	--	--	--	--	--	720	700	620	580	540	570
Dissolved Thallium (Tl)	ug/L	2	-	-	-	<0.10	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Thallium (Tl)	ug/L	-	8	-	-	--	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10	--	--	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dissolved Tin (Sn)	ug/L	4400	-	-	-	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	2.6	<2.0	<2.0	<2.0	<2.0	<2.0
Total Tin (Sn)	ug/L	-	-	-	-	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	--	--	2	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Titanium (Ti)	ug/L	-	-	-	-	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Titanium (Ti)	ug/L	-	-	-	-	--	--	--	--	--	4	2.1	3.6	6.2	3	--	--	--	--	13	16	8.4	7.2	6.1	--	--	--	--	--	--	6	2.6	4.1	<2.0	2.1	<2.0
Dissolved Uranium (U)	ug/L	20	-	20	-	<0.10	<0.10	0.3	0.1	0.11	0.15	0.11	0.2	0.13	<0.10	6.6	8.7	6.1	6.6	6.7	7.9	5.5	5	5.2	3.7	3.8	3	2.7	2.6	2.6	3.4	2.7	1.7	1.4	1.4	1.3
Total Uranium (U)	ug/L	-	3000	20	-	--	--	--	--	--	0.16	0.12	0.23	0.16	0.11	--	--	--	--	7.1	7.8	5.6	5.1	4.9	--	--	--	--	--	--	3.4	2.6	1.7	1.4	1.4	1.4
Dissolved Vanadium (V)	ug/L	6.2	-	-	-	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Vanadium (V)	ug/L	-	60	-	-	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	2.2	2.5	<2.0	<2.0	<2.0	--	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Zinc (Zn)	ug/L	5000	-	-	5000	<5.0	<5.0	7.2	8.7	<5.0	6.6	6.4	6.2	5.2	5.7	<5.0	ND	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.8
Total Zinc (Zn)	ug/L	-	300	-	5000	--	--	--	--	--	6.5	5.2	<5.0	5.6	<5.0	--	--	--	--	<5.0	<5.0	<5.0	<5.0	<5.0	--	--	--	--	--	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Dissolved Mercury (Hg)	ug/L	1	-	1	-	--	--	--	--	--	--	--	--	--	<0.013	--	--	--	--	--	--	--	--	<0.013	--	--	--	--	--	--	--	--	--	--	<0.013	<0.013
Total Mercury (Hg)	ug/L	-	0.26	1	-	--	--	--	--	--	--	--	--	--	<0.013	--	--	--	--	--	--	--	--	<0.013	--	--	--	--	--	--	--	--	--	--	<0.013	<0.013

Table 3.2: Groundwater Quality Data - MW-11
Beaver Dam Mine Project
Marinette, Nova Scotia

	Sample	Criteria				MW-11A										MW-11B										MW-11C									
	Sample Date	NSE PSS for GW and NSE Tier 1 EQS: Potable Groundwater	NSE PSS for GW: Groundwater Discharge to Surface Water (>10 m)	GCDWQ; MAC	GCDWQ; AO	27-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19 (Frozen - Not Sampled)	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20	5-Nov-20 Field DUP5	27-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20	27-Jun-18	21-Sep-18	12-Sep-18 Field DUP5	29-Nov-18	4-Apr-19 (Frozen - Not Sampled)	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20
Calculated Parameters	Units																																		
Anion Sum	me/L		-	-	-	0.3	0.34	0.32	--	0.27	0.31	0.36	0.31	0.280	0.280	1.87	1.06	1.76	1.84	0.53	1.66	1.37	1.5	1.62	2.02	2.02	2.12	2.02	--	2.17	2.29	2.38	2.3	2.53
Bicarb. Alkalinity (calc. as CaCO3)	mg/L		-	-	-	5.5	8.3	6.9	--	6	6.7	6.1	6.1	7.1	6.7	78	47	75	76	18	66	58	60	69	68	71	76	70	--	70	74	81	74	82
Calculated TDS	mg/L		-	-	500	21	23	22	--	17	21	22	21	20	20	100	63	97	100	33	96	77	85	92	120	120	120	120	--	130	130	140	130	150
Carb. Alkalinity (calc. as CaCO3)	mg/L		-	-	-	<1.0	ND	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0
Cation Sum	me/L		-	-	-	0.28	0.29	0.29	--	0.22	0.24	0.22	0.24	0.250	0.240	1.71	1.15	1.61	1.67	0.5	1.66	1.27	1.39	1.54	1.91	1.89	1.88	1.82	--	1.96	2.14	2.14	2.09	2.38
Hardness (CaCO3)	mg/L		-	-	-	8	7.8	8.2	--	6.1	6	5.6	5.5	6.2	6.0	71	24	65	68	13	69	53	56	65	76	71	71	73	--	70	74	71	74	78
Ion Balance (% Difference)	%		-	-	-	3.45	7.94	4.92	--	10.2	12.7	24.1	12.7	5.66	7.69	4.47	4.07	4.45	4.84	2.91	0	3.79	3.81	2.53	2.80	3.32	6.00	5.21	--	5.08	3.39	5.31	4.78	3.05
Langelier Index (@ 20C)	N/A		-	-	-	-4.04	-3.63	-3.81	--	-3.71	-3.8	-4.17	-3.99	-4.39	-4.34	0.069	-1.41	-0.198	-0.218	-2.5	-0.504	-0.582	-0.521	-0.387	-0.283	-0.250	-0.307	-0.211	--	-0.567	-0.186	-0.092	-0.285	-0.318
Langelier Index (@ 4C)	N/A		-	-	-	-4.29	-3.88	-4.07	--	-3.96	-4.06	-4.42	-4.24	-4.64	-4.59	-0.182	-1.66	-0.449	-0.469	-2.75	-0.755	-0.833	-0.773	-0.638	-0.534	-0.501	-0.557	-0.461	--	-0.819	-0.437	-0.342	-0.536	-0.569
Nitrate (N)	mg/L		-	10	-	0.059	ND	<0.050	--	<0.050	<0.050	<0.050	<0.050	0.059	0.069	0.19	ND	0.079	0.16	<0.050	0.067	0.077	0.07	0.082	0.066	0.089	0.077	0.053	--	0.13	<0.050	<0.050	<0.050	<0.050
Saturation pH (@ 20C)	N/A		-	-	-	10.2	10	10	--	10.2	10.2	10.3	10.3	10.2	10.2	8.05	8.75	8.1	8.07	9.39	8.12	8.28	8.25	8.13	8.10	8.10	8.08	8.10	--	8.12	8.08	8.06	8.08	8.02
Saturation pH (@ 4C)	N/A		-	-	-	10.4	10.3	10.3	--	10.5	10.5	10.5	10.5	10.4	10.4	8.3	9	8.35	8.32	9.64	8.37	8.53	8.5	8.38	8.35	8.35	8.33	8.35	--	8.37	8.33	8.31	8.33	8.27
Inorganics																																			
Total Alkalinity (Total as CaCO3)	mg/L		-	-	-	5.5	8.3	6.9	--	6	6.7	6.1	6.1	7.1	6.7	79	47	75	77	18	67	58	61	69	69	72	77	71	--	70	74	81	75	82
Total Chemical Oxygen Demand	mg/L		-	-	-	--	--	--	--	--	--	--	--	<20	<20	--	--	--	--	--	--	--	--	<20	--	--	--	--	--	--	--	--	--	--	<20
Dissolved Chloride (Cl)	mg/L	250	1500	-	250	4.8	3.9	4.6	--	3	3.5	5.6	3.9	2.7	2.6	3.5	4.1	3.9	4.3	3.3	4.2	2.8	4	3	4.4	3.7	3.8	4.2	--	5.3	4.5	3.8	4.9	4.2
Colour	TCU		-	-	15	<5.0	ND	<5.0	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<5.0	<5.0	13	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	--	<5.0	<5.0	<5.0	<5.0	<5.0
Nitrate + Nitrite (N)	mg/L		-	-	-	0.059	ND	<0.050	--	<0.050	<0.050	<0.050	<0.050	0.059	0.069	0.19	ND	0.079	0.16	<0.050	0.067	0.077	0.07	0.082	0.066	0.089	0.077	0.053	--	0.13	<0.050	<0.050	<0.050	<0.050
Nitrite (N)	mg/L		-	1	-	<0.010	ND	<0.010	--	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	--	<0.010	<0.010	<0.010	<0.010	<0.010
Nitrogen (Ammonia Nitrogen)	mg/L		-	-	-	<0.050	ND	<0.050	--	<0.050	<0.050	0.16	<0.050	<0.050	<0.050	<0.050	ND	<0.050	<0.050	<0.050	<0.050	0.05	0.06	<0.050	<0.050	<0.050	<0.050	<0.050	--	<0.050	<0.050	0.15	<0.050	<0.050
Dissolved Organic Carbon (C)	mg/L		-	-	-	--	--	--	--	--	--	--	--	<0.5	<0.5	--	--	--	--	--	--	--	--	<0.5	--	--	--	--	--	--	--	--	--	2.3
Total Organic Carbon (C)	mg/L		-	-	-	1.3	0.6	0.71	--	0.57	0.95	0.62	1.2	<0.50	<0.50	0.65	9	<5.0 (1)	0.86	0.75	0.75	<0.50	0.53	<0.50	1.7	0.91	0.95	0.99	--	2.3	2	2.4	2.1	<5.0 (1)
Orthophosphate (P)	mg/L		-	-	-	<0.010	ND	<0.010	--	<0.010	<0.010	<0.010	<0.010	<0.010	0.038	0.018	ND	<0.010	0.01	<0.010	<0.010	<0.010	<0.010	<0.010	0.021	0.019	0.018	0.018	--	0.017	0.018	0.013	<0.010	0.014
pH	pH		-	-	7.0:10.5	6.12	6.37	6.23	--	6.51	6.4	6.09	6.29	5.77	5.86	8.11	7.34	7.91	7.85	6.89	7.61	7.7	7.72	7.74	7.82	7.85	7.77	7.89	--	7.55	7.9	7.96	7.79	7.70
Dissolved Phosphorous (P)	mg/L		-	-	-	--	--	--	--	--	--	--	--	<0.020	<0.020	--	--	--	--	--	--	--	--	<0.020	--	--	--	--	--	--	--	--	--	<0.020
Total Phosphorus (P)	mg/L		-	-	-	--	--	--	--	--	--	--	--	<0.020	<0.020	--	--	--	--	--	--	--	--	<0.020	--	--	--	--	--	--	--	--	--	<0.020
Reactive Silica (SiO2)	mg/L		-	-	-	3.8	5.2	4.5	--	3	4.4	3.7	4.1	4.6	4.7	8.7	4.6	8.5	9.2	4.5	8.4	7.5	7.9	9.4	8.8	9.0	8.9	9.1	--	8.3	8.8	8.6	8.5	8.9
Total Suspended Solids	mg/L		-	-	-	--	--	--	--	--	--	--	--	4.8	4.6	--	--	--	--	--	--	--	--	8.4	--	--	--	--	--	--	--	--	--	15
Dissolved Sulphate (SO4)	mg/L		-	-	500	2.6	3.1	2.6	--	3.1	3.8	3.8	3.6	3.0	3.0	8.2	ND	6.8	8.1	3.7	9.7	5.8	8.1	7.0	25	23	23	23	--	29	32	31	32	37
Turbidity	NTU		-	-	0.3	0.8	0.68	0.84	--	0.55	0.84	14	0.56	0.96	1.8	10	21	11	5	18	3.1	4.3	1.2	2.5	6.8	1.4	1.0	0.82	--	11	5.8	2.5	6.1	9.2
Conductivity	uS/cm		-	-	-	35	35	36	--	24	27	28	30	29	30	170	120	160	160	48	150	130	150	140	200	190	200	190	--	200	220	220	220	230

Table 3.2: Groundwater Quality Data - MW-11
Beaver Dam Mine Project
Marinette, Nova Scotia

	Sample		Criteria			MW-11A										MW-11B										MW-11C									
	Sample Date	NSE PSS for GW and NSE Tier 1 EQS: Potable Groundwater	NSE PSS for GW: Groundwater Discharge to Surface Water (>10 m)	GCDWQ; MAC	GCDWQ; AO	27-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19 (Frozen - Not Sampled)	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20	5-Nov-20 Field DUP5	27-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20	27-Jun-18	21-Sep-18	12-Sep-18 Field DUP5	29-Nov-18	4-Apr-19 (Frozen - Not Sampled)	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20
Metals																																			
Dissolved Aluminum (Al)	ug/L	100	-	-	100	31	78	55	--	17	32	58	27	52	73	14	5.6	13	8.6	<5.0	6.8	<5.0	<5.0	<5.0	18	6.2	7.6	7	--	<5.0	<5.0	<5.0	<5.0	<5.0
Total Aluminum (Al)	ug/L	-	50	-	100	--	--	--	--	71	130	560	65	110	120	--	--	--	--	220	79	45	110	86	--	--	--	--	--	450	320	110	250	350
Dissolved Antimony (Sb)	ug/L	6	-	6	-	<1.0	ND	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0
Total Antimony (Sb)	ug/L	-	200	6	-	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Arsenic (As)	ug/L	10	-	10	-	<1.0	ND	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	60	4.7	32	26	<1.0	23	7.2	3.2	6.3	78	74	76	76	--	62	66	74	75	76
Total Arsenic (As)	ug/L	-	50	10	-	--	--	--	--	<1.0	<1.0	2.5	<1.0	<1.0	<1.0	--	--	--	--	3.5	9.2	30	16	15	--	--	--	--	--	68	70	71	76	76
Dissolved Barium (Ba)	ug/L	1000	-	2000	-	6.9	7.7	8	--	4.6	5.6	5.9	5.6	6.7	6.6	7.8	4.1	8.9	9.7	6.1	10	4.8	3.8	4	11	11	11	11	--	12	13	17	16	17
Total Barium (Ba)	ug/L	-	10000	2000	-	--	--	--	--	5	6.7	8.2	5.4	6.4	6.7	--	--	--	--	8.6	8.8	5.4	4	4.8	--	--	--	--	--	15	14	16	17	17
Dissolved Beryllium (Be)	ug/L	4	-	-	-	<1.0	ND	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0
Total Beryllium (Be)	ug/L	-	53	-	-	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Bismuth (Bi)	ug/L	-	-	-	-	<2.0	ND	<2.0	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	--	<2.0	<2.0	<2.0	<2.0	<2.0
Total Bismuth (Bi)	ug/L	-	-	-	-	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Boron (B)	ug/L	5000	-	5000	-	<50	ND	<50	--	<50	<50	<50	<50	<50	<50	<50	ND	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	--	<50	<50	<50	<50	<50
Total Boron (B)	ug/L	-	12000	5000	-	--	--	--	--	<50	<50	<50	<50	<50	<50	--	--	--	--	<50	<50	<50	<50	<50	--	--	--	--	--	<50	<50	<50	<50	<50
Dissolved Cadmium (Cd)	ug/L	5	-	7	-	0.024	0.016	0.024	--	0.023	0.022	0.022	0.018	0.023	0.066	<0.010	ND	<0.010	<0.010	0.017	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	--	<0.010	<0.010	<0.010	<0.010	<0.010
Total Cadmium (Cd)	ug/L	-	0.1	7	-	--	--	--	--	0.022	0.027	0.028	0.018	0.019	0.017	--	--	--	--	0.015	<0.010	<0.010	<0.010	<0.010	--	--	--	--	--	0.016	<0.010	<0.010	<0.010	0.016
Dissolved Calcium (Ca)	ug/L	-	-	-	-	2400	2300	2500	--	1900	1800	1700	1600	1800	1800	25000	7900	23000	24000	4400	25000	19000	20000	23000	26000	25000	25000	25000	--	25000	26000	25000	26000	27000
Total Calcium (Ca)	ug/L	-	-	-	-	--	--	--	--	1900	1900	1900	1600	1800	1800	--	--	--	--	4800	19000	19000	22000	24000	--	--	--	--	--	26000	26000	24000	26000	26000
Dissolved Chromium (Cr)	ug/L	50	-	50	-	<1.0	ND	<1.0	--	1.3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0
Total Chromium (Cr)	ug/L	-	-	50	-	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	2	<1.0	<1.0	<1.0	<1.0	--	--	--	--	--	1.7	<1.0	<1.0	<1.0	<1.0
Dissolved Cobalt (Co)	ug/L	10	-	-	-	1	0.7	0.96	--	<0.40	<0.40	1.1	<0.40	0.54	0.55	<0.40	ND	<0.40	<0.40	1.4	<0.40	<0.40	<0.40	<0.40	0.44	<0.40	<0.40	<0.40	--	<0.40	<0.40	<0.40	<0.40	<0.40
Total Cobalt (Co)	ug/L	-	100	-	-	--	--	--	--	0.44	<0.40	1.5	0.47	0.63	0.58	--	--	--	--	1.6	0.44	0.4	<0.40	<0.40	--	--	--	--	--	<0.40	<0.40	<0.40	<0.40	<0.40
Dissolved Copper (Cu)	ug/L	1000	-	2000	1000	<2.0	ND	<2.0	--	3.5	<0.50	<0.50	2.2	<0.50	1.8	<2.0	ND	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<2.0	<2.0	--	<0.50	<0.50	<0.50	<0.50	<0.50
Total Copper (Cu)	ug/L	-	20	2000	1000	--	--	--	--	3.6	1.2	1.4	2.7	0.71	0.88	--	--	--	--	2.1	0.72	1.1	0.96	0.81	--	--	--	--	--	2.6	<0.50	<0.50	0.77	0.92
Dissolved Iron (Fe)	ug/L	300	-	-	300	<50	ND	<50	--	<50	<50	100	<50	<50	<50	<50	3800	<50	<50	1000	<50	98	<50	<50	<50	<50	<50	<50	--	<50	<50	<50	<50	<50
Total Iron (Fe)	ug/L	-	3000	-	300	--	--	--	--	52	170	920	<50	87	110	--	--	--	--	1700	870	580	190	250	--	--	--	--	--	510	170	100	170	250
Dissolved Lead (Pb)	ug/L	10	-	5	-	<0.50	ND	<0.50	--	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	ND	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	--	<0.50	<0.50	<0.50	<0.50	<0.50
Total Lead (Pb)	ug/L	-	10	5	-	--	--	--	--	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Magnesium (Mg)	ug/L	-	-	-	-	470	500	450	--	330	390	330	330	380	370	1800	1100	1600	1600	520	1600	1300	1400	1600	2400	2200	2200	2200	--	2100	2300	2200	2300	2500
Total Magnesium (Mg)	ug/L	-	-	-	-	--	--	--	--	330	410	530	340	380	380	--	--	--	--	580	1300	1400	1500	1600	--	--	--	--	--	2400	2400	2200	2300	2400
Dissolved Manganese (Mn)	ug/L	50	-	120	20	76	72	91	--	27	18	49	17	23	22	35	650	77	48	170	29	80	53	42	56	22	22	8.3	--	17	50	34	7.8	75
Total Manganese (Mn)	ug/L	-	8200	120	20	--	--	--	--	28	20	73	18	22	22	--	--	--	--	180	140	91	95	45	--	--	--	--	--	36	55	37	20	76
Dissolved Molybdenum (Mo)	ug/L	70	-	-	-	<2.0	ND	<2.0	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	4.6	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.6	2.9	2.8	6.4	--	3.2	3.5	3	2.8	2.9
Total Molybdenum (Mo)	ug/L	-	730	-	-	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	--	3.4	3.3	2.9	2.9	3
Dissolved Nickel (Ni)	ug/L	100	-	-	-	2.8	2.2	2.2	--	2.7	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	8.5	<2.0	4	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	--	<2.0	<2.0	<2.0	<2.0	<2.0
Total Nickel (Ni)	ug/L	-	250	-	-	--	--	--	--	<2.0	<2.0	2.4	<2.0	<2.0	<2.0	--	--	--	--	9.3	2.7	4.6	<2.0	<2.0	--	--	--	--	--	2.3	<2.0	<2.0	<2.0	<2.0
Dissolved Phosphorus (P)	ug/L	-	-	-	-	<100	ND	<100	--	<100	<100	<100	<100	<100	<100	<100	ND	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	--	<100	<100	<100	<100	<100
Total Phosphorus (P)	ug/L	-	-	-	-	--	--	--	--	<100	<100	<100	<100	<100	<100	--	--	--	--	<100	<100	<100	<100	<100	--	--	--	--	--	<100	<100	<100	<100	<100
Dissolved Potassium (K)	ug/L	-	-	-	-	590	620	540	--	430	430	360	700	450	460	1600	1100	1400	1100	620	1000	850	990	940	1100	1100	1100	1000	--	1100	1200	1100	1200	1300
Total Potassium (K)	ug/L	-	-	-	-	--	--	--	--	390	480	490	560	420	430	--	--	--	--	660	1000	860	890	940	--	--	--	--	--	1200	1200	1100	1200	1200
Dissolved Selenium (Se)	ug/L	10	-	50	-	<1.0	ND	<1.0	--	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	ND	<1.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<1.0	<1.0	<1.0	--	<1.0	<0.50	<0.50	<0.50	<0.50
Total Selenium (Se)	ug/L	-	10	50	-	--	--	--	--	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	<1.0	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--	<1.0	<0.50	<0.50	<0.50	<0.50
Dissolved Silver (Ag)	ug/L	100	-	-	-	<0.10	ND	<0.10	--	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	--	<0.10	<0.10	<0.10	<0.10	<0.10
Total Silver (Ag)	ug/L	-	1	-	-	--	--	--	--	<0.10	0.1	<0.10	<0.10	<0.10	<0.10	--	--	--	--	0.14	<0.10	<0.10	<0.10	<0.10	--	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10
Dissolved Sodium (Na)	ug/L	200000	-	-	200000	2400	2600	2500	--	2000	2500	2000	2700	2600	2500	5800	12000	6500	6800	4100	5800	4100	5300	4900	8500	10000	10000	7900	--	12000	15000	16000	13000	18000
Total Sodium (Na)	ug/L	-	-	-	200000	--	--	--	--	2000	2800	2200	2300	2600	2500	--	--	--	--	4300	6200	4300	4800	4900	--	--	--	--	--	13000	15000	15000	13000	17000
Dissolved Strontium (Sr)	ug/L	4400	-	7000	-	17	15	16	--	11	13	12	12	12	14	86	28	63	70	19	71	43	46	51	190	230	230	190	--	190	230	290	280	290
Total Strontium (Sr)	ug/L	-	210000	7000	-	--	--	--	--	11	12	13	12	13	14	--	--	--	--	20	60	44	49	52	--	--	--	--	--	200	240	290	280	270
Dissolved Thallium (Tl)	ug/L	2	-	-	-	<0.10	ND	<0.10	--	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	--	<0.10	<0.10	<0.10	<0.10	<0.10
Total Thallium (Tl)	ug/L	-	8	-	-	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10	--	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10
Dissolved Tin (Sn)	ug/L	4400	-	-	-	<2.0	ND	<2.0	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	--	<2.0	<2.0	<2.0	<2.0	<2.0
Total Tin (Sn)	ug/L	-	-	-	-	--	--	--	--	<2.0	3	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	--	<2.0	2.7	<2.0	<2.0	<2.0
Dissolved Titanium (Ti)	ug/L	-	-	-	-	<2.0	ND	<2.0	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	--	<2.0	<2.0	<2.0	<2.0	<2.0
Total Titanium (Ti)	ug/L	-	-	-	-	--	--	--	--	<2.0	4.9	20	<2.0	2.4	3.3	--	--	--	--	8.7	4.6	<2.0	2.8	2.4	--	--	--	--	--	9.6	6.3	2.2	5	7.4
Dissolved Uranium (U)	ug/L	20	-	20	-	<0.10	ND	<0.10	--	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.91	ND	0.8	0.92	<0.10	0.93	0.56	0.53	0.61	3.3	3.6	3.7	3.3	--	3.3	3.7	6.8	5.3	3.9
Total Uranium (U)	ug/L	-	3000	20	-	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	--	--	--	--	0.17	0.49	0.6	0.71	0.69	--	--	--	--	--	3.5	3.8	6.5	5.4	3.8
Dissolved Vanadium (V)	ug/L	6.2	-	-	-	<2.0	ND	<2.0	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	--	<2.0	<2.0	2.5	<2.0	<2.0
Total Vanadium (V)	ug/L	-	60	-	-	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	--	<2.0	<2.0	2.3	2.1	<2.0
Dissolved Zinc (Zn)	ug/L	5000	-	-	5000	12	6.5	<5.0	--	7.2	<5.0	<5.0	8.8	<5.0	<5.0	<5.0	5.6	<5.0	<5.0	17	<5.0	<5.0	<5.0	<5.0	10	5.5	5.9	5.9	--	9.8	<5.0	<5.0	6.4	5.5
Total Zinc (Zn)	ug/L	-	300	-	5000	--	--	--	--	8.1	<5.0	<5.0	5.2	<5.0	<5.0	--	--	--	--	17	<5.0	<5.0	<5.0	<5.0	--	--	--	--	--	18	5.9	<5.0	7.7	7.6
Dissolved Mercury (Hg)	ug/L	1	-	1	-	--	--	--	--	--	--	--	--	<0.013	<0.013	--	--	--	--	--	--	--	--	<0.013	--	--	--	--	--	--	--	--	--	--
Total Mercury (Hg)	ug/L	-	0.26	1	-	--	--	--	--	--	--	--	--	<0.013	<0.013	--	--	--	--	--	--	--	--	<0.013	--	--	--	--	--	--	--	--	--	--

Table 3.2: Groundwater Quality Data - MW-12
Beaver Dam Mine Project
Marinette, Nova Scotia

Sample		Criteria				MW-12A									MW-12B								
Sample Date		NSE PSS for GW and NSE Tier 1 EQS: Potable Groundwater	NSE PSS for GW: Groundwater Discharge to Surface Water (>10 m)	GCDWQ; MAC	GCDWQ; AO	18-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20	18-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20
Calculated Parameters	Units																						
Anion Sum	me/L		-	-	-	0.83	0.88	1.05	0.86	0.64	0.73	0.66	0.65	0.730	2.2	2.21	2.28	2.31	2.25	2.34	2.56	2.42	2.33
Bicarb. Alkalinity (calc. as CaCO3)	mg/L		-	-	-	33	36	42	32	23	27	24	22	28	80	83	85	87	85	88	96	89	86
Calculated TDS	mg/L		-	-	500	64	62	72	55	49	54	48	49	54	130	130	130	130	130	140	150	140	140
Carb. Alkalinity (calc. as CaCO3)	mg/L		-	-	-	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Cation Sum	me/L		-	-	-	0.94	0.77	0.94	0.76	0.59	0.66	0.56	0.57	0.690	2.1	2.06	2.11	2.12	2.14	2.2	2.33	2.17	2.19
Hardness (CaCO3)	mg/L		-	-	-	31	24	31	12	17	19	16	16	19	70	70	71	67	68	72	70	72	74
Ion Balance (% Difference)	%		-	-	-	6.21	6.67	5.53	6.17	4.07	5.04	8.2	6.56	2.82	2.33	3.51	3.87	4.29	2.51	3.08	4.7	5.45	3.10
Langelier Index (@ 20C)	N/A		-	-	-	-2.42	-2.5	-2.16	-2.78	-2.67	-2.65	-3.02	-3.16	-3.06	-0.212	-0.155	-0.22	-0.362	-0.331	-0.296	-0.165	-0.098	-0.139
Langelier Index (@ 4C)	N/A		-	-	-	-2.67	-2.75	-2.41	-3.03	-2.92	-2.91	-3.27	-3.41	-3.31	-0.462	-0.405	-0.471	-0.613	-0.582	-0.547	-0.416	-0.348	-0.390
Nitrate (N)	mg/L		-	10	-	0.085	0.17	0.16	0.1	0.14	0.36	0.29	0.32	0.32	0.062	ND	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Saturation pH (@ 20C)	N/A		-	-	-	8.9	8.95	8.78	9.31	9.31	9.18	9.32	9.35	9.20	8.08	8.07	8.05	8.06	8.06	8.03	8.01	8.02	8.03
Saturation pH (@ 4C)	N/A		-	-	-	9.15	9.21	9.03	9.56	9.56	9.43	9.57	9.6	9.45	8.33	8.32	8.3	8.31	8.31	8.28	8.26	8.27	8.28
Inorganics																							
Total Alkalinity (Total as CaCO3)	mg/L		-	-	-	33	36	42	32	23	27	24	22	28	81	83	85	88	85	88	97	90	86
Total Chemical Oxygen Demand	mg/L		-	-	-	--	--	--	--	--	--	--	--	<20	--	--	--	--	--	--	--	--	<20
Dissolved Chloride (Cl)	mg/L	250	1500	-	250	2.4	2.8	3.4	3	2.8	3.4	2.5	3.4	2.5	4.6	3.3	3.8	3.6	3.3	3.5	3.1	3.8	2.9
Colour	TCU		-	-	15	<5.0	ND	<5.0	11	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Nitrate + Nitrite (N)	mg/L		-	-	-	0.085	0.17	0.16	0.1	0.14	0.36	0.29	0.32	0.32	0.062	ND	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Nitrite (N)	mg/L		-	1	-	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Nitrogen (Ammonia Nitrogen)	mg/L		-	-	-	<0.050	ND	<0.050	<0.050	<0.050	<0.050	0.13	<0.050	<0.050	<0.050	0.055	0.073	0.075	0.093	0.089	0.21	<0.050	0.050
Dissolved Organic Carbon (C)	mg/L		-	-	-	--	--	--	--	--	--	--	--	0.7	--	--	--	--	--	--	--	--	<0.5
Total Organic Carbon (C)	mg/L		-	-	-	<0.50	ND	<0.50	6.0 (1)	<0.50	<0.50	<0.50	<0.40	<5.0 (1)	1	ND	<0.50	0.91	1.3	0.65	1.3	0.69	<0.50
Orthophosphate (P)	mg/L		-	-	-	<0.010	ND	<0.010	<0.010	0.015	0.016	0.017	0.013	0.016	0.016	0.013	0.013	0.013	0.014	0.017	<0.010	<0.010	0.015
pH	pH		-	-	7.0:10.5	6.48	6.46	6.61	6.53	6.64	6.53	6.3	6.2	6.14	7.86	7.91	7.83	7.69	7.73	7.73	7.84	7.92	7.89
Dissolved Phosphorous (P)	mg/L		-	-	-	--	--	--	--	--	--	--	--	<0.020	--	--	--	--	--	--	--	--	<0.020
Total Phosphorus (P)	mg/L		-	-	-	--	--	--	--	--	--	--	--	0.26	--	--	--	--	--	--	--	--	<0.020
Reactive Silica (SiO2)	mg/L		-	-	-	17	17	18	9	15	16	14	15	15	10	11	11	11	11	11	11	11	10
Total Suspended Solids	mg/L		-	-	-	--	--	--	--	--	--	--	--	180	--	--	--	--	--	--	--	--	2.4
Dissolved Sulphate (SO4)	mg/L		-	-	500	4	3	4.6	5.6	4.4	3.2	4.1	4.1	4.0	21	22	22	22	21	23	26	25	25
Turbidity	NTU		-	-	0.3	41	2.6	15	360	31	38	28	13	180	11	1.2	0.6	9.3	35	4.5	13	0.54	0.51
Conductivity	uS/cm		-	-	-	80	86	100	81	64	68	62	65	73	200	210	210	210	220	220	240	220	210

Table 3.2: Groundwater Quality Data - MW-12
Beaver Dam Mine Project
Marinette, Nova Scotia

Sample		Criteria				MW-12A									MW-12B								
Sample Date		NSE PSS for GW and NSE Tier 1 EQS: Potable Groundwater	NSE PSS for GW: Groundwater Discharge to Surface Water (>10 m)	GCDWQ; MAC	GCDWQ; AO	18-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20	18-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20
Metals																							
Dissolved Aluminum (Al)	ug/L	100	-	-	100	5	5	6	18	7.3	8.4	6.9	7.7	15	5.5	ND	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Aluminum (Al)	ug/L	-	50	-	100	--	--	--	--	3800	930	1300	640	2000	--	--	--	--	2300	340	420	66	24
Dissolved Antimony (Sb)	ug/L	6	-	6	-	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Antimony (Sb)	ug/L	-	200	6	-	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Arsenic (As)	ug/L	10	-	10	-	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**44**	**36**	**38**	**43**	**42**	**41**	**23**	**33**	**38**
Total Arsenic (As)	ug/L	-	50	10	-	--	--	--	--	2.5	<1.0	1	<1.0	1.1	--	--	--	--	**49**	**45**	**26**	**36**	**39**
Dissolved Barium (Ba)	ug/L	1000	-	2000	-	6.7	8.1	9.5	5.5	5.7	7.3	6	5.4	10	10	8.1	8	8.2	13	13	21	11	8.9
Total Barium (Ba)	ug/L	-	10000	2000	-	--	--	--	--	33	14	14	11	21	--	--	--	--	19	14	21	12	9.2
Dissolved Beryllium (Be)	ug/L	4	-	-	-	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Beryllium (Be)	ug/L	-	53	-	-	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Bismuth (Bi)	ug/L	-	-	-	-	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Bismuth (Bi)	ug/L	-	-	-	-	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Boron (B)	ug/L	5000	-	5000	-	<50	ND	<50	<50	<50	<50	<50	<50	<50	<50	ND	<50	<50	<50	<50	<50	<50	<50
Total Boron (B)	ug/L	-	12000	5000	-	--	--	--	--	<50	<50	<50	<50	<50	--	--	--	--	<50	<50	<50	<50	<50
Dissolved Cadmium (Cd)	ug/L	5	-	7	-	0.027	0.032	0.04	0.03	0.026	0.03	0.022	0.033	0.048	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Total Cadmium (Cd)	ug/L	-	0.1	7	-	--	--	--	--	0.039	0.034	0.035	0.035	0.057	--	--	--	--	0.021	<0.010	0.011	<0.010	<0.010
Dissolved Calcium (Ca)	ug/L	-	-	-	-	7900	6400	8300	3100	4400	5000	4000	4100	4700	24000	24000	24000	23000	23000	24000	24000	25000	25000
Total Calcium (Ca)	ug/L	-	-	-	-	--	--	--	--	4800	5300	4100	4300	4600	--	--	--	--	25000	25000	24000	25000	25000
Dissolved Chromium (Cr)	ug/L	50	-	50	-	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.3	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Chromium (Cr)	ug/L	-	-	50	-	--	--	--	--	6.3	1.6	2	1.1	2.2	--	--	--	--	2.1	<1.0	<1.0	<1.0	<1.0
Dissolved Cobalt (Co)	ug/L	10	-	-	-	2.6	2.3	1.8	1.4	0.8	1.1	0.74	0.97	1.6	<0.40	ND	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Total Cobalt (Co)	ug/L	-	100	-	-	--	--	--	--	3.7	2.2	2.1	1.5	2.9	--	--	--	--	0.46	<0.40	<0.40	<0.40	<0.40
Dissolved Copper (Cu)	ug/L	1000	-	2000	1000	<2.0	ND	<2.0	0.61	<0.50	<0.50	<0.50	<0.50	1.2	<2.0	ND	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	1.6
Total Copper (Cu)	ug/L	-	20	2000	1000	--	--	--	--	7.8	2.2	3	1.5	3.5	--	--	--	--	2.9	<0.50	1.1	0.61	<0.50
Dissolved Iron (Fe)	ug/L	300	-	-	300	220	ND	<50	<50	<50	<50	<50	<50	<50	<50	ND	<50	<50	<50	<50	<50	<50	<50
Total Iron (Fe)	ug/L	-	3000	-	300	--	--	--	--	5700	1500	2100	880	2300	--	--	--	--	1000	170	290	110	54
Dissolved Lead (Pb)	ug/L	10	-	5	-	<0.50	ND	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	ND	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total Lead (Pb)	ug/L	-	10	5	-	--	--	--	--	2.4	0.61	1.1	<0.50	1.1	--	--	--	--	1.5	<0.50	<0.50	<0.50	<0.50
Dissolved Magnesium (Mg)	ug/L	-	-	-	-	2700	2000	2400	1000	1500	1700	1500	1500	1700	2500	2500	2600	2400	2400	2600	2500	2600	2700
Total Magnesium (Mg)	ug/L	-	-	-	-	--	--	--	--	2800	2000	1900	1700	2100	--	--	--	--	3000	2700	2600	2700	2700
Dissolved Manganese (Mn)	ug/L	50	-	120	20	**1300**	**520**	**660**	**410**	**140**	**140**	120	**130**	**270**	**230**	**250**	**260**	**220**	**270**	**280**	**240**	**250**	**190**
Total Manganese (Mn)	ug/L	-	8200	120	20	--	--	--	--	**340**	**190**	**200**	**160**	**320**	--	--	--	--	**320**	**300**	**260**	**270**	**210**
Dissolved Molybdenum (Mo)	ug/L	70	-	-	-	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	19	17	18	17	18	18	17	17	18
Total Molybdenum (Mo)	ug/L	-	730	-	-	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	19	19	18	19	19
Dissolved Nickel (Ni)	ug/L	100	-	-	-	2.5	3.2	3.7	<2.0	2.2	2.9	2.2	5.8	3.7	<2.0	ND	<2.0	<2.0	2.5	<2.0	<2.0	<2.0	<2.0
Total Nickel (Ni)	ug/L	-	250	-	-	--	--	--	--	8.4	4.8	4.3	3.6	5.6	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Phosphorus (P)	ug/L	-	-	-	-	<100	ND	<100	<100	<100	<100	<100	<100	<100	<100	ND	<100	<100	<100	<100	<100	<100	<100
Total Phosphorus (P)	ug/L	-	-	-	-	--	--	--	--	150	110	<100	<100	<100	--	--	--	--	<100	<100	<100	<100	<100
Dissolved Potassium (K)	ug/L	-	-	-	-	2300	1600	1900	1200	930	1100	850	910	1300	1600	1500	1500	1500	1500	1500	1500	1500	1500
Total Potassium (K)	ug/L	-	-	-	-	--	--	--	--	1900	1300	1200	1100	1500	--	--	--	--	1900	1600	1500	1600	1500
Dissolved Selenium (Se)	ug/L	10	-	50	-	<1.0	ND	<1.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	ND	<1.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50
Total Selenium (Se)	ug/L	-	10	50	-	--	--	--	--	<1.0	<0.50	<0.50	<0.50	<0.50	--	--	--	--	<1.0	<0.50	<0.50	<0.50	<0.50
Dissolved Silver (Ag)	ug/L	100	-	-	-	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Silver (Ag)	ug/L	-	1	-	-	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10	--	--	--	--	0.33	<0.10	<0.10	<0.10	<0.10
Dissolved Sodium (Na)	ug/L	200000	-	-	200000	6000	5600	6600	11000	5100	5600	4800	5200	6400	15000	14000	15000	17000	17000	17000	20000	16000	16000
Total Sodium (Na)	ug/L	-	-	-	200000	--	--	--	--	5400	5700	4700	5200	5900	--	--	--	--	18000	17000	20000	16000	16000
Dissolved Strontium (Sr)	ug/L	4400	-	7000	-	53	49	59	26	40	46	39	40	46	80	79	82	130	150	110	120	91	87
Total Strontium (Sr)	ug/L	-	210000	7000	-	--	--	--	--	48	48	42	42	48	--	--	--	--	170	120	120	96	89
Dissolved Thallium (Tl)	ug/L	2	-	-	-	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Thallium (Tl)	ug/L	-	8	-	-	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10
Dissolved Tin (Sn)	ug/L	4400	-	-	-	<2.0	ND	<2.0	<2.0	<2.0	<2.0	4.4	3.2	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Tin (Sn)	ug/L	-	-	-	-	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Titanium (Ti)	ug/L	-	-	-	-	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Titanium (Ti)	ug/L	-	-	-	-	--	--	--	--	130	36	55	21	53	--	--	--	--	46	6.3	9.3	3	<2.0
Dissolved Uranium (U)	ug/L	20	-	20	-	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	2	1.5	1.5	2	1.7	1.6	2	1.6	1.6
Total Uranium (U)	ug/L	-	3000	20	-	--	--	--	--	0.25	<0.10	0.12	<0.10	0.2	--	--	--	--	2.1	1.7	2	1.7	1.6
Dissolved Vanadium (V)	ug/L	6.2	-	-	-	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Vanadium (V)	ug/L	-	60	-	-	--	--	--	--	4.8	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Zinc (Zn)	ug/L	5000	-	-	5000	<5.0	5.2	6.7	<5.0	<5.0	<5.0	<5.0	5.2	5.6	<5.0	ND	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Zinc (Zn)	ug/L	-	300	-	5000	--	--	--	--	14	<5.0	6	<5.0	8.5	--	--	--	--	6.6	<5.0	<5.0	<5.0	<5.0
Dissolved Mercury (Hg)	ug/L	1	-	1	-	--	--	--	--	--	--	--	--	<0.013	--	--	--	--	--	--	--	--	<0.013
Total Mercury (Hg)	ug/L	-	0.26	1	-	--	--	--	--	--	--	--	--	<0.013	--	--	--	--	--	--	--	--	<0.013

Table 3.2: Groundwater Quality Data - MW-14
Beaver Dam Mine Project
Marinette, Nova Scotia

	Sample	Criteria				MW-14A										MW-14B										MW-14C									
	Sample Date	NSE PSS for GW and NSE Tier 1 EQS: Potable Groundwater	NSE PSS for GW: Groundwater Discharge to Surface Water (>10 m)	GCDWQ; MAC	GCDWQ; AO	27-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	2-Oct-19	2-Oct-19 Field DUP3	30-Apr-20	30-Jul-20	5-Nov-20	27-Jun-18	27-Jun-18 Field DUP 5	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	30-Jul-20 Field DUP4	5-Nov-20	27-Jun-18	12-Sep-18	29-Nov-18	29-Nov-18 Field DUP2	4-Apr-19	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20
Calculated Parameters	Units																																		
Anion Sum	me/L		-	-	-	0.74	0.67	0.82	0.62	0.7	0.68	0.67	0.6	0.65	1.03	5.07	5.04	4	2.43	2.09	2.19	2.24	2.19	2.24	2.23	2.07	1.8	1.73	1.78	1.76	1.77	1.71	1.74	1.74	1.76	1.66
Bicarb. Alkalinity (calc. as CaCO3)	mg/L		-	-	-	27	25	31	22	24	24	24	20	20	41	91	94	94	84	89	93	90	92	92	92	88	72	71	72	72	73	70	70	70	70	66
Calculated TDS	mg/L		-	-	500	53	52	58	46	51	52	51	45	50	74	320	310	240	140	120	120	130	120	130	120	120	100	100	100	100	100	100	100	100	100	98
Carb. Alkalinity (calc. as CaCO3)	mg/L		-	-	-	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.3	1.5	1.1	1	<1.0	<1.0	<1.0	1.1	<1.0	<1.0	<1.0	1.3	ND	<1.0	<1.0	<1.0	1.1	1	1.4	<1.0	<1.0
Cation Sum	me/L		-	-	-	0.67	0.62	0.75	0.53	0.62	0.63	0.62	0.53	0.56	0.930	4.58	4.5	3.58	2.24	1.93	2.01	2.09	1.98	2	2.02	1.89	1.6	1.57	1.6	1.63	1.62	1.58	1.57	1.55	1.58	1.56
Hardness (CaCO3)	mg/L		-	-	-	18	14	16	13	14	13	13	13	13	12	46	45	54	53	44	44	50	47	50	49	48	29	32	33	34	34	31	33	33	34	34
Ion Balance (% Difference)	%		-	-	-	4.96	3.88	4.46	7.83	6.06	3.82	3.88	6.19	7.44	5.10	5.08	5.66	5.54	4.07	3.98	4.29	3.46	5.04	5.66	4.94	4.55	5.88	4.85	5.33	3.83	4.42	3.95	5.14	5.78	5.39	3.11
Langelier Index (@ 20C)	N/A		-	-	-	-2.64	-2.58	-2.47	-3.03	-2.6	-2.73	-2.69	-2.99	-2.63	-2.30	-0.123	-0.047	-0.106	-0.112	-0.419	-0.402	-0.353	-0.076	-0.325	-0.306	-0.161	-0.227	-0.406	-0.579	-0.465	-0.592	-0.271	-0.278	-0.174	-0.648	-0.414
Langelier Index (@ 4C)	N/A		-	-	-	-2.89	-2.83	-2.73	-3.29	-2.85	-2.98	-2.95	-3.24	-2.89	-2.56	-0.371	-0.297	-0.356	-0.363	-0.669	-0.653	-0.603	-0.327	-0.576	-0.557	-0.411	-0.478	-0.657	-0.83	-0.716	-0.843	-0.522	-0.53	-0.425	-0.899	-0.666
Nitrate (N)	mg/L		-	10	-	0.11	0.084	0.1	0.13	<0.050	0.12	0.11	0.1	0.1	0.16	<0.050	<0.050	ND	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.052	ND	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Saturation pH (@ 20C)	N/A		-	-	-	9.19	9.31	9.17	9.38	9.33	9.38	9.38	9.43	9.45	9.18	8.29	8.29	8.2	8.22	8.25	8.22	8.2	8.19	8.17	8.17	8.20	8.52	8.48	8.47	8.46	8.46	8.49	8.47	8.49	8.48	8.50
Saturation pH (@ 4C)	N/A		-	-	-	9.44	9.57	9.42	9.64	9.58	9.63	9.63	9.68	9.71	9.43	8.54	8.54	8.45	8.47	8.5	8.47	8.45	8.44	8.42	8.42	8.45	8.77	8.73	8.72	8.72	8.71	8.74	8.72	8.74	8.73	8.75
Inorganics																																			
Total Alkalinity (Total as CaCO3)	mg/L		-	-	-	27	25	31	22	24	24	24	20	20	41	92	95	95	85	90	94	90	93	92	92	89	74	72	73	72	73	71	71	72	70	67
Total Chemical Oxygen Deman	mg/L		-	-	-	--	--	--	--	--	--	--	--	--	<20	--	--	--	--	--	--	--	--	--	--	<20	--	--	--	--	--	--	--	--	--	<20
Dissolved Chloride (Cl)	mg/L	250	1500	-	250	3.6	3.2	3.7	3.8	3.7	3.7	3.3	3.9	5.6	3.7	13	13	8.5	5	4	2.7	4.2	3.1	3.9	3.7	3.5	3.9	3	3.9	3.6	3.9	2.6	3.6	2.9	4	3.1
Colour	TCU		-	-	15	<5.0	ND	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.7	ND	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.1	<5.0
Nitrate + Nitrite (N)	mg/L		-	-	-	0.11	0.084	0.1	0.13	<0.050	0.12	0.11	0.1	0.1	0.16	<0.050	<0.050	ND	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.052	ND	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Nitrite (N)	mg/L		-	1	-	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Nitrogen (Ammonia Nitrogen)	mg/L		-	-	-	<0.050	ND	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	ND	<0.050	<0.050	<0.050	<0.050	0.089	<0.050	0.21	<0.050	<0.050	ND	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dissolved Organic Carbon (C)	mg/L		-	-	-	--	--	--	--	--	--	--	--	--	<0.5	--	--	--	--	--	--	--	--	--	--	0.7	--	--	--	--	--	--	--	--	--	<0.5
Total Organic Carbon (C)	mg/L		-	-	-	0.62	ND	<5.0 (1)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.40	<5.0 (1)	14	14	6.6	1.3	<5.0 (1)	1.3	1.6	1.3	0.78	0.88	<5.0 (1)	1.5	0.53	0.61	<0.50	2.1	<0.50	<0.50	<0.50	0.48	<0.50
Orthophosphate (P)	mg/L		-	-	-	0.012	0.018	0.014	<0.010	0.013	0.015	0.016	<0.010	0.015	0.027	<0.010	<0.010	ND	<0.010	<0.010	0.014	<0.010	0.014	0.013	0.011	<0.010	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.01	<0.010
pH	pH		-	-	7.0:10.5	6.56	6.74	6.7	6.35	6.73	6.65	6.68	6.44	6.82	6.88	8.17	8.24	8.09	8.11	7.83	7.82	7.85	8.12	7.84	7.87	8.04	8.29	8.08	7.89	8	7.87	8.22	8.19	8.31	7.83	8.08
Dissolved Phosphorous (P)	mg/L		-	-	-	--	--	--	--	--	--	--	--	--	<0.020	--	--	--	--	--	--	--	--	--	--	<0.020	--	--	--	--	--	--	--	--	--	<0.020
Total Phosphorus (P)	mg/L		-	-	-	--	--	--	--	--	--	--	--	--	0.088	--	--	--	--	--	--	--	--	--	--	0.020	--	--	--	--	--	--	--	--	--	<0.020
Reactive Silica (SiO2)	mg/L		-	-	-	14	17	15	14	14	15	15	14	16	20	8.9	9	9.5	11	9.9	8.7	9.7	7.8	8.9	8.5	8.4	10	11	11	11	10	11	10	11	11	11
Total Suspended Solids	mg/L		-	-	-	--	--	--	--	--	--	--	--	--	76	--	--	--	--	--	--	--	--	--	--	4.4	--	--	--	--	--	--	--	--	--	3.0
Dissolved Sulphate (SO4)	mg/L		-	-	500	4.3	4	4.4	2.9	5.7	4.2	4.5	3.7	4.2	4.3	140	130	90	28	8.6	11	15	11	13	14	9.4	11	10	10	10	9.5	9.8	10	11	11	11
Turbidity	NTU		-	-	0.3	61	1.4	140	4.9	28	5.1	11	15	77	120	37	37	24	0.88	540	70	1.8	23	2.7	3.2	7.9	33	11	8.9	10	8.8	14	23	2.6	0.57	2.2
Conductivity	uS/cm		-	-	-	74	68	78	56	65	67	65	59	63	100	540	540	400	220	180	200	200	200	200	210	190	170	160	160	160	160	150	160	160	160	160

Table 3.2: Groundwater Quality Data - MW-14
Beaver Dam Mine Project
Marinette, Nova Scotia

	Sample	Criteria				MW-14A										MW-14B										MW-14C									
	Sample Date	NSE PSS for GW and NSE Tier 1 EQS: Potable Groundwater	NSE PSS for GW: Groundwater Discharge to Surface Water (>10 m)	GCDWQ; MAC	GCDWQ; AO	27-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	2-Oct-19	2-Oct-19 Field DUP3	30-Apr-20	30-Jul-20	5-Nov-20	27-Jun-18	27-Jun-18 Field DUP 5	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	30-Jul-20 Field DUP4	5-Nov-20	27-Jun-18	12-Sep-18	29-Nov-18	29-Nov-18 Field DUP2	4-Apr-19	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20
Metals																																			
Dissolved Aluminum (Al)	ug/L	100	-	-	100	<5.0	ND	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	9.8	<5.0	<5.0	7.4	5.6	6.3	5.3	8.8	8	<5.0	<5.0	<5.0	6.5	ND	5.6	12	27	5.4	10	11	<5.0	<5.0
Total Aluminum (Al)	ug/L	-	50	-	100	--	--	--	--	3200	540	770	490	2300	3800	--	--	--	--	--	4000	170	670	98	180	380	--	--	--	--	--	2000	1800	200	19	92
Dissolved Antimony (Sb)	ug/L	6	-	6	-	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.6	1.6	1.3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Antimony (Sb)	ug/L	-	200	6	-	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Arsenic (As)	ug/L	10	-	10	-	4.9	5.4	4.8	1.3	2.4	3.7	3.7	2.4	3.9	7.9	7.7	7.6	11	9	4.7	5.8	7.8	6.9	5.9	6	4.4	1.6	1.5	1.4	1.4	1.4	1.4	1.4	1.3	1.4	1.3
Total Arsenic (As)	ug/L	-	50	10	-	--	--	--	--	52	11	13	7.9	35	48	--	--	--	--	--	10	8.2	8	6.3	6.4	5.8	--	--	--	--	--	1.7	1.6	1.3	1.4	1.4
Dissolved Barium (Ba)	ug/L	1000	-	2000	-	3.2	3.5	3	2.7	3.2	2.6	3	2.8	2.8	2.6	5.9	5.7	5.7	4.1	7.2	6.7	5.4	4.3	4.1	4	3.5	13	8.9	4.6	4.8	5	39	22	2.7	1.7	2.2
Total Barium (Ba)	ug/L	-	10000	2000	-	--	--	--	--	26	6.9	8.3	5.9	18	29	--	--	--	--	--	33	5.5	8.3	5	4.9	7.2	--	--	--	--	--	44	27	2.7	1.9	2.4
Dissolved Beryllium (Be)	ug/L	4	-	-	-	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Beryllium (Be)	ug/L	-	53	-	-	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Bismuth (Bi)	ug/L	-	-	-	-	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Bismuth (Bi)	ug/L	-	-	-	-	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Boron (B)	ug/L	5000	-	5000	-	<50	ND	<50	<50	<50	<50	<50	<50	<50	<50	84	78	78	77	<50	<50	<50	<50	<50	<50	<50	<50	120	120	130	110	120	110	120	110	120
Total Boron (B)	ug/L	-	12000	5000	-	--	--	--	--	<50	<50	<50	<50	<50	<50	--	--	--	--	--	<50	<50	<50	<50	<50	<50	--	--	--	--	--	120	130	110	110	110
Dissolved Cadmium (Cd)	ug/L	5	-	7	-	0.014	0.01	0.013	0.011	0.012	<0.010	0.01	0.011	0.013	0.011	<0.010	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Total Cadmium (Cd)	ug/L	-	0.1	7	-	--	--	--	--	0.018	0.013	0.016	0.015	0.017	0.02	--	--	--	--	--	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	--	--	--	--	--	<0.010	<0.010	0.014	<0.010	<0.010
Dissolved Calcium (Ca)	ug/L	-	-	-	-	4900	4000	4500	3700	4000	3600	3600	3700	3600	3400	15000	15000	17000	16000	14000	15000	16000	16000	17000	17000	16000	9300	10000	10000	11000	11000	10000	11000	10000	11000	11000
Total Calcium (Ca)	ug/L	-	-	-	-	--	--	--	--	4400	3600	3800	3700	3800	3600	--	--	--	--	--	16000	16000	16000	17000	17000	16000	--	--	--	--	--	11000	11000	9900	11000	10000
Dissolved Chromium (Cr)	ug/L	50	-	50	-	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	1.1	<1.0	<1.0	<1.0	<1.0	<1.0
Total Chromium (Cr)	ug/L	-	-	50	-	--	--	--	--	5.3	<1.0	1.3	<1.0	3	4	--	--	--	--	--	5	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	--	1.4	<1.0	<1.0	<1.0	<1.0
Dissolved Cobalt (Co)	ug/L	10	-	-	-	1.6	0.82	0.71	1	0.79	<0.40	0.41	0.95	0.51	0.44	<0.40	<0.40	ND	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	ND	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Total Cobalt (Co)	ug/L	-	100	-	-	--	--	--	--	2.7	0.78	1	1.3	2	2.2	--	--	--	--	--	1.5	<0.40	0.4	<0.40	<0.40	<0.40	--	--	--	--	--	<0.40	<0.40	<0.40	<0.40	<0.40
Dissolved Copper (Cu)	ug/L	1000	-	2000	1000	<2.0	2.1	<2.0	1.7	1.3	1.2	1.3	1.5	1.3	5.9	<2.0	<2.0	ND	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	ND	<2.0	<2.0	0.86	<0.50	<0.50	<0.50	<0.50	<0.50
Total Copper (Cu)	ug/L	-	20	2000	1000	--	--	--	--	11	3.3	4.4	3.1	8.5	19	--	--	--	--	--	4.8	<0.50	1.3	1.1	0.57	0.75	--	--	--	--	--	0.62	0.89	<0.50	<0.50	0.66
Dissolved Iron (Fe)	ug/L	300	-	-	300	<50	ND	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	ND	<50	<50	<50	<50	<50	<50	<50	<50	<50	ND	<50	<50	<50	<50	<50	<50	<50	<50
Total Iron (Fe)	ug/L	-	3000	-	300	--	--	--	--	5600	960	1200	680	3900	4600	--	--	--	--	--	3500	110	970	280	320	710	--	--	--	--	--	630	560	100	70	110
Dissolved Lead (Pb)	ug/L	10	-	5	-	<0.50	ND	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	ND	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	ND	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total Lead (Pb)	ug/L	-	10	5	-	--	--	--	--	3.7	0.51	0.66	<0.50	2.1	3	--	--	--	--	--	2.1	<0.50	0.51	<0.50	<0.50	0.57	--	--	--	--	--	0.94	1	<0.50	<0.50	<0.50
Dissolved Magnesium (Mg)	ug/L	-	-	-	-	1300	1000	1100	900	990	920	900	950	960	860	2200	2100	2700	2900	2000	1700	2500	2000	1900	1900	1900	1400	1700	1700	1800	1700	1500	1600	1700	1800	1800
Total Magnesium (Mg)	ug/L	-	-	-	-	--	--	--	--	2200	1100	1200	1100	1800	1800	--	--	--	--	--	2700	2600	2200	1900	1900	2000	--	--	--	--	--	2000	2100	1700	1800	1800
Dissolved Manganese (Mn)	ug/L	50	-	120	20	190	130	200	180	110	50	50	72	47	36	11	11	24	18	160	200	78	150	210	210	250	<2.0	16	9.8	9.9	20	13	13	12	15	13
Total Manganese (Mn)	ug/L	-	8200	120	20	--	--	--	--	200	80	91	87	120	110	--	--	--	--	--	300	84	170	210	220	260	--	--	--	--	--	19	20	13	18	18
Dissolved Molybdenum (Mo)	ug/L	70	-	-	-	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	15	15	12	8.9	8.4	13	12	11	17	17	13	<2.0	ND	<2.0	4.9	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Molybdenum (Mo)	ug/L	-	730	-	-	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	--	15	12	11	17	17	13	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Nickel (Ni)	ug/L	100	-	-	-	4.2	4.8	3.5	3.5	4.4	3.6	3.9	5.3	4.8	4.7	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	3.9	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Nickel (Ni)	ug/L	-	250	-	-	--	--	--	--	9	4.9	5.4	5.9	8.5	9.7	--	--	--	--	--	3.6	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Phosphorus (P)	ug/L	-	-	-	-	<100	ND	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	ND	<100	<100	<100	<100	<100	<100	<100	<100	<100	ND	<100	<100	<100	<100	<100	<100	<100	<100
Total Phosphorus (P)	ug/L	-	-	-	-	--	--	--	--	140	<100	<100	<100	130	130	--	--	--	--	--	<100	<100	<100	<100	<100	<100	--	--	--	--	--	<100	<100	<100	<100	<100
Dissolved Potassium (K)	ug/L	-	-	-	-	1300	1300	1200	880	980	1000	1100	770	960	900	1400	1400	1300	920	1400	1400	1100	1300	1600	1500	1400	660	630	560	570	630	610	610	530	580	550
Total Potassium (K)	ug/L	-	-	-	-	--	--	--	--	1800	1100	1200	920	1400	1700	--	--	--	--	--	2400	1200	1400	1500	1500	1600	--	--	--	--	--	820	800	550	600	530
Dissolved Selenium (Se)	ug/L	10	-	50	-	<1.0	ND	<1.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50
Total Selenium (Se)	ug/L	-	10	50	-	--	--	--	--	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--	<1.0	<0.50	<0.50	<0.50	<0.50
Dissolved Silver (Ag)	ug/L	100	-	-	-	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Silver (Ag)	ug/L	-	1	-	-	--	--	--	--	0.11	<0.10	<0.10	<0.10	<0.10	<0.10	--	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	--	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10
Dissolved Sodium (Na)	ug/L	200000	-	-	200000	6700	6900	9300	5700	7100	8000	7800	5600	6400	15000	83000	82000	57000	27000	23000	25000	24000	23000	22000	23000	20000	23000	21000	21000	22000	21000	22000	20000	20000	20000	20000
Total Sodium (Na)	ug/L	-	-	-	200000	--	--	--	--	7400	7800	8000	5700	6300	16000	--	--	--	--	--	27000	25000	23000	22000	23000	21000	--	--	--	--	--	22000	21000	20000	20000	19000
Dissolved Strontium (Sr)	ug/L	4400	-	7000	-	38	30	33	29	32	29	29	29	30	28	330	330	350	350	100	78	230	130	74	74	76	270	260	250	240	240	350	310	250	250	250
Total Strontium (Sr)	ug/L	-	210000	7000	-	--	--	--	--	38	29	30	31	33	34	--	--	--	--	--	90	230	130	76	75	75	--	--	--	--	--	370	320	240	250	240
Dissolved Thallium (Tl)	ug/L	2	-	-	-	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Thallium (Tl)	ug/L	-	8	-	-	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	--	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	--	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10
Dissolved Tin (Sn)	ug/L	4400	-	-	-	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Tin (Sn)	ug/L	-	-	-	-	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	6.2	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	--	<2.0	3.1	<2.0	<2.0	3.1
Dissolved Titanium (Ti)	ug/L	-	-	-	-	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Titanium (Ti)	ug/L	-	-	-	-	--	--	--	--	130	22	30	17	83	120	--	--	--	--	--	110	4.8	25	4.8	6	<20 (1)	--	--	--	--	--	45	36	4	<2.0	2.5
Dissolved Uranium (U)	ug/L	20	-	20	-	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	4.7	4.7	3.4	2	0.75	0.55	1	0.65	0.6	0.58	0.44	0.53	0.26	0.23	0.23	0.26	0.43	0.26	0.15	0.14	0.15
Total Uranium (U)	ug/L	-	3000	20	-	--	--	--	--	0.32	<0.10	<0.10	<0.10	0.23	0.28	--	--	--	--	--	0.78	1	0.65	0.66	0.64	0.47	--	--	--	--	--	0.64	0.53	0.17	0.14	0.13
Dissolved Vanadium (V)	ug/L	6.2	-	-	-	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Vanadium (V)	ug/L	-	60	-	-	--	--	--	--	4.6	<2.0	<2.0	<2.0	3.2	5	--	--	--	--	--	4.9	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Zinc (Zn)	ug/L	5000	-	-	5000	8.1	9.3	6.9	6.9	6.9	6.3	5.9	9.1	8.5	10	<5.0	<5.0	ND	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Zinc (Zn)	ug/L	-	300	-	5000	--	--	--	--	18	6.9	8.9	8.4	15	20	--	--	--	--	--	8.9	<5.0	<5.0	<5.0	<5.0	<5.0	--	--	--	--	--	<5.0	<5.0	<5.0	<5.0	<5.0
Dissolved Mercury (Hg)	ug/L	1	-	1	-	--	--	--	--	--	--	--	--	--	<0.013	--	--	--	--	--	--	--	--	--	--	<0.013	--	--	--	--	--	--	--	--	--	<0.013
Total Mercury (Hg)	ug/L	-	0.26	1	-	--	--	--	--	--	--	--	--	--	<0.013	--	--	--	--	--	--	--	--	--	--	<0.013	--	--	--	--	--	--	--	--	--	<0.013

Table 3.2: Groundwater Quality Data - MW-16
Beaver Dam Mine Project
Marinette, Nova Scotia

Sample		Criteria				MW-16A										MW-16B									
Sample Date		NSE PSS for GW and NSE Tier 1 EQS: Potable Groundwater	NSE PSS for GW: Groundwater Discharge to Surface Water (>10 m)	GCDWQ; MAC	GCDWQ; AO	18-Jun-18	12-Sep-18	29-Nov-18	29-Nov-18 Field DUP1	4-Apr-19	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20	18-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	2-Oct-19	2-Oct-19 Field DUP5	30-Apr	30-Jul-20	5-Nov-20
Calculated Parameters	Units																								
Anion Sum	me/L		-	-	-	1.8	1.38	1.02	1.03	1.46	2.18	1.61	0.9	1.3	1.60	1.43	1.41	1.44	1.42	1.38	1.55	1.4	1.43	1.42	1.44
Bicarb. Alkalinity (calc. as CaCO3)	mg/L		-	-	-	79	60	43	42	64	62	70	39	54	71	59	59	59	59	59	66	59	60	58	58
Calculated TDS	mg/L		-	-	500	100	78	62	64	83	120	91	53	75	91	84	82	84	83	80	87	81	82	83	84
Carb. Alkalinity (calc. as CaCO3)	mg/L		-	-	-	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Cation Sum	me/L		-	-	-	1.72	1.25	1	1.08	1.28	1.5	1.46	0.81	1.18	1.48	1.34	1.3	1.34	1.31	1.3	1.33	1.32	1.28	1.31	1.30
Hardness (CaCO3)	mg/L		-	-	-	66	46	21	23	3	38	50	26	43	60	55	54	55	54	54	55	54	52	53	54
Ion Balance (% Difference)	%		-	-	-	2.27	4.94	0.99	2.37	6.57	18.5	4.89	5.26	4.84	3.90	3.25	4.06	3.6	4.03	2.99	7.64	2.94	5.54	4.03	5.11
Langelier Index (@ 20C)	N/A		-	-	-	-0.291	-1.07	-1.89	-1.92	-2.59	-1.01	-0.926	-2	-1.18	-0.829	-0.51	-0.249	-0.488	-0.595	-0.465	-0.317	-0.406	-0.271	-0.504	-0.291
Langelier Index (@ 4C)	N/A		-	-	-	-0.542	-1.33	-2.14	-2.17	-2.84	-1.26	-1.18	-2.26	-1.43	-1.08	-0.761	-0.501	-0.74	-0.846	-0.717	-0.568	-0.658	-0.522	-0.756	-0.542
Nitrate (N)	mg/L		-	10	-	0.092	ND	0.075	0.054	0.094	<0.050	0.072	<0.050	<0.050	0.12	0.14	0.13	0.16	0.2	0.12	0.16	0.14	0.15	0.14	0.85
Saturation pH (@ 20C)	N/A		-	-	-	8.08	8.34	8.83	8.79	9.52	8.44	8.24	8.77	8.41	8.15	8.27	8.27	8.26	8.27	8.27	8.22	8.27	8.27	8.29	8.27
Saturation pH (@ 4C)	N/A		-	-	-	8.33	8.59	9.08	9.05	9.77	8.7	8.49	9.02	8.66	8.40	8.52	8.52	8.52	8.52	8.53	8.47	8.52	8.53	8.54	8.52
Inorganics																									
Total Alkalinity (Total as CaCO3)	mg/L		-	-	-	79	60	43	42	64	63	70	39	54	71	59	60	60	59	59	66	59	61	58	59
Total Chemical Oxygen Demand	mg/L		-	-	-	--	--	--	--	--	--	--	--	--	<20	--	--	--	--	--	--	--	--	--	<20
Dissolved Chloride (Cl)	mg/L	250	1500	-	250	4	3.2	3.4	3.9	3.6	6.5	3.3	2	3.8	3.0	4.1	3.3	4	4	2.6	3.5	3.1	2.8	4.1	3.0
Colour	TCU		-	-	15	<5.0	ND	<5.0	<5.0	<5.0	250	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Nitrate + Nitrite (N)	mg/L		-	-	-	0.092	ND	0.075	0.054	0.094	<0.050	0.072	<0.050	<0.050	0.12	0.14	0.13	0.16	0.2	0.12	0.16	0.14	0.15	0.14	0.85
Nitrite (N)	mg/L		-	1	-	<0.010	ND	<0.010	<0.010	<0.010	0.034	<0.010	<0.010	<0.010	<0.010	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Nitrogen (Ammonia Nitrogen)	mg/L		-	-	-	<0.050	ND	0.075	0.065	0.11	0.1	<0.050	<0.050	<0.050	<0.050	<0.050	ND	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dissolved Organic Carbon (C)	mg/L		-	-	-	--	--	--	--	--	--	--	--	--	2.0	--	--	--	--	--	--	--	--	--	<0.5
Total Organic Carbon (C)	mg/L		-	-	-	0.6	1.5	2.3	<5.0 (1)	<5.0 (1)	1.2	1.3	1.2	1.3	<0.50	<0.50	ND	<0.50	0.65	<0.50	<0.50	0.56	<0.50	0.41	<5.0 (1)
Orthophosphate (P)	mg/L		-	-	-	<0.010	ND	<0.010	<0.010	<0.010	0.033	<0.010	<0.010	<0.010	<0.010	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
pH	pH		-	-	7.0:10.5	7.79	7.27	6.94	6.88	6.92	7.43	7.31	6.77	7.23	7.32	7.76	8.02	7.77	7.68	7.81	7.9	7.87	8	7.79	7.98
Dissolved Phosphorous (P)	mg/L		-	-	-	--	--	--	--	--	--	--	--	--	0.020	--	--	--	--	--	--	--	--	--	<0.020
Total Phosphorus (P)	mg/L		-	-	-	--	--	--	--	--	--	--	--	--	<0.020	--	--	--	--	--	--	--	--	--	<0.020
Reactive Silica (SiO2)	mg/L		-	-	-	11	9.1	7.9	8	7.9	10	10	6.8	8.9	10	10	10	10	10	10	9.7	9.5	9.9	10	9.7
Total Suspended Solids	mg/L		-	-	-	--	--	--	--	--	--	--	--	--	40	--	--	--	--	--	--	--	--	--	1.8
Dissolved Sulphate (SO4)	mg/L		-	-	500	4.5	3.8	3.1	3.1	3.4	36	4.9	3.5	5.1	4.5	6	5.4	5.8	5.3	5.4	5.9	5.9	5.9	6.5	5.7
Turbidity	NTU		-	-	0.3	3	14	70	69	220	190	14	58	14	12	0.68	0.35	2.7	1.4	0.93	6.3	7.2	4.3	0.98	1.2
Conductivity	uS/cm		-	-	-	160	130	96	95	130	140	140	85	120	150	130	130	130	130	120	130	130	130	140	130

Table 3.2: Groundwater Quality Data - MW-16
Beaver Dam Mine Project
Marinette, Nova Scotia

Sample		Criteria				MW-16A										MW-16B									
Sample Date		NSE PSS for GW and NSE Tier 1 EQS: Potable Groundwater	NSE PSS for GW: Groundwater Discharge to Surface Water (>10 m)	GCDWQ; MAC	GCDWQ; AO	18-Jun-18	12-Sep-18	29-Nov-18	29-Nov-18 Field DUP1	4-Apr-19	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20	18-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	2-Oct-19	2-Oct-19 Field DUP5	30-Apr	30-Jul-20	5-Nov-20
Metals																									
Dissolved Aluminum (Al)	ug/L	100	-	-	100	<5.0	5.2	9.2	7.6	61	830	5.9	9.5	8.2	<5.0	11	8.8	10	11	11	20	22	9.7	11	6.7
Total Aluminum (Al)	ug/L	-	50	-	100	--	--	--	--	--	20000	600	1300	670	530	--	--	--	--	34	740	600	170	76	73
Dissolved Antimony (Sb)	ug/L	6	-	6	-	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Antimony (Sb)	ug/L	-	200	6	-	--	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Arsenic (As)	ug/L	10	-	10	-	1.5	1.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.5	8.6	9.6	9.7	9.6	9.9	9	9.3	9.9	9.6	10
Total Arsenic (As)	ug/L	-	50	10	-	--	--	--	--	--	3.1	1.4	1	1.6	1.9	--	--	--	--	10	10	9.9	10	9.1	**11**
Dissolved Barium (Ba)	ug/L	1000	-	2000	-	3.5	5.2	2.8	3.1	1.2	5.1	3.6	2.4	3.5	4.1	4.6	2.2	3.5	2.9	2.5	3.3	3.1	2.9	4	2
Total Barium (Ba)	ug/L	-	10000	2000	-	--	--	--	--	--	92	32	29	22	9.6	--	--	--	--	2.8	7.6	6.8	3.6	4.1	2.6
Dissolved Beryllium (Be)	ug/L	4	-	-	-	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Beryllium (Be)	ug/L	-	53	-	-	--	--	--	--	--	1.5	<1.0	<1.0	<1.0	<1.0	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Bismuth (Bi)	ug/L	-	-	-	-	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Bismuth (Bi)	ug/L	-	-	-	-	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Boron (B)	ug/L	5000	-	5000	-	<50	ND	<50	<50	<50	<50	<50	<50	<50	<50	<50	ND	<50	<50	<50	<50	<50	<50	<50	<50
Total Boron (B)	ug/L	-	12000	5000	-	--	--	--	--	--	51	<50	<50	<50	<50	--	--	--	--	<50	<50	<50	<50	<50	<50
Dissolved Cadmium (Cd)	ug/L	5	-	7	-	0.021	0.026	0.031	0.034	0.015	0.049	0.02	0.041	0.03	0.013	<0.010	ND	<0.010	0.013	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Total Cadmium (Cd)	ug/L	-	0.1	7	-	--	--	--	--	--	0.15	0.029	0.058	0.032	0.013	--	--	--	--	<0.010	0.016	0.018	<0.010	0.01	<0.010
Dissolved Calcium (Ca)	ug/L	-	-	-	-	23000	16000	7200	7900	1000	13000	18000	9000	15000	22000	20000	19000	20000	19000	19000	20000	19000	19000	19000	20000
Total Calcium (Ca)	ug/L	-	-	-	-	--	--	--	--	--	26000	19000	10000	16000	25000	--	--	--	--	20000	20000	20000	19000	18000	20000
Dissolved Chromium (Cr)	ug/L	50	-	50	-	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	1.4	1.2	<1.0	<1.0	<1.0	<1.0	<1.0
Total Chromium (Cr)	ug/L	-	-	50	-	--	--	--	--	--	2.8	<1.0	<1.0	<1.0	<1.0	--	--	--	--	1.2	1.5	1.3	<1.0	<1.0	<1.0
Dissolved Cobalt (Co)	ug/L	10	-	-	-	2.1	1.3	0.91	1	<0.40	2.4	1.2	2.2	1.4	<0.40	<0.40	ND	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Total Cobalt (Co)	ug/L	-	100	-	-	--	--	--	--	--	6.8	1.4	3.4	1.9	<0.40	--	--	--	--	<0.40	0.52	<0.40	<0.40	<0.40	<0.40
Dissolved Copper (Cu)	ug/L	1000	-	2000	1000	<2.0	ND	<2.0	<2.0	1.6	0.98	0.95	1.2	1.4	1.6	<2.0	ND	<2.0	0.72	<0.50	0.6	0.59	<0.50	<0.50	<0.50
Total Copper (Cu)	ug/L	-	20	2000	1000	--	--	--	--	--	19	2.5	4.3	3.1	1.4	--	--	--	--	<0.50	3.7	3.3	1.1	1.2	<0.50
Dissolved Iron (Fe)	ug/L	300	-	-	300	<50	ND	<50	<50	52	270	<50	<50	<50	<50	<50	ND	<50	<50	<50	<50	<50	<50	<50	<50
Total Iron (Fe)	ug/L	-	3000	-	300	--	--	--	--	--	9900	730	1300	800	410	--	--	--	--	<50	910	730	130	52	78
Dissolved Lead (Pb)	ug/L	10	-	5	-	<0.50	ND	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	ND	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total Lead (Pb)	ug/L	-	10	5	-	--	--	--	--	--	**12**	1.4	2.5	1.2	0.8	--	--	--	--	<0.50	1.2	1	<0.50	<0.50	<0.50
Dissolved Magnesium (Mg)	ug/L	-	-	-	-	1900	1300	720	760	110	1200	1300	820	1200	1500	1400	1300	1300	1300	1300	1300	1200	1200	1200	1200
Total Magnesium (Mg)	ug/L	-	-	-	-	--	--	--	--	--	5800	1500	1200	1400	1700	--	--	--	--	1300	1600	1500	1300	1200	1300
Dissolved Manganese (Mn)	ug/L	50	-	120	20	**690**	**450**	**330**	**340**	84	**760**	**370**	**840**	**540**	**190**	6.3	2	3.5	2.2	<2.0	4.1	4.2	<2.0	5.8	<2.0
Total Manganese (Mn)	ug/L	-	8200	120	20	--	--	--	--	--	**1600**	**380**	**1100**	**580**	86	--	--	--	--	<2.0	28	25	4.3	3.7	4.4
Dissolved Molybdenum (Mo)	ug/L	70	-	-	-	<2.0	ND	<2.0	<2.0	2.3	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Molybdenum (Mo)	ug/L	-	730	-	-	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Nickel (Ni)	ug/L	100	-	-	-	<2.0	ND	3.7	3.7	<2.0	3.5	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Nickel (Ni)	ug/L	-	250	-	-	--	--	--	--	--	9.9	<2.0	2.6	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Phosphorus (P)	ug/L	-	-	-	-	<100	ND	<100	<100	<100	<100	<100	<100	<100	<100	<100	ND	<100	<100	<100	<100	<100	<100	<100	<100
Total Phosphorus (P)	ug/L	-	-	-	-	--	--	--	--	--	160	<100	<100	<100	<100	--	--	--	--	<100	<100	<100	<100	<100	<100
Dissolved Potassium (K)	ug/L	-	-	-	-	550	1200	600	640	580	730	1200	400	1100	1500	1700	1300	1400	1300	1300	1400	1300	1200	1300	1200
Total Potassium (K)	ug/L	-	-	-	-	--	--	--	--	--	1800	1600	690	1300	1500	--	--	--	--	1300	1500	1400	1200	1300	1300
Dissolved Selenium (Se)	ug/L	10	-	50	-	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	ND	<1.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50
Total Selenium (Se)	ug/L	-	10	50	-	--	--	--	--	--	<1.0	<0.50	<0.50	<0.50	<0.50	--	--	--	--	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Silver (Ag)	ug/L	100	-	-	-	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Silver (Ag)	ug/L	-	1	-	-	--	--	--	--	--	1	0.18	0.24	0.21	0.14	--	--	--	--	<0.10	0.37	0.28	<0.10	<0.10	<0.10
Dissolved Sodium (Na)	ug/L	200000	-	-	200000	8700	7000	13000	14000	27000	16000	9900	6500	6600	5400	4600	4300	4800	4700	4500	4700	4700	4700	5200	4300
Total Sodium (Na)	ug/L	-	-	-	200000	--	--	--	--	--	18000	9800	6700	6500	5100	--	--	--	--	4500	5000	4700	4600	5100	4600
Dissolved Strontium (Sr)	ug/L	4400	-	7000	-	77	61	33	35	5.7	55	61	34	54	81	74	71	71	71	73	71	72	75	73	73
Total Strontium (Sr)	ug/L	-	210000	7000	-	--	--	--	--	--	140	73	47	65	94	--	--	--	--	73	77	72	74	70	72
Dissolved Thallium (Tl)	ug/L	2	-	-	-	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Thallium (Tl)	ug/L	-	8	-	-	--	--	--	--	--	0.11	<0.10	<0.10	<0.10	<0.10	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dissolved Tin (Sn)	ug/L	4400	-	-	-	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	3	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Tin (Sn)	ug/L	-	-	-	-	--	--	--	--	--	4.7	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Titanium (Ti)	ug/L	-	-	-	-	<2.0	ND	<2.0	<2.0	<2.0	8.1	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Titanium (Ti)	ug/L	-	-	-	-	--	--	--	--	--	260	24	33	23	12	--	--	--	--	<2.0	50	39	<20 (1)	3.8	3.4
Dissolved Uranium (U)	ug/L	20	-	20	-	2.4	0.55	0.23	0.23	0.33	1	1	0.24	0.53	0.98	2.6	2.3	2.4	2.4	2.3	2.3	2.4	2.4	2.4	2.3
Total Uranium (U)	ug/L	-	3000	20	-	--	--	--	--	--	10	1.4	1.7	1.2	1.6	--	--	--	--	2.3	2.4	2.3	2.4	2.4	2.4
Dissolved Vanadium (V)	ug/L	6.2	-	-	-	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Vanadium (V)	ug/L	-	60	-	-	--	--	--	--	--	4.2	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	3.4	3.3	<2.0	<2.0	<2.0
Dissolved Zinc (Zn)	ug/L	5000	-	-	5000	<5.0	5.5	5.9	5.2	<5.0	<5.0	<5.0	<5.0	5.8	6.3	<5.0	ND	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Zinc (Zn)	ug/L	-	300	-	5000	--	--	--	--	--	24	<5.0	5.9	<5.0	<5.0	--	--	--	--	<5.0	6	6.3	<5.0	<5.0	<5.0
Dissolved Mercury (Hg)	ug/L	1	-	1	-	--	--	--	--	--	--	--	--	--	<0.013	--	--	--	--	--	--	--	--	--	<0.013
Total Mercury (Hg)	ug/L	-	0.26	1	-	--	--	--	--	--	--	--	--	--	<0.013	--	--	--	--	--	--	--	--	--	<0.013

Table 3.2: Groundwater Quality Data - MW-17
Beaver Dam Mine Project
Marinette, Nova Scotia

Sample		Criteria				MW-17A										MW-17B										MW-17C									
	Sample Date	NSE PSS for GW and NSE Tier 1 EQS: Potable Groundwater	NSE PSS for GW: Groundwater Discharge to Surface Water (>10 m)	GCDWQ; MAC	GCDWQ; AO	18-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	2-Oct-19	30-Apr-20	30-Apr-20 Field DUP4	30-Jul-20	5-Nov-20	18-Jun-18	18-Jun-18 Field DUP2	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20	18-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20
Calculated Parameters	**Units**																																		
Anion Sum	me/L		-	-	-	0.51	0.64	0.4	0.29	0.26	0.48	0.28	0.28	0.33	0.260	0.3	0.3	0.33	0.34	0.37	0.31	0.33	0.33	0.32	0.310	0.42	0.45	0.45	0.42	0.34	0.37	0.31	0.36	0.350
Bicarb. Alkalinity (calc. as CaCO3)	mg/L		-	-	-	15	23	11	6	7.6	12	8.4	8.4	6.1	6.0	8.3	7.4	9.3	8.3	8.1	6.6	7.4	9.6	7.4	8.6	14	15	14	11	9.4	10	8.4	9.8	10
Calculated TDS	mg/L		-	-	500	34	42	28	19	21	35	20	20	25	21	25	25	26	28	28	26	27	26	26	26	32	35	34	32	29	30	26	30	29
Carb. Alkalinity (calc. as CaCO3)	mg/L		-	-	-	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Cation Sum	me/L		-	-	-	0.47	0.54	0.35	0.21	0.29	0.44	0.22	0.23	0.26	0.220	0.26	0.26	0.25	0.29	0.29	0.29	0.29	0.27	0.26	0.270	0.39	0.4	0.41	0.36	0.35	0.33	0.3	0.31	0.330
Hardness (CaCO3)	mg/L		-	-	-	15	18	10	3.6	9	13	5.4	5.3	6.5	4.3	6.6	6.7	6.1	7.1	7.2	7.3	7.1	6.5	6.3	6.2	12	12	12	10	9.8	9.5	8	8.5	8.8
Ion Balance (% Difference)	%		-	-	-	4.08	8.47	6.67	16	5.45	4.35	12	9.8	11.9	8.33	7.14	7.14	13.8	7.94	12.1	3.33	6.45	10	10.3	6.90	3.7	5.88	4.65	7.69	1.45	5.71	1.64	7.46	2.94
Langelier Index (@ 20C)	N/A		-	-	-	-3.14	-2.47	-3.58	-5.14	-3.57	-2.93	-4.25	-4.35	-3.93	-4.51	-4.06	-4.08	-3.8	-3.88	-4.05	-3.78	-3.59	-4	-3.81	-4.09	-3.07	-2.93	-3.13	-3.57	-3.24	-3.28	-3.78	-3.21	-3.67
Langelier Index (@ 4C)	N/A		-	-	-	-3.4	-2.72	-3.83	-5.4	-3.82	-3.18	-4.5	-4.6	-4.18	-4.76	-4.31	-4.33	-4.06	-4.14	-4.3	-4.04	-3.84	-4.25	-4.06	-4.34	-3.33	-3.18	-3.38	-3.82	-3.49	-3.53	-4.03	-3.47	-3.93
Nitrate (N)	mg/L		-	10	-	<0.050	ND	<0.050	<0.050	0.12	0.055	<0.050	<0.050	<0.050	0.070	<0.050	<0.050	ND	<0.050	0.059	<0.050	0.051	<0.050	<0.050	<0.050	<0.050	ND	<0.050	<0.050	<0.050	0.051	0.055	<0.050	0.062
Saturation pH (@ 20C)	N/A		-	-	-	9.42	9.17	9.76	10.6	10	9.61	10.2	10.2	10.3	10.4	10.2	10.2	10.1	10.1	10.1	10.2	10.2	10.1	10.2	10.2	9.59	9.57	9.6	9.77	9.87	9.85	10	9.92	9.87
Saturation pH (@ 4C)	N/A		-	-	-	9.67	9.42	10	10.9	10.3	9.87	10.4	10.4	10.5	10.7	10.4	10.4	10.4	10.4	10.4	10.5	10.4	10.4	10.5	10.4	9.84	9.82	9.85	10	10.1	10.1	10.3	10.2	10.1
Inorganics																																			
Total Alkalinity (Total as CaCO3)	mg/L		-	-	-	15	23	11	6	7.7	12	8.4	8.4	6.1	6.0	8.3	7.4	9.3	8.3	8.1	6.6	7.4	9.6	7.4	8.6	14	15	14	11	9.4	10	8.4	9.8	10
Total Chemical Oxygen Demand	mg/L		-	-	-	--	--	--	--	--	--	--	--	--	<20	--	--	--	--	--	--	--	--	--	<20	--	--	--	--	--	--	--	--	<20
Dissolved Chloride (Cl)	mg/L	250	1500	-	250	5.2	4.3	4.6	3.7	3.4	6	1.5	1.7	4.4	1.8	2.9	3.3	2.9	4.4	5.2	3.6	3.5	2.8	3.3	2.7	2.9	2.7	4	5.1	3.4	3.5	2.6	3.4	2.7
Colour	TCU		-	-	15	<5.0	ND	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.3	ND	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<5.0	<5.0	<5.0	5.7	<5.0	<5.0	<5.0
Nitrate + Nitrite (N)	mg/L		-	-	-	<0.050	ND	<0.050	<0.050	0.12	0.055	<0.050	<0.050	<0.050	0.070	<0.050	<0.050	ND	<0.050	0.059	<0.050	0.051	<0.050	<0.050	<0.050	<0.050	ND	<0.050	<0.050	<0.050	0.051	0.055	<0.050	0.062
Nitrite (N)	mg/L		-	1	-	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Nitrogen (Ammonia Nitrogen)	mg/L		-	-	-	<0.050	ND	<0.050	0.06	<0.050	<0.050	<0.050	0.17	<0.050	<0.050	<0.050	<0.050	ND	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	ND	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dissolved Organic Carbon (C)	mg/L		-	-	-	--	--	--	--	--	--	--	--	--	<0.5	--	--	--	--	--	--	--	--	--	<0.5	--	--	--	--	--	--	--	--	<0.5
Total Organic Carbon (C)	mg/L		-	-	-	0.59	ND	0.55	1	<0.50	<5.0 (1)	0.62	<0.50	0.41	<5.0 (1)	0.56	0.51	ND	0.63	<0.50	<0.50	1.1	<0.50	<0.40	<5.0 (1)	<0.50	ND	1.2	0.56	<0.50	1.2	<0.50	0.42	0.84
Orthophosphate (P)	mg/L		-	-	-	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.014	0.017	0.019	0.016	0.019	0.021	0.018	0.021	0.016	0.068	<0.010	0.016	<0.010	0.017	0.02	0.015	0.02	0.016	0.016
pH	pH		-	-	7.0:10.5	6.28	6.7	6.18	5.48	6.43	6.69	5.94	5.84	6.36	5.92	6.1	6.12	6.34	6.24	6.09	6.45	6.58	6.11	6.43	6.08	6.51	6.64	6.47	6.2	6.64	6.57	6.24	6.71	6.20
Dissolved Phosphorous (P)	mg/L		-	-	-	--	--	--	--	--	--	--	--	--	0.024	--	--	--	--	--	--	--	--	--	<0.020	--	--	--	--	--	--	--	--	<0.020
Total Phosphorus (P)	mg/L		-	-	-	--	--	--	--	--	--	--	--	--	<0.020	--	--	--	--	--	--	--	--	--	0.043	--	--	--	--	--	--	--	--	0.041
Reactive Silica (SiO2)	mg/L		-	-	-	6.9	9.7	6.2	3.8	6.1	9.2	5.4	5.5	7.9	6.1	8.6	9.1	9.5	10	9.3	8.7	9	8.9	9.4	9.7	10	11	11	10	9.6	9.6	9.5	10	10
Total Suspended Solids	mg/L		-	-	-	--	--	--	--	--	--	--	--	--	70	--	--	--	--	--	--	--	--	--	24	--	--	--	--	--	--	--	--	8.4
Dissolved Sulphate (SO4)	mg/L		-	-	500	2.6	2.9	2.8	3.3	<2.0	3.3	3.5	3.3	3.8	4.1	2.7	2.6	2.8	2.5	2.6	3.8	4	2.7	3.5	2.7	2.9	3.2	2.8	2.1	2.8	3.3	2.8	3.5	2.9
Turbidity	NTU		-	-	0.3	1.6	3.3	5.7	13	42	82	49	4.1	17	25	0.49	0.9	2.1	1.4	5.2	6.4	2.1	1.6	3.1	6.3	0.74	1	1.9	3.5	1.7	2.1	1.4	13	6.0
Conductivity	uS/cm		-	-	-	46	64	41	29	33	51	28	27	33	29	29	29	31	34	34	33	32	32	31	33	40	45	45	42	38	36	36	36	35

Table 3.2: Groundwater Quality Data - MW-17
Beaver Dam Mine Project
Marinette, Nova Scotia

	Sample	Criteria				MW-17A										MW-17B										MW-17C								
	Sample Date	NSE PSS for GW and NSE Tier 1 EQS: Potable Groundwater	NSE PSS for GW: Groundwater Discharge to Surface Water (>10 m)	GCDWQ; MAC	GCDWQ; AO	18-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	2-Oct-19	30-Apr-20	30-Apr-20 Field DUP4	30-Jul-20	5-Nov-20	18-Jun-18	18-Jun-18 Field DUP2	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20	18-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20
Metals																																		
Dissolved Aluminum (Al)	ug/L	100	-	-	100	6.4	ND	48	320	62	17	86	120	40	68	12	11	8.7	9.6	11	11	14	10	10	8	<5.0	ND	6.7	6.2	6.2	7.9	<5.0	<5.0	5.9
Total Aluminum (Al)	ug/L	-	50	-	100	--	--	--	--	1800	3200	2000	260	1300	1300	--	--	--	--	--	380	210	23	640	520	--	--	--	--	84	210	31	400	280
Dissolved Antimony (Sb)	ug/L	6	-	6	-	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Antimony (Sb)	ug/L	-	200	6	-	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Arsenic (As)	ug/L	10	-	10	-	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	1	<1.0	<1.0	<1.0	<1.0	1.1	1	1.2	2.6	2.3	2	2.1	2.2	1.9	2.5	2.8
Total Arsenic (As)	ug/L	-	50	10	-	--	--	--	--	5.3	**11**	4.5	<1.0	3.7	2.7	--	--	--	--	--	1.5	1.3	<1.0	2	1.8	--	--	--	--	2.6	2.7	1.9	4.5	4.3
Dissolved Barium (Ba)	ug/L	1000	-	2000	-	10	12	19	20	13	8.8	11	11	9.2	12	3	2.9	3.4	4.1	3.7	3.7	3.4	3.2	3.1	3.3	2.4	1.2	1.9	1.3	<1.0	1.2	1.3	<1.0	1.4
Total Barium (Ba)	ug/L	-	10000	2000	-	--	--	--	--	23	32	24	11	16	20	--	--	--	--	--	6.1	4.7	3.3	6.8	7.7	--	--	--	--	1.5	2.3	1.3	3.1	2.8
Dissolved Beryllium (Be)	ug/L	4	-	-	-	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Beryllium (Be)	ug/L	-	53	-	-	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Bismuth (Bi)	ug/L	-	-	-	-	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Bismuth (Bi)	ug/L	-	-	-	-	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Boron (B)	ug/L	5000	-	5000	-	<50	ND	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	ND	<50	<50	<50	<50	<50	<50	<50	<50	ND	<50	<50	<50	<50	<50	<50	<50
Total Boron (B)	ug/L	-	12000	5000	-	--	--	--	--	<50	<50	<50	<50	<50	<50	--	--	--	--	--	<50	<50	<50	<50	<50	--	--	--	--	<50	<50	<50	<50	<50
Dissolved Cadmium (Cd)	ug/L	5	-	7	-	0.039	0.046	0.062	0.046	0.054	0.038	0.041	0.037	0.042	0.039	0.033	0.037	0.018	0.021	0.02	0.02	0.013	0.018	0.017	0.013	<0.010	0.012	0.014	0.017	<0.010	0.01	0.012	0.011	0.018
Total Cadmium (Cd)	ug/L	-	0.1	7	-	--	--	--	--	0.058	0.059	0.043	0.034	0.042	0.042	--	--	--	--	--	0.021	0.018	0.012	0.015	0.022	--	--	--	--	0.013	0.014	0.019	<0.010	0.013
Dissolved Calcium (Ca)	ug/L	-	-	-	-	4900	5900	3100	760	2500	4000	1500	1500	1600	1200	1600	1600	1500	1800	1700	1700	1700	1600	1500	1500	3600	3500	3600	2900	2800	2700	2200	2400	2500
Total Calcium (Ca)	ug/L	-	-	-	-	--	--	--	--	2700	4200	1700	1500	1900	1400	--	--	--	--	--	1900	1800	1600	1600	1700	--	--	--	--	2800	2700	2100	2500	2500
Dissolved Chromium (Cr)	ug/L	50	-	50	-	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Chromium (Cr)	ug/L	-	-	50	-	--	--	--	--	3	3.6	2.4	<1.0	1.5	1.7	--	--	--	--	--	1.5	<1.0	<1.0	1.4	<1.0	--	--	--	--	1.2	<1.0	<1.0	<1.0	<1.0
Dissolved Cobalt (Co)	ug/L	10	-	-	-	3	4.3	2.2	1.3	0.66	0.81	0.42	0.41	0.51	0.63	<0.40	<0.40	ND	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	ND	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Total Cobalt (Co)	ug/L	-	100	-	-	--	--	--	--	1.8	2.6	1.4	0.54	1.2	1.1	--	--	--	--	--	<0.40	<0.40	<0.40	0.4	<0.40	--	--	--	--	<0.40	<0.40	<0.40	<0.40	<0.40
Dissolved Copper (Cu)	ug/L	1000	-	2000	1000	3.7	3.5	12	15	5.5	2.1	3.4	3.5	4.5	3.4	<2.0	<2.0	ND	<2.0	<0.50	<0.50	0.7	<0.50	<0.50	<0.50	<2.0	ND	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total Copper (Cu)	ug/L	-	20	2000	1000	--	--	--	--	14	17	11	3.9	8.7	8.6	--	--	--	--	--	1.3	1.5	<0.50	1.5	1.2	--	--	--	--	0.63	1.2	0.59	1.5	1
Dissolved Iron (Fe)	ug/L	300	-	-	300	<50	ND	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	ND	<50	<50	<50	<50	<50	<50	<50	<50	ND	<50	<50	<50	<50	<50	<50	<50
Total Iron (Fe)	ug/L	-	3000	-	300	--	--	--	--	2700	4400	2800	230	1800	1900	--	--	--	--	--	510	260	<50	850	480	--	--	--	--	110	290	<50	580	410
Dissolved Lead (Pb)	ug/L	10	-	5	-	<0.50	ND	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	ND	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	ND	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total Lead (Pb)	ug/L	-	10	5	-	--	--	--	--	1.5	2	1.2	<0.50	0.83	0.81	--	--	--	--	--	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Magnesium (Mg)	ug/L	-	-	-	-	790	860	580	410	670	780	420	410	610	330	630	630	570	650	700	730	660	640	610	580	670	690	710	680	720	640	600	620	620
Total Magnesium (Mg)	ug/L	-	-	-	-	--	--	--	--	1300	1700	1100	480	1000	830	--	--	--	--	--	850	700	660	860	770	--	--	--	--	680	700	590	740	720
Dissolved Manganese (Mn)	ug/L	50	-	120	20	240	340	210	99	84	81	46	46	36	51	200	200	7.2	6.6	4	4.2	6.9	3.2	3.2	3.8	20	11	9.6	5.5	5	8.6	3.4	3.4	8.2
Total Manganese (Mn)	ug/L	-	8200	120	20	--	--	--	--	120	160	97	48	78	76	--	--	--	--	--	23	15	4	30	27	--	--	--	--	7.7	15	4.9	19	14
Dissolved Molybdenum (Mo)	ug/L	70	-	-	-	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Molybdenum (Mo)	ug/L	-	730	-	-	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Nickel (Ni)	ug/L	100	-	-	-	8.5	11	15	9	3.4	5	2.6	2.4	3.2	3.5	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Nickel (Ni)	ug/L	-	250	-	-	--	--	--	--	6.2	11	4.9	2.6	5	4.7	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Phosphorus (P)	ug/L	-	-	-	-	<100	ND	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	ND	<100	<100	<100	<100	<100	<100	<100	<100	ND	<100	<100	<100	<100	<100	<100	<100
Total Phosphorus (P)	ug/L	-	-	-	-	--	--	--	--	<100	140	<100	<100	<100	<100	--	--	--	--	--	<100	<100	<100	120	<100	--	--	--	--	<100	<100	<100	<100	<100
Dissolved Potassium (K)	ug/L	-	-	-	-	670	740	540	350	420	510	310	320	350	430	410	410	430	430	380	390	460	360	380	400	440	410	440	400	380	410	360	360	470
Total Potassium (K)	ug/L	-	-	-	-	--	--	--	--	760	1000	650	330	600	660	--	--	--	--	--	470	480	350	550	580	--	--	--	--	390	480	350	500	520
Dissolved Selenium (Se)	ug/L	10	-	50	-	<1.0	ND	<1.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	ND	<1.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50
Total Selenium (Se)	ug/L	-	10	50	-	--	--	--	--	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--	<1.0	<0.50	<0.50	<0.50	<0.50	--	--	--	--	<1.0	<0.50	<0.50	<0.50	<0.50
Dissolved Silver (Ag)	ug/L	100	-	-	-	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.19	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Silver (Ag)	ug/L	-	1	-	-	--	--	--	--	0.65	0.58	0.51	<0.10	0.31	0.33	--	--	--	--	--	0.15	0.19	<0.10	0.31	0.55	--	--	--	--	0.13	0.32	<0.10	0.3	0.2
Dissolved Sodium (Na)	ug/L	200000	-	-	200000	3400	3700	3100	2800	2300	3600	2300	2300	2700	2800	2800	2700	2800	3200	3000	3100	3100	2900	2800	3200	3200	3600	3600	3400	3300	3100	3000	3100	3200
Total Sodium (Na)	ug/L	-	-	-	200000	--	--	--	--	2300	3600	2300	2100	2900	2600	--	--	--	--	--	3100	3100	3000	2800	3500	--	--	--	--	3200	3100	3000	3000	3300
Dissolved Strontium (Sr)	ug/L	4400	-	7000	-	32	29	26	15	30	29	19	19	22	18	19	18	19	21	23	23	21	21	20	19	18	21	20	19	20	19	18	18	19
Total Strontium (Sr)	ug/L	-	210000	7000	-	--	--	--	--	31	31	19	18	23	19	--	--	--	--	--	23	22	22	21	22	--	--	--	--	20	19	18	19	19
Dissolved Thallium (Tl)	ug/L	2	-	-	-	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Thallium (Tl)	ug/L	-	8	-	-	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	--	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10
Dissolved Tin (Sn)	ug/L	4400	-	-	-	<2.0	2.6	2.4	<2.0	2.2	<2.0	3.7	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	3.3	2.4	3.2	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Tin (Sn)	ug/L	-	-	-	-	--	--	--	--	<2.0	2	<2.0	<2.0	<2.0	<2.0	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	3.4	2.4	<2.0
Dissolved Titanium (Ti)	ug/L	-	-	-	-	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Titanium (Ti)	ug/L	-	-	-	-	--	--	--	--	62	110	62	5.3	37	42	--	--	--	--	--	20	8.3	<2.0	33	18	--	--	--	--	2.7	12	2.1	15	13
Dissolved Uranium (U)	ug/L	20	-	20	-	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Uranium (U)	ug/L	-	3000	20	-	--	--	--	--	0.14	0.24	0.15	<0.10	<0.10	0.1	--	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10
Dissolved Vanadium (V)	ug/L	6.2	-	-	-	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Vanadium (V)	ug/L	-	60	-	-	--	--	--	--	2.5	4.2	2.5	<2.0	<2.0	<2.0	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Zinc (Zn)	ug/L	5000	-	-	5000	12	18	24	16	14	9.6	7.6	7.4	9.2	14	<5.0	<5.0	ND	7.9	<5.0	<5.0	6.6	<5.0	<5.0	5.4	<5.0	ND	9.8	<5.0	<5.0	<5.0	<5.0	<5.0	8.3
Total Zinc (Zn)	ug/L	-	300	-	5000	--	--	--	--	21	22	13	5.8	10	10	--	--	--	--	--	<5.0	7.6	<5.0	<5.0	<5.0	--	--	--	--	<5.0	<5.0	<5.0	<5.0	<5.0
Dissolved Mercury (Hg)	ug/L	1	-	1	-	--	--	--	--	--	--	--	--	--	<0.013	--	--	--	--	--	--	--	--	--	<0.013	--	--	--	--	--	--	--	--	<0.013
Total Mercury (Hg)	ug/L	-	0.26	1	-	--	--	--	--	--	--	--	--	--	<0.013	--	--	--	--	--	--	--	--	--	<0.013	--	--	--	--	--	--	--	--	<0.013

Table 3.2: Groundwater Quality Data - MW-18
Beaver Dam Mine Project
Marinette, Nova Scotia

Sample		Criteria				MW-18A											MW-18B									MW-18C										
Sample Date		NSE PSS for GW and NSE Tier 1 EQS: Potable Groundwater	NSE PSS for GW: Groundwater Discharge to Surface Water (>10 m)	GCDWQ; MAC	GCDWQ; AO	27-Jun-18	12-Sep-18	12-Sep-18 Field DUP 1	29-Nov-18	4-Apr-19	4-Apr-19 Field DUP5	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	30-Jul-20 Field DUP5	5-Nov-20	27-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20	27-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	27-Jun-19 Field DUP5	2-Oct-19	2-Oct-2019 Field DUP4	30-Apr-20	30-Jul-20	5-Nov-20
Calculated Parameters	**Units**																																	
Anion Sum	me/L		-	-	-	0.31	0.32	0.33	0.29	0.31	0.32	0.17	0.3	0.26	0.31	0.29	0.290	1.34	1.39	1.33	1.24	1.21	1.3	1.21	1.22	1.24	2.02	2.52	2.19	2.04	1.95	1.99	2.08	2.07	2.46	2.35	2.25
Bicarb. Alkalinity (calc. as CaCO3)	mg/L		-	-	-	5.5	6.8	7.3	5	5.7	6.2	<1.0	5.9	6.1	5.4	5.3	6.9	45	50	49	45	46	44	44	43	45	52	56	57	59	58	60	63	62	81	75	77
Calculated TDS	mg/L		-	-	500	23	24	24	21	22	22	17	23	19	22	21	22	84	86	82	77	75	79	76	77	76	130	160	140	130	120	120	130	130	140	140	130
Carb. Alkalinity (calc. as CaCO3)	mg/L		-	-	-	<1.0	ND	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Cation Sum	me/L		-	-	-	0.27	0.29	0.27	0.23	0.24	0.24	0.22	0.24	0.23	0.24	0.24	0.250	1.23	1.25	1.26	1.16	1.16	1.14	1.14	1.14	1.14	1.89	2.33	2	1.96	1.92	1.84	1.96	1.93	2.11	2.21	2.05
Hardness (CaCO3)	mg/L		-	-	-	6.8	7.6	7.3	5.6	6.3	6.2	5.4	6	5.2	5.6	5.6	6.0	41	30	42	41	44	44	44	45	45	45	58	56	55	55	53	56	56	57	62	59
Ion Balance (% Difference)	%		-	-	-	6.9	4.92	10	11.5	12.7	14.3	12.8	11.1	6.12	12.7	9.43	7.41	4.28	5.3	2.7	3.33	2.11	6.56	2.98	3.39	4.20	3.32	3.92	4.53	2	0.78	3.92	2.97	3.5	7.66	3.07	4.65
Langelier Index (@ 20C)	N/A		-	-	-	-4.17	-3.82	-3.86	-4.42	-4.41	-4.27	NC	-4.05	-4.27	-3.87	-3.83	-4.26	-0.82	-0.564	-0.618	-0.775	-0.905	-0.953	-0.762	-0.869	-0.737	-0.636	-0.465	-0.497	-0.709	-0.784	-0.551	-0.779	-0.626	-0.494	-0.446	-0.393
Langelier Index (@ 4C)	N/A		-	-	-	-4.42	-4.07	-4.11	-4.68	-4.66	-4.52	NC	-4.31	-4.53	-4.12	-4.09	-4.51	-1.07	-0.815	-0.869	-1.03	-1.16	-1.2	-1.01	-1.12	-0.989	-0.886	-0.715	-0.748	-0.959	-1.04	-0.802	-1.03	-0.877	-0.745	-0.697	-0.644
Nitrate (N)	mg/L		-	10	-	0.062	ND	ND	0.076	0.054	0.051	0.1	<0.050	<0.050	<0.050	0.055	0.10	<0.050	ND	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.075	<0.050	ND	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Saturation pH (@ 20C)	N/A		-	-	-	10.3	10.2	10.1	10.4	10.3	10.3	NC	10.3	10.4	10.4	10.4	10.2	8.52	8.61	8.47	8.51	8.47	8.5	8.5	8.51	8.48	8.44	8.32	8.32	8.31	8.32	8.31	8.28	8.28	8.17	8.16	8.17
Saturation pH (@ 4C)	N/A		-	-	-	10.6	10.4	10.4	10.7	10.6	10.5	NC	10.6	10.6	10.6	10.6	10.5	8.77	8.86	8.72	8.76	8.73	8.75	8.75	8.76	8.73	8.69	8.57	8.57	8.56	8.57	8.56	8.53	8.53	8.42	8.42	8.42
Inorganics																																				
Total Alkalinity (Total as CaCO3)	mg/L		-	-	-	5.5	6.8	7.3	5	5.7	6.2	<5.0	5.9	6.1	5.4	5.3	6.9	45	50	49	45	47	44	44	43	45	52	56	57	59	58	61	63	63	81	75	77
Total Chemical Oxygen Demand	mg/L		-	-	-	--	--	--	--	--	--	--	--	--	--	--	<20	--	--	--	--	--	--	--	--	<20	--	--	--	--	--	--	--	--	--	--	<20
Dissolved Chloride (Cl)	mg/L	250	1500	-	250	3.8	3.5	3.7	4.3	4.3	4.2	2.5	3.3	2.2	4.2	3.5	2.7	3.5	2.7	2.9	3.1	1.8	6.4	2.1	3.4	2.6	5.3	5.7	5.2	4.6	4.8	4.6	4.4	4.3	5.8	5.7	4.1
Colour	TCU		-	-	15	<5.0	ND	ND	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Nitrate + Nitrite (N)	mg/L		-	-	-	0.062	ND	ND	0.076	0.054	0.051	0.1	<0.050	<0.050	<0.050	0.055	0.10	<0.050	ND	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.075	<0.050	ND	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Nitrite (N)	mg/L		-	1	-	<0.010	ND	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Nitrogen (Ammonia Nitrogen)	mg/L		-	-	-	<0.050	ND	ND	<0.050	<0.050	<0.050	<0.050	<0.050	0.081	<0.050	<0.050	<0.050	<0.050	ND	<0.050	<0.050	<0.050	<0.050	0.14	<0.050	<0.050	<0.050	ND	<0.050	<0.050	<0.050	<0.050	<0.050	0.089	<0.050	<0.050	<0.050
Dissolved Organic Carbon (C)	mg/L		-	-	-	--	--	--	--	--	--	--	--	--	--	--	<0.5	--	--	--	--	--	--	--	--	<0.5	--	--	--	--	--	--	--	--	--	--	3.6
Total Organic Carbon (C)	mg/L		-	-	-	1.7	ND	ND	0.55	0.75	0.69	<0.50	2.2	<0.50	0.97	0.91	<0.50	1.4	1.6	0.96	<0.50	<0.50	<0.50	<0.50	0.78	<0.50	5.8	7.7	4.8	5.6	4.3	4	5.5	5.5	4.4	4.5	3.7
Orthophosphate (P)	mg/L		-	-	-	<0.010	ND	0.011	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.016	0.018	<0.010	0.054	0.046	0.059	0.048	0.058	0.065	0.038	0.028	0.045	<0.010	ND	0.026	<0.010	0.027	0.022	0.018	0.017	0.019	0.015	0.023
pH	pH		-	-	7.0;10.5	6.18	6.34	6.28	6.01	5.89	6	6.43	6.26	6.08	6.51	6.55	5.96	7.7	8.04	7.85	7.74	7.57	7.55	7.74	7.64	7.74	7.81	7.86	7.82	7.6	7.54	7.76	7.5	7.65	7.67	7.72	7.77
Dissolved Phosphorous (P)	mg/L		-	-	-	--	--	--	--	--	--	--	--	--	--	--	<0.020	--	--	--	--	--	--	--	--	<0.020	--	--	--	--	--	--	--	--	--	--	<0.020
Total Phosphorus (P)	mg/L		-	-	-	--	--	--	--	--	--	--	--	--	--	--	<0.020	--	--	--	--	--	--	--	--	<0.020	--	--	--	--	--	--	--	--	--	--	0.023
Reactive Silica (SiO2)	mg/L		-	-	-	5.3	6.5	6.6	5.8	5.3	5.3	5	6.3	5.3	5.2	5.1	5.8	11	11	11	11	11	11	11	11	11	11	11	12	12	12	12	12	12	12	13	12
Total Supended Solids	mg/L		-	-	-	-	--	--	--	--	--	--	--	--	--	--	5.0	--	--	--	--	--	--	--	--	14	--	--	--	--	--	--	--	--	--	--	3.2
Dissolved Sulphate (SO4)	mg/L		-	-	500	4.3	3.9	3.8	3.1	3.6	3.4	4.6	4.2	3.5	4	3.7	3.4	17	15	13	11	11	12	13	13	12	40	59	43	35	32	31	33	33	32	33	28
Turbidity	NTU		-	-	0.3	1.1	0.23	0.45	0.28	0.63	0.64	0.38	1.7	4.3	0.67	1.3	0.84	20	43	14	18	10	2.3	7.6	4	8.8	18	9.3	3.6	9	2.8	2.6	10	11	5.3	1.1	1.8
Conductivity	uS/cm		-	-	-	35	36	36	29	31	30	27	36	28	29	31	30	130	140	130	120	120	110	120	120	110	210	260	210	200	190	190	210	200	230	230	200

Table 3.2: Groundwater Quality Data - MW-18
Beaver Dam Mine Project
Marinette, Nova Scotia

Sample		Criteria				MW-18A												MW-18B									MW-18C								
Sample Date		NSE PSS for GW and NSE Tier 1 EQS: Potable Groundwater	NSE PSS for GW: Groundwater Discharge to Surface Water (>10 m)	GCDWQ; MAC	GCDWQ; AO	27-Jun-18	12-Sep-18	12-Sep-18 Field DUP 1	29-Nov-18	4-Apr-19	4-Apr-19 Field DUP5	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	30-Jul-20 Field DUP5	5-Nov-20	27-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20	27-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	27-Jun-19 Field DUP5	2-Oct-19	2-Oct-2019 Field DUP4	30-Apr-20	30-Jul-20	5-Nov-20
Metals																																		
Dissolved Aluminum (Al)	ug/L	100	-	-	100	23	27	23	46	35	35	49	41	37	39	41	32	13	20	6.5	9.5	11	10	35	14	11	16	11	9.1	11	6.1	5.8	7.6	8.6	<5.0	8.9	6.7
Total Aluminum (Al)	ug/L	-	50	-	100	--	--	--	--	--	--	94	85	180	72	70	53	--	--	--	--	1900	150	600	350	410	--	--	--	--	130	99	250	390	180	36	44
Dissolved Antimony (Sb)	ug/L	6	-	6	-	<1.0	ND	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Antimony (Sb)	ug/L	-	200	6	-	--	--	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Arsenic (As)	ug/L	10	-	10	-	**40**	**26**	**24**	8.1	7.5	7.6	5.7	9.9	5.9	7.1	6.6	10	**230**	**230**	**250**	**230**	**220**	**270**	**230**	**230**	**270**	**57**	**79**	**110**	**110**	**110**	**110**	**95**	**100**	**100**	**100**	**94**
Total Arsenic (As)	ug/L	-	50	10	-	--	--	--	--	--	--	7.8	**15**	**16**	8.2	8.7	**11**	--	--	--	--	**230**	**270**	**230**	**230**	**270**	--	--	--	--	**120**	**110**	**120**	**130**	**120**	**100**	**92**
Dissolved Barium (Ba)	ug/L	1000	-	2000	-	5.7	11	6.1	5.9	5.5	5.5	5.7	7	4	4.7	4.9	5.1	4.1	8.4	9	5.2	3.5	4.2	2.2	2.4	2.3	6.4	9.6	9.7	11	11	11	11	11	10	12	11
Total Barium (Ba)	ug/L	-	10000	2000	-	--	--	--	--	--	--	6.6	7.7	4.4	4.8	5.2	5.1	--	--	--	--	6.8	4.5	2.8	3.2	3.8	--	--	--	--	12	11	11	12	11	12	12
Dissolved Beryllium (Be)	ug/L	4	-	-	-	<1.0	ND	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Beryllium (Be)	ug/L	-	53	-	-	--	--	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Bismuth (Bi)	ug/L	-	-	-	-	<2.0	ND	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Bismuth (Bi)	ug/L	-	-	-	-	--	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Boron (B)	ug/L	5000	-	5000	-	<50	ND	ND	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	ND	<50	<50	<50	<50	<50	<50	<50	<50	ND	<50	<50	<50	<50	<50	<50	<50	<50	<50
Total Boron (B)	ug/L	-	12000	5000	-	--	--	--	--	--	--	<50	<50	<50	<50	<50	<50	--	--	--	--	<50	<50	<50	<50	<50	--	--	--	--	<50	<50	<50	<50	<50	<50	<50
Dissolved Cadmium (Cd)	ug/L	5	-	7	-	0.028	0.023	0.022	0.016	0.017	0.023	0.021	0.033	0.013	0.024	0.025	0.019	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	0.01	<0.010	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Total Cadmium (Cd)	ug/L	-	0.1	7	-	--	--	--	--	--	--	0.02	0.028	0.015	0.02	0.019	0.022	--	--	--	--	<0.010	<0.010	<0.010	<0.010	<0.010	--	--	--	--	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Dissolved Calcium (Ca)	ug/L	-	-	-	-	1600	1900	1900	1400	1700	1600	1400	1600	1400	1500	1500	1700	15000	11000	15000	15000	15000	15000	15000	16000	16000	16000	20000	19000	19000	19000	18000	19000	19000	19000	21000	20000
Total Calcium (Ca)	ug/L	-	-	-	-	--	--	--	--	--	--	1300	1600	1400	1400	1500	1600	--	--	--	--	17000	16000	15000	16000	16000	--	--	--	--	19000	19000	19000	19000	19000	20000	20000
Dissolved Chromium (Cr)	ug/L	50	-	50	-	<1.0	ND	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Chromium (Cr)	ug/L	-	-	50	-	--	--	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	1.5	<1.0	<1.0	<1.0	<1.0	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Cobalt (Co)	ug/L	10	-	-	-	2.2	1	1.1	0.97	0.96	1.1	0.84	0.74	0.46	0.45	0.44	<0.40	<0.40	ND	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	ND	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Total Cobalt (Co)	ug/L	-	100	-	-	--	--	--	--	--	--	0.86	0.8	0.52	0.43	0.45	<0.40	--	--	--	--	<0.40	<0.40	<0.40	<0.40	<0.40	--	--	--	--	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Dissolved Copper (Cu)	ug/L	1000	-	2000	1000	5.1	3.6	3.6	11	5.6	5.6	4.1	1.9	2.7	4.6	4.9	1.7	<2.0	ND	<2.0	<0.50	<0.50	<0.50	<0.50	0.61	<0.50	<2.0	ND	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total Copper (Cu)	ug/L	-	20	2000	1000	--	--	--	--	--	--	4.3	2.8	3.5	5.3	5.7	1.9	--	--	--	--	1.4	6.9	0.58	1.3	0.92	--	--	--	--	<0.50	<0.50	0.7	1.1	<0.50	<0.50	<0.50
Dissolved Iron (Fe)	ug/L	300	-	-	300	<50	ND	ND	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	ND	<50	<50	<50	<50	<50	<50	<50	<50	ND	<50	<50	<50	51	51	66	<50	<50
Total Iron (Fe)	ug/L	-	3000	-	300	--	--	--	--	--	--	68	65	210	81	<50	<50	--	--	--	--	810	67	240	290	310	--	--	--	--	130	110	310	360	200	82	110
Dissolved Lead (Pb)	ug/L	10	-	5	-	<0.50	ND	ND	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	ND	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	ND	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total Lead (Pb)	ug/L	-	10	5	-	--	--	--	--	--	--	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	0.95	<0.50	<0.50	<0.50	<0.50	--	--	--	--	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Magnesium (Mg)	ug/L	-	-	-	-	710	660	620	500	520	520	490	500	440	470	480	430	1200	880	1200	1200	1400	1300	1400	1400	1400	1400	1900	1900	1900	1900	1800	1900	1800	1900	2200	2000
Total Magnesium (Mg)	ug/L	-	-	-	-	--	--	--	--	--	--	500	520	490	450	480	440	--	--	--	--	1800	1400	1400	1500	1500	--	--	--	--	1900	1800	1900	2100	1900	2000	2000
Dissolved Manganese (Mn)	ug/L	50	-	120	20	53	48	44	20	21	20	18	24	10	15	16	11	3.1	ND	5	2.8	<2.0	<2.0	<2.0	6.5	<2.0	13	72	80	94	92	90	95	94	95	90	84
Total Manganese (Mn)	ug/L	-	8200	120	20	--	--	--	--	--	--	18	26	13	14	14	11	--	--	--	--	7.8	<2.0	4.9	7.2	4.6	--	--	--	--	96	91	97	100	92	84	80
Dissolved Molybdenum (Mo)	ug/L	70	-	-	-	<2.0	ND	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	3.5	3.6	<2.0	4.9	5	10	5.5	5.5	4.4	5.2	5.1	4.7	4.1	5.7	5.3	5.2	5.1	4.9	4.4	4.6	2.7	3.5	3.4
Total Molybdenum (Mo)	ug/L	-	730	-	-	--	--	--	--	--	--	<2.0	<2.0	<2.0	3.2	3.5	<2.0	--	--	--	--	5.8	4.4	5.2	5.1	4.8	--	--	--	--	5.3	5.1	4.8	5.1	3.4	3.5	3.2
Dissolved Nickel (Ni)	ug/L	100	-	-	-	6.3	4	3.1	4.1	3	3.1	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Nickel (Ni)	ug/L	-	250	-	-	--	--	--	--	--	--	<2.0	<2.0	<2.0	2	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Phosphorus (P)	ug/L	-	-	-	-	<100	ND	ND	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	ND	<100	<100	<100	<100	<100	<100	<100	<100	ND	<100	<100	<100	<100	<100	<100	<100	<100	<100
Total Phosphorus (P)	ug/L	-	-	-	-	--	--	--	--	--	--	<100	<100	<100	<100	100	<100	--	--	--	--	<100	<100	<100	<100	<100	--	--	--	--	<100	<100	<100	<100	<100	<100	<100
Dissolved Potassium (K)	ug/L	-	-	-	-	790	690	670	540	510	520	520	550	410	710	770	560	1500	1400	1600	1300	1200	1400	1200	1400	1200	1600	1800	1400	1400	1300	1300	1400	1400	1400	1500	1400
Total Potassium (K)	ug/L	-	-	-	-	--	--	--	--	--	--	540	560	420	610	650	580	--	--	--	--	1500	1400	1200	1500	1400	--	--	--	--	1400	1300	1400	1500	1400	1400	1300
Dissolved Selenium (Se)	ug/L	10	-	50	-	<1.0	ND	ND	<1.0	<1.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	ND	<1.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50
Total Selenium (Se)	ug/L	-	10	50	-	--	--	--	--	--	--	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	<1.0	<0.50	<0.50	<0.50	<0.50	--	--	--	--	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Silver (Ag)	ug/L	100	-	-	-	<0.10	ND	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Silver (Ag)	ug/L	-	1	-	-	--	--	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	--	--	--	--	0.15	<0.10	<0.10	0.11	0.12	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dissolved Sodium (Na)	ug/L	200000	-	-	200000	2500	2700	2500	2400	2300	2300	2300	2500	2400	2400	2600	2600	8400	14000	8500	6800	5700	5200	4900	4900	4800	22000	26000	20000	19000	18000	17000	19000	18000	22000	21000	19000
Total Sodium (Na)	ug/L	-	-	-	200000	--	--	--	--	--	--	2300	2400	2300	2200	2600	2700	--	--	--	--	5800	5300	4800	4800	5000	--	--	--	--	18000	18000	19000	20000	21000	20000	19000
Dissolved Strontium (Sr)	ug/L	4400	-	7000	-	13	12	12	12	13	13	12	11	12	11	11	13	85	150	120	89	57	71	49	46	51	180	240	220	200	200	190	190	200	210	210	210
Total Strontium (Sr)	ug/L	-	210000	7000	-	--	--	--	--	--	--	12	12	12	11	11	11	--	--	--	--	61	70	46	48	50	--	--	--	--	200	190	190	200	200	210	190
Dissolved Thallium (Tl)	ug/L	2	-	-	-	<0.10	ND	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Thallium (Tl)	ug/L	-	8	-	-	--	--	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dissolved Tin (Sn)	ug/L	4400	-	-	-	<2.0	ND	ND	<2.0	<2.0	<2.0	<2.0	2.7	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	3.9	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Tin (Sn)	ug/L	-	-	-	-	--	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Titanium (Ti)	ug/L	-	-	-	-	<2.0	ND	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Titanium (Ti)	ug/L	-	-	-	-	--	--	--	--	--	--	<2.0	<2.0	5.2	<2.0	<2.0	<2.0	--	--	--	--	24	3.6	10	9.9	8	--	--	--	--	3.6	2.6	6.7	11	5.1	<2.0	<2.0
Dissolved Uranium (U)	ug/L	20	-	20	-	<0.10	ND	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	1.1	1.7	1.4	1.1	1.1	0.99	0.92	0.91	0.94	1.8	1.5	1.2	1.1	0.92	0.95	0.83	0.9	0.65	0.74	0.65
Total Uranium (U)	ug/L	-	3000	20	-	--	--	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	--	--	--	--	1.2	0.94	0.93	0.96	0.97	--	--	--	--	0.98	0.96	0.9	0.96	0.73	0.78	0.58
Dissolved Vanadium (V)	ug/L	6.2	-	-	-	<2.0	ND	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Vanadium (V)	ug/L	-	60	-	-	--	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Zinc (Zn)	ug/L	5000	-	-	5000	19	8.4	8.7	12	8.7	7.8	6.8	6.3	5.3	7.6	9.1	6.8	<5.0	9.8	<5.0	<5.0	<5.0	<5.0	<5.0	5.5	<5.0	<5.0	5.7	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	7.3	<5.0
Total Zinc (Zn)	ug/L	-	300	-	5000	--	--	--	--	--	--	5.8	<5.0	<5.0	<5.0	6.6	<5.0	--	--	--	--	<5.0	<5.0	<5.0	6.1	<5.0	--	--	--	--	<5.0	<5.0	5.4	5.7	<5.0	<5.0	<5.0
Dissolved Mercury (Hg)	ug/L	1	-	1	-	--	--	--	--	--	--	--	--	--	--	--	<0.013	--	--	--	--	--	--	--	--	<0.013	--	--	--	--	--	--	--	--	--	--	<0.013
Total Mercury (Hg)	ug/L	-	0.26	1	-	--	--	--	--	--	--	--	--	--	--	--	<0.013	--	--	--	--	--	--	--	--	<0.013	--	--	--	--	--	--	--	--	--	--	<0.013

Table 3.2: Groundwater Quality Data - MW-19
Beaver Dam Mine Project
Marinette, Nova Scotia

Sample		Criteria				MW-19A									MW-19B										MW-19C									
	Sample Date	NSE PSS for GW and NSE Tier 1 EQS: Potable Groundwater	NSE PSS for GW: Groundwater Discharge to Surface Water (>10 m)	GCDWQ; MAC	GCDWQ; AO	19-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20	19-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	30-Jul-20 Field DUP2	5-Nov-20	19-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	2-Oct-19	30-Apr-20	30-Apr-20 Field DUP3	30-Jul-20	5-Nov-20
Calculated Parameters	Units																																	
Anion Sum	me/L		-	-	-	0.21	0.24	0.28	0.4	0.16	0.3	0.29	0.3	0.310	1.49	1.65	1.61	1.56	1.46	1.48	1.43	1.53	1.5	1.55	1.24	1.3	1.3	1.13	0.98	0.92	0.95	0.96	0.9	0.860
Bicarb. Alkalinity (calc. as CaCO3)	mg/L		-	-	-	<1.0	5.3	6	7.9	<1.0	6.6	8.7	6.8	6.5	60	67	65	62	56	59	58	59	58	61	37	39	46	41	38	35	37	37	33	33
Calculated TDS	mg/L		-	-	500	21	18	21	29	17	22	19	22	22	88	94	93	90	86	87	84	88	87	89	80	83	79	69	62	58	59	59	57	54
Carb. Alkalinity (calc. as CaCO3)	mg/L		-	-	-	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Cation Sum	me/L		-	-	-	0.28	0.18	0.24	0.37	0.23	0.24	0.2	0.24	0.260	1.45	1.49	1.5	1.43	1.4	1.41	1.36	1.39	1.39	1.41	1.21	1.22	1.17	1.03	0.97	0.87	0.88	0.86	0.84	0.810
Hardness (CaCO3)	mg/L		-	-	-	5.4	4.1	4.9	3.3	4.3	5.3	3	5.4	3.1	59	60	63	60	58	60	57	58	58	59	36	36	41	35	34	29	30	30	29	28
Ion Balance (% Difference)	%		-	-	-	14.3	14.3	7.69	3.9	18	11.1	18.4	11.1	8.77	1.36	5.1	3.54	4.35	2.1	2.42	2.51	4.79	3.81	4.73	1.22	3.17	5.26	4.63	0.51	2.79	3.83	5.49	3.45	2.99
Langelier Index (@ 20C)	N/A		-	-	-	NC	-4.53	-4.47	-4.73	NC	-3.92	-4.47	-3.8	-4.70	-0.33	-0.255	-0.439	-0.446	-0.387	-0.522	-0.48	-0.535	-0.603	-0.391	-1.53	-1.39	-1.19	-1.45	-1.34	-1.47	-1.45	-1.33	-1.47	-1.71
Langelier Index (@ 4C)	N/A		-	-	-	NC	-4.78	-4.72	-4.99	NC	-4.17	-4.72	-4.06	-4.95	-0.581	-0.506	-0.69	-0.697	-0.638	-0.774	-0.732	-0.786	-0.855	-0.642	-1.78	-1.64	-1.44	-1.7	-1.59	-1.72	-1.7	-1.58	-1.72	-1.96
Nitrate (N)	mg/L		-	10	-	0.25	0.15	0.16	0.16	0.16	0.15	<0.050	0.091	0.053	0.066	ND	<0.050	0.076	<0.050	<0.050	<0.050	0.054	0.094	0.084	0.11	0.052	0.09	0.15	0.23	0.13	<0.050	<0.050	0.15	0.16
Saturation pH (@ 20C)	N/A		-	-	-	NC	10.6	10.4	10.5	NC	10.3	10.5	10.3	10.6	8.23	8.18	8.17	8.21	8.27	8.23	8.26	8.24	8.25	8.22	8.68	8.64	8.51	8.63	8.67	8.77	8.72	8.72	8.79	8.80
Saturation pH (@ 4C)	N/A		-	-	-	NC	10.8	10.7	10.8	NC	10.5	10.8	10.5	10.9	8.48	8.43	8.43	8.46	8.52	8.48	8.51	8.49	8.5	8.47	8.93	8.89	8.76	8.88	8.92	9.02	8.97	8.97	9.04	9.05
Inorganics																																		
Total Alkalinity (Total as CaCO3)	mg/L		-	-	-	<5.0	5.3	6	7.9	<5.0	6.6	8.7	6.8	6.5	61	68	65	62	56	59	58	60	58	62	37	39	46	41	38	35	37	37	33	33
Total Chemical Oxygen Demand	mg/L		-	-	-	--	--	--	--	--	--	--	--	<20	--	--	--	--	--	--	--	--	--	<20	--	--	--	--	--	--	--	--	--	<20
Dissolved Chloride (Cl)	mg/L	250	1500	-	250	4.1	2.9	3.4	4	1.7	2.7	1	2.8	1.9	2.4	2.6	2.9	3.5	4.2	2.5	2	3.3	3.3	2.5	3.8	3.3	3.5	3.9	2	2.6	2.2	2.3	3.4	2.7
Colour	TCU		-	-	15	<5.0	ND	<5.0	9.8	<5.0	<5.0	7.1	<5.0	<5.0	<5.0	ND	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Nitrate + Nitrite (N)	mg/L		-	-	-	0.25	0.15	0.16	0.16	0.16	0.15	<0.050	0.091	0.067	0.066	ND	<0.050	0.076	<0.050	<0.050	<0.050	0.054	0.094	0.084	0.15	0.063	0.09	0.15	0.23	0.13	<0.050	<0.050	0.15	0.16
Nitrite (N)	mg/L		-	1	-	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.015	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.041	0.01	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Nitrogen (Ammonia Nitrogen)	mg/L		-	-	-	<0.050	ND	<0.050	0.11	<0.050	<0.050	0.097	<0.050	<0.050	<0.050	ND	<0.050	<0.050	<0.050	<0.050	0.11	<0.050	<0.050	<0.050	<0.050	ND	<0.050	<0.050	<0.050	<0.050	0.16	0.087	<0.050	<0.050
Dissolved Organic Carbon (C)	mg/L		-	-	-	--	--	--	--	--	--	--	--	1.4	--	--	--	--	--	--	--	--	--	<0.5	--	--	--	--	--	--	--	--	--	<0.5
Total Organic Carbon (C)	mg/L		-	-	-	2.4	0.85	1.2	7.9	0.75	1.2	1.8	2.2	1.7	0.95	1.2	<0.50	<0.50	<0.50	<0.50	<0.50	0.87	0.54	<0.50	2.1	2	0.79	0.95	0.51	1	0.58	0.73	1.9	<5.0 (1)
Orthophosphate (P)	mg/L		-	-	-	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
pH	pH		-	-	7.0:10.5	5.85	6.06	5.94	5.81	6.07	6.38	6.06	6.46	5.93	7.9	7.93	7.74	7.77	7.88	7.71	7.78	7.7	7.65	7.83	7.15	7.26	7.32	7.18	7.34	7.3	7.27	7.4	7.32	7.09
Dissolved Phosphorous (P)	mg/L		-	-	-	--	--	--	--	--	--	--	--	<0.020	--	--	--	--	--	--	--	--	--	<0.020	--	--	--	--	--	--	--	--	--	0.026
Total Phosphorus (P)	mg/L		-	-	-	--	--	--	--	--	--	--	--	0.033	--	--	--	--	--	--	--	--	--	<0.020	--	--	--	--	--	--	--	--	--	0.030
Reactive Silica (SiO2)	mg/L		-	-	-	5.9	5.1	4.8	5.5	5.1	5.6	4.4	5.9	4.5	8.9	9	9.4	9.4	9.3	9.2	9.6	9.5	9.3	9.3	8.8	9.3	10	9.5	9.2	9	9.2	9.2	9.1	8.8
Total Suspended Solids	mg/L		-	-	-	--	--	--	--	--	--	--	--	38	--	--	--	--	--	--	--	--	--	8.6	--	--	--	--	--	--	--	--	--	47
Dissolved Sulphate (SO4)	mg/L		-	-	500	3.5	2.2	2.8	5.7	4.7	3.8	4	3.6	5.9	9.8	11	11	10	10	11	10	11	11	12	18	20	13	9.1	7.2	6.9	7	7.1	5.9	5.2
Turbidity	NTU		-	-	0.3	1.3	14	5.5	9.9	3.4	46	19	21	11	2.7	8.9	1.2	2	2.4	0.54	2.4	0.87	1.1	2.6	7	10	6.9	7.1	5.3	12	6.3	8.8	2.6	15
Conductivity	uS/cm		-	-	-	34	26	31	38	27	29	27	29	30	140	160	150	140	130	140	140	140	150	140	130	140	120	100	93	89	94	93	90	82

Table 3.2: Groundwater Quality Data - MW-19
Beaver Dam Mine Project
Marinette, Nova Scotia

Sample		Criteria				MW-19A									MW-19B										MW-19C									
Sample Date		NSE PSS for GW and NSE Tier 1 EQS: Potable Groundwater	NSE PSS for GW: Groundwater Discharge to Surface Water (>10 m)	GCDWQ; MAC	GCDWQ; AO	19-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20	19-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	30-Jul-20 Field DUP2	5-Nov-20	19-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	2-Oct-19	30-Apr-20	30-Apr-20 Field DUP3	30-Jul-20	5-Nov-20
Metals																																		
Dissolved Aluminum (Al)	ug/L	100	-	-	100	110	50	110	190	64	100	95	51	68	15	15	17	12	10	11	8.7	10	10	10	37	ND	<5.0	21	<5.0	<5.0	<5.0	<5.0	<5.0	8.8
Total Aluminum (Al)	ug/L	-	50	-	100	--	--	--	--	200	14000	2600	6900	1800	--	--	--	--	230	52	73	120	88	200	--	--	--	--	730	650	200	300	260	830
Dissolved Antimony (Sb)	ug/L	6	-	6	-	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Antimony (Sb)	ug/L	-	200	6	-	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Arsenic (As)	ug/L	10	-	10	-	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	8.5	6.4	7.3	7.3	7.6	8.1	6.5	7.5	7.2	7.3	3	3.2	4	2.8	2.7	2.4	3.2	3.3	3.5	2.7
Total Arsenic (As)	ug/L	-	50	10	-	--	--	--	--	<1.0	9.8	<1.0	3.4	<1.0	--	--	--	--	8	8	6.3	7.8	7.4	7.2	--	--	--	--	3.7	3.7	3.6	3.8	3.9	3.8
Dissolved Barium (Ba)	ug/L	1000	-	2000	-	7.4	12	9.6	7.7	9.3	8.8	4.9	8.3	4.6	10	13	11	11	11	11	10	10	11	10	7.3	7.3	6.5	6.2	5.4	4.9	5.5	5.1	4.9	5
Total Barium (Ba)	ug/L	-	10000	2000	-	--	--	--	--	10	88	12	49	11	--	--	--	--	12	11	11	12	11	11	--	--	--	--	8.6	8.6	6.7	7.1	6.8	9.5
Dissolved Beryllium (Be)	ug/L	4	-	-	-	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Beryllium (Be)	ug/L	-	53	-	-	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Bismuth (Bi)	ug/L	-	-	-	-	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Bismuth (Bi)	ug/L	-	-	-	-	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Boron (B)	ug/L	5000	-	5000	-	<50	ND	<50	<50	<50	<50	<50	<50	<50	<50	ND	<50	<50	<50	<50	<50	<50	<50	<50	<50	ND	<50	<50	<50	<50	<50	<50	<50	<50
Total Boron (B)	ug/L	-	12000	5000	-	--	--	--	--	<50	<50	<50	<50	<50	--	--	--	--	<50	<50	<50	<50	<50	<50	--	--	--	--	<50	<50	<50	<50	<50	<50
Dissolved Cadmium (Cd)	ug/L	5	-	7	-	0.084	0.026	0.039	0.03	0.04	0.021	0.021	0.028	0.017	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.01	ND	<0.010	0.014	0.013	0.012	0.015	0.011	0.014	0.012
Total Cadmium (Cd)	ug/L	-	0.1	7	-	--	--	--	--	0.035	0.071	0.034	0.053	0.036	--	--	--	--	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	--	--	--	--	0.017	0.011	0.016	0.013	0.018	0.019
Dissolved Calcium (Ca)	ug/L	-	-	-	-	1200	930	1200	700	1000	1500	660	1500	700	21000	21000	23000	22000	21000	21000	21000	21000	21000	21000	12000	12000	14000	12000	12000	10000	11000	11000	10000	9800
Total Calcium (Ca)	ug/L	-	-	-	-	--	--	--	--	1300	5000	870	2300	740	--	--	--	--	22000	21000	20000	22000	21000	22000	--	--	--	--	12000	10000	10000	11000	10000	10000
Dissolved Chromium (Cr)	ug/L	50	-	50	-	<1.0	ND	<1.0	1.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Chromium (Cr)	ug/L	-	-	50	-	--	--	--	--	<1.0	20	2.3	11	1.2	--	--	--	--	1	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	1.4	1.3	<1.0	<1.0	<1.0	1.1
Dissolved Cobalt (Co)	ug/L	10	-	-	-	1.2	1.1	0.87	0.46	1.4	1.4	0.47	1.1	<0.40	<0.40	ND	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	0.94	1.2	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Total Cobalt (Co)	ug/L	-	100	-	-	--	--	--	--	1.4	11	1.2	6	0.8	--	--	--	--	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	--	--	--	--	0.47	0.6	<0.40	<0.40	0.43	0.45
Dissolved Copper (Cu)	ug/L	1000	-	2000	1000	<2.0	7.9	<2.0	3.6	3.1	4.9	0.63	4.2	0.65	<2.0	ND	<2.0	<0.50	<0.50	<0.50	<0.50	0.58	0.59	<0.50	<2.0	2.1	<2.0	0.69	0.68	0.58	0.52	0.56	0.81	0.55
Total Copper (Cu)	ug/L	-	20	2000	1000	--	--	--	--	3.9	58	5.4	32	4.8	--	--	--	--	1.2	1.2	0.7	1.6	1	0.89	--	--	--	--	2.7	3	1.5	1.8	2.5	3.1
Dissolved Iron (Fe)	ug/L	300	-	-	300	<50	ND	<50	60	<50	<50	<50	<50	<50	<50	ND	<50	<50	<50	<50	<50	<50	<50	<50	<50	ND	<50	<50	<50	<50	<50	<50	<50	<50
Total Iron (Fe)	ug/L	-	3000	-	300	--	--	--	--	180	20000	2200	9600	1300	--	--	--	--	120	58	65	110	68	97	--	--	--	--	690	900	250	400	340	910
Dissolved Lead (Pb)	ug/L	10	-	5	-	<0.50	ND	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	ND	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	ND	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total Lead (Pb)	ug/L	-	10	5	-	--	--	--	--	<0.50	**9.3**	0.95	**6.4**	1.2	--	--	--	--	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	<0.50	<0.50	<0.50	<0.50	<0.50	1.2
Dissolved Magnesium (Mg)	ug/L	-	-	-	-	600	430	440	390	420	400	330	390	320	1500	1500	1500	1500	1400	1400	1300	1400	1400	1300	1200	1200	1300	1100	1100	910	930	900	900	880
Total Magnesium (Mg)	ug/L	-	-	-	-	--	--	--	--	450	5100	900	2800	610	--	--	--	--	1500	1400	1300	1500	1400	1400	--	--	--	--	1300	1200	990	1000	1000	1100
Dissolved Manganese (Mn)	ug/L	50	-	120	20	83	53	58	38	56	49	16	34	18	7.9	21	<2.0	<2.0	2.2	<2.0	<2.0	7.4	7.7	<2.0	110	170	86	38	26	26	10	10	23	11
Total Manganese (Mn)	ug/L	-	8200	120	20	--	--	--	--	57	360	41	210	53	--	--	--	--	4.5	2.5	2.8	11	8.1	3.2	--	--	--	--	43	48	18	20	32	34
Dissolved Molybdenum (Mo)	ug/L	70	-	-	-	<2.0	ND	<2.0	<2.0	<2.0	2.3	<2.0	<2.0	<2.0	15	18	5.9	4.4	3.8	3.6	2.2	3.1	2.8	2.5	18	15	12	12	12	10	9.1	9.3	9.2	8.6
Total Molybdenum (Mo)	ug/L	-	730	-	-	--	--	--	--	<2.0	9.9	<2.0	6.8	<2.0	--	--	--	--	4	3.4	2.4	3.2	2.8	2.4	--	--	--	--	12	11	8.9	8.8	9.4	8.9
Dissolved Nickel (Ni)	ug/L	100	-	-	-	2.4	3.6	<2.0	3.6	4.1	4.4	<2.0	3.6	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	4	4	2.3	2.8	2.8	2.7	2.1	2.2	2.4	2.4
Total Nickel (Ni)	ug/L	-	250	-	-	--	--	--	--	4	27	2.7	13	2.2	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	3.9	3.9	2.6	2.9	3.3	3.6
Dissolved Phosphorus (P)	ug/L	-	-	-	-	<100	ND	<100	<100	<100	<100	<100	<100	<100	<100	ND	<100	<100	<100	<100	<100	<100	<100	<100	<100	ND	<100	<100	<100	<100	<100	<100	<100	<100
Total Phosphorus (P)	ug/L	-	-	-	-	--	--	--	--	<100	490	<100	320	<100	--	--	--	--	<100	<100	<100	<100	<100	<100	--	--	--	--	<100	<100	<100	<100	<100	<100
Dissolved Potassium (K)	ug/L	-	-	-	-	800	800	700	1100	740	770	510	740	560	1900	2300	1600	1300	1300	1300	1100	1200	1200	1100	2100	2000	1600	1400	1400	1400	1300	1300	1300	1300
Total Potassium (K)	ug/L	-	-	-	-	--	--	--	--	740	4800	890	3300	750	--	--	--	--	1400	1300	1100	1300	1200	1100	--	--	--	--	1600	1500	1300	1300	1400	1500
Dissolved Selenium (Se)	ug/L	10	-	50	-	<1.0	ND	<1.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	ND	<1.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	ND	<1.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50
Total Selenium (Se)	ug/L	-	10	50	-	--	--	--	--	<1.0	<0.50	<0.50	<0.50	<0.50	--	--	--	--	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Silver (Ag)	ug/L	100	-	-	-	<0.10	0.71	0.16	<0.10	<0.10	0.97	<0.10	0.51	<0.10	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Silver (Ag)	ug/L	-	1	-	-	--	--	--	--	0.4	8.3	1.4	8.8	0.52	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	--	--	--	--	0.19	0.13	<0.10	<0.10	0.4	0.18
Dissolved Sodium (Na)	ug/L	200000	-	-	200000	3400	1700	2900	6100	2800	2700	2800	2600	4300	5200	5500	4800	4600	4800	4300	4300	4500	4600	4600	10000	10000	7300	6800	5900	5800	5200	5200	5100	5000
Total Sodium (Na)	ug/L	-	-	-	200000	--	--	--	--	2500	2800	2900	2700	4900	--	--	--	--	4900	4100	4400	4700	4600	4600	--	--	--	--	6000	5800	5200	5100	5000	5300
Dissolved Strontium (Sr)	ug/L	4400	-	7000	-	8.6	10	8.3	6.3	8.7	11	5.1	9.7	6.2	120	120	130	120	110	110	100	99	100	100	71	77	110	90	84	69	71	71	63	59
Total Strontium (Sr)	ug/L	-	210000	7000	-	--	--	--	--	9.3	21	6.5	17	7.3	--	--	--	--	110	110	99	110	100	100	--	--	--	--	88	68	68	70	66	60
Dissolved Thallium (Tl)	ug/L	2	-	-	-	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Thallium (Tl)	ug/L	-	8	-	-	--	--	--	--	<0.10	0.27	<0.10	0.14	<0.10	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dissolved Tin (Sn)	ug/L	4400	-	-	-	<2.0	ND	<2.0	<2.0	2.6	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	2.9	3.1	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	2.3	<2.0	<2.0
Total Tin (Sn)	ug/L	-	-	-	-	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	3.4	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Titanium (Ti)	ug/L	-	-	-	-	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Titanium (Ti)	ug/L	-	-	-	-	--	--	--	--	6.7	580	71	320	44	--	--	--	--	8.7	2.4	3	6.2	3.2	3.3	--	--	--	--	24	32	10	14	12	30
Dissolved Uranium (U)	ug/L	20	-	20	-	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	2.9	3.1	2.4	2.4	2.4	2.8	1.9	2.2	2.3	2.2	<0.10	ND	0.12	0.13	0.11	<0.10	<0.10	<0.10	<0.10	<0.10
Total Uranium (U)	ug/L	-	3000	20	-	--	--	--	--	<0.10	1.7	0.16	0.94	0.18	--	--	--	--	2.5	2.6	1.9	2.4	2.3	2.2	--	--	--	--	0.17	0.11	0.11	0.14	0.12	0.18
Dissolved Vanadium (V)	ug/L	6.2	-	-	-	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	3.1	2.4	<2.0	<2.0	2.1	2.5	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Vanadium (V)	ug/L	-	60	-	-	--	--	--	--	<2.0	24	2.5	12	<2.0	--	--	--	--	2.3	3.1	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Zinc (Zn)	ug/L	5000	-	-	5000	9.9	5.2	<5.0	<5.0	5.1	<5.0	<5.0	6.8	7.8	<5.0	ND	<5.0	<5.0	<5.0	<5.0	<5.0	5.3	5.1	5.8	7.6	12	<5.0	5.7	5.2	6.3	7.5	9.3	9.9	15
Total Zinc (Zn)	ug/L	-	300	-	5000	--	--	--	--	<5.0	39	6.2	23	8.5	--	--	--	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	--	--	--	--	5.5	8.6	6.7	6.3	16	16
Dissolved Mercury (Hg)	ug/L	1	-	1	-	--	--	--	--	--	--	--	--	<0.013	--	--	--	--	--	--	--	--	--	<0.013	--	--	--	--	--	--	--	--	--	<0.013
Total Mercury (Hg)	ug/L	-	0.26	1	-	--	--	--	--	--	--	--	--	<0.013	--	--	--	--	--	--	--	--	--	<0.013	--	--	--	--	--	--	--	--	--	<0.013

Table 3.2: Groundwater Quality Data - MW-20
Beaver Dam Mine Project
Marinette, Nova Scotia

Sample		Criteria				MW-20A										MW-20B								
Sample Date		NSE PSS for GW and NSE Tier 1 EQS: Potable Groundwater	NSE PSS for GW: Groundwater Discharge to Surface Water (>10 m)	GCDWQ; MAC	GCDWQ; AO	26-Jun-18	12-Sep-18	12-Sep-18 Field DUP4	29-Nov-18	4-Apr-19	27-Jun-19	27-Jun-19 Field DUP1	2-Oct-19	2-Oct-19 Field DUP1	30-Apr-20	30-Jul-20	5-Nov-20	26-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20
Calculated Parameters	**Units**																							
Anion Sum	me/L		-	-	-	0.36	0.41	1.11	0.27	0.3	0.19	0.19	0.33	0.37	0.04	0.34	0.320	2.12	2.23	2.04	2.17	2.02	0.28	0.26	0.32	0.180
Bicarb. Alkalinity (calc. as CaCO3)	mg/L		-	-	-	7.9	12	41	5.3	7.1	<1.0	<1.0	7.9	7.9	<1.0	5.1	7.0	90	96	87	92	88	6	5.8	5.5	<1.0
Calculated TDS	mg/L		-	-	500	26	31	68	19	21	18	18	26	28	8	27	24	120	120	100	120	120	23	19	26	21
Carb. Alkalinity (calc. as CaCO3)	mg/L		-	-	-	<1.0	ND	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Cation Sum	me/L		-	-	-	0.31	0.33	1.01	0.22	0.23	0.21	0.21	0.28	0.28	0.13	0.28	0.260	1.95	1.96	1.33	2.01	1.99	0.23	0.22	0.27	0.260
Hardness (CaCO3)	mg/L		-	-	-	7.6	8.1	40	3.4	4.8	4.6	4.5	6.9	6.9	3.2	6.5	6.0	72	74	48	74	70	4.9	5.6	6.2	5.6
Ion Balance (% Difference)	%		-	-	-	7.46	10.8	4.72	10.2	13.2	5	5	8.2	13.9	52.9	9.68	10.3	4.18	6.44	21.1	3.83	0.75	9.8	8.33	8.47	18.2
Langelier Index (@ 20C)	N/A		-	-	-	-4.03	-3.63	-1.4	-4.76	-4.55	NC	NC	-3.74	-4.05	NC	-3.99	-4.45	-0.041	-0.081	-0.315	-0.17	-0.305	-4.01	-4.63	-3.76	NC
Langelier Index (@ 4C)	N/A		-	-	-	-4.28	-3.88	-1.66	-5.01	-4.8	NC	NC	-4	-4.3	NC	-4.24	-4.70	-0.291	-0.332	-0.566	-0.421	-0.556	-4.26	-4.88	-4.01	NC
Nitrate (N)	mg/L		-	10	-	0.21	0.27	ND	0.25	0.42	0.85	0.93	0.46	0.44	0.56	1.2	0.77	<0.050	ND	0.052	0.068	0.09	0.24	0.3	0.92	0.91
Saturation pH (@ 20C)	N/A		-	-	-	10.1	9.93	8.57	10.6	10.4	NC	NC	10.1	10.1	NC	10.4	10.2	8.07	8.03	8.26	8.05	8.09	10.5	10.4	10.4	NC
Saturation pH (@ 4C)	N/A		-	-	-	10.4	10.2	8.83	10.9	10.6	NC	NC	10.4	10.4	NC	10.6	10.5	8.32	8.28	8.51	8.3	8.35	10.7	10.6	10.6	NC
Inorganics																										
Total Alkalinity (Total as CaCO3)	mg/L		-	-	-	7.9	12	41	5.3	7.1	<5.0	<5.0	7.9	7.9	<5.0	5.1	7.0	91	97	87	93	88	6	5.8	5.5	<5.0
Total Chemical Oxygen Demand	mg/L		-	-	-	--	--	--	--	--	--	--	--	--	--	--	<20	--	--	--	--	--	--	--	--	<20
Dissolved Chloride (Cl)	mg/L	250	1500	-	250	4.8	3.6	3.7	3.4	2.8	1.3	1.6	2.8	2.7	<1.0	3.5	2.3	3.6	3.1	3.2	3.3	2.1	3	2	3.2	2.3
Colour	TCU		-	-	15	5.5	ND	ND	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Nitrate + Nitrite (N)	mg/L		-	-	-	0.21	0.27	ND	0.25	0.42	0.85	0.93	0.46	0.44	0.56	1.2	0.77	<0.050	ND	0.052	0.068	0.09	0.24	0.3	0.92	0.91
Nitrite (N)	mg/L		-	1	-	<0.010	ND	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Nitrogen (Ammonia Nitrogen)	mg/L		-	-	-	<0.050	ND	ND	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.054	ND	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dissolved Organic Carbon (C)	mg/L		-	-	-	--	--	--	--	--	--	--	--	--	--	--	1.0	--	--	--	--	--	--	--	--	<0.5
Total Organic Carbon (C)	mg/L		-	-	-	1.3	ND	1.6	1.8	1.1	1.3	1.3	1.3	1.3	1.2	0.97	<5.0 (1)	0.84	ND	0.77	<0.50	<0.50	<0.50	<0.50	0.45	<0.50
Orthophosphate (P)	mg/L		-	-	-	<0.010	0.011	ND	0.01	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.17	<0.010	0.014	0.01	<0.010	0.015	<0.010	<0.010	<0.010	<0.010
pH	pH		-	-	7.0;10.5	6.08	6.3	7.17	5.89	5.82	5.78	5.76	6.39	6.1	5.15	6.38	5.80	8.02	7.95	7.94	7.88	7.79	6.45	5.76	6.64	5.80
Dissolved Phosphorous (P)	mg/L		-	-	-	--	--	--	--	--	--	--	--	--	--	--	0.063	--	--	--	--	--	--	--	--	0.028
Total Phosphorus (P)	mg/L		-	-	-	--	--	--	--	--	--	--	--	--	--	--	0.030	--	--	--	--	--	--	--	--	<0.020
Reactive Silica (SiO2)	mg/L		-	-	-	6.7	9.2	10	3.9	4.6	4	4.2	7.3	7.2	3.2	6.1	6.0	12	12	12	13	12	7.1	4.9	6.9	6.6
Total Suspended Solids	mg/L		-	-	-	--	--	--	--	--	--	--	--	--	--	--	28	--	--	--	--	--	--	--	--	1.8
Dissolved Sulphate (SO4)	mg/L		-	-	500	2.3	2.7	8.9	2.3	2.5	4.6	3.8	3.1	5.2	<2.0	2.5	2.4	9.8	9.8	9.6	10	9.1	3	3.2	2.7	2.2
Turbidity	NTU		-	-	0.3	4.9	7.9	1	7.8	4.5	4.4	5.6	6.8	2.8	3	6	5.1	4.7	2.5	3.1	4.3	11	0.18	0.16	<0.10	0.12
Conductivity	uS/cm		-	-	-	38	41	110	29	29	26	26	35	34	29	36	35	200	200	180	190	190	28	29	33	30

Table 3.2: Groundwater Quality Data - MW-20
Beaver Dam Mine Project
Marinette, Nova Scotia

Sample		Criteria				MW-20A											MW-20B								
Sample Date		NSE PSS for GW and NSE Tier 1 EQS: Potable Groundwater	NSE PSS for GW: Groundwater Discharge to Surface Water (>10 m)	GCDWQ; MAC	GCDWQ; AO	26-Jun-18	12-Sep-18	12-Sep-18 Field DUP4	29-Nov-18	4-Apr-19	27-Jun-19	27-Jun-19 Field DUP1	2-Oct-19	2-Oct-19 Field DUP1	30-Apr-20	30-Jul-20	5-Nov-20	26-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20
Metals																									
Dissolved Aluminum (Al)	ug/L	100	-	-	100	38	18	5.7	110	83	180	200	54	54	660	140	120	62	10	10	8.7	7.3	27	190	40	120
Total Aluminum (Al)	ug/L	-	50	-	100	--	--	--	--	--	520	500	240	290	810	660	380	--	--	--	--	1400	31	190	76	130
Dissolved Antimony (Sb)	ug/L	6	-	6	-	<1.0	ND	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Antimony (Sb)	ug/L	-	200	6	-	--	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Arsenic (As)	ug/L	10	-	10	-	<1.0	ND	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	7	10	8	8.8	8.1	<1.0	<1.0	<1.0	<1.0
Total Arsenic (As)	ug/L	-	50	10	-	--	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	8.8	<1.0	<1.0	<1.0	<1.0
Dissolved Barium (Ba)	ug/L	1000	-	2000	-	4.8	4.4	4.4	6.3	5	7.5	7.8	4.8	5.1	13	8.3	7	11	12	9.1	11	9	4.6	4.8	4.4	5.1
Total Barium (Ba)	ug/L	-	10000	2000	-	--	--	--	--	--	9.6	10	5.9	6.3	13	12	8.1	--	--	--	--	10	4.5	4.6	5.1	5.1
Dissolved Beryllium (Be)	ug/L	4	-	-	-	<1.0	ND	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Beryllium (Be)	ug/L	-	53	-	-	--	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Bismuth (Bi)	ug/L	-	-	-	-	<2.0	ND	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Bismuth (Bi)	ug/L	-	-	-	-	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Boron (B)	ug/L	5000	-	5000	-	<50	ND	ND	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	ND	<50	<50	<50	<50	<50	<50	<50
Total Boron (B)	ug/L	-	12000	5000	-	--	--	--	--	--	<50	<50	<50	<50	<50	<50	<50	--	--	--	--	<50	<50	<50	<50	<50
Dissolved Cadmium (Cd)	ug/L	5	-	7	-	0.035	0.036	0.018	0.032	0.031	0.037	0.042	0.028	0.031	0.041	0.043	0.038	0.011	ND	0.01	0.014	<0.010	0.019	0.027	0.022	0.027
Total Cadmium (Cd)	ug/L	-	0.1	7	-	--	--	--	--	--	0.04	0.042	0.029	0.03	0.051	0.041	0.035	--	--	--	--	<0.010	0.019	0.026	0.023	0.022
Dissolved Calcium (Ca)	ug/L	-	-	-	-	1900	2000	14000	800	1200	1000	1000	1800	1800	750	1600	1600	22000	22000	14000	22000	21000	1100	1300	1400	1200
Total Calcium (Ca)	ug/L	-	-	-	-	--	--	--	--	--	970	970	1700	1800	730	1700	1500	--	--	--	--	21000	1100	1200	1400	1300
Dissolved Chromium (Cr)	ug/L	50	-	50	-	<1.0	ND	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Chromium (Cr)	ug/L	-	-	50	-	--	--	--	--	--	1.7	1.2	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Cobalt (Co)	ug/L	10	-	-	-	2.8	ND	ND	4.7	7.3	6.4	7.2	7.3	7.2	3	1.1	3.5	<0.40	ND	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Total Cobalt (Co)	ug/L	-	100	-	-	--	--	--	--	--	8.6	9.1	7.2	7.6	2.9	1.4	3.8	--	--	--	--	<0.40	<0.40	<0.40	<0.40	<0.40
Dissolved Copper (Cu)	ug/L	1000	-	2000	1000	3	2.1	2	25	16	23	25	13	13	13	11	12	<2.0	ND	2.7	1.6	0.63	<0.50	0.63	<0.50	<0.50
Total Copper (Cu)	ug/L	-	20	2000	1000	--	--	--	--	--	28	30	16	18	14	10	14	--	--	--	--	1.1	<0.50	0.81	<0.50	<0.50
Dissolved Iron (Fe)	ug/L	300	-	-	300	<50	ND	ND	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	ND	<50	<50	<50	<50	<50	<50	<50
Total Iron (Fe)	ug/L	-	3000	-	300	--	--	--	--	--	390	320	210	280	180	570	290	--	--	--	--	430	<50	<50	<50	<50
Dissolved Lead (Pb)	ug/L	10	-	5	-	<0.50	ND	ND	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	ND	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total Lead (Pb)	ug/L	-	10	5	-	--	--	--	--	--	0.61	0.62	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	0.63	<0.50	<0.50	<0.50	<0.50
Dissolved Magnesium (Mg)	ug/L	-	-	-	-	680	770	1500	350	470	490	480	600	610	320	600	510	4500	4600	3100	4700	4500	520	550	650	620
Total Magnesium (Mg)	ug/L	-	-	-	-	--	--	--	--	--	520	510	630	700	370	740	580	--	--	--	--	4700	540	530	660	590
Dissolved Manganese (Mn)	ug/L	50	-	120	20	150	60	17	52	57	60	63	42	43	56	41	49	100	110	51	42	33	27	53	37	41
Total Manganese (Mn)	ug/L	-	8200	120	20	--	--	--	--	--	72	73	49	54	57	59	56	--	--	--	--	26	28	51	39	42
Dissolved Molybdenum (Mo)	ug/L	70	-	-	-	<2.0	2.3	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	6.7	5.5	6.7	6.8	<2.0	<2.0	<2.0	<2.0
Total Molybdenum (Mo)	ug/L	-	730	-	-	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	7.1	<2.0	<2.0	<2.0	<2.0
Dissolved Nickel (Ni)	ug/L	100	-	-	-	6.8	2.8	ND	13	26	16	17	15	15	15	4.5	21	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Nickel (Ni)	ug/L	-	250	-	-	--	--	--	--	--	20	20	15	16	14	5.9	23	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Phosphorus (P)	ug/L	-	-	-	-	<100	ND	ND	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	ND	<100	<100	<100	<100	<100	<100	<100
Total Phosphorus (P)	ug/L	-	-	-	-	--	--	--	--	--	<100	<100	<100	<100	<100	<100	<100	--	--	--	--	<100	<100	<100	<100	<100
Dissolved Potassium (K)	ug/L	-	-	-	-	610	670	1300	300	280	390	410	440	440	570	640	580	1600	1800	1300	1800	1200	290	200	280	420
Total Potassium (K)	ug/L	-	-	-	-	--	--	--	--	--	450	470	440	480	590	770	510	--	--	--	--	1100	290	180	280	300
Dissolved Selenium (Se)	ug/L	10	-	50	-	<1.0	ND	ND	<1.0	<1.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	ND	<1.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50
Total Selenium (Se)	ug/L	-	10	50	-	--	--	--	--	--	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	<1.0	<0.50	<0.50	<0.50	<0.50
Dissolved Silver (Ag)	ug/L	100	-	-	-	<0.10	ND	ND	0.17	0.12	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Silver (Ag)	ug/L	-	1	-	-	--	--	--	--	--	0.42	0.7	0.26	0.33	0.22	0.18	0.12	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10
Dissolved Sodium (Na)	ug/L	200000	-	-	200000	3200	3600	4000	3200	2900	2400	2400	3100	3100	1100	3100	2900	10000	10000	7700	11000	13000	2900	2300	3100	3100
Total Sodium (Na)	ug/L	-	-	-	200000	--	--	--	--	--	2200	2200	3000	3300	1100	3100	2800	--	--	--	--	13000	3100	2200	3000	2800
Dissolved Strontium (Sr)	ug/L	4400	-	7000	-	19	18	78	10	13	13	13	17	16	12	16	14	270	270	180	280	260	14	14	15	14
Total Strontium (Sr)	ug/L	-	210000	7000	-	--	--	--	--	--	12	12	15	17	11	17	15	--	--	--	--	260	14	14	16	16
Dissolved Thallium (Tl)	ug/L	2	-	-	-	<0.10	ND	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Thallium (Tl)	ug/L	-	8	-	-	--	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10
Dissolved Tin (Sn)	ug/L	4400	-	-	-	<2.0	ND	2.3	<2.0	<2.0	<2.0	<2.0	<2.0	4	<2.0	<2.0	<2.0	2.1	ND	2.1	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Tin (Sn)	ug/L	-	-	-	-	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Titanium (Ti)	ug/L	-	-	-	-	<2.0	ND	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Titanium (Ti)	ug/L	-	-	-	-	--	--	--	--	--	10	9.4	6.8	8	5	15	9.5	--	--	--	--	12	<2.0	<2.0	<2.0	<2.0
Dissolved Uranium (U)	ug/L	20	-	20	-	<0.10	ND	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.86	0.85	0.45	0.87	0.88	<0.10	<0.10	<0.10	<0.10
Total Uranium (U)	ug/L	-	3000	20	-	--	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	--	--	--	--	1.3	<0.10	<0.10	<0.10	<0.10
Dissolved Vanadium (V)	ug/L	6.2	-	-	-	<2.0	ND	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Vanadium (V)	ug/L	-	60	-	-	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Zinc (Zn)	ug/L	5000	-	-	5000	10	6.3	16	22	42	31	35	27	29	40	18	51	<5.0	ND	17	<5.0	<5.0	<5.0	5.2	<5.0	<5.0
Total Zinc (Zn)	ug/L	-	300	-	5000	--	--	--	--	--	37	37	25	28	36	19	48	--	--	--	--	<5.0	<5.0	<5.0	<5.0	<5.0
Dissolved Mercury (Hg)	ug/L	1	-	1	-	--	--	--	--	--	--	--	--	--	--	--	<0.013	--	--	--	--	--	--	--	--	<0.013
Total Mercury (Hg)	ug/L	-	0.26	1	-	--	--	--	--	--	--	--	--	--	--	--	<0.013	--	--	--	--	--	--	--	--	<0.013

Table 3.2: Groundwater Quality Data - MW-21
Beaver Dam Mine Project
Marinette, Nova Scotia

Sample		Criteria				MW-21A												MW-21B									MW-21C								
Sample Date		NSE PSS for GW and NSE Tier 1 EQS: Potable Groundwater	NSE PSS for GW: Groundwater Discharge to Surface Water (>10 m)	GCDWQ; MAC	GCDWQ; AO	18-Jun-18	12-Sep-18	29-Nov-18	29-Nov-18 Field DUP3	4-Apr-19	4-Apr-19 Field DUP1	27-Jun-19	2-Oct-19	30-Apr-20	30-Apr-20 Field DUP1	30-Jul-20	30-Jul-20 Field DUP1	5-Nov-20	18-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20	18-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20
Calculated Parameters	Units																																	
Anion Sum	me/L		-	-	-	0.250	0.420	0.490	0.430	0.280	0.280	0.18	0.33	0.28	0.29	0.27	0.27	0.260	0.58	0.69	0.49	0.32	0.38	0.4	0.3	0.33	0.330	1.67	1.69	1.61	1.74	1.81	2.46	1.34	2.27	1.81
Bicarb. Alkalinity (calc. as CaCO3)	mg/L		-	-	-	6.5	13	17	15	7.8	7.9	5.3	9.3	9	8.9	7	6.5	7.4	21	26	17	10	10	13	9.9	9.1	10	54	61	58	59	65	81	38	66	66
Calculated TDS	mg/L		-	-	500	20	31	33	31	19	19	17	25	21	21	21	21	20	40	46	34	22	27	30	21	26	25	110	110	100	110	120	150	85	150	110
Carb. Alkalinity (calc. as CaCO3)	mg/L		-	-	-	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Cation Sum	me/L		-	-	-	0.240	0.370	0.400	0.400	0.220	0.210	0.23	0.28	0.26	0.25	0.22	0.22	0.230	0.55	0.62	0.45	0.26	0.34	0.36	0.26	0.29	0.300	1.56	1.52	1.48	1.57	1.75	2.39	1.2	2.26	1.70
Hardness (CaCO3)	mg/L		-	-	-	7.0	7.5	10	9.8	5.4	5.2	5.6	7.4	5.9	5.9	5.4	5.4	4.7	18	20	15	8.1	10	11	7.7	8.5	8.8	38	43	45	47	51	64	25	46	48
Ion Balance (% Difference)	%		-	-	-	2.04	6.33	10.1	3.61	12.0	14.3	12.2	8.2	3.7	7.41	10.2	10.2	6.12	2.65	5.34	4.26	10.3	5.56	5.26	7.14	6.45	4.76	3.41	5.3	4.21	5.14	1.69	1.44	5.51	0.22	3.13
Langelier Index (@ 20C)	N/A		-	-	-	-4.65	-4.08	-3.72	-3.78	-4.52	-4.50	-4.11	-4.26	-3.93	-4.04	-3.85	-4.13	-4.75	-2.94	-2.91	-3.3	-3.99	-3.4	-3.49	-4.12	-3.7	-4.32	-1.93	-1.55	-1.59	-1.8	-1.39	-1.23	-2.16	-1.41	-1.69
Langelier Index (@ 4C)	N/A		-	-	-	-4.90	-4.34	-3.97	-4.03	-4.77	-4.75	-4.37	-4.51	-4.19	-4.29	-4.11	-4.38	-5.00	-3.19	-3.16	-3.56	-4.24	-3.66	-3.74	-4.37	-3.96	-4.57	-2.18	-1.81	-1.84	-2.05	-1.64	-1.48	-2.41	-1.66	-1.94
Nitrate (N)	mg/L		-	10	-	0.48	0.67	0.37	0.38	0.17	0.16	0.29	0.46	0.066	<0.050	0.48	0.48	0.31	0.35	0.53	0.28	0.15	0.2	0.39	0.12	0.31	0.30	0.14	0.17	0.26	0.19	0.15	<0.050	<0.050	0.073	0.21
Saturation pH (@ 20C)	N/A		-	-	-	10.3	9.94	9.66	9.72	10.3	10.3	10.4	10.1	10.2	10.2	10.3	10.4	10.4	9.3	9.13	9.5	9.99	9.92	9.78	10	10	9.97	8.63	8.56	8.58	8.56	8.49	8.28	8.95	8.51	8.52
Saturation pH (@ 4C)	N/A		-	-	-	10.5	10.2	9.91	9.97	10.5	10.5	10.7	10.3	10.4	10.4	10.6	10.6	10.6	9.56	9.38	9.75	10.2	10.2	10	10.3	10.3	10.2	8.88	8.81	8.83	8.81	8.74	8.53	9.2	8.76	8.77
Inorganics																																		
Total Alkalinity (Total as CaCO3)	mg/L		-	-	-	6.5	13	17	15	7.8	7.9	5.3	9.3	9	8.9	7	6.5	7.4	21	26	17	10	10	13	9.9	9.1	10	54	61	58	59	65	81	38	66	66
Total Chemical Oxygen Demand	mg/L		-	-	-	--	--	--	--	--	--	--	--	--	--	--	--	<20	--	--	--	--	--	--	--	--	<20	--	--	--	--	--	--	--	--	<20
Dissolved Chloride (Cl)	mg/L	250	1500	-	250	3.1	2.6	3.0	2.3	2.4	2.3	<1.0	1.7	1.3	1.3	1.6	1.7	1.6	3.1	2.6	2.9	2.4	3.5	1.8	1.2	1.8	1.7	5.2	4.5	4.7	4.8	3.4	4.6	3.4	5.6	3.7
Colour	TCU		-	-	15	8.0	5.6	<5.0	<5.0	<5.0	<5.0	5.9	<5.0	<5.0	5.6	5.6	<5.0	<5.0	<5.0	ND	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<5.0	<5.0	<5.0	<5.0	<5.0	5.5	5.3	8.0
Nitrate + Nitrite (N)	mg/L		-	-	-	0.48	0.67	0.37	0.38	0.17	0.16	0.29	0.46	0.066	<0.050	0.48	0.48	0.31	0.35	0.53	0.28	0.15	0.2	0.39	0.12	0.31	0.30	0.14	0.18	0.28	0.23	0.17	<0.050	<0.050	0.085	0.23
Nitrite (N)	mg/L		-	1	-	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.01	0.019	0.041	0.022	<0.010	0.011	0.012	0.015
Nitrogen (Ammonia Nitrogen)	mg/L		-	-	-	<0.050	ND	<0.050	<0.050	<0.050	<0.050	<0.050	0.059	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	ND	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	ND	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dissolved Organic Carbon (C)	mg/L		-	-	-	--	--	--	--	--	--	--	--	--	--	--	--	2.2	--	--	--	--	--	--	--	--	1.8	--	--	--	--	--	--	--	--	2.4
Total Organic Carbon (C)	mg/L		-	-	-	2.1	2.0	2.4	2.3	2.8	2.7	2.1	<5.0 (1)	3.3	3.3	2	2	2.4	1	1.3	2.1	2	1.8	1.4	1.8	1.3	<5.0 (1)	4.2	2.5	2.3	2.8	3.7	8.5	8.6	6.5	2.6
Orthophosphate (P)	mg/L		-	-	-	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.012	<0.010	<0.010	0.018	0.02	0.017	0.023	0.022	0.021	0.02	0.018	0.017	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
pH	pH		-	-	7.0;10.5	5.64	5.86	5.94	5.94	5.75	5.78	6.31	5.81	6.22	6.13	6.48	6.24	5.62	6.37	6.22	6.19	6.01	6.51	6.29	5.91	6.32	5.65	6.7	7.01	7	6.76	7.1	7.05	6.79	7.1	6.84
Dissolved Phosphorous (P)	mg/L		-	-	-	--	--	--	--	--	--	--	--	--	--	--	--	0.028	--	--	--	--	--	--	--	--	0.026	--	--	--	--	--	--	--	--	<0.020
Total Phosphorus (P)	mg/L		-	-	-	--	--	--	--	--	--	--	--	--	--	--	--	<0.020	--	--	--	--	--	--	--	--	0.025	--	--	--	--	--	--	--	--	0.024
Reactive Silica (SiO2)	mg/L		-	-	-	5.6	6.8	7.0	7.0	4.5	4.4	5.5	6.5	5.2	5.1	5.8	5.7	5.7	8.9	10	7.9	5.1	6.2	8.4	5.3	7.4	6.6	15	19	19	19	18	18	10	15	17
Total Suspended Solids	mg/L		-	-	-	--	--	--	--	--	--	--	--	--	--	--	--	23	--	--	--	--	--	--	--	--	18	--	--	--	--	--	--	--	--	15
Dissolved Sulphate (SO4)	mg/L		-	-	500	<2.0	2.3	2.1	2.2	2.4	2.1	2.4	3	3.1	3.8	2.6	2.8	2.1	2.2	2.7	2.1	2.1	3.1	3	2.9	3.7	2.9	21	16	14	20	20	34	24	38	18
Turbidity	NTU		-	-	0.3	1.1	1.7	9.9	32	23	8.8	14	27	34	30	30	28	30	27	61	71	50	30	35	39	29	36	33	160	170	150	160	170	240	130	220	160
Conductivity	uS/cm		-	-	-	33	48	49	48	26	26	27	34	30	30	28	30	27	61	71	50	30	35	39	29	36	33	160	170	150	160	170	240	130	220	160
						7.6	1.8	3	3.7	4.2	20	31	11	3.6	7.4	17	17	1.8	3.9	1.7	1.9	4	4.4	2.3	17	17	1.8	3.9	1.7	1.9	4	4.4	7.6	1.8	3	3.7	4.2	20	31	11	3.6

Table 3.2: Groundwater Quality Data - MW-21
Beaver Dam Mine Project
Marinette, Nova Scotia

Sample		Criteria				MW-21A												MW-21B									MW-21C								
Sample Date		NSE PSS for GW and NSE Tier 1 EQS: Potable Groundwater	NSE PSS for GW: Groundwater Discharge to Surface Water (>10 m)	GCDWQ; MAC	GCDWQ; AO	18-Jun-18	12-Sep-18	29-Nov-18	29-Nov-18 Field DUP3	4-Apr-19	4-Apr-19 Field DUP1	27-Jun-19	2-Oct-19	30-Apr-20	30-Apr-20 Field DUP1	30-Jul-20	30-Jul-20 Field DUP1	5-Nov-20	18-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20	18-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20
Metals																																		
Dissolved Aluminum (Al)	ug/L	100	-	-	100	430	390	160	180	210	210	330	240	170	160	360	350	350	16	26	49	75	77	58	91	81	130	7.5	ND	<5.0	<5.0	<5.0	6.9	40	12	5
Total Aluminum (Al)	ug/L	-	50	-	100	--	--	--	--	--	--	1400	10000	2500	1600	580	520	430	--	--	--	--	340	180	160	270	310	--	--	--	--	280	830	490	96	61
Dissolved Antimony (Sb)	ug/L	6	-	6	-	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Antimony (Sb)	ug/L	-	200	6	-	--	--	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Arsenic (As)	ug/L	10	-	10	-	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	1.3	<1.0
Total Arsenic (As)	ug/L	-	50	10	-	--	--	--	--	--	--	<1.0	3	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	<1.0	1.2	1.1	1.7	<1.0
Dissolved Barium (Ba)	ug/L	1000	-	2000	-	15	19	14	14	9.2	9.4	12	9.7	7.9	7.9	13	13	13	3.5	5.8	3.4	1.8	2.5	3.3	2.5	3.3	4.1	9.7	8.2	8.1	7.5	8.2	13	9.9	11	8
Total Barium (Ba)	ug/L	-	10000	2000	-	--	--	--	--	--	--	21	88	41	29	17	16	13	--	--	--	--	4.6	4.1	3	4.6	5.2	--	--	--	--	11	18	16	12	8.1
Dissolved Beryllium (Be)	ug/L	4	-	-	-	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Beryllium (Be)	ug/L	-	53	-	-	--	--	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Bismuth (Bi)	ug/L	-	-	-	-	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Bismuth (Bi)	ug/L	-	-	-	-	--	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Boron (B)	ug/L	5000	-	5000	-	<50	ND	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	ND	<50	<50	<50	<50	<50	<50	<50	<50	ND	<50	<50	<50	<50	<50	<50	<50
Total Boron (B)	ug/L	-	12000	5000	-	--	--	--	--	--	--	<50	<50	<50	<50	<50	<50	<50	--	--	--	--	<50	<50	<50	<50	<50	--	--	--	--	<50	<50	<50	<50	<50
Dissolved Cadmium (Cd)	ug/L	5	-	7	-	0.049	0.066	0.041	0.043	0.032	0.034	0.041	0.051	0.037	0.04	0.051	0.05	0.043	0.015	0.025	0.016	0.026	0.027	0.033	0.023	0.032	0.031	0.019	ND	0.019	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Total Cadmium (Cd)	ug/L	-	0.1	7	-	--	--	--	--	--	--	0.048	0.076	0.049	0.05	0.05	0.054	0.04	--	--	--	--	0.028	0.026	0.022	0.029	0.031	--	--	--	--	<0.010	0.014	0.036	<0.010	<0.010
Dissolved Calcium (Ca)	ug/L	-	-	-	-	1500	1800	2600	2500	1300	1300	1300	1800	1500	1500	1300	1300	1100	4700	5800	3700	1900	2300	2500	1800	2000	2100	9700	10000	9900	10000	11000	15000	6400	11000	10000
Total Calcium (Ca)	ug/L	-	-	-	-	--	--	--	--	--	--	1500	3500	1700	1700	1300	1300	1100	--	--	--	--	2500	2500	1800	2000	2000	--	--	--	--	12000	15000	6400	12000	9800
Dissolved Chromium (Cr)	ug/L	50	-	50	-	<1.0	ND	<1.0	<1.0	<1.0	1.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	1.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Chromium (Cr)	ug/L	-	-	50	-	--	--	--	--	--	--	3.1	26	2.2	1.5	<1.0	<1.0	<1.0	--	--	--	--	1.3	<1.0	<1.0	<1.0	<1.0	--	--	--	--	1.2	1.1	1	<1.0	<1.0
Dissolved Cobalt (Co)	ug/L	10	-	-	-	3.7	4.2	2.4	2.4	1.7	1.5	2.2	2.6	1.7	1.7	2.6	2.5	1.9	<0.40	0.46	<0.40	0.68	0.78	0.69	0.65	0.79	1.1	0.51	0.65	<0.40	0.41	0.53	0.51	0.93	0.42	0.46
Total Cobalt (Co)	ug/L	-	100	-	-	--	--	--	--	--	--	3	8.2	2.3	2.3	2.8	2.7	2	--	--	--	--	0.87	0.71	0.63	0.89	1.1	--	--	--	--	0.59	0.8	1.2	0.48	0.51
Dissolved Copper (Cu)	ug/L	1000	-	2000	1000	<2.0	ND	<2.0	<2.0	4.5	4.3	0.95	0.99	1.2	1.2	0.89	0.87	0.9	<2.0	ND	19	3.4	0.77	0.78	0.71	0.62	1.3	<2.0	ND	<2.0	<0.50	<0.50	<0.50	0.74	<0.50	<0.50
Total Copper (Cu)	ug/L	-	20	2000	1000	--	--	--	--	--	--	3.1	23	4.5	3.8	1.7	1.2	1.7	--	--	--	--	1.4	1	0.96	1	1.8	--	--	--	--	0.93	3.1	6.4	0.99	0.59
Dissolved Iron (Fe)	ug/L	300	-	-	300	65	ND	<50	<50	69	60	<50	<50	<50	<50	<50	<50	<50	<50	ND	<50	<50	<50	<50	<50	<50	<50	<50	ND	<50	52	950	310	88	380	420
Total Iron (Fe)	ug/L	-	3000	-	300	--	--	--	--	--	--	1400	18000	1700	1000	240	160	74	--	--	--	--	230	110	84	150	170	--	--	--	--	610	1100	660	660	530
Dissolved Lead (Pb)	ug/L	10	-	5	-	<0.50	ND	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	ND	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	ND	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total Lead (Pb)	ug/L	-	10	5	-	--	--	--	--	--	--	<0.50	4.2	1.8	1.1	<0.50	<0.50	<0.50	--	--	--	--	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	<0.50	1	1.2	<0.50	<0.50
Dissolved Magnesium (Mg)	ug/L	-	-	-	-	780	750	860	860	510	510	580	720	540	530	540	540	460	1500	1400	1400	790	1100	1100	780	860	880	3200	4300	4900	5100	5600	6300	2200	4700	5400
Total Magnesium (Mg)	ug/L	-	-	-	-	--	--	--	--	--	--	950	4500	990	780	610	580	430	--	--	--	--	1100	1100	790	920	880	--	--	--	--	5700	6100	2300	5500	5300
Dissolved Manganese (Mn)	ug/L	50	-	120	20	650	540	610	590	190	190	240	390	170	170	300	300	160	110	200	130	150	160	170	120	140	150	180	240	160	210	230	360	260	340	270
Total Manganese (Mn)	ug/L	-	8200	120	20	--	--	--	--	--	--	270	670	190	180	300	300	160	--	--	--	--	180	170	120	140	160	--	--	--	--	240	340	260	350	260
Dissolved Molybdenum (Mo)	ug/L	70	-	-	-	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.6	ND	<2.0	<2.0	2.2	2.6	<2.0	<2.0	<2.0
Total Molybdenum (Mo)	ug/L	-	730	-	-	--	--	--	--	--	--	<2.0	5.8	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	2.6	3.1	2.1	2.5	<2.0
Dissolved Nickel (Ni)	ug/L	100	-	-	-	2.8	2.4	3.3	3.1	2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	3.7	<2.0	<2.0	<2.0	<2.0	3.5	<2.0	<2.0
Total Nickel (Ni)	ug/L	-	250	-	-	--	--	--	--	--	--	2.8	17	2.8	2.5	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	2.1	4.4	<2.0	<2.0
Dissolved Phosphorus (P)	ug/L	-	-	-	-	<100	ND	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	ND	<100	<100	<100	<100	<100	<100	<100	<100	ND	<100	<100	<100	<100	<100	<100	<100
Total Phosphorus (P)	ug/L	-	-	-	-	--	--	--	--	--	--	<100	590	<100	<100	<100	<100	<100	--	--	--	--	<100	<100	<100	<100	<100	--	--	--	--	<100	110	<100	<100	<100
Dissolved Potassium (K)	ug/L	-	-	-	-	850	970	880	870	560	570	700	790	590	600	710	720	730	1200	1100	1100	730	850	850	750	750	910	2100	1800	1800	1600	1700	1900	1500	1700	1600
Total Potassium (K)	ug/L	-	-	-	-	--	--	--	--	--	--	1100	3800	980	770	780	760	680	--	--	--	--	950	820	760	790	860	--	--	--	--	1800	2000	1500	1700	1500
Dissolved Selenium (Se)	ug/L	10	-	50	-	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	ND	<1.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	ND	<1.0	<1.0	<1.0	<0.50	<0.50	0.58	<0.50
Total Selenium (Se)	ug/L	-	10	50	-	--	--	--	--	--	--	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	<1.0	<0.50	<0.50	<0.50	<0.50	--	--	--	--	<1.0	<0.50	<0.50	<0.50	<0.50
Dissolved Silver (Ag)	ug/L	100	-	-	-	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Silver (Ag)	ug/L	-	1	-	-	--	--	--	--	--	--	0.12	1.3	0.27	0.18	<0.10	<0.10	<0.10	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10	--	--	--	--	<0.10	0.14	0.23	<0.10	<0.10
Dissolved Sodium (Na)	ug/L	200000	-	-	200000	1800	4400	4000	4100	2100	2100	2200	2400	2900	2600	2100	2100	2600	3700	4300	3000	1800	2600	2800	1900	2400	2300	17000	14000	12000	13000	16000	24000	15000	29000	16000
Total Sodium (Na)	ug/L	-	-	-	200000	--	--	--	--	--	--	3100	2800	3100	3400	2100	2000	2600	--	--	--	--	2500	2700	1800	2300	2200	--	--	--	--	16000	22000	15000	31000	15000
Dissolved Strontium (Sr)	ug/L	4400	-	7000	-	15	18	18	18	12	11	12	17	12	12	13	13	11	33	43	29	18	22	23	18	19	20	85	86	68	71	76	99	45	82	70
Total Strontium (Sr)	ug/L	-	210000	7000	-	--	--	--	--	--	--	13	28	19	15	14	13	11	--	--	--	--	24	23	18	20	20	--	--	--	--	80	94	44	95	69
Dissolved Thallium (Tl)	ug/L	2	-	-	-	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Thallium (Tl)	ug/L	-	8	-	-	--	--	--	--	--	--	<0.10	0.18	<0.10	<0.10	<0.10	<0.10	<0.10	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10
Dissolved Tin (Sn)	ug/L	4400	-	-	-	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.2	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Tin (Sn)	ug/L	-	-	-	-	--	--	--	--	--	--	<2.0	3.5	2.1	3.1	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	2.3	<2.0	<2.0
Dissolved Titanium (Ti)	ug/L	-	-	-	-	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Titanium (Ti)	ug/L	-	-	-	-	--	--	--	--	--	--	60	500	62	36	11	6	3	--	--	--	--	9.4	4.3	3.1	5.8	6	--	--	--	--	17	30	15	4.9	3.7
Dissolved Uranium (U)	ug/L	20	-	20	-	0.1	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.29	0.32	0.33	0.52	0.85	0.72	0.35	0.6	0.81
Total Uranium (U)	ug/L	-	3000	20	-	--	--	--	--	--	--	0.18	1.4	0.85	0.43	<0.10	<0.10	<0.10	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10	--	--	--	--	0.99	0.98	0.91	0.83	0.94
Dissolved Vanadium (V)	ug/L	6.2	-	-	-	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Vanadium (V)	ug/L	-	60	-	-	--	--	--	--	--	--	<2.0	16	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Zinc (Zn)	ug/L	5000	-	-	5000	<5.0	ND	<5.0	<5.0	<5.0	8.5	<5.0	5.3	6	5.5	<5.0	5.6	5.6	<5.0	6.2	13	13	<5.0	<5.0	<5.0	<5.0	5.4	6.5	7.7	15	12	<5.0	<5.0	7.9	<5.0	<5.0
Total Zinc (Zn)	ug/L	-	300	-	5000	--	--	--	--	--	--	6.9	31	7.3	8	5.5	<5.0	5.6	--	--	--	--	<5.0	<5.0	<5.0	<5.0	<5.0	--	--	--	--	<5.0	7.5	26	<5.0	<5.0
Dissolved Mercury (Hg)	ug/L	1	-	1	-	--	--	--	--	--	--	--	--	--	--	--	--	<0.013	--	--	--	--	--	--	--	--	<0.013	--	--	--	--	--	--	--	--	<0.013
Total Mercury (Hg)	ug/L	-	0.26	1	-	--	--	--	--	--	--	--	--	--	--	--	--	<0.013	--	--	--	--	--	--	--	--	<0.013	--	--	--	--	--	--	--	--	<0.013

Table 3.2: Groundwater Quality Data - MW-22
Beaver Dam Mine Project
Marinette, Nova Scotia

Sample		Criteria				MW-22A									MW-22B									MW-22C									
Sample Date		NSE PSS for GW and NSE Tier 1 EQS: Potable Groundwater	NSE PSS for GW: Groundwater Discharge to Surface Water (>10 m)	GCDWQ; MAC	GCDWQ; AO	26-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20	26-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20	26-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19	4-Apr-19 Field DUP4	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20
Calculated Parameters	Units																																
Anion Sum	me/L		-	-	-	0.3	0.39	0.4	0.39	0.18	0.35	0.33	0.36	0.330	1.56	0.85	1	0.83	1.36	1.11	0.78	1.2	1.02	2.24	2.13	2.14	2.19	2.2	2.12	2.08	1.8	2.14	2.11
Bicarb. Alkalinity (calc. as CaCO3)	mg/L		-	-	-	5.8	11	6.2	7.5	<1.0	7.2	6.9	6.7	7.1	59	31	35	28	54	42	26	45	37	94	95	94	94	95	95	93	75	94	93
Calculated TDS	mg/L		-	-	500	23	31	28	61	20	29	23	28	25	94	59	65	52	84	69	50	73	65	130	120	120	89	89	120	120	100	120	120
Carb. Alkalinity (calc. as CaCO3)	mg/L		-	-	-	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1	ND	1.3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Cation Sum	me/L		-	-	-	0.26	0.33	0.34	2.01	0.28	0.34	0.25	0.3	0.300	1.38	0.79	0.92	0.74	1.35	1.04	0.7	1.05	0.970	2	1.9	1.99	0.31	0.31	1.94	1.95	1.59	1.94	2.02
Hardness (CaCO3)	mg/L		-	-	-	5.5	7.4	4.2	58	4	5.7	2.5	4.5	3.3	48	14	21	21	49	31	20	36	33	52	56	59	4.2	4.2	58	58	44	58	60
Ion Balance (% Difference)	%		-	-	-	7.14	8.33	8.11	67.5	21.7	1.45	13.8	9.09	4.76	6.12	3.66	4.17	5.73	0.37	3.26	5.41	6.67	2.51	5.66	5.71	3.63	75.2	75.3	4.43	3.23	6.19	4.9	2.18
Langelier Index (@ 20C)	N/A		-	-	-	-4.11	-3.83	-4.71	-3.29	NC	-4.11	-4.9	-3.86	-4.84	-0.786	-2.36	-2.15	-2.52	-1.15	-1.74	-2.33	-1.46	-1.98	-0.089	-0.106	0.059	-1.5	-1.55	-0.137	-0.284	-0.761	-0.241	-0.0320
Langelier Index (@ 4C)	N/A		-	-	-	-4.36	-4.08	-4.96	-3.54	NC	-4.36	-5.15	-4.12	-5.10	-1.04	-2.62	-2.4	-2.77	-1.4	-1.99	-2.59	-1.72	-2.23	-0.34	-0.357	-0.192	-1.75	-1.8	-0.388	-0.535	-1.01	-0.492	-0.283
Nitrate (N)	mg/L		-	10	-	0.093	0.059	<0.050	0.089	<0.050	0.092	<0.050	0.096	0.065	<0.050	ND	0.05	0.056	<0.050	0.064	<0.050	0.051	0.055	<0.050	ND	<0.050	0.11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Saturation pH (@ 20C)	N/A		-	-	-	10.5	10	10.6	9.18	NC	10.3	10.8	10.4	10.6	8.41	9.23	9	9.08	8.44	8.73	9.12	8.64	8.77	8.16	8.13	8.11	9.42	9.41	8.11	8.11	8.32	8.12	8.11
Saturation pH (@ 4C)	N/A		-	-	-	10.7	10.3	10.9	9.43	NC	10.6	11	10.7	10.8	8.66	9.48	9.25	9.34	8.69	8.98	9.37	8.89	9.03	8.41	8.38	8.36	9.67	9.66	8.36	8.36	8.57	8.37	8.36
Inorganics																																	
Total Alkalinity (Total as CaCO3)	mg/L		-	-	-	5.8	11	6.2	7.5	<5.0	7.2	6.9	6.7	7.1	60	31	35	28	54	42	26	45	37	95	96	95	94	95	96	94	76	95	94
Total Chemical Oxygen Demand	mg/L		-	-	-	--	--	--	--	--	--	--	--	<20	--	--	--	--	--	--	--	--	<20	--	--	--	--	--	--	--	--	--	<20
Dissolved Chloride (Cl)	mg/L	250	1500	-	250	4	3.5	6.1	4.7	3.2	3.6	2.3	3.3	2.3	4.2	3.7	5.5	4.9	4	4.2	2.9	4	3.1	4.2	3.2	3.9	4	4.3	3	3	3.5	3.8	3.1
Colour	TCU		-	-	15	<5.0	ND	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Nitrate + Nitrite (N)	mg/L		-	-	-	0.093	0.059	<0.050	0.089	<0.050	0.092	<0.050	0.096	0.065	<0.050	ND	0.05	0.056	<0.050	0.064	<0.050	0.051	0.055	<0.050	ND	<0.050	0.11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Nitrite (N)	mg/L		-	1	-	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Nitrogen (Ammonia Nitrogen)	mg/L		-	-	-	<0.050	ND	<0.050	<0.050	<0.050	0.065	<0.050	<0.050	<0.050	<0.050	ND	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	ND	<0.050	<0.050	<0.050	<0.050	<0.050	0.071	<0.050	<0.050
Dissolved Organic Carbon (C)	mg/L		-	-	-	--	--	--	--	--	--	--	--	1.1	--	--	--	--	--	--	--	--	0.7	--	--	--	--	--	--	--	--	--	--	<0.5
Total Organic Carbon (C)	mg/L		-	-	-	1	0.93	1.4	1.5	0.83	1.8	1.1	1.2	1.5	1.8	2.6	2.8	1.2	0.57	1.3	1	0.9	1.2	1.6	0.93	0.86	1.3	1.3	<0.50	0.71	2.7	0.68	0.82
Orthophosphate (P)	mg/L		-	-	-	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
pH	pH		-	-	7.0:10.5	6.38	6.2	5.92	5.89	6.11	6.21	5.85	6.58	5.73	7.63	6.86	6.85	6.56	7.29	6.99	6.79	7.18	6.80	8.07	8.02	8.17	7.92	7.86	7.98	7.83	7.56	7.88	8.08
Dissolved Phosphorous (P)	mg/L		-	-	-	--	--	--	--	--	--	--	--	<0.020	--	--	--	--	--	--	--	--	<0.020	--	--	--	--	--	--	--	--	--	<0.020
Total Phosphorus (P)	mg/L		-	-	-	--	--	--	--	--	--	--	--	<0.020	--	--	--	--	--	--	--	--	<0.020	--	--	--	--	--	--	--	--	--	<0.020
Reactive Silica (SiO2)	mg/L		-	-	-	6.5	10	5.7	5.4	5.9	8.6	4.9	7.7	6.0	14	13	11	8.5	13	11	8	12	11	12	12	12	12	12	12	12	10	12	12
Total Suspended Solids	mg/L		-	-	-	--	--	--	--	--	--	--	--	7.6	--	--	--	--	--	--	--	--	8.8	--	--	--	--	--	--	--	--	--	7.8
Dissolved Sulphate (SO4)	mg/L		-	-	500	3.3	3.3	5	4.7	4.2	4.6	5.9	5.8	5.7	12	5.6	7.2	6.5	8	6.7	8.9	9.2	9.3	10	6.1	6.3	8.5	8.6	5.3	6	9.1	6.9	7.2
Turbidity	NTU		-	-	0.3	2.2	2.7	2.6	7.2	22	2.8	9.4	23	3.1	1.8	2.3	17	4.2	4	0.8	2.2	0.99	5.2	6.8	1	1.9	2.4	3.7	0.46	1.3	12	2.7	3.4
Conductivity	uS/cm		-	-	-	33	41	45	37	34	39	33	38	33	150	89	98	79	130	110	77	110	95	210	200	200	190	190	190	190	160	200	190

Table 3.2: Groundwater Quality Data - MW-22
Beaver Dam Mine Project
Marinette, Nova Scotia

Sample		Criteria				MW-22A									MW-22B									MW-22C									
Sample Date		NSE PSS for GW and NSE Tier 1 EQS: Potable Groundwater	NSE PSS for GW: Groundwater Discharge to Surface Water (>10 m)	GCDWQ; MAC	GCDWQ; AO	26-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20	26-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20	26-Jun-18	12-Sep-18	29-Nov-18	4-Apr-19	4-Apr-19 Field DUP4	27-Jun-19	2-Oct-19	30-Apr-20	30-Jul-20	5-Nov-20
Metals																																	
Dissolved Aluminum (Al)	ug/L	100	-	-	100	22	19	170	11	330	55	140	45	110	23	8.6	13	26	77	7.3	46	12	20	12	7.6	13	110	100	<5.0	7.1	8.5	7.2	13
Total Aluminum (Al)	ug/L	-	50	-	100	--	--	--	--	1400	350	540	1000	430	--	--	--	--	340	82	180	120	180	--	--	--	--	--	280	54	670	190	440
Dissolved Antimony (Sb)	ug/L	6	-	6	-	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Antimony (Sb)	ug/L	-	200	6	-	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Arsenic (As)	ug/L	10	-	10	-	<1.0	ND	<1.0	5.4	<1.0	<1.0	<1.0	1.5	<1.0	1.5	1.2	<1.0	<1.0	<1.0	<1.0	<1.0	1.4	<1.0	5.4	5	4.8	<1.0	<1.0	<1.0	4.8	3.1	5.5	4.8
Total Arsenic (As)	ug/L	-	50	10	-	--	--	--	--	<1.0	1.6	1.7	3.7	1.7	--	--	--	--	<1.0	1.1	<1.0	1	1.1	--	--	--	--	--	<1.0	5.1	3.8	5.1	5
Dissolved Barium (Ba)	ug/L	1000	-	2000	-	5	5.3	10	4	12	7	5.8	4.6	6.9	3.6	3.9	7.6	8.7	2.5	9	5.5	3.2	4.8	4.7	2.9	2.7	7	7	8.2	4	9.6	4.7	5.3
Total Barium (Ba)	ug/L	-	10000	2000	-	--	--	--	--	21	9.7	7.1	9.8	7.9	--	--	--	--	4.6	10	6.5	3.4	5.6	--	--	--	--	--	11	4.4	13	5.8	13
Dissolved Beryllium (Be)	ug/L	4	-	-	-	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Beryllium (Be)	ug/L	-	53	-	-	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Bismuth (Bi)	ug/L	-	-	-	-	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Bismuth (Bi)	ug/L	-	-	-	-	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Boron (B)	ug/L	5000	-	5000	-	<50	ND	<50	<50	<50	<50	<50	<50	<50	<50	ND	<50	<50	<50	<50	<50	<50	<50	<50	ND	<50	<50	<50	<50	<50	<50	<50	<50
Total Boron (B)	ug/L	-	12000	5000	-	--	--	--	--	<50	<50	<50	<50	<50	--	--	--	--	<50	<50	<50	<50	<50	--	--	--	--	--	<50	<50	<50	<50	<50
Dissolved Cadmium (Cd)	ug/L	5	-	7	-	0.016	0.015	0.022	<0.010	0.041	0.019	0.017	0.018	0.012	<0.010	ND	0.018	0.045	0.027	0.032	0.016	0.017	0.012	<0.010	ND	<0.010	0.017	0.019	<0.010	<0.010	<0.010	<0.010	<0.010
Total Cadmium (Cd)	ug/L	-	0.1	7	-	--	--	--	--	0.048	0.028	0.012	0.022	0.014	--	--	--	--	0.028	0.026	0.015	<0.010	0.016	--	--	--	--	--	<0.010	<0.010	0.023	<0.010	<0.010
Dissolved Calcium (Ca)	ug/L	-	-	-	-	1000	1700	740	18000	1300	1300	500	1000	730	14000	3900	6000	6000	2300	9200	5900	11000	9600	17000	18000	19000	880	890	11000	19000	14000	18000	19000
Total Calcium (Ca)	ug/L	-	-	-	-	--	--	--	--	1500	1100	500	1200	560	--	--	--	--	2500	9900	6000	12000	9200	--	--	--	--	--	12000	18000	14000	19000	18000
Dissolved Chromium (Cr)	ug/L	50	-	50	-	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	1.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0	1.7	1.4	<1.0	<1.0	<1.0	<1.0	<1.0
Total Chromium (Cr)	ug/L	-	-	50	-	--	--	--	--	3.1	<1.0	<1.0	1.3	<1.0	--	--	--	--	1.3	<1.0	<1.0	<1.0	<1.0	--	--	--	--	--	1.2	<1.0	<1.0	<1.0	<1.0
Dissolved Cobalt (Co)	ug/L	10	-	-	-	1.8	1.2	1.5	<0.40	2.2	0.93	0.59	0.56	0.61	0.43	1.1	<0.40	0.41	0.78	<0.40	<0.40	<0.40	<0.40	<0.40	ND	<0.40	1.5	1.3	0.53	<0.40	<0.40	<0.40	<0.40
Total Cobalt (Co)	ug/L	-	100	-	-	--	--	--	--	3	0.98	0.74	0.95	0.77	--	--	--	--	0.87	<0.40	0.53	<0.40	0.58	--	--	--	--	--	0.59	<0.40	<0.40	<0.40	<0.40
Dissolved Copper (Cu)	ug/L	1000	-	2000	1000	9.4	6.6	20	<0.50	0.95	8	6.6	5.8	6.2	<2.0	ND	<2.0	4.1	0.77	2.7	1.5	1.2	1.6	<2.0	ND	<2.0	9.8	9.8	<0.50	<0.50	<0.50	<0.50	<0.50
Total Copper (Cu)	ug/L	-	20	2000	1000	--	--	--	--	3.1	12	8.1	11	7.8	--	--	--	--	1.4	5	3.8	2.8	3.7	--	--	--	--	--	0.93	<0.50	2.3	<0.50	0.85
Dissolved Iron (Fe)	ug/L	300	-	-	300	<50	ND	<50	<50	<50	<50	<50	<50	<50	<50	ND	<50	<50	<50	<50	<50	<50	<50	<50	ND	<50	<50	<50	350	<50	<50	<50	<50
Total Iron (Fe)	ug/L	-	3000	-	300	--	--	--	--	1400	350	330	980	360	--	--	--	--	230	100	76	91	160	--	--	--	--	--	610	<50	310	82	200
Dissolved Lead (Pb)	ug/L	10	-	5	-	<0.50	ND	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	ND	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	ND	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total Lead (Pb)	ug/L	-	10	5	-	--	--	--	--	<0.50	0.53	<0.50	<0.50	<0.50	--	--	--	--	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--	<0.50	<0.50	0.73	<0.50	<0.50
Dissolved Magnesium (Mg)	ug/L	-	-	-	-	700	800	570	3000	580	600	310	450	360	3000	1000	1400	1300	1100	2000	1300	2300	2100	2500	2800	3000	500	480	5600	2900	2200	2900	3200
Total Magnesium (Mg)	ug/L	-	-	-	-	--	--	--	--	950	590	400	730	430	--	--	--	--	1100	2000	1300	2400	2000	--	--	--	--	--	5700	3000	2400	2900	3000
Dissolved Manganese (Mn)	ug/L	50	-	120	20	160	160	110	38	240	76	36	54	39	190	200	88	230	160	170	120	170	160	15	21	30	82	81	230	28	66	29	36
Total Manganese (Mn)	ug/L	-	8200	120	20	--	--	--	--	270	73	41	72	44	--	--	--	--	180	220	140	190	180	--	--	--	--	--	240	33	70	30	43
Dissolved Molybdenum (Mo)	ug/L	70	-	-	-	<2.0	ND	<2.0	3.3	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	3.3	3.1	3	<2.0	<2.0	2.2	3	2.4	3	2.9
Total Molybdenum (Mo)	ug/L	-	730	-	-	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	--	2.6	3.2	2.5	2.9	2.8
Dissolved Nickel (Ni)	ug/L	100	-	-	-	8.1	6.9	11	<2.0	<2.0	5.9	4.1	4	4.4	<2.0	4	3.9	6.4	<2.0	4.5	<2.0	<2.0	<2.0	<2.0	ND	<2.0	7.6	8	<2.0	2.2	<2.0	<2.0	<2.0
Total Nickel (Ni)	ug/L	-	250	-	-	--	--	--	--	2.8	5.7	4.3	5.3	4.4	--	--	--	--	<2.0	4.9	<2.0	<2.0	2.1	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Phosphorus (P)	ug/L	-	-	-	-	<100	ND	<100	<100	<100	<100	<100	<100	<100	<100	ND	<100	<100	<100	<100	<100	<100	<100	<100	ND	<100	<100	<100	<100	<100	<100	<100	<100
Total Phosphorus (P)	ug/L	-	-	-	-	--	--	--	--	<100	<100	<100	<100	<100	--	--	--	--	<100	<100	<100	<100	<100	--	--	--	--	--	<100	<100	<100	<100	<100
Dissolved Potassium (K)	ug/L	810	870	550	970	700	630	340	540	590	1600	1500	1400	900	850	1200	600	950	820	1100	990	960	390	410	1700	1000	870	930	940				
Total Potassium (K)	ug/L	--	--	--	--	1100	690	370	790	490	--	--	--	--	950	1200	600	900	880	--	--	--	--	--	1800	970	910	960	1100				
Dissolved Selenium (Se)	ug/L	<1.0	ND	<1.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	ND	<1.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50				
Total Selenium (Se)	ug/L	--	--	--	--	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	--	--	--	<1.0	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--	<1.0	<0.50	<0.50	<0.50	<0.50				
Dissolved Silver (Ag)	ug/L	<0.10	ND	1	<0.10	<0.10	<0.10	0.15	0.29	0.15	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	ND	<0.10	0.22	0.22	<0.10	<0.10	<0.10	<0.10	<0.10				
Total Silver (Ag)	ug/L	--	--	--	--	0.12	1.4	0.71	2	0.95	--	--	--	--	<0.10	0.14	0.23	0.15	0.38	--	--	--	--	--	<0.10	<0.10	0.25	<0.10	<0.10				
Dissolved Sodium (Na)	ug/L	3000	3700	5700	19000	2200	4800	4400	4600	4900	8900	11000	11000	7000	2600	8900	6400	6800	6900	21000	18000	18000	4900	5000	16000	17000	16000	18000	18000				
Total Sodium (Na)	ug/L	--	--	--	--	3100	4500	4600	4700	4700	--	--	--	--	2500	8900	6600	6500	6600	--	--	--	--	--	16000	17000	16000	17000	18000				
Dissolved Strontium (Sr)	ug/L	15	19	9.9	270	12	16	6.9	13	7.6	81	44	64	55	22	72	36	59	53	280	260	260	12	11	76	260	210	270	270				
Total Strontium (Sr)	ug/L	--	--	--	--	13	13	7.4	14	7.8	--	--	--	--	24	77	36	62	52	--	--	--	--	--	80	260	210	280	270				
Dissolved Thallium (Tl)	ug/L	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	ND	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10				
Total Thallium (Tl)	ug/L	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10	--	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10				
Dissolved Tin (Sn)	ug/L	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	2.3	<2.0	<2.0	<2.0	2.5	<2.0	<2.0	2				
Total Tin (Sn)	ug/L	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	--	<2.0	2.5	<2.0	<2.0	2				
Dissolved Titanium (Ti)	ug/L	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0				
Total Titanium (Ti)	ug/L	--	--	--	--	60	12	11	28	9.6	--	--	--	--	9.4	3.7	4.2	2.5	4.3	--	--	--	--	--	17	<2.0	22	4.2	12				
Dissolved Uranium (U)	ug/L	<0.10	ND	<0.10	0.72	<0.10	<0.10	<0.10	<0.10	<0.10	0.26	0.12	<0.10	0.11	<0.10	0.17	<0.10	<0.10	0.12	0.52	0.12	0.14	<0.10	<0.10	0.85	<0.10	0.25	0.22	0.18				
Total Uranium (U)	ug/L	--	--	--	--	0.18	<0.10	<0.10	<0.10	<0.10	--	--	--	--	<0.10	0.21	<0.10	0.11	0.11	--	--	--	--	--	0.99	0.1	0.33	0.24	0.28				
Dissolved Vanadium (V)	ug/L	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0				
Total Vanadium (V)	ug/L	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	--	--	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0				
Dissolved Zinc (Zn)	ug/L	16	13	20	<5.0	<5.0	12	9	8.6	11	5.2	15	20	17	<5.0	18	5.3	<5.0	<5.0	<5.0	ND	<5.0	14	13	<5.0	<5.0	<5.0	<5.0	<5.0				
Total Zinc (Zn)	ug/L	--	--	--	--	6.9	14	7.3	10	7.1	--	--	--	--	<5.0	14	<5.0	<5.0	<5.0	--	--	--	--	--	<5.0	<5.0	8.6	<5.0	<5.0				
Dissolved Mercury (Hg)	ug/L	--	--	--	--	--	--	--	--	<0.013	--	--	--	--	--	--	--	--	<0.013	--	--	--	--	--	--	--	--	--	<0.013				
Total Mercury (Hg)	ug/L	--	--	--	--	--	--	--	--	<0.013	--	-	--	--	--	--	--	--	<0.013	--	--	--	--	--	--	--	--	--	<0.013				

Table 3.2: Groundwater Quality Data - Notes
Beaver Dam Mine Project
Marinette, Nova Scotia

Notes:

Shaded Blue-grey	56	Nova Scotia Environment (NSE) Pathway Specific Standards (PSS) for Groundwater and NSE Tier 1 Environmental Quality Standards (EQS), Potable Groundwater Drinking Water, 2014. Guidelines referenced are applicable to Dissolved Metals.
Shaded grey	1.0	Nova Scotia Environment (NSE) Pathway Specific Standards (PSS) for Groundwater, Groundwater discharge to surface water (0-10 m from a freshwater body), 2014. Guidelines referenced are applicable to Total Metals.

		MAC,AO: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, September 2020.
Bold	**5**	MAC= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.
Double Underline	36.00	AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.
	RDL	Reportable Detection Limit
		(1) elevated RDL due to turbidity
		(2) elevated RDL due to sample matrix
	ND	Non Detect
	NC	Not Calculated
	--	Not Analyzed

Table 4.1

Statistical Screening and Trend Test (Mann Kendall) Results – Baseline Groundwater Quality Data
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test										Samples Outside Criteria (Count)		
			NSE	CDWQG		Date					Detects		Non-Detects						NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
	Calculated Parameters																						
MW-01A	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.25	0.77	--	--	0.25	0.77	-11	0.309	0.35	Stable	--	--	--
MW-01A	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	7.6	28	--	--	7.6	28	-10	0.358	0.49	Stable	--	--	--
MW-01A	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	20	43	--	--	20	43	-13	0.22	0.29	Stable	--	--	0
MW-01A	Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-01A	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.23	0.51	--	--	0.23	0.51	-13	0.22	0.28	Stable	--	--	--
MW-01A	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2.2	17	--	--	2.2	17	2	0.92	0.55	No trend identified	--	--	--
MW-01A	Ion Balance (% Difference)	%	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2.22	20.3	--	--	2.22	20.3	22	0.024	0.74	**Increasing Trend**	--	--	--
MW-01A	Langelier Index (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-4.26	-2.13	--	--	-4.26	-2.13	-5	0.687	-0.18	Stable	--	--	--
MW-01A	Langelier Index (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-4.52	-2.38	--	--	-4.52	-2.38	-5	0.687	-0.17	Stable	--	--	--
MW-01A	Nitrate (N)	mg/L	-	10	-	6/2018 - 11/2020	9	56%	9	56%	0.057	0.095	<0.050	<0.050	<0.050	0.095	--	--	--	>50% ND	--	0	--
MW-01A	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	9.13	10.3	--	--	9.13	10.3	-4	0.762	0.04	Stable	--	--	--
MW-01A	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	9.38	10.6	--	--	9.38	10.6	-3	0.841	0.04	Stable	--	--	--
	Inorganics																						
MW-01A	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	7.6	28	--	--	7.6	28	-10	0.358	0.49	Stable	--	--	--
MW-01A	Total Chemical Oxygen Demand	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<20	<20	<20	<20	--	--	--	Insufficient data	--	--	--
MW-01A	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	9	0%	9	0%	2.7	5.3	--	--	2.7	5.3	-22	0.024	0.21	**Decreasing Trend**	0	--	0
MW-01A	Colour	TCU	-	-	15	6/2018 - 11/2020	9	100%	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	--	100% ND	--	--	--
MW-01A	Nitrate + Nitrite	mg/L	-	-	-	6/2018 - 11/2020	9	56%	9	56%	0.057	0.095	<0.050	<0.050	<0.050	0.095	--	--	--	>50% ND	--	--	--
MW-01A	Nitrite	mg/L	-	1	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-01A	Nitrogen (Ammonia Nitrogen)	mg/L	-	-	-	6/2018 - 11/2020	9	78%	9	78%	0.053	0.29	<0.050	<0.050	<0.050	0.29	--	--	--	>50% ND	--	--	--
MW-01A	Dissolved Organic Carbon	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.5	<0.5	<0.5	<0.5	--	--	--	Insufficient data	--	--	--
MW-01A	Total Organic Carbon	mg/L	-	-	-	6/2018 - 11/2020	9	78%	9	78%	0.53	1.3	<0.40	<5.0	<0.40	<5.0	--	--	--	>50% ND	--	--	--
MW-01A	Orthophosphate	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-01A	pH	s.u.	-	-	10.5	6/2018 - 11/2020	9	0%	9	0%	6.06	7	--	--	6.06	7	-12	0.26	0.04	Stable	--	--	0
MW-01A	pH	s.u.	-	-	7																		**8 ***
MW-01A	Dissolved Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-01A	Total Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-01A	Reactive Silica (SiO2)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	3.5	8.4	--	--	3.5	8.4	-7	0.544	0.28	Stable	--	--	--
MW-01A	Total Suspended Solids	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	47	47	--	--	47	47	--	--	--	Insufficient data	--	--	--
MW-01A	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	9	22%	9	22%	2.8	5	<2.0	<2.0	<2.0	5	9	0.417	0.44	No trend identified	--	--	0
MW-01A	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	9	0%	9	0%	0.24	75	--	--	0.24	75	-6	0.612	1.47	No trend identified	--	--	**8**
MW-01A	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	9	0%	9	0%	27	56	--	--	27	56	-12	0.26	0.25	Stable	--	--	--
	Metals																						
MW-01A	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	9	33%	9	33%	9.1	69	<5.0	<5.0	<5.0	69	-15	0.15	1.23	No trend identified	--	--	0
MW-01A	Total Aluminum	µg/L	5	-	100	6/2019 - 11/2020	5	0%	5	0%	120	710	--	--	120	710	-6	0.234	0.60	Stable	**5**	--	**5**
MW-01A	Dissolved Antimony	µg/L	-	6	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-01A	Total Antimony	µg/L	20	6	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-01A	Dissolved Arsenic	µg/L	-	10	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-01A	Total Arsenic	µg/L	5	10	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-01A	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	9	0%	9	0%	1.3	8	--	--	1.3	8	19	0.06	0.38	**Probably Increasing**	--	0	--
MW-01A	Total Barium	µg/L	1000	2000	-	6/2019 - 11/2020	5	0%	5	0%	8.3	12	--	--	8.3	12	-9	0.050	0.17	**Decreasing Trend**	0	0	--
MW-01A	Dissolved Beryllium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-01A	Total Beryllium	µg/L	5.3	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-01A	Dissolved Bismuth	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-01A	Total Bismuth	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-01A	Dissolved Boron	µg/L	-	5000	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-01A	Total Boron	µg/L	1200	5000	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-01A	Dissolved Cadmium	µg/L	-	7	-	6/2018 - 11/2020	9	11%	9	11%	0.011	0.037	<0.010	<0.010	<0.010	0.037	3	0.841	0.52	No trend identified	--	0	--
MW-01A	Total Cadmium	µg/L	0.01	7	-	6/2019 - 11/2020	5	0%	5	0%	0.021	0.031	--	--	0.021	0.031	-1	1	0.18	Stable	**5**	0	--
MW-01A	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	560	5400	--	--	560	5400	3	0.841	0.64	No trend identified	--	--	--
MW-01A	Total Calcium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	1100	5400	--	--	1100	5400	0	1	0.64	Stable	--	--	--
MW-01A	Dissolved Chromium	µg/L	-	50	-	6/2018 - 11/2020	9	89%	9	89%	1.4	1.4	<1.0	<1.0	<1.0	1.4	--	--	--	>50% ND	--	0	--
MW-01A	Total Chromium	µg/L	-	50	-	6/2019 - 11/2020	5	40%	5	40%	1.2	1.7	<1.0	<1.0	<1.0	1.7	-8	0.084	0.54	**Probably Decreasing**	--	0	--
MW-01A	Dissolved Cobalt	µg/L	-	-	-	6/2018 - 11/2020	9	56%	9	56%	0.48	1.8	<0.40	<0.40	<0.40	1.8	--	--	--	>50% ND	--	--	--
MW-01A	Total Cobalt	µg/L	10	-	-	6/2019 - 11/2020	5	0%	5	0%	0.97	3.3	--	--	0.97	3.3	-10	0.0166	0.57	**Decreasing Trend**	0	--	--
MW-01A	Dissolved Copper	µg/L	-	2000	1000	6/2018 - 11/2020	9	67%	9	67%	0.7	1.4	<0.50	<2.0	<0.50	<2.0	--	--	--	>50% ND	--	0	0
MW-01A	Total Copper	µg/L	2	2000	1000	6/2019 - 11/2020	5	0%	5	0%	1.2	3.4	--	--	1.2	3.4	-6	0.234	0.44	Stable	**3**	0	0
MW-01A	Dissolved Iron	µg/L	-	-	300	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-01A	Total Iron	µg/L	300	-	300	6/2019 - 11/2020	5	0%	5	0%	200	1200	--	--	200	1200	-6	0.234	0.62	Stable	**3**	--	**3**
MW-01A	Dissolved Lead	µg/L	-	5	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-01A	Total Lead	µg/L	1	5	-	6/2019 - 11/2020	5	80%	5	80%	0.95	0.95	<0.50	<0.50	<0.50	0.95	--	--	--	>50% ND	0	0	--
MW-01A	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	190	870	--	--	190	870	2	0.92	0.39	No trend identified	--	--	--
MW-01A	Total Magnesium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	530	1200	--	--	530	1200	-4	0.484	0.34	Stable	--	--	--
MW-01A	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	9	0%	9	0%	37	520	--	--	37	520	-10	0.358	1.12	No trend identified	--	**3**	**9**
MW-01A	Total Manganese	µg/L	820	120	20	6/2019 - 11/2020	5	0%	5	0%	86	380	--	--	86	380	-8	0.084	0.66	**Probably Decreasing**	0	**2**	**5**
MW-01A	Dissolved Molybdenum	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-01A	Total Molybdenum	µg/L	73	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-01A	Dissolved Nickel	µg/L	-	-	-	6/2018 - 11/2020	9	67%	9	67%	2.2	4.2	<2.0	<2.0	<2.0	4.2	--	--	--	>50% ND	--	--	--
MW-01A	Total Nickel	µg/L	25	-	-	6/2019 - 11/2020	5	60%	5	60%	2.9	3.3	<2.0	<2.0	<2.0	3.3	--	--	--	>50% ND	0	--	--
MW-01A	Dissolved Phosphorus	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-01A	Total Phosphorus	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-01A	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	450	1400	--	--	450	1400	-18	0.076	0.35	**Probably Decreasing**	--	--	--
MW-01A	Total Potassium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	590	1100	--	--	590	1100	-4	0.484	0.25	Stable	--	--	--
MW-01A	Dissolved Selenium	µg/L	-	50	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-01A	Total Selenium	µg/L	1	50	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-01A	Dissolved Silver	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-01A	Total Silver	µg/L	0.1	-	-	6/2019 - 11/2020	5	60%	5	60%	0.1	0.16	<0.10	<0.10	<0.10	0.16	--	--	--	>50% ND	**1**	--	--
MW-01A	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	0%	2700	9900	--	--	2700	9900	-17	0.098	0.51	**Probably Decreasing**	--	--	0
MW-01A	Total Sodium	µg/L	-	-	200000	6/2019 - 11/2020	5	0%	5	0%	2900	4200	--	--	2900	4200	0	1	0.14	Stable	--	--	0

Table 4.1

Statistical Screening and Trend Test (Mann Kendall) Results – Baseline Groundwater Quality Data
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test										Samples Outside Criteria (Count)		
			NSE	CDWQG		Date					Detects		Non-Detects						NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
MW-01A	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	9	0%	9	0%	6	29	--	--	6	29	10	0.358	0.46	No trend identified	--	0	--
MW-01A	Total Strontium	µg/L	21000	7000	-	6/2019 - 11/2020	5	0%	5	0%	9.7	28	--	--	9.7	28	1	1	0.41	No trend identified	0	0	--
MW-01A	Dissolved Thallium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-01A	Total Thallium	µg/L	0.8	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-01A	Dissolved Tin	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-01A	Total Tin	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-01A	Dissolved Titanium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-01A	Total Titanium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	6.2	40	--	--	6.2	40	-6	0.234	0.64	Stable	--	--	--
MW-01A	Dissolved Uranium	µg/L	-	20	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-01A	Total Uranium	µg/L	300	20	-	6/2019 - 11/2020	5	80%	5	80%	0.11	0.11	<0.10	<0.10	<0.10	0.11	--	--	--	>50% ND	0	0	--
MW-01A	Dissolved Vanadium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-01A	Total Vanadium	µg/L	6	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-01A	Dissolved Zinc	µg/L	-	-	5000	6/2018 - 11/2020	9	100%	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	--	100% ND	--	--	--
MW-01A	Total Zinc	µg/L	30	-	5000	6/2019 - 11/2020	5	100%	5	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	--	100% ND	--	--	--
MW-01A	Dissolved Mercury	µg/L	--	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
MW-01A	Total Mercury	µg/L	0.026	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
	Calculated Parameters																						
MW-01B	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1.5	1.58	--	--	1.5	1.58	-5	0.687	0.02	Stable	--	--	--
MW-01B	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	57	62	--	--	57	62	-4	0.762	0.03	Stable	--	--	--
MW-01B	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	88	92	--	--	88	92	-18	0.076	0.02	**Probably Decreasing**	--	--	0
MW-01B	Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-01B	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1.37	1.48	--	--	1.37	1.48	-24	0.0126	0.03	**Decreasing Trend**	--	--	--
MW-01B	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	54	60	--	--	54	60	4	0.762	0.03	No trend identified	--	--	--
MW-01B	Ion Balance (% Difference)	%	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1.35	6.8	--	--	1.35	6.8	20	0.044	0.41	**Increasing Trend**	--	--	--
MW-01B	Langelier Index (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-0.512	-0.286	--	--	-0.512	-0.286	4	0.762	-0.20	No trend identified	--	--	--
MW-01B	Langelier Index (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-0.763	-0.537	--	--	-0.763	-0.537	4	0.762	-0.13	No trend identified	--	--	--
MW-01B	Nitrate (N)	mg/L	-	10	-	6/2018 - 11/2020	9	89%	9	89%	0.056	0.056	<0.050	<0.050	<0.050	0.056	--	--	--	>50% ND	--	0	--
MW-01B	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.24	8.29	--	--	8.24	8.29	-6	0.612	0.00	Stable	--	--	--
MW-01B	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.49	8.55	--	--	8.49	8.55	-8	0.476	0.00	Stable	--	--	--
	Inorganics																						
MW-01B	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	57	62	--	--	57	62	-10	0.358	0.03	Stable	--	--	--
MW-01B	Total Chemical Oxygen Demand	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<20	<20	<20	<20	--	--	--	Insufficient data	--	--	--
MW-01B	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	9	0%	9	0%	3.4	4.5	--	--	3.4	4.5	-11	0.309	0.09	Stable	0	--	0
MW-01B	Colour	TCU	-	-	15	6/2018 - 11/2020	9	100%	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	--	100% ND	--	--	--
MW-01B	Nitrate + Nitrite	mg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	0.056	0.056	<0.050	<0.050	<0.050	0.056	--	--	--	>50% ND	--	--	--
MW-01B	Nitrite	mg/L	-	1	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-01B	Nitrogen (Ammonia Nitrogen)	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.050	<0.050	<0.050	<0.050	--	--	--	100% ND	--	--	--
MW-01B	Dissolved Organic Carbon	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	Insufficient data	--	--	--
MW-01B	Total Organic Carbon	mg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	2.6	2.6	<0.40	<0.50	<0.40	2.6	--	--	--	>50% ND	--	--	--
MW-01B	Orthophosphate	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-01B	pH	s.u.	-	-	10.5	6/2018 - 11/2020	9	0%	9	0%	7.76	8	--	--	7.76	8	2	0.92	0.01	No trend identified	--	--	0
MW-01B	pH	s.u.	-	-	7																		0 *
MW-01B	Dissolved Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-01B	Total Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-01B	Reactive Silica (SiO2)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	9.4	10	--	--	9.4	10	-8	0.476	0.03	Stable	--	--	--
MW-01B	Total Suspended Solids	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	12	12	--	--	12	12	--	--	--	Insufficient data	--	--	--
MW-01B	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	10	12	--	--	10	12	11	0.309	0.05	No trend identified	--	--	0
MW-01B	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	9	0%	9	0%	2.1	13	--	--	2.1	13	-17	0.098	0.72	**Probably Decreasing**	--	--	**9**
MW-01B	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	9	0%	9	0%	140	150	--	--	140	150	-10	0.358	0.03	Stable	--	--	--
	Metals																						
MW-01B	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	9	0%	9	0%	7.7	20	--	--	7.7	20	-26	0.0058	0.34	**Decreasing Trend**	--	--	0
MW-01B	Total Aluminum	µg/L	5	-	100	6/2019 - 11/2020	5	0%	5	0%	103	550	--	--	103	550	-2	0.816	0.71	Stable	**5**	--	**5**
MW-01B	Dissolved Antimony	µg/L	-	6	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-01B	Total Antimony	µg/L	20	6	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-01B	Dissolved Arsenic	µg/L	-	10	-	6/2018 - 11/2020	9	0%	9	0%	2.7	5.7	--	--	2.7	5.7	-33	0.00015	0.30	**Decreasing Trend**	--	0	--
MW-01B	Total Arsenic	µg/L	5	10	-	6/2019 - 11/2020	5	0%	5	0%	2.7	3.8	--	--	2.7	3.8	-5	0.359	0.14	Stable	0	0	--
MW-01B	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	9	0%	9	0%	4	7.25	--	--	4	7.25	6	0.612	0.15	No trend identified	--	0	--
MW-01B	Total Barium	µg/L	1000	2000	-	6/2019 - 11/2020	5	0%	5	0%	5.15	8.9	--	--	5.15	8.9	-2	0.816	0.19	Stable	0	0	--
MW-01B	Dissolved Beryllium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-01B	Total Beryllium	µg/L	5.3	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-01B	Dissolved Bismuth	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-01B	Total Bismuth	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-01B	Dissolved Boron	µg/L	-	5000	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-01B	Total Boron	µg/L	1200	5000	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-01B	Dissolved Cadmium	µg/L	-	7	-	6/2018 - 11/2020	9	67%	9	67%	0.012	0.0125	<0.010	<0.010	<0.010	0.0125	--	--	--	>50% ND	--	0	--
MW-01B	Total Cadmium	µg/L	0.01	7	-	6/2019 - 11/2020	5	20%	5	20%	0.01	0.012	<0.010	<0.010	0.01	0.012	-7	0.159	0.30	Stable	**4**	0	--
MW-01B	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	18000	21000	--	--	18000	21000	14	0.18	0.04	No trend identified	--	--	--
MW-01B	Total Calcium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	20000	22000	--	--	20000	22000	2	0.816	0.04	No trend identified	--	--	--
MW-01B	Dissolved Chromium	µg/L	-	50	-	6/2018 - 11/2020	9	78%	9	78%	1.1	1.7	<1.0	<1.0	<1.0	1.7	--	--	--	>50% ND	--	0	--
MW-01B	Total Chromium	µg/L	-	50	-	6/2019 - 11/2020	5	80%	5	80%	1	1	<1.0	<1.0	1	1	--	--	--	>50% ND	--	0	--
MW-01B	Dissolved Cobalt	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	--	100% ND	--	--	--
MW-01B	Total Cobalt	µg/L	10	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	--	100% ND	--	--	--
MW-01B	Dissolved Copper	µg/L	-	2000	1000	4/2019 - 11/2020	9	56%	6	33%	0.52	1.05	<0.50	<0.50	<0.50	1.05	-4	0.595	0.53	Stable	--	0	0
MW-01B	Total Copper	µg/L	2	2000	1000	6/2019 - 11/2020	5	0%	5	0%	0.885	1.7	--	--	0.885	1.7	0	1	0.29	Stable	0	0	0
MW-01B	Dissolved Iron	µg/L	-	-	300	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-01B	Total Iron	µg/L	300	-	300	6/2019 - 11/2020	5	0%	5	0%	120.5	430	--	--	120.5	430	-2	0.816	0.52	Stable	**1**	--	**1**
MW-01B	Dissolved Lead	µg/L	-	5	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-01B	Total Lead	µg/L	1	5	-	6/2019 - 11/2020	5	80%	5	80%	0.79	0.79	<0.50	<0.50	<0.50	0.79	--	--	--	>50% ND	0	0	--

Table 4.1

Statistical Screening and Trend Test (Mann Kendall) Results – Baseline Groundwater Quality Data
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test											Samples Outside Criteria (Count)		
			NSE	CDWQG		Date					Detects		Non-Detects							NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
MW-01B	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1900	2200	--	--	1900	2200	-21	0.034	0.05	Decreasing Trend	--	--	--
MW-01B	Total Magnesium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	2050	2200	--	--	2050	2200	-7	0.159	0.03	Stable	--	--	--
MW-01B	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	9	56%	9	56%	2.8	8	<2.0	<2.0	<2.0	8	--	--	--	>50% ND	--	0	0
MW-01B	Total Manganese	µg/L	820	120	20	6/2019 - 11/2020	5	0%	5	0%	4.05	9.8	--	--	4.05	9.8	-2	0.816	0.40	Stable	0	0	0
MW-01B	Dissolved Molybdenum	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-01B	Total Molybdenum	µg/L	73	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-01B	Dissolved Nickel	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-01B	Total Nickel	µg/L	25	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-01B	Dissolved Phosphorus	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-01B	Total Phosphorus	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-01B	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1150	3100	--	--	1150	3100	-35	2.8E-05	0.37	Decreasing Trend	--	--	--
MW-01B	Total Potassium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	1200	1500	--	--	1200	1500	-7	0.159	0.08	Stable	--	--	--
MW-01B	Dissolved Selenium	µg/L	-	50	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-01B	Total Selenium	µg/L	1	50	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-01B	Dissolved Silver	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-01B	Total Silver	µg/L	0.1	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-01B	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	0%	4400	7100	--	--	4400	7100	-30	0.00086	0.16	Decreasing Trend	--	--	0
MW-01B	Total Sodium	µg/L	-	-	200000	6/2019 - 11/2020	5	0%	5	0%	4650	5000	--	--	4650	5000	-9	0.050	0.03	Decreasing Trend	--	--	0
MW-01B	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	9	0%	9	0%	47	69	--	--	47	69	-27	0.0041	0.14	Decreasing Trend	--	0	--
MW-01B	Total Strontium	µg/L	21000	7000	-	6/2019 - 11/2020	5	0%	5	0%	49	60	--	--	49	60	-5	0.359	0.09	Stable	0	0	--
MW-01B	Dissolved Thallium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-01B	Total Thallium	µg/L	0.8	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-01B	Dissolved Tin	µg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	4.4	4.4	<2.0	<2.0	<2.0	4.4	--	--	--	>50% ND	--	--	--
MW-01B	Total Tin	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-01B	Dissolved Titanium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-01B	Total Titanium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	5.95	17	--	--	5.95	17	0	1	0.51	Stable	--	--	--
MW-01B	Dissolved Uranium	µg/L	-	20	-	6/2018 - 11/2020	9	0%	9	0%	0.65	0.9	--	--	0.65	0.9	-24	0.0126	0.11	Decreasing Trend	--	0	--
MW-01B	Total Uranium	µg/L	300	20	-	6/2019 - 11/2020	5	0%	5	0%	0.75	0.81	--	--	0.75	0.81	2	0.816	0.03	No trend identified	0	0	--
MW-01B	Dissolved Vanadium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-01B	Total Vanadium	µg/L	6	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-01B	Dissolved Zinc	µg/L	-	-	5000	6/2018 - 11/2020	9	78%	9	78%	5.8	6	<5.0	<5.0	<5.0	6	--	--	--	>50% ND	--	--	0
MW-01B	Total Zinc	µg/L	30	-	5000	6/2019 - 11/2020	5	100%	5	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	--	100% ND	--	--	--
MW-01B	Dissolved Mercury	µg/L	--	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
MW-01B	Total Mercury	µg/L	0.026	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
	Calculated Parameters																						
MW-01C	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.395	1.35	--	--	0.395	1.35	-13	0.22	0.45	Stable	--	--	--
MW-01C	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.9	52	--	--	8.9	52	-11	0.309	0.59	Stable	--	--	--
MW-01C	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	25.5	79	--	--	25.5	79	-8	0.476	0.42	Stable	--	--	0
MW-01C	Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-01C	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.355	1.26	--	--	0.355	1.26	-13	0.22	0.48	Stable	--	--	--
MW-01C	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	9.1	40	--	--	9.1	40	-14	0.18	0.54	Stable	--	--	--
MW-01C	Ion Balance (% Difference)	%	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.53	12.2	--	--	0.53	12.2	12	0.26	0.68	No trend identified	--	--	--
MW-01C	Langelier Index (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-3.125	-1.03	--	--	-3.125	-1.03	-10	0.358	-0.31	Stable	--	--	--
MW-01C	Langelier Index (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-3.375	-1.28	--	--	-3.375	-1.28	-10	0.358	-0.28	Stable	--	--	--
MW-01C	Nitrate (N)	mg/L	-	10	-	6/2018 - 11/2020	9	78%	9	78%	0.063	0.066	<0.050	<0.050	<0.050	0.066	--	--	--	>50% ND	--	0	--
MW-01C	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.5	9.875	--	--	8.5	9.875	12	0.26	0.05	No trend identified	--	--	--
MW-01C	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.75	10.15	--	--	8.75	10.15	12	0.26	0.05	No trend identified	--	--	--
	Inorganics																						
MW-01C	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.9	52	--	--	8.9	52	-11	0.309	0.59	Stable	--	--	--
MW-01C	Total Chemical Oxygen Demand	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<20	<20	<20	<20	--	--	--	Insufficient data	--	--	--
MW-01C	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	9	0%	9	0%	3.3	5.5	--	--	3.3	5.5	-12	0.26	0.14	Stable	0	--	0
MW-01C	Colour	TCU	-	-	15	6/2018 - 11/2020	9	89%	9	89%	6.5	6.5	<5.0	<5.0	<5.0	6.5	--	--	--	>50% ND	--	--	0
MW-01C	Nitrate + Nitrite	mg/L	-	-	-	6/2018 - 11/2020	9	78%	9	78%	0.063	0.066	<0.050	<0.050	<0.050	0.066	--	--	--	>50% ND	--	--	--
MW-01C	Nitrite	mg/L	-	1	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.050	<0.010	<0.050	--	--	--	100% ND	--	--	--
MW-01C	Nitrogen (Ammonia Nitrogen)	mg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	0.12	0.12	<0.050	<0.050	<0.050	0.12	--	--	--	>50% ND	--	--	--
MW-01C	Dissolved Organic Carbon	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	0.6	0.6	--	--	0.6	0.6	--	--	--	Insufficient data	--	--	--
MW-01C	Total Organic Carbon	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.68	2.9	--	--	0.68	2.9	-15	0.15	0.44	Stable	--	--	--
MW-01C	Orthophosphate	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-01C	pH	s.u.	-	-	10.5	6/2018 - 11/2020	9	0%	9	0%	6.53	7.47	--	--	6.53	7.47	-18	0.076	0.05	Probably Decreasing	--	--	0
MW-01C	pH	s.u.	-	-	7																		**7 ***
MW-01C	Dissolved Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-01C	Total Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	0.022	0.022	--	--	0.022	0.022	--	--	--	Insufficient data	--	--	--
MW-01C	Reactive Silica (SiO2)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	3.9	7.5	--	--	3.9	7.5	-13	0.22	0.24	Stable	--	--	--
MW-01C	Total Suspended Solids	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	16	16	--	--	16	16	--	--	--	Insufficient data	--	--	--
MW-01C	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	2.4	8.7	--	--	2.4	8.7	-14	0.18	0.43	Stable	--	--	0
MW-01C	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	9	0%	9	0%	0.55	17	--	--	0.55	17	-14	0.18	0.97	Stable	--	--	**9**
MW-01C	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	9	0%	9	0%	39	120	--	--	39	120	-14	0.18	0.43	Stable	--	--	--
	Metals																						
MW-01C	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	9	11%	9	11%	5.6	19	<5.0	<5.0	<5.0	19	-20	0.044	0.64	Decreasing Trend	--	--	0
MW-01C	Total Aluminum	µg/L	5	-	100	6/2019 - 11/2020	5	0%	5	0%	120	270	--	--	120	270	1	1	0.37	No trend identified	**5**	--	**5**
MW-01C	Dissolved Antimony	µg/L	-	6	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-01C	Total Antimony	µg/L	20	6	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-01C	Dissolved Arsenic	µg/L	-	10	-	6/2018 - 11/2020	9	89%	9	89%	1.5	1.5	<1.0	<1.0	<1.0	1.5	--	--	--	>50% ND	--	0	--
MW-01C	Total Arsenic	µg/L	5	10	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-01C	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	9	0%	9	0%	3.4	7.9	--	--	3.4	7.9	-2	0.92	0.30	Stable	--	0	--
MW-01C	Total Barium	µg/L	1000	2000	-	6/2019 - 11/2020	5	0%	5	0%	4.95	7	--	--	4.95	7	8	0.084	0.14	Probably Increasing	0	0	--
MW-01C	Dissolved Beryllium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-01C	Total Beryllium	µg/L	5.3	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--

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Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test										Samples Outside Criteria (Count)		
			NSE	CDWQG		Date					Detects		Non-Detects						NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
MW-01C	Dissolved Bismuth	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-01C	Total Bismuth	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-01C	Dissolved Boron	µg/L	-	5000	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-01C	Total Boron	µg/L	1200	5000	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-01C	Dissolved Cadmium	µg/L	-	7	-	6/2018 - 11/2020	9	22%	9	22%	0.01	0.034	<0.010	<0.010	<0.010	0.034	19	0.06	0.61	Probably Increasing	--	0	--
MW-01C	Total Cadmium	µg/L	0.01	7	-	6/2019 - 11/2020	5	0%	5	0%	0.012	0.027	--	--	0.012	0.027	6	0.234	0.34	No trend identified	**5**	0	--
MW-01C	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2900	13000	--	--	2900	13000	-13	0.22	0.54	Stable	--	--	--
MW-01C	Total Calcium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	3000	5800	--	--	3000	5800	8	0.084	0.25	Probably Increasing	--	--	--
MW-01C	Dissolved Chromium	µg/L	-	50	-	6/2018 - 11/2020	9	89%	9	89%	1.2	1.2	<1.0	<1.0	<1.0	1.2	--	--	--	>50% ND	--	0	--
MW-01C	Total Chromium	µg/L	-	50	-	6/2019 - 11/2020	5	80%	5	80%	1.35	1.35	<1.0	<1.0	<1.0	1.35	--	--	--	>50% ND	--	0	--
MW-01C	Dissolved Cobalt	µg/L	-	-	-	6/2018 - 11/2020	9	78%	9	78%	1	1.5	<0.40	<0.40	<0.40	1.5	--	--	--	>50% ND	--	--	--
MW-01C	Total Cobalt	µg/L	10	-	-	6/2019 - 11/2020	5	40%	5	40%	0.485	0.6	<0.40	<0.40	<0.40	0.6	-5	0.359	0.47	Stable	0	--	--
MW-01C	Dissolved Copper	µg/L	-	2000	1000	9/2018 - 11/2020	9	44%	7	29%	0.655	7	<0.50	<0.50	<0.50	7	2	0.886	1.60	No trend identified	--	0	0
MW-01C	Total Copper	µg/L	2	2000	1000	6/2019 - 11/2020	5	0%	5	0%	1.35	2.4	--	--	1.35	2.4	4	0.484	0.22	No trend identified	**2**	0	0
MW-01C	Dissolved Iron	µg/L	-	-	300	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-01C	Total Iron	µg/L	300	-	300	6/2019 - 11/2020	5	0%	5	0%	110	210	--	--	110	210	2	0.816	0.23	No trend identified	0	--	0
MW-01C	Dissolved Lead	µg/L	-	5	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-01C	Total Lead	µg/L	1	5	-	6/2019 - 11/2020	5	80%	5	80%	0.61	0.61	<0.50	<0.50	<0.50	0.61	--	--	--	>50% ND	0	0	--
MW-01C	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	460	1800	--	--	460	1800	-13	0.22	0.55	Stable	--	--	--
MW-01C	Total Magnesium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	500	760	--	--	500	760	9	0.050	0.16	**Increasing Trend**	--	--	--
MW-01C	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	9	11%	9	11%	6.45	270	<2.0	<2.0	<2.0	270	-9	0.417	1.40	No trend identified	--	**3**	**3**
MW-01C	Total Manganese	µg/L	820	120	20	6/2019 - 11/2020	5	0%	5	0%	25	55	--	--	25	55	-4	0.484	0.32	Stable	0	0	**5**
MW-01C	Dissolved Molybdenum	µg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	2.1	2.1	<2.0	<2.0	<2.0	2.1	--	--	--	>50% ND	--	--	--
MW-01C	Total Molybdenum	µg/L	73	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-01C	Dissolved Nickel	µg/L	-	-	-	6/2018 - 11/2020	9	33%	9	33%	2	5.3	<2.0	<2.0	<2.0	5.3	-5	0.687	0.67	Stable	--	--	--
MW-01C	Total Nickel	µg/L	25	-	-	6/2019 - 11/2020	5	0%	5	0%	2.2	3.3	--	--	2.2	3.3	0	1	0.15	Stable	0	--	--
MW-01C	Dissolved Phosphorus	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-01C	Total Phosphorus	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-01C	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	635	3100	--	--	635	3100	-16	0.12	0.67	Stable	--	--	--
MW-01C	Total Potassium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	650	900	--	--	650	900	8	0.084	0.16	Probably Increasing	--	--	--
MW-01C	Dissolved Selenium	µg/L	-	50	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-01C	Total Selenium	µg/L	1	50	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-01C	Dissolved Silver	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-01C	Total Silver	µg/L	0.1	-	-	6/2019 - 11/2020	5	60%	5	60%	0.11	0.19	<0.10	<0.10	<0.10	0.19	--	--	--	>50% ND	**2**	--	--
MW-01C	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	0%	3500	8900	--	--	3500	8900	-18	0.076	0.40	Probably Decreasing	--	--	0
MW-01C	Total Sodium	µg/L	-	-	200000	6/2019 - 11/2020	5	0%	5	0%	3400	3700	--	--	3400	3700	3	0.65	0.04	No trend identified	--	--	0
MW-01C	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	9	0%	9	0%	18.5	77	--	--	18.5	77	-12	0.26	0.55	Stable	--	0	--
MW-01C	Total Strontium	µg/L	21000	7000	-	6/2019 - 11/2020	5	0%	5	0%	19	29	--	--	19	29	8	0.084	0.19	Probably Increasing	0	0	--
MW-01C	Dissolved Thallium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-01C	Total Thallium	µg/L	0.8	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-01C	Dissolved Tin	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-01C	Total Tin	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-01C	Dissolved Titanium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-01C	Total Titanium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	4.2	9.9	--	--	4.2	9.9	-1	1	0.31	Stable	--	--	--
MW-01C	Dissolved Uranium	µg/L	-	20	-	6/2018 - 11/2020	9	11%	9	11%	0.11	0.63	<0.10	<0.10	<0.10	0.63	-11	0.309	0.95	Stable	--	0	--
MW-01C	Total Uranium	µg/L	300	20	-	6/2019 - 11/2020	5	0%	5	0%	0.165	0.23	--	--	0.165	0.23	3	0.65	0.12	No trend identified	0	0	--
MW-01C	Dissolved Vanadium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-01C	Total Vanadium	µg/L	6	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-01C	Dissolved Zinc	µg/L	-	-	5000	6/2018 - 11/2020	9	22%	9	22%	7.2	14	<5.0	<5.0	<5.0	14	18	0.076	0.46	Probably Increasing	--	--	0
MW-01C	Total Zinc	µg/L	30	-	5000	6/2019 - 11/2020	5	0%	5	0%	6.35	14	--	--	6.35	14	8	0.084	0.36	Probably Increasing	0	--	0
MW-01C	Dissolved Mercury	µg/L	--	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
MW-01C	Total Mercury	µg/L	0.026	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
	Calculated Parameters																						
MW-02A	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	0.18	0.36	--	--	0.18	0.36	-14	0.108	0.29	Stable	--	--	--
MW-02A	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	8	38%	8	38%	5.3	7	<1.0	<1.0	<1.0	7	-7	0.473	0.73	Stable	--	--	--
MW-02A	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	8	0%	8	0%	14	25	--	--	14	25	-9	0.337	0.23	Stable	--	--	0
MW-02A	Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-02A	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	0.18	0.31	--	--	0.18	0.31	-11	0.227	0.18	Stable	--	--	--
MW-02A	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	2.8	6.6	--	--	2.8	6.6	-8	0.398	0.30	Stable	--	--	--
MW-02A	Ion Balance (% Difference)	%	-	-	-	6/2018 - 11/2020	8	0%	8	0%	0	14.435	--	--	0	14.435	4	0.72	0.80	No trend identified	--	--	--
MW-02A	Langelier Index (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	5	0%	5	0%	-5	-3.86	--	--	-5	-3.86	0	1	-0.10	Stable	--	--	--
MW-02A	Langelier Index (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	5	0%	5	0%	-5.25	-4.11	--	--	-5.25	-4.11	0	1	-0.09	Stable	--	--	--
MW-02A	Nitrate (N)	mg/L	-	10	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.050	<0.050	<0.050	<0.050	--	--	--	100% ND	--	--	--
MW-02A	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	5	0%	5	0%	10.2	10.7	--	--	10.2	10.7	3	0.65	0.02	No trend identified	--	--	--
MW-02A	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	5	0%	5	0%	10.4	10.9	--	--	10.4	10.9	1	1	0.02	No trend identified	--	--	--
	Inorganics																						
MW-02A	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	8	38%	8	38%	5.3	7	<5.0	<5.0	<5.0	7	-7	0.473	0.41	Stable	--	--	--
MW-02A	Total Chemical Oxygen Demand	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<20	<20	<20	<20	--	--	--	Insufficient data	--	--	--
MW-02A	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	8	0%	8	0%	2.45	5.8	--	--	2.45	5.8	-12	0.178	0.27	Stable	0	--	0
MW-02A	Colour	TCU	-	-	15	6/2018 - 11/2020	8	100%	8	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	--	100% ND	--	--	--
MW-02A	Nitrate + Nitrite	mg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.050	<0.050	<0.050	<0.050	--	--	--	100% ND	--	--	--
MW-02A	Nitrite	mg/L	-	1	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-02A	Nitrogen (Ammonia Nitrogen)	mg/L	-	-	-	6/2018 - 11/2020	8	88%	8	88%	0.071	0.071	<0.050	<0.050	<0.050	0.071	--	--	--	>50% ND	--	--	--
MW-02A	Dissolved Organic Carbon	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	Insufficient data	--	--	--
MW-02A	Total Organic Carbon	mg/L	-	-	-	6/2018 - 11/2020	8	50%	8	50%	0.51	1.2	0.42 u	<0.50	0.42 u	1.2	-14	0.108	0.68	Stable	--	--	--
MW-02A	Orthophosphate	mg/L	-	-	-	6/2018 - 11/2020	8	88%	8	88%	0.011	0.011	<0.010	<0.010	<0.010	0.011	--	--	--	>50% ND	--	--	--
MW-02A	pH	s.u.	-	-	10.5	6/2018 - 11/2020	8	0%	8	0%	5.51	6.31	--	--	5.51	6.31	-8	0.398	0.04	Stable	--	--	0
MW-02A	pH	s.u.	-	-	7																		**8**
MW-02A	Dissolved Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-02A	Total Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	0.1315	0.1315	--	--	0.1315	0.1315	--	--	--	Insufficient data	--	--	--

Table 4.1

Statistical Screening and Trend Test (Mann Kendall) Results – Baseline Groundwater Quality Data
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test										Samples Outside Criteria (Count)		
			NSE	CDWQG		Date					Detects		Non-Detects						NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
MW-02A	Reactive Silica (SiO2)	mg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	2.9	9.2	--	--	2.9	9.2	-1	1	0.48	Stable	--	--	--
MW-02A	Total Suspended Solids	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	220	220	--	--	220	220	--	--	--	Insufficient data	--	--	--
MW-02A	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	8	0%	8	0%	2.6	4	--	--	2.6	4	17	0.047	0.15	**Increasing Trend**	--	--	0
MW-02A	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	8	0%	8	0%	1.7	180	--	--	1.7	180	6	0.548	1.37	No trend identified	--	--	**8**
MW-02A	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	8	0%	8	0%	26	38	--	--	26	38	-16	0.062	0.14	**Probably Decreasing**	--	--	--
	Metals																						
MW-02A	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	8	0%	8	0%	34	290	--	--	34	290	4	0.72	0.70	No trend identified	--	--	**4**
MW-02A	Total Aluminum	µg/L	5	-	100	6/2019 - 11/2020	5	0%	5	0%	560	3600	--	--	560	3600	0	1	0.63	Stable	**5**	--	**5**
MW-02A	Dissolved Antimony	µg/L	-	6	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-02A	Total Antimony	µg/L	20	6	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-02A	Dissolved Arsenic	µg/L	-	10	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-02A	Total Arsenic	µg/L	5	10	-	6/2019 - 11/2020	5	20%	5	20%	1.1	3.5	<1.0	<1.0	<1.0	3.5	0	1	0.61	Stable	0	0	--
MW-02A	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	8	0%	8	0%	5.8	9.3	--	--	5.8	9.3	-8	0.398	0.19	Stable	--	0	--
MW-02A	Total Barium	µg/L	1000	2000	-	6/2019 - 11/2020	5	0%	5	0%	9.6	23	--	--	9.6	23	-2	0.816	0.35	Stable	0	0	--
MW-02A	Dissolved Beryllium	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-02A	Total Beryllium	µg/L	5.3	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-02A	Dissolved Bismuth	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-02A	Total Bismuth	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-02A	Dissolved Boron	µg/L	-	5000	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-02A	Total Boron	µg/L	1200	5000	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-02A	Dissolved Cadmium	µg/L	-	7	-	6/2018 - 11/2020	8	0%	8	0%	0.018	0.036	--	--	0.018	0.036	-4	0.72	0.24	Stable	--	0	--
MW-02A	Total Cadmium	µg/L	0.01	7	-	6/2019 - 11/2020	5	0%	5	0%	0.021	0.0295	--	--	0.021	0.0295	0	1	0.14	Stable	**5**	0	--
MW-02A	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	450	1800	--	--	450	1800	-9	0.337	0.42	Stable	--	--	--
MW-02A	Total Calcium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	520	1400	--	--	520	1400	-4	0.484	0.36	Stable	--	--	--
MW-02A	Dissolved Chromium	µg/L	-	50	-	6/2018 - 11/2020	8	88%	8	88%	1.1	1.1	<1.0	<1.0	<1.0	1.1	--	--	--	>50% ND	--	0	--
MW-02A	Total Chromium	µg/L	-	50	-	6/2019 - 11/2020	5	20%	5	20%	1.3	4.1	<1.0	<1.0	<1.0	4.1	-2	0.816	0.61	Stable	--	0	--
MW-02A	Dissolved Cobalt	µg/L	-	-	-	6/2018 - 11/2020	8	50%	8	50%	0.465	1.9	<0.40	<0.40	<0.40	1.9	-2	0.904	0.97	Stable	--	--	--
MW-02A	Total Cobalt	µg/L	10	-	-	6/2019 - 11/2020	5	0%	5	0%	0.76	2.1	--	--	0.76	2.1	2	0.816	0.33	No trend identified	0	--	--
MW-02A	Dissolved Copper	µg/L	-	2000	1000	6/2018 - 11/2020	8	13%	7	0%	0.83	8.7	--	--	0.83	8.7	-7	0.382	0.85	Stable	--	0	0
MW-02A	Total Copper	µg/L	2	2000	1000	6/2019 - 11/2020	5	0%	5	0%	3.9	11	--	--	3.9	11	-2	0.816	0.38	Stable	**5**	0	0
MW-02A	Dissolved Iron	µg/L	-	-	300	6/2018 - 11/2020	8	88%	8	88%	250	250	<50	<50	<50	250	--	--	--	>50% ND	--	--	0
MW-02A	Total Iron	µg/L	300	-	300	6/2019 - 11/2020	5	0%	5	0%	640	4600	--	--	640	4600	0	1	0.62	Stable	**5**	--	**5**
MW-02A	Dissolved Lead	µg/L	-	5	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-02A	Total Lead	µg/L	1	5	-	6/2019 - 11/2020	5	20%	5	20%	0.69	2.7	<0.50	<0.50	<0.50	2.7	0	1	0.70	Stable	**3**	0	--
MW-02A	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	370	540	--	--	370	540	-9	0.337	0.14	Stable	--	--	--
MW-02A	Total Magnesium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	560	1400	--	--	560	1400	0	1	0.31	Stable	--	--	--
MW-02A	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	8	0%	8	0%	27	150	--	--	27	150	-17	0.047	0.78	**Decreasing Trend**	--	**2**	**8**
MW-02A	Total Manganese	µg/L	820	120	20	6/2019 - 11/2020	5	0%	5	0%	62	120	--	--	62	120	-3	0.65	0.30	Stable	0	0	**5**
MW-02A	Dissolved Molybdenum	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-02A	Total Molybdenum	µg/L	73	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-02A	Dissolved Nickel	µg/L	-	-	-	6/2018 - 11/2020	8	63%	8	63%	2.6	8.2	<2.0	<2.0	<2.0	8.2	--	--	--	>50% ND	--	--	--
MW-02A	Total Nickel	µg/L	25	-	-	6/2019 - 11/2020	5	0%	5	0%	2.1	4.9	--	--	2.1	4.9	2	0.816	0.28	No trend identified	0	--	--
MW-02A	Dissolved Phosphorus	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-02A	Total Phosphorus	µg/L	-	-	-	6/2019 - 11/2020	5	20%	5	20%	110	170	<100	<100	<100	170	4	0.484	0.39	No trend identified	--	--	--
MW-02A	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	110	320	--	--	110	320	-10	0.276	0.34	Stable	--	--	--
MW-02A	Total Potassium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	360	760	--	--	360	760	0	1	0.28	Stable	--	--	--
MW-02A	Dissolved Selenium	µg/L	-	50	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-02A	Total Selenium	µg/L	1	50	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-02A	Dissolved Silver	µg/L	-	-	-	6/2018 - 11/2020	8	38%	8	38%	0.1	0.2	<0.10	<0.10	<0.10	0.2	-2	0.904	0.55	Stable	--	--	--
MW-02A	Total Silver	µg/L	0.1	-	-	6/2019 - 11/2020	5	0%	5	0%	0.28	0.74	--	--	0.28	0.74	2	0.816	0.40	No trend identified	**5**	--	--
MW-02A	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	8	0%	8	0%	2600	3800	--	--	2600	3800	-16	0.062	0.11	**Probably Decreasing**	--	--	0
MW-02A	Total Sodium	µg/L	-	-	200000	6/2019 - 11/2020	5	0%	5	0%	2600	3500	--	--	2600	3500	-6	0.234	0.12	Stable	--	--	0
MW-02A	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	8	0%	8	0%	4.8	16	--	--	4.8	16	0	1	0.46	Stable	--	0	--
MW-02A	Total Strontium	µg/L	21000	7000	-	6/2019 - 11/2020	5	0%	5	0%	5.9	16	--	--	5.9	16	0	1	0.47	Stable	0	0	--
MW-02A	Dissolved Thallium	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-02A	Total Thallium	µg/L	0.8	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-02A	Dissolved Tin	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-02A	Total Tin	µg/L	-	-	-	6/2019 - 11/2020	5	80%	5	80%	3.6	3.6	<2.0	<2.0	<2.0	3.6	--	--	--	>50% ND	--	--	--
MW-02A	Dissolved Titanium	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-02A	Total Titanium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	16	120	--	--	16	120	0	1	0.64	Stable	--	--	--
MW-02A	Dissolved Uranium	µg/L	-	20	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-02A	Total Uranium	µg/L	300	20	-	6/2019 - 11/2020	5	40%	5	40%	0.14	0.23	<0.10	<0.10	<0.10	0.23	1	1	0.61	No trend identified	0	0	--
MW-02A	Dissolved Vanadium	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-02A	Total Vanadium	µg/L	6	-	-	6/2019 - 11/2020	5	40%	5	40%	2.1	3.9	<2.0	<2.0	<2.0	3.9	1	1	0.59	No trend identified	0	--	--
MW-02A	Dissolved Zinc	µg/L	-	-	5000	6/2018 - 11/2020	8	50%	8	50%	5.1	13	<5.0	<5.0	<5.0	13	-2	0.904	0.75	Stable	--	--	0
MW-02A	Total Zinc	µg/L	30	-	5000	6/2019 - 11/2020	5	0%	5	0%	5.6	11	--	--	5.6	11	2	0.816	0.29	No trend identified	0	--	0
MW-02A	Dissolved Mercury	µg/L	--	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
MW-02A	Total Mercury	µg/L	0.026	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
	Calculated Parameters																						
MW-02B	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.46	0.54	--	--	0.46	0.54	0	1	0.06	Stable	--	--	--
MW-02B	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	13.5	18	--	--	13.5	18	-7	0.544	0.10	Stable	--	--	--
MW-02B	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	39	47	--	--	39	47	-4	0.762	0.06	Stable	--	--	0
MW-02B	Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-02B	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.41	0.675	--	--	0.41	0.675	-16	0.12	0.18	Stable	--	--	--
MW-02B	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	9.6	12.5	--	--	9.6	12.5	-1	1	0.09	Stable	--	--	--
MW-02B	Ion Balance (% Difference)	%	-	-	-	6/2018 - 11/2020	9	0%	9	0%	3.23	13.7	--	--	3.23	13.7	8	0.476	0.50	No trend identified	--	--	--
MW-02B	Langelier Index (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-3.2	-2.79	--	--	-3.2	-2.79	-8	0.476	-0.05	Stable	--	--	--
MW-02B	Langelier Index (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-3.45	-3.045	--	--	-3.45	-3.045	-8	0.476	-0.04	Stable	--	--	--
MW-02B	Nitrate (N)	mg/L	-	10	-	6/2018 - 11/2020	9	56%	9	56%	0.051	0.37	<0.050	<0.050	<0.050	0.37	--	--	--	>50% ND	--	0	--
MW-02B	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	9.48	9.74	--	--	9.48	9.74	5	0.687	0.01	No trend identified	--	--	--

Table 4.1

Statistical Screening and Trend Test (Mann Kendall) Results – Baseline Groundwater Quality Data
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test											Samples Outside Criteria (Count)		
			NSE	CDWQG		Date					Detects		Non-Detects							NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
MW-02B	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	9.735	9.985	--	--	9.735	9.985	5	0.687	0.01	No trend identified	--	--	--
	Inorganics																						
MW-02B	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	13.5	18	--	--	13.5	18	-7	0.544	0.10	Stable	--	--	--
MW-02B	Total Chemical Oxygen Demand	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<20	<20	<20	<20	--	--	--	Insufficient data	--	--	--
MW-02B	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	9	0%	9	0%	2.7	4.05	--	--	2.7	4.05	16	0.12	0.11	No trend identified	0	--	0
MW-02B	Colour	TCU	-	-	15	6/2018 - 11/2020	9	100%	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	--	100% ND	--	--	--
MW-02B	Nitrate + Nitrite	mg/L	-	-	-	6/2018 - 11/2020	9	56%	9	56%	0.051	0.37	<0.050	<0.050	<0.050	0.37	--	--	--	>50% ND	--	--	--
MW-02B	Nitrite	mg/L	-	1	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-02B	Nitrogen (Ammonia Nitrogen)	mg/L	-	-	-	6/2018 - 11/2020	9	67%	9	67%	0.052	0.09	<0.050	<0.050	<0.050	0.09	--	--	--	>50% ND	--	--	--
MW-02B	Dissolved Organic Carbon	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.5	<0.5	<0.5	<0.5	--	--	--	Insufficient data	--	--	--
MW-02B	Total Organic Carbon	mg/L	-	-	-	6/2018 - 11/2020	9	78%	9	78%	0.565	1.9	<0.40	<0.50	<0.40	1.9	--	--	--	>50% ND	--	--	--
MW-02B	Orthophosphate	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.058	0.087	--	--	0.058	0.087	24	0.0126	0.11	**Increasing Trend**	--	--	--
MW-02B	pH	s.u.	-	-	10.5	6/2018 - 11/2020	9	0%	9	0%	6.44	6.795	--	--	6.44	6.795	-4	0.762	0.02	Stable	--	--	0
MW-02B	pH	s.u.	-	-	7																		**9 ***
MW-02B	Dissolved Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	0.061	0.061	--	--	0.061	0.061	--	--	--	Insufficient data	--	--	--
MW-02B	Total Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	0.075	0.075	--	--	0.075	0.075	--	--	--	Insufficient data	--	--	--
MW-02B	Reactive Silica (SiO2)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	14.5	15	--	--	14.5	15	0	1	0.01	Stable	--	--	--
MW-02B	Total Suspended Solids	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	3	3	--	--	3	3	--	--	--	Insufficient data	--	--	--
MW-02B	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	2.7	4.5	--	--	2.7	4.5	15	0.15	0.15	No trend identified	--	--	0
MW-02B	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	9	0%	9	0%	0.23	27.5	--	--	0.23	27.5	-25	0.0092	1.57	**Decreasing Trend**	--	--	**8**
MW-02B	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	9	0%	9	0%	43	51.5	--	--	43	51.5	-5	0.687	0.06	Stable	--	--	--
	Metals																						
MW-02B	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	9	44%	9	44%	6	16	<5.0	<5.0	<5.0	16	-20	0.044	0.74	**Decreasing Trend**	--	--	0
MW-02B	Total Aluminum	µg/L	5	-	100	6/2019 - 11/2020	5	0%	5	0%	28	240	--	--	28	240	-6	0.234	1.13	No trend identified	**5**	--	**1**
MW-02B	Dissolved Antimony	µg/L	-	6	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-02B	Total Antimony	µg/L	20	6	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-02B	Dissolved Arsenic	µg/L	-	10	-	6/2018 - 11/2020	9	0%	9	0%	2.1	2.5	--	--	2.1	2.5	11	0.309	0.05	No trend identified	--	0	--
MW-02B	Total Arsenic	µg/L	5	10	-	6/2019 - 11/2020	5	0%	5	0%	2.4	2.6	--	--	2.4	2.6	0	1	0.04	Stable	0	0	--
MW-02B	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	9	0%	9	0%	2.15	5.6	--	--	2.15	5.6	-17	0.098	0.34	**Probably Decreasing**	--	0	--
MW-02B	Total Barium	µg/L	1000	2000	-	6/2019 - 11/2020	5	0%	5	0%	2.5	3.55	--	--	2.5	3.55	-8	0.084	0.14	**Probably Decreasing**	0	0	--
MW-02B	Dissolved Beryllium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-02B	Total Beryllium	µg/L	5.3	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-02B	Dissolved Bismuth	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-02B	Total Bismuth	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-02B	Dissolved Boron	µg/L	-	5000	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-02B	Total Boron	µg/L	1200	5000	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-02B	Dissolved Cadmium	µg/L	-	7	-	6/2018 - 11/2020	9	0%	9	0%	0.41	0.65	--	--	0.41	0.65	-21	0.034	0.19	**Decreasing Trend**	--	0	--
MW-02B	Total Cadmium	µg/L	0.01	7	-	6/2019 - 11/2020	5	0%	5	0%	0.43	0.505	--	--	0.43	0.505	1	1	0.07	No trend identified	**5**	0	--
MW-02B	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2600	3750	--	--	2600	3750	2	0.92	0.13	No trend identified	--	--	--
MW-02B	Total Calcium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	2700	3300	--	--	2700	3300	-3	0.65	0.09	Stable	--	--	--
MW-02B	Dissolved Chromium	µg/L	-	50	-	6/2018 - 11/2020	9	89%	9	89%	1.4	1.4	<1.0	<1.0	<1.0	1.4	--	--	--	>50% ND	--	0	--
MW-02B	Total Chromium	µg/L	-	50	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-02B	Dissolved Cobalt	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	--	100% ND	--	--	--
MW-02B	Total Cobalt	µg/L	10	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	--	100% ND	--	--	--
MW-02B	Dissolved Copper	µg/L	-	2000	1000	11/2018 - 11/2020	9	22%	7	0%	0.61	8.75	--	--	0.61	8.75	-18	0.0068	1.43	**Decreasing Trend**	--	0	0
MW-02B	Total Copper	µg/L	2	2000	1000	6/2019 - 11/2020	5	0%	5	0%	0.8	1.4	--	--	0.8	1.4	-5	0.359	0.21	Stable	0	0	0
MW-02B	Dissolved Iron	µg/L	-	-	300	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-02B	Total Iron	µg/L	300	-	300	6/2019 - 11/2020	5	80%	5	80%	98	98	<50	<50	<50	98	--	--	--	>50% ND	0	--	0
MW-02B	Dissolved Lead	µg/L	-	5	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-02B	Total Lead	µg/L	1	5	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-02B	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	730	800	--	--	730	800	4	0.762	0.03	No trend identified	--	--	--
MW-02B	Total Magnesium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	810	875	--	--	810	875	-5	0.359	0.03	Stable	--	--	--
MW-02B	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	9	0%	9	0%	2.8	27	--	--	2.8	27	-25	0.0092	0.80	**Decreasing Trend**	--	0	**2**
MW-02B	Total Manganese	µg/L	820	120	20	6/2019 - 11/2020	5	0%	5	0%	3.7	10.5	--	--	3.7	10.5	-5	0.359	0.48	Stable	0	0	0
MW-02B	Dissolved Molybdenum	µg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	2.7	2.7	<2.0	<2.0	<2.0	2.7	--	--	--	>50% ND	--	--	--
MW-02B	Total Molybdenum	µg/L	73	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-02B	Dissolved Nickel	µg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	2.1	2.1	<2.0	<2.0	<2.0	2.1	--	--	--	>50% ND	--	--	--
MW-02B	Total Nickel	µg/L	25	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-02B	Dissolved Phosphorus	µg/L	-	-	-	6/2018 - 11/2020	9	33%	9	33%	100	120	<100	<100	<100	120	7	0.544	0.34	No trend identified	--	--	--
MW-02B	Total Phosphorus	µg/L	-	-	-	6/2019 - 11/2020	5	20%	5	20%	110	150	<100	<100	<100	150	0	1	0.34	Stable	--	--	--
MW-02B	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	490	775	--	--	490	775	-9	0.417	0.15	Stable	--	--	--
MW-02B	Total Potassium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	490	610	--	--	490	610	-1	1	0.08	Stable	--	--	--
MW-02B	Dissolved Selenium	µg/L	-	50	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-02B	Total Selenium	µg/L	1	50	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-02B	Dissolved Silver	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-02B	Total Silver	µg/L	0.1	-	-	6/2019 - 11/2020	5	80%	5	80%	0.11	0.11	<0.10	<0.10	<0.10	0.11	--	--	--	>50% ND	**1**	--	--
MW-02B	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	0%	4400	9100	--	--	4400	9100	-22	0.024	0.28	**Decreasing Trend**	--	--	0
MW-02B	Total Sodium	µg/L	-	-	200000	6/2019 - 11/2020	5	0%	5	0%	4500	4850	--	--	4500	4850	-5	0.359	0.03	Stable	--	--	0
MW-02B	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	9	0%	9	0%	17	28.5	--	--	17	28.5	-11	0.309	0.18	Stable	--	0	--
MW-02B	Total Strontium	µg/L	21000	7000	-	6/2019 - 11/2020	5	0%	5	0%	17	20	--	--	17	20	-2	0.816	0.07	Stable	0	0	--
MW-02B	Dissolved Thallium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-02B	Total Thallium	µg/L	0.8	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-02B	Dissolved Tin	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-02B	Total Tin	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-02B	Dissolved Titanium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-02B	Total Titanium	µg/L	-	-	-	6/2019 - 11/2020	5	80%	5	80%	3.1	3.1	<2.0	<2.0	<2.0	3.1	--	--	--	>50% ND	--	--	--
MW-02B	Dissolved Uranium	µg/L	-	20	-	6/2018 - 11/2020	9	0%	9	0%	0.56	1.145	--	--	0.56	1.145	10	0.358	0.22	No trend identified	--	0	--
MW-02B	Total Uranium	µg/L	300	20	-	6/2019 - 11/2020	5	0%	5	0%	0.915	1.3	--	--	0.915	1.3	5	0.359	0.15	No trend identified	0	0	--
MW-02B	Dissolved Vanadium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--

Table 4.1

Statistical Screening and Trend Test (Mann Kendall) Results – Baseline Groundwater Quality Data
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test										Samples Outside Criteria (Count)		
			NSE	CDWQG		Date					Detects		Non-Detects						NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
MW-02B	Total Vanadium	µg/L	6	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-02B	Dissolved Zinc	µg/L	-	-	5000	6/2018 - 11/2020	9	0%	9	0%	73.5	100	--	--	73.5	100	15	0.15	0.09	No trend identified	--	--	0
MW-02B	Total Zinc	µg/L	30	-	5000	6/2019 - 11/2020	5	0%	5	0%	89	98	--	--	89	98	-2	0.816	0.04	Stable	**5**	--	0
MW-02B	Dissolved Mercury	µg/L	--	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
MW-02B	Total Mercury	µg/L	0.026	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
	Calculated Parameters																						
MW-03A	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.16	0.42	--	--	0.16	0.42	-7	0.544	0.29	Stable	--	--	--
MW-03A	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	9	22%	9	22%	5.3	11	<1.0	<1.0	<1.0	11	-9	0.417	0.61	Stable	--	--	--
MW-03A	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	15	31	--	--	15	31	-5	0.687	0.24	Stable	--	--	0
MW-03A	Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-03A	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.2	0.39	--	--	0.2	0.39	-7	0.544	0.25	Stable	--	--	--
MW-03A	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	3.4	9.5	--	--	3.4	9.5	-4	0.762	0.31	Stable	--	--	--
MW-03A	Ion Balance (% Difference)	%	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2.78	16.7	--	--	2.78	16.7	18	0.076	0.61	Probably Increasing	--	--	--
MW-03A	Langelier Index (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	7	0%	7	0%	-4.66	-3.65	--	--	-4.66	-3.65	-7	0.382	-0.09	Stable	--	--	--
MW-03A	Langelier Index (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	7	0%	7	0%	-4.92	-3.91	--	--	-4.92	-3.91	-7	0.382	-0.08	Stable	--	--	--
MW-03A	Nitrate (N)	mg/L	-	10	-	6/2018 - 11/2020	9	0%	9	0%	0.26	1.2	--	--	0.26	1.2	9	0.417	0.55	No trend identified	--	0	--
MW-03A	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	7	0%	7	0%	9.87	10.6	--	--	9.87	10.6	8	0.31	0.02	No trend identified	--	--	--
MW-03A	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	7	0%	7	0%	10.1	10.8	--	--	10.1	10.8	6	0.472	0.02	No trend identified	--	--	--
	Inorganics																						
MW-03A	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	22%	9	22%	5.3	11	<5.0	<5.0	<5.0	11	-9	0.417	0.46	Stable	--	--	--
MW-03A	Total Chemical Oxygen Demand	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<20	<20	<20	<20	--	--	--	Insufficient data	--	--	--
MW-03A	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	9	0%	9	0%	1.8	4.9	--	--	1.8	4.9	-14	0.18	0.31	Stable	0	--	0
MW-03A	Colour	TCU	-	-	15	6/2018 - 11/2020	9	44%	9	44%	6	12	<5.0	<5.0	<5.0	12	-2	0.92	0.61	Stable	--	--	0
MW-03A	Nitrate + Nitrite	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.26	1.2	--	--	0.26	1.2	9	0.417	0.55	No trend identified	--	--	--
MW-03A	Nitrite	mg/L	-	1	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-03A	Nitrogen (Ammonia Nitrogen)	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.050	<0.050	<0.050	<0.050	--	--	--	100% ND	--	--	--
MW-03A	Dissolved Organic Carbon	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	2.3	2.3	--	--	2.3	2.3	--	--	--	Insufficient data	--	--	--
MW-03A	Total Organic Carbon	mg/L	-	-	-	6/2018 - 7/2020	7	0%	7	0%	1.2	3.6	--	--	1.2	3.6	-10	0.187	0.36	Stable	--	--	--
MW-03A	Orthophosphate	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-03A	pH	s.u.	-	-	10.5	6/2018 - 11/2020	9	0%	9	0%	5.82	6.28	--	--	5.82	6.28	-9	0.417	0.03	Stable	--	--	0
MW-03A	pH	s.u.	-	-	7																		**9 ***
MW-03A	Dissolved Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-03A	Total Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	0.024	0.024	--	--	0.024	0.024	--	--	--	Insufficient data	--	--	--
MW-03A	Reactive Silica (SiO2)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	3.1	7.4	--	--	3.1	7.4	4	0.762	0.25	No trend identified	--	--	--
MW-03A	Total Suspended Solids	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	140	140	--	--	140	140	--	--	--	Insufficient data	--	--	--
MW-03A	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	9	33%	9	33%	2.5	4.2	<2.0	<2.0	<2.0	4.2	19	0.06	0.50	Probably Increasing	--	--	0
MW-03A	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	9	0%	9	0%	0.39	99	--	--	0.39	99	8	0.476	1.71	No trend identified	--	--	**9**
MW-03A	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	9	0%	9	0%	25	43	--	--	25	43	-8	0.476	0.20	Stable	--	--	--
	Metals																						
MW-03A	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	9	0%	9	0%	96	200	--	--	96	200	-11	0.309	0.23	Stable	--	--	**8**
MW-03A	Total Aluminum	µg/L	5	-	100	6/2019 - 11/2020	5	0%	5	0%	450	1900	--	--	450	1900	-4	0.484	0.52	Stable	**5**	--	**5**
MW-03A	Dissolved Antimony	µg/L	-	6	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-03A	Total Antimony	µg/L	20	6	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-03A	Dissolved Arsenic	µg/L	-	10	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-03A	Total Arsenic	µg/L	5	10	-	6/2019 - 11/2020	5	80%	5	80%	1.1	1.1	<1.0	<1.0	<1.0	1.1	--	--	--	>50% ND	0	0	--
MW-03A	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	9	0%	9	0%	5	12	--	--	5	12	1	1	0.29	No trend identified	--	0	--
MW-03A	Total Barium	µg/L	1000	2000	-	6/2019 - 11/2020	5	0%	5	0%	9.4	35	--	--	9.4	35	-3	0.65	0.51	Stable	0	0	--
MW-03A	Dissolved Beryllium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-03A	Total Beryllium	µg/L	5.3	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-03A	Dissolved Bismuth	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-03A	Total Bismuth	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-03A	Dissolved Boron	µg/L	-	5000	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-03A	Total Boron	µg/L	1200	5000	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-03A	Dissolved Cadmium	µg/L	-	7	-	6/2018 - 11/2020	9	0%	9	0%	0.02	0.034	--	--	0.02	0.034	3	0.841	0.16	No trend identified	--	0	--
MW-03A	Total Cadmium	µg/L	0.01	7	-	6/2019 - 11/2020	5	0%	5	0%	0.021	0.056	--	--	0.021	0.056	-2	0.816	0.34	Stable	**5**	0	--
MW-03A	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	820	2700	--	--	820	2700	-4	0.762	0.37	Stable	--	--	--
MW-03A	Total Calcium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	900	2100	--	--	900	2100	-1	1	0.29	Stable	--	--	--
MW-03A	Dissolved Chromium	µg/L	-	50	-	6/2018 - 11/2020	9	78%	9	78%	1.2	1.2	<1.0	<1.0	<1.0	1.2	--	--	--	>50% ND	--	0	--
MW-03A	Total Chromium	µg/L	-	50	-	6/2019 - 11/2020	5	60%	5	60%	1.4	1.9	<1.0	<1.0	<1.0	1.9	--	--	--	>50% ND	--	0	--
MW-03A	Dissolved Cobalt	µg/L	-	-	-	6/2018 - 11/2020	9	56%	9	56%	0.46	0.6	<0.40	<0.40	<0.40	0.6	--	--	--	>50% ND	--	--	--
MW-03A	Total Cobalt	µg/L	10	-	-	6/2019 - 11/2020	5	20%	5	20%	0.48	0.98	<0.40	<0.40	<0.40	0.98	-4	0.484	0.50	Stable	0	--	--
MW-03A	Dissolved Copper	µg/L	-	2000	1000	9/2018 - 11/2020	9	11%	8	0%	1.2	2.7	--	--	1.2	2.7	-8	0.398	0.21	Stable	--	0	0
MW-03A	Total Copper	µg/L	2	2000	1000	6/2019 - 11/2020	5	0%	5	0%	2	8.6	--	--	2	8.6	-3	0.65	0.61	Stable	**4**	0	0
MW-03A	Dissolved Iron	µg/L	-	-	300	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-03A	Total Iron	µg/L	300	-	300	6/2019 - 11/2020	5	0%	5	0%	300	2200	--	--	300	2200	-4	0.484	0.70	Stable	**4**	--	**4**
MW-03A	Dissolved Lead	µg/L	-	5	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-03A	Total Lead	µg/L	1	5	-	6/2019 - 11/2020	5	0%	5	0%	0.75	4.6	--	--	0.75	4.6	-4	0.484	0.73	Stable	**4**	0	--
MW-03A	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	330	690	--	--	330	690	-8	0.476	0.22	Stable	--	--	--
MW-03A	Total Magnesium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	490	930	--	--	490	930	-2	0.816	0.27	Stable	--	--	--
MW-03A	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	9	0%	9	0%	36	110	--	--	36	110	-8	0.476	0.40	Stable	--	0	**9**
MW-03A	Total Manganese	µg/L	820	120	20	6/2019 - 11/2020	5	0%	5	0%	50	160	--	--	50	160	-4	0.484	0.46	Stable	0	**2**	**5**
MW-03A	Dissolved Molybdenum	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-03A	Total Molybdenum	µg/L	73	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-03A	Dissolved Nickel	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2	4.7	--	--	2	4.7	-23	0.0183	0.26	Decreasing Trend	--	--	--
MW-03A	Total Nickel	µg/L	25	-	-	6/2019 - 11/2020	5	0%	5	0%	2.3	5	--	--	2.3	5	-5	0.359	0.28	Stable	0	--	--
MW-03A	Dissolved Phosphorus	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-03A	Total Phosphorus	µg/L	-	-	-	6/2019 - 11/2020	5	80%	5	80%	140	140	<100	<100	<100	140	--	--	--	>50% ND	--	--	--
MW-03A	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	390	1200	--	--	390	1200	-13	0.22	0.32	Stable	--	--	--
MW-03A	Total Potassium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	570	1200	--	--	570	1200	-2	0.816	0.28	Stable	--	--	--

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Statistical Screening and Trend Test (Mann Kendall) Results – Baseline Groundwater Quality Data
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test										Samples Outside Criteria (Count)		
			NSE	CDWQG		Date					Detects		Non-Detects						NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
MW-03A	Dissolved Selenium	µg/L	-	50	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-03A	Total Selenium	µg/L	1	50	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-03A	Dissolved Silver	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-03A	Total Silver	µg/L	0.1	-	-	6/2019 - 11/2020	5	0%	5	0%	0.18	0.76	--	--	0.18	0.76	0	1	0.67	Stable	**5**	--	--
MW-03A	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	0%	2300	5300	--	--	2300	5300	-3	0.841	0.31	Stable	--	--	0
MW-03A	Total Sodium	µg/L	-	-	200000	6/2019 - 11/2020	5	0%	5	0%	2400	3300	--	--	2400	3300	6	0.234	0.14	No trend identified	--	--	0
MW-03A	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	9	0%	9	0%	8.2	22	--	--	8.2	22	-6	0.612	0.31	Stable	--	0	--
MW-03A	Total Strontium	µg/L	21000	7000	-	6/2019 - 11/2020	5	0%	5	0%	9.3	26	--	--	9.3	26	-4	0.484	0.41	Stable	0	0	--
MW-03A	Dissolved Thallium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-03A	Total Thallium	µg/L	0.8	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-03A	Dissolved Tin	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-03A	Total Tin	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-03A	Dissolved Titanium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-03A	Total Titanium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	8.3	45	--	--	8.3	45	-4	0.484	0.68	Stable	--	--	--
MW-03A	Dissolved Uranium	µg/L	-	20	-	6/2018 - 11/2020	9	78%	9	78%	0.1	0.17	<0.10	<0.10	<0.10	0.17	--	--	--	>50% ND	--	0	--
MW-03A	Total Uranium	µg/L	300	20	-	6/2019 - 11/2020	5	0%	5	0%	0.23	1.5	--	--	0.23	1.5	-4	0.484	0.79	Stable	0	0	--
MW-03A	Dissolved Vanadium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-03A	Total Vanadium	µg/L	6	-	-	6/2019 - 11/2020	5	80%	5	80%	2	2	<2.0	<2.0	<2.0	<2.0	--	--	--	>50% ND	0	--	--
MW-03A	Dissolved Zinc	µg/L	-	-	5000	6/2018 - 11/2020	9	56%	9	56%	5.2	13	<5.0	<5.0	<5.0	13	--	--	--	>50% ND	--	--	0
MW-03A	Total Zinc	µg/L	30	-	5000	6/2019 - 11/2020	5	20%	5	20%	5.1	12	<5.0	<5.0	<5.0	12	2	0.816	0.50	No trend identified	0	--	0
MW-03A	Dissolved Mercury	µg/L	--	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
MW-03A	Total Mercury	µg/L	0.026	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
	Calculated Parameters																						
MW-03B	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.95	1.12	--	--	0.95	1.12	-10	0.358	0.06	Stable	--	--	--
MW-03B	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	34	45	--	--	34	45	-9	0.417	0.08	Stable	--	--	--
MW-03B	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	59	67	--	--	59	67	-17	0.098	0.05	**Probably Decreasing**	--	--	0
MW-03B	Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-03B	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.88	1.02	--	--	0.88	1.02	-14	0.18	0.05	Stable	--	--	--
MW-03B	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	34	40	--	--	34	40	-11	0.309	0.05	Stable	--	--	--
MW-03B	Ion Balance (% Difference)	%	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1.06	5.88	--	--	1.06	5.88	9	0.417	0.37	No trend identified	--	--	--
MW-03B	Langelier Index (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-2.01	-1.35	--	--	-2.01	-1.35	3	0.841	-0.13	No trend identified	--	--	--
MW-03B	Langelier Index (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-2.26	-1.6	--	--	-2.26	-1.6	3	0.841	-0.12	No trend identified	--	--	--
MW-03B	Nitrate (N)	mg/L	-	10	-	6/2018 - 11/2020	9	11%	9	11%	0.091	0.16	<0.050	<0.050	<0.050	0.16	10	0.358	0.34	No trend identified	--	0	--
MW-03B	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.53	8.72	--	--	8.53	8.72	12	0.26	0.01	No trend identified	--	--	--
MW-03B	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.78	8.97	--	--	8.78	8.97	12	0.26	0.01	No trend identified	--	--	--
	Inorganics																						
MW-03B	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	34	45	--	--	34	45	-9	0.417	0.08	Stable	--	--	--
MW-03B	Total Chemical Oxygen Demand	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<20	<20	<20	<20	--	--	--	Insufficient data	--	--	--
MW-03B	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	9	0%	9	0%	4.5	6.3	--	--	4.5	6.3	-4	0.762	0.11	Stable	0	--	0
MW-03B	Colour	TCU	-	-	15	6/2018 - 11/2020	9	89%	9	89%	5.4	5.4	<5.0	<5.0	<5.0	5.4	--	--	--	>50% ND	--	--	0
MW-03B	Nitrate + Nitrite	mg/L	-	-	-	6/2018 - 11/2020	9	11%	9	11%	0.091	0.16	<0.050	<0.050	<0.050	0.16	10	0.358	0.34	No trend identified	--	--	--
MW-03B	Nitrite	mg/L	-	1	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-03B	Nitrogen (Ammonia Nitrogen)	mg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	0.089	0.089	<0.050	<0.050	<0.050	0.089	--	--	--	>50% ND	--	--	--
MW-03B	Dissolved Organic Carbon	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.5	<0.5	<0.5	<0.5	--	--	--	Insufficient data	--	--	--
MW-03B	Total Organic Carbon	mg/L	-	-	-	6/2018 - 11/2020	9	33%	9	33%	0.51	1.3	<0.50	<0.50	<0.50	1.3	1	1	0.59	No trend identified	--	--	--
MW-03B	Orthophosphate	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-03B	pH	s.u.	-	-	10.5	6/2018 - 11/2020	9	0%	9	0%	6.66	7.18	--	--	6.66	7.18	9	0.417	0.03	No trend identified	--	--	0
MW-03B	pH	s.u.	-	-	7																		**7 ***
MW-03B	Dissolved Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-03B	Total Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-03B	Reactive Silica (SiO2)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	9.7	11	--	--	9.7	11	-23	0.0183	0.04	**Decreasing Trend**	--	--	--
MW-03B	Total Suspended Solids	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	4.6	4.6	--	--	4.6	4.6	--	--	--	Insufficient data	--	--	--
MW-03B	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	3.4	4.5	--	--	3.4	4.5	23	0.0183	0.09	**Increasing Trend**	--	--	0
MW-03B	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	9	0%	9	0%	0.26	3.6	--	--	0.26	3.6	20	0.044	0.82	**Increasing Trend**	--	--	**8**
MW-03B	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	9	0%	9	0%	89	100	--	--	89	100	-7	0.544	0.04	Stable	--	--	--
	Metals																						
MW-03B	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	9	100%	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	--	100% ND	--	--	--
MW-03B	Total Aluminum	µg/L	5	-	100	6/2019 - 11/2020	5	0%	5	0%	24	120	--	--	24	120	0	1	0.48	Stable	**5**	--	**2**
MW-03B	Dissolved Antimony	µg/L	-	6	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-03B	Total Antimony	µg/L	20	6	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-03B	Dissolved Arsenic	µg/L	-	10	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-03B	Total Arsenic	µg/L	5	10	-	6/2019 - 11/2020	5	80%	5	80%	1	1	<1.0	<1.0	<1.0	<1.0	--	--	--	>50% ND	0	0	--
MW-03B	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	9	0%	9	0%	2.5	4.4	--	--	2.5	4.4	-13	0.22	0.18	Stable	--	0	--
MW-03B	Total Barium	µg/L	1000	2000	-	6/2019 - 11/2020	5	0%	5	0%	3.2	4.4	--	--	3.2	4.4	3	0.65	0.14	No trend identified	0	0	--
MW-03B	Dissolved Beryllium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-03B	Total Beryllium	µg/L	5.3	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-03B	Dissolved Bismuth	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-03B	Total Bismuth	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-03B	Dissolved Boron	µg/L	-	5000	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-03B	Total Boron	µg/L	1200	5000	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-03B	Dissolved Cadmium	µg/L	-	7	-	6/2018 - 11/2020	9	0%	9	0%	0.014	0.039	--	--	0.014	0.039	-18	0.076	0.32	**Probably Decreasing**	--	0	--
MW-03B	Total Cadmium	µg/L	0.01	7	-	6/2019 - 11/2020	5	0%	5	0%	0.013	0.026	--	--	0.013	0.026	0	1	0.27	Stable	**5**	0	--
MW-03B	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	11000	14000	--	--	11000	14000	-5	0.687	0.07	Stable	--	--	--
MW-03B	Total Calcium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	11000	14000	--	--	11000	14000	-5	0.359	0.11	Stable	--	--	--
MW-03B	Dissolved Chromium	µg/L	-	50	-	6/2018 - 11/2020	9	89%	9	89%	1.5	1.5	<1.0	<1.0	<1.0	1.5	--	--	--	>50% ND	--	0	--
MW-03B	Total Chromium	µg/L	-	50	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-03B	Dissolved Cobalt	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	--	100% ND	--	--	--
MW-03B	Total Cobalt	µg/L	10	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	--	100% ND	--	--	--

Table 4.1

Statistical Screening and Trend Test (Mann Kendall) Results – Baseline Groundwater Quality Data
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test										Samples Outside Criteria (Count)		
			NSE	CDWQG		Date					Detects		Non-Detects						NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
MW-03B	Dissolved Copper	µg/L	-	2000	1000	11/2018 - 11/2020	9	44%	7	29%	0.54	27	<0.50	<0.50	<0.50	27	-4	0.667	2.22	No trend identified	--	0	0
MW-03B	Total Copper	µg/L	2	2000	1000	6/2019 - 11/2020	5	0%	5	0%	0.6	2	--	--	0.6	2	6	0.234	0.47	No trend identified	0	0	0
MW-03B	Dissolved Iron	µg/L	-	-	300	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-03B	Total Iron	µg/L	300	-	300	6/2019 - 11/2020	5	20%	5	20%	91	180	<50	<50	<50	180	0	1	0.56	Stable	0	--	0
MW-03B	Dissolved Lead	µg/L	-	5	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-03B	Total Lead	µg/L	1	5	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-03B	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1100	1300	--	--	1100	1300	9	0.417	0.04	No trend identified	--	--	--
MW-03B	Total Magnesium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	1200	1300	--	--	1200	1300	0	1	0.04	Stable	--	--	--
MW-03B	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	9	11%	9	11%	2.4	32	<2.0	<2.0	<2.0	32	-21	0.034	1.06	**Decreasing Trend**	--	0	**2**
MW-03B	Total Manganese	µg/L	820	120	20	6/2019 - 11/2020	5	0%	5	0%	2.9	14	--	--	2.9	14	2	0.816	0.62	No trend identified	0	0	0
MW-03B	Dissolved Molybdenum	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-03B	Total Molybdenum	µg/L	73	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-03B	Dissolved Nickel	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-03B	Total Nickel	µg/L	25	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-03B	Dissolved Phosphorus	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-03B	Total Phosphorus	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-03B	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	830	1700	--	--	830	1700	-21	0.034	0.29	**Decreasing Trend**	--	--	--
MW-03B	Total Potassium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	780	1100	--	--	780	1100	-2	0.816	0.13	Stable	--	--	--
MW-03B	Dissolved Selenium	µg/L	-	50	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-03B	Total Selenium	µg/L	1	50	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-03B	Dissolved Silver	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-03B	Total Silver	µg/L	0.1	-	-	6/2019 - 11/2020	5	40%	5	40%	0.12	0.25	<0.10	<0.10	<0.10	0.25	5	0.359	0.68	No trend identified	**3**	--	--
MW-03B	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	0%	4300	4900	--	--	4300	4900	-17	0.098	0.04	**Probably Decreasing**	--	--	0
MW-03B	Total Sodium	µg/L	-	-	200000	6/2019 - 11/2020	5	0%	5	0%	4200	4600	--	--	4200	4600	-3	0.65	0.04	Stable	--	--	0
MW-03B	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	9	0%	9	0%	24	29	--	--	24	29	-1	1	0.06	Stable	--	0	--
MW-03B	Total Strontium	µg/L	21000	7000	-	6/2019 - 11/2020	5	0%	5	0%	24	27	--	--	24	27	-5	0.359	0.05	Stable	0	0	--
MW-03B	Dissolved Thallium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-03B	Total Thallium	µg/L	0.8	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-03B	Dissolved Tin	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-03B	Total Tin	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-03B	Dissolved Titanium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-03B	Total Titanium	µg/L	-	-	-	6/2019 - 11/2020	5	20%	5	20%	5.3	9.5	<2.0	<2.0	<2.0	9.5	1	1	0.55	No trend identified	--	--	--
MW-03B	Dissolved Uranium	µg/L	-	20	-	6/2018 - 11/2020	9	0%	9	0%	0.12	0.29	--	--	0.12	0.29	-17	0.098	0.23	**Probably Decreasing**	--	0	--
MW-03B	Total Uranium	µg/L	300	20	-	6/2019 - 11/2020	5	0%	5	0%	0.22	0.31	--	--	0.22	0.31	-4	0.484	0.14	Stable	0	0	--
MW-03B	Dissolved Vanadium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-03B	Total Vanadium	µg/L	6	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-03B	Dissolved Zinc	µg/L	-	-	5000	6/2018 - 11/2020	9	44%	9	44%	6.4	10	<5.0	<5.0	<5.0	10	8	0.476	0.56	No trend identified	--	--	0
MW-03B	Total Zinc	µg/L	30	-	5000	6/2019 - 11/2020	5	60%	5	60%	5.5	7.3	<5.0	<5.0	<5.0	7.3	--	--	--	>50% ND	0	--	0
MW-03B	Dissolved Mercury	µg/L	--	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
MW-03B	Total Mercury	µg/L	0.026	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
	Calculated Parameters																						
MW-03C	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1.73	2.13	--	--	1.73	2.13	-6	0.612	0.07	Stable	--	--	--
MW-03C	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	76	95	--	--	76	95	-5	0.687	0.07	Stable	--	--	--
MW-03C	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	100	120	--	--	100	120	-3	0.841	0.06	Stable	--	--	0
MW-03C	Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-03C	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1.69	1.93	--	--	1.69	1.93	-18	0.076	0.05	**Probably Decreasing**	--	--	--
MW-03C	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	66.5	80	--	--	66.5	80	-6	0.612	0.06	Stable	--	--	--
MW-03C	Ion Balance (% Difference)	%	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1.17	8.67	--	--	1.17	8.67	12	0.26	0.65	No trend identified	--	--	--
MW-03C	Langelier Index (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-0.457	-0.073	--	--	-0.457	-0.073	-20	0.044	-0.55	**Decreasing Trend**	--	--	--
MW-03C	Langelier Index (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-0.708	-0.324	--	--	-0.708	-0.324	-20	0.044	-0.28	**Decreasing Trend**	--	--	--
MW-03C	Nitrate (N)	mg/L	-	10	-	6/2018 - 11/2020	9	22%	9	22%	0.052	0.11	<0.050	<0.050	<0.050	0.11	16	0.12	0.46	No trend identified	--	0	--
MW-03C	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	7.94	8.08	--	--	7.94	8.08	9	0.417	0.01	No trend identified	--	--	--
MW-03C	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.19	8.335	--	--	8.19	8.335	9	0.417	0.01	No trend identified	--	--	--
	Inorganics																						
MW-03C	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	76	95	--	--	76	95	-5	0.687	0.07	Stable	--	--	--
MW-03C	Total Chemical Oxygen Demand	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<20	<20	<20	<20	--	--	--	Insufficient data	--	--	--
MW-03C	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	9	0%	9	0%	3.6	5.1	--	--	3.6	5.1	-16	0.12	0.12	Stable	0	--	0
MW-03C	Colour	TCU	-	-	15	6/2018 - 11/2020	9	89%	9	89%	5.3	5.3	<5.0	<5.0	<5.0	5.3	--	--	--	>50% ND	--	--	0
MW-03C	Nitrate + Nitrite	mg/L	-	-	-	6/2018 - 11/2020	9	22%	9	22%	0.052	0.11	<0.050	<0.050	<0.050	0.11	16	0.12	0.46	No trend identified	--	--	--
MW-03C	Nitrite	mg/L	-	1	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-03C	Nitrogen (Ammonia Nitrogen)	mg/L	-	-	-	6/2018 - 11/2020	9	78%	9	78%	0.052	0.069	<0.050	<0.050	<0.050	0.069	--	--	--	>50% ND	--	--	--
MW-03C	Dissolved Organic Carbon	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.5	<0.5	<0.5	<0.5	--	--	--	Insufficient data	--	--	--
MW-03C	Total Organic Carbon	mg/L	-	-	-	6/2018 - 11/2020	9	22%	9	22%	0.58	4.25	<0.50	<0.50	<0.50	4.25	-21	0.034	1.09	**Decreasing Trend**	--	--	--
MW-03C	Orthophosphate	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-03C	pH	s.u.	-	-	10.5	6/2018 - 11/2020	9	0%	9	0%	7.59	7.91	--	--	7.59	7.91	-20	0.044	0.01	**Decreasing Trend**	--	--	0
MW-03C	pH	s.u.	-	-	7																		0 *
MW-03C	Dissolved Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-03C	Total Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-03C	Reactive Silica (SiO2)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	9.5	13	--	--	9.5	13	11	0.309	0.09	No trend identified	--	--	--
MW-03C	Total Suspended Solids	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	3.6	3.6	--	--	3.6	3.6	--	--	--	Insufficient data	--	--	--
MW-03C	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	3.8	5.8	--	--	3.8	5.8	21	0.034	0.12	**Increasing Trend**	--	--	0
MW-03C	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	9	0%	9	0%	0.685	3.7	--	--	0.685	3.7	-11	0.309	0.49	Stable	--	--	**9**
MW-03C	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	9	0%	9	0%	160	190	--	--	160	190	-13	0.22	0.06	Stable	--	--	--
	Metals																						
MW-03C	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	9	22%	9	22%	5.1	28	<5.0	<5.0	<5.0	28	-30	0.00086	0.83	**Decreasing Trend**	--	--	0
MW-03C	Total Aluminum	µg/L	5	-	100	6/2019 - 11/2020	5	0%	5	0%	43	200	--	--	43	200	-8	0.084	0.74	**Probably Decreasing**	**5**	--	**2**
MW-03C	Dissolved Antimony	µg/L	-	6	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-03C	Total Antimony	µg/L	20	6	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--

Table 4.1

Statistical Screening and Trend Test (Mann Kendall) Results – Baseline Groundwater Quality Data
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test											Samples Outside Criteria (Count)		
			NSE	CDWQG		Date					Detects		Non-Detects							NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
MW-03C	Dissolved Arsenic	µg/L	-	10	-	6/2018 - 11/2020	9	0%	9	0%	1.5	2.2	--	--	1.5	2.2	-16	0.12	0.14	Stable	--	0	--
MW-03C	Total Arsenic	µg/L	5	10	-	6/2019 - 11/2020	5	0%	5	0%	1.7	2.3	--	--	1.7	2.3	-9	0.050	0.12	Decreasing Trend	0	0	--
MW-03C	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	9	0%	9	0%	3	8.85	--	--	3	8.85	-28	0.0024	0.39	Decreasing Trend	--	0	--
MW-03C	Total Barium	µg/L	1000	2000	-	6/2019 - 11/2020	5	0%	5	0%	3.4	7.3	--	--	3.4	7.3	-10	0.0166	0.36	Decreasing Trend	0	0	--
MW-03C	Dissolved Beryllium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-03C	Total Beryllium	µg/L	5.3	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-03C	Dissolved Bismuth	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-03C	Total Bismuth	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-03C	Dissolved Boron	µg/L	-	5000	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-03C	Total Boron	µg/L	1200	5000	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-03C	Dissolved Cadmium	µg/L	-	7	-	6/2018 - 11/2020	9	44%	9	44%	0.01	0.014	<0.010	<0.010	<0.010	0.014	15	0.15	0.43	No trend identified	--	0	--
MW-03C	Total Cadmium	µg/L	0.01	7	-	6/2019 - 11/2020	5	20%	5	20%	0.01	0.021	<0.010	<0.010	<0.010	0.021	-6	0.234	0.48	Stable	**4**	0	--
MW-03C	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	23000	28000	--	--	23000	28000	-7	0.544	0.07	Stable	--	--	--
MW-03C	Total Calcium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	24000	28000	--	--	24000	28000	-7	0.159	0.07	Stable	--	--	--
MW-03C	Dissolved Chromium	µg/L	-	50	-	6/2018 - 11/2020	9	89%	9	89%	1.1	1.1	<1.0	<1.0	<1.0	1.1	--	--	--	>50% ND	--	0	--
MW-03C	Total Chromium	µg/L	-	50	-	6/2019 - 11/2020	5	80%	5	80%	1.2	1.2	<1.0	<1.0	<1.0	1.2	--	--	--	>50% ND	--	0	--
MW-03C	Dissolved Cobalt	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	--	100% ND	--	--	--
MW-03C	Total Cobalt	µg/L	10	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	--	100% ND	--	--	--
MW-03C	Dissolved Copper	µg/L	-	2000	1000	6/2018 - 11/2020	9	67%	9	67%	0.735	1.6	<0.50	<2.0	<0.50	<2.0	--	--	--	>50% ND	--	0	0
MW-03C	Total Copper	µg/L	2	2000	1000	6/2019 - 11/2020	5	0%	5	0%	0.91	6.8	--	--	0.91	6.8	-6	0.234	0.94	Stable	**2**	0	0
MW-03C	Dissolved Iron	µg/L	-	-	300	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-03C	Total Iron	µg/L	300	-	300	6/2019 - 11/2020	5	0%	5	0%	59	340	--	--	59	340	-4	0.484	0.71	Stable	**1**	--	**1**
MW-03C	Dissolved Lead	µg/L	-	5	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-03C	Total Lead	µg/L	1	5	-	6/2019 - 11/2020	5	80%	5	80%	0.7	0.7	<0.50	<0.50	<0.50	0.7	--	--	--	>50% ND	0	0	--
MW-03C	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2300	2700	--	--	2300	2700	-7	0.544	0.06	Stable	--	--	--
MW-03C	Total Magnesium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	2400	2700	--	--	2400	2700	-6	0.234	0.05	Stable	--	--	--
MW-03C	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	9	0%	9	0%	2.5	170	--	--	2.5	170	-26	0.0058	1.03	Decreasing Trend	--	**1**	**6**
MW-03C	Total Manganese	µg/L	820	120	20	6/2019 - 11/2020	5	0%	5	0%	7.1	81	--	--	7.1	81	-10	0.0166	0.96	Decreasing Trend	0	0	**2**
MW-03C	Dissolved Molybdenum	µg/L	-	-	-	6/2018 - 11/2020	9	56%	9	56%	2.1	6.5	<2.0	<2.0	<2.0	6.5	--	--	--	>50% ND	--	--	--
MW-03C	Total Molybdenum	µg/L	73	-	-	6/2019 - 11/2020	5	80%	5	80%	2.1	2.1	<2.0	<2.0	<2.0	2.1	--	--	--	>50% ND	0	--	--
MW-03C	Dissolved Nickel	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-03C	Total Nickel	µg/L	25	-	-	6/2019 - 11/2020	5	80%	5	80%	2.2	2.2	<2.0	<2.0	<2.0	2.2	--	--	--	>50% ND	0	--	--
MW-03C	Dissolved Phosphorus	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-03C	Total Phosphorus	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-03C	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1600	4300	--	--	1600	4300	-33	0.00015	0.37	Decreasing Trend	--	--	--
MW-03C	Total Potassium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	1600	2400	--	--	1600	2400	-8	0.084	0.17	Probably Decreasing	--	--	--
MW-03C	Dissolved Selenium	µg/L	-	50	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-03C	Total Selenium	µg/L	1	50	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-03C	Dissolved Silver	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-03C	Total Silver	µg/L	0.1	-	-	6/2019 - 11/2020	5	20%	5	20%	0.12	1	<0.10	<0.10	<0.10	1	-4	0.484	1.16	No trend identified	**4**	--	--
MW-03C	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	0%	5300	7700	--	--	5300	7700	-30	0.00086	0.16	Decreasing Trend	--	--	0
MW-03C	Total Sodium	µg/L	-	-	200000	6/2019 - 11/2020	5	0%	5	0%	5200	5800	--	--	5200	5800	-7	0.159	0.04	Stable	--	--	0
MW-03C	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	9	0%	9	0%	56	74	--	--	56	74	7	0.544	0.10	No trend identified	--	0	--
MW-03C	Total Strontium	µg/L	21000	7000	-	6/2019 - 11/2020	5	0%	5	0%	64	75	--	--	64	75	-7	0.159	0.07	Stable	0	0	--
MW-03C	Dissolved Thallium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-03C	Total Thallium	µg/L	0.8	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-03C	Dissolved Tin	µg/L	-	-	-	6/2018 - 11/2020	9	78%	9	78%	2.7	3.8	<2.0	<2.0	<2.0	3.8	--	--	--	>50% ND	--	--	--
MW-03C	Total Tin	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-03C	Dissolved Titanium	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-03C	Total Titanium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	3.5	13	--	--	3.5	13	-6	0.234	0.63	Stable	--	--	--
MW-03C	Dissolved Uranium	µg/L	-	20	-	6/2018 - 11/2020	9	0%	9	0%	1.2	2.2	--	--	1.2	2.2	-26	0.0058	0.24	Decreasing Trend	--	0	--
MW-03C	Total Uranium	µg/L	300	20	-	6/2019 - 11/2020	5	0%	5	0%	1.2	1.6	--	--	1.2	1.6	-9	0.050	0.12	Decreasing Trend	0	0	--
MW-03C	Dissolved Vanadium	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-03C	Total Vanadium	µg/L	6	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-03C	Dissolved Zinc	µg/L	-	-	5000	6/2018 - 11/2020	9	22%	9	22%	5.8	14	<5.0	<5.0	<5.0	14	21	0.034	0.52	Increasing Trend	--	--	0
MW-03C	Total Zinc	µg/L	30	-	5000	6/2019 - 11/2020	5	0%	5	0%	6.8	13	--	--	6.8	13	-4	0.484	0.26	Stable	0	--	0
MW-03C	Dissolved Mercury	µg/L	--	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
MW-03C	Total Mercury	µg/L	0.026	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
	Calculated Parameters																						
MW-04A	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	0.18	0.44	--	--	0.18	0.44	-11	0.227	0.24	Stable	--	--	--
MW-04A	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	5.3	11	--	--	5.3	11	-8	0.398	0.26	Stable	--	--	--
MW-04A	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	8	0%	8	0%	15.5	32	--	--	15.5	32	-11	0.227	0.22	Stable	--	--	0
MW-04A	Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	7	100%	7	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-04A	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	0.22	0.51	--	--	0.22	0.51	-15	0.085	0.30	Probably Decreasing	--	--	--
MW-04A	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	5.2	17	--	--	5.2	17	-14	0.108	0.45	Stable	--	--	--
MW-04A	Ion Balance (% Difference)	%	-	-	-	6/2018 - 11/2020	8	0%	8	0%	3.7	17	--	--	3.7	17	8	0.398	0.53	No trend identified	--	--	--
MW-04A	Langelier Index (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	8	0%	8	0%	-4.31	-3.26	--	--	-4.31	-3.26	-12	0.178	-0.11	Stable	--	--	--
MW-04A	Langelier Index (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	8	0%	8	0%	-4.56	-3.51	--	--	-4.56	-3.51	-12	0.178	-0.10	Stable	--	--	--
MW-04A	Nitrate (N)	mg/L	-	10	-	6/2018 - 11/2020	8	50%	8	50%	0.06	0.17	<0.050	<0.050	<0.050	0.17	10	0.276	0.85	No trend identified	--	0	--
MW-04A	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	8	0%	8	0%	9.58	10.4	--	--	9.58	10.4	13	0.143	0.03	No trend identified	--	--	--
MW-04A	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	8	0%	8	0%	9.83	10.6	--	--	9.83	10.6	12	0.178	0.03	No trend identified	--	--	--
	Inorganics																						
MW-04A	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	5.3	11	--	--	5.3	11	-8	0.398	0.26	Stable	--	--	--
MW-04A	Total Chemical Oxygen Demand	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<20	<20	<20	<20	--	--	--	Insufficient data	--	--	--
MW-04A	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	8	0%	8	0%	2.65	6.4	--	--	2.65	6.4	-14	0.108	0.28	Stable	0	--	0
MW-04A	Colour	TCU	-	-	15	6/2018 - 11/2020	8	100%	8	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	--	100% ND	--	--	--
MW-04A	Nitrate + Nitrite	mg/L	-	-	-	6/2018 - 11/2020	8	50%	8	50%	0.06	0.17	<0.050	<0.050	<0.050	0.17	10	0.276	0.85	No trend identified	--	--	--
MW-04A	Nitrite	mg/L	-	1	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-04A	Nitrogen (Ammonia Nitrogen)	mg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.050	<0.050	<0.050	<0.050	--	--	--	100% ND	--	--	--
MW-04A	Dissolved Organic Carbon	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.5	<0.5	<0.5	<0.5	--	--	--	Insufficient data	--	--	--

Table 4.1

Statistical Screening and Trend Test (Mann Kendall) Results – Baseline Groundwater Quality Data
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test										Samples Outside Criteria (Count)		
			NSE	CDWQG		Date					Detects		Non-Detects						NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
MW-04A	Total Organic Carbon	mg/L	-	-	-	6/2018 - 11/2020	8	63%	8	63%	0.53	1.2	<0.50	<0.50	<0.50	1.2	--	--	--	>50% ND	--	--	--
MW-04A	Orthophosphate	mg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-04A	pH	s.u.	-	-	10.5	6/2018 - 11/2020	8	0%	8	0%	6.03	6.58	--	--	6.03	6.58	-2	0.904	0.03	Stable	--	--	0
MW-04A	pH	s.u.	-	-	7																		**8 ***
MW-04A	Dissolved Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-04A	Total Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-04A	Reactive Silica (SiO2)	mg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	3.75	8.4	--	--	3.75	8.4	-5	0.634	0.24	Stable	--	--	--
MW-04A	Total Suspended Solids	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	5	5	--	--	5	5	--	--	--	Insufficient data	--	--	--
MW-04A	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	8	0%	8	0%	2.2	3.8	--	--	2.2	3.8	4	0.72	0.23	No trend identified	--	--	0
MW-04A	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	8	0%	8	0%	0.22	130	--	--	0.22	130	9	0.337	2.64	No trend identified	--	--	**7**
MW-04A	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	8	0%	8	0%	25	45	--	--	25	45	-11	0.227	0.20	Stable	--	--	--
	Metals																						
MW-04A	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	8	0%	8	0%	6	51.5	--	--	6	51.5	9	0.337	0.59	No trend identified	--	--	0
MW-04A	Total Aluminum	µg/L	5	-	100	6/2019 - 11/2020	5	0%	5	0%	51	1600	--	--	51	1600	-6	0.234	1.69	No trend identified	**5**	--	**3**
MW-04A	Dissolved Antimony	µg/L	-	6	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-04A	Total Antimony	µg/L	20	6	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-04A	Dissolved Arsenic	µg/L	-	10	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-04A	Total Arsenic	µg/L	5	10	-	6/2019 - 11/2020	5	80%	5	80%	2.4	2.4	<1.0	<1.0	<1.0	2.4	--	--	--	>50% ND	0	0	--
MW-04A	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	8	0%	8	0%	3	4.2	--	--	3	4.2	-11	0.227	0.12	Stable	--	0	--
MW-04A	Total Barium	µg/L	1000	2000	-	6/2019 - 11/2020	5	0%	5	0%	3.3	10	--	--	3.3	10	-4	0.484	0.56	Stable	0	0	--
MW-04A	Dissolved Beryllium	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-04A	Total Beryllium	µg/L	5.3	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-04A	Dissolved Bismuth	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-04A	Total Bismuth	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-04A	Dissolved Boron	µg/L	-	5000	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-04A	Total Boron	µg/L	1200	5000	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-04A	Dissolved Cadmium	µg/L	-	7	-	6/2018 - 11/2020	8	0%	8	0%	0.011	0.015	--	--	0.011	0.015	5	0.634	0.12	No trend identified	--	0	--
MW-04A	Total Cadmium	µg/L	0.01	7	-	6/2019 - 11/2020	5	0%	5	0%	0.013	0.016	--	--	0.013	0.016	-2	0.816	0.08	Stable	**5**	0	--
MW-04A	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	1500	4800	--	--	1500	4800	-14	0.108	0.45	Stable	--	--	--
MW-04A	Total Calcium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	1400	2900	--	--	1400	2900	-1	1	0.32	Stable	--	--	--
MW-04A	Dissolved Chromium	µg/L	-	50	-	6/2018 - 11/2020	8	88%	8	88%	1.6	1.6	<1.0	<1.0	<1.0	1.6	--	--	--	>50% ND	--	0	--
MW-04A	Total Chromium	µg/L	-	50	-	6/2019 - 11/2020	5	60%	5	60%	1.55	2.1	<1.0	<1.0	<1.0	2.1	--	--	--	>50% ND	--	0	--
MW-04A	Dissolved Cobalt	µg/L	-	-	-	6/2018 - 11/2020	8	50%	8	50%	0.45	0.92	<0.40	<0.40	<0.40	0.92	-16	0.062	0.69	**Probably Decreasing**	--	--	--
MW-04A	Total Cobalt	µg/L	10	-	-	6/2019 - 11/2020	5	80%	5	80%	1.6	1.6	<0.40	<0.40	<0.40	1.6	--	--	--	>50% ND	0	--	--
MW-04A	Dissolved Copper	µg/L	-	2000	1000	11/2018 - 11/2020	8	25%	6	0%	0.73	3.5	--	--	0.73	3.5	-15	0.0028	0.63	**Decreasing Trend**	--	0	0
MW-04A	Total Copper	µg/L	2	2000	1000	6/2019 - 11/2020	5	0%	5	0%	1	13	--	--	1	13	-6	0.234	1.17	No trend identified	**3**	0	0
MW-04A	Dissolved Iron	µg/L	-	-	300	6/2018 - 11/2020	8	100%	8	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-04A	Total Iron	µg/L	300	-	300	6/2019 - 11/2020	5	40%	5	40%	100	2200	<50	<50	<50	2200	-5	0.359	1.89	No trend identified	**1**	--	**1**
MW-04A	Dissolved Lead	µg/L	-	5	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-04A	Total Lead	µg/L	1	5	-	6/2019 - 11/2020	5	80%	5	80%	1.2	1.2	<0.50	<0.50	<0.50	1.2	--	--	--	>50% ND	**1**	0	--
MW-04A	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	370	1200	--	--	370	1200	-16	0.062	0.45	**Probably Decreasing**	--	--	--
MW-04A	Total Magnesium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	380	1100	--	--	380	1100	0	1	0.53	Stable	--	--	--
MW-04A	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	8	0%	8	0%	4.9	69	--	--	4.9	69	-22	0.0056	1.07	**Decreasing Trend**	--	0	**2**
MW-04A	Total Manganese	µg/L	820	120	20	6/2019 - 11/2020	5	0%	5	0%	5.6	48	--	--	5.6	48	-2	0.816	1.09	No trend identified	0	0	**1**
MW-04A	Dissolved Molybdenum	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-04A	Total Molybdenum	µg/L	73	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-04A	Dissolved Nickel	µg/L	-	-	-	6/2018 - 11/2020	8	38%	8	38%	2.2	5.4	<2.0	<2.0	<2.0	5.4	-21	0.0099	0.66	**Decreasing Trend**	--	--	--
MW-04A	Total Nickel	µg/L	25	-	-	6/2019 - 11/2020	5	80%	5	80%	5.7	5.7	<2.0	<2.0	<2.0	5.7	--	--	--	>50% ND	0	--	--
MW-04A	Dissolved Phosphorus	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-04A	Total Phosphorus	µg/L	-	-	-	6/2019 - 11/2020	5	80%	5	80%	110	110	<100	<100	<100	110	--	--	--	>50% ND	--	--	--
MW-04A	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	290	1100	--	--	290	1100	-12	0.178	0.50	Stable	--	--	--
MW-04A	Total Potassium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	280	800	--	--	280	800	-2	0.816	0.45	Stable	--	--	--
MW-04A	Dissolved Selenium	µg/L	-	50	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-04A	Total Selenium	µg/L	1	50	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-04A	Dissolved Silver	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-04A	Total Silver	µg/L	0.1	-	-	6/2019 - 11/2020	5	0%	5	0%	0.1	1.5	--	--	0.1	1.5	-4	0.484	1.52	No trend identified	**4**	--	--
MW-04A	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	8	0%	8	0%	2450	3500	--	--	2450	3500	-12	0.178	0.12	Stable	--	--	0
MW-04A	Total Sodium	µg/L	-	-	200000	6/2019 - 11/2020	5	0%	5	0%	2200	3300	--	--	2200	3300	3	0.65	0.17	No trend identified	--	--	0
MW-04A	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	8	0%	8	0%	13	25	--	--	13	25	-16	0.062	0.21	**Probably Decreasing**	--	--	0
MW-04A	Total Strontium	µg/L	21000	7000	-	6/2019 - 11/2020	5	0%	5	0%	12	21	--	--	12	21	0	1	0.24	Stable	0	0	--
MW-04A	Dissolved Thallium	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-04A	Total Thallium	µg/L	0.8	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-04A	Dissolved Tin	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-04A	Total Tin	µg/L	-	-	-	6/2019 - 11/2020	5	80%	5	80%	2.7	2.7	<2.0	<2.0	<2.0	2.7	--	--	--	>50% ND	--	--	--
MW-04A	Dissolved Titanium	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-04A	Total Titanium	µg/L	-	-	-	6/2019 - 11/2020	5	40%	5	40%	3.1	59	<2.0	<2.0	<2.0	59	-5	0.359	1.79	No trend identified	--	--	--
MW-04A	Dissolved Uranium	µg/L	-	20	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-04A	Total Uranium	µg/L	300	20	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-04A	Dissolved Vanadium	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-04A	Total Vanadium	µg/L	6	-	-	6/2019 - 11/2020	5	80%	5	80%	2.6	2.6	<2.0	<2.0	<2.0	2.6	--	--	--	>50% ND	0	--	--
MW-04A	Dissolved Zinc	µg/L	-	-	5000	6/2018 - 11/2020	8	88%	8	88%	5.2	5.2	<5.0	<5.0	<5.0	5.2	--	--	--	>50% ND	--	--	0
MW-04A	Total Zinc	µg/L	30	-	5000	6/2019 - 11/2020	5	80%	5	80%	8.9	8.9	<5.0	<5.0	<5.0	8.9	--	--	--	>50% ND	0	--	0
MW-04A	Dissolved Mercury	µg/L	--	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
MW-04A	Total Mercury	µg/L	0.026	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
	Calculated Parameters																						
MW-04B	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	0.71	1.16	--	--	0.71	1.16	4	0.72	0.14	No trend identified	--	--	--
MW-04B	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	23.5	41	--	--	23.5	41	-6	0.548	0.17	Stable	--	--	--
MW-04B	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	8	0%	8	0%	48.5	71	--	--	48.5	71	-1	1	0.11	Stable	--	--	0
MW-04B	Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-04B	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	0.695	1.08	--	--	0.695	1.08	-7	0.473	0.14	Stable	--	--	--

Table 4.1

Statistical Screening and Trend Test (Mann Kendall) Results – Baseline Groundwater Quality Data
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test										Samples Outside Criteria (Count)		
			NSE	CDWQG		Date					Detects		Non-Detects						NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
MW-04B	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	24.5	44	--	--	24.5	44	-9	0.337	0.18	Stable	--	--	--
MW-04B	Ion Balance (% Difference)	%	-	-	-	6/2018 - 11/2020	8	0%	8	0%	1.18	9.09	--	--	1.18	9.09	9	0.337	0.50	No trend identified	--	--	--
MW-04B	Langelier Index (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	8	0%	8	0%	-2.5	-1.26	--	--	-2.5	-1.26	-13	0.143	-0.22	Stable	--	--	--
MW-04B	Langelier Index (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	8	0%	8	0%	-2.75	-1.51	--	--	-2.75	-1.51	-13	0.143	-0.19	Stable	--	--	--
MW-04B	Nitrate (N)	mg/L	-	10	-	6/2018 - 11/2020	8	38%	8	38%	0.065	0.43	<0.050	<0.050	<0.050	0.43	11	0.227	1.23	No trend identified	--	0	--
MW-04B	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	8	0%	8	0%	8.54	9.295	--	--	8.54	9.295	11	0.227	0.02	No trend identified	--	--	--
MW-04B	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	8	0%	8	0%	8.79	9.54	--	--	8.79	9.54	13	0.143	0.02	No trend identified	--	--	--
	Inorganics																						
MW-04B	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	23.5	41	--	--	23.5	41	-6	0.548	0.17	Stable	--	--	--
MW-04B	Total Chemical Oxygen Demand	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<20	<20	<20	<20	--	--	--	Insufficient data	--	--	--
MW-04B	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	8	0%	8	0%	3.7	5.6	--	--	3.7	5.6	4	0.72	0.14	No trend identified	0	--	0
MW-04B	Colour	TCU	-	-	15	6/2018 - 11/2020	8	88%	8	88%	5.6	5.6	<5.0	<5.0	<5.0	5.6	--	--	--	>50% ND	--	--	0
MW-04B	Nitrate + Nitrite	mg/L	-	-	-	6/2018 - 11/2020	8	38%	8	38%	0.065	0.43	<0.050	<0.050	<0.050	0.43	11	0.227	1.23	No trend identified	--	--	--
MW-04B	Nitrite	mg/L	-	1	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-04B	Nitrogen (Ammonia Nitrogen)	mg/L	-	-	-	6/2018 - 11/2020	8	88%	8	88%	0.07	0.07	<0.050	<0.050	<0.050	0.07	--	--	--	>50% ND	--	--	--
MW-04B	Dissolved Organic Carbon	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.5	<0.5	<0.5	<0.5	--	--	--	Insufficient data	--	--	--
MW-04B	Total Organic Carbon	mg/L	-	-	-	6/2018 - 11/2020	8	25%	8	25%	0.7	1.8	<0.50	<0.50	<0.50	1.8	-5	0.634	0.62	Stable	--	--	--
MW-04B	Orthophosphate	mg/L	-	-	-	6/2018 - 11/2020	8	88%	8	88%	0.01	0.01	<0.010	<0.010	<0.010	<0.010	--	--	--	>50% ND	--	--	--
MW-04B	pH	s.u.	-	-	10.5	6/2018 - 11/2020	8	0%	8	0%	6.8	7.28	--	--	6.8	7.28	-12	0.178	0.02	Stable	--	--	0
MW-04B	pH	s.u.	-	-	7																		**1 ***
MW-04B	Dissolved Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-04B	Total Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-04B	Reactive Silica (SiO2)	mg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	9	10	--	--	9	10	-10	0.276	0.03	Stable	--	--	--
MW-04B	Total Suspended Solids	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	17	17	--	--	17	17	--	--	--	Insufficient data	--	--	--
MW-04B	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	8	0%	8	0%	5.7	9.6	--	--	5.7	9.6	1	1	0.14	No trend identified	--	--	0
MW-04B	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	8	0%	8	0%	0.29	8.5	--	--	0.29	8.5	-12	0.178	0.87	Stable	--	--	**7**
MW-04B	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	8	0%	8	0%	76	110	--	--	76	110	-2	0.904	0.12	Stable	--	--	--
	Metals																						
MW-04B	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	8	50%	8	50%	5.2	12	<5.0	<5.0	<5.0	12	-14	0.108	0.68	Stable	--	--	0
MW-04B	Total Aluminum	µg/L	5	-	100	6/2019 - 11/2020	5	0%	5	0%	29	92	--	--	29	92	4	0.484	0.36	No trend identified	**5**	--	0
MW-04B	Dissolved Antimony	µg/L	-	6	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-04B	Total Antimony	µg/L	20	6	-	6/2019 - 11/2020	5	80%	5	80%	1.6	1.6	<1.0	<1.0	<1.0	1.6	--	--	--	>50% ND	0	0	--
MW-04B	Dissolved Arsenic	µg/L	-	10	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-04B	Total Arsenic	µg/L	5	10	-	6/2019 - 11/2020	5	60%	5	60%	1	1.1	<1.0	<1.0	1	1.1	--	--	--	>50% ND	0	0	--
MW-04B	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	8	0%	8	0%	1.5	4.45	--	--	1.5	4.45	-10	0.276	0.46	Stable	--	0	--
MW-04B	Total Barium	µg/L	1000	2000	-	6/2019 - 11/2020	5	0%	5	0%	1.9	2.8	--	--	1.9	2.8	4	0.484	0.16	No trend identified	0	0	--
MW-04B	Dissolved Beryllium	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-04B	Total Beryllium	µg/L	5.3	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-04B	Dissolved Bismuth	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-04B	Total Bismuth	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-04B	Dissolved Boron	µg/L	-	5000	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-04B	Total Boron	µg/L	1200	5000	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-04B	Dissolved Cadmium	µg/L	-	7	-	6/2018 - 11/2020	8	75%	8	75%	0.013	0.0215	<0.010	<0.010	<0.010	0.0215	--	--	--	>50% ND	--	0	--
MW-04B	Total Cadmium	µg/L	0.01	7	-	6/2019 - 11/2020	5	80%	5	80%	0.011	0.011	<0.010	<0.010	<0.010	0.011	--	--	--	>50% ND	**1**	0	--
MW-04B	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	7950	15000	--	--	7950	15000	-6	0.548	0.18	Stable	--	--	--
MW-04B	Total Calcium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	10000	11000	--	--	10000	11000	0	1	0.04	Stable	--	--	--
MW-04B	Dissolved Chromium	µg/L	-	50	-	6/2018 - 11/2020	8	88%	8	88%	1.2	1.2	<1.0	<1.0	<1.0	1.2	--	--	--	>50% ND	--	0	--
MW-04B	Total Chromium	µg/L	-	50	-	6/2019 - 11/2020	5	80%	5	80%	1.1	1.1	<1.0	<1.0	<1.0	1.1	--	--	--	>50% ND	--	0	--
MW-04B	Dissolved Cobalt	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	--	100% ND	--	--	--
MW-04B	Total Cobalt	µg/L	10	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	--	100% ND	--	--	--
MW-04B	Dissolved Copper	µg/L	-	2000	1000	9/2018 - 11/2020	8	13%	7	0%	1.6	30	--	--	1.6	30	-6	0.472	1.64	No trend identified	--	0	0
MW-04B	Total Copper	µg/L	2	2000	1000	6/2019 - 11/2020	5	0%	5	0%	3.4	6.4	--	--	3.4	6.4	-2	0.816	0.29	Stable	**5**	0	0
MW-04B	Dissolved Iron	µg/L	-	-	300	6/2018 - 11/2020	8	100%	8	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-04B	Total Iron	µg/L	300	-	300	6/2019 - 11/2020	5	20%	5	20%	89	130	<50	<50	<50	130	1	1	0.45	No trend identified	0	--	0
MW-04B	Dissolved Lead	µg/L	-	5	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-04B	Total Lead	µg/L	1	5	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-04B	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	1000	1600	--	--	1000	1600	-16	0.062	0.16	**Probably Decreasing**	--	--	--
MW-04B	Total Magnesium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	1100	1200	--	--	1100	1200	0	1	0.04	Stable	--	--	--
MW-04B	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	8	0%	8	0%	3	55	--	--	3	55	-16	0.062	1.11	**Probably Decreasing**	--	0	**2**
MW-04B	Total Manganese	µg/L	820	120	20	6/2019 - 11/2020	5	0%	5	0%	6.7	16	--	--	6.7	16	0	1	0.35	Stable	0	0	0
MW-04B	Dissolved Molybdenum	µg/L	-	-	-	6/2018 - 11/2020	8	88%	8	88%	2	2	<2.0	<2.0	<2.0	<2.0	--	--	--	>50% ND	--	--	--
MW-04B	Total Molybdenum	µg/L	73	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-04B	Dissolved Nickel	µg/L	-	-	-	6/2018 - 11/2020	8	88%	8	88%	2.7	2.7	<2.0	<2.0	<2.0	2.7	--	--	--	>50% ND	--	--	--
MW-04B	Total Nickel	µg/L	25	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-04B	Dissolved Phosphorus	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-04B	Total Phosphorus	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-04B	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	490	1300	--	--	490	1300	-16	0.062	0.36	**Probably Decreasing**	--	--	--
MW-04B	Total Potassium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	470	790	--	--	470	790	0	1	0.19	Stable	--	--	--
MW-04B	Dissolved Selenium	µg/L	-	50	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-04B	Total Selenium	µg/L	1	50	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-04B	Dissolved Silver	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-04B	Total Silver	µg/L	0.1	-	-	6/2019 - 11/2020	5	80%	5	80%	0.11	0.11	<0.10	<0.10	<0.10	0.11	--	--	--	>50% ND	**1**	--	--
MW-04B	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	8	0%	8	0%	3500	4200	--	--	3500	4200	-7	0.473	0.06	Stable	--	--	0
MW-04B	Total Sodium	µg/L	-	-	200000	6/2019 - 11/2020	5	0%	5	0%	3500	4300	--	--	3500	4300	4	0.484	0.08	No trend identified	--	--	0
MW-04B	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	8	0%	8	0%	48.5	84	--	--	48.5	84	-8	0.398	0.17	Stable	--	0	--
MW-04B	Total Strontium	µg/L	21000	7000	-	6/2019 - 11/2020	5	0%	5	0%	58	67	--	--	58	67	-6	0.234	0.06	Stable	0	0	--
MW-04B	Dissolved Thallium	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-04B	Total Thallium	µg/L	0.8	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-04B	Dissolved Tin	µg/L	-	-	-	6/2018 - 11/2020	8	88%	8	88%	2.8	2.8	<2.0	<2.0	<2.0	2.8	--	--	--	>50% ND	--	--	--

Table 4.1

Statistical Screening and Trend Test (Mann Kendall) Results – Baseline Groundwater Quality Data
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test										Samples Outside Criteria (Count)		
			NSE	CDWQG		Date					Detects		Non-Detects						NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
MW-04B	Total Tin	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-04B	Dissolved Titanium	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-04B	Total Titanium	µg/L	-	-	-	6/2019 - 11/2020	5	20%	5	20%	2.8	6.2	<2.0	<2.0	<2.0	6.2	6	0.234	0.55	No trend identified	--	--	--
MW-04B	Dissolved Uranium	µg/L	-	20	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-04B	Total Uranium	µg/L	300	20	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-04B	Dissolved Vanadium	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-04B	Total Vanadium	µg/L	6	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-04B	Dissolved Zinc	µg/L	-	-	5000	6/2018 - 11/2020	8	13%	8	13%	6.3	22	<5.0	<5.0	<5.0	22	11	0.227	0.52	No trend identified	--	--	0
MW-04B	Total Zinc	µg/L	30	-	5000	6/2019 - 11/2020	5	0%	5	0%	5.9	14	--	--	5.9	14	6	0.234	0.33	No trend identified	0	--	0
MW-04B	Dissolved Mercury	µg/L	--	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
MW-04B	Total Mercury	µg/L	0.026	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
	Calculated Parameters																						
MW-05A	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	0.3	0.45	--	--	0.3	0.45	-18	0.032	0.14	Decreasing Trend	--	--	--
MW-05A	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	6.2	15	--	--	6.2	15	-10	0.276	0.31	Stable	--	--	--
MW-05A	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	8	0%	8	0%	20	30	--	--	20	30	-15	0.085	0.14	Probably Decreasing	--	--	0
MW-05A	Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-05A	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	0.22	0.39	--	--	0.22	0.39	-15	0.085	0.20	Probably Decreasing	--	--	--
MW-05A	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	5.2	11	--	--	5.2	11	-14	0.108	0.26	Stable	--	--	--
MW-05A	Ion Balance (% Difference)	%	-	-	-	6/2018 - 11/2020	8	0%	8	0%	5.065	18.5	--	--	5.065	18.5	14	0.108	0.40	No trend identified	--	--	--
MW-05A	Langelier Index (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	8	0%	8	0%	-4.3	-3.35	--	--	-4.3	-3.35	-14	0.108	-0.09	Stable	--	--	--
MW-05A	Langelier Index (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	8	0%	8	0%	-4.55	-3.6	--	--	-4.55	-3.6	-14	0.108	-0.08	Stable	--	--	--
MW-05A	Nitrate (N)	mg/L	-	10	-	6/2018 - 11/2020	8	63%	8	63%	0.051	0.083	<0.050	<0.050	<0.050	0.083	--	--	--	>50% ND	--	0	--
MW-05A	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	8	0%	8	0%	9.64	10.3	--	--	9.64	10.3	13	0.143	0.02	No trend identified	--	--	--
MW-05A	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	8	0%	8	0%	9.89	10.5	--	--	9.89	10.5	13	0.143	0.02	No trend identified	--	--	--
	Inorganics																						
MW-05A	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	6.2	15	--	--	6.2	15	-10	0.276	0.31	Stable	--	--	--
MW-05A	Total Chemical Oxygen Demand	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<20	<20	<20	<20	--	--	--	Insufficient data	--	--	--
MW-05A	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	8	0%	8	0%	2.8	4.65	--	--	2.8	4.65	-16	0.062	0.20	Probably Decreasing	0	--	0
MW-05A	Colour	TCU	-	-	15	6/2018 - 11/2020	8	100%	8	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	--	100% ND	--	--	--
MW-05A	Nitrate + Nitrite	mg/L	-	-	-	6/2018 - 11/2020	8	63%	8	63%	0.051	0.083	<0.050	<0.050	<0.050	0.083	--	--	--	>50% ND	--	--	--
MW-05A	Nitrite	mg/L	-	1	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-05A	Nitrogen (Ammonia Nitrogen)	mg/L	-	-	-	6/2018 - 11/2020	8	63%	8	63%	0.057	0.21	<0.050	<0.050	<0.050	0.21	--	--	--	>50% ND	--	--	--
MW-05A	Dissolved Organic Carbon	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.5	<0.5	<0.5	<0.5	--	--	--	Insufficient data	--	--	--
MW-05A	Total Organic Carbon	mg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	0.57	1.5	--	--	0.57	1.5	4	0.72	0.37	No trend identified	--	--	--
MW-05A	Orthophosphate	mg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-05A	pH	s.u.	-	-	10.5	6/2018 - 11/2020	8	0%	8	0%	5.97	6.48	--	--	5.97	6.48	-5	0.634	0.03	Stable	--	--	0
MW-05A	pH	s.u.	-	-	7																		**8 ***
MW-05A	Dissolved Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-05A	Total Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-05A	Reactive Silica (SiO2)	mg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	4.1	6.4	--	--	4.1	6.4	-6	0.548	0.14	Stable	--	--	--
MW-05A	Total Suspended Solids	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	6.4	6.4	--	--	6.4	6.4	--	--	--	Insufficient data	--	--	--
MW-05A	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	8	0%	8	0%	3	4.5	--	--	3	4.5	6	0.548	0.18	No trend identified	--	--	0
MW-05A	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	8	0%	8	0%	0.98	3.8	--	--	0.98	3.8	-10	0.276	0.58	Stable	--	--	**8**
MW-05A	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	8	0%	8	0%	26	47	--	--	26	47	-13	0.143	0.21	Stable	--	--	--
	Metals																						
MW-05A	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	8	0%	8	0%	8.55	34	--	--	8.55	34	14	0.108	0.38	No trend identified	--	--	0
MW-05A	Total Aluminum	µg/L	5	-	100	6/2019 - 11/2020	5	0%	5	0%	76	260	--	--	76	260	-6	0.234	0.55	Stable	**5**	--	**2**
MW-05A	Dissolved Antimony	µg/L	-	6	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-05A	Total Antimony	µg/L	20	6	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-05A	Dissolved Arsenic	µg/L	-	10	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-05A	Total Arsenic	µg/L	5	10	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-05A	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	8	0%	8	0%	5.6	9.9	--	--	5.6	9.9	-8	0.398	0.22	Stable	--	0	--
MW-05A	Total Barium	µg/L	1000	2000	-	6/2019 - 11/2020	5	0%	5	0%	5.7	9.4	--	--	5.7	9.4	-4	0.484	0.24	Stable	0	0	--
MW-05A	Dissolved Beryllium	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-05A	Total Beryllium	µg/L	5.3	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-05A	Dissolved Bismuth	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-05A	Total Bismuth	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-05A	Dissolved Boron	µg/L	-	5000	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-05A	Total Boron	µg/L	1200	5000	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-05A	Dissolved Cadmium	µg/L	-	7	-	6/2018 - 11/2020	8	0%	8	0%	0.019	0.035	--	--	0.019	0.035	-21	0.0099	0.23	Decreasing Trend	--	0	--
MW-05A	Total Cadmium	µg/L	0.01	7	-	6/2019 - 11/2020	5	0%	5	0%	0.016	0.023	--	--	0.016	0.023	-4	0.484	0.14	Stable	**5**	0	--
MW-05A	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	1400	3000	--	--	1400	3000	-13	0.143	0.26	Stable	--	--	--
MW-05A	Total Calcium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	1400	2500	--	--	1400	2500	1	1	0.21	No trend identified	--	--	--
MW-05A	Dissolved Chromium	µg/L	-	50	-	6/2018 - 11/2020	8	88%	8	88%	1.5	1.5	<1.0	<1.0	<1.0	1.5	--	--	--	>50% ND	--	0	--
MW-05A	Total Chromium	µg/L	-	50	-	6/2019 - 11/2020	5	80%	5	80%	1.1	1.1	<1.0	<1.0	<1.0	1.1	--	--	--	>50% ND	--	0	--
MW-05A	Dissolved Cobalt	µg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	0.86	3.7	--	--	0.86	3.7	-24	0.00174	0.60	Decreasing Trend	--	--	--
MW-05A	Total Cobalt	µg/L	10	-	-	6/2019 - 11/2020	5	0%	5	0%	0.89	1.9	--	--	0.89	1.9	-10	0.0166	0.33	Decreasing Trend	0	--	--
MW-05A	Dissolved Copper	µg/L	-	2000	1000	6/2018 - 11/2020	8	0%	8	0%	3.6	17	--	--	3.6	17	-5	0.634	0.52	Stable	--	0	0
MW-05A	Total Copper	µg/L	2	2000	1000	6/2019 - 11/2020	5	0%	5	0%	3.8	16	--	--	3.8	16	-8	0.084	0.45	Probably Decreasing	**5**	0	0
MW-05A	Dissolved Iron	µg/L	-	-	300	6/2018 - 11/2020	8	88%	8	88%	310	310	<50	<50	<50	310	--	--	--	>50% ND	--	--	**1**
MW-05A	Total Iron	µg/L	300	-	300	6/2019 - 11/2020	5	0%	5	0%	61	450	--	--	61	450	-4	0.484	0.89	Stable	**1**	--	**1**
MW-05A	Dissolved Lead	µg/L	-	5	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-05A	Total Lead	µg/L	1	5	-	6/2019 - 11/2020	5	60%	5	60%	0.59	0.96	<0.50	<0.50	<0.50	0.96	--	--	--	>50% ND	0	0	--
MW-05A	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	380	780	--	--	380	780	-16	0.062	0.29	Probably Decreasing	--	--	--
MW-05A	Total Magnesium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	390	510	--	--	390	510	0	1	0.10	Stable	--	--	--
MW-05A	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	8	0%	8	0%	27	290	--	--	27	290	-14	0.108	1.03	No trend identified	--	**2**	**8**
MW-05A	Total Manganese	µg/L	820	120	20	6/2019 - 11/2020	5	0%	5	0%	28	55	--	--	28	55	0	1	0.29	Stable	0	0	**5**
MW-05A	Dissolved Molybdenum	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--

Table 4.1

Statistical Screening and Trend Test (Mann Kendall) Results – Baseline Groundwater Quality Data
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test										Samples Outside Criteria (Count)		
			NSE	CDWQG		Date					Detects		Non-Detects						NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
MW-05A	Total Molybdenum	µg/L	73	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-05A	Dissolved Nickel	µg/L	-	-	-	6/2018 - 11/2020	8	13%	8	13%	3.3	10	<2.0	<2.0	<2.0	10	-22	0.0056	0.52	Decreasing Trend	--	--	--
MW-05A	Total Nickel	µg/L	25	-	-	6/2019 - 11/2020	5	20%	5	20%	3.7	7.1	<2.0	<2.0	<2.0	7.1	-10	0.0166	0.51	Decreasing Trend	0	--	--
MW-05A	Dissolved Phosphorus	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-05A	Total Phosphorus	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-05A	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	330	995	--	--	330	995	-21	0.0099	0.36	Decreasing Trend	--	--	--
MW-05A	Total Potassium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	330	620	--	--	330	620	-4	0.484	0.21	Stable	--	--	--
MW-05A	Dissolved Selenium	µg/L	-	50	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-05A	Total Selenium	µg/L	1	50	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-05A	Dissolved Silver	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-05A	Total Silver	µg/L	0.1	-	-	6/2019 - 11/2020	5	20%	5	20%	0.12	0.24	<0.10	<0.10	<0.10	0.24	6	0.234	0.49	No trend identified	**4**	--	--
MW-05A	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	8	0%	8	0%	2200	3300	--	--	2200	3300	-13	0.143	0.14	Stable	--	--	0
MW-05A	Total Sodium	µg/L	-	-	200000	6/2019 - 11/2020	5	0%	5	0%	2200	3000	--	--	2200	3000	-1	1	0.11	Stable	--	--	0
MW-05A	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	8	0%	8	0%	9	15	--	--	9	15	-14	0.108	0.19	Stable	--	0	--
MW-05A	Total Strontium	µg/L	21000	7000	-	6/2019 - 11/2020	5	0%	5	0%	8.2	12	--	--	8.2	12	-1	1	0.14	Stable	0	0	--
MW-05A	Dissolved Thallium	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-05A	Total Thallium	µg/L	0.8	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-05A	Dissolved Tin	µg/L	-	-	-	6/2018 - 11/2020	8	88%	8	88%	3	3	<2.0	<2.0	<2.0	3	--	--	--	>50% ND	--	--	--
MW-05A	Total Tin	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-05A	Dissolved Titanium	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-05A	Total Titanium	µg/L	-	-	-	6/2019 - 11/2020	5	20%	5	20%	2.8	9.6	<2.0	<2.0	<2.0	9.6	-4	0.484	0.75	Stable	--	--	--
MW-05A	Dissolved Uranium	µg/L	-	20	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-05A	Total Uranium	µg/L	300	20	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-05A	Dissolved Vanadium	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-05A	Total Vanadium	µg/L	6	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-05A	Dissolved Zinc	µg/L	-	-	5000	6/2018 - 11/2020	8	25%	8	25%	5.2	26	<5.0	<5.0	<5.0	26	-1	1	0.81	Stable	--	--	0
MW-05A	Total Zinc	µg/L	30	-	5000	6/2019 - 11/2020	5	20%	5	20%	8.3	18	<5.0	<5.0	<5.0	18	-10	0.0166	0.57	Decreasing Trend	0	--	0
MW-05A	Dissolved Mercury	µg/L	--	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
MW-05A	Total Mercury	µg/L	0.026	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
	Calculated Parameters																						
MW-05B	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	0.99	1.81	--	--	0.99	1.81	-10	0.276	0.23	Stable	--	--	--
MW-05B	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	37	72.5	--	--	37	72.5	-12	0.178	0.24	Stable	--	--	--
MW-05B	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	8	0%	8	0%	60	100	--	--	60	100	-8	0.398	0.19	Stable	--	--	0
MW-05B	Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-05B	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	0.9	1.41	--	--	0.9	1.41	0	1	0.15	Stable	--	--	--
MW-05B	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	27	53	--	--	27	53	6	0.548	0.20	No trend identified	--	--	--
MW-05B	Ion Balance (% Difference)	%	-	-	-	6/2018 - 11/2020	8	0%	8	0%	0.44	27.2	--	--	0.44	27.2	-10	0.276	1.41	No trend identified	--	--	--
MW-05B	Langelier Index (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	8	0%	8	0%	-1.43	-0.697	--	--	-1.43	-0.697	-8	0.398	-0.25	Stable	--	--	--
MW-05B	Langelier Index (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	8	0%	8	0%	-1.68	-0.9475	--	--	-1.68	-0.9475	-8	0.398	-0.20	Stable	--	--	--
MW-05B	Nitrate (N)	mg/L	-	10	-	6/2018 - 11/2020	8	75%	8	75%	0.061	0.0925	<0.050	<0.050	<0.050	0.0925	--	--	--	>50% ND	--	0	--
MW-05B	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	8	0%	8	0%	8.32	8.8	--	--	8.32	8.8	4	0.72	0.02	No trend identified	--	--	--
MW-05B	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	8	0%	8	0%	8.57	9.05	--	--	8.57	9.05	4	0.72	0.02	No trend identified	--	--	--
	Inorganics																						
MW-05B	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	37	73	--	--	37	73	-11	0.227	0.24	Stable	--	--	--
MW-05B	Total Chemical Oxygen Demand	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<20	<20	<20	<20	--	--	--	Insufficient data	--	--	--
MW-05B	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	8	0%	8	0%	2.3	4.7	--	--	2.3	4.7	-13	0.143	0.21	Stable	0	--	0
MW-05B	Colour	TCU	-	-	15	6/2018 - 11/2020	8	100%	8	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	--	100% ND	--	--	--
MW-05B	Nitrate + Nitrite	mg/L	-	-	-	6/2018 - 11/2020	8	75%	8	75%	0.061	0.0925	<0.050	<0.050	<0.050	0.0925	--	--	--	>50% ND	--	--	--
MW-05B	Nitrite	mg/L	-	1	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-05B	Nitrogen (Ammonia Nitrogen)	mg/L	-	-	-	6/2018 - 11/2020	8	75%	8	75%	0.074	0.19	<0.050	<0.050	<0.050	0.19	--	--	--	>50% ND	--	--	--
MW-05B	Dissolved Organic Carbon	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	Insufficient data	--	--	--
MW-05B	Total Organic Carbon	mg/L	-	-	-	6/2018 - 7/2020	7	0%	7	0%	0.735	7.8	--	--	0.735	7.8	-12	0.103	1.08	No trend identified	--	--	--
MW-05B	Orthophosphate	mg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-05B	pH	s.u.	-	-	10.5	6/2018 - 11/2020	8	0%	8	0%	7.23	7.725	--	--	7.23	7.725	-16	0.062	0.02	Probably Decreasing	--	--	0
MW-05B	pH	s.u.	-	-	7																		0 *
MW-05B	Dissolved Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-05B	Total Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-05B	Reactive Silica (SiO2)	mg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	8.2	20.5	--	--	8.2	20.5	-6	0.548	0.37	Stable	--	--	--
MW-05B	Total Suspended Solids	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	32.5	32.5	--	--	32.5	32.5	--	--	--	Insufficient data	--	--	--
MW-05B	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	8	0%	8	0%	5.9	11.5	--	--	5.9	11.5	-16	0.062	0.23	Probably Decreasing	--	--	0
MW-05B	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	8	0%	8	0%	11	22	--	--	11	22	3	0.812	0.25	No trend identified	--	--	**8**
MW-05B	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	8	0%	8	0%	96	170	--	--	96	170	-9	0.337	0.22	Stable	--	--	--
	Metals																						
MW-05B	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	8	13%	8	13%	6.6	38	<5.0	<5.0	<5.0	38	-5	0.634	0.96	Stable	--	--	0
MW-05B	Total Aluminum	µg/L	5	-	100	6/2019 - 11/2020	5	0%	5	0%	585	1300	--	--	585	1300	4	0.484	0.32	No trend identified	**5**	--	**5**
MW-05B	Dissolved Antimony	µg/L	-	6	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-05B	Total Antimony	µg/L	20	6	-	6/2019 - 11/2020	5	80%	5	80%	1.6	1.6	<1.0	<1.0	<1.0	1.6	--	--	--	>50% ND	0	0	--
MW-05B	Dissolved Arsenic	µg/L	-	10	-	6/2018 - 11/2020	8	50%	8	50%	1	2.8	<1.0	<1.0	1	2.8	-7	0.473	0.77	Stable	--	0	--
MW-05B	Total Arsenic	µg/L	5	10	-	6/2019 - 11/2020	5	20%	5	20%	1.7	3.9	<1.0	<1.0	<1.0	3.9	-2	0.816	0.58	Stable	0	0	--
MW-05B	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	8	0%	8	0%	5.5	25.5	--	--	5.5	25.5	12	0.178	0.72	No trend identified	--	0	--
MW-05B	Total Barium	µg/L	1000	2000	-	6/2019 - 11/2020	5	0%	5	0%	8.4	22.5	--	--	8.4	22.5	4	0.484	0.41	No trend identified	0	0	--
MW-05B	Dissolved Beryllium	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-05B	Total Beryllium	µg/L	5.3	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-05B	Dissolved Bismuth	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-05B	Total Bismuth	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-05B	Dissolved Boron	µg/L	-	5000	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-05B	Total Boron	µg/L	1200	5000	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-05B	Dissolved Cadmium	µg/L	-	7	-	6/2018 - 11/2020	8	38%	8	38%	0.01	0.018	<0.010	<0.010	<0.010	0.018	-7	0.473	0.49	Stable	--	0	--

Table 4.1

Statistical Screening and Trend Test (Mann Kendall) Results – Baseline Groundwater Quality Data
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test										Samples Outside Criteria (Count)		
			NSE	CDWQG		Date					Detects		Non-Detects						NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
MW-05B	Total Cadmium	µg/L	0.01	7	-	6/2019 - 11/2020	5	0%	5	0%	0.013	0.023	--	--	0.013	0.023	0	1	0.24	Stable	**5**	0	--
MW-05B	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	9000	18000	--	--	9000	18000	6	0.548	0.20	No trend identified	--	--	--
MW-05B	Total Calcium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	12500	18000	--	--	12500	18000	-5	0.359	0.16	Stable	--	--	--
MW-05B	Dissolved Chromium	µg/L	-	50	-	6/2018 - 11/2020	8	88%	8	88%	1.3	1.3	<1.0	<1.0	<1.0	1.3	--	--	--	>50% ND	--	0	--
MW-05B	Total Chromium	µg/L	-	50	-	6/2019 - 11/2020	5	80%	5	80%	1.5	1.5	<1.0	<1.0	<1.0	1.5	--	--	--	>50% ND	--	0	--
MW-05B	Dissolved Cobalt	µg/L	-	-	-	6/2018 - 11/2020	8	63%	8	63%	1.3	1.75	<0.40	<0.40	<0.40	1.75	--	--	--	>50% ND	--	--	--
MW-05B	Total Cobalt	µg/L	10	-	-	6/2019 - 11/2020	5	20%	5	20%	0.52	1.15	<0.40	<0.40	<0.40	1.15	2	0.816	0.56	No trend identified	0	--	--
MW-05B	Dissolved Copper	µg/L	-	2000	1000	6/2018 - 11/2020	8	88%	8	88%	4.8	4.8	<0.50	<2.0	<0.50	4.8	--	--	--	>50% ND	--	0	0
MW-05B	Total Copper	µg/L	2	2000	1000	6/2019 - 11/2020	5	0%	5	0%	1.4	3.15	--	--	1.4	3.15	6	0.234	0.34	No trend identified	**2**	0	0
MW-05B	Dissolved Iron	µg/L	-	-	300	6/2018 - 11/2020	8	63%	8	63%	54	305	<50	<50	<50	305	--	--	--	>50% ND	--	--	**1**
MW-05B	Total Iron	µg/L	300	-	300	6/2019 - 11/2020	5	0%	5	0%	400	815	--	--	400	815	8	0.084	0.26	**Probably Increasing**	**5**	--	**5**
MW-05B	Dissolved Lead	µg/L	-	5	-	6/2018 - 11/2020	8	88%	8	88%	1.2	1.2	<0.50	<0.50	<0.50	1.2	--	--	--	>50% ND	--	0	--
MW-05B	Total Lead	µg/L	1	5	-	6/2019 - 11/2020	5	0%	5	0%	0.57	1.25	--	--	0.57	1.25	8	0.084	0.35	**Probably Increasing**	**1**	0	--
MW-05B	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	1200	1900	--	--	1200	1900	0	1	0.17	Stable	--	--	--
MW-05B	Total Magnesium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	1400	2000	--	--	1400	2000	-1	1	0.15	Stable	--	--	--
MW-05B	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	8	0%	8	0%	2.3	245	--	--	2.3	245	-10	0.276	1.02	No trend identified	--	**3**	**7**
MW-05B	Total Manganese	µg/L	820	120	20	6/2019 - 11/2020	5	0%	5	0%	43	135	--	--	43	135	0	1	0.51	Stable	0	**1**	**5**
MW-05B	Dissolved Molybdenum	µg/L	-	-	-	6/2018 - 11/2020	8	25%	8	25%	2	5.1	<2.0	<2.0	2	5.1	-19	0.0231	0.54	**Decreasing Trend**	--	--	--
MW-05B	Total Molybdenum	µg/L	73	-	-	6/2019 - 11/2020	5	60%	5	60%	2.35	5.5	<2.0	<2.0	<2.0	5.5	--	--	--	>50% ND	0	--	--
MW-05B	Dissolved Nickel	µg/L	-	-	-	6/2018 - 11/2020	8	63%	8	63%	2.2	3.9	<2.0	<2.0	<2.0	3.9	--	--	--	>50% ND	--	--	--
MW-05B	Total Nickel	µg/L	25	-	-	6/2019 - 11/2020	5	80%	5	80%	2.15	2.15	<2.0	<2.0	<2.0	2.15	--	--	--	>50% ND	0	--	--
MW-05B	Dissolved Phosphorus	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-05B	Total Phosphorus	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-05B	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	960	1400	--	--	960	1400	-14	0.108	0.13	Stable	--	--	--
MW-05B	Total Potassium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	1040	1400	--	--	1040	1400	-1	1	0.12	Stable	--	--	--
MW-05B	Dissolved Selenium	µg/L	-	50	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-05B	Total Selenium	µg/L	1	50	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-05B	Dissolved Silver	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-05B	Total Silver	µg/L	0.1	-	-	6/2019 - 11/2020	5	40%	5	40%	0.11	0.16	<0.10	<0.10	<0.10	0.16	5	0.359	0.49	No trend identified	**3**	--	--
MW-05B	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	8	0%	8	0%	4900	8400	--	--	4900	8400	-15	0.085	0.18	**Probably Decreasing**	--	--	0
MW-05B	Total Sodium	µg/L	-	-	200000	6/2019 - 11/2020	5	0%	5	0%	5200	6900	--	--	5200	6900	-6	0.234	0.13	Stable	--	--	0
MW-05B	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	8	0%	8	0%	34	150	--	--	34	150	12	0.178	0.46	No trend identified	--	0	--
MW-05B	Total Strontium	µg/L	21000	7000	-	6/2019 - 11/2020	5	0%	5	0%	74.5	120	--	--	74.5	120	-2	0.816	0.21	Stable	0	0	--
MW-05B	Dissolved Thallium	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-05B	Total Thallium	µg/L	0.8	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-05B	Dissolved Tin	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-05B	Total Tin	µg/L	-	-	-	6/2019 - 11/2020	5	60%	5	60%	2.8	5.7	<2.0	<2.0	<2.0	5.7	--	--	--	>50% ND	--	--	--
MW-05B	Dissolved Titanium	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-05B	Total Titanium	µg/L	-	-	-	10/2019 - 11/2020	4	0%	4	0%	10.25	31	--	--	10.25	31	6	0.084	0.40	**Increasing Trend**	--	--	--
MW-05B	Dissolved Uranium	µg/L	-	20	-	6/2018 - 11/2020	8	0%	8	0%	0.14	0.48	--	--	0.14	0.48	6	0.548	0.47	No trend identified	--	0	--
MW-05B	Total Uranium	µg/L	300	20	-	6/2019 - 11/2020	5	0%	5	0%	0.315	0.54	--	--	0.315	0.54	-2	0.816	0.19	Stable	0	0	--
MW-05B	Dissolved Vanadium	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-05B	Total Vanadium	µg/L	6	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-05B	Dissolved Zinc	µg/L	-	-	5000	6/2018 - 11/2020	8	38%	8	38%	6.5	13	<5.0	<5.0	<5.0	13	3	0.812	0.59	No trend identified	--	--	0
MW-05B	Total Zinc	µg/L	30	-	5000	6/2019 - 11/2020	5	0%	5	0%	5.3	16.5	--	--	5.3	16.5	10	0.0166	0.53	**Increasing Trend**	0	--	0
MW-05B	Dissolved Mercury	µg/L	--	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
MW-05B	Total Mercury	µg/L	0.026	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
	Calculated Parameters																						
MW-05D	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	1.65	1.9	--	--	1.65	1.9	3	0.812	0.04	No trend identified	--	--	--
MW-05D	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	62	71	--	--	62	71	5	0.634	0.04	No trend identified	--	--	--
MW-05D	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	8	0%	8	0%	98	110	--	--	98	110	-7	0.473	0.04	Stable	--	--	0
MW-05D	Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-05D	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	1.56	1.75	--	--	1.56	1.75	-7	0.473	0.04	Stable	--	--	--
MW-05D	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	54	56	--	--	54	56	-5	0.634	0.02	Stable	--	--	--
MW-05D	Ion Balance (% Difference)	%	-	-	-	6/2018 - 11/2020	8	0%	8	0%	1.54	7.33	--	--	1.54	7.33	12	0.178	0.39	No trend identified	--	--	--
MW-05D	Langelier Index (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	8	0%	8	0%	-0.463	-0.134	--	--	-0.463	-0.134	-16	0.062	-0.41	**Probably Decreasing**	--	--	--
MW-05D	Langelier Index (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	8	0%	8	0%	-0.714	-0.385	--	--	-0.714	-0.385	-16	0.062	-0.22	**Probably Decreasing**	--	--	--
MW-05D	Nitrate (N)	mg/L	-	10	-	6/2018 - 11/2020	8	88%	8	88%	0.066	0.066	<0.050	<0.050	<0.050	0.066	--	--	--	>50% ND	--	0	--
MW-05D	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	8	0%	8	0%	8.23	8.28	--	--	8.23	8.28	1	1	0.00	No trend identified	--	--	--
MW-05D	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	8	0%	8	0%	8.49	8.54	--	--	8.49	8.54	0	1	0.00	Stable	--	--	--
	Inorganics																						
MW-05D	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	63	72	--	--	63	72	4	0.72	0.04	No trend identified	--	--	--
MW-05D	Total Chemical Oxygen Demand	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<20	<20	<20	<20	--	--	--	Insufficient data	--	--	--
MW-05D	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	8	0%	8	0%	4.3	5.1	--	--	4.3	5.1	-3	0.812	0.05	Stable	0	--	0
MW-05D	Colour	TCU	-	-	15	6/2018 - 11/2020	8	100%	8	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	--	100% ND	--	--	--
MW-05D	Nitrate + Nitrite	mg/L	-	-	-	6/2018 - 11/2020	8	88%	8	88%	0.066	0.066	<0.050	<0.050	<0.050	0.066	--	--	--	>50% ND	--	--	--
MW-05D	Nitrite	mg/L	-	1	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-05D	Nitrogen (Ammonia Nitrogen)	mg/L	-	-	-	6/2018 - 11/2020	8	88%	8	88%	0.089	0.089	<0.050	<0.050	<0.050	0.089	--	--	--	>50% ND	--	--	--
MW-05D	Dissolved Organic Carbon	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.5	<0.5	<0.5	<0.5	--	--	--	Insufficient data	--	--	--
MW-05D	Total Organic Carbon	mg/L	-	-	-	6/2018 - 11/2020	8	38%	8	38%	0.65	1.3	0.44 u	<0.50	0.44 u	1.3	-11	0.227	0.61	Stable	--	--	--
MW-05D	Orthophosphate	mg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-05D	pH	s.u.	-	-	10.5	6/2018 - 11/2020	8	0%	8	0%	7.78	8.13	--	--	7.78	8.13	-12	0.178	0.02	Stable	--	--	0
MW-05D	pH	s.u.	-	-	7																		0 *
MW-05D	Dissolved Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	0.027	0.027	--	--	0.027	0.027	--	--	--	Insufficient data	--	--	--
MW-05D	Total Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-05D	Reactive Silica (SiO2)	mg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	11	12	--	--	11	12	-7	0.473	0.03	Stable	--	--	--
MW-05D	Total Suspended Solids	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	2.6	2.6	--	--	2.6	2.6	--	--	--	Insufficient data	--	--	--
MW-05D	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	8	0%	8	0%	12	15	--	--	12	15	0	1	0.07	Stable	--	--	0
MW-05D	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	8	0%	8	0%	0.4	17	--	--	0.4	17	2	0.904	0.84	No trend identified	--	--	**8**

Table 4.1

Statistical Screening and Trend Test (Mann Kendall) Results – Baseline Groundwater Quality Data
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test											Samples Outside Criteria (Count)		
			NSE	CDWQG		Date					Detects		Non-Detects							NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
MW-05D	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	8	0%	8	0%	160	170	--	--	160	170	-2	0.904	0.03	Stable	--	--	--
	Metals																						
MW-05D	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	8	0%	8	0%	6.8	29	--	--	6.8	29	-12	0.178	0.56	Stable	--	--	0
MW-05D	Total Aluminum	µg/L	5	-	100	6/2019 - 11/2020	5	0%	5	0%	75	1600	--	--	75	1600	-4	0.484	1.03	No trend identified	**5**	--	**4**
MW-05D	Dissolved Antimony	µg/L	-	6	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-05D	Total Antimony	µg/L	20	6	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-05D	Dissolved Arsenic	µg/L	-	10	-	6/2018 - 11/2020	8	88%	8	88%	1.4	1.4	<1.0	<1.0	<1.0	1.4	--	--	--	>50% ND	--	0	--
MW-05D	Total Arsenic	µg/L	5	10	-	6/2019 - 11/2020	5	60%	5	60%	1.2	1.6	<1.0	<1.0	<1.0	1.6	--	--	--	>50% ND	0	0	--
MW-05D	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	8	0%	8	0%	2.2	7.6	--	--	2.2	7.6	9	0.337	0.40	No trend identified	--	0	--
MW-05D	Total Barium	µg/L	1000	2000	-	6/2019 - 11/2020	5	0%	5	0%	4.5	13	--	--	4.5	13	-4	0.484	0.44	Stable	0	0	--
MW-05D	Dissolved Beryllium	µg/L	-	-	-	6/2018 - 11/2020	7	100%	7	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-05D	Total Beryllium	µg/L	5.3	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-05D	Dissolved Bismuth	µg/L	-	-	-	6/2018 - 11/2020	7	100%	7	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-05D	Total Bismuth	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-05D	Dissolved Boron	µg/L	-	5000	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-05D	Total Boron	µg/L	1200	5000	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-05D	Dissolved Cadmium	µg/L	-	7	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-05D	Total Cadmium	µg/L	0.01	7	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-05D	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	18000	19000	--	--	18000	19000	1	1	0.02	No trend identified	--	--	--
MW-05D	Total Calcium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	18000	19000	--	--	18000	19000	0	1	0.02	Stable	--	--	--
MW-05D	Dissolved Chromium	µg/L	-	50	-	6/2018 - 11/2020	8	88%	8	88%	1.1	1.1	<1.0	<1.0	<1.0	1.1	--	--	--	>50% ND	--	0	--
MW-05D	Total Chromium	µg/L	-	50	-	6/2019 - 11/2020	5	80%	5	80%	1.7	1.7	<1.0	<1.0	<1.0	1.7	--	--	--	>50% ND	--	0	--
MW-05D	Dissolved Cobalt	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	--	100% ND	--	--	--
MW-05D	Total Cobalt	µg/L	10	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	--	100% ND	--	--	--
MW-05D	Dissolved Copper	µg/L	-	2000	1000	6/2018 - 11/2020	8	88%	8	88%	0.67	0.67	<0.50	<2.0	<0.50	<2.0	--	--	--	>50% ND	--	0	0
MW-05D	Total Copper	µg/L	2	2000	1000	6/2019 - 11/2020	5	60%	5	60%	0.87	1.1	<0.50	<0.50	<0.50	1.1	--	--	--	>50% ND	0	0	0
MW-05D	Dissolved Iron	µg/L	-	-	300	6/2018 - 11/2020	8	100%	8	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-05D	Total Iron	µg/L	300	-	300	6/2019 - 11/2020	5	0%	5	0%	85	640	--	--	85	640	-4	0.484	0.75	Stable	**2**	--	**2**
MW-05D	Dissolved Lead	µg/L	-	5	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-05D	Total Lead	µg/L	1	5	-	6/2019 - 11/2020	5	40%	5	40%	0.61	0.95	<0.50	<0.50	<0.50	0.95	-1	1	0.55	Stable	0	0	--
MW-05D	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	2300	2500	--	--	2300	2500	-5	0.634	0.02	Stable	--	--	--
MW-05D	Total Magnesium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	2400	2700	--	--	2400	2700	-3	0.65	0.04	Stable	--	--	--
MW-05D	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	8	0%	8	0%	17	31	--	--	17	31	17	0.047	0.21	**Increasing Trend**	--	0	**5**
MW-05D	Total Manganese	µg/L	820	120	20	6/2019 - 11/2020	5	0%	5	0%	30	40	--	--	30	40	-3	0.65	0.12	Stable	0	0	**5**
MW-05D	Dissolved Molybdenum	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-05D	Total Molybdenum	µg/L	73	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-05D	Dissolved Nickel	µg/L	-	-	-	6/2018 - 11/2020	8	88%	8	88%	2	2	<2.0	<2.0	<2.0	<2.0	--	--	--	>50% ND	--	--	--
MW-05D	Total Nickel	µg/L	25	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-05D	Dissolved Phosphorus	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-05D	Total Phosphorus	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-05D	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	930	1100	--	--	930	1100	-4	0.72	0.05	Stable	--	--	--
MW-05D	Total Potassium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	970	1300	--	--	970	1300	-6	0.234	0.14	Stable	--	--	--
MW-05D	Dissolved Selenium	µg/L	-	50	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-05D	Total Selenium	µg/L	1	50	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-05D	Dissolved Silver	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-05D	Total Silver	µg/L	0.1	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-05D	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	8	0%	8	0%	10000	15000	--	--	10000	15000	-3	0.812	0.15	Stable	--	--	0
MW-05D	Total Sodium	µg/L	-	-	200000	6/2019 - 11/2020	5	0%	5	0%	11000	15000	--	--	11000	15000	-4	0.484	0.15	Stable	--	--	0
MW-05D	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	8	0%	8	0%	160	180	--	--	160	180	9	0.337	0.04	No trend identified	--	0	--
MW-05D	Total Strontium	µg/L	21000	7000	-	6/2019 - 11/2020	5	0%	5	0%	160	190	--	--	160	190	-3	0.65	0.06	Stable	0	0	--
MW-05D	Dissolved Thallium	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-05D	Total Thallium	µg/L	0.8	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-05D	Dissolved Tin	µg/L	-	-	-	6/2018 - 11/2020	8	88%	8	88%	2.5	2.5	<2.0	<2.0	<2.0	2.5	--	--	--	>50% ND	--	--	--
MW-05D	Total Tin	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-05D	Dissolved Titanium	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-05D	Total Titanium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	2.5	30	--	--	2.5	30	-4	0.484	0.88	Stable	--	--	--
MW-05D	Dissolved Uranium	µg/L	-	20	-	6/2018 - 11/2020	8	0%	8	0%	0.21	0.51	--	--	0.21	0.51	3	0.812	0.30	No trend identified	--	0	--
MW-05D	Total Uranium	µg/L	300	20	-	6/2019 - 11/2020	5	0%	5	0%	0.28	0.69	--	--	0.28	0.69	-2	0.816	0.36	Stable	0	0	--
MW-05D	Dissolved Vanadium	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-05D	Total Vanadium	µg/L	6	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-05D	Dissolved Zinc	µg/L	-	-	5000	6/2018 - 11/2020	8	88%	8	88%	8.5	8.5	<5.0	<5.0	<5.0	8.5	--	--	--	>50% ND	--	--	0
MW-05D	Total Zinc	µg/L	30	-	5000	6/2019 - 11/2020	5	80%	5	80%	6.2	6.2	<5.0	<5.0	<5.0	6.2	--	--	--	>50% ND	0	--	0
MW-05D	Dissolved Mercury	µg/L	--	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
MW-05D	Total Mercury	µg/L	0.026	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
	Calculated Parameters																						
MW-07A	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2.4	2.67	--	--	2.4	2.67	-4	0.762	0.03	Stable	--	--	--
MW-07A	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	100	110	--	--	100	110	2	0.92	0.05	No trend identified	--	--	--
MW-07A	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	150	160	--	--	150	160	-2	0.92	0.02	Stable	--	--	0
MW-07A	Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-07A	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2.45	2.73	--	--	2.45	2.73	-8	0.476	0.04	Stable	--	--	--
MW-07A	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	93	110	--	--	93	110	2	0.92	0.05	No trend identified	--	--	--
MW-07A	Ion Balance (% Difference)	%	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1.03	4.65	--	--	1.03	4.65	-1	1	0.63	Stable	--	--	--
MW-07A	Langelier Index (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-0.988	-0.642	--	--	-0.988	-0.642	-2	0.92	-0.14	Stable	--	--	--
MW-07A	Langelier Index (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-1.24	-0.892	--	--	-1.24	-0.892	-1	1	-0.11	Stable	--	--	--
MW-07A	Nitrate (N)	mg/L	-	10	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.050	<0.050	<0.050	<0.050	--	--	--	100% ND	--	--	--
MW-07A	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	7.84	7.93	--	--	7.84	7.93	2	0.92	0.00	No trend identified	--	--	--
MW-07A	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.09	8.18	--	--	8.09	8.18	2	0.92	0.00	No trend identified	--	--	--
	Inorganics																						
MW-07A	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	100	110	--	--	100	110	2	0.92	0.05	No trend identified	--	--	--

Table 4.1

Statistical Screening and Trend Test (Mann Kendall) Results – Baseline Groundwater Quality Data
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test											Samples Outside Criteria (Count)		
			NSE	CDWQG		Date					Detects		Non-Detects							NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
MW-07A	Total Chemical Oxygen Demand	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<20	<20	<20	<20	--	--	--	Insufficient data	--	--	--
MW-07A	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	9	0%	9	0%	2.9	4.8	--	--	2.9	4.8	-18	0.076	0.14	**Probably Decreasing**	0	--	0
MW-07A	Colour	TCU	-	-	15	6/2018 - 11/2020	9	0%	9	0%	6.9	110	--	--	6.9	110	-9	0.417	0.69	Stable	--	--	**7**
MW-07A	Nitrate + Nitrite	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.050	<0.050	<0.050	<0.050	--	--	--	100% ND	--	--	--
MW-07A	Nitrite	mg/L	-	1	-	6/2018 - 11/2020	9	89%	9	89%	0.022	0.022	<0.010	<0.010	<0.010	0.022	--	--	--	>50% ND	--	0	--
MW-07A	Nitrogen (Ammonia Nitrogen)	mg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	0.091	0.091	<0.050	<0.050	<0.050	0.091	--	--	--	>50% ND	--	--	--
MW-07A	Dissolved Organic Carbon	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	0.6	0.6	--	--	0.6	0.6	--	--	--	Insufficient data	--	--	--
MW-07A	Total Organic Carbon	mg/L	-	-	-	6/2018 - 11/2020	9	11%	9	11%	0.61	1.1	<0.50	<0.50	<0.50	1.1	-9	0.417	0.33	Stable	--	--	--
MW-07A	Orthophosphate	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-07A	pH	s.u.	-	-	10.5	6/2018 - 11/2020	9	0%	9	0%	6.94	7.26	--	--	6.94	7.26	4	0.762	0.01	No trend identified	--	--	0
MW-07A	pH	s.u.	-	-	7																		**2 ***
MW-07A	Dissolved Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-07A	Total Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-07A	Reactive Silica (SiO2)	mg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	20	22	--	--	20	22	-8	0.398	0.04	Stable	--	--	--
MW-07A	Total Suspended Solids	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	18	18	--	--	18	18	--	--	--	Insufficient data	--	--	--
MW-07A	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	12	15	--	--	12	15	20	0.044	0.09	**Increasing Trend**	--	--	0
MW-07A	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	9	0%	9	0%	16	55	--	--	16	55	0	1	0.35	Stable	--	--	**9**
MW-07A	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	9	0%	9	0%	230	250	--	--	230	250	-10	0.358	0.02	Stable	--	--	--
	Metals																						
MW-07A	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	9	100%	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	--	100% ND	--	--	--
MW-07A	Total Aluminum	µg/L	5	-	100	6/2019 - 11/2020	5	0%	5	0%	65	260	--	--	65	260	4	0.484	0.65	No trend identified	**5**	--	**2**
MW-07A	Dissolved Antimony	µg/L	-	6	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-07A	Total Antimony	µg/L	20	6	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-07A	Dissolved Arsenic	µg/L	-	10	-	6/2018 - 11/2020	9	0%	9	0%	2.1	20	--	--	2.1	20	5	0.687	0.61	No trend identified	--	**4**	--
MW-07A	Total Arsenic	µg/L	5	10	-	6/2019 - 11/2020	5	0%	5	0%	21	33	--	--	21	33	3	0.65	0.21	No trend identified	**5**	**5**	--
MW-07A	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	9	0%	9	0%	4.5	11	--	--	4.5	11	-30	0.00086	0.31	**Decreasing Trend**	--	0	--
MW-07A	Total Barium	µg/L	1000	2000	-	6/2019 - 11/2020	5	0%	5	0%	4.9	7.5	--	--	4.9	7.5	-4	0.484	0.17	Stable	0	0	--
MW-07A	Dissolved Beryllium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-07A	Total Beryllium	µg/L	5.3	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-07A	Dissolved Bismuth	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-07A	Total Bismuth	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-07A	Dissolved Boron	µg/L	-	5000	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-07A	Total Boron	µg/L	1200	5000	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-07A	Dissolved Cadmium	µg/L	-	7	-	6/2018 - 11/2020	9	89%	9	89%	0.013	0.013	<0.010	<0.010	<0.010	0.013	--	--	--	>50% ND	--	0	--
MW-07A	Total Cadmium	µg/L	0.01	7	-	6/2019 - 11/2020	5	60%	5	60%	0.012	0.012	<0.010	<0.010	<0.010	0.012	--	--	--	>50% ND	**2**	0	--
MW-07A	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	27000	30000	--	--	27000	30000	7	0.544	0.04	No trend identified	--	--	--
MW-07A	Total Calcium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	26000	30000	--	--	26000	30000	-5	0.359	0.06	Stable	--	--	--
MW-07A	Dissolved Chromium	µg/L	-	50	-	6/2018 - 11/2020	9	78%	9	78%	1.2	6.2	<1.0	<1.0	<1.0	6.2	--	--	--	>50% ND	--	0	--
MW-07A	Total Chromium	µg/L	-	50	-	6/2019 - 11/2020	5	80%	5	80%	1.1	1.1	<1.0	<1.0	<1.0	1.1	--	--	--	>50% ND	--	0	--
MW-07A	Dissolved Cobalt	µg/L	-	-	-	6/2018 - 11/2020	9	78%	9	78%	0.44	0.55	<0.40	<0.40	<0.40	0.55	--	--	--	>50% ND	--	--	--
MW-07A	Total Cobalt	µg/L	10	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	--	100% ND	--	--	--
MW-07A	Dissolved Copper	µg/L	-	2000	1000	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<2.0	<0.50	<2.0	--	--	--	100% ND	--	--	--
MW-07A	Total Copper	µg/L	2	2000	1000	6/2019 - 11/2020	5	60%	5	60%	0.51	0.6	<0.50	<0.50	<0.50	0.6	--	--	--	>50% ND	0	0	0
MW-07A	Dissolved Iron	µg/L	-	-	300	6/2018 - 11/2020	9	0%	9	0%	2000	5100	--	--	2000	5100	-21	0.034	0.28	**Decreasing Trend**	--	--	**9**
MW-07A	Total Iron	µg/L	300	-	300	6/2019 - 11/2020	5	0%	5	0%	3500	6300	--	--	3500	6300	-4	0.484	0.26	Stable	**5**	--	**5**
MW-07A	Dissolved Lead	µg/L	-	5	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-07A	Total Lead	µg/L	1	5	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-07A	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	6400	7500	--	--	6400	7500	2	0.92	0.06	No trend identified	--	--	--
MW-07A	Total Magnesium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	6600	7400	--	--	6600	7400	-4	0.484	0.04	Stable	--	--	--
MW-07A	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	9	0%	9	0%	490	630	--	--	490	630	15	0.15	0.08	No trend identified	--	**9**	**9**
MW-07A	Total Manganese	µg/L	820	120	20	6/2019 - 11/2020	5	0%	5	0%	510	640	--	--	510	640	1	1	0.08	No trend identified	0	**5**	**5**
MW-07A	Dissolved Molybdenum	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-07A	Total Molybdenum	µg/L	73	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-07A	Dissolved Nickel	µg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	2.4	2.4	<2.0	<2.0	<2.0	2.4	--	--	--	>50% ND	--	--	--
MW-07A	Total Nickel	µg/L	25	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-07A	Dissolved Phosphorus	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-07A	Total Phosphorus	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-07A	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1700	2000	--	--	1700	2000	-2	0.92	0.06	Stable	--	--	--
MW-07A	Total Potassium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	1700	2000	--	--	1700	2000	3	0.65	0.07	No trend identified	--	--	--
MW-07A	Dissolved Selenium	µg/L	-	50	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-07A	Total Selenium	µg/L	1	50	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-07A	Dissolved Silver	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-07A	Total Silver	µg/L	0.1	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-07A	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	0%	8800	11000	--	--	8800	11000	-20	0.044	0.07	**Decreasing Trend**	--	--	0
MW-07A	Total Sodium	µg/L	-	-	200000	6/2019 - 11/2020	5	0%	5	0%	8900	9700	--	--	8900	9700	-3	0.65	0.03	Stable	--	--	0
MW-07A	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	9	0%	9	0%	140	160	--	--	140	160	10	0.358	0.06	No trend identified	--	0	--
MW-07A	Total Strontium	µg/L	21000	7000	-	6/2019 - 11/2020	5	0%	5	0%	140	160	--	--	140	160	-3	0.65	0.06	Stable	0	0	--
MW-07A	Dissolved Thallium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-07A	Total Thallium	µg/L	0.8	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-07A	Dissolved Tin	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-07A	Total Tin	µg/L	-	-	-	6/2019 - 11/2020	5	80%	5	80%	2.3	2.3	<2.0	<2.0	<2.0	2.3	--	--	--	>50% ND	--	--	--
MW-07A	Dissolved Titanium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-07A	Total Titanium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	2.1	9.3	--	--	2.1	9.3	3	0.65	0.67	No trend identified	--	--	--
MW-07A	Dissolved Uranium	µg/L	-	20	-	6/2018 - 11/2020	9	78%	9	78%	0.11	0.11	<0.10	<0.10	<0.10	0.11	--	--	--	>50% ND	--	0	--
MW-07A	Total Uranium	µg/L	300	20	-	6/2019 - 11/2020	5	60%	5	60%	0.12	0.12	<0.10	<0.10	<0.10	0.12	--	--	--	>50% ND	0	0	--
MW-07A	Dissolved Vanadium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-07A	Total Vanadium	µg/L	6	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-07A	Dissolved Zinc	µg/L	-	-	5000	6/2018 - 11/2020	9	56%	9	56%	5.5	9.5	<5.0	<5.0	<5.0	9.5	--	--	--	>50% ND	--	--	0
MW-07A	Total Zinc	µg/L	30	-	5000	6/2019 - 11/2020	5	80%	5	80%	6.3	6.3	<5.0	<5.0	<5.0	6.3	--	--	--	>50% ND	0	--	0
MW-07A	Dissolved Mercury	µg/L	--	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
MW-07A	Total Mercury	µg/L	0.026	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--

Table 4.1

Statistical Screening and Trend Test (Mann Kendall) Results – Baseline Groundwater Quality Data
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test											Samples Outside Criteria (Count)		
			NSE	CDWQG		Date					Detects		Non-Detects							NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
	Calculated Parameters																						
MW-07B	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	3.25	7.02	--	--	3.25	7.02	-33	0.00015	0.19	Decreasing Trend	--	--	--
MW-07B	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	130	320	--	--	130	320	-29	0.00163	0.21	Decreasing Trend	--	--	--
MW-07B	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	190	380	--	--	190	380	-32	0.00024	0.17	Decreasing Trend	--	--	0
MW-07B	Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1.4	3	--	--	1.4	3	-9	0.417	0.21	Stable	--	--	--
MW-07B	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	3.18	6.68	--	--	3.18	6.68	-28	0.0024	0.18	Decreasing Trend	--	--	--
MW-07B	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	120	290	--	--	120	290	-26	0.0058	0.20	Decreasing Trend	--	--	--
MW-07B	Ion Balance (% Difference)	%	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.68	3.73	--	--	0.68	3.73	-20	0.044	0.52	Decreasing Trend	--	--	--
MW-07B	Langelier Index (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.486	1.04	--	--	0.486	1.04	-14	0.18	0.19	Stable	--	--	--
MW-07B	Langelier Index (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.236	0.788	--	--	0.236	0.788	-14	0.18	0.27	Stable	--	--	--
MW-07B	Nitrate (N)	mg/L	-	10	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.050	<0.050	<0.050	<0.050	--	--	--	100% ND	--	--	--
MW-07B	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	6.93	7.68	--	--	6.93	7.68	30	0.00086	0.03	Increasing Trend	--	--	--
MW-07B	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	7.18	7.93	--	--	7.18	7.93	30	0.00086	0.03	Increasing Trend	--	--	--
	Inorganics																						
MW-07B	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	130	320	--	--	130	320	-30	0.00086	0.21	Decreasing Trend	--	--	--
MW-07B	Total Chemical Oxygen Demand	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<20	<20	<20	<20	--	--	--	Insufficient data	--	--	--
MW-07B	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	9	0%	9	0%	4.5	8.2	--	--	4.5	8.2	-16	0.12	0.19	Stable	0	--	0
MW-07B	Colour	TCU	-	-	15	6/2018 - 11/2020	9	100%	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	--	100% ND	--	--	--
MW-07B	Nitrate + Nitrite	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.050	<0.050	<0.050	<0.050	--	--	--	100% ND	--	--	--
MW-07B	Nitrite	mg/L	-	1	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-07B	Nitrogen (Ammonia Nitrogen)	mg/L	-	-	-	6/2018 - 11/2020	9	67%	9	67%	0.059	0.112	<0.050	<0.050	<0.050	0.112	--	--	--	>50% ND	--	--	--
MW-07B	Dissolved Organic Carbon	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	1.5	1.5	--	--	1.5	1.5	--	--	--	Insufficient data	--	--	--
MW-07B	Total Organic Carbon	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2.1	4.15	--	--	2.1	4.15	-8	0.476	0.22	Stable	--	--	--
MW-07B	Orthophosphate	mg/L	-	-	-	6/2018 - 11/2020	9	33%	9	33%	0.011	0.026	<0.010	<0.010	<0.010	0.026	-13	0.22	0.58	Stable	--	--	--
MW-07B	pH	s.u.	-	-	10.5	6/2018 - 11/2020	9	0%	9	0%	7.69	8.17	--	--	7.69	8.17	9	0.417	0.02	No trend identified	--	--	0
MW-07B	pH	s.u.	-	-	7																		0 *
MW-07B	Dissolved Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-07B	Total Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-07B	Reactive Silica (SiO2)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	20	24	--	--	20	24	-15	0.15	0.06	Stable	--	--	--
MW-07B	Total Suspended Solids	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	12	12	--	--	12	12	--	--	--	Insufficient data	--	--	--
MW-07B	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	14	22	--	--	14	22	-20	0.044	0.16	Decreasing Trend	--	--	0
MW-07B	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	9	0%	9	0%	0.94	21	--	--	0.94	21	0	1	0.75	Stable	--	--	**9**
MW-07B	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	9	0%	9	0%	310	620	--	--	310	620	-27	0.0041	0.17	Decreasing Trend	--	--	--
	Metals																						
MW-07B	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	9	33%	9	33%	5.1	7.2	<5.0	<5.0	<5.0	7.2	-23	0.0183	0.37	Decreasing Trend	--	--	0
MW-07B	Total Aluminum	µg/L	5	-	100	6/2019 - 11/2020	5	0%	5	0%	93	685	--	--	93	685	0	1	0.79	Stable	**5**	--	**4**
MW-07B	Dissolved Antimony	µg/L	-	6	-	6/2018 - 11/2020	9	89%	9	89%	1.9	1.9	<1.0	<1.0	<1.0	1.9	--	--	--	>50% ND	--	0	--
MW-07B	Total Antimony	µg/L	20	6	-	6/2019 - 11/2020	5	80%	5	80%	1.6	1.6	<1.0	<1.0	<1.0	1.6	--	--	--	>50% ND	0	0	--
MW-07B	Dissolved Arsenic	µg/L	-	10	-	6/2018 - 11/2020	9	0%	9	0%	29	170	--	--	29	170	-5	0.687	0.94	Stable	--	**9**	--
MW-07B	Total Arsenic	µg/L	5	10	-	6/2019 - 11/2020	5	0%	5	0%	36	180	--	--	36	180	1	1	0.98	No trend identified	**5**	**5**	--
MW-07B	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	9	0%	9	0%	7.2	17.5	--	--	7.2	17.5	10	0.358	0.20	No trend identified	--	0	--
MW-07B	Total Barium	µg/L	1000	2000	-	6/2019 - 11/2020	5	0%	5	0%	7.6	25	--	--	7.6	25	0	1	0.38	Stable	0	0	--
MW-07B	Dissolved Beryllium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-07B	Total Beryllium	µg/L	5.3	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-07B	Dissolved Bismuth	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-07B	Total Bismuth	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-07B	Dissolved Boron	µg/L	-	5000	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-07B	Total Boron	µg/L	1200	5000	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-07B	Dissolved Cadmium	µg/L	-	7	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-07B	Total Cadmium	µg/L	0.01	7	-	6/2019 - 11/2020	5	60%	5	60%	0.01	0.025	<0.010	<0.010	0.01	0.025	--	--	--	>50% ND	**2**	0	--
MW-07B	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	38000	100000	--	--	38000	100000	-27	0.0041	0.22	Decreasing Trend	--	--	--
MW-07B	Total Calcium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	39000	98000	--	--	39000	98000	-6	0.234	0.30	Stable	--	--	--
MW-07B	Dissolved Chromium	µg/L	-	50	-	6/2018 - 11/2020	9	89%	9	89%	1.4	1.4	<1.0	<1.0	<1.0	1.4	--	--	--	>50% ND	--	0	--
MW-07B	Total Chromium	µg/L	-	50	-	6/2019 - 11/2020	5	80%	5	80%	1.3	1.3	<1.0	<1.0	<1.0	1.3	--	--	--	>50% ND	--	0	--
MW-07B	Dissolved Cobalt	µg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	0.43	0.43	<0.40	<0.40	<0.40	0.43	--	--	--	>50% ND	--	--	--
MW-07B	Total Cobalt	µg/L	10	-	-	6/2019 - 11/2020	5	80%	5	80%	0.415	0.415	<0.40	<0.40	<0.40	0.415	--	--	--	>50% ND	0	--	--
MW-07B	Dissolved Copper	µg/L	-	2000	1000	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<2.0	<0.50	<2.0	--	--	--	100% ND	--	--	--
MW-07B	Total Copper	µg/L	2	2000	1000	6/2019 - 11/2020	5	40%	5	40%	0.65	1.8	<0.50	<0.50	<0.50	1.8	1	1	0.84	No trend identified	0	0	0
MW-07B	Dissolved Iron	µg/L	-	-	300	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-07B	Total Iron	µg/L	300	-	300	6/2019 - 11/2020	5	0%	5	0%	110	830	--	--	110	830	0	1	0.72	Stable	**3**	--	**3**
MW-07B	Dissolved Lead	µg/L	-	5	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-07B	Total Lead	µg/L	1	5	-	6/2019 - 11/2020	5	80%	5	80%	0.92	0.92	<0.50	<0.50	<0.50	0.92	--	--	--	>50% ND	0	0	--
MW-07B	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	6000	8600	--	--	6000	8600	-27	0.0041	0.10	Decreasing Trend	--	--	--
MW-07B	Total Magnesium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	6000	8300	--	--	6000	8300	-6	0.234	0.12	Stable	--	--	--
MW-07B	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	9	0%	9	0%	53	1200	--	--	53	1200	-5	0.687	0.45	Stable	--	**8**	**9**
MW-07B	Total Manganese	µg/L	820	120	20	6/2019 - 11/2020	5	0%	5	0%	57	1300	--	--	57	1300	-6	0.234	0.54	Stable	**4**	**4**	**5**
MW-07B	Dissolved Molybdenum	µg/L	-	-	-	6/2018 - 11/2020	9	67%	9	67%	2.7	4.1	<2.0	<2.0	<2.0	4.1	--	--	--	>50% ND	--	--	--
MW-07B	Total Molybdenum	µg/L	73	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-07B	Dissolved Nickel	µg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	3.3	3.3	<2.0	<2.0	<2.0	3.3	--	--	--	>50% ND	--	--	--
MW-07B	Total Nickel	µg/L	25	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-07B	Dissolved Phosphorus	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-07B	Total Phosphorus	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-07B	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1300	3600	--	--	1300	3600	-25	0.0092	0.22	Decreasing Trend	--	--	--
MW-07B	Total Potassium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	1300	3300	--	--	1300	3300	-5	0.359	0.30	Stable	--	--	--
MW-07B	Dissolved Selenium	µg/L	-	50	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-07B	Total Selenium	µg/L	1	50	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-07B	Dissolved Silver	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-07B	Total Silver	µg/L	0.1	-	-	6/2019 - 11/2020	5	80%	5	80%	0.21	0.21	<0.10	<0.10	<0.10	0.21	--	--	--	>50% ND	**1**	--	--

Table 4.1

Statistical Screening and Trend Test (Mann Kendall) Results – Baseline Groundwater Quality Data
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test											Samples Outside Criteria (Count)		
			NSE	CDWQG		Date					Detects		Non-Detects							NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
MW-07B	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	0%	17000	21000	--	--	17000	21000	-12	0.26	0.08	Stable	--	--	0
MW-07B	Total Sodium	µg/L	-	-	200000	6/2019 - 11/2020	5	0%	5	0%	17000	21000	--	--	17000	21000	-8	0.084	0.11	**Probably Decreasing**	--	--	0
MW-07B	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	9	0%	9	0%	310	360	--	--	310	360	8	0.476	0.05	No trend identified	--	0	--
MW-07B	Total Strontium	µg/L	21000	7000	-	6/2019 - 11/2020	5	0%	5	0%	320	370	--	--	320	370	2	0.816	0.06	No trend identified	0	0	--
MW-07B	Dissolved Thallium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-07B	Total Thallium	µg/L	0.8	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-07B	Dissolved Tin	µg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	11	11	<2.0	<2.0	<2.0	11	--	--	--	>50% ND	--	--	--
MW-07B	Total Tin	µg/L	-	-	-	6/2019 - 11/2020	5	80%	5	80%	3.7	3.7	<2.0	<2.0	<2.0	3.7	--	--	--	>50% ND	--	--	--
MW-07B	Dissolved Titanium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-07B	Total Titanium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	2.8	21.5	--	--	2.8	21.5	0	1	0.80	Stable	--	--	--
MW-07B	Dissolved Uranium	µg/L	-	20	-	6/2018 - 11/2020	9	0%	9	0%	0.62	3.4	--	--	0.62	3.4	-11	0.309	0.34	Stable	--	0	--
MW-07B	Total Uranium	µg/L	300	20	-	6/2019 - 11/2020	5	0%	5	0%	0.67	3.2	--	--	0.67	3.2	-8	0.084	0.45	**Probably Decreasing**	0	0	--
MW-07B	Dissolved Vanadium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-07B	Total Vanadium	µg/L	6	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-07B	Dissolved Zinc	µg/L	-	-	5000	6/2018 - 11/2020	9	78%	9	78%	6	6.2	<5.0	<5.0	<5.0	6.2	--	--	--	>50% ND	--	--	0
MW-07B	Total Zinc	µg/L	30	-	5000	6/2019 - 11/2020	5	80%	5	80%	7.15	7.15	<5.0	<5.0	<5.0	7.15	--	--	--	>50% ND	0	--	0
MW-07B	Dissolved Mercury	µg/L	--	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
MW-07B	Total Mercury	µg/L	0.026	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
	Calculated Parameters																						
MW-07D	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2.59	6.39	--	--	2.59	6.39	20	0.044	0.32	**Increasing Trend**	--	--	--
MW-07D	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	110	300	--	--	110	300	20	0.044	0.40	**Increasing Trend**	--	--	--
MW-07D	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	150	340	--	--	150	340	21	0.034	0.28	**Increasing Trend**	--	--	0
MW-07D	Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1.1	3.5	--	--	1.1	3.5	27	0.0041	0.49	**Increasing Trend**	--	--	--
MW-07D	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2.75	5.95	--	--	2.75	5.95	20	0.044	0.29	**Increasing Trend**	--	--	--
MW-07D	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	110	260	--	--	110	260	5	0.687	0.35	No trend identified	--	--	--
MW-07D	Ion Balance (% Difference)	%	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.52	3.57	--	--	0.52	3.57	2	0.92	0.51	No trend identified	--	--	--
MW-07D	Langelier Index (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.288	1.09	--	--	0.288	1.09	28	0.0024	0.52	**Increasing Trend**	--	--	--
MW-07D	Langelier Index (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.038	0.845	--	--	0.038	0.845	28	0.0024	1.05	**Increasing Trend**	--	--	--
MW-07D	Nitrate (N)	mg/L	-	10	-	6/2018 - 11/2020	9	89%	9	89%	0.17	0.17	<0.050	<0.050	<0.050	0.17	--	--	--	>50% ND	--	0	--
MW-07D	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	7	7.77	--	--	7	7.77	-19	0.06	0.03	**Probably Decreasing**	--	--	--
MW-07D	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	7.25	8.02	--	--	7.25	8.02	-19	0.06	0.03	**Probably Decreasing**	--	--	--
	Inorganics																						
MW-07D	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	110	300	--	--	110	300	22	0.024	0.38	**Increasing Trend**	--	--	--
MW-07D	Total Chemical Oxygen Demand	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<20	<20	<20	<20	--	--	--	Insufficient data	--	--	--
MW-07D	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	9	0%	9	0%	5.2	9.2	--	--	5.2	9.2	-8	0.476	0.17	Stable	0	--	0
MW-07D	Colour	TCU	-	-	15	6/2018 - 11/2020	9	100%	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	--	100% ND	--	--	--
MW-07D	Nitrate + Nitrite	mg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	0.17	0.17	<0.050	<0.050	<0.050	0.17	--	--	--	>50% ND	--	--	--
MW-07D	Nitrite	mg/L	-	1	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-07D	Nitrogen (Ammonia Nitrogen)	mg/L	-	-	-	6/2018 - 11/2020	9	33%	9	33%	0.061	0.15	<0.050	<0.050	<0.050	0.15	16	0.12	0.65	No trend identified	--	--	--
MW-07D	Dissolved Organic Carbon	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	1.9	1.9	--	--	1.9	1.9	--	--	--	Insufficient data	--	--	--
MW-07D	Total Organic Carbon	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1.8	5	--	--	1.8	5	-4	0.762	0.38	Stable	--	--	--
MW-07D	Orthophosphate	mg/L	-	-	-	6/2018 - 11/2020	9	22%	9	22%	0.03	0.043	<0.010	<0.010	<0.010	0.043	-16	0.12	0.49	Stable	--	--	--
MW-07D	pH	s.u.	-	-	10.5	6/2018 - 11/2020	9	0%	9	0%	8.01	8.38	--	--	8.01	8.38	20	0.044	0.01	**Increasing Trend**	--	--	0
MW-07D	pH	s.u.	-	-	7																		0 *
MW-07D	Dissolved Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	0.033	0.033	--	--	0.033	0.033	--	--	--	Insufficient data	--	--	--
MW-07D	Total Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	0.022	0.022	--	--	0.022	0.022	--	--	--	Insufficient data	--	--	--
MW-07D	Reactive Silica (SiO2)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	15	32	--	--	15	32	18	0.076	0.27	**Probably Increasing**	--	--	--
MW-07D	Total Suspended Solids	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	11	11	--	--	11	11	--	--	--	Insufficient data	--	--	--
MW-07D	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	12	33	--	--	12	33	4	0.762	0.38	No trend identified	--	--	0
MW-07D	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	9	0%	9	0%	2.5	24	--	--	2.5	24	-6	0.612	0.75	Stable	--	--	**9**
MW-07D	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	9	0%	9	0%	280	550	--	--	280	550	13	0.22	0.26	No trend identified	--	--	--
	Metals																						
MW-07D	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	9	33%	9	33%	5.2	80	<5.0	<5.0	<5.0	80	-11	0.309	1.54	No trend identified	--	--	0
MW-07D	Total Aluminum	µg/L	5	-	100	6/2019 - 11/2020	5	0%	5	0%	9.5	1700	--	--	9.5	1700	-2	0.816	1.27	No trend identified	**5**	--	**4**
MW-07D	Dissolved Antimony	µg/L	-	6	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-07D	Total Antimony	µg/L	20	6	-	6/2019 - 11/2020	5	80%	5	80%	1.1	1.1	<1.0	<1.0	<1.0	1.1	--	--	--	>50% ND	0	0	--
MW-07D	Dissolved Arsenic	µg/L	-	10	-	6/2018 - 11/2020	9	0%	9	0%	37	180	--	--	37	180	-3	0.841	0.29	Stable	--	**9**	--
MW-07D	Total Arsenic	µg/L	5	10	-	6/2019 - 11/2020	5	0%	5	0%	37	180	--	--	37	180	1	1	0.42	No trend identified	**5**	**5**	--
MW-07D	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	9	0%	9	0%	5.5	18	--	--	5.5	18	10	0.358	0.42	No trend identified	--	0	--
MW-07D	Total Barium	µg/L	1000	2000	-	6/2019 - 11/2020	5	0%	5	0%	10	18	--	--	10	18	6	0.234	0.22	No trend identified	0	0	--
MW-07D	Dissolved Beryllium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-07D	Total Beryllium	µg/L	5.3	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-07D	Dissolved Bismuth	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-07D	Total Bismuth	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-07D	Dissolved Boron	µg/L	-	5000	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-07D	Total Boron	µg/L	1200	5000	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-07D	Dissolved Cadmium	µg/L	-	7	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-07D	Total Cadmium	µg/L	0.01	7	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-07D	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	34000	91000	--	--	34000	91000	8	0.476	0.41	No trend identified	--	--	--
MW-07D	Total Calcium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	36000	96000	--	--	36000	96000	-2	0.816	0.49	Stable	--	--	--
MW-07D	Dissolved Chromium	µg/L	-	50	-	6/2018 - 11/2020	9	89%	9	89%	1.2	1.2	<1.0	<1.0	<1.0	1.2	--	--	--	>50% ND	--	0	--
MW-07D	Total Chromium	µg/L	-	50	-	6/2019 - 11/2020	5	60%	5	60%	1.1	1.1	<1.0	<1.0	<1.0	1.1	--	--	--	>50% ND	--	0	--
MW-07D	Dissolved Cobalt	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	--	100% ND	--	--	--
MW-07D	Total Cobalt	µg/L	10	-	-	6/2019 - 11/2020	5	80%	5	80%	0.69	0.69	<0.40	<0.40	<0.40	0.69	--	--	--	>50% ND	0	--	--
MW-07D	Dissolved Copper	µg/L	-	2000	1000	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<2.0	<0.50	<2.0	--	--	--	100% ND	--	--	--
MW-07D	Total Copper	µg/L	2	2000	1000	6/2019 - 11/2020	5	20%	5	20%	0.52	1.8	<0.50	<0.50	<0.50	1.8	0	1	0.73	Stable	0	0	0
MW-07D	Dissolved Iron	µg/L	-	-	300	6/2018 - 11/2020	9	89%	9	89%	140	140	<50	<50	<50	140	--	--	--	>50% ND	--	--	0
MW-07D	Total Iron	µg/L	300	-	300	6/2019 - 11/2020	5	20%	5	20%	260	1600	<50	<50	<50	1600	-4	0.484	1.15	No trend identified	**3**	--	**3**

Table 4.1

Statistical Screening and Trend Test (Mann Kendall) Results – Baseline Groundwater Quality Data
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test											Samples Outside Criteria (Count)		
			NSE	CDWQG		Date					Detects		Non-Detects							NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
MW-07D	Dissolved Lead	µg/L	-	5	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-07D	Total Lead	µg/L	1	5	-	6/2019 - 11/2020	5	80%	5	80%	1.4	1.4	<0.50	<0.50	<0.50	1.4	--	--	--	>50% ND	**1**	0	--
MW-07D	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	5300	7500	--	--	5300	7500	22	0.024	0.11	**Increasing Trend**	--	--	--
MW-07D	Total Magnesium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	5900	8000	--	--	5900	8000	1	1	0.13	No trend identified	--	--	--
MW-07D	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	9	0%	9	0%	38	1300	--	--	38	1300	10	0.358	2.03	No trend identified	--	**2**	**9**
MW-07D	Total Manganese	µg/L	820	120	20	6/2019 - 11/2020	5	0%	5	0%	55	1300	--	--	55	1300	-4	0.484	1.55	No trend identified	**1**	**2**	**5**
MW-07D	Dissolved Molybdenum	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-07D	Total Molybdenum	µg/L	73	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-07D	Dissolved Nickel	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-07D	Total Nickel	µg/L	25	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-07D	Dissolved Phosphorus	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-07D	Total Phosphorus	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-07D	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1100	3000	--	--	1100	3000	8	0.476	0.41	No trend identified	--	--	--
MW-07D	Total Potassium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	1300	3100	--	--	1300	3100	-3	0.65	0.43	Stable	--	--	--
MW-07D	Dissolved Selenium	µg/L	-	50	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-07D	Total Selenium	µg/L	1	50	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-07D	Dissolved Silver	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-07D	Total Silver	µg/L	0.1	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-07D	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	0%	9200	29000	--	--	9200	29000	15	0.15	0.40	No trend identified	--	--	0
MW-07D	Total Sodium	µg/L	-	-	200000	6/2019 - 11/2020	5	0%	5	0%	10000	29000	--	--	10000	29000	-2	0.816	0.37	Stable	--	--	0
MW-07D	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	9	0%	9	0%	310	380	--	--	310	380	13	0.22	0.07	No trend identified	--	0	--
MW-07D	Total Strontium	µg/L	21000	7000	-	6/2019 - 11/2020	5	0%	5	0%	340	390	--	--	340	390	-7	0.159	0.06	Stable	0	0	--
MW-07D	Dissolved Thallium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-07D	Total Thallium	µg/L	0.8	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-07D	Dissolved Tin	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-07D	Total Tin	µg/L	-	-	-	6/2019 - 11/2020	5	80%	5	80%	5	5	<2.0	<2.0	<2.0	5	--	--	--	>50% ND	--	--	--
MW-07D	Dissolved Titanium	µg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	2	2	<2.0	<2.0	<2.0	<2.0	--	--	--	>50% ND	--	--	--
MW-07D	Total Titanium	µg/L	-	-	-	6/2019 - 11/2020	5	20%	5	20%	8.6	40	<2.0	<2.0	<2.0	40	-2	0.816	1.08	No trend identified	--	--	--
MW-07D	Dissolved Uranium	µg/L	-	20	-	6/2018 - 11/2020	9	0%	9	0%	0.63	2.9	--	--	0.63	2.9	4	0.762	0.62	No trend identified	--	0	--
MW-07D	Total Uranium	µg/L	300	20	-	6/2019 - 11/2020	5	0%	5	0%	0.69	2.9	--	--	0.69	2.9	-6	0.234	0.54	Stable	0	0	--
MW-07D	Dissolved Vanadium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-07D	Total Vanadium	µg/L	6	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-07D	Dissolved Zinc	µg/L	-	-	5000	6/2018 - 11/2020	9	89%	9	89%	5.8	5.8	<5.0	<5.0	<5.0	5.8	--	--	--	>50% ND	--	--	0
MW-07D	Total Zinc	µg/L	30	-	5000	6/2019 - 11/2020	5	80%	5	80%	5.2	5.2	<5.0	<5.0	<5.0	5.2	--	--	--	>50% ND	0	--	0
MW-07D	Dissolved Mercury	µg/L	--	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
MW-07D	Total Mercury	µg/L	0.026	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
	Calculated Parameters																						
MW-09A	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.33	0.93	--	--	0.33	0.93	3	0.841	0.35	No trend identified	--	--	--
MW-09A	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	9	37	--	--	9	37	5	0.687	0.50	No trend identified	--	--	--
MW-09A	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	28	56	--	--	28	56	2	0.92	0.26	No trend identified	--	--	0
MW-09A	Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-09A	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.36	0.87	--	--	0.36	0.87	-9	0.417	0.33	Stable	--	--	--
MW-09A	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	10	36	--	--	10	36	-14	0.18	0.44	Stable	--	--	--
MW-09A	Ion Balance (% Difference)	%	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1.12	31.25	--	--	1.12	31.25	-4	0.762	1.08	No trend identified	--	--	--
MW-09A	Langelier Index (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-3.15	-1.79	--	--	-3.15	-1.79	0	1	-0.19	Stable	--	--	--
MW-09A	Langelier Index (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-3.4	-2.04	--	--	-3.4	-2.04	0	1	-0.18	Stable	--	--	--
MW-09A	Nitrate (N)	mg/L	-	10	-	6/2018 - 11/2020	9	11%	9	11%	0.051	0.17	<0.050	<0.050	<0.050	0.17	24	0.0126	0.53	**Increasing Trend**	--	0	--
MW-09A	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.64	9.65	--	--	8.64	9.65	8	0.476	0.04	No trend identified	--	--	--
MW-09A	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.89	9.9	--	--	8.89	9.9	8	0.476	0.03	No trend identified	--	--	--
	Inorganics																						
MW-09A	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	9	37	--	--	9	37	5	0.687	0.50	No trend identified	--	--	--
MW-09A	Total Chemical Oxygen Demand	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<20	<20	<20	<20	--	--	--	Insufficient data	--	--	--
MW-09A	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	9	0%	9	0%	1.5	4	--	--	1.5	4	-9	0.417	0.35	Stable	0	--	0
MW-09A	Colour	TCU	-	-	15	6/2018 - 11/2020	9	100%	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	--	100% ND	--	--	--
MW-09A	Nitrate + Nitrite	mg/L	-	-	-	6/2018 - 11/2020	9	11%	9	11%	0.051	0.17	<0.050	<0.050	<0.050	0.17	24	0.0126	0.53	**Increasing Trend**	--	--	--
MW-09A	Nitrite	mg/L	-	1	-	6/2018 - 11/2020	9	89%	9	89%	0.021	0.021	<0.010	<0.010	<0.010	0.021	--	--	--	>50% ND	--	0	--
MW-09A	Nitrogen (Ammonia Nitrogen)	mg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	0.12	0.12	<0.050	<0.050	<0.050	0.12	--	--	--	>50% ND	--	--	--
MW-09A	Dissolved Organic Carbon	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.5	<0.5	<0.5	<0.5	--	--	--	Insufficient data	--	--	--
MW-09A	Total Organic Carbon	mg/L	-	-	-	6/2018 - 11/2020	9	56%	9	56%	0.52	0.76	<0.50	<0.50	<0.50	0.76	--	--	--	>50% ND	--	--	--
MW-09A	Orthophosphate	mg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	0.17	0.17	<0.010	<0.010	<0.010	0.17	--	--	--	>50% ND	--	--	--
MW-09A	pH	s.u.	-	-	10.5	6/2018 - 11/2020	9	0%	9	0%	6.3	7.02	--	--	6.3	7.02	12	0.26	0.04	No trend identified	--	--	0
MW-09A	pH	s.u.	-	-	7																		**8 ***
MW-09A	Dissolved Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-09A	Total Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-09A	Reactive Silica (SiO2)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	5.1	8.6	--	--	5.1	8.6	3	0.841	0.17	No trend identified	--	--	--
MW-09A	Total Suspended Solids	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	9.2	9.2	--	--	9.2	9.2	--	--	--	Insufficient data	--	--	--
MW-09A	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	2.9	5.1	--	--	2.9	5.1	19	0.06	0.21	**Probably Increasing**	--	--	0
MW-09A	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	9	11%	9	11%	0.31	4.4	<0.10	<0.10	<0.10	4.4	19	0.06	0.77	**Probably Increasing**	--	--	**8**
MW-09A	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	9	0%	9	0%	30.5	93	--	--	30.5	93	3	0.841	0.35	No trend identified	--	--	--
	Metals																						
MW-09A	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	9	0%	9	0%	6.7	81	--	--	6.7	81	-29	0.00163	0.98	**Decreasing Trend**	--	--	0
MW-09A	Total Aluminum	µg/L	5	-	100	6/2019 - 11/2020	5	0%	5	0%	58	290	--	--	58	290	0	1	0.47	Stable	**5**	--	**4**
MW-09A	Dissolved Antimony	µg/L	-	6	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-09A	Total Antimony	µg/L	20	6	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-09A	Dissolved Arsenic	µg/L	-	10	-	6/2018 - 11/2020	9	0%	9	0%	1	5.5	--	--	1	5.5	2	0.92	0.45	No trend identified	--	0	--
MW-09A	Total Arsenic	µg/L	5	10	-	6/2019 - 11/2020	5	0%	5	0%	2.8	6	--	--	2.8	6	-2	0.816	0.33	Stable	**2**	0	--
MW-09A	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	9	0%	9	0%	3.8	15	--	--	3.8	15	5	0.687	0.43	No trend identified	--	0	--
MW-09A	Total Barium	µg/L	1000	2000	-	6/2019 - 11/2020	5	0%	5	0%	6.6	14	--	--	6.6	14	-2	0.816	0.33	Stable	0	0	--
MW-09A	Dissolved Beryllium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--

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Statistical Screening and Trend Test (Mann Kendall) Results – Baseline Groundwater Quality Data
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test										Samples Outside Criteria (Count)		
			NSE	CDWQG		Date					Detects		Non-Detects						NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
MW-09A	Total Beryllium	µg/L	5.3	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-09A	Dissolved Bismuth	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-09A	Total Bismuth	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-09A	Dissolved Boron	µg/L	-	5000	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-09A	Total Boron	µg/L	1200	5000	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-09A	Dissolved Cadmium	µg/L	-	7	-	6/2018 - 11/2020	9	0%	9	0%	0.028	0.069	--	--	0.028	0.069	5	0.687	0.33	No trend identified	--	0	--
MW-09A	Total Cadmium	µg/L	0.01	7	-	6/2019 - 11/2020	5	0%	5	0%	0.029	0.081	--	--	0.029	0.081	-6	0.234	0.41	Stable	**5**	0	--
MW-09A	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	3500	13000	--	--	3500	13000	-15	0.15	0.47	Stable	--	--	--
MW-09A	Total Calcium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	3100	7900	--	--	3100	7900	-2	0.816	0.34	Stable	--	--	--
MW-09A	Dissolved Chromium	µg/L	-	50	-	6/2018 - 11/2020	9	89%	9	89%	1.2	1.2	<1.0	<1.0	<1.0	1.2	--	--	--	>50% ND	--	0	--
MW-09A	Total Chromium	µg/L	-	50	-	6/2019 - 11/2020	5	80%	5	80%	2.2	2.2	<1.0	<1.0	<1.0	2.2	--	--	--	>50% ND	--	0	--
MW-09A	Dissolved Cobalt	µg/L	-	-	-	6/2018 - 11/2020	9	22%	9	22%	0.42	1.25	<0.40	<0.40	<0.40	1.25	-13	0.22	0.57	Stable	--	--	--
MW-09A	Total Cobalt	µg/L	10	-	-	6/2019 - 11/2020	5	20%	5	20%	0.63	1	<0.40	<0.40	<0.40	1	-2	0.816	0.45	Stable	0	--	--
MW-09A	Dissolved Copper	µg/L	-	2000	1000	11/2018 - 11/2020	9	22%	7	0%	0.96	5.1	--	--	0.96	5.1	-9	0.238	0.57	Stable	--	0	0
MW-09A	Total Copper	µg/L	2	2000	1000	6/2019 - 11/2020	5	0%	5	0%	2.1	5.1	--	--	2.1	5.1	-5	0.359	0.37	Stable	**5**	0	0
MW-09A	Dissolved Iron	µg/L	-	-	300	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-09A	Total Iron	µg/L	300	-	300	6/2019 - 11/2020	5	0%	5	0%	71	230	--	--	71	230	2	0.816	0.39	No trend identified	0	--	0
MW-09A	Dissolved Lead	µg/L	-	5	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-09A	Total Lead	µg/L	1	5	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-09A	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	360	900	--	--	360	900	-18	0.076	0.26	**Probably Decreasing**	--	--	--
MW-09A	Total Magnesium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	360	620	--	--	360	620	-4	0.484	0.19	Stable	--	--	--
MW-09A	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	9	0%	9	0%	20	110	--	--	20	110	-23	0.0183	0.68	**Decreasing Trend**	--	0	**7**
MW-09A	Total Manganese	µg/L	820	120	20	6/2019 - 11/2020	5	0%	5	0%	25	59	--	--	25	59	-4	0.484	0.36	Stable	0	0	**5**
MW-09A	Dissolved Molybdenum	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-09A	Total Molybdenum	µg/L	73	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-09A	Dissolved Nickel	µg/L	-	-	-	6/2018 - 11/2020	9	11%	9	11%	2.1	4.8	<2.0	<2.0	<2.0	4.8	-11	0.309	0.40	Stable	--	--	--
MW-09A	Total Nickel	µg/L	25	-	-	6/2019 - 11/2020	5	20%	5	20%	2.3	5.1	<2.0	<2.0	<2.0	5.1	-4	0.484	0.55	Stable	0	--	--
MW-09A	Dissolved Phosphorus	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-09A	Total Phosphorus	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-09A	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	430	740	--	--	430	740	-11	0.309	0.18	Stable	--	--	--
MW-09A	Total Potassium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	430	720	--	--	430	720	-2	0.816	0.19	Stable	--	--	--
MW-09A	Dissolved Selenium	µg/L	-	50	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-09A	Total Selenium	µg/L	1	50	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-09A	Dissolved Silver	µg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	0.71	0.71	<0.10	<0.10	<0.10	0.71	--	--	--	>50% ND	--	--	--
MW-09A	Total Silver	µg/L	0.1	-	-	6/2019 - 11/2020	5	20%	5	20%	0.32	1.4	<0.10	<0.10	<0.10	1.4	2	0.816	0.90	No trend identified	**4**	--	--
MW-09A	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	0%	2400	4200	--	--	2400	4200	11	0.309	0.24	No trend identified	--	--	0
MW-09A	Total Sodium	µg/L	-	-	200000	6/2019 - 11/2020	5	0%	5	0%	2500	4100	--	--	2500	4100	2	0.816	0.22	No trend identified	--	--	0
MW-09A	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	9	0%	9	0%	11	20	--	--	11	20	-9	0.417	0.16	Stable	--	0	--
MW-09A	Total Strontium	µg/L	21000	7000	-	6/2019 - 11/2020	5	0%	5	0%	11	18	--	--	11	18	-5	0.359	0.17	Stable	0	0	--
MW-09A	Dissolved Thallium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-09A	Total Thallium	µg/L	0.8	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-09A	Dissolved Tin	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-09A	Total Tin	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-09A	Dissolved Titanium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-09A	Total Titanium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	2.1	6.2	--	--	2.1	6.2	0	1	0.40	Stable	--	--	--
MW-09A	Dissolved Uranium	µg/L	-	20	-	6/2018 - 11/2020	9	22%	9	22%	0.1	0.3	<0.10	<0.10	<0.10	0.3	2	0.92	0.58	No trend identified	--	0	--
MW-09A	Total Uranium	µg/L	300	20	-	6/2019 - 11/2020	5	0%	5	0%	0.11	0.23	--	--	0.11	0.23	-3	0.65	0.30	Stable	0	0	--
MW-09A	Dissolved Vanadium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-09A	Total Vanadium	µg/L	6	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-09A	Dissolved Zinc	µg/L	-	-	5000	6/2018 - 11/2020	9	22%	9	22%	5.2	8.7	<5.0	<5.0	<5.0	8.7	-7	0.544	0.36	Stable	--	--	0
MW-09A	Total Zinc	µg/L	30	-	5000	6/2019 - 11/2020	5	40%	5	40%	5.2	6.5	<5.0	<5.0	<5.0	6.5	-5	0.359	0.41	Stable	0	--	0
MW-09A	Dissolved Mercury	µg/L	--	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
MW-09A	Total Mercury	µg/L	0.026	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
	Calculated Parameters																						
MW-09B	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2.08	2.75	--	--	2.08	2.75	-26	0.0058	0.09	**Decreasing Trend**	--	--	--
MW-09B	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	71	83	--	--	71	83	19	0.06	0.05	**Probably Increasing**	--	--	--
MW-09B	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	120	170	--	--	120	170	-28	0.0024	0.12	**Decreasing Trend**	--	--	0
MW-09B	Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-09B	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1.93	2.53	--	--	1.93	2.53	-26	0.0058	0.10	**Decreasing Trend**	--	--	--
MW-09B	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	66	81	--	--	66	81	19	0.06	0.07	**Probably Increasing**	--	--	--
MW-09B	Ion Balance (% Difference)	%	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1.86	5.34	--	--	1.86	5.34	4	0.762	0.24	No trend identified	--	--	--
MW-09B	Langelier Index (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-0.434	0.023	--	--	-0.434	0.023	12	0.26	-1.11	No trend identified	--	--	--
MW-09B	Langelier Index (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-0.684	-0.227	--	--	-0.684	-0.227	12	0.26	-0.39	No trend identified	--	--	--
MW-09B	Nitrate (N)	mg/L	-	10	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.050	<0.050	<0.050	<0.050	--	--	--	100% ND	--	--	--
MW-09B	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8	8.13	--	--	8	8.13	-27	0.0041	0.01	**Decreasing Trend**	--	--	--
MW-09B	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.25	8.38	--	--	8.25	8.38	-27	0.0041	0.01	**Decreasing Trend**	--	--	--
	Inorganics																						
MW-09B	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	72	83	--	--	72	83	19	0.06	0.05	**Probably Increasing**	--	--	--
MW-09B	Total Chemical Oxygen Demand	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<20	<20	<20	<20	--	--	--	Insufficient data	--	--	--
MW-09B	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	9	0%	9	0%	2.5	5.1	--	--	2.5	5.1	-31	0.00055	0.24	**Decreasing Trend**	0	--	0
MW-09B	Colour	TCU	-	-	15	6/2018 - 11/2020	9	100%	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	--	100% ND	--	--	--
MW-09B	Nitrate + Nitrite	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.050	<0.050	<0.050	<0.050	--	--	--	100% ND	--	--	--
MW-09B	Nitrite	mg/L	-	1	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-09B	Nitrogen (Ammonia Nitrogen)	mg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	0.18	0.18	<0.050	<0.050	<0.050	0.18	--	--	--	>50% ND	--	--	--
MW-09B	Dissolved Organic Carbon	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	0.8	0.8	--	--	0.8	0.8	--	--	--	Insufficient data	--	--	--
MW-09B	Total Organic Carbon	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.68	5.4	--	--	0.68	5.4	-26	0.0058	0.73	**Decreasing Trend**	--	--	--
MW-09B	Orthophosphate	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.014	0.027	--	--	0.014	0.027	-12	0.26	0.26	Stable	--	--	--
MW-09B	pH	s.u.	-	-	10.5	6/2018 - 11/2020	9	0%	9	0%	7.6	8.05	--	--	7.6	8.05	4	0.762	0.02	No trend identified	--	--	0
MW-09B	pH	s.u.	-	-	7																		0 *

Table 4.1

Statistical Screening and Trend Test (Mann Kendall) Results – Baseline Groundwater Quality Data
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test										Samples Outside Criteria (Count)		
			NSE	CDWQG		Date					Detects		Non-Detects						NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
MW-09B	Dissolved Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	0.031	0.031	--	--	0.031	0.031	--	--	--	Insufficient data	--	--	--
MW-09B	Total Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-09B	Reactive Silica (SiO2)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	9	9.8	--	--	9	9.8	7	0.544	0.03	No trend identified	--	--	--
MW-09B	Total Suspended Solids	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	8.2	8.2	--	--	8.2	8.2	--	--	--	Insufficient data	--	--	--
MW-09B	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	22	53	--	--	22	53	-27	0.0041	0.34	**Decreasing Trend**	--	--	0
MW-09B	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	9	0%	9	0%	3.5	36	--	--	3.5	36	-10	0.358	1.03	No trend identified	--	--	**9**
MW-09B	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	9	0%	9	0%	200	270	--	--	200	270	-19	0.06	0.11	**Probably Decreasing**	--	--	--
	Metals																						
MW-09B	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	9	22%	9	22%	5.6	61	<5.0	<5.0	<5.0	61	-13	0.22	1.38	No trend identified	--	--	0
MW-09B	Total Aluminum	µg/L	5	-	100	6/2019 - 11/2020	5	0%	5	0%	280	1100	--	--	280	1100	-2	0.816	0.68	Stable	**5**	--	**5**
MW-09B	Dissolved Antimony	µg/L	-	6	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-09B	Total Antimony	µg/L	20	6	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-09B	Dissolved Arsenic	µg/L	-	10	-	6/2018 - 11/2020	9	0%	9	0%	96	120	--	--	96	120	-14	0.18	0.10	Stable	--	**9**	--
MW-09B	Total Arsenic	µg/L	5	10	-	6/2019 - 11/2020	5	0%	5	0%	99	130	--	--	99	130	-5	0.359	0.13	Stable	**5**	**5**	--
MW-09B	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	9	0%	9	0%	12	17	--	--	12	17	-1	1	0.10	Stable	--	0	--
MW-09B	Total Barium	µg/L	1000	2000	-	6/2019 - 11/2020	5	0%	5	0%	13	19	--	--	13	19	-7	0.159	0.17	Stable	0	0	--
MW-09B	Dissolved Beryllium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-09B	Total Beryllium	µg/L	5.3	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-09B	Dissolved Bismuth	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-09B	Total Bismuth	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-09B	Dissolved Boron	µg/L	-	5000	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-09B	Total Boron	µg/L	1200	5000	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-09B	Dissolved Cadmium	µg/L	-	7	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-09B	Total Cadmium	µg/L	0.01	7	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-09B	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	23000	28000	--	--	23000	28000	19	0.06	0.07	**Probably Increasing**	--	--	--
MW-09B	Total Calcium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	26000	29000	--	--	26000	29000	5	0.359	0.04	No trend identified	--	--	--
MW-09B	Dissolved Chromium	µg/L	-	50	-	6/2018 - 11/2020	9	89%	9	89%	1.3	1.3	<1.0	<1.0	<1.0	1.3	--	--	--	>50% ND	--	0	--
MW-09B	Total Chromium	µg/L	-	50	-	6/2019 - 11/2020	5	80%	5	80%	1.1	1.1	<1.0	<1.0	<1.0	1.1	--	--	--	>50% ND	--	0	--
MW-09B	Dissolved Cobalt	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	--	100% ND	--	--	--
MW-09B	Total Cobalt	µg/L	10	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	--	100% ND	--	--	--
MW-09B	Dissolved Copper	µg/L	-	2000	1000	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<2.0	<0.50	<2.0	--	--	--	100% ND	--	--	--
MW-09B	Total Copper	µg/L	2	2000	1000	6/2019 - 11/2020	5	40%	5	40%	0.68	1.1	<0.50	<0.50	<0.50	1.1	5	0.359	0.60	No trend identified	0	0	0
MW-09B	Dissolved Iron	µg/L	-	-	300	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-09B	Total Iron	µg/L	300	-	300	6/2019 - 11/2020	5	0%	5	0%	110	260	--	--	110	260	-2	0.816	0.32	Stable	0	--	0
MW-09B	Dissolved Lead	µg/L	-	5	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-09B	Total Lead	µg/L	1	5	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-09B	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1800	2500	--	--	1800	2500	15	0.15	0.10	No trend identified	--	--	--
MW-09B	Total Magnesium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	2300	2600	--	--	2300	2600	1	1	0.05	No trend identified	--	--	--
MW-09B	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	9	0%	9	0%	11	69	--	--	11	69	-11	0.309	0.36	Stable	--	0	**8**
MW-09B	Total Manganese	µg/L	820	120	20	6/2019 - 11/2020	5	0%	5	0%	41	64	--	--	41	64	-7	0.159	0.18	Stable	0	0	**5**
MW-09B	Dissolved Molybdenum	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	4.2	9.2	--	--	4.2	9.2	-32	0.00024	0.31	**Decreasing Trend**	--	--	--
MW-09B	Total Molybdenum	µg/L	73	-	-	6/2019 - 11/2020	5	0%	5	0%	4	6.3	--	--	4	6.3	-8	0.084	0.19	**Probably Decreasing**	0	--	--
MW-09B	Dissolved Nickel	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-09B	Total Nickel	µg/L	25	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-09B	Dissolved Phosphorus	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-09B	Total Phosphorus	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-09B	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1100	1700	--	--	1100	1700	-17	0.098	0.15	**Probably Decreasing**	--	--	--
MW-09B	Total Potassium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	1100	1400	--	--	1100	1400	-5	0.359	0.11	Stable	--	--	--
MW-09B	Dissolved Selenium	µg/L	-	50	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-09B	Total Selenium	µg/L	1	50	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-09B	Dissolved Silver	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-09B	Total Silver	µg/L	0.1	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-09B	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	0%	6400	27000	--	--	6400	27000	-23	0.0183	0.48	**Decreasing Trend**	--	--	0
MW-09B	Total Sodium	µg/L	-	-	200000	6/2019 - 11/2020	5	0%	5	0%	6700	16000	--	--	6700	16000	-6	0.234	0.39	Stable	--	--	0
MW-09B	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	9	0%	9	0%	310	420	--	--	310	420	15	0.15	0.09	No trend identified	--	0	--
MW-09B	Total Strontium	µg/L	21000	7000	-	6/2019 - 11/2020	5	0%	5	0%	360	440	--	--	360	440	-8	0.084	0.07	**Probably Decreasing**	0	0	--
MW-09B	Dissolved Thallium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-09B	Total Thallium	µg/L	0.8	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-09B	Dissolved Tin	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-09B	Total Tin	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-09B	Dissolved Titanium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-09B	Total Titanium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	6.1	16	--	--	6.1	16	-8	0.084	0.41	**Probably Decreasing**	--	--	--
MW-09B	Dissolved Uranium	µg/L	-	20	-	6/2018 - 11/2020	9	0%	9	0%	5	8.7	--	--	5	8.7	-15	0.15	0.19	Stable	--	0	--
MW-09B	Total Uranium	µg/L	300	20	-	6/2019 - 11/2020	5	0%	5	0%	4.9	7.8	--	--	4.9	7.8	-8	0.084	0.21	**Probably Decreasing**	0	0	--
MW-09B	Dissolved Vanadium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-09B	Total Vanadium	µg/L	6	-	-	6/2019 - 11/2020	5	60%	5	60%	2.2	2.5	<2.0	<2.0	<2.0	2.5	--	--	--	>50% ND	0	--	--
MW-09B	Dissolved Zinc	µg/L	-	-	5000	6/2018 - 11/2020	9	100%	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	--	100% ND	--	--	--
MW-09B	Total Zinc	µg/L	30	-	5000	6/2019 - 11/2020	5	100%	5	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	--	100% ND	--	--	--
MW-09B	Dissolved Mercury	µg/L	--	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
MW-09B	Total Mercury	µg/L	0.026	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
	Calculated Parameters																						
MW-09D	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2.61	4.21	--	--	2.61	4.21	-20	0.044	0.16	**Decreasing Trend**	--	--	--
MW-09D	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	65	88.5	--	--	65	88.5	23	0.0183	0.09	**Increasing Trend**	--	--	--
MW-09D	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	160	260	--	--	160	260	-24	0.0126	0.17	**Decreasing Trend**	--	--	0
MW-09D	Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-09D	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2.42	4.01	--	--	2.42	4.01	-22	0.024	0.17	**Decreasing Trend**	--	--	--
MW-09D	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	83	120	--	--	83	120	-23	0.0183	0.13	**Decreasing Trend**	--	--	--
MW-09D	Ion Balance (% Difference)	%	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1.37	4.31	--	--	1.37	4.31	22	0.024	0.29	**Increasing Trend**	--	--	--
MW-09D	Langelier Index (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-0.547	-0.049	--	--	-0.547	-0.049	14	0.18	-0.81	No trend identified	--	--	--

Table 4.1

Statistical Screening and Trend Test (Mann Kendall) Results – Baseline Groundwater Quality Data
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test										Samples Outside Criteria (Count)		
			NSE	CDWQG		Date					Detects		Non-Detects						NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
MW-09D	Langelier Index (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-0.798	-0.3	--	--	-0.798	-0.3	14	0.18	-0.35	No trend identified	--	--	--
MW-09D	Nitrate (N)	mg/L	-	10	-	6/2018 - 11/2020	9	78%	9	78%	0.052	0.0645	<0.050	<0.050	<0.050	0.0645	--	--	--	>50% ND	--	0	--
MW-09D	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	7.9	8.09	--	--	7.9	8.09	1	1	0.01	No trend identified	--	--	--
MW-09D	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.15	8.34	--	--	8.15	8.34	1	1	0.01	No trend identified	--	--	--
	Inorganics																						
MW-09D	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	65	89	--	--	65	89	23	0.0183	0.09	**Increasing Trend**	--	--	--
MW-09D	Total Chemical Oxygen Demand	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<20	<20	<20	<20	--	--	--	Insufficient data	--	--	--
MW-09D	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	9	0%	9	0%	4.35	11	--	--	4.35	11	-28	0.0024	0.28	**Decreasing Trend**	0	--	0
MW-09D	Colour	TCU	-	-	15	6/2018 - 11/2020	9	100%	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	--	100% ND	--	--	--
MW-09D	Nitrate + Nitrite	mg/L	-	-	-	6/2018 - 11/2020	9	78%	9	78%	0.052	0.0645	<0.050	<0.050	<0.050	0.0645	--	--	--	>50% ND	--	--	--
MW-09D	Nitrite	mg/L	-	1	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-09D	Nitrogen (Ammonia Nitrogen)	mg/L	-	-	-	6/2018 - 11/2020	9	78%	9	78%	0.05	0.13	<0.050	<0.050	<0.050	0.13	--	--	--	>50% ND	--	--	--
MW-09D	Dissolved Organic Carbon	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	4.15	4.15	--	--	4.15	4.15	--	--	--	Insufficient data	--	--	--
MW-09D	Total Organic Carbon	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	3.85	17	--	--	3.85	17	-30	0.00086	0.47	**Decreasing Trend**	--	--	--
MW-09D	Orthophosphate	mg/L	-	-	-	6/2018 - 11/2020	9	11%	9	11%	0.012	0.015	<0.010	<0.010	<0.010	0.015	-5	0.687	0.24	Stable	--	--	--
MW-09D	pH	s.u.	-	-	10.5	6/2018 - 11/2020	9	0%	9	0%	7.54	7.97	--	--	7.54	7.97	18	0.076	0.02	**Probably Increasing**	--	--	0
MW-09D	pH	s.u.	-	-	7																		0 *
MW-09D	Dissolved Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	0.032	0.032	--	--	0.032	0.032	--	--	--	Insufficient data	--	--	--
MW-09D	Total Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-09D	Reactive Silica (SiO2)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	11	12	--	--	11	12	-1	1	0.04	Stable	--	--	--
MW-09D	Total Suspended Solids	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	3.2	3.2	--	--	3.2	3.2	--	--	--	Insufficient data	--	--	--
MW-09D	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	37	110	--	--	37	110	-27	0.0041	0.36	**Decreasing Trend**	--	--	0
MW-09D	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	9	0%	9	0%	0.87	14	--	--	0.87	14	-10	0.358	0.79	Stable	--	--	**9**
MW-09D	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	9	0%	9	0%	245	430	--	--	245	430	-26	0.0058	0.20	**Decreasing Trend**	--	--	--
	Metals																						
MW-09D	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	9	22%	9	22%	5.1	10.35	<5.0	<5.0	<5.0	10.35	-1	1	0.45	Stable	--	--	0
MW-09D	Total Aluminum	µg/L	5	-	100	6/2019 - 11/2020	5	0%	5	0%	27	200	--	--	27	200	-6	0.234	0.80	Stable	**5**	--	**2**
MW-09D	Dissolved Antimony	µg/L	-	6	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-09D	Total Antimony	µg/L	20	6	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-09D	Dissolved Arsenic	µg/L	-	10	-	6/2018 - 11/2020	9	0%	9	0%	86	140	--	--	86	140	-22	0.024	0.16	**Decreasing Trend**	--	**9**	--
MW-09D	Total Arsenic	µg/L	5	10	-	6/2019 - 11/2020	5	0%	5	0%	110	140	--	--	110	140	-7	0.159	0.09	Stable	**5**	**5**	--
MW-09D	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	9	0%	9	0%	8.3	16	--	--	8.3	16	4	0.762	0.22	No trend identified	--	0	--
MW-09D	Total Barium	µg/L	1000	2000	-	6/2019 - 11/2020	5	0%	5	0%	8.9	11.5	--	--	8.9	11.5	5	0.359	0.10	No trend identified	0	0	--
MW-09D	Dissolved Beryllium	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-09D	Total Beryllium	µg/L	5.3	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-09D	Dissolved Bismuth	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-09D	Total Bismuth	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-09D	Dissolved Boron	µg/L	-	5000	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-09D	Total Boron	µg/L	1200	5000	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-09D	Dissolved Cadmium	µg/L	-	7	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-09D	Total Cadmium	µg/L	0.01	7	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-09D	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	27000	41000	--	--	27000	41000	-23	0.0183	0.14	**Decreasing Trend**	--	--	--
MW-09D	Total Calcium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	25500	33000	--	--	25500	33000	-10	0.0166	0.11	**Decreasing Trend**	--	--	--
MW-09D	Dissolved Chromium	µg/L	-	50	-	6/2018 - 11/2020	8	88%	8	88%	1.3	1.3	<1.0	<1.0	<1.0	1.3	--	--	--	>50% ND	--	0	--
MW-09D	Total Chromium	µg/L	-	50	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-09D	Dissolved Cobalt	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	--	100% ND	--	--	--
MW-09D	Total Cobalt	µg/L	10	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	--	100% ND	--	--	--
MW-09D	Dissolved Copper	µg/L	-	2000	1000	6/2018 - 11/2020	8	88%	8	88%	0.69	0.69	<0.50	<2.0	<0.50	<2.0	--	--	--	>50% ND	--	0	0
MW-09D	Total Copper	µg/L	2	2000	1000	6/2019 - 11/2020	5	40%	5	40%	0.9	1.3	<0.50	<0.50	<0.50	1.3	3	0.65	0.64	No trend identified	0	0	0
MW-09D	Dissolved Iron	µg/L	-	-	300	6/2018 - 11/2020	8	100%	8	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-09D	Total Iron	µg/L	300	-	300	6/2019 - 11/2020	5	20%	5	20%	60	200	<50	<50	<50	200	-4	0.484	0.69	Stable	0	--	0
MW-09D	Dissolved Lead	µg/L	-	5	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-09D	Total Lead	µg/L	1	5	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-09D	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	3700	5400	--	--	3700	5400	-20	0.044	0.13	**Decreasing Trend**	--	--	--
MW-09D	Total Magnesium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	3400	4500	--	--	3400	4500	-8	0.084	0.12	**Probably Decreasing**	--	--	--
MW-09D	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	9	0%	9	0%	46	160	--	--	46	160	-17	0.098	0.51	**Probably Decreasing**	--	**1**	**9**
MW-09D	Total Manganese	µg/L	820	120	20	6/2019 - 11/2020	5	0%	5	0%	49	63	--	--	49	63	-4	0.484	0.10	Stable	0	0	**5**
MW-09D	Dissolved Molybdenum	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2.8	15	--	--	2.8	15	-34	0.00005	0.59	**Decreasing Trend**	--	--	--
MW-09D	Total Molybdenum	µg/L	73	-	-	6/2019 - 11/2020	5	0%	5	0%	3.2	7.5	--	--	3.2	7.5	-8	0.084	0.39	**Probably Decreasing**	0	--	--
MW-09D	Dissolved Nickel	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-09D	Total Nickel	µg/L	25	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-09D	Dissolved Phosphorus	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-09D	Total Phosphorus	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-09D	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1000	1400	--	--	1000	1400	-23	0.0183	0.11	**Decreasing Trend**	--	--	--
MW-09D	Total Potassium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	1000	1100	--	--	1000	1100	-4	0.484	0.05	Stable	--	--	--
MW-09D	Dissolved Selenium	µg/L	-	50	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-09D	Total Selenium	µg/L	1	50	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-09D	Dissolved Silver	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-09D	Total Silver	µg/L	0.1	-	-	6/2019 - 11/2020	5	40%	5	40%	0.11	0.15	<0.10	<0.10	<0.10	0.15	-2	0.816	0.46	Stable	**3**	--	--
MW-09D	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	0%	15000	34000	--	--	15000	34000	-21	0.034	0.28	**Decreasing Trend**	--	--	0
MW-09D	Total Sodium	µg/L	-	-	200000	6/2019 - 11/2020	5	0%	5	0%	15000	19000	--	--	15000	19000	3	0.65	0.10	No trend identified	--	--	0
MW-09D	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	9	0%	9	0%	590	890	--	--	590	890	-22	0.024	0.13	**Decreasing Trend**	--	0	--
MW-09D	Total Strontium	µg/L	21000	7000	-	6/2019 - 11/2020	5	0%	5	0%	555	720	--	--	555	720	-10	0.0166	0.11	**Decreasing Trend**	0	0	--
MW-09D	Dissolved Thallium	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-09D	Total Thallium	µg/L	0.8	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-09D	Dissolved Tin	µg/L	-	-	-	6/2018 - 11/2020	8	88%	8	88%	2.6	2.6	<2.0	<2.0	<2.0	2.6	--	--	--	>50% ND	--	--	--
MW-09D	Total Tin	µg/L	-	-	-	6/2019 - 11/2020	5	80%	5	80%	2	2	<2.0	<2.0	2	2	--	--	--	>50% ND	--	--	--
MW-09D	Dissolved Titanium	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-09D	Total Titanium	µg/L	-	-	-	6/2019 - 11/2020	5	20%	5	20%	2.1	6	<2.0	<2.0	<2.0	6	-6	0.234	0.61	Stable	--	--	--

Table 4.1

Statistical Screening and Trend Test (Mann Kendall) Results – Baseline Groundwater Quality Data
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test										Samples Outside Criteria (Count)		
			NSE	CDWQG		Date					Detects		Non-Detects						NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
MW-09D	Dissolved Uranium	µg/L	-	20	-	6/2018 - 11/2020	9	0%	9	0%	1.35	3.8	--	--	1.35	3.8	-28	0.0024	0.36	Decreasing Trend	--	0	--
MW-09D	Total Uranium	µg/L	300	20	-	6/2019 - 11/2020	5	0%	5	0%	1.4	3.4	--	--	1.4	3.4	-9	0.050	0.42	Decreasing Trend	0	0	--
MW-09D	Dissolved Vanadium	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-09D	Total Vanadium	µg/L	6	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-09D	Dissolved Zinc	µg/L	-	-	5000	6/2018 - 11/2020	8	88%	8	88%	5.8	5.8	<5.0	<5.0	<5.0	5.8	--	--	--	>50% ND	--	--	0
MW-09D	Total Zinc	µg/L	30	-	5000	6/2019 - 11/2020	5	100%	5	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	--	100% ND	--	--	--
MW-09D	Dissolved Mercury	µg/L	--	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
MW-09D	Total Mercury	µg/L	0.026	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
	Calculated Parameters																						
MW-11A	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	0.27	0.36	--	--	0.27	0.36	-3	0.812	0.09	Stable	--	--	--
MW-11A	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	5.5	8.3	--	--	5.5	8.3	2	0.904	0.13	No trend identified	--	--	--
MW-11A	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	8	0%	8	0%	17	23	--	--	17	23	-8	0.398	0.09	Stable	--	--	0
MW-11A	Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-11A	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	0.22	0.29	--	--	0.22	0.29	-7	0.473	0.12	Stable	--	--	--
MW-11A	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	5.5	8.2	--	--	5.5	8.2	-17	0.047	0.17	Decreasing Trend	--	--	--
MW-11A	Ion Balance (% Difference)	%	-	-	-	6/2018 - 11/2020	8	0%	8	0%	3.45	24.1	--	--	3.45	24.1	13	0.143	0.63	No trend identified	--	--	--
MW-11A	Langelier Index (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	8	0%	8	0%	-4.365	-3.63	--	--	-4.365	-3.63	-12	0.178	-0.06	Stable	--	--	--
MW-11A	Langelier Index (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	8	0%	8	0%	-4.615	-3.88	--	--	-4.615	-3.88	-12	0.178	-0.06	Stable	--	--	--
MW-11A	Nitrate (N)	mg/L	-	10	-	6/2018 - 11/2020	8	75%	8	75%	0.059	0.064	<0.050	<0.050	<0.050	0.064	--	--	--	>50% ND	--	0	--
MW-11A	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	8	0%	8	0%	10	10.3	--	--	10	10.3	12	0.178	0.01	No trend identified	--	--	--
MW-11A	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	8	0%	8	0%	10.3	10.5	--	--	10.3	10.5	8	0.398	0.01	No trend identified	--	--	--
	Inorganics																						
MW-11A	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	5.5	8.3	--	--	5.5	8.3	2	0.904	0.13	No trend identified	--	--	--
MW-11A	Total Chemical Oxygen Demand	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<20	<20	<20	<20	--	--	--	Insufficient data	--	--	--
MW-11A	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	8	0%	8	0%	2.65	5.6	--	--	2.65	5.6	-9	0.337	0.24	Stable	0	--	0
MW-11A	Colour	TCU	-	-	15	6/2018 - 11/2020	8	100%	8	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	--	100% ND	--	--	--
MW-11A	Nitrate + Nitrite	mg/L	-	-	-	6/2018 - 11/2020	8	75%	8	75%	0.059	0.064	<0.050	<0.050	<0.050	0.064	--	--	--	>50% ND	--	--	--
MW-11A	Nitrite	mg/L	-	1	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-11A	Nitrogen (Ammonia Nitrogen)	mg/L	-	-	-	6/2018 - 11/2020	8	88%	8	88%	0.16	0.16	<0.050	<0.050	<0.050	0.16	--	--	--	>50% ND	--	--	--
MW-11A	Dissolved Organic Carbon	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	Insufficient data	--	--	--
MW-11A	Total Organic Carbon	mg/L	-	-	-	6/2018 - 11/2020	8	13%	8	13%	0.57	1.3	<0.50	<0.50	<0.50	1.3	-6	0.548	0.45	Stable	--	--	--
MW-11A	Orthophosphate	mg/L	-	-	-	6/2018 - 11/2020	8	88%	8	88%	0.038	0.038	<0.010	<0.010	<0.010	0.038	--	--	--	>50% ND	--	--	--
MW-11A	pH	s.u.	-	-	10.5	6/2018 - 11/2020	8	0%	8	0%	5.815	6.51	--	--	5.815	6.51	-6	0.548	0.04	Stable	--	--	0
MW-11A	pH	s.u.	-	-	7																		**8 ***
MW-11A	Dissolved Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-11A	Total Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-11A	Reactive Silica (SiO2)	mg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	3	5.2	--	--	3	5.2	0	1	0.16	Stable	--	--	--
MW-11A	Total Suspended Solids	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	4.7	4.7	--	--	4.7	4.7	--	--	--	Insufficient data	--	--	--
MW-11A	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	8	0%	8	0%	2.6	3.8	--	--	2.6	3.8	9	0.337	0.15	No trend identified	--	--	0
MW-11A	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	8	0%	8	0%	0.55	14	--	--	0.55	14	7	0.473	1.90	No trend identified	--	--	**8**
MW-11A	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	8	0%	8	0%	24	36	--	--	24	36	-5	0.634	0.14	Stable	--	--	--
	Metals																						
MW-11A	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	8	0%	8	0%	17	78	--	--	17	78	2	0.904	0.47	No trend identified	--	--	0
MW-11A	Total Aluminum	µg/L	5	-	100	6/2019 - 11/2020	5	0%	5	0%	65	560	--	--	65	560	0	1	1.11	No trend identified	**5**	--	**3**
MW-11A	Dissolved Antimony	µg/L	-	6	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-11A	Total Antimony	µg/L	20	6	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-11A	Dissolved Arsenic	µg/L	-	10	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-11A	Total Arsenic	µg/L	5	10	-	6/2019 - 11/2020	5	80%	5	80%	2.5	2.5	<1.0	<1.0	<1.0	2.5	--	--	--	>50% ND	0	0	--
MW-11A	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	8	0%	8	0%	4.6	8	--	--	4.6	8	-5	0.634	0.18	Stable	--	0	--
MW-11A	Total Barium	µg/L	1000	2000	-	6/2019 - 11/2020	5	0%	5	0%	5	8.2	--	--	5	8.2	2	0.816	0.20	No trend identified	0	0	--
MW-11A	Dissolved Beryllium	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-11A	Total Beryllium	µg/L	5.3	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-11A	Dissolved Bismuth	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-11A	Total Bismuth	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-11A	Dissolved Boron	µg/L	-	5000	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-11A	Total Boron	µg/L	1200	5000	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-11A	Dissolved Cadmium	µg/L	-	7	-	6/2018 - 11/2020	8	0%	8	0%	0.016	0.0445	--	--	0.016	0.0445	-2	0.904	0.36	Stable	--	0	--
MW-11A	Total Cadmium	µg/L	0.01	7	-	6/2019 - 11/2020	5	0%	5	0%	0.018	0.028	--	--	0.018	0.028	-3	0.65	0.21	Stable	**5**	0	--
MW-11A	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	1600	2500	--	--	1600	2500	-19	0.0231	0.17	Decreasing Trend	--	--	--
MW-11A	Total Calcium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	1600	1900	--	--	1600	1900	-5	0.359	0.07	Stable	--	--	--
MW-11A	Dissolved Chromium	µg/L	-	50	-	6/2018 - 11/2020	8	88%	8	88%	1.3	1.3	<1.0	<1.0	<1.0	1.3	--	--	--	>50% ND	--	0	--
MW-11A	Total Chromium	µg/L	-	50	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-11A	Dissolved Cobalt	µg/L	-	-	-	6/2018 - 11/2020	8	38%	8	38%	0.545	1.1	<0.40	<0.40	<0.40	1.1	-7	0.473	0.63	Stable	--	--	--
MW-11A	Total Cobalt	µg/L	10	-	-	6/2019 - 11/2020	5	20%	5	20%	0.44	1.5	<0.40	<0.40	<0.40	1.5	4	0.484	0.78	No trend identified	0	--	--
MW-11A	Dissolved Copper	µg/L	-	2000	1000	6/2018 - 11/2020	8	63%	8	63%	1.8	3.5	<0.50	<2.0	<0.50	3.5	--	--	--	>50% ND	--	0	0
MW-11A	Total Copper	µg/L	2	2000	1000	6/2019 - 11/2020	5	0%	5	0%	0.795	3.6	--	--	0.795	3.6	-4	0.484	0.60	Stable	**2**	0	0
MW-11A	Dissolved Iron	µg/L	-	-	300	6/2018 - 11/2020	8	88%	8	88%	100	100	<50	<50	<50	100	--	--	--	>50% ND	--	--	0
MW-11A	Total Iron	µg/L	300	-	300	6/2019 - 11/2020	5	20%	5	20%	52	920	<50	<50	<50	920	0	1	1.49	No trend identified	**1**	--	**1**
MW-11A	Dissolved Lead	µg/L	-	5	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-11A	Total Lead	µg/L	1	5	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-11A	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	330	500	--	--	330	500	-15	0.085	0.17	Probably Decreasing	--	--	--
MW-11A	Total Magnesium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	330	530	--	--	330	530	2	0.816	0.20	No trend identified	--	--	--
MW-11A	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	8	0%	8	0%	17	91	--	--	17	91	-16	0.062	0.64	Probably Decreasing	--	0	**6**
MW-11A	Total Manganese	µg/L	820	120	20	6/2019 - 11/2020	5	0%	5	0%	18	73	--	--	18	73	-2	0.816	0.72	Stable	0	0	**3**
MW-11A	Dissolved Molybdenum	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-11A	Total Molybdenum	µg/L	73	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-11A	Dissolved Nickel	µg/L	-	-	-	6/2018 - 11/2020	8	50%	8	50%	2.2	2.8	<2.0	<2.0	<2.0	2.8	-17	0.047	0.47	Decreasing Trend	--	--	--
MW-11A	Total Nickel	µg/L	25	-	-	6/2019 - 11/2020	5	80%	5	80%	2.4	2.4	<2.0	<2.0	<2.0	2.4	--	--	--	>50% ND	0	--	--
MW-11A	Dissolved Phosphorus	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--

Table 4.1

Statistical Screening and Trend Test (Mann Kendall) Results – Baseline Groundwater Quality Data
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test										Samples Outside Criteria (Count)		
			NSE	CDWQG		Date					Detects		Non-Detects						NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
MW-11A	Total Phosphorus	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-11A	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	360	700	--	--	360	700	-7	0.473	0.22	Stable	--	--	--
MW-11A	Total Potassium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	390	560	--	--	390	560	4	0.484	0.14	No trend identified	--	--	--
MW-11A	Dissolved Selenium	µg/L	-	50	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-11A	Total Selenium	µg/L	1	50	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-11A	Dissolved Silver	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-11A	Total Silver	µg/L	0.1	-	-	6/2019 - 11/2020	5	80%	5	80%	0.1	0.1	<0.10	<0.10	<0.10	<0.10	--	--	--	>50% ND	0	--	--
MW-11A	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	8	0%	8	0%	2000	2700	--	--	2000	2700	4	0.72	0.11	No trend identified	--	--	0
MW-11A	Total Sodium	µg/L	-	-	200000	6/2019 - 11/2020	5	0%	5	0%	2000	2800	--	--	2000	2800	4	0.484	0.13	No trend identified	--	--	0
MW-11A	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	8	0%	8	0%	11	17	--	--	11	17	-12	0.178	0.16	Stable	--	0	--
MW-11A	Total Strontium	µg/L	21000	7000	-	6/2019 - 11/2020	5	0%	5	0%	11	13.5	--	--	11	13.5	7	0.159	0.08	No trend identified	0	0	--
MW-11A	Dissolved Thallium	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-11A	Total Thallium	µg/L	0.8	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-11A	Dissolved Tin	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-11A	Total Tin	µg/L	-	-	-	6/2019 - 11/2020	5	80%	5	80%	3	3	<2.0	<2.0	<2.0	3	--	--	--	>50% ND	--	--	--
MW-11A	Dissolved Titanium	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-11A	Total Titanium	µg/L	-	-	-	6/2019 - 11/2020	5	40%	5	40%	2.85	20	<2.0	<2.0	<2.0	20	1	1	1.35	No trend identified	--	--	--
MW-11A	Dissolved Uranium	µg/L	-	20	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-11A	Total Uranium	µg/L	300	20	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-11A	Dissolved Vanadium	µg/L	-	-	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-11A	Total Vanadium	µg/L	6	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-11A	Dissolved Zinc	µg/L	-	-	5000	6/2018 - 11/2020	8	50%	8	50%	6.5	12	<5.0	<5.0	<5.0	12	-8	0.398	0.66	Stable	--	--	0
MW-11A	Total Zinc	µg/L	30	-	5000	6/2019 - 11/2020	5	60%	5	60%	5.2	8.1	<5.0	<5.0	<5.0	8.1	--	--	--	>50% ND	0	--	0
MW-11A	Dissolved Mercury	µg/L	--	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
MW-11A	Total Mercury	µg/L	0.026	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
	Calculated Parameters																						
MW-11B	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.53	1.87	--	--	0.53	1.87	-8	0.476	0.30	Stable	--	--	--
MW-11B	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	18	78	--	--	18	78	-6	0.612	0.31	Stable	--	--	--
MW-11B	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	33	100	--	--	33	100	-7	0.544	0.27	Stable	--	--	0
MW-11B	Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-11B	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.5	1.71	--	--	0.5	1.71	-6	0.612	0.28	Stable	--	--	--
MW-11B	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	13	71	--	--	13	71	-3	0.841	0.39	Stable	--	--	--
MW-11B	Ion Balance (% Difference)	%	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0	4.84	--	--	0	4.84	-16	0.12	0.43	Stable	--	--	--
MW-11B	Langelier Index (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-2.5	0.069	--	--	-2.5	0.069	-8	0.476	-1.14	Stable	--	--	--
MW-11B	Langelier Index (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-2.75	-0.182	--	--	-2.75	-0.182	-8	0.476	-0.84	Stable	--	--	--
MW-11B	Nitrate (N)	mg/L	-	10	-	6/2018 - 11/2020	9	22%	9	22%	0.067	0.19	<0.050	<0.050	<0.050	0.19	-1	1	0.64	Stable	--	0	--
MW-11B	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.05	9.39	--	--	8.05	9.39	8	0.476	0.05	No trend identified	--	--	--
MW-11B	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.3	9.64	--	--	8.3	9.64	8	0.476	0.05	No trend identified	--	--	--
	Inorganics																						
MW-11B	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	18	79	--	--	18	79	-6	0.612	0.31	Stable	--	--	--
MW-11B	Total Chemical Oxygen Demand	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<20	<20	<20	<20	--	--	--	Insufficient data	--	--	--
MW-11B	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	9	0%	9	0%	2.8	4.3	--	--	2.8	4.3	-8	0.476	0.15	Stable	0	--	0
MW-11B	Colour	TCU	-	-	15	6/2018 - 11/2020	9	89%	9	89%	13	13	<5.0	<5.0	<5.0	13	--	--	--	>50% ND	--	--	0
MW-11B	Nitrate + Nitrite	mg/L	-	-	-	6/2018 - 11/2020	9	22%	9	22%	0.067	0.19	<0.050	<0.050	<0.050	0.19	-1	1	0.64	Stable	--	--	--
MW-11B	Nitrite	mg/L	-	1	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-11B	Nitrogen (Ammonia Nitrogen)	mg/L	-	-	-	6/2018 - 11/2020	9	78%	9	78%	0.05	0.06	<0.050	<0.050	<0.050	0.06	--	--	--	>50% ND	--	--	--
MW-11B	Dissolved Organic Carbon	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.5	<0.5	<0.5	<0.5	--	--	--	Insufficient data	--	--	--
MW-11B	Total Organic Carbon	mg/L	-	-	-	6/2018 - 11/2020	9	33%	8	25%	0.53	9	<0.50	<0.50	<0.50	9	-16	0.062	1.83	**Probably Decreasing**	--	--	--
MW-11B	Orthophosphate	mg/L	-	-	-	6/2018 - 11/2020	9	78%	9	78%	0.01	0.018	<0.010	<0.010	<0.010	0.018	--	--	--	>50% ND	--	--	--
MW-11B	pH	s.u.	-	-	10.5	6/2018 - 11/2020	9	0%	9	0%	6.89	8.11	--	--	6.89	8.11	-4	0.762	0.05	Stable	--	--	0
MW-11B	pH	s.u.	-	-	7																		**1 ***
MW-11B	Dissolved Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-11B	Total Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-11B	Reactive Silica (SiO2)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	4.5	9.4	--	--	4.5	9.4	2	0.92	0.24	No trend identified	--	--	--
MW-11B	Total Suspended Solids	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	8.4	8.4	--	--	8.4	8.4	--	--	--	Insufficient data	--	--	--
MW-11B	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	9	11%	9	11%	3.7	9.7	<2.0	<2.0	<2.0	9.7	3	0.841	0.41	No trend identified	--	--	0
MW-11B	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	9	0%	9	0%	1.2	21	--	--	1.2	21	-22	0.024	0.84	**Decreasing Trend**	--	--	**9**
MW-11B	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	9	0%	9	0%	48	170	--	--	48	170	-10	0.358	0.27	Stable	--	--	--
	Metals																						
MW-11B	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	9	44%	9	44%	5.6	14	<5.0	<5.0	<5.0	14	-22	0.024	0.71	**Decreasing Trend**	--	--	0
MW-11B	Total Aluminum	µg/L	5	-	100	6/2019 - 11/2020	5	0%	5	0%	45	220	--	--	45	220	-2	0.816	0.62	Stable	**5**	--	**2**
MW-11B	Dissolved Antimony	µg/L	-	6	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-11B	Total Antimony	µg/L	20	6	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-11B	Dissolved Arsenic	µg/L	-	10	-	6/2018 - 11/2020	9	11%	9	11%	3.2	60	<1.0	<1.0	<1.0	60	-16	0.12	1.07	No trend identified	--	**4**	--
MW-11B	Total Arsenic	µg/L	5	10	-	6/2019 - 11/2020	5	0%	5	0%	3.5	30	--	--	3.5	30	4	0.484	0.67	No trend identified	**4**	**3**	--
MW-11B	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	9	0%	9	0%	3.8	10	--	--	3.8	10	-10	0.358	0.39	Stable	--	0	--
MW-11B	Total Barium	µg/L	1000	2000	-	6/2019 - 11/2020	5	0%	5	0%	4	8.8	--	--	4	8.8	-6	0.234	0.35	Stable	0	0	--
MW-11B	Dissolved Beryllium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-11B	Total Beryllium	µg/L	5.3	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-11B	Dissolved Bismuth	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-11B	Total Bismuth	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-11B	Dissolved Boron	µg/L	-	5000	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-11B	Total Boron	µg/L	1200	5000	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-11B	Dissolved Cadmium	µg/L	-	7	-	6/2018 - 11/2020	9	89%	9	89%	0.017	0.017	<0.010	<0.010	<0.010	0.017	--	--	--	>50% ND	--	0	--
MW-11B	Total Cadmium	µg/L	0.01	7	-	6/2019 - 11/2020	5	80%	5	80%	0.015	0.015	<0.010	<0.010	<0.010	0.015	--	--	--	>50% ND	**1**	0	--
MW-11B	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	4400	25000	--	--	4400	25000	-2	0.92	0.40	Stable	--	--	--
MW-11B	Total Calcium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	4800	24000	--	--	4800	24000	9	0.050	0.43	**Increasing Trend**	--	--	--
MW-11B	Dissolved Chromium	µg/L	-	50	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--

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Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test											Samples Outside Criteria (Count)		
			NSE	CDWQG		Date					Detects		Non-Detects							NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
MW-11B	Total Chromium	µg/L	-	50	-	6/2019 - 11/2020	5	80%	5	80%	2	2	<1.0	<1.0	<1.0	2	--	--	--	>50% ND	--	0	--
MW-11B	Dissolved Cobalt	µg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	1.4	1.4	<0.40	<0.40	<0.40	1.4	--	--	--	>50% ND	--	--	--
MW-11B	Total Cobalt	µg/L	10	-	-	6/2019 - 11/2020	5	40%	5	40%	0.4	1.6	<0.40	<0.40	0.4	1.6	-9	0.050	1.03	Decreasing Trend	0	--	--
MW-11B	Dissolved Copper	µg/L	-	2000	1000	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<2.0	<0.50	<2.0	--	--	--	100% ND	--	--	--
MW-11B	Total Copper	µg/L	2	2000	1000	6/2019 - 11/2020	5	0%	5	0%	0.72	2.1	--	--	0.72	2.1	-4	0.484	0.49	Stable	**1**	0	0
MW-11B	Dissolved Iron	µg/L	-	-	300	6/2018 - 11/2020	9	67%	9	67%	98	3800	<50	<50	<50	3800	--	--	--	>50% ND	--	--	**2**
MW-11B	Total Iron	µg/L	300	-	300	6/2019 - 11/2020	5	0%	5	0%	190	1700	--	--	190	1700	-8	0.084	0.85	Probably Decreasing	**3**	--	**3**
MW-11B	Dissolved Lead	µg/L	-	5	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-11B	Total Lead	µg/L	1	5	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-11B	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	520	1800	--	--	520	1800	-4	0.762	0.28	Stable	--	--	--
MW-11B	Total Magnesium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	580	1600	--	--	580	1600	10	0.0166	0.32	Increasing Trend	--	--	--
MW-11B	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	9	0%	9	0%	29	650	--	--	29	650	-6	0.612	1.51	No trend identified	--	**2**	**9**
MW-11B	Total Manganese	µg/L	820	120	20	6/2019 - 11/2020	5	0%	5	0%	25	180	--	--	25	180	-8	0.084	0.67	Probably Decreasing	0	**2**	**5**
MW-11B	Dissolved Molybdenum	µg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	4.6	4.6	<2.0	<2.0	<2.0	4.6	--	--	--	>50% ND	--	--	--
MW-11B	Total Molybdenum	µg/L	73	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-11B	Dissolved Nickel	µg/L	-	-	-	6/2018 - 11/2020	9	78%	9	78%	4	8.5	<2.0	<2.0	<2.0	8.5	--	--	--	>50% ND	--	--	--
MW-11B	Total Nickel	µg/L	25	-	-	6/2019 - 11/2020	5	40%	5	40%	2.7	9.3	<2.0	<2.0	<2.0	9.3	-7	0.159	0.93	Stable	0	--	--
MW-11B	Dissolved Phosphorus	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-11B	Total Phosphorus	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-11B	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	620	1600	--	--	620	1600	-21	0.034	0.27	Decreasing Trend	--	--	--
MW-11B	Total Potassium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	660	1000	--	--	660	1000	4	0.484	0.15	No trend identified	--	--	--
MW-11B	Dissolved Selenium	µg/L	-	50	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-11B	Total Selenium	µg/L	1	50	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-11B	Dissolved Silver	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-11B	Total Silver	µg/L	0.1	-	-	6/2019 - 11/2020	5	80%	5	80%	0.14	0.14	<0.10	<0.10	<0.10	0.14	--	--	--	>50% ND	**1**	--	--
MW-11B	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	0%	4100	12000	--	--	4100	12000	-16	0.12	0.39	Stable	--	--	0
MW-11B	Total Sodium	µg/L	-	-	200000	6/2019 - 11/2020	5	0%	5	0%	4300	6200	--	--	4300	6200	3	0.65	0.16	No trend identified	--	--	0
MW-11B	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	9	0%	9	0%	19	86	--	--	19	86	-4	0.762	0.41	Stable	--	0	--
MW-11B	Total Strontium	µg/L	21000	7000	-	6/2019 - 11/2020	5	0%	5	0%	20	60	--	--	20	60	4	0.484	0.34	No trend identified	0	0	--
MW-11B	Dissolved Thallium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-11B	Total Thallium	µg/L	0.8	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-11B	Dissolved Tin	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-11B	Total Tin	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-11B	Dissolved Titanium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-11B	Total Titanium	µg/L	-	-	-	6/2019 - 11/2020	5	20%	5	20%	2.4	8.7	<2.0	<2.0	<2.0	8.7	-6	0.234	0.76	Stable	--	--	--
MW-11B	Dissolved Uranium	µg/L	-	20	-	6/2018 - 11/2020	9	22%	9	22%	0.53	0.93	<0.10	<0.10	<0.10	0.93	-1	1	0.58	Stable	--	0	--
MW-11B	Total Uranium	µg/L	300	20	-	6/2019 - 11/2020	5	0%	5	0%	0.17	0.71	--	--	0.17	0.71	8	0.084	0.41	Probably Increasing	0	0	--
MW-11B	Dissolved Vanadium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-11B	Total Vanadium	µg/L	6	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-11B	Dissolved Zinc	µg/L	-	-	5000	6/2018 - 11/2020	9	78%	9	78%	5.6	17	<5.0	<5.0	<5.0	17	--	--	--	>50% ND	--	--	0
MW-11B	Total Zinc	µg/L	30	-	5000	6/2019 - 11/2020	5	80%	5	80%	17	17	<5.0	<5.0	<5.0	17	--	--	--	>50% ND	0	--	0
MW-11B	Dissolved Mercury	µg/L	--	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
MW-11B	Total Mercury	µg/L	0.026	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
	Calculated Parameters																						
MW-11C	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2.02	2.53	--	--	2.02	2.53	27	0.0041	0.08	Increasing Trend	--	--	--
MW-11C	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	68	82	--	--	68	82	18	0.076	0.07	Probably Increasing	--	--	--
MW-11C	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	120	150	--	--	120	150	25	0.0092	0.08	Increasing Trend	--	--	0
MW-11C	Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-11C	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1.82	2.38	--	--	1.82	2.38	21	0.034	0.09	Increasing Trend	--	--	--
MW-11C	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	70	78	--	--	70	78	8	0.476	0.04	No trend identified	--	--	--
MW-11C	Ion Balance (% Difference)	%	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2.8	6	--	--	2.8	6	-2	0.92	0.27	Stable	--	--	--
MW-11C	Langelier Index (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-0.567	-0.092	--	--	-0.567	-0.092	2	0.92	-0.47	No trend identified	--	--	--
MW-11C	Langelier Index (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-0.819	-0.342	--	--	-0.819	-0.342	2	0.92	-0.25	No trend identified	--	--	--
MW-11C	Nitrate (N)	mg/L	-	10	-	6/2018 - 11/2020	9	44%	9	44%	0.053	0.13	<0.050	<0.050	<0.050	0.13	-16	0.12	0.65	Stable	--	0	--
MW-11C	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.02	8.12	--	--	8.02	8.12	-16	0.12	0.00	Stable	--	--	--
MW-11C	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.27	8.37	--	--	8.27	8.37	-16	0.12	0.00	Stable	--	--	--
	Inorganics																						
MW-11C	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	69	82	--	--	69	82	18	0.076	0.06	Probably Increasing	--	--	--
MW-11C	Total Chemical Oxygen Demand	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<20	<20	<20	<20	--	--	--	Insufficient data	--	--	--
MW-11C	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	9	0%	9	0%	3.7	5.3	--	--	3.7	5.3	6	0.612	0.12	No trend identified	0	--	0
MW-11C	Colour	TCU	-	-	15	6/2018 - 11/2020	9	100%	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	--	100% ND	--	--	--
MW-11C	Nitrate + Nitrite	mg/L	-	-	-	6/2018 - 11/2020	9	44%	9	44%	0.053	0.13	<0.050	<0.050	<0.050	0.13	-16	0.12	0.65	Stable	--	--	--
MW-11C	Nitrite	mg/L	-	1	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-11C	Nitrogen (Ammonia Nitrogen)	mg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	0.15	0.15	<0.050	<0.050	<0.050	0.15	--	--	--	>50% ND	--	--	--
MW-11C	Dissolved Organic Carbon	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	2.3	2.3	--	--	2.3	2.3	--	--	--	Insufficient data	--	--	--
MW-11C	Total Organic Carbon	mg/L	-	-	-	6/2018 - 7/2020	8	0%	8	0%	0.91	2.4	--	--	0.91	2.4	14	0.108	0.38	No trend identified	--	--	--
MW-11C	Orthophosphate	mg/L	-	-	-	6/2018 - 11/2020	9	11%	9	11%	0.013	0.021	<0.010	<0.010	<0.010	0.021	-25	0.0092	0.30	Decreasing Trend	--	--	--
MW-11C	pH	s.u.	-	-	10.5	6/2018 - 11/2020	9	0%	9	0%	7.55	7.96	--	--	7.55	7.96	2	0.92	0.02	No trend identified	--	--	0
MW-11C	pH	s.u.	-	-	7																		0 *
MW-11C	Dissolved Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-11C	Total Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-11C	Reactive Silica (SiO2)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.3	9.1	--	--	8.3	9.1	-6	0.612	0.03	Stable	--	--	--
MW-11C	Total Suspended Solids	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	15	15	--	--	15	15	--	--	--	Insufficient data	--	--	--
MW-11C	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	23	37	--	--	23	37	24	0.0126	0.18	Increasing Trend	--	--	0
MW-11C	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	9	0%	9	0%	0.82	11	--	--	0.82	11	10	0.358	0.75	No trend identified	--	--	**9**
MW-11C	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	9	0%	9	0%	190	230	--	--	190	230	21	0.034	0.07	Increasing Trend	--	--	--
	Metals																						
MW-11C	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	9	56%	9	56%	6.2	18	<5.0	<5.0	<5.0	18	--	--	--	>50% ND	--	--	0

Table 4.1

Statistical Screening and Trend Test (Mann Kendall) Results – Baseline Groundwater Quality Data
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test											Samples Outside Criteria (Count)		
			NSE	CDWQG		Date					Detects		Non-Detects							NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
MW-11C	Total Aluminum	µg/L	5	-	100	6/2019 - 11/2020	5	0%	5	0%	110	450	--	--	110	450	-2	0.816	0.43	Stable	**5**	--	**5**
MW-11C	Dissolved Antimony	µg/L	-	6	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-11C	Total Antimony	µg/L	20	6	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-11C	Dissolved Arsenic	µg/L	-	10	-	6/2018 - 11/2020	9	0%	9	0%	62	78	--	--	62	78	-6	0.612	0.07	Stable	--	**9**	--
MW-11C	Total Arsenic	µg/L	5	10	-	6/2019 - 11/2020	5	0%	5	0%	68	76	--	--	68	76	9	0.050	0.05	**Increasing Trend**	**5**	**5**	--
MW-11C	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	9	0%	9	0%	11	17	--	--	11	17	27	0.0041	0.20	**Increasing Trend**	--	0	--
MW-11C	Total Barium	µg/L	1000	2000	-	6/2019 - 11/2020	5	0%	5	0%	14	17	--	--	14	17	7	0.159	0.08	No trend identified	0	0	--
MW-11C	Dissolved Beryllium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-11C	Total Beryllium	µg/L	5.3	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-11C	Dissolved Bismuth	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-11C	Total Bismuth	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-11C	Dissolved Boron	µg/L	-	5000	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-11C	Total Boron	µg/L	1200	5000	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-11C	Dissolved Cadmium	µg/L	-	7	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-11C	Total Cadmium	µg/L	0.01	7	-	6/2019 - 11/2020	5	60%	5	60%	0.016	0.016	<0.010	<0.010	<0.010	0.016	--	--	--	>50% ND	**2**	0	--
MW-11C	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	25000	27000	--	--	25000	27000	11	0.309	0.03	No trend identified	--	--	--
MW-11C	Total Calcium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	24000	26000	--	--	24000	26000	0	1	0.03	Stable	--	--	--
MW-11C	Dissolved Chromium	µg/L	-	50	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-11C	Total Chromium	µg/L	-	50	-	6/2019 - 11/2020	5	80%	5	80%	1.7	1.7	<1.0	<1.0	<1.0	1.7	--	--	--	>50% ND	--	0	--
MW-11C	Dissolved Cobalt	µg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	0.44	0.44	<0.40	<0.40	<0.40	0.44	--	--	--	>50% ND	--	--	--
MW-11C	Total Cobalt	µg/L	10	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	--	100% ND	--	--	--
MW-11C	Dissolved Copper	µg/L	-	2000	1000	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<2.0	<0.50	<2.0	--	--	--	100% ND	--	--	--
MW-11C	Total Copper	µg/L	2	2000	1000	6/2019 - 11/2020	5	40%	5	40%	0.77	2.6	<0.50	<0.50	<0.50	2.6	1	1	1.01	No trend identified	**1**	0	0
MW-11C	Dissolved Iron	µg/L	-	-	300	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-11C	Total Iron	µg/L	300	-	300	6/2019 - 11/2020	5	0%	5	0%	100	510	--	--	100	510	-1	1	0.67	Stable	**1**	--	**1**
MW-11C	Dissolved Lead	µg/L	-	5	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-11C	Total Lead	µg/L	1	5	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-11C	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2100	2500	--	--	2100	2500	7	0.544	0.05	No trend identified	--	--	--
MW-11C	Total Magnesium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	2200	2400	--	--	2200	2400	-1	1	0.04	Stable	--	--	--
MW-11C	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	9	0%	9	0%	7.8	75	--	--	7.8	75	-1	1	0.72	Stable	--	0	**6**
MW-11C	Total Manganese	µg/L	820	120	20	6/2019 - 11/2020	5	0%	5	0%	20	76	--	--	20	76	2	0.816	0.48	No trend identified	0	0	**4**
MW-11C	Dissolved Molybdenum	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2.6	6.4	--	--	2.6	6.4	6	0.612	0.35	No trend identified	--	--	--
MW-11C	Total Molybdenum	µg/L	73	-	-	6/2019 - 11/2020	5	0%	5	0%	2.9	3.4	--	--	2.9	3.4	-5	0.359	0.08	Stable	0	--	--
MW-11C	Dissolved Nickel	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-11C	Total Nickel	µg/L	25	-	-	6/2019 - 11/2020	5	80%	5	80%	2.3	2.3	<2.0	<2.0	<2.0	2.3	--	--	--	>50% ND	0	--	--
MW-11C	Dissolved Phosphorus	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-11C	Total Phosphorus	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-11C	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1000	1300	--	--	1000	1300	17	0.098	0.08	**Probably Increasing**	--	--	--
MW-11C	Total Potassium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	1100	1200	--	--	1100	1200	0	1	0.04	Stable	--	--	--
MW-11C	Dissolved Selenium	µg/L	-	50	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-11C	Total Selenium	µg/L	1	50	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-11C	Dissolved Silver	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-11C	Total Silver	µg/L	0.1	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-11C	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	0%	7900	18000	--	--	7900	18000	25	0.0092	0.29	**Increasing Trend**	--	--	0
MW-11C	Total Sodium	µg/L	-	-	200000	6/2019 - 11/2020	5	0%	5	0%	13000	17000	--	--	13000	17000	4	0.484	0.11	No trend identified	--	--	0
MW-11C	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	9	0%	9	0%	190	290	--	--	190	290	19	0.06	0.18	**Probably Increasing**	--	0	--
MW-11C	Total Strontium	µg/L	21000	7000	-	6/2019 - 11/2020	5	0%	5	0%	200	290	--	--	200	290	4	0.484	0.14	No trend identified	0	0	--
MW-11C	Dissolved Thallium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-11C	Total Thallium	µg/L	0.8	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-11C	Dissolved Tin	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-11C	Total Tin	µg/L	-	-	-	6/2019 - 11/2020	5	80%	5	80%	2.7	2.7	<2.0	<2.0	<2.0	2.7	--	--	--	>50% ND	--	--	--
MW-11C	Dissolved Titanium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-11C	Total Titanium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	2.2	9.6	--	--	2.2	9.6	-2	0.816	0.45	Stable	--	--	--
MW-11C	Dissolved Uranium	µg/L	-	20	-	6/2018 - 11/2020	9	0%	9	0%	3.3	6.8	--	--	3.3	6.8	16	0.12	0.29	No trend identified	--	0	--
MW-11C	Total Uranium	µg/L	300	20	-	6/2019 - 11/2020	5	0%	5	0%	3.5	6.5	--	--	3.5	6.5	3	0.65	0.28	No trend identified	0	0	--
MW-11C	Dissolved Vanadium	µg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	2.5	2.5	<2.0	<2.0	<2.0	2.5	--	--	--	>50% ND	--	--	--
MW-11C	Total Vanadium	µg/L	6	-	-	6/2019 - 11/2020	5	60%	5	60%	2.1	2.3	<2.0	<2.0	<2.0	2.3	--	--	--	>50% ND	0	--	--
MW-11C	Dissolved Zinc	µg/L	-	-	5000	6/2018 - 11/2020	9	22%	9	22%	5.5	10	<5.0	<5.0	<5.0	10	-11	0.309	0.44	Stable	--	--	0
MW-11C	Total Zinc	µg/L	30	-	5000	6/2019 - 11/2020	5	20%	5	20%	5.9	18	<5.0	<5.0	<5.0	18	-2	0.816	0.69	Stable	0	--	0
MW-11C	Dissolved Mercury	µg/L	--	1	-	--	0	--	0	--	--	--	--	--	--	--	--	--	--	Insufficient data	--	--	--
MW-11C	Total Mercury	µg/L	0.026	1	-	--	0	--	0	--	--	--	--	--	--	--	--	--	--	Insufficient data	--	--	--
	Calculated Parameters																						
MW-12A	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.64	1.05	--	--	0.64	1.05	-15	0.15	0.17	Stable	--	--	--
MW-12A	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	22	42	--	--	22	42	-18	0.076	0.22	**Probably Decreasing**	--	--	--
MW-12A	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	48	72	--	--	48	72	-20	0.044	0.14	**Decreasing Trend**	--	--	0
MW-12A	Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-12A	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.56	0.94	--	--	0.56	0.94	-21	0.034	0.20	**Decreasing Trend**	--	--	--
MW-12A	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	12	31	--	--	12	31	-13	0.22	0.33	Stable	--	--	--
MW-12A	Ion Balance (% Difference)	%	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2.82	8.2	--	--	2.82	8.2	-8	0.476	0.28	Stable	--	--	--
MW-12A	Langelier Index (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-3.16	-2.16	--	--	-3.16	-2.16	-24	0.0126	-0.12	**Decreasing Trend**	--	--	--
MW-12A	Langelier Index (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-3.41	-2.41	--	--	-3.41	-2.41	-24	0.0126	-0.11	**Decreasing Trend**	--	--	--
MW-12A	Nitrate (N)	mg/L	-	10	-	6/2018 - 11/2020	9	0%	9	0%	0.085	0.36	--	--	0.085	0.36	19	0.06	0.49	**Probably Increasing**	--	0	--
MW-12A	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.78	9.35	--	--	8.78	9.35	19	0.06	0.02	**Probably Increasing**	--	--	--
MW-12A	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	9.03	9.6	--	--	9.03	9.6	19	0.06	0.02	**Probably Increasing**	--	--	--
	Inorganics																						
MW-12A	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	22	42	--	--	22	42	-18	0.076	0.22	**Probably Decreasing**	--	--	--
MW-12A	Total Chemical Oxygen Demand	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<20	<20	<20	<20	--	--	--	Insufficient data	--	--	--
MW-12A	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	9	0%	9	0%	2.4	3.4	--	--	2.4	3.4	3	0.841	0.14	No trend identified	0	--	0
MW-12A	Colour	TCU	-	-	15	6/2018 - 11/2020	9	89%	9	89%	11	11	<5.0	<5.0	<5.0	11	--	--	--	>50% ND	--	--	0
MW-12A	Nitrate + Nitrite	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.085	0.36	--	--	0.085	0.36	19	0.06	0.49	**Probably Increasing**	--	--	--

Table 4.1

Statistical Screening and Trend Test (Mann Kendall) Results – Baseline Groundwater Quality Data
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test										Samples Outside Criteria (Count)		
			NSE	CDWQG		Date					Detects		Non-Detects						NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
MW-12A	Nitrite	mg/L	-	1	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-12A	Nitrogen (Ammonia Nitrogen)	mg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	0.13	0.13	<0.050	<0.050	<0.050	0.13	--	--	--	>50% ND	--	--	--
MW-12A	Dissolved Organic Carbon	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	0.7	0.7	--	--	0.7	0.7	--	--	--	Insufficient data	--	--	--
MW-12A	Total Organic Carbon	mg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	6	6	<0.40	<5.0	<0.40	6	--	--	--	>50% ND	--	--	--
MW-12A	Orthophosphate	mg/L	-	-	-	6/2018 - 11/2020	9	44%	9	44%	0.013	0.017	<0.010	<0.010	<0.010	0.017	21	0.034	0.52	**Increasing Trend**	--	--	--
MW-12A	pH	s.u.	-	-	10.5	6/2018 - 11/2020	9	0%	9	0%	6.14	6.64	--	--	6.14	6.64	-15	0.15	0.03	Stable	--	--	0
MW-12A	pH	s.u.	-	-	7																		**9 ***
MW-12A	Dissolved Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-12A	Total Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	0.26	0.26	--	--	0.26	0.26	--	--	--	Insufficient data	--	--	--
MW-12A	Reactive Silica (SiO2)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	9	18	--	--	9	18	-12	0.26	0.17	Stable	--	--	--
MW-12A	Total Suspended Solids	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	180	180	--	--	180	180	--	--	--	Insufficient data	--	--	--
MW-12A	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	3	5.6	--	--	3	5.6	-2	0.92	0.19	Stable	--	--	0
MW-12A	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	9	0%	9	0%	2.6	360	--	--	2.6	360	2	0.92	1.50	No trend identified	--	--	**9**
MW-12A	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	9	0%	9	0%	62	100	--	--	62	100	-14	0.18	0.17	Stable	--	--	--
	Metals																						
MW-12A	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	9	0%	9	0%	5	18	--	--	5	18	19	0.06	0.52	**Probably Increasing**	--	--	0
MW-12A	Total Aluminum	µg/L	5	-	100	6/2019 - 11/2020	5	0%	5	0%	640	3800	--	--	640	3800	-2	0.816	0.73	Stable	**5**	--	**5**
MW-12A	Dissolved Antimony	µg/L	-	6	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-12A	Total Antimony	µg/L	20	6	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-12A	Dissolved Arsenic	µg/L	-	10	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-12A	Total Arsenic	µg/L	5	10	-	6/2019 - 11/2020	5	40%	5	40%	1	2.5	<1.0	<1.0	<1.0	2.5	-1	1	0.73	Stable	0	0	--
MW-12A	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	9	0%	9	0%	5.4	10	--	--	5.4	10	-2	0.92	0.24	Stable	--	0	--
MW-12A	Total Barium	µg/L	1000	2000	-	6/2019 - 11/2020	5	0%	5	0%	11	33	--	--	11	33	-3	0.65	0.48	Stable	0	0	--
MW-12A	Dissolved Beryllium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-12A	Total Beryllium	µg/L	5.3	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-12A	Dissolved Bismuth	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-12A	Total Bismuth	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-12A	Dissolved Boron	µg/L	-	5000	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-12A	Total Boron	µg/L	1200	5000	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-12A	Dissolved Cadmium	µg/L	-	7	-	6/2018 - 11/2020	9	0%	9	0%	0.022	0.048	--	--	0.022	0.048	5	0.687	0.24	No trend identified	--	0	--
MW-12A	Total Cadmium	µg/L	0.01	7	-	6/2019 - 11/2020	5	0%	5	0%	0.034	0.057	--	--	0.034	0.057	3	0.65	0.24	No trend identified	**5**	0	--
MW-12A	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	3100	8300	--	--	3100	8300	-12	0.26	0.34	Stable	--	--	--
MW-12A	Total Calcium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	4100	5300	--	--	4100	5300	-2	0.816	0.10	Stable	--	--	--
MW-12A	Dissolved Chromium	µg/L	-	50	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-12A	Total Chromium	µg/L	-	50	-	6/2019 - 11/2020	5	0%	5	0%	1.1	6.3	--	--	1.1	6.3	-2	0.816	0.79	Stable	--	0	--
MW-12A	Dissolved Cobalt	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.74	2.6	--	--	0.74	2.6	-20	0.044	0.44	**Decreasing Trend**	--	--	--
MW-12A	Total Cobalt	µg/L	10	-	-	6/2019 - 11/2020	5	0%	5	0%	1.5	3.7	--	--	1.5	3.7	-4	0.484	0.34	Stable	0	--	--
MW-12A	Dissolved Copper	µg/L	-	2000	1000	6/2018 - 11/2020	9	78%	9	78%	0.61	1.2	<0.50	<2.0	<0.50	<2.0	--	--	--	>50% ND	--	0	0
MW-12A	Total Copper	µg/L	2	2000	1000	6/2019 - 11/2020	5	0%	5	0%	1.5	7.8	--	--	1.5	7.8	-2	0.816	0.69	Stable	**4**	0	0
MW-12A	Dissolved Iron	µg/L	-	-	300	6/2018 - 11/2020	9	89%	9	89%	220	220	<50	<50	<50	220	--	--	--	>50% ND	--	--	0
MW-12A	Total Iron	µg/L	300	-	300	6/2019 - 11/2020	5	0%	5	0%	880	5700	--	--	880	5700	-2	0.816	0.75	Stable	**5**	--	**5**
MW-12A	Dissolved Lead	µg/L	-	5	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-12A	Total Lead	µg/L	1	5	-	6/2019 - 11/2020	5	20%	5	20%	0.61	2.4	<0.50	<0.50	<0.50	2.4	-3	0.65	0.75	Stable	**3**	0	--
MW-12A	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1000	2700	--	--	1000	2700	-12	0.26	0.29	Stable	--	--	--
MW-12A	Total Magnesium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	1700	2800	--	--	1700	2800	-4	0.484	0.20	Stable	--	--	--
MW-12A	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	9	0%	9	0%	120	1300	--	--	120	1300	-23	0.0183	0.94	**Decreasing Trend**	--	**8**	**9**
MW-12A	Total Manganese	µg/L	820	120	20	6/2019 - 11/2020	5	0%	5	0%	160	340	--	--	160	340	-2	0.816	0.34	Stable	0	**5**	**5**
MW-12A	Dissolved Molybdenum	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-12A	Total Molybdenum	µg/L	73	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-12A	Dissolved Nickel	µg/L	-	-	-	6/2018 - 11/2020	9	11%	9	11%	2.2	5.8	<2.0	<2.0	<2.0	5.8	8	0.476	0.44	No trend identified	--	--	--
MW-12A	Total Nickel	µg/L	25	-	-	6/2019 - 11/2020	5	0%	5	0%	3.6	8.4	--	--	3.6	8.4	-4	0.484	0.35	Stable	0	--	--
MW-12A	Dissolved Phosphorus	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-12A	Total Phosphorus	µg/L	-	-	-	6/2019 - 11/2020	5	60%	5	60%	110	150	<100	<100	<100	150	--	--	--	>50% ND	--	--	--
MW-12A	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	850	2300	--	--	850	2300	-20	0.044	0.37	**Decreasing Trend**	--	--	--
MW-12A	Total Potassium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	1100	1900	--	--	1100	1900	-4	0.484	0.23	Stable	--	--	--
MW-12A	Dissolved Selenium	µg/L	-	50	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-12A	Total Selenium	µg/L	1	50	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-12A	Dissolved Silver	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-12A	Total Silver	µg/L	0.1	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-12A	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	0%	4800	11000	--	--	4800	11000	-7	0.544	0.30	Stable	--	--	0
MW-12A	Total Sodium	µg/L	-	-	200000	6/2019 - 11/2020	5	0%	5	0%	4700	5900	--	--	4700	5900	2	0.816	0.09	No trend identified	--	--	0
MW-12A	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	9	0%	9	0%	26	59	--	--	26	59	-10	0.358	0.21	Stable	--	0	--
MW-12A	Total Strontium	µg/L	21000	7000	-	6/2019 - 11/2020	5	0%	5	0%	42	48	--	--	42	48	-2	0.816	0.07	Stable	0	0	--
MW-12A	Dissolved Thallium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-12A	Total Thallium	µg/L	0.8	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-12A	Dissolved Tin	µg/L	-	-	-	6/2018 - 11/2020	9	78%	9	78%	3.2	4.4	<2.0	<2.0	<2.0	4.4	--	--	--	>50% ND	--	--	--
MW-12A	Total Tin	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-12A	Dissolved Titanium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-12A	Total Titanium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	21	130	--	--	21	130	-4	0.484	0.71	Stable	--	--	--
MW-12A	Dissolved Uranium	µg/L	-	20	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-12A	Total Uranium	µg/L	300	20	-	6/2019 - 11/2020	5	40%	5	40%	0.12	0.25	<0.10	<0.10	<0.10	0.25	-1	1	0.67	Stable	0	0	--
MW-12A	Dissolved Vanadium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-12A	Total Vanadium	µg/L	6	-	-	6/2019 - 11/2020	5	80%	5	80%	4.8	4.8	<2.0	<2.0	<2.0	4.8	--	--	--	>50% ND	0	--	--
MW-12A	Dissolved Zinc	µg/L	-	-	5000	6/2018 - 11/2020	9	56%	9	56%	5.2	6.7	<5.0	<5.0	<5.0	6.7	--	--	--	>50% ND	--	--	0
MW-12A	Total Zinc	µg/L	30	-	5000	6/2019 - 11/2020	5	40%	5	40%	6	14	<5.0	<5.0	<5.0	14	-1	1	0.72	Stable	0	--	0
MW-12A	Dissolved Mercury	µg/L	--	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
MW-12A	Total Mercury	µg/L	0.026	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
	Calculated Parameters																						
MW-12B	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2.2	2.56	--	--	2.2	2.56	24	0.0126	0.05	**Increasing Trend**	--	--	--
MW-12B	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	80	96	--	--	80	96	23	0.0183	0.05	**Increasing Trend**	--	--	--

Table 4.1

Statistical Screening and Trend Test (Mann Kendall) Results – Baseline Groundwater Quality Data
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test											Samples Outside Criteria (Count)		
			NSE	CDWQG		Date					Detects		Non-Detects							NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
MW-12B	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	130	150	--	--	130	150	19	0.06	0.05	Probably Increasing	--	--	0
MW-12B	Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-12B	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2.06	2.33	--	--	2.06	2.33	26	0.0058	0.04	Increasing Trend	--	--	--
MW-12B	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	67	74	--	--	67	74	16	0.12	0.03	No trend identified	--	--	--
MW-12B	Ion Balance (% Difference)	%	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2.33	5.45	--	--	2.33	5.45	14	0.18	0.28	No trend identified	--	--	--
MW-12B	Langelier Index (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-0.362	-0.098	--	--	-0.362	-0.098	10	0.358	-0.42	No trend identified	--	--	--
MW-12B	Langelier Index (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-0.613	-0.348	--	--	-0.613	-0.348	10	0.358	-0.20	No trend identified	--	--	--
MW-12B	Nitrate (N)	mg/L	-	10	-	6/2018 - 11/2020	9	89%	9	89%	0.062	0.062	<0.050	<0.050	<0.050	0.062	--	--	--	>50% ND	--	0	--
MW-12B	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.01	8.08	--	--	8.01	8.08	-24	0.0126	0.00	Decreasing Trend	--	--	--
MW-12B	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.26	8.33	--	--	8.26	8.33	-24	0.0126	0.00	Decreasing Trend	--	--	--
	Inorganics																						
MW-12B	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	81	97	--	--	81	97	22	0.024	0.05	Increasing Trend	--	--	--
MW-12B	Total Chemical Oxygen Demand	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<20	<20	<20	<20	--	--	--	Insufficient data	--	--	--
MW-12B	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	9	0%	9	0%	2.9	4.6	--	--	2.9	4.6	-16	0.12	0.14	Stable	0	--	0
MW-12B	Colour	TCU	-	-	15	6/2018 - 11/2020	9	100%	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	--	100% ND	--	--	--
MW-12B	Nitrate + Nitrite	mg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	0.062	0.062	<0.050	<0.050	<0.050	0.062	--	--	--	>50% ND	--	--	--
MW-12B	Nitrite	mg/L	-	1	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-12B	Nitrogen (Ammonia Nitrogen)	mg/L	-	-	-	6/2018 - 11/2020	9	22%	9	22%	0.05	0.21	<0.050	<0.050	<0.050	0.21	9	0.417	0.72	No trend identified	--	--	--
MW-12B	Dissolved Organic Carbon	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.5	<0.5	<0.5	<0.5	--	--	--	Insufficient data	--	--	--
MW-12B	Total Organic Carbon	mg/L	-	-	-	6/2018 - 11/2020	9	33%	9	33%	0.65	1.3	<0.50	<0.50	<0.50	1.3	0	1	0.58	Stable	--	--	--
MW-12B	Orthophosphate	mg/L	-	-	-	6/2018 - 11/2020	9	22%	9	22%	0.013	0.017	<0.010	<0.010	<0.010	0.017	-4	0.762	0.36	Stable	--	--	--
MW-12B	pH	s.u.	-	-	10.5	6/2018 - 11/2020	9	0%	9	0%	7.69	7.92	--	--	7.69	7.92	5	0.687	0.01	No trend identified	--	--	0
MW-12B	pH	s.u.	-	-	7																		0 *
MW-12B	Dissolved Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-12B	Total Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-12B	Reactive Silica (SiO2)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	10	11	--	--	10	11	0	1	0.04	Stable	--	--	--
MW-12B	Total Suspended Solids	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	2.4	2.4	--	--	2.4	2.4	--	--	--	Insufficient data	--	--	--
MW-12B	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	21	26	--	--	21	26	21	0.034	0.08	Increasing Trend	--	--	0
MW-12B	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	9	0%	9	0%	0.51	35	--	--	0.51	35	-10	0.358	1.32	No trend identified	--	--	**9**
MW-12B	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	9	0%	9	0%	200	240	--	--	200	240	17	0.098	0.05	Probably Increasing	--	--	--
	Metals																						
MW-12B	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	9	89%	9	89%	5.5	5.5	<5.0	<5.0	<5.0	5.5	--	--	--	>50% ND	--	--	0
MW-12B	Total Aluminum	µg/L	5	-	100	6/2019 - 11/2020	5	0%	5	0%	24	2300	--	--	24	2300	-8	0.084	1.51	Probably Decreasing	**5**	--	**3**
MW-12B	Dissolved Antimony	µg/L	-	6	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-12B	Total Antimony	µg/L	20	6	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-12B	Dissolved Arsenic	µg/L	-	10	-	6/2018 - 11/2020	9	0%	9	0%	23	44	--	--	23	44	-13	0.22	0.17	Stable	--	**9**	--
MW-12B	Total Arsenic	µg/L	5	10	-	6/2019 - 11/2020	5	0%	5	0%	26	49	--	--	26	49	-4	0.484	0.23	Stable	**5**	**5**	--
MW-12B	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	9	0%	9	0%	8	21	--	--	8	21	11	0.309	0.37	No trend identified	--	0	--
MW-12B	Total Barium	µg/L	1000	2000	-	6/2019 - 11/2020	5	0%	5	0%	9.2	21	--	--	9.2	21	-6	0.234	0.33	Stable	0	0	--
MW-12B	Dissolved Beryllium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-12B	Total Beryllium	µg/L	5.3	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-12B	Dissolved Bismuth	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-12B	Total Bismuth	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-12B	Dissolved Boron	µg/L	-	5000	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-12B	Total Boron	µg/L	1200	5000	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-12B	Dissolved Cadmium	µg/L	-	7	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-12B	Total Cadmium	µg/L	0.01	7	-	6/2019 - 11/2020	5	60%	5	60%	0.011	0.021	<0.010	<0.010	<0.010	0.021	--	--	--	>50% ND	**2**	0	--
MW-12B	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	23000	25000	--	--	23000	25000	12	0.26	0.03	No trend identified	--	--	--
MW-12B	Total Calcium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	24000	25000	--	--	24000	25000	0	1	0.02	Stable	--	--	--
MW-12B	Dissolved Chromium	µg/L	-	50	-	6/2018 - 11/2020	9	89%	9	89%	2.3	2.3	<1.0	<1.0	<1.0	2.3	--	--	--	>50% ND	--	0	--
MW-12B	Total Chromium	µg/L	-	50	-	6/2019 - 11/2020	5	80%	5	80%	2.1	2.1	<1.0	<1.0	<1.0	2.1	--	--	--	>50% ND	--	0	--
MW-12B	Dissolved Cobalt	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	--	100% ND	--	--	--
MW-12B	Total Cobalt	µg/L	10	-	-	6/2019 - 11/2020	5	80%	5	80%	0.46	0.46	<0.40	<0.40	<0.40	0.46	--	--	--	>50% ND	0	--	--
MW-12B	Dissolved Copper	µg/L	-	2000	1000	6/2018 - 11/2020	9	89%	9	89%	1.6	1.6	<0.50	<2.0	<0.50	<2.0	--	--	--	>50% ND	--	0	0
MW-12B	Total Copper	µg/L	2	2000	1000	6/2019 - 11/2020	5	40%	5	40%	0.61	2.9	<0.50	<0.50	<0.50	2.9	-5	0.359	1.08	No trend identified	**1**	0	0
MW-12B	Dissolved Iron	µg/L	-	-	300	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-12B	Total Iron	µg/L	300	-	300	6/2019 - 11/2020	5	0%	5	0%	54	1000	--	--	54	1000	-8	0.084	1.19	Probably Decreasing	**1**	--	**1**
MW-12B	Dissolved Lead	µg/L	-	5	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-12B	Total Lead	µg/L	1	5	-	6/2019 - 11/2020	5	80%	5	80%	1.5	1.5	<0.50	<0.50	<0.50	1.5	--	--	--	>50% ND	**1**	0	--
MW-12B	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2400	2700	--	--	2400	2700	13	0.22	0.04	No trend identified	--	--	--
MW-12B	Total Magnesium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	2600	3000	--	--	2600	3000	-3	0.65	0.06	Stable	--	--	--
MW-12B	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	9	0%	9	0%	190	280	--	--	190	280	-1	1	0.11	Stable	--	**9**	**9**
MW-12B	Total Manganese	µg/L	820	120	20	6/2019 - 11/2020	5	0%	5	0%	210	320	--	--	210	320	-8	0.084	0.15	Probably Decreasing	0	**5**	**5**
MW-12B	Dissolved Molybdenum	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	17	19	--	--	17	19	-6	0.612	0.04	Stable	--	--	--
MW-12B	Total Molybdenum	µg/L	73	-	-	6/2019 - 11/2020	5	0%	5	0%	18	19	--	--	18	19	0	1	0.02	Stable	0	--	--
MW-12B	Dissolved Nickel	µg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	2.5	2.5	<2.0	<2.0	<2.0	2.5	--	--	--	>50% ND	--	--	--
MW-12B	Total Nickel	µg/L	25	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-12B	Dissolved Phosphorus	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-12B	Total Phosphorus	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-12B	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1500	1600	--	--	1500	1600	-8	0.476	0.02	Stable	--	--	--
MW-12B	Total Potassium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	1500	1900	--	--	1500	1900	-6	0.234	0.10	Stable	--	--	--
MW-12B	Dissolved Selenium	µg/L	-	50	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-12B	Total Selenium	µg/L	1	50	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-12B	Dissolved Silver	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-12B	Total Silver	µg/L	0.1	-	-	6/2019 - 11/2020	5	80%	5	80%	0.33	0.33	<0.10	<0.10	<0.10	0.33	--	--	--	>50% ND	**1**	--	--
MW-12B	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	0%	14000	20000	--	--	14000	20000	13	0.22	0.11	No trend identified	--	--	0
MW-12B	Total Sodium	µg/L	-	-	200000	6/2019 - 11/2020	5	0%	5	0%	16000	20000	--	--	16000	20000	-5	0.359	0.10	Stable	--	--	0
MW-12B	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	9	0%	9	0%	79	150	--	--	79	150	8	0.476	0.25	No trend identified	--	0	--
MW-12B	Total Strontium	µg/L	21000	7000	-	6/2019 - 11/2020	5	0%	5	0%	89	170	--	--	89	170	-9	0.050	0.27	Decreasing Trend	0	0	--

Table 4.1

Statistical Screening and Trend Test (Mann Kendall) Results – Baseline Groundwater Quality Data
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test										Samples Outside Criteria (Count)		
			NSE	CDWQG		Date					Detects		Non-Detects						NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
MW-12B	Dissolved Thallium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-12B	Total Thallium	µg/L	0.8	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-12B	Dissolved Tin	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-12B	Total Tin	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-12B	Dissolved Titanium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-12B	Total Titanium	µg/L	-	-	-	6/2019 - 11/2020	5	20%	5	20%	3	46	<2.0	<2.0	<2.0	46	-8	0.084	1.42	**Probably Decreasing**	--	--	--
MW-12B	Dissolved Uranium	µg/L	-	20	-	6/2018 - 11/2020	9	0%	9	0%	1.5	2	--	--	1.5	2	-1	1	0.13	Stable	--	0	--
MW-12B	Total Uranium	µg/L	300	20	-	6/2019 - 11/2020	5	0%	5	0%	1.6	2.1	--	--	1.6	2.1	-7	0.159	0.12	Stable	0	0	--
MW-12B	Dissolved Vanadium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-12B	Total Vanadium	µg/L	6	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-12B	Dissolved Zinc	µg/L	-	-	5000	6/2018 - 11/2020	9	100%	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	--	100% ND	--	--	--
MW-12B	Total Zinc	µg/L	30	-	5000	6/2019 - 11/2020	5	80%	5	80%	6.6	6.6	<5.0	<5.0	<5.0	6.6	--	--	--	>50% ND	0	--	0
MW-12B	Dissolved Mercury	µg/L	--	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
MW-12B	Total Mercury	µg/L	0.026	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
	Calculated Parameters																						
MW-14A	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.6	1.03	--	--	0.6	1.03	-4	0.762	0.18	Stable	--	--	--
MW-14A	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	20	41	--	--	20	41	-10	0.358	0.25	Stable	--	--	--
MW-14A	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	45	74	--	--	45	74	-6	0.612	0.16	Stable	--	--	0
MW-14A	Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-14A	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.53	0.93	--	--	0.53	0.93	-2	0.92	0.20	Stable	--	--	--
MW-14A	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	12	18	--	--	12	18	-25	0.0092	0.13	**Decreasing Trend**	--	--	--
MW-14A	Ion Balance (% Difference)	%	-	-	-	6/2018 - 11/2020	9	0%	9	0%	3.85	7.83	--	--	3.85	7.83	8	0.476	0.26	No trend identified	--	--	--
MW-14A	Langelier Index (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-3.03	-2.3	--	--	-3.03	-2.3	2	0.92	-0.09	No trend identified	--	--	--
MW-14A	Langelier Index (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-3.29	-2.56	--	--	-3.29	-2.56	1	1	-0.08	No trend identified	--	--	--
MW-14A	Nitrate (N)	mg/L	-	10	-	6/2018 - 11/2020	9	11%	9	11%	0.084	0.16	<0.050	<0.050	<0.050	0.16	7	0.544	0.36	No trend identified	--	0	--
MW-14A	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	9.17	9.45	--	--	9.17	9.45	15	0.15	0.01	No trend identified	--	--	--
MW-14A	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	9.42	9.71	--	--	9.42	9.71	14	0.18	0.01	No trend identified	--	--	--
	Inorganics																						
MW-14A	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	20	41	--	--	20	41	-10	0.358	0.25	Stable	--	--	--
MW-14A	Total Chemical Oxygen Demand	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<20	<20	<20	<20	--	--	--	Insufficient data	--	--	--
MW-14A	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	9	0%	9	0%	3.2	5.6	--	--	3.2	5.6	15	0.15	0.18	No trend identified	0	--	0
MW-14A	Colour	TCU	-	-	15	6/2018 - 11/2020	9	100%	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	--	100% ND	--	--	--
MW-14A	Nitrate + Nitrite	mg/L	-	-	-	6/2018 - 11/2020	9	11%	9	11%	0.084	0.16	<0.050	<0.050	<0.050	0.16	7	0.544	0.36	No trend identified	--	--	--
MW-14A	Nitrite	mg/L	-	1	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-14A	Nitrogen (Ammonia Nitrogen)	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.050	<0.050	<0.050	<0.050	--	--	--	100% ND	--	--	--
MW-14A	Dissolved Organic Carbon	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.5	<0.5	<0.5	<0.5	--	--	--	Insufficient data	--	--	--
MW-14A	Total Organic Carbon	mg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	0.62	0.62	<0.40	<5.0	<0.40	<5.0	--	--	--	>50% ND	--	--	--
MW-14A	Orthophosphate	mg/L	-	-	-	6/2018 - 11/2020	9	22%	9	22%	0.012	0.027	<0.010	<0.010	<0.010	0.027	7	0.544	0.48	No trend identified	--	--	--
MW-14A	pH	s.u.	-	-	10.5	6/2018 - 11/2020	9	0%	9	0%	6.35	6.88	--	--	6.35	6.88	10	0.358	0.03	No trend identified	--	--	0
MW-14A	pH	s.u.	-	-	7																		**9 ***
MW-14A	Dissolved Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-14A	Total Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	0.088	0.088	--	--	0.088	0.088	--	--	--	Insufficient data	--	--	--
MW-14A	Reactive Silica (SiO2)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	14	20	--	--	14	20	9	0.417	0.13	No trend identified	--	--	--
MW-14A	Total Suspended Solids	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	76	76	--	--	76	76	--	--	--	Insufficient data	--	--	--
MW-14A	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	2.9	5.7	--	--	2.9	5.7	-1	1	0.17	Stable	--	--	0
MW-14A	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	9	0%	9	0%	1.4	140	--	--	1.4	140	10	0.358	1.03	No trend identified	--	--	**9**
MW-14A	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	9	0%	9	0%	56	100	--	--	56	100	-4	0.762	0.19	Stable	--	--	--
	Metals																						
MW-14A	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	9	89%	9	89%	9.8	9.8	<5.0	<5.0	<5.0	9.8	--	--	--	>50% ND	--	--	0
MW-14A	Total Aluminum	µg/L	5	-	100	6/2019 - 11/2020	5	0%	5	0%	490	3800	--	--	490	3800	2	0.816	0.71	No trend identified	**5**	--	**5**
MW-14A	Dissolved Antimony	µg/L	-	6	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-14A	Total Antimony	µg/L	20	6	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-14A	Dissolved Arsenic	µg/L	-	10	-	6/2018 - 11/2020	9	0%	9	0%	1.3	7.9	--	--	1.3	7.9	-1	1	0.48	Stable	--	0	--
MW-14A	Total Arsenic	µg/L	5	10	-	6/2019 - 11/2020	5	0%	5	0%	7.9	52	--	--	7.9	52	0	1	0.65	Stable	**5**	**4**	--
MW-14A	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	9	0%	9	0%	2.6	3.5	--	--	2.6	3.5	-20	0.044	0.10	**Decreasing Trend**	--	0	--
MW-14A	Total Barium	µg/L	1000	2000	-	6/2019 - 11/2020	5	0%	5	0%	5.9	29	--	--	5.9	29	2	0.816	0.60	No trend identified	0	0	--
MW-14A	Dissolved Beryllium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-14A	Total Beryllium	µg/L	5.3	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-14A	Dissolved Bismuth	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-14A	Total Bismuth	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-14A	Dissolved Boron	µg/L	-	5000	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-14A	Total Boron	µg/L	1200	5000	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-14A	Dissolved Cadmium	µg/L	-	7	-	6/2018 - 11/2020	9	0%	9	0%	0.01	0.014	--	--	0.01	0.014	-5	0.687	0.12	Stable	--	0	--
MW-14A	Total Cadmium	µg/L	0.01	7	-	6/2019 - 11/2020	5	0%	5	0%	0.0145	0.02	--	--	0.0145	0.02	4	0.484	0.13	No trend identified	**5**	0	--
MW-14A	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	3400	4900	--	--	3400	4900	-27	0.0041	0.12	**Decreasing Trend**	--	--	--
MW-14A	Total Calcium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	3600	4400	--	--	3600	4400	-5	0.359	0.08	Stable	--	--	--
MW-14A	Dissolved Chromium	µg/L	-	50	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-14A	Total Chromium	µg/L	-	50	-	6/2019 - 11/2020	5	20%	5	20%	1.3	5.3	<1.0	<1.0	<1.0	5.3	0	1	0.69	Stable	--	0	--
MW-14A	Dissolved Cobalt	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.41	1.6	--	--	0.41	1.6	-18	0.076	0.46	**Probably Decreasing**	--	--	--
MW-14A	Total Cobalt	µg/L	10	-	-	6/2019 - 11/2020	5	0%	5	0%	0.89	2.7	--	--	0.89	2.7	2	0.816	0.40	No trend identified	0	--	--
MW-14A	Dissolved Copper	µg/L	-	2000	1000	9/2018 - 11/2020	9	22%	7	0%	1.25	5.9	--	--	1.25	5.9	-2	0.886	0.78	Stable	--	0	0
MW-14A	Total Copper	µg/L	2	2000	1000	6/2019 - 11/2020	5	0%	5	0%	3.1	19	--	--	3.1	19	2	0.816	0.71	No trend identified	**5**	0	0
MW-14A	Dissolved Iron	µg/L	-	-	300	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-14A	Total Iron	µg/L	300	-	300	6/2019 - 11/2020	5	0%	5	0%	680	5600	--	--	680	5600	0	1	0.69	Stable	**5**	--	**5**
MW-14A	Dissolved Lead	µg/L	-	5	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-14A	Total Lead	µg/L	1	5	-	6/2019 - 11/2020	5	20%	5	20%	0.585	3.7	<0.50	<0.50	<0.50	3.7	0	1	0.78	Stable	**3**	0	--
MW-14A	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	860	1300	--	--	860	1300	-20	0.044	0.13	**Decreasing Trend**	--	--	--
MW-14A	Total Magnesium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	1100	2200	--	--	1100	2200	-1	1	0.29	Stable	--	--	--

Table 4.1

Statistical Screening and Trend Test (Mann Kendall) Results – Baseline Groundwater Quality Data
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test											Samples Outside Criteria (Count)		
			NSE	CDWQG		Date					Detects		Non-Detects							NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
MW-14A	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	9	0%	9	0%	36	200	--	--	36	200	-28	0.0024	0.58	Decreasing Trend	--	**4**	**9**
MW-14A	Total Manganese	µg/L	820	120	20	6/2019 - 11/2020	5	0%	5	0%	85.5	200	--	--	85.5	200	0	1	0.39	Stable	0	**1**	**5**
MW-14A	Dissolved Molybdenum	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-14A	Total Molybdenum	µg/L	73	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-14A	Dissolved Nickel	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	3.5	5.3	--	--	3.5	5.3	10	0.358	0.15	No trend identified	--	--	--
MW-14A	Total Nickel	µg/L	25	-	-	6/2019 - 11/2020	5	0%	5	0%	5.15	9.7	--	--	5.15	9.7	4	0.484	0.26	No trend identified	0	--	--
MW-14A	Dissolved Phosphorus	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-14A	Total Phosphorus	µg/L	-	-	-	6/2019 - 11/2020	5	40%	5	40%	130	140	<100	<100	<100	140	0	1	0.46	Stable	--	--	--
MW-14A	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	770	1300	--	--	770	1300	-21	0.034	0.18	Decreasing Trend	--	--	--
MW-14A	Total Potassium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	920	1800	--	--	920	1800	0	1	0.26	Stable	--	--	--
MW-14A	Dissolved Selenium	µg/L	-	50	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-14A	Total Selenium	µg/L	1	50	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-14A	Dissolved Silver	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-14A	Total Silver	µg/L	0.1	-	-	6/2019 - 11/2020	5	80%	5	80%	0.11	0.11	<0.10	<0.10	<0.10	0.11	--	--	--	>50% ND	**1**	--	--
MW-14A	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	0%	5600	15000	--	--	5600	15000	4	0.762	0.37	No trend identified	--	--	0
MW-14A	Total Sodium	µg/L	-	-	200000	6/2019 - 11/2020	5	0%	5	0%	5700	16000	--	--	5700	16000	2	0.816	0.48	No trend identified	--	--	0
MW-14A	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	9	0%	9	0%	28	38	--	--	28	38	-20	0.044	0.10	Decreasing Trend	--	0	--
MW-14A	Total Strontium	µg/L	21000	7000	-	6/2019 - 11/2020	5	0%	5	0%	29.5	38	--	--	29.5	38	2	0.816	0.10	No trend identified	0	0	--
MW-14A	Dissolved Thallium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-14A	Total Thallium	µg/L	0.8	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-14A	Dissolved Tin	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-14A	Total Tin	µg/L	-	-	-	6/2019 - 11/2020	5	80%	5	80%	6.2	6.2	<2.0	<2.0	<2.0	6.2	--	--	--	>50% ND	--	--	--
MW-14A	Dissolved Titanium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-14A	Total Titanium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	17	130	--	--	17	130	0	1	0.69	Stable	--	--	--
MW-14A	Dissolved Uranium	µg/L	-	20	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-14A	Total Uranium	µg/L	300	20	-	6/2019 - 11/2020	5	40%	5	40%	0.23	0.32	<0.10	<0.10	<0.10	0.32	1	1	0.69	No trend identified	0	0	--
MW-14A	Dissolved Vanadium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-14A	Total Vanadium	µg/L	6	-	-	6/2019 - 11/2020	5	40%	5	40%	3.2	5	<2.0	<2.0	<2.0	5	3	0.65	0.65	No trend identified	0	--	--
MW-14A	Dissolved Zinc	µg/L	-	-	5000	6/2018 - 11/2020	9	0%	9	0%	6.1	10	--	--	6.1	10	5	0.687	0.17	No trend identified	--	--	0
MW-14A	Total Zinc	µg/L	30	-	5000	6/2019 - 11/2020	5	0%	5	0%	7.9	20	--	--	7.9	20	4	0.484	0.40	No trend identified	0	--	0
MW-14A	Dissolved Mercury	µg/L	--	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
MW-14A	Total Mercury	µg/L	0.026	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
	Calculated Parameters																						
MW-14B	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2.07	5.055	--	--	2.07	5.055	-21	0.034	0.39	Decreasing Trend	--	--	--
MW-14B	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	120	315	--	--	120	315	-20	0.044	0.44	Decreasing Trend	--	--	0
MW-14B	Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	56%	9	56%	1	1.4	<1.0	<1.0	1	1.4	--	--	--	>50% ND	--	--	--
MW-14B	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1.89	4.54	--	--	1.89	4.54	-23	0.0183	0.38	Decreasing Trend	--	--	--
MW-14B	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	44	54	--	--	44	54	-3	0.841	0.08	Stable	--	--	--
MW-14B	Ion Balance (% Difference)	%	-	-	-	6/2018 - 11/2020	9	0%	9	0%	3.46	5.54	--	--	3.46	5.54	-4	0.762	0.16	Stable	--	--	--
MW-14B	Langelier Index (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-0.419	-0.076	--	--	-0.419	-0.076	-4	0.762	-0.64	Stable	--	--	--
MW-14B	Langelier Index (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-0.669	-0.327	--	--	-0.669	-0.327	-4	0.762	-0.30	Stable	--	--	--
MW-14B	Nitrate (N)	mg/L	-	10	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.050	<0.050	<0.050	<0.050	--	--	--	100% ND	--	--	--
MW-14B	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.17	8.29	--	--	8.17	8.29	-20	0.044	0.00	Decreasing Trend	--	--	--
MW-14B	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.42	8.54	--	--	8.42	8.54	-20	0.044	0.00	Decreasing Trend	--	--	--
	Inorganics																						
MW-14B	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	85	95	--	--	85	95	-9	0.417	0.03	Stable	--	--	--
MW-14B	Total Chemical Oxygen Demand	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<20	<20	<20	<20	--	--	--	Insufficient data	--	--	--
MW-14B	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	9	0%	9	0%	2.7	13	--	--	2.7	13	-22	0.024	0.63	Decreasing Trend	0	--	0
MW-14B	Colour	TCU	-	-	15	6/2018 - 11/2020	9	89%	9	89%	5.7	5.7	<5.0	<5.0	<5.0	5.7	--	--	--	>50% ND	--	--	0
MW-14B	Nitrate + Nitrite	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.050	<0.050	<0.050	<0.050	--	--	--	100% ND	--	--	--
MW-14B	Nitrite	mg/L	-	1	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-14B	Nitrogen (Ammonia Nitrogen)	mg/L	-	-	-	6/2018 - 11/2020	9	78%	9	78%	0.089	0.21	<0.050	<0.050	<0.050	0.21	--	--	--	>50% ND	--	--	--
MW-14B	Dissolved Organic Carbon	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	0.7	0.7	--	--	0.7	0.7	--	--	--	Insufficient data	--	--	--
MW-14B	Total Organic Carbon	mg/L	-	-	-	6/2018 - 7/2020	9	22%	7	0%	0.83	14	--	--	0.83	14	-14	0.050	1.27	Decreasing Trend **	--	--	--
MW-14B	Orthophosphate	mg/L	-	-	-	6/2018 - 11/2020	9	67%	9	67%	0.012	0.014	<0.010	<0.010	<0.010	0.014	--	--	--	>50% ND	--	--	--
MW-14B	pH	s.u.	-	-	10.5	6/2018 - 11/2020	9	0%	9	0%	7.82	8.205	--	--	7.82	8.205	-6	0.612	0.02	Stable	--	--	0
MW-14B	pH	s.u.	-	-	7																		0 *
MW-14B	Dissolved Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-14B	Total Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	0.02	0.02	--	--	0.02	0.02	--	--	--	Insufficient data	--	--	--
MW-14B	Reactive Silica (SiO2)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	7.8	11	--	--	7.8	11	-15	0.15	0.10	Stable	--	--	--
MW-14B	Total Suspended Solids	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	4.4	4.4	--	--	4.4	4.4	--	--	--	Insufficient data	--	--	--
MW-14B	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	8.6	135	--	--	8.6	135	-19	0.06	1.27	Probably Decreasing	--	--	0
MW-14B	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	9	0%	9	0%	0.88	540	--	--	0.88	540	-8	0.476	2.22	No trend identified	--	--	**9**
MW-14B	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	9	0%	9	0%	180	540	--	--	180	540	-17	0.098	0.48	Probably Decreasing	--	--	--
	Metals																						
MW-14B	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	9	33%	9	33%	5.3	8.8	<5.0	<5.0	<5.0	8.8	-3	0.841	0.45	Stable	--	--	0
MW-14B	Total Aluminum	µg/L	5	-	100	6/2019 - 11/2020	5	0%	5	0%	139	4000	--	--	139	4000	-4	0.484	1.54	No trend identified	**5**	--	**5**
MW-14B	Dissolved Antimony	µg/L	-	6	-	6/2018 - 11/2020	9	78%	9	78%	1.3	1.6	<1.0	<1.0	<1.0	1.6	--	--	--	>50% ND	--	0	--
MW-14B	Total Antimony	µg/L	20	6	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-14B	Dissolved Arsenic	µg/L	-	10	-	6/2018 - 11/2020	9	0%	9	0%	4.4	11	--	--	4.4	11	-16	0.12	0.30	Stable	--	**1**	--
MW-14B	Total Arsenic	µg/L	5	10	-	6/2019 - 11/2020	5	0%	5	0%	5.8	10	--	--	5.8	10	-10	0.0166	0.22	Decreasing Trend	**5**	0	--
MW-14B	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	9	0%	9	0%	3.5	7.2	--	--	3.5	7.2	-20	0.044	0.25	Decreasing Trend	--	0	--
MW-14B	Total Barium	µg/L	1000	2000	-	6/2019 - 11/2020	5	0%	5	0%	4.95	33	--	--	4.95	33	-4	0.484	1.01	No trend identified	0	0	--
MW-14B	Dissolved Beryllium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-14B	Total Beryllium	µg/L	5.3	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-14B	Dissolved Bismuth	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-14B	Total Bismuth	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--

Table 4.1

Statistical Screening and Trend Test (Mann Kendall) Results – Baseline Groundwater Quality Data
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test										Samples Outside Criteria (Count)		
			NSE	CDWQG		Date					Detects		Non-Detects						NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
MW-14B	Dissolved Boron	µg/L	-	5000	-	6/2018 - 11/2020	9	67%	9	67%	77	81	<50	<50	<50	81	--	--	--	>50% ND	--	0	--
MW-14B	Total Boron	µg/L	1200	5000	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-14B	Dissolved Cadmium	µg/L	-	7	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-14B	Total Cadmium	µg/L	0.01	7	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-14B	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	14000	17000	--	--	14000	17000	8	0.476	0.06	No trend identified	--	--	--
MW-14B	Total Calcium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	16000	17000	--	--	16000	17000	2	0.816	0.03	No trend identified	--	--	--
MW-14B	Dissolved Chromium	µg/L	-	50	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-14B	Total Chromium	µg/L	-	50	-	6/2019 - 11/2020	5	80%	5	80%	5	5	<1.0	<1.0	<1.0	5	--	--	--	>50% ND	--	0	--
MW-14B	Dissolved Cobalt	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	--	100% ND	--	--	--
MW-14B	Total Cobalt	µg/L	10	-	-	6/2019 - 11/2020	5	60%	5	60%	0.4	1.5	<0.40	<0.40	<0.40	1.5	--	--	--	>50% ND	0	--	--
MW-14B	Dissolved Copper	µg/L	-	2000	1000	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<2.0	<0.50	<2.0	--	--	--	100% ND	--	--	--
MW-14B	Total Copper	µg/L	2	2000	1000	6/2019 - 11/2020	5	20%	5	20%	0.75	4.8	<0.50	<0.50	<0.50	4.8	-4	0.484	1.16	No trend identified	**1**	0	0
MW-14B	Dissolved Iron	µg/L	-	-	300	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-14B	Total Iron	µg/L	300	-	300	6/2019 - 11/2020	5	0%	5	0%	110	3500	--	--	110	3500	-2	0.816	1.23	No trend identified	**3**	--	**3**
MW-14B	Dissolved Lead	µg/L	-	5	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-14B	Total Lead	µg/L	1	5	-	6/2019 - 11/2020	5	40%	5	40%	0.51	2.1	<0.50	<0.50	<0.50	2.1	-1	1	1.05	No trend identified	**1**	0	--
MW-14B	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1700	2900	--	--	1700	2900	-16	0.12	0.19	Stable	--	--	--
MW-14B	Total Magnesium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	1900	2700	--	--	1900	2700	-8	0.084	0.16	**Probably Decreasing**	--	--	--
MW-14B	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	9	0%	9	0%	11	250	--	--	11	250	26	0.0058	0.75	**Increasing Trend**	--	**5**	**7**
MW-14B	Total Manganese	µg/L	820	120	20	6/2019 - 11/2020	5	0%	5	0%	84	300	--	--	84	300	2	0.816	0.41	No trend identified	0	**4**	**5**
MW-14B	Dissolved Molybdenum	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.4	17	--	--	8.4	17	4	0.762	0.22	No trend identified	--	--	--
MW-14B	Total Molybdenum	µg/L	73	-	-	6/2019 - 11/2020	5	0%	5	0%	11	17	--	--	11	17	0	1	0.18	Stable	0	--	--
MW-14B	Dissolved Nickel	µg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	3.9	3.9	<2.0	<2.0	<2.0	3.9	--	--	--	>50% ND	--	--	--
MW-14B	Total Nickel	µg/L	25	-	-	6/2019 - 11/2020	5	80%	5	80%	3.6	3.6	<2.0	<2.0	<2.0	3.6	--	--	--	>50% ND	0	--	--
MW-14B	Dissolved Phosphorus	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-14B	Total Phosphorus	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-14B	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	920	1550	--	--	920	1550	7	0.544	0.14	No trend identified	--	--	--
MW-14B	Total Potassium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	1200	2400	--	--	1200	2400	2	0.816	0.28	No trend identified	--	--	--
MW-14B	Dissolved Selenium	µg/L	-	50	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-14B	Total Selenium	µg/L	1	50	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-14B	Dissolved Silver	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-14B	Total Silver	µg/L	0.1	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-14B	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	0%	20000	82500	--	--	20000	82500	-31	0.00055	0.64	**Decreasing Trend**	--	--	0
MW-14B	Total Sodium	µg/L	-	-	200000	6/2019 - 11/2020	5	0%	5	0%	21000	27000	--	--	21000	27000	-10	0.0166	0.10	**Decreasing Trend**	--	--	0
MW-14B	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	9	0%	9	0%	74	350	--	--	74	350	-21	0.034	0.65	**Decreasing Trend**	--	0	--
MW-14B	Total Strontium	µg/L	21000	7000	-	6/2019 - 11/2020	5	0%	5	0%	75	230	--	--	75	230	-6	0.234	0.54	Stable	0	0	--
MW-14B	Dissolved Thallium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-14B	Total Thallium	µg/L	0.8	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-14B	Dissolved Tin	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-14B	Total Tin	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-14B	Dissolved Titanium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-14B	Total Titanium	µg/L	-	-	-	6/2019 - 7/2020	5	20%	4	0%	4.8	110	--	--	4.8	110	-2	0.75	1.38	No trend identified *	--	--	--
MW-14B	Dissolved Uranium	µg/L	-	20	-	6/2018 - 11/2020	9	0%	9	0%	0.44	4.7	--	--	0.44	4.7	-28	0.0024	0.97	**Decreasing Trend**	--	0	--
MW-14B	Total Uranium	µg/L	300	20	-	6/2019 - 11/2020	5	0%	5	0%	0.47	1	--	--	0.47	1	-7	0.159	0.28	Stable	0	0	--
MW-14B	Dissolved Vanadium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-14B	Total Vanadium	µg/L	6	-	-	6/2019 - 11/2020	5	80%	5	80%	4.9	4.9	<2.0	<2.0	<2.0	4.9	--	--	--	>50% ND	0	--	--
MW-14B	Dissolved Zinc	µg/L	-	-	5000	6/2018 - 11/2020	9	100%	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	--	100% ND	--	--	--
MW-14B	Total Zinc	µg/L	30	-	5000	6/2019 - 11/2020	5	80%	5	80%	8.9	8.9	<5.0	<5.0	<5.0	8.9	--	--	--	>50% ND	0	--	0
MW-14B	Dissolved Mercury	µg/L	--	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
MW-14B	Total Mercury	µg/L	0.026	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
	Calculated Parameters																						
MW-14C	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1.66	1.8	--	--	1.66	1.8	-14	0.18	0.02	Stable	--	--	--
MW-14C	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	66	73	--	--	66	73	-21	0.034	0.03	**Decreasing Trend**	--	--	--
MW-14C	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	98	100	--	--	98	100	-8	0.476	0.01	Stable	--	--	0
MW-14C	Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	56%	9	56%	1	1.4	<1.0	<1.0	<1.0	1.4	--	--	--	>50% ND	--	--	--
MW-14C	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1.55	1.62	--	--	1.55	1.62	-14	0.18	0.02	Stable	--	--	--
MW-14C	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	29	34	--	--	29	34	18	0.076	0.05	**Probably Increasing**	--	--	--
MW-14C	Ion Balance (% Difference)	%	-	-	-	6/2018 - 11/2020	9	0%	9	0%	3.11	5.88	--	--	3.11	5.88	-8	0.476	0.19	Stable	--	--	--
MW-14C	Langelier Index (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-0.648	-0.174	--	--	-0.648	-0.174	-6	0.612	-0.43	Stable	--	--	--
MW-14C	Langelier Index (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-0.899	-0.425	--	--	-0.899	-0.425	-6	0.612	-0.26	Stable	--	--	--
MW-14C	Nitrate (N)	mg/L	-	10	-	6/2018 - 11/2020	9	89%	9	89%	0.052	0.052	<0.050	<0.050	<0.050	0.052	--	--	--	>50% ND	--	0	--
MW-14C	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.46	8.52	--	--	8.46	8.52	4	0.762	0.00	No trend identified	--	--	--
MW-14C	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.71	8.77	--	--	8.71	8.77	3	0.841	0.00	No trend identified	--	--	--
	Inorganics																						
MW-14C	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	67	74	--	--	67	74	-24	0.0126	0.03	**Decreasing Trend**	--	--	--
MW-14C	Total Chemical Oxygen Demand	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<20	<20	<20	<20	--	--	--	Insufficient data	--	--	--
MW-14C	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	9	0%	9	0%	2.6	4	--	--	2.6	4	-3	0.841	0.15	Stable	0	--	0
MW-14C	Colour	TCU	-	-	15	6/2018 - 11/2020	9	89%	9	89%	5.1	5.1	<5.0	<5.0	<5.0	5.1	--	--	--	>50% ND	--	--	0
MW-14C	Nitrate + Nitrite	mg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	0.052	0.052	<0.050	<0.050	<0.050	0.052	--	--	--	>50% ND	--	--	--
MW-14C	Nitrite	mg/L	-	1	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-14C	Nitrogen (Ammonia Nitrogen)	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.050	<0.050	<0.050	<0.050	--	--	--	100% ND	--	--	--
MW-14C	Dissolved Organic Carbon	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.5	<0.5	<0.5	<0.5	--	--	--	Insufficient data	--	--	--
MW-14C	Total Organic Carbon	mg/L	-	-	-	6/2018 - 11/2020	9	56%	9	56%	0.53	2.1	0.48 u	<0.50	0.48 u	2.1	--	--	--	>50% ND	--	--	--
MW-14C	Orthophosphate	mg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	0.01	0.01	<0.010	<0.010	<0.010	<0.010	--	--	--	>50% ND	--	--	--
MW-14C	pH	s.u.	-	-	10.5	6/2018 - 11/2020	9	0%	9	0%	7.83	8.31	--	--	7.83	8.31	-5	0.687	0.02	Stable	--	--	0
MW-14C	pH	s.u.	-	-	7																		0 *
MW-14C	Dissolved Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-14C	Total Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-14C	Reactive Silica (SiO2)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	10	11	--	--	10	11	8	0.476	0.05	No trend identified	--	--	--

Table 4.1

Statistical Screening and Trend Test (Mann Kendall) Results – Baseline Groundwater Quality Data
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test										Samples Outside Criteria (Count)		
			NSE	CDWQG		Date					Detects		Non-Detects						NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
MW-14C	Total Suspended Solids	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	3	3	--	--	3	3	--	--	--	Insufficient data	--	--	--
MW-14C	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	9.5	11	--	--	9.5	11	9	0.417	0.06	No trend identified	--	--	0
MW-14C	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	9	0%	9	0%	0.57	33	--	--	0.57	33	-20	0.044	0.91	**Decreasing Trend**	--	--	**9**
MW-14C	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	9	0%	9	0%	150	170	--	--	150	170	-7	0.544	0.03	Stable	--	--	--
	Metals																						
MW-14C	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	9	33%	9	33%	5.4	27	<5.0	<5.0	<5.0	27	-3	0.841	0.91	Stable	--	--	0
MW-14C	Total Aluminum	µg/L	5	-	100	6/2019 - 11/2020	5	0%	5	0%	19	2000	--	--	19	2000	-8	0.084	1.20	**Probably Decreasing**	**5**	--	**3**
MW-14C	Dissolved Antimony	µg/L	-	6	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-14C	Total Antimony	µg/L	20	6	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-14C	Dissolved Arsenic	µg/L	-	10	-	6/2018 - 11/2020	9	0%	9	0%	1.3	1.6	--	--	1.3	1.6	-23	0.0183	0.07	**Decreasing Trend**	--	0	--
MW-14C	Total Arsenic	µg/L	5	10	-	6/2019 - 11/2020	5	0%	5	0%	1.3	1.7	--	--	1.3	1.7	-5	0.359	0.11	Stable	0	0	--
MW-14C	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	9	0%	9	0%	1.7	39	--	--	1.7	39	-16	0.12	1.12	No trend identified	--	0	--
MW-14C	Total Barium	µg/L	1000	2000	-	6/2019 - 11/2020	5	0%	5	0%	1.9	44	--	--	1.9	44	-8	0.084	1.23	**Probably Decreasing**	0	0	--
MW-14C	Dissolved Beryllium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-14C	Total Beryllium	µg/L	5.3	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-14C	Dissolved Bismuth	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-14C	Total Bismuth	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-14C	Dissolved Boron	µg/L	-	5000	-	6/2018 - 11/2020	9	11%	9	11%	110	125	<50	<50	<50	125	3	0.841	0.29	No trend identified	--	0	--
MW-14C	Total Boron	µg/L	1200	5000	-	6/2019 - 11/2020	5	0%	5	0%	110	130	--	--	110	130	-5	0.359	0.08	Stable	0	0	--
MW-14C	Dissolved Cadmium	µg/L	-	7	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-14C	Total Cadmium	µg/L	0.01	7	-	6/2019 - 11/2020	5	80%	5	80%	0.014	0.014	<0.010	<0.010	<0.010	0.014	--	--	--	>50% ND	**1**	0	--
MW-14C	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	9300	11000	--	--	9300	11000	17	0.098	0.06	**Probably Increasing**	--	--	--
MW-14C	Total Calcium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	9900	11000	--	--	9900	11000	-3	0.65	0.05	Stable	--	--	--
MW-14C	Dissolved Chromium	µg/L	-	50	-	6/2018 - 11/2020	9	89%	9	89%	1.1	1.1	<1.0	<1.0	<1.0	1.1	--	--	--	>50% ND	--	0	--
MW-14C	Total Chromium	µg/L	-	50	-	6/2019 - 11/2020	5	80%	5	80%	1.4	1.4	<1.0	<1.0	<1.0	1.4	--	--	--	>50% ND	--	0	--
MW-14C	Dissolved Cobalt	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	--	100% ND	--	--	--
MW-14C	Total Cobalt	µg/L	10	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	--	100% ND	--	--	--
MW-14C	Dissolved Copper	µg/L	-	2000	1000	6/2018 - 11/2020	9	89%	9	89%	0.86	0.86	<0.50	<2.0	<0.50	<2.0	--	--	--	>50% ND	--	0	0
MW-14C	Total Copper	µg/L	2	2000	1000	6/2019 - 11/2020	5	40%	5	40%	0.62	0.89	<0.50	<0.50	<0.50	0.89	-1	1	0.52	Stable	0	0	0
MW-14C	Dissolved Iron	µg/L	-	-	300	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-14C	Total Iron	µg/L	300	-	300	6/2019 - 11/2020	5	0%	5	0%	70	630	--	--	70	630	-6	0.234	0.94	Stable	**2**	--	**2**
MW-14C	Dissolved Lead	µg/L	-	5	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-14C	Total Lead	µg/L	1	5	-	6/2019 - 11/2020	5	60%	5	60%	0.94	1	<0.50	<0.50	<0.50	1	--	--	--	>50% ND	0	0	--
MW-14C	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1400	1800	--	--	1400	1800	16	0.12	0.08	No trend identified	--	--	--
MW-14C	Total Magnesium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	1700	2100	--	--	1700	2100	-3	0.65	0.09	Stable	--	--	--
MW-14C	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	9	11%	9	11%	9.85	20	<2.0	<2.0	<2.0	20	5	0.687	0.41	No trend identified	--	0	0
MW-14C	Total Manganese	µg/L	820	120	20	6/2019 - 11/2020	5	0%	5	0%	13	20	--	--	13	20	-3	0.65	0.15	Stable	0	0	0
MW-14C	Dissolved Molybdenum	µg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	4.9	4.9	<2.0	<2.0	<2.0	4.9	--	--	--	>50% ND	--	--	--
MW-14C	Total Molybdenum	µg/L	73	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-14C	Dissolved Nickel	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-14C	Total Nickel	µg/L	25	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-14C	Dissolved Phosphorus	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-14C	Total Phosphorus	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-14C	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	530	660	--	--	530	660	-22	0.024	0.07	**Decreasing Trend**	--	--	--
MW-14C	Total Potassium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	530	820	--	--	530	820	-8	0.084	0.21	**Probably Decreasing**	--	--	--
MW-14C	Dissolved Selenium	µg/L	-	50	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-14C	Total Selenium	µg/L	1	50	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-14C	Dissolved Silver	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-14C	Total Silver	µg/L	0.1	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-14C	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	0%	20000	23000	--	--	20000	23000	-21	0.034	0.05	**Decreasing Trend**	--	--	0
MW-14C	Total Sodium	µg/L	-	-	200000	6/2019 - 11/2020	5	0%	5	0%	19000	22000	--	--	19000	22000	-9	0.050	0.06	**Decreasing Trend**	--	--	0
MW-14C	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	9	0%	9	0%	240	350	--	--	240	350	-5	0.687	0.14	Stable	--	0	--
MW-14C	Total Strontium	µg/L	21000	7000	-	6/2019 - 11/2020	5	0%	5	0%	240	370	--	--	240	370	-7	0.159	0.21	Stable	0	0	--
MW-14C	Dissolved Thallium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-14C	Total Thallium	µg/L	0.8	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-14C	Dissolved Tin	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-14C	Total Tin	µg/L	-	-	-	6/2019 - 11/2020	5	60%	5	60%	3.1	3.1	<2.0	<2.0	<2.0	3.1	--	--	--	>50% ND	--	--	--
MW-14C	Dissolved Titanium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-14C	Total Titanium	µg/L	-	-	-	6/2019 - 11/2020	5	20%	5	20%	2.5	45	<2.0	<2.0	<2.0	45	-8	0.084	1.19	**Probably Decreasing**	--	--	--
MW-14C	Dissolved Uranium	µg/L	-	20	-	6/2018 - 11/2020	9	0%	9	0%	0.14	0.53	--	--	0.14	0.53	-20	0.044	0.50	**Decreasing Trend**	--	0	--
MW-14C	Total Uranium	µg/L	300	20	-	6/2019 - 11/2020	5	0%	5	0%	0.13	0.64	--	--	0.13	0.64	-10	0.0166	0.76	**Decreasing Trend**	0	0	--
MW-14C	Dissolved Vanadium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-14C	Total Vanadium	µg/L	6	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-14C	Dissolved Zinc	µg/L	-	-	5000	6/2018 - 11/2020	9	100%	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	--	100% ND	--	--	--
MW-14C	Total Zinc	µg/L	30	-	5000	6/2019 - 11/2020	5	100%	5	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	--	100% ND	--	--	--
MW-14C	Dissolved Mercury	µg/L	--	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
MW-14C	Total Mercury	µg/L	0.026	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
	Calculated Parameters																						
MW-16A	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.9	2.18	--	--	0.9	2.18	-4	0.762	0.26	Stable	--	--	--
MW-16A	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	39	79	--	--	39	79	-2	0.92	0.22	Stable	--	--	--
MW-16A	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	53	120	--	--	53	120	-3	0.841	0.24	Stable	--	--	0
MW-16A	Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-16A	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.81	1.72	--	--	0.81	1.72	-4	0.762	0.21	Stable	--	--	--
MW-16A	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	3	66	--	--	3	66	2	0.92	0.50	No trend identified	--	--	--
MW-16A	Ion Balance (% Difference)	%	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1.68	18.5	--	--	1.68	18.5	0	1	0.85	Stable	--	--	--
MW-16A	Langelier Index (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-2.59	-0.291	--	--	-2.59	-0.291	0	1	-0.54	Stable	--	--	--
MW-16A	Langelier Index (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-2.84	-0.542	--	--	-2.84	-0.542	0	1	-0.46	Stable	--	--	--
MW-16A	Nitrate (N)	mg/L	-	10	-	6/2018 - 11/2020	9	44%	9	44%	0.0645	0.12	<0.050	<0.050	<0.050	0.12	0	1	0.61	Stable	--	0	--
MW-16A	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.08	9.52	--	--	8.08	9.52	-2	0.92	0.05	Stable	--	--	--

Table 4.1

Statistical Screening and Trend Test (Mann Kendall) Results – Baseline Groundwater Quality Data
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test											Samples Outside Criteria (Count)		
			NSE	CDWQG		Date					Detects		Non-Detects							NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
MW-16A	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.33	9.77	--	--	8.33	9.77	-2	0.92	0.05	Stable	--	--	--
	Inorganics																						
MW-16A	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	39	79	--	--	39	79	-2	0.92	0.22	Stable	--	--	--
MW-16A	Total Chemical Oxygen Demand	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<20	<20	<20	<20	--	--	--	Insufficient data	--	--	--
MW-16A	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	9	0%	9	0%	2	6.5	--	--	2	6.5	-10	0.358	0.33	Stable	0	--	0
MW-16A	Colour	TCU	-	-	15	6/2018 - 11/2020	9	89%	9	89%	250	250	<5.0	<5.0	<5.0	250	--	--	--	>50% ND	--	--	**1**
MW-16A	Nitrate + Nitrite	mg/L	-	-	-	6/2018 - 11/2020	9	44%	9	44%	0.0645	0.12	<0.050	<0.050	<0.050	0.12	0	1	0.61	Stable	--	--	--
MW-16A	Nitrite	mg/L	-	1	-	6/2018 - 11/2020	9	89%	9	89%	0.034	0.034	<0.010	<0.010	<0.010	0.034	--	--	--	>50% ND	--	0	--
MW-16A	Nitrogen (Ammonia Nitrogen)	mg/L	-	-	-	6/2018 - 11/2020	9	67%	9	67%	0.07	0.11	<0.050	<0.050	<0.050	0.11	--	--	--	>50% ND	--	--	--
MW-16A	Dissolved Organic Carbon	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	2	2	--	--	2	2	--	--	--	Insufficient data	--	--	--
MW-16A	Total Organic Carbon	mg/L	-	-	-	6/2018 - 11/2020	8	13%	8	13%	0.6	2.3	<0.50	<0.50	<0.50	2.3	-6	0.548	0.50	Stable	--	--	--
MW-16A	Orthophosphate	mg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	0.033	0.033	<0.010	<0.010	<0.010	0.033	--	--	--	>50% ND	--	--	--
MW-16A	pH	s.u.	-	-	10.5	6/2018 - 11/2020	9	0%	9	0%	6.77	7.79	--	--	6.77	7.79	-4	0.762	0.04	Stable	--	--	0
MW-16A	pH	s.u.	-	-	7																		**3 ***
MW-16A	Dissolved Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	0.02	0.02	--	--	0.02	0.02	--	--	--	Insufficient data	--	--	--
MW-16A	Total Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-16A	Reactive Silica (SiO2)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	6.8	11	--	--	6.8	11	-5	0.687	0.15	Stable	--	--	--
MW-16A	Total Suspended Solids	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	40	40	--	--	40	40	--	--	--	Insufficient data	--	--	--
MW-16A	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	3.1	36	--	--	3.1	36	7	0.544	1.39	No trend identified	--	--	0
MW-16A	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	9	0%	9	0%	3	220	--	--	3	220	-3	0.841	1.25	No trend identified	--	--	**9**
MW-16A	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	9	0%	9	0%	85	160	--	--	85	160	-2	0.92	0.19	Stable	--	--	--
	Metals																						
MW-16A	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	9	22%	9	22%	5.2	830	<5.0	<5.0	<5.0	830	3	0.841	2.63	No trend identified	--	--	**1**
MW-16A	Total Aluminum	µg/L	5	-	100	6/2019 - 11/2020	5	0%	5	0%	530	20000	--	--	530	20000	-6	0.234	1.86	No trend identified	**5**	--	**5**
MW-16A	Dissolved Antimony	µg/L	-	6	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-16A	Total Antimony	µg/L	20	6	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-16A	Dissolved Arsenic	µg/L	-	10	-	6/2018 - 11/2020	9	67%	9	67%	1.1	1.5	<1.0	<1.0	<1.0	1.5	--	--	--	>50% ND	--	0	--
MW-16A	Total Arsenic	µg/L	5	10	-	6/2019 - 11/2020	5	0%	5	0%	1	3.1	--	--	1	3.1	0	1	0.44	Stable	0	0	--
MW-16A	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	9	0%	9	0%	1.2	5.2	--	--	1.2	5.2	-1	1	0.36	Stable	--	0	--
MW-16A	Total Barium	µg/L	1000	2000	-	6/2019 - 11/2020	5	0%	5	0%	9.6	92	--	--	9.6	92	-10	0.0166	0.87	**Decreasing Trend**	0	0	--
MW-16A	Dissolved Beryllium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-16A	Total Beryllium	µg/L	5.3	-	-	6/2019 - 11/2020	5	80%	5	80%	1.5	1.5	<1.0	<1.0	<1.0	1.5	--	--	--	>50% ND	0	--	--
MW-16A	Dissolved Bismuth	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-16A	Total Bismuth	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-16A	Dissolved Boron	µg/L	-	5000	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-16A	Total Boron	µg/L	1200	5000	-	6/2019 - 11/2020	5	80%	5	80%	51	51	<50	<50	<50	51	--	--	--	>50% ND	0	0	--
MW-16A	Dissolved Cadmium	µg/L	-	7	-	6/2018 - 11/2020	9	0%	9	0%	0.013	0.049	--	--	0.013	0.049	-2	0.92	0.43	Stable	--	0	--
MW-16A	Total Cadmium	µg/L	0.01	7	-	6/2019 - 11/2020	5	0%	5	0%	0.013	0.15	--	--	0.013	0.15	-6	0.234	0.97	Stable	**5**	0	--
MW-16A	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1000	23000	--	--	1000	23000	2	0.92	0.51	No trend identified	--	--	--
MW-16A	Total Calcium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	10000	26000	--	--	10000	26000	-2	0.816	0.34	Stable	--	--	--
MW-16A	Dissolved Chromium	µg/L	-	50	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-16A	Total Chromium	µg/L	-	50	-	6/2019 - 11/2020	5	80%	5	80%	2.8	2.8	<1.0	<1.0	<1.0	2.8	--	--	--	>50% ND	--	0	--
MW-16A	Dissolved Cobalt	µg/L	-	-	-	6/2018 - 11/2020	9	22%	9	22%	0.955	2.4	<0.40	<0.40	<0.40	2.4	-5	0.687	0.61	Stable	--	--	--
MW-16A	Total Cobalt	µg/L	10	-	-	6/2019 - 11/2020	5	20%	5	20%	1.4	6.8	<0.40	<0.40	<0.40	6.8	-6	0.234	0.93	Stable	0	--	--
MW-16A	Dissolved Copper	µg/L	-	2000	1000	4/2019 - 11/2020	9	33%	6	0%	0.95	1.6	--	--	0.95	1.6	4	0.595	0.23	No trend identified	--	0	0
MW-16A	Total Copper	µg/L	2	2000	1000	6/2019 - 11/2020	5	0%	5	0%	1.4	19	--	--	1.4	19	-6	0.234	1.21	No trend identified	**4**	0	0
MW-16A	Dissolved Iron	µg/L	-	-	300	6/2018 - 11/2020	9	78%	9	78%	52	270	<50	<50	<50	270	--	--	--	>50% ND	--	--	0
MW-16A	Total Iron	µg/L	300	-	300	6/2019 - 11/2020	5	0%	5	0%	410	9900	--	--	410	9900	-6	0.234	1.55	No trend identified	**5**	--	**5**
MW-16A	Dissolved Lead	µg/L	-	5	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-16A	Total Lead	µg/L	1	5	-	6/2019 - 11/2020	5	0%	5	0%	0.8	12	--	--	0.8	12	-8	0.084	1.33	**Probably Decreasing**	**4**	**1**	--
MW-16A	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	110	1900	--	--	110	1900	0	1	0.46	Stable	--	--	--
MW-16A	Total Magnesium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	1200	5800	--	--	1200	5800	-2	0.816	0.84	Stable	--	--	--
MW-16A	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	9	0%	9	0%	84	840	--	--	84	840	-2	0.92	0.54	Stable	--	**8**	**9**
MW-16A	Total Manganese	µg/L	820	120	20	6/2019 - 11/2020	5	0%	5	0%	86	1600	--	--	86	1600	-6	0.234	0.80	Stable	**2**	**4**	**5**
MW-16A	Dissolved Molybdenum	µg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	2.3	2.3	<2.0	<2.0	<2.0	2.3	--	--	--	>50% ND	--	--	--
MW-16A	Total Molybdenum	µg/L	73	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-16A	Dissolved Nickel	µg/L	-	-	-	6/2018 - 11/2020	9	78%	9	78%	3.5	3.7	<2.0	<2.0	<2.0	3.7	--	--	--	>50% ND	--	--	--
MW-16A	Total Nickel	µg/L	25	-	-	6/2019 - 11/2020	5	60%	5	60%	2.6	9.9	<2.0	<2.0	<2.0	9.9	--	--	--	>50% ND	0	--	--
MW-16A	Dissolved Phosphorus	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-16A	Total Phosphorus	µg/L	-	-	-	6/2019 - 11/2020	5	80%	5	80%	160	160	<100	<100	<100	160	--	--	--	>50% ND	--	--	--
MW-16A	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	400	1500	--	--	400	1500	11	0.309	0.43	No trend identified	--	--	--
MW-16A	Total Potassium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	690	1800	--	--	690	1800	-4	0.484	0.31	Stable	--	--	--
MW-16A	Dissolved Selenium	µg/L	-	50	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-16A	Total Selenium	µg/L	1	50	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-16A	Dissolved Silver	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-16A	Total Silver	µg/L	0.1	-	-	6/2019 - 11/2020	5	0%	5	0%	0.14	1	--	--	0.14	1	-6	0.234	1.03	No trend identified	**5**	--	--
MW-16A	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	0%	5400	27000	--	--	5400	27000	-14	0.18	0.62	Stable	--	--	0
MW-16A	Total Sodium	µg/L	-	-	200000	6/2019 - 11/2020	5	0%	5	0%	5100	18000	--	--	5100	18000	-10	0.0166	0.56	**Decreasing Trend**	--	--	0
MW-16A	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	9	0%	9	0%	5.7	81	--	--	5.7	81	0	1	0.46	Stable	--	0	--
MW-16A	Total Strontium	µg/L	21000	7000	-	6/2019 - 11/2020	5	0%	5	0%	47	140	--	--	47	140	-2	0.816	0.43	Stable	0	0	--
MW-16A	Dissolved Thallium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-16A	Total Thallium	µg/L	0.8	-	-	6/2019 - 11/2020	5	80%	5	80%	0.11	0.11	<0.10	<0.10	<0.10	0.11	--	--	--	>50% ND	0	--	--
MW-16A	Dissolved Tin	µg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	3	3	<2.0	<2.0	<2.0	3	--	--	--	>50% ND	--	--	--
MW-16A	Total Tin	µg/L	-	-	-	6/2019 - 11/2020	5	80%	5	80%	4.7	4.7	<2.0	<2.0	<2.0	4.7	--	--	--	>50% ND	--	--	--
MW-16A	Dissolved Titanium	µg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	8.1	8.1	<2.0	<2.0	<2.0	8.1	--	--	--	>50% ND	--	--	--
MW-16A	Total Titanium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	12	260	--	--	12	260	-8	0.084	1.51	**Probably Decreasing**	--	--	--
MW-16A	Dissolved Uranium	µg/L	-	20	-	6/2018 - 11/2020	9	0%	9	0%	0.23	2.4	--	--	0.23	2.4	-3	0.841	0.84	Stable	--	0	--
MW-16A	Total Uranium	µg/L	300	20	-	6/2019 - 11/2020	5	0%	5	0%	1.2	10	--	--	1.2	10	-4	0.484	1.20	No trend identified	0	0	--
MW-16A	Dissolved Vanadium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-16A	Total Vanadium	µg/L	6	-	-	6/2019 - 11/2020	5	80%	5	80%	4.2	4.2	<2.0	<2.0	<2.0	4.2	--	--	--	>50% ND	0	--	--

Table 4.1

Statistical Screening and Trend Test (Mann Kendall) Results – Baseline Groundwater Quality Data
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test										Samples Outside Criteria (Count)		
			NSE	CDWQG		Date					Detects		Non-Detects						NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
MW-16A	Dissolved Zinc	µg/L	-	-	5000	6/2018 - 11/2020	9	56%	9	56%	5.5	6.3	<5.0	<5.0	<5.0	6.3	--	--	--	>50% ND	--	--	0
MW-16A	Total Zinc	µg/L	30	-	5000	6/2019 - 11/2020	5	60%	5	60%	5.9	24	<5.0	<5.0	<5.0	24	--	--	--	>50% ND	0	--	0
MW-16A	Dissolved Mercury	µg/L	--	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
MW-16A	Total Mercury	µg/L	0.026	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
	Calculated Parameters																						
MW-16B	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1.38	1.475	--	--	1.38	1.475	5	0.687	0.02	No trend identified	--	--	--
MW-16B	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	58	62.5	--	--	58	62.5	-5	0.687	0.02	Stable	--	--	--
MW-16B	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	80	84	--	--	80	84	0	1	0.02	Stable	--	--	0
MW-16B	Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-16B	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1.28	1.34	--	--	1.28	1.34	-13	0.22	0.02	Stable	--	--	--
MW-16B	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	52	55	--	--	52	55	-15	0.15	0.02	Stable	--	--	--
MW-16B	Ion Balance (% Difference)	%	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2.99	5.54	--	--	2.99	5.54	13	0.22	0.22	No trend identified	--	--	--
MW-16B	Langelier Index (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-0.595	-0.249	--	--	-0.595	-0.249	8	0.476	-0.30	No trend identified	--	--	--
MW-16B	Langelier Index (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-0.846	-0.501	--	--	-0.846	-0.501	8	0.476	-0.19	No trend identified	--	--	--
MW-16B	Nitrate (N)	mg/L	-	10	-	6/2018 - 11/2020	9	0%	9	0%	0.12	0.85	--	--	0.12	0.85	8	0.476	1.04	No trend identified	--	0	--
MW-16B	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.245	8.29	--	--	8.245	8.29	5	0.687	0.00	No trend identified	--	--	--
MW-16B	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.495	8.54	--	--	8.495	8.54	9	0.417	0.00	No trend identified	--	--	--
	Inorganics																						
MW-16B	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	58	62.5	--	--	58	62.5	-3	0.841	0.02	Stable	--	--	--
MW-16B	Total Chemical Oxygen Demand	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<20	<20	<20	<20	--	--	--	Insufficient data	--	--	--
MW-16B	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	9	0%	9	0%	2.6	4.1	--	--	2.6	4.1	-9	0.417	0.17	Stable	0	--	0
MW-16B	Colour	TCU	-	-	15	6/2018 - 11/2020	9	100%	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	--	100% ND	--	--	--
MW-16B	Nitrate + Nitrite	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.12	0.85	--	--	0.12	0.85	8	0.476	1.04	No trend identified	--	--	--
MW-16B	Nitrite	mg/L	-	1	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-16B	Nitrogen (Ammonia Nitrogen)	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.050	<0.050	<0.050	<0.050	--	--	--	100% ND	--	--	--
MW-16B	Dissolved Organic Carbon	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.5	<0.5	<0.5	<0.5	--	--	--	Insufficient data	--	--	--
MW-16B	Total Organic Carbon	mg/L	-	-	-	6/2018 - 7/2020	8	63%	8	63%	0.41	0.65	<0.50	<0.50	0.41	0.65	--	--	--	>50% ND	--	--	--
MW-16B	Orthophosphate	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-16B	pH	s.u.	-	-	10.5	6/2018 - 11/2020	9	0%	9	0%	7.68	8.02	--	--	7.68	8.02	10	0.358	0.02	No trend identified	--	--	0
MW-16B	pH	s.u.	-	-	7																		0 *
MW-16B	Dissolved Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-16B	Total Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-16B	Reactive Silica (SiO2)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	9.6	10	--	--	9.6	10	-13	0.22	0.02	Stable	--	--	--
MW-16B	Total Suspended Solids	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	1.8	1.8	--	--	1.8	1.8	--	--	--	Insufficient data	--	--	--
MW-16B	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	5.3	6.5	--	--	5.3	6.5	6	0.612	0.06	No trend identified	--	--	0
MW-16B	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	9	0%	9	0%	0.35	6.75	--	--	0.35	6.75	10	0.358	0.99	No trend identified	--	--	**9**
MW-16B	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	9	0%	9	0%	120	140	--	--	120	140	5	0.687	0.04	No trend identified	--	--	--
	Metals																						
MW-16B	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	9	0%	9	0%	6.7	21	--	--	6.7	21	-2	0.92	0.36	Stable	--	--	0
MW-16B	Total Aluminum	µg/L	5	-	100	6/2019 - 11/2020	5	0%	5	0%	34	670	--	--	34	670	-2	0.816	1.29	No trend identified	**5**	--	**2**
MW-16B	Dissolved Antimony	µg/L	-	6	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-16B	Total Antimony	µg/L	20	6	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-16B	Dissolved Arsenic	µg/L	-	10	-	6/2018 - 11/2020	9	0%	9	0%	8.6	10	--	--	8.6	10	16	0.12	0.05	No trend identified	--	0	--
MW-16B	Total Arsenic	µg/L	5	10	-	6/2019 - 11/2020	5	0%	5	0%	9.1	11	--	--	9.1	11	1	1	0.07	No trend identified	**5**	**1**	--
MW-16B	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	9	0%	9	0%	2	4.6	--	--	2	4.6	-7	0.544	0.27	Stable	--	0	--
MW-16B	Total Barium	µg/L	1000	2000	-	6/2019 - 11/2020	5	0%	5	0%	2.6	7.2	--	--	2.6	7.2	-2	0.816	0.46	Stable	0	0	--
MW-16B	Dissolved Beryllium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-16B	Total Beryllium	µg/L	5.3	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-16B	Dissolved Bismuth	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-16B	Total Bismuth	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-16B	Dissolved Boron	µg/L	-	5000	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-16B	Total Boron	µg/L	1200	5000	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-16B	Dissolved Cadmium	µg/L	-	7	-	6/2018 - 11/2020	9	89%	9	89%	0.013	0.013	<0.010	<0.010	<0.010	0.013	--	--	--	>50% ND	--	0	--
MW-16B	Total Cadmium	µg/L	0.01	7	-	6/2019 - 11/2020	5	60%	5	60%	0.01	0.017	<0.010	<0.010	<0.010	0.017	--	--	--	>50% ND	**2**	0	--
MW-16B	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	19000	20000	--	--	19000	20000	-3	0.841	0.03	Stable	--	--	--
MW-16B	Total Calcium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	18000	20000	--	--	18000	20000	-3	0.65	0.05	Stable	--	--	--
MW-16B	Dissolved Chromium	µg/L	-	50	-	6/2018 - 11/2020	9	78%	9	78%	1.2	1.4	<1.0	<1.0	<1.0	1.4	--	--	--	>50% ND	--	0	--
MW-16B	Total Chromium	µg/L	-	50	-	6/2019 - 11/2020	5	60%	5	60%	1.2	1.4	<1.0	<1.0	<1.0	1.4	--	--	--	>50% ND	--	0	--
MW-16B	Dissolved Cobalt	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	--	100% ND	--	--	--
MW-16B	Total Cobalt	µg/L	10	-	-	6/2019 - 11/2020	5	80%	5	80%	0.52	0.52	<0.40	<0.40	<0.40	0.52	--	--	--	>50% ND	0	--	--
MW-16B	Dissolved Copper	µg/L	-	2000	1000	6/2018 - 11/2020	9	78%	9	78%	0.595	0.72	<0.50	<2.0	<0.50	<2.0	--	--	--	>50% ND	--	0	0
MW-16B	Total Copper	µg/L	2	2000	1000	6/2019 - 11/2020	5	40%	5	40%	1.1	3.5	<0.50	<0.50	<0.50	3.5	-1	1	1.06	No trend identified	**1**	0	0
MW-16B	Dissolved Iron	µg/L	-	-	300	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-16B	Total Iron	µg/L	300	-	300	6/2019 - 11/2020	5	20%	5	20%	52	820	<50	<50	<50	820	0	1	1.53	No trend identified	**1**	--	**1**
MW-16B	Dissolved Lead	µg/L	-	5	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-16B	Total Lead	µg/L	1	5	-	6/2019 - 11/2020	5	80%	5	80%	1.1	1.1	<0.50	<0.50	<0.50	1.1	--	--	--	>50% ND	**1**	0	--
MW-16B	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1200	1400	--	--	1200	1400	-27	0.0041	0.05	**Decreasing Trend**	--	--	--
MW-16B	Total Magnesium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	1200	1550	--	--	1200	1550	-3	0.65	0.10	Stable	--	--	--
MW-16B	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	9	33%	9	33%	2	6.3	<2.0	<2.0	2	6.3	-9	0.417	0.69	Stable	--	0	0
MW-16B	Total Manganese	µg/L	820	120	20	6/2019 - 11/2020	5	20%	5	20%	3.7	26.5	<2.0	<2.0	<2.0	26.5	2	0.816	1.31	No trend identified	0	0	**1**
MW-16B	Dissolved Molybdenum	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-16B	Total Molybdenum	µg/L	73	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-16B	Dissolved Nickel	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-16B	Total Nickel	µg/L	25	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-16B	Dissolved Phosphorus	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-16B	Total Phosphorus	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-16B	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1200	1700	--	--	1200	1700	-19	0.06	0.11	**Probably Decreasing**	--	--	--
MW-16B	Total Potassium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	1200	1450	--	--	1200	1450	-1	1	0.07	Stable	--	--	--

Table 4.1

Statistical Screening and Trend Test (Mann Kendall) Results – Baseline Groundwater Quality Data
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test										Samples Outside Criteria (Count)		
			NSE	CDWQG		Date					Detects		Non-Detects						NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
MW-16B	Dissolved Selenium	µg/L	-	50	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-16B	Total Selenium	µg/L	1	50	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-16B	Dissolved Silver	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-16B	Total Silver	µg/L	0.1	-	-	6/2019 - 11/2020	5	80%	5	80%	0.325	0.325	<0.10	<0.10	<0.10	0.325	--	--	--	>50% ND	**1**	--	--
MW-16B	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	0%	4300	5200	--	--	4300	5200	4	0.762	0.06	No trend identified	--	--	0
MW-16B	Total Sodium	µg/L	-	-	200000	6/2019 - 11/2020	5	0%	5	0%	4500	5100	--	--	4500	5100	3	0.65	0.05	No trend identified	--	--	0
MW-16B	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	9	0%	9	0%	71	75	--	--	71	75	10	0.358	0.02	No trend identified	--	0	--
MW-16B	Total Strontium	µg/L	21000	7000	-	6/2019 - 11/2020	5	0%	5	0%	70	74.5	--	--	70	74.5	-4	0.484	0.02	Stable	0	0	--
MW-16B	Dissolved Thallium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-16B	Total Thallium	µg/L	0.8	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-16B	Dissolved Tin	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-16B	Total Tin	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-16B	Dissolved Titanium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-16B	Total Titanium	µg/L	-	-	-	6/2019 - 11/2020	5	40%	4	25%	3.4	44.5	<2.0	<2.0	<2.0	44.5	0	1	1.59	No trend identified	--	--	--
MW-16B	Dissolved Uranium	µg/L	-	20	-	6/2018 - 11/2020	9	0%	9	0%	2.3	2.6	--	--	2.3	2.6	-7	0.544	0.04	Stable	--	0	--
MW-16B	Total Uranium	µg/L	300	20	-	6/2019 - 11/2020	5	0%	5	0%	2.3	2.4	--	--	2.3	2.4	7	0.159	0.02	No trend identified	0	0	--
MW-16B	Dissolved Vanadium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-16B	Total Vanadium	µg/L	6	-	-	6/2019 - 11/2020	5	80%	5	80%	3.35	3.35	<2.0	<2.0	<2.0	3.35	--	--	--	>50% ND	0	--	--
MW-16B	Dissolved Zinc	µg/L	-	-	5000	6/2018 - 11/2020	9	100%	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	--	100% ND	--	--	--
MW-16B	Total Zinc	µg/L	30	-	5000	6/2019 - 11/2020	5	80%	5	80%	6.15	6.15	<5.0	<5.0	<5.0	6.15	--	--	--	>50% ND	0	--	0
MW-16B	Dissolved Mercury	µg/L	--	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
MW-16B	Total Mercury	µg/L	0.026	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
	Calculated Parameters																						
MW-17A	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.26	0.64	--	--	0.26	0.64	-19	0.06	0.35	**Probably Decreasing**	--	--	--
MW-17A	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	6	23	--	--	6	23	-19	0.06	0.53	**Probably Decreasing**	--	--	--
MW-17A	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	19	42	--	--	19	42	-11	0.309	0.30	Stable	--	--	0
MW-17A	Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-17A	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.21	0.54	--	--	0.21	0.54	-18	0.076	0.37	**Probably Decreasing**	--	--	--
MW-17A	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	3.6	18	--	--	3.6	18	-18	0.076	0.54	**Probably Decreasing**	--	--	--
MW-17A	Ion Balance (% Difference)	%	-	-	-	6/2018 - 11/2020	9	0%	9	0%	4.08	16	--	--	4.08	16	8	0.476	0.46	No trend identified	--	--	--
MW-17A	Langelier Index (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-5.14	-2.47	--	--	-5.14	-2.47	-14	0.18	-0.22	Stable	--	--	--
MW-17A	Langelier Index (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-5.4	-2.72	--	--	-5.4	-2.72	-14	0.18	-0.21	Stable	--	--	--
MW-17A	Nitrate (N)	mg/L	-	10	-	6/2018 - 11/2020	9	67%	9	67%	0.055	0.12	<0.050	<0.050	<0.050	0.12	--	--	--	>50% ND	--	0	--
MW-17A	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	9.17	10.6	--	--	9.17	10.6	20	0.044	0.05	**Increasing Trend**	--	--	--
MW-17A	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	9.42	10.9	--	--	9.42	10.9	20	0.044	0.05	**Increasing Trend**	--	--	--
	Inorganics																						
MW-17A	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	6	23	--	--	6	23	-19	0.06	0.53	**Probably Decreasing**	--	--	--
MW-17A	Total Chemical Oxygen Demand	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<20	<20	<20	<20	--	--	--	Insufficient data	--	--	--
MW-17A	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	9	0%	9	0%	1.6	6	--	--	1.6	6	-14	0.18	0.37	Stable	0	--	0
MW-17A	Colour	TCU	-	-	15	6/2018 - 11/2020	9	100%	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	--	100% ND	--	--	--
MW-17A	Nitrate + Nitrite	mg/L	-	-	-	6/2018 - 11/2020	9	67%	9	67%	0.055	0.12	<0.050	<0.050	<0.050	0.12	--	--	--	>50% ND	--	--	--
MW-17A	Nitrite	mg/L	-	1	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-17A	Nitrogen (Ammonia Nitrogen)	mg/L	-	-	-	6/2018 - 11/2020	9	78%	9	78%	0.06	0.17	<0.050	<0.050	<0.050	0.17	--	--	--	>50% ND	--	--	--
MW-17A	Dissolved Organic Carbon	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.5	<0.5	<0.5	<0.5	--	--	--	Insufficient data	--	--	--
MW-17A	Total Organic Carbon	mg/L	-	-	-	6/2018 - 7/2020	9	56%	7	43%	0.55	1	0.41 u	<0.50	0.41 u	1	-2	0.886	0.58	Stable **	--	--	--
MW-17A	Orthophosphate	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-17A	pH	s.u.	-	-	10.5	6/2018 - 11/2020	9	0%	9	0%	5.48	6.7	--	--	5.48	6.7	-6	0.612	0.06	Stable	--	--	0
MW-17A	pH	s.u.	-	-	7																		**9 ***
MW-17A	Dissolved Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	0.024	0.024	--	--	0.024	0.024	--	--	--	Insufficient data	--	--	--
MW-17A	Total Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-17A	Reactive Silica (SiO2)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	3.8	9.7	--	--	3.8	9.7	-7	0.544	0.27	Stable	--	--	--
MW-17A	Total Suspended Solids	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	70	70	--	--	70	70	--	--	--	Insufficient data	--	--	--
MW-17A	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	9	11%	9	11%	2.6	4.1	<2.0	<2.0	<2.0	4.1	25	0.0092	0.30	**Increasing Trend**	--	--	0
MW-17A	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	9	0%	9	0%	1.6	82	--	--	1.6	82	20	0.044	1.05	**Increasing Trend**	--	--	**9**
MW-17A	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	9	0%	9	0%	27.5	64	--	--	27.5	64	-16	0.12	0.32	Stable	--	--	--
	Metals																						
MW-17A	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	9	11%	9	11%	6.4	320	<5.0	<5.0	<5.0	320	12	0.26	1.32	No trend identified	--	--	**2**
MW-17A	Total Aluminum	µg/L	5	-	100	6/2019 - 11/2020	5	0%	5	0%	1130	3200	--	--	1130	3200	-3	0.65	0.49	Stable	**5**	--	**5**
MW-17A	Dissolved Antimony	µg/L	-	6	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-17A	Total Antimony	µg/L	20	6	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-17A	Dissolved Arsenic	µg/L	-	10	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-17A	Total Arsenic	µg/L	5	10	-	6/2019 - 11/2020	5	0%	5	0%	2.7	11	--	--	2.7	11	-8	0.084	0.60	**Probably Decreasing**	**2**	**1**	--
MW-17A	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	9	0%	9	0%	8.8	20	--	--	8.8	20	-5	0.687	0.32	Stable	--	0	--
MW-17A	Total Barium	µg/L	1000	2000	-	6/2019 - 11/2020	5	0%	5	0%	16	32	--	--	16	32	-4	0.484	0.29	Stable	0	0	--
MW-17A	Dissolved Beryllium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-17A	Total Beryllium	µg/L	5.3	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-17A	Dissolved Bismuth	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-17A	Total Bismuth	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-17A	Dissolved Boron	µg/L	-	5000	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-17A	Total Boron	µg/L	1200	5000	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-17A	Dissolved Cadmium	µg/L	-	7	-	6/2018 - 11/2020	9	0%	9	0%	0.038	0.062	--	--	0.038	0.062	-8	0.476	0.18	Stable	--	0	--
MW-17A	Total Cadmium	µg/L	0.01	7	-	6/2019 - 11/2020	5	0%	5	0%	0.0385	0.059	--	--	0.0385	0.059	-3	0.65	0.20	Stable	**5**	0	--
MW-17A	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	760	5900	--	--	760	5900	-18	0.076	0.63	**Probably Decreasing**	--	--	--
MW-17A	Total Calcium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	1400	4200	--	--	1400	4200	-6	0.234	0.48	Stable	--	--	--
MW-17A	Dissolved Chromium	µg/L	-	50	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-17A	Total Chromium	µg/L	-	50	-	6/2019 - 11/2020	5	0%	5	0%	1.5	3.6	--	--	1.5	3.6	-6	0.234	0.36	Stable	--	0	--
MW-17A	Dissolved Cobalt	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.415	4.3	--	--	0.415	4.3	-26	0.0058	0.88	**Decreasing Trend**	--	--	--
MW-17A	Total Cobalt	µg/L	10	-	-	6/2019 - 11/2020	5	0%	5	0%	0.97	2.6	--	--	0.97	2.6	-4	0.484	0.44	Stable	0	--	--
MW-17A	Dissolved Copper	µg/L	-	2000	1000	6/2018 - 11/2020	9	0%	9	0%	2.1	15	--	--	2.1	15	-10	0.358	0.76	Stable	--	0	0

Table 4.1

Statistical Screening and Trend Test (Mann Kendall) Results – Baseline Groundwater Quality Data
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test											Samples Outside Criteria (Count)		
			NSE	CDWQG		Date					Detects		Non-Detects							NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
MW-17A	Total Copper	µg/L	2	2000	1000	6/2019 - 11/2020	5	0%	5	0%	7.45	17	--	--	7.45	17	-4	0.484	0.37	Stable	**5**	0	0
MW-17A	Dissolved Iron	µg/L	-	-	300	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-17A	Total Iron	µg/L	300	-	300	6/2019 - 11/2020	5	0%	5	0%	1515	4400	--	--	1515	4400	-2	0.816	0.47	Stable	**5**	--	**5**
MW-17A	Dissolved Lead	µg/L	-	5	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-17A	Total Lead	µg/L	1	5	-	6/2019 - 11/2020	5	0%	5	0%	0.81	2	--	--	0.81	2	-8	0.084	0.39	**Probably Decreasing**	**3**	0	--
MW-17A	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	330	860	--	--	330	860	-16	0.12	0.31	Stable	--	--	--
MW-17A	Total Magnesium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	790	1700	--	--	790	1700	-4	0.484	0.34	Stable	--	--	--
MW-17A	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	9	0%	9	0%	36	340	--	--	36	340	-28	0.0024	0.83	**Decreasing Trend**	--	**3**	**9**
MW-17A	Total Manganese	µg/L	820	120	20	6/2019 - 11/2020	5	0%	5	0%	72.5	160	--	--	72.5	160	-4	0.484	0.38	Stable	0	**1**	**5**
MW-17A	Dissolved Molybdenum	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-17A	Total Molybdenum	µg/L	73	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-17A	Dissolved Nickel	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2.5	15	--	--	2.5	15	-18	0.076	0.64	**Probably Decreasing**	--	--	--
MW-17A	Total Nickel	µg/L	25	-	-	6/2019 - 11/2020	5	0%	5	0%	3.75	11	--	--	3.75	11	-4	0.484	0.47	Stable	0	--	--
MW-17A	Dissolved Phosphorus	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-17A	Total Phosphorus	µg/L	-	-	-	6/2019 - 11/2020	5	80%	5	80%	140	140	<100	<100	<100	140	--	--	--	>50% ND	--	--	--
MW-17A	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	315	740	--	--	315	740	-17	0.098	0.31	**Probably Decreasing**	--	--	--
MW-17A	Total Potassium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	490	1000	--	--	490	1000	-2	0.816	0.28	Stable	--	--	--
MW-17A	Dissolved Selenium	µg/L	-	50	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-17A	Total Selenium	µg/L	1	50	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-17A	Dissolved Silver	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-17A	Total Silver	µg/L	0.1	-	-	6/2019 - 11/2020	5	0%	5	0%	0.31	0.65	--	--	0.31	0.65	-8	0.084	0.32	**Probably Decreasing**	**5**	--	--
MW-17A	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	0%	2300	3700	--	--	2300	3700	-14	0.18	0.18	Stable	--	--	0
MW-17A	Total Sodium	µg/L	-	-	200000	6/2019 - 11/2020	5	0%	5	0%	2200	3600	--	--	2200	3600	0	1	0.21	Stable	--	--	0
MW-17A	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	9	0%	9	0%	15	32	--	--	15	32	-17	0.098	0.25	**Probably Decreasing**	--	0	--
MW-17A	Total Strontium	µg/L	21000	7000	-	6/2019 - 11/2020	5	0%	5	0%	18.5	31	--	--	18.5	31	-5	0.359	0.25	Stable	0	0	--
MW-17A	Dissolved Thallium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-17A	Total Thallium	µg/L	0.8	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-17A	Dissolved Tin	µg/L	-	-	-	6/2018 - 11/2020	9	56%	9	56%	2.2	3.7	<2.0	<2.0	<2.0	3.7	--	--	--	>50% ND	--	--	--
MW-17A	Total Tin	µg/L	-	-	-	6/2019 - 11/2020	5	80%	5	80%	2	2	<2.0	<2.0	<2.0	<2.0	--	--	--	>50% ND	--	--	--
MW-17A	Dissolved Titanium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-17A	Total Titanium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	33.65	110	--	--	33.65	110	-2	0.816	0.56	Stable	--	--	--
MW-17A	Dissolved Uranium	µg/L	-	20	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-17A	Total Uranium	µg/L	300	20	-	6/2019 - 11/2020	5	20%	5	20%	0.1	0.24	<0.10	<0.10	<0.10	0.24	-4	0.484	0.52	Stable	0	0	--
MW-17A	Dissolved Vanadium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-17A	Total Vanadium	µg/L	6	-	-	6/2019 - 11/2020	5	40%	5	40%	2.5	4.2	<2.0	<2.0	<2.0	4.2	-6	0.234	0.59	Stable	0	--	--
MW-17A	Total Zinc	µg/L	30	-	5000	6/2019 - 11/2020	5	0%	5	0%	9.4	22	--	--	9.4	22	-3	0.65	0.44	Stable	0	--	0
MW-17A	Dissolved Mercury	µg/L	--	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
MW-17A	Total Mercury	µg/L	0.026	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
	Calculated Parameters																						
MW-17B	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.3	0.37	--	--	0.3	0.37	-4	0.762	0.06	Stable	--	--	--
MW-17B	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	6.6	9.6	--	--	6.6	9.6	-1	1	0.12	Stable	--	--	--
MW-17B	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	25	28	--	--	25	28	-1	1	0.04	Stable	--	--	0
MW-17B	Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-17B	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.25	0.29	--	--	0.25	0.29	0	1	0.06	Stable	--	--	--
MW-17B	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	6.1	7.3	--	--	6.1	7.3	-7	0.544	0.07	Stable	--	--	--
MW-17B	Ion Balance (% Difference)	%	-	-	-	6/2018 - 11/2020	9	0%	9	0%	3.33	13.8	--	--	3.33	13.8	-4	0.762	0.37	Stable	--	--	--
MW-17B	Langelier Index (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-4.09	-3.59	--	--	-4.09	-3.59	0	1	-0.04	Stable	--	--	--
MW-17B	Langelier Index (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-4.34	-3.84	--	--	-4.34	-3.84	1	1	-0.04	No trend identified	--	--	--
MW-17B	Nitrate (N)	mg/L	-	10	-	6/2018 - 11/2020	9	78%	9	78%	0.051	0.059	<0.050	<0.050	<0.050	0.059	--	--	--	>50% ND	--	0	--
MW-17B	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	10.1	10.2	--	--	10.1	10.2	8	0.476	0.01	No trend identified	--	--	--
MW-17B	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	10.4	10.5	--	--	10.4	10.5	6	0.612	0.00	No trend identified	--	--	--
	Inorganics																						
MW-17B	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	6.6	9.6	--	--	6.6	9.6	-1	1	0.12	Stable	--	--	--
MW-17B	Total Chemical Oxygen Demand	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<20	<20	<20	<20	--	--	--	Insufficient data	--	--	--
MW-17B	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	9	0%	9	0%	2.7	5.2	--	--	2.7	5.2	-12	0.26	0.23	Stable	0	--	0
MW-17B	Colour	TCU	-	-	15	6/2018 - 11/2020	9	89%	9	89%	5.3	5.3	<5.0	<5.0	<5.0	5.3	--	--	--	>50% ND	--	--	0
MW-17B	Nitrate + Nitrite	mg/L	-	-	-	6/2018 - 11/2020	9	78%	9	78%	0.051	0.059	<0.050	<0.050	<0.050	0.059	--	--	--	>50% ND	--	--	--
MW-17B	Nitrite	mg/L	-	1	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-17B	Nitrogen (Ammonia Nitrogen)	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.050	<0.050	<0.050	<0.050	--	--	--	100% ND	--	--	--
MW-17B	Dissolved Organic Carbon	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.5	<0.5	<0.5	<0.5	--	--	--	Insufficient data	--	--	--
MW-17B	Total Organic Carbon	mg/L	-	-	-	6/2018 - 7/2020	8	63%	8	63%	0.535	1.1	<0.40	<0.50	<0.40	1.1	--	--	--	>50% ND	--	--	--
MW-17B	Orthophosphate	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.0155	0.068	--	--	0.0155	0.068	15	0.15	0.71	No trend identified	--	--	--
MW-17B	pH	s.u.	-	-	10.5	6/2018 - 11/2020	9	0%	9	0%	6.08	6.58	--	--	6.08	6.58	-1	1	0.03	Stable	--	--	0
MW-17B	pH	s.u.	-	-	7																		**9 ***
MW-17B	Dissolved Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-17B	Total Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	0.043	0.043	--	--	0.043	0.043	--	--	--	Insufficient data	--	--	--
MW-17B	Reactive Silica (SiO2)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.7	10	--	--	8.7	10	4	0.762	0.05	No trend identified	--	--	--
MW-17B	Total Suspended Solids	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	24	24	--	--	24	24	--	--	--	Insufficient data	--	--	--
MW-17B	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	2.5	4	--	--	2.5	4	9	0.417	0.19	No trend identified	--	--	0
MW-17B	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	9	0%	9	0%	0.695	6.4	--	--	0.695	6.4	15	0.15	0.68	No trend identified	--	--	**9**
MW-17B	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	9	0%	9	0%	29	34	--	--	29	34	2	0.92	0.05	No trend identified	--	--	--
	Metals																						
MW-17B	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	9	0%	9	0%	8	14	--	--	8	14	-6	0.612	0.17	Stable	--	--	0
MW-17B	Total Aluminum	µg/L	5	-	100	6/2019 - 11/2020	5	0%	5	0%	23	640	--	--	23	640	2	0.816	0.69	No trend identified	**5**	--	**4**
MW-17B	Dissolved Antimony	µg/L	-	6	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-17B	Total Antimony	µg/L	20	6	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-17B	Dissolved Arsenic	µg/L	-	10	-	6/2018 - 11/2020	9	67%	9	67%	1	1.1	<1.0	<1.0	<1.0	1.1	--	--	--	>50% ND	--	0	--

Table 4.1

Statistical Screening and Trend Test (Mann Kendall) Results – Baseline Groundwater Quality Data
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test											Samples Outside Criteria (Count)		
			NSE	CDWQG		Date					Detects		Non-Detects							NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
MW-17B	Total Arsenic	µg/L	5	10	-	6/2019 - 11/2020	5	20%	5	20%	1.3	2	<1.0	<1.0	<1.0	2	2	0.816	0.41	No trend identified	0	0	--
MW-17B	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	9	0%	9	0%	2.95	4.1	--	--	2.95	4.1	-8	0.476	0.10	Stable	--	0	--
MW-17B	Total Barium	µg/L	1000	2000	-	6/2019 - 11/2020	5	0%	5	0%	3.3	7.7	--	--	3.3	7.7	4	0.484	0.30	No trend identified	0	0	--
MW-17B	Dissolved Beryllium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-17B	Total Beryllium	µg/L	5.3	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-17B	Dissolved Bismuth	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-17B	Total Bismuth	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-17B	Dissolved Boron	µg/L	-	5000	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-17B	Total Boron	µg/L	1200	5000	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-17B	Dissolved Cadmium	µg/L	-	7	-	6/2018 - 11/2020	9	0%	9	0%	0.013	0.035	--	--	0.013	0.035	-23	0.0183	0.33	**Decreasing Trend**	--	0	--
MW-17B	Total Cadmium	µg/L	0.01	7	-	6/2019 - 11/2020	5	0%	5	0%	0.012	0.022	--	--	0.012	0.022	0	1	0.24	Stable	**5**	0	--
MW-17B	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1500	1800	--	--	1500	1800	-11	0.309	0.07	Stable	--	--	--
MW-17B	Total Calcium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	1600	1900	--	--	1600	1900	-5	0.359	0.08	Stable	--	--	--
MW-17B	Dissolved Chromium	µg/L	-	50	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-17B	Total Chromium	µg/L	-	50	-	6/2019 - 11/2020	5	60%	5	60%	1.4	1.5	<1.0	<1.0	<1.0	1.5	--	--	--	>50% ND	--	0	--
MW-17B	Dissolved Cobalt	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	--	100% ND	--	--	--
MW-17B	Total Cobalt	µg/L	10	-	-	6/2019 - 11/2020	5	80%	5	80%	0.4	0.4	<0.40	<0.40	<0.40	<0.40	--	--	--	>50% ND	0	--	--
MW-17B	Dissolved Copper	µg/L	-	2000	1000	6/2018 - 11/2020	9	89%	9	89%	0.7	0.7	<0.50	<2.0	<0.50	<2.0	--	--	--	>50% ND	--	0	0
MW-17B	Total Copper	µg/L	2	2000	1000	6/2019 - 11/2020	5	20%	5	20%	1.2	1.5	<0.50	<0.50	<0.50	1.5	-1	1	0.45	Stable	0	0	0
MW-17B	Dissolved Iron	µg/L	-	-	300	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-17B	Total Iron	µg/L	300	-	300	6/2019 - 11/2020	5	20%	5	20%	260	850	<50	<50	<50	850	0	1	0.72	Stable	**3**	--	**3**
MW-17B	Dissolved Lead	µg/L	-	5	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-17B	Total Lead	µg/L	1	5	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-17B	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	570	730	--	--	570	730	-4	0.762	0.08	Stable	--	--	--
MW-17B	Total Magnesium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	660	860	--	--	660	860	0	1	0.12	Stable	--	--	--
MW-17B	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	9	0%	9	0%	3.2	200	--	--	3.2	200	-23	0.0183	2.45	**Decreasing Trend**	--	**1**	**1**
MW-17B	Total Manganese	µg/L	820	120	20	6/2019 - 11/2020	5	0%	5	0%	4	30	--	--	4	30	2	0.816	0.53	No trend identified	0	0	**3**
MW-17B	Dissolved Molybdenum	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-17B	Total Molybdenum	µg/L	73	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-17B	Dissolved Nickel	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-17B	Total Nickel	µg/L	25	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-17B	Dissolved Phosphorus	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-17B	Total Phosphorus	µg/L	-	-	-	6/2019 - 11/2020	5	80%	5	80%	120	120	<100	<100	<100	120	--	--	--	>50% ND	--	--	--
MW-17B	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	360	460	--	--	360	460	-8	0.476	0.08	Stable	--	--	--
MW-17B	Total Potassium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	350	580	--	--	350	580	6	0.234	0.18	No trend identified	--	--	--
MW-17B	Total Selenium	µg/L	1	50	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-17B	Dissolved Silver	µg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	0.19	0.19	<0.10	<0.10	<0.10	0.19	--	--	--	>50% ND	--	--	--
MW-17B	Total Silver	µg/L	0.1	-	-	6/2019 - 11/2020	5	20%	5	20%	0.15	0.55	<0.10	<0.10	<0.10	0.55	6	0.234	0.77	No trend identified	**4**	--	--
MW-17B	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	0%	2750	3200	--	--	2750	3200	9	0.417	0.06	No trend identified	--	--	0
MW-17B	Total Sodium	µg/L	-	-	200000	6/2019 - 11/2020	5	0%	5	0%	2800	3500	--	--	2800	3500	-1	1	0.08	Stable	--	--	0
MW-17B	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	9	0%	9	0%	18.5	23	--	--	18.5	23	1	1	0.08	No trend identified	--	0	--
MW-17B	Total Strontium	µg/L	21000	7000	-	6/2019 - 11/2020	5	0%	5	0%	21	23	--	--	21	23	-5	0.359	0.03	Stable	0	0	--
MW-17B	Dissolved Thallium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-17B	Total Thallium	µg/L	0.8	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-17B	Dissolved Tin	µg/L	-	-	-	6/2018 - 11/2020	9	67%	9	67%	2.4	3.3	<2.0	<2.0	<2.0	3.3	--	--	--	>50% ND	--	--	--
MW-17B	Total Tin	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-17B	Dissolved Titanium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-17B	Total Titanium	µg/L	-	-	-	6/2019 - 11/2020	5	20%	5	20%	8.3	33	<2.0	<2.0	<2.0	33	0	1	0.76	Stable	--	--	--
MW-17B	Dissolved Uranium	µg/L	-	20	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-17B	Total Uranium	µg/L	300	20	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-17B	Dissolved Vanadium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-17B	Total Vanadium	µg/L	6	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-17B	Dissolved Zinc	µg/L	-	-	5000	6/2018 - 11/2020	9	67%	9	67%	5.4	7.9	<5.0	<5.0	<5.0	7.9	--	--	--	>50% ND	--	--	0
MW-17B	Total Zinc	µg/L	30	-	5000	6/2019 - 11/2020	5	80%	5	80%	7.6	7.6	<5.0	<5.0	<5.0	7.6	--	--	--	>50% ND	0	--	0
MW-17B	Dissolved Mercury	µg/L	--	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
MW-17B	Total Mercury	µg/L	0.026	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
	Calculated Parameters																						
MW-17C	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.31	0.45	--	--	0.31	0.45	-20	0.044	0.13	**Decreasing Trend**	--	--	--
MW-17C	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.4	15	--	--	8.4	15	-20	0.044	0.21	**Decreasing Trend**	--	--	--
MW-17C	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	26	35	--	--	26	35	-21	0.034	0.09	**Decreasing Trend**	--	--	0
MW-17C	Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-17C	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.3	0.41	--	--	0.3	0.41	-23	0.0183	0.11	**Decreasing Trend**	--	--	--
MW-17C	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8	12	--	--	8	12	-27	0.0041	0.16	**Decreasing Trend**	--	--	--
MW-17C	Ion Balance (% Difference)	%	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1.45	7.69	--	--	1.45	7.69	-2	0.92	0.51	Stable	--	--	--
MW-17C	Langelier Index (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-3.78	-2.93	--	--	-3.78	-2.93	-20	0.044	-0.09	**Decreasing Trend**	--	--	--
MW-17C	Langelier Index (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-4.03	-3.18	--	--	-4.03	-3.18	-20	0.044	-0.08	**Decreasing Trend**	--	--	--
MW-17C	Nitrate (N)	mg/L	-	10	-	6/2018 - 11/2020	9	67%	9	67%	0.051	0.062	<0.050	<0.050	<0.050	0.062	--	--	--	>50% ND	--	0	--
MW-17C	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	9.57	10	--	--	9.57	10	25	0.0092	0.02	**Increasing Trend**	--	--	--
MW-17C	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	9.82	10.3	--	--	9.82	10.3	25	0.0092	0.02	**Increasing Trend**	--	--	--
	Inorganics																						
MW-17C	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.4	15	--	--	8.4	15	-20	0.044	0.21	**Decreasing Trend**	--	--	--
MW-17C	Total Chemical Oxygen Demand	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<20	<20	<20	<20	--	--	--	Insufficient data	--	--	--
MW-17C	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	9	0%	9	0%	2.6	5.1	--	--	2.6	5.1	-6	0.612	0.24	Stable	0	--	0
MW-17C	Colour	TCU	-	-	15	6/2018 - 11/2020	9	89%	9	89%	5.7	5.7	<5.0	<5.0	<5.0	5.7	--	--	--	>50% ND	--	--	0
MW-17C	Nitrate + Nitrite	mg/L	-	-	-	6/2018 - 11/2020	9	67%	9	67%	0.051	0.062	<0.050	<0.050	<0.050	0.062	--	--	--	>50% ND	--	--	--
MW-17C	Nitrite	mg/L	-	1	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-17C	Nitrogen (Ammonia Nitrogen)	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.050	<0.050	<0.050	<0.050	--	--	--	100% ND	--	--	--
MW-17C	Dissolved Organic Carbon	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.5	<0.5	<0.5	<0.5	--	--	--	Insufficient data	--	--	--

Table 4.1

Statistical Screening and Trend Test (Mann Kendall) Results – Baseline Groundwater Quality Data
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test											Samples Outside Criteria (Count)		
			NSE	CDWQG		Date					Detects		Non-Detects							NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
MW-17C	Total Organic Carbon	mg/L	-	-	-	6/2018 - 11/2020	9	56%	9	56%	0.56	1.2	0.42 u	<0.50	0.42 u	1.2	--	--	--	>50% ND	--	--	--
MW-17C	Orthophosphate	mg/L	-	-	-	6/2018 - 11/2020	9	22%	9	22%	0.015	0.02	<0.010	<0.010	<0.010	0.02	11	0.309	0.39	No trend identified	--	--	--
MW-17C	pH	s.u.	-	-	10.5	6/2018 - 11/2020	9	0%	9	0%	6.2	6.71	--	--	6.2	6.71	-4	0.762	0.03	Stable	--	--	0
MW-17C	pH	s.u.	-	-	7																		**9 ***
MW-17C	Dissolved Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-17C	Total Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	0.041	0.041	--	--	0.041	0.041	--	--	--	Insufficient data	--	--	--
MW-17C	Reactive Silica (SiO2)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	9.5	11	--	--	9.5	11	-12	0.26	0.06	Stable	--	--	--
MW-17C	Total Suspended Solids	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	8.4	8.4	--	--	8.4	8.4	--	--	--	Insufficient data	--	--	--
MW-17C	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	2.1	3.5	--	--	2.1	3.5	6	0.612	0.14	No trend identified	--	--	0
MW-17C	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	9	0%	9	0%	0.74	13	--	--	0.74	13	20	0.044	1.12	**Increasing Trend**	--	--	**9**
MW-17C	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	9	0%	9	0%	35	45	--	--	35	45	-26	0.0058	0.10	**Decreasing Trend**	--	--	--
	Metals																						
MW-17C	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	9	44%	9	44%	5.9	7.9	<5.0	<5.0	<5.0	7.9	1	1	0.47	No trend identified	--	--	0
MW-17C	Total Aluminum	µg/L	5	-	100	6/2019 - 11/2020	5	0%	5	0%	31	400	--	--	31	400	4	0.484	0.74	No trend identified	**5**	--	**3**
MW-17C	Dissolved Antimony	µg/L	-	6	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-17C	Total Antimony	µg/L	20	6	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-17C	Dissolved Arsenic	µg/L	-	10	-	6/2018 - 11/2020	9	0%	9	0%	1.2	2.8	--	--	1.2	2.8	10	0.358	0.22	No trend identified	--	0	--
MW-17C	Total Arsenic	µg/L	5	10	-	6/2019 - 11/2020	5	0%	5	0%	1.9	4.5	--	--	1.9	4.5	4	0.484	0.36	No trend identified	0	0	--
MW-17C	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	9	22%	9	22%	1.2	2.4	<1.0	<1.0	<1.0	2.4	-9	0.417	0.46	Stable	--	0	--
MW-17C	Total Barium	µg/L	1000	2000	-	6/2019 - 11/2020	5	0%	5	0%	1.3	3.1	--	--	1.3	3.1	4	0.484	0.36	No trend identified	0	0	--
MW-17C	Dissolved Beryllium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-17C	Total Beryllium	µg/L	5.3	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-17C	Dissolved Bismuth	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-17C	Total Bismuth	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-17C	Dissolved Boron	µg/L	-	5000	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-17C	Total Boron	µg/L	1200	5000	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-17C	Dissolved Cadmium	µg/L	-	7	-	6/2018 - 11/2020	9	22%	9	22%	0.01	0.018	<0.010	<0.010	<0.010	0.018	10	0.358	0.39	No trend identified	--	0	--
MW-17C	Total Cadmium	µg/L	0.01	7	-	6/2019 - 11/2020	5	20%	5	20%	0.013	0.019	<0.010	<0.010	<0.010	0.019	-1	1	0.39	Stable	**4**	0	--
MW-17C	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2200	3600	--	--	2200	3600	-27	0.0041	0.18	**Decreasing Trend**	--	--	--
MW-17C	Total Calcium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	2100	2800	--	--	2100	2800	-5	0.359	0.11	Stable	--	--	--
MW-17C	Dissolved Chromium	µg/L	-	50	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-17C	Total Chromium	µg/L	-	50	-	6/2019 - 11/2020	5	80%	5	80%	1.2	1.2	<1.0	<1.0	<1.0	1.2	--	--	--	>50% ND	--	0	--
MW-17C	Dissolved Cobalt	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	--	100% ND	--	--	--
MW-17C	Total Cobalt	µg/L	10	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	--	100% ND	--	--	--
MW-17C	Dissolved Copper	µg/L	-	2000	1000	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<2.0	<0.50	<2.0	--	--	--	100% ND	--	--	--
MW-17C	Total Copper	µg/L	2	2000	1000	6/2019 - 11/2020	5	0%	5	0%	0.59	1.5	--	--	0.59	1.5	2	0.816	0.39	No trend identified	0	0	0
MW-17C	Dissolved Iron	µg/L	-	-	300	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-17C	Total Iron	µg/L	300	-	300	6/2019 - 11/2020	5	20%	5	20%	110	580	<50	<50	<50	580	4	0.484	0.79	No trend identified	**2**	--	**2**
MW-17C	Dissolved Lead	µg/L	-	5	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-17C	Total Lead	µg/L	1	5	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-17C	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	600	720	--	--	600	720	-15	0.15	0.06	Stable	--	--	--
MW-17C	Total Magnesium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	590	740	--	--	590	740	4	0.484	0.08	No trend identified	--	--	--
MW-17C	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	9	0%	9	0%	3.4	20	--	--	3.4	20	-23	0.0183	0.62	**Decreasing Trend**	--	0	0
MW-17C	Total Manganese	µg/L	820	120	20	6/2019 - 11/2020	5	0%	5	0%	4.9	19	--	--	4.9	19	2	0.816	0.47	No trend identified	0	0	0
MW-17C	Dissolved Molybdenum	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-17C	Total Molybdenum	µg/L	73	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-17C	Dissolved Nickel	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-17C	Total Nickel	µg/L	25	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-17C	Dissolved Phosphorus	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-17C	Total Phosphorus	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-17C	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	360	470	--	--	360	470	-11	0.309	0.09	Stable	--	--	--
MW-17C	Total Potassium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	350	520	--	--	350	520	6	0.234	0.17	No trend identified	--	--	--
MW-17C	Dissolved Selenium	µg/L	-	50	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-17C	Total Selenium	µg/L	1	50	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-17C	Dissolved Silver	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-17C	Total Silver	µg/L	0.1	-	-	6/2019 - 11/2020	5	20%	5	20%	0.13	0.32	<0.10	<0.10	<0.10	0.32	0	1	0.57	Stable	**4**	--	--
MW-17C	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	0%	3000	3600	--	--	3000	3600	-17	0.098	0.07	**Probably Decreasing**	--	--	0
MW-17C	Total Sodium	µg/L	-	-	200000	6/2019 - 11/2020	5	0%	5	0%	3000	3300	--	--	3000	3300	-1	1	0.04	Stable	--	--	0
MW-17C	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	9	0%	9	0%	18	21	--	--	18	21	-11	0.309	0.06	Stable	--	0	--
MW-17C	Total Strontium	µg/L	21000	7000	-	6/2019 - 11/2020	5	0%	5	0%	18	20	--	--	18	20	-3	0.65	0.04	Stable	0	0	--
MW-17C	Dissolved Thallium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-17C	Total Thallium	µg/L	0.8	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-17C	Dissolved Tin	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-17C	Total Tin	µg/L	-	-	-	6/2019 - 11/2020	5	60%	5	60%	2.4	3.4	<2.0	<2.0	<2.0	3.4	--	--	--	>50% ND	--	--	--
MW-17C	Dissolved Titanium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-17C	Total Titanium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	2.1	15	--	--	2.1	15	4	0.484	0.68	No trend identified	--	--	--
MW-17C	Dissolved Uranium	µg/L	-	20	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-17C	Total Uranium	µg/L	300	20	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-17C	Dissolved Vanadium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-17C	Total Vanadium	µg/L	6	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-17C	Dissolved Zinc	µg/L	-	-	5000	6/2018 - 11/2020	9	78%	9	78%	8.3	9.8	<5.0	<5.0	<5.0	9.8	--	--	--	>50% ND	--	--	0
MW-17C	Total Zinc	µg/L	30	-	5000	6/2019 - 11/2020	5	100%	5	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	--	100% ND	--	--	--
MW-17C	Dissolved Mercury	µg/L	--	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
MW-17C	Total Mercury	µg/L	0.026	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
	Calculated Parameters																						
MW-18A	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.17	0.325	--	--	0.17	0.325	-12	0.26	0.16	Stable	--	--	--
MW-18A	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	9	11%	9	11%	5	7.05	<1.0	<1.0	<1.0	7.05	4	0.762	0.36	No trend identified	--	--	--
MW-18A	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	17	24	--	--	17	24	-8	0.476	0.10	Stable	--	--	0
MW-18A	Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--

Table 4.1

Statistical Screening and Trend Test (Mann Kendall) Results – Baseline Groundwater Quality Data
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test										Samples Outside Criteria (Count)		
			NSE	CDWQG		Date					Detects		Non-Detects						NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
MW-18A	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.22	0.28	--	--	0.22	0.28	-4	0.762	0.08	Stable	--	--	--
MW-18A	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	5.2	7.45	--	--	5.2	7.45	-14	0.18	0.12	Stable	--	--	--
MW-18A	Ion Balance (% Difference)	%	-	-	-	6/2018 - 11/2020	9	0%	9	0%	6.12	13.5	--	--	6.12	13.5	-4	0.762	0.29	Stable	--	--	--
MW-18A	Langelier Index (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	8	0%	8	0%	-4.42	-3.84	--	--	-4.42	-3.84	2	0.904	-0.05	No trend identified	--	--	--
MW-18A	Langelier Index (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	8	0%	8	0%	-4.68	-4.09	--	--	-4.68	-4.09	2	0.904	-0.05	No trend identified	--	--	--
MW-18A	Nitrate (N)	mg/L	-	10	-	6/2018 - 11/2020	9	33%	9	33%	0.0525	0.1	<0.050	<0.050	<0.050	0.1	4	0.762	0.52	No trend identified	--	0	--
MW-18A	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	8	0%	8	0%	10.15	10.4	--	--	10.15	10.4	4	0.72	0.01	No trend identified	--	--	--
MW-18A	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	8	0%	8	0%	10.4	10.7	--	--	10.4	10.7	-2	0.904	0.01	Stable	--	--	--
	Inorganics																						
MW-18A	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	11%	9	11%	5	7.05	<5.0	<5.0	5	7.05	4	0.762	0.24	No trend identified	--	--	--
MW-18A	Total Chemical Oxygen Demand	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<20	<20	<20	<20	--	--	--	Insufficient data	--	--	--
MW-18A	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	9	0%	9	0%	2.2	4.3	--	--	2.2	4.3	-12	0.26	0.23	Stable	0	--	0
MW-18A	Colour	TCU	-	-	15	6/2018 - 11/2020	9	100%	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	--	100% ND	--	--	--
MW-18A	Nitrate + Nitrite	mg/L	-	-	-	6/2018 - 11/2020	9	33%	9	33%	0.0525	0.1	<0.050	<0.050	<0.050	0.1	4	0.762	0.52	No trend identified	--	--	--
MW-18A	Nitrite	mg/L	-	1	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-18A	Nitrogen (Ammonia Nitrogen)	mg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	0.081	0.081	<0.050	<0.050	<0.050	0.081	--	--	--	>50% ND	--	--	--
MW-18A	Dissolved Organic Carbon	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.5	<0.5	<0.5	<0.5	--	--	--	Insufficient data	--	--	--
MW-18A	Total Organic Carbon	mg/L	-	-	-	6/2018 - 11/2020	9	44%	9	44%	0.55	2.2	<0.50	<0.50	<0.50	2.2	-4	0.762	0.90	Stable	--	--	--
MW-18A	Orthophosphate	mg/L	-	-	-	6/2018 - 11/2020	9	78%	9	78%	0.011	0.017	<0.010	<0.010	<0.010	0.017	--	--	--	>50% ND	--	--	--
MW-18A	pH	s.u.	-	-	10.5	6/2018 - 11/2020	9	0%	9	0%	5.945	6.53	--	--	5.945	6.53	0	1	0.03	Stable	--	--	0
MW-18A	pH	s.u.	-	-	7																		**9 ***
MW-18A	Dissolved Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-18A	Total Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-18A	Reactive Silica (SiO2)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	5	6.55	--	--	5	6.55	-6	0.612	0.10	Stable	--	--	--
MW-18A	Total Suspended Solids	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	5	5	--	--	5	5	--	--	--	Insufficient data	--	--	--
MW-18A	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	3.1	4.6	--	--	3.1	4.6	-8	0.476	0.13	Stable	--	--	0
MW-18A	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	9	0%	9	0%	0.28	4.3	--	--	0.28	4.3	10	0.358	1.07	No trend identified	--	--	**8**
MW-18A	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	9	0%	9	0%	27	36	--	--	27	36	-8	0.476	0.11	Stable	--	--	--
	Metals																						
MW-18A	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	9	0%	9	0%	23	49	--	--	23	49	6	0.612	0.24	No trend identified	--	--	0
MW-18A	Total Aluminum	µg/L	5	-	100	6/2019 - 11/2020	5	0%	5	0%	53	180	--	--	53	180	-6	0.234	0.51	Stable	**5**	--	**1**
MW-18A	Dissolved Antimony	µg/L	-	6	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-18A	Total Antimony	µg/L	20	6	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-18A	Dissolved Arsenic	µg/L	-	10	-	6/2018 - 11/2020	9	0%	9	0%	5.7	40	--	--	5.7	40	-12	0.26	0.88	Stable	--	**2**	--
MW-18A	Total Arsenic	µg/L	5	10	-	6/2019 - 11/2020	5	0%	5	0%	7.8	16	--	--	7.8	16	2	0.816	0.32	No trend identified	**5**	**3**	--
MW-18A	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	9	0%	9	0%	4	8.55	--	--	4	8.55	-15	0.15	0.23	Stable	--	0	--
MW-18A	Total Barium	µg/L	1000	2000	-	6/2019 - 11/2020	5	0%	5	0%	4.4	7.7	--	--	4.4	7.7	-2	0.816	0.24	Stable	0	0	--
MW-18A	Dissolved Beryllium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-18A	Total Beryllium	µg/L	5.3	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-18A	Dissolved Bismuth	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-18A	Total Bismuth	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-18A	Dissolved Boron	µg/L	-	5000	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-18A	Total Boron	µg/L	1200	5000	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-18A	Dissolved Cadmium	µg/L	-	7	-	6/2018 - 11/2020	9	0%	9	0%	0.013	0.033	--	--	0.013	0.033	-6	0.612	0.28	Stable	--	0	--
MW-18A	Total Cadmium	µg/L	0.01	7	-	6/2019 - 11/2020	5	0%	5	0%	0.015	0.028	--	--	0.015	0.028	0	1	0.23	Stable	**5**	0	--
MW-18A	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1400	1900	--	--	1400	1900	-2	0.92	0.11	Stable	--	--	--
MW-18A	Total Calcium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	1300	1600	--	--	1300	1600	5	0.359	0.09	No trend identified	--	--	--
MW-18A	Dissolved Chromium	µg/L	-	50	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-18A	Total Chromium	µg/L	-	50	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-18A	Dissolved Cobalt	µg/L	-	-	-	6/2018 - 11/2020	9	11%	9	11%	0.445	2.2	<0.40	<0.40	<0.40	2.2	-34	0.00005	0.65	**Decreasing Trend**	--	--	--
MW-18A	Total Cobalt	µg/L	10	-	-	6/2019 - 11/2020	5	20%	5	20%	0.44	0.86	<0.40	<0.40	<0.40	0.86	-10	0.0166	0.48	**Decreasing Trend**	0	--	--
MW-18A	Dissolved Copper	µg/L	-	2000	1000	6/2018 - 11/2020	9	0%	9	0%	1.7	11	--	--	1.7	11	-16	0.12	0.62	Stable	--	0	0
MW-18A	Total Copper	µg/L	2	2000	1000	6/2019 - 11/2020	5	0%	5	0%	1.9	5.5	--	--	1.9	5.5	-2	0.816	0.38	Stable	**4**	0	0
MW-18A	Dissolved Iron	µg/L	-	-	300	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-18A	Total Iron	µg/L	300	-	300	6/2019 - 11/2020	5	20%	5	20%	65	210	<50	<50	<50	210	-2	0.816	0.78	Stable	0	--	0
MW-18A	Dissolved Lead	µg/L	-	5	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-18A	Total Lead	µg/L	1	5	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-18A	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	430	710	--	--	430	710	-29	0.00163	0.18	**Decreasing Trend**	--	--	--
MW-18A	Total Magnesium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	440	520	--	--	440	520	-8	0.084	0.06	**Probably Decreasing**	--	--	--
MW-18A	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	9	0%	9	0%	10	53	--	--	10	53	-24	0.0126	0.62	**Decreasing Trend**	--	0	**4**
MW-18A	Total Manganese	µg/L	820	120	20	6/2019 - 11/2020	5	0%	5	0%	11	26	--	--	11	26	-6	0.234	0.36	Stable	0	0	**1**
MW-18A	Dissolved Molybdenum	µg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	3.55	3.55	<2.0	<2.0	<2.0	3.55	--	--	--	>50% ND	--	--	--
MW-18A	Total Molybdenum	µg/L	73	-	-	6/2019 - 11/2020	5	80%	5	80%	3.35	3.35	<2.0	<2.0	<2.0	3.35	--	--	--	>50% ND	0	--	--
MW-18A	Dissolved Nickel	µg/L	-	-	-	6/2018 - 11/2020	9	56%	9	56%	3.05	6.3	<2.0	<2.0	<2.0	6.3	--	--	--	>50% ND	--	--	--
MW-18A	Total Nickel	µg/L	25	-	-	6/2019 - 11/2020	5	80%	5	80%	2	2	<2.0	<2.0	<2.0	<2.0	--	--	--	>50% ND	0	--	--
MW-18A	Dissolved Phosphorus	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-18A	Total Phosphorus	µg/L	-	-	-	6/2019 - 11/2020	5	80%	5	80%	100	100	<100	<100	<100	<100	--	--	--	>50% ND	--	--	--
MW-18A	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	410	790	--	--	410	790	-6	0.612	0.21	Stable	--	--	--
MW-18A	Total Potassium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	420	630	--	--	420	630	4	0.484	0.14	No trend identified	--	--	--
MW-18A	Dissolved Selenium	µg/L	-	50	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-18A	Total Selenium	µg/L	1	50	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-18A	Dissolved Silver	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-18A	Total Silver	µg/L	0.1	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-18A	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	0%	2300	2600	--	--	2300	2600	4	0.762	0.05	No trend identified	--	--	0
MW-18A	Total Sodium	µg/L	-	-	200000	6/2019 - 11/2020	5	0%	5	0%	2300	2700	--	--	2300	2700	6	0.234	0.07	No trend identified	--	--	0
MW-18A	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	9	0%	9	0%	11	13	--	--	11	13	-8	0.476	0.06	Stable	--	0	--
MW-18A	Total Strontium	µg/L	21000	7000	-	6/2019 - 11/2020	5	0%	5	0%	11	12	--	--	11	12	-6	0.234	0.05	Stable	0	0	--
MW-18A	Dissolved Thallium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-18A	Total Thallium	µg/L	0.8	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-18A	Dissolved Tin	µg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	2.7	2.7	<2.0	<2.0	<2.0	2.7	--	--	--	>50% ND	--	--	--

Table 4.1

Statistical Screening and Trend Test (Mann Kendall) Results – Baseline Groundwater Quality Data
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test										Samples Outside Criteria (Count)		
			NSE	CDWQG		Date					Detects		Non-Detects						NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
MW-18A	Total Tin	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-18A	Dissolved Titanium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-18A	Total Titanium	µg/L	-	-	-	6/2019 - 11/2020	5	80%	5	80%	5.2	5.2	<2.0	<2.0	<2.0	5.2	--	--	--	>50% ND	--	--	--
MW-18A	Dissolved Uranium	µg/L	-	20	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-18A	Total Uranium	µg/L	300	20	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-18A	Dissolved Vanadium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-18A	Total Vanadium	µg/L	6	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-18A	Dissolved Zinc	µg/L	-	-	5000	6/2018 - 11/2020	9	0%	9	0%	5.3	19	--	--	5.3	19	-21	0.034	0.46	Decreasing Trend	--	--	0
MW-18A	Total Zinc	µg/L	30	-	5000	6/2019 - 11/2020	5	60%	5	60%	5.8	6.6	<5.0	<5.0	<5.0	6.6	--	--	--	>50% ND	0	--	0
MW-18A	Dissolved Mercury	µg/L	--	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
MW-18A	Total Mercury	µg/L	0.026	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
	Calculated Parameters																						
MW-18B	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1.21	1.39	--	--	1.21	1.39	-18	0.076	0.05	Probably Decreasing	--	--	--
MW-18B	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	43	50	--	--	43	50	-18	0.076	0.05	Probably Decreasing	--	--	--
MW-18B	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	75	86	--	--	75	86	-20	0.044	0.05	Decreasing Trend	--	--	0
MW-18B	Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-18B	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1.14	1.26	--	--	1.14	1.26	-23	0.0183	0.04	Decreasing Trend	--	--	--
MW-18B	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	30	45	--	--	30	45	27	0.0041	0.11	Increasing Trend	--	--	--
MW-18B	Ion Balance (% Difference)	%	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2.11	6.56	--	--	2.11	6.56	0	1	0.36	Stable	--	--	--
MW-18B	Langelier Index (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-0.953	-0.564	--	--	-0.953	-0.564	-6	0.612	-0.16	Stable	--	--	--
MW-18B	Langelier Index (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-1.2	-0.815	--	--	-1.2	-0.815	-6	0.612	-0.12	Stable	--	--	--
MW-18B	Nitrate (N)	mg/L	-	10	-	6/2018 - 11/2020	9	89%	9	89%	0.075	0.075	<0.050	<0.050	<0.050	0.075	--	--	--	>50% ND	--	0	--
MW-18B	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.47	8.61	--	--	8.47	8.61	-9	0.417	0.00	Stable	--	--	--
MW-18B	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.72	8.86	--	--	8.72	8.86	-9	0.417	0.00	Stable	--	--	--
	Inorganics																						
MW-18B	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	43	50	--	--	43	50	-18	0.076	0.05	Probably Decreasing	--	--	--
MW-18B	Total Chemical Oxygen Demand	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<20	<20	<20	<20	--	--	--	Insufficient data	--	--	--
MW-18B	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	9	0%	9	0%	1.8	6.4	--	--	1.8	6.4	-4	0.762	0.42	Stable	0	--	0
MW-18B	Colour	TCU	-	-	15	6/2018 - 11/2020	9	100%	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	--	100% ND	--	--	--
MW-18B	Nitrate + Nitrite	mg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	0.075	0.075	<0.050	<0.050	<0.050	0.075	--	--	--	>50% ND	--	--	--
MW-18B	Nitrite	mg/L	-	1	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-18B	Nitrogen (Ammonia Nitrogen)	mg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	0.14	0.14	<0.050	<0.050	<0.050	0.14	--	--	--	>50% ND	--	--	--
MW-18B	Dissolved Organic Carbon	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.5	<0.5	<0.5	<0.5	--	--	--	Insufficient data	--	--	--
MW-18B	Total Organic Carbon	mg/L	-	-	-	6/2018 - 11/2020	9	56%	9	56%	0.78	1.6	<0.50	<0.50	<0.50	1.6	--	--	--	>50% ND	--	--	--
MW-18B	Orthophosphate	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.028	0.065	--	--	0.028	0.065	-10	0.358	0.23	Stable	--	--	--
MW-18B	pH	s.u.	-	-	10.5	6/2018 - 11/2020	9	0%	9	0%	7.55	8.04	--	--	7.55	8.04	-9	0.417	0.02	Stable	--	--	0
MW-18B	pH	s.u.	-	-	7																		0 *
MW-18B	Dissolved Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-18B	Total Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-18B	Reactive Silica (SiO2)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	11	11	--	--	11	11	0	1	0.00	Stable	--	--	--
MW-18B	Total Suspended Solids	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	14	14	--	--	14	14	--	--	--	Insufficient data	--	--	--
MW-18B	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	11	17	--	--	11	17	-11	0.309	0.15	Stable	--	--	0
MW-18B	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	9	0%	9	0%	2.9	43	--	--	2.9	43	-18	0.076	0.80	Probably Decreasing	--	--	**9**
MW-18B	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	9	0%	9	0%	110	140	--	--	110	140	-22	0.024	0.08	Decreasing Trend	--	--	--
	Metals																						
MW-18B	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	9	0%	9	0%	6.5	35	--	--	6.5	35	5	0.687	0.59	No trend identified	--	--	0
MW-18B	Total Aluminum	µg/L	5	-	100	6/2019 - 11/2020	5	0%	5	0%	150	1900	--	--	150	1900	-2	0.816	1.03	No trend identified	**5**	--	**5**
MW-18B	Dissolved Antimony	µg/L	-	6	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-18B	Total Antimony	µg/L	20	6	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-18B	Dissolved Arsenic	µg/L	-	10	-	6/2018 - 11/2020	9	0%	9	0%	220	270	--	--	220	270	7	0.544	0.08	No trend identified	--	**9**	--
MW-18B	Total Arsenic	µg/L	5	10	-	6/2019 - 11/2020	5	0%	5	0%	230	270	--	--	230	270	2	0.816	0.09	No trend identified	**5**	**5**	--
MW-18B	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	9	0%	9	0%	2.2	9	--	--	2.2	9	-20	0.044	0.55	Decreasing Trend	--	0	--
MW-18B	Total Barium	µg/L	1000	2000	-	6/2019 - 11/2020	5	0%	5	0%	2.8	6.8	--	--	2.8	6.8	-4	0.484	0.37	Stable	0	0	--
MW-18B	Dissolved Beryllium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-18B	Total Beryllium	µg/L	5.3	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-18B	Dissolved Bismuth	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-18B	Total Bismuth	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-18B	Dissolved Boron	µg/L				6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-18B	Total Boron	µg/L				6/2019 - 11/2020	5	100%	5	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-18B	Dissolved Cadmium	µg/L	-	7	-	6/2018 - 11/2020	9	89%	9	89%	0.01	0.01	<0.010	<0.010	<0.010	<0.010	--	--	--	>50% ND	--	0	--
MW-18B	Total Cadmium	µg/L	0.01	7	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-18B	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	11000	16000	--	--	11000	16000	18	0.076	0.10	Probably Increasing	--	--	--
MW-18B	Total Calcium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	15000	17000	--	--	15000	17000	-3	0.65	0.04	Stable	--	--	--
MW-18B	Dissolved Chromium	µg/L	-	50	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-18B	Total Chromium	µg/L	-	50	-	6/2019 - 11/2020	5	80%	5	80%	1.5	1.5	<1.0	<1.0	<1.0	1.5	--	--	--	>50% ND	--	0	--
MW-18B	Dissolved Cobalt	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	--	100% ND	--	--	--
MW-18B	Total Cobalt	µg/L	10	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	--	100% ND	--	--	--
MW-18B	Dissolved Copper	µg/L	-	2000	1000	6/2018 - 11/2020	9	89%	9	89%	0.61	0.61	<0.50	<2.0	<0.50	<2.0	--	--	--	>50% ND	--	0	0
MW-18B	Total Copper	µg/L	2	2000	1000	6/2019 - 11/2020	5	0%	5	0%	0.58	6.9	--	--	0.58	6.9	-4	0.484	1.19	No trend identified	**1**	0	0
MW-18B	Dissolved Iron	µg/L	-	-	10.5	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-18B	Total Iron	µg/L	300	-	7	6/2019 - 11/2020	5	0%	5	0%	67	810	--	--	67	810	2	0.816	0.81	No trend identified	**2**	--	**2**
MW-18B	Dissolved Lead	µg/L	-	5	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-18B	Total Lead	µg/L	1	5	-	6/2019 - 11/2020	5	80%	5	80%	0.95	0.95	<0.50	<0.50	<0.50	0.95	--	--	--	>50% ND	0	0	--
MW-18B	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	880	1400	--	--	880	1400	23	0.0183	0.14	Increasing Trend	--	--	--
MW-18B	Total Magnesium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	1400	1800	--	--	1400	1800	0	1	0.11	Stable	--	--	--
MW-18B	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	9	56%	9	56%	2.8	6.5	<2.0	<2.0	<2.0	6.5	--	--	--	>50% ND	--	0	0
MW-18B	Total Manganese	µg/L	820	120	20	6/2019 - 11/2020	5	20%	5	20%	4.6	7.8	<2.0	<2.0	<2.0	7.8	-2	0.816	0.53	Stable	0	0	0
MW-18B	Dissolved Molybdenum	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	4.4	10	--	--	4.4	10	-7	0.544	0.30	Stable	--	--	--

Table 4.1

Statistical Screening and Trend Test (Mann Kendall) Results – Baseline Groundwater Quality Data
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test										Samples Outside Criteria (Count)		
			NSE	CDWQG		Date					Detects		Non-Detects						NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
MW-18B	Total Molybdenum	µg/L				6/2019 - 11/2020	5	0%	5	0%	4.4	5.8	--	--	4.4	5.8	-4	0.484	0.10	Stable	0	--	--
MW-18B	Dissolved Nickel	µg/L				6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-18B	Total Nickel	µg/L	25	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-18B	Dissolved Phosphorus	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-18B	Total Phosphorus	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-18B	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1200	1600	--	--	1200	1600	-16	0.12	0.11	Stable	--	--	--
MW-18B	Total Potassium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	1200	1500	--	--	1200	1500	-2	0.816	0.09	Stable	--	--	--
MW-18B	Dissolved Selenium	µg/L	-	50	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-18B	Total Selenium	µg/L	1	50	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-18B	Dissolved Silver	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-18B	Total Silver	µg/L	0.1	-	-	6/2019 - 11/2020	5	40%	5	40%	0.11	0.15	<0.10	<0.10	<0.10	0.15	1	1	0.46	No trend identified	**3**	--	--
MW-18B	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	0%	4800	14000	--	--	4800	14000	-31	0.00055	0.43	**Decreasing Trend**	--	--	0
MW-18B	Total Sodium	µg/L	-	-	200000	6/2019 - 11/2020	5	0%	5	0%	4800	5800	--	--	4800	5800	-5	0.359	0.08	Stable	--	--	0
MW-18B	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	9	0%	9	0%	46	150	--	--	46	150	-24	0.0126	0.45	**Decreasing Trend**	--	0	--
MW-18B	Total Strontium	µg/L	21000	7000	-	6/2019 - 11/2020	5	0%	5	0%	46	70	--	--	46	70	-2	0.816	0.19	Stable	0	0	--
MW-18B	Dissolved Thallium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-18B	Total Thallium	µg/L	0.8	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-18B	Dissolved Tin	µg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	3.9	3.9	<2.0	<2.0	<2.0	3.9	--	--	--	>50% ND	--	--	--
MW-18B	Total Tin	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-18B	Dissolved Titanium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-18B	Total Titanium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	3.6	24	--	--	3.6	24	-4	0.484	0.69	Stable	--	--	--
MW-18B	Dissolved Uranium	µg/L	-	20	-	6/2018 - 11/2020	9	0%	9	0%	0.91	1.7	--	--	0.91	1.7	-25	0.0092	0.23	**Decreasing Trend**	--	0	--
MW-18B	Total Uranium	µg/L	300	20	-	6/2019 - 11/2020	5	0%	5	0%	0.93	1.2	--	--	0.93	1.2	0	1	0.11	Stable	0	0	--
MW-18B	Dissolved Vanadium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-18B	Total Vanadium	µg/L	6	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-18B	Dissolved Zinc	µg/L	-	-	5000	6/2018 - 11/2020	9	78%	9	78%	5.5	9.8	<5.0	<5.0	<5.0	9.8	--	--	--	>50% ND	--	--	0
MW-18B	Total Zinc	µg/L	30	-	5000	6/2019 - 11/2020	5	80%	5	80%	6.1	6.1	<5.0	<5.0	<5.0	6.1	--	--	--	>50% ND	0	--	0
MW-18B	Dissolved Mercury	µg/L	--	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
MW-18B	Total Mercury	µg/L	0.026	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
	Calculated Parameters																						
MW-18C	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1.97	2.52	--	--	1.97	2.52	6	0.612	0.09	No trend identified	--	--	--
MW-18C	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	52	81	--	--	52	81	31	0.00055	0.16	**Increasing Trend**	--	--	--
MW-18C	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	120	160	--	--	120	160	-3	0.841	0.08	Stable	--	--	0
MW-18C	Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-18C	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1.88	2.33	--	--	1.88	2.33	6	0.612	0.07	No trend identified	--	--	--
MW-18C	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	45	62	--	--	45	62	17	0.098	0.08	**Probably Increasing**	--	--	--
MW-18C	Ion Balance (% Difference)	%	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2	7.66	--	--	2	7.66	6	0.612	0.44	No trend identified	--	--	--
MW-18C	Langelier Index (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-0.709	-0.393	--	--	-0.709	-0.393	12	0.26	-0.22	No trend identified	--	--	--
MW-18C	Langelier Index (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-0.959	-0.644	--	--	-0.959	-0.644	12	0.26	-0.15	No trend identified	--	--	--
MW-18C	Nitrate (N)	mg/L	-	10	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.050	<0.050	<0.050	<0.050	--	--	--	100% ND	--	--	--
MW-18C	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.16	8.44	--	--	8.16	8.44	-30	0.00086	0.01	**Decreasing Trend**	--	--	--
MW-18C	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.42	8.69	--	--	8.42	8.69	-30	0.00086	0.01	**Decreasing Trend**	--	--	--
	Inorganics																						
MW-18C	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	52	81	--	--	52	81	32	0.00024	0.16	**Increasing Trend**	--	--	--
MW-18C	Total Chemical Oxygen Demand	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<20	<20	<20	<20	--	--	--	Insufficient data	--	--	--
MW-18C	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	9	0%	9	0%	4.1	5.8	--	--	4.1	5.8	-9	0.417	0.13	Stable	0	--	0
MW-18C	Colour	TCU	-	-	15	6/2018 - 11/2020	9	100%	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	--	100% ND	--	--	--
MW-18C	Nitrate + Nitrite	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.050	<0.050	<0.050	<0.050	--	--	--	100% ND	--	--	--
MW-18C	Nitrite	mg/L	-	1	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-18C	Nitrogen (Ammonia Nitrogen)	mg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	0.089	0.089	<0.050	<0.050	<0.050	0.089	--	--	--	>50% ND	--	--	--
MW-18C	Dissolved Organic Carbon	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	3.6	3.6	--	--	3.6	3.6	--	--	--	Insufficient data	--	--	--
MW-18C	Total Organic Carbon	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	3.7	7.7	--	--	3.7	7.7	-22	0.024	0.23	**Decreasing Trend**	--	--	--
MW-18C	Orthophosphate	mg/L	-	-	-	6/2018 - 11/2020	9	33%	9	33%	0.015	0.026	<0.010	<0.010	<0.010	0.026	9	0.417	0.55	No trend identified	--	--	--
MW-18C	pH	s.u.	-	-	10.5	6/2018 - 11/2020	9	0%	9	0%	7.575	7.86	--	--	7.575	7.86	-6	0.612	0.01	Stable	--	--	0
MW-18C	pH	s.u.	-	-	7																		0 *
MW-18C	Dissolved Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-18C	Total Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	0.023	0.023	--	--	0.023	0.023	--	--	--	Insufficient data	--	--	--
MW-18C	Reactive Silica (SiO2)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	11	13	--	--	11	13	18	0.076	0.05	**Probably Increasing**	--	--	--
MW-18C	Total Suspended Solids	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	3.2	3.2	--	--	3.2	3.2	--	--	--	Insufficient data	--	--	--
MW-18C	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	28	59	--	--	28	59	-23	0.0183	0.25	**Decreasing Trend**	--	--	0
MW-18C	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	9	0%	9	0%	1.1	18	--	--	1.1	18	-16	0.12	0.85	Stable	--	--	**9**
MW-18C	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	9	0%	9	0%	190	260	--	--	190	260	-5	0.687	0.10	Stable	--	--	--
	Metals																						
MW-18C	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	9	11%	9	11%	5.95	16	<5.0	<5.0	<5.0	16	-21	0.034	0.43	**Decreasing Trend**	--	--	0
MW-18C	Total Aluminum	µg/L	5	-	100	6/2019 - 11/2020	5	0%	5	0%	36	320	--	--	36	320	-4	0.484	0.84	Stable	**5**	--	**3**
MW-18C	Dissolved Antimony	µg/L	-	6	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-18C	Total Antimony	µg/L	20	6	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-18C	Dissolved Arsenic	µg/L	-	10	-	6/2018 - 11/2020	9	0%	9	0%	57	110	--	--	57	110	2	0.92	0.18	No trend identified	--	**9**	--
MW-18C	Total Arsenic	µg/L	5	10	-	6/2019 - 11/2020	5	0%	5	0%	92	125	--	--	92	125	-6	0.234	0.13	Stable	**5**	**5**	--
MW-18C	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	9	0%	9	0%	6.4	12	--	--	6.4	12	22	0.024	0.16	**Increasing Trend**	--	0	--
MW-18C	Total Barium	µg/L	1000	2000	-	6/2019 - 11/2020	5	0%	5	0%	11	12	--	--	11	12	4	0.484	0.04	No trend identified	0	0	--
MW-18C	Dissolved Beryllium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-18C	Total Beryllium	µg/L	5.3	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-18C	Dissolved Bismuth	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-18C	Total Bismuth	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-18C	Dissolved Boron	µg/L	-	5000	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-18C	Total Boron	µg/L	1200	5000	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-18C	Dissolved Cadmium	µg/L	-	7	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--

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Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test										Samples Outside Criteria (Count)		
			NSE	CDWQG		Date					Detects		Non-Detects						NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
MW-18C	Total Cadmium	µg/L	0.01	7	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-18C	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	16000	21000	--	--	16000	21000	13	0.22	0.07	No trend identified	--	--	--
MW-18C	Total Calcium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	19000	20000	--	--	19000	20000	6	0.234	0.03	No trend identified	--	--	--
MW-18C	Dissolved Chromium	µg/L	-	50	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-18C	Total Chromium	µg/L	-	50	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-18C	Dissolved Cobalt	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	--	100% ND	--	--	--
MW-18C	Total Cobalt	µg/L	10	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	--	100% ND	--	--	--
MW-18C	Dissolved Copper	µg/L	-	2000	1000	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<2.0	<0.50	<2.0	--	--	--	100% ND	--	--	--
MW-18C	Total Copper	µg/L	2	2000	1000	6/2019 - 11/2020	5	80%	5	80%	0.9	0.9	<0.50	<0.50	<0.50	0.9	--	--	--	>50% ND	0	0	0
MW-18C	Dissolved Iron	µg/L	-	-	300	6/2018 - 11/2020	9	78%	9	78%	51	66	<50	<50	<50	66	--	--	--	>50% ND	--	--	0
MW-18C	Total Iron	µg/L	300	-	300	6/2019 - 11/2020	5	0%	5	0%	82	335	--	--	82	335	-4	0.484	0.60	Stable	**1**	--	**1**
MW-18C	Dissolved Lead	µg/L	-	5	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-18C	Total Lead	µg/L	1	5	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-18C	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1400	2200	--	--	1400	2200	15	0.15	0.11	No trend identified	--	--	--
MW-18C	Total Magnesium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	1850	2000	--	--	1850	2000	5	0.359	0.04	No trend identified	--	--	--
MW-18C	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	9	0%	9	0%	13	95	--	--	13	95	16	0.12	0.33	No trend identified	--	0	**8**
MW-18C	Total Manganese	µg/L	820	120	20	6/2019 - 11/2020	5	0%	5	0%	80	98.5	--	--	80	98.5	-8	0.084	0.08	**Probably Decreasing**	0	0	**5**
MW-18C	Dissolved Molybdenum	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2.7	5.7	--	--	2.7	5.7	-22	0.024	0.23	**Decreasing Trend**	--	--	--
MW-18C	Total Molybdenum	µg/L	73	-	-	6/2019 - 11/2020	5	0%	5	0%	3.2	5.2	--	--	3.2	5.2	-8	0.084	0.23	**Probably Decreasing**	0	--	--
MW-18C	Dissolved Nickel	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-18C	Total Nickel	µg/L	25	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-18C	Dissolved Phosphorus	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-18C	Total Phosphorus	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-18C	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1300	1800	--	--	1300	1800	-8	0.476	0.10	Stable	--	--	--
MW-18C	Total Potassium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	1300	1450	--	--	1300	1450	-3	0.65	0.04	Stable	--	--	--
MW-18C	Dissolved Selenium	µg/L	-	50	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-18C	Total Selenium	µg/L	1	50	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-18C	Dissolved Silver	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-18C	Total Silver	µg/L	0.1	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-18C	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	0%	17500	26000	--	--	17500	26000	-10	0.358	0.12	Stable	--	--	0
MW-18C	Total Sodium	µg/L	-	-	200000	6/2019 - 11/2020	5	0%	5	0%	18000	21000	--	--	18000	21000	2	0.816	0.06	No trend identified	--	--	0
MW-18C	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	9	0%	9	0%	180	240	--	--	180	240	2	0.92	0.08	No trend identified	--	0	--
MW-18C	Total Strontium	µg/L	21000	7000	-	6/2019 - 11/2020	5	0%	5	0%	190	210	--	--	190	210	1	1	0.04	No trend identified	0	0	--
MW-18C	Dissolved Thallium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-18C	Total Thallium	µg/L	0.8	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-18C	Total Tin	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-18C	Total Tin	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-18C	Dissolved Titanium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-18C	Total Titanium	µg/L	-	-	-	6/2019 - 11/2020	5	40%	5	40%	3.1	8.85	<2.0	<2.0	<2.0	8.85	-5	0.359	0.86	Stable	--	--	--
MW-18C	Dissolved Uranium	µg/L	-	20	-	6/2018 - 11/2020	9	0%	9	0%	0.65	1.8	--	--	0.65	1.8	-33	0.00015	0.38	**Decreasing Trend**	--	0	--
MW-18C	Total Uranium	µg/L	300	20	-	6/2019 - 11/2020	5	0%	5	0%	0.58	0.97	--	--	0.58	0.97	-8	0.084	0.20	**Probably Decreasing**	0	0	--
MW-18C	Dissolved Vanadium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-18C	Total Vanadium	µg/L	6	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-18C	Dissolved Zinc	µg/L	-	-	5000	6/2018 - 11/2020	9	78%	9	78%	5.7	7.3	<5.0	<5.0	<5.0	7.3	--	--	--	>50% ND	--	--	0
MW-18C	Total Zinc	µg/L	30	-	5000	6/2019 - 11/2020	5	80%	5	80%	5.55	5.55	<5.0	<5.0	<5.0	5.55	--	--	--	>50% ND	0	--	0
MW-18C	Dissolved Mercury	µg/L	--	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
MW-18C	Total Mercury	µg/L	0.026	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
	Calculated Parameters																						
MW-19A	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.16	0.4	--	--	0.16	0.4	17	0.098	0.25	**Probably Increasing**	--	--	--
MW-19A	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	9	22%	9	22%	5.3	8.7	<1.0	<1.0	<1.0	8.7	15	0.15	0.55	No trend identified	--	--	--
MW-19A	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	17	29	--	--	17	29	8	0.476	0.16	No trend identified	--	--	0
MW-19A	Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-19A	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.18	0.37	--	--	0.18	0.37	1	1	0.22	No trend identified	--	--	--
MW-19A	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	3	5.4	--	--	3	5.4	-7	0.544	0.23	Stable	--	--	--
MW-19A	Ion Balance (% Difference)	%	-	-	-	6/2018 - 11/2020	9	0%	9	0%	3.9	18.4	--	--	3.9	18.4	-2	0.92	0.40	Stable	--	--	--
MW-19A	Langelier Index (@ 20C)	N/A	-	-	-	9/2018 - 11/2020	7	0%	7	0%	-4.73	-3.8	--	--	-4.73	-3.8	4	0.667	-0.08	No trend identified	--	--	--
MW-19A	Langelier Index (@ 4C)	N/A	-	-	-	9/2018 - 11/2020	7	0%	7	0%	-4.99	-4.06	--	--	-4.99	-4.06	4	0.667	-0.08	No trend identified	--	--	--
MW-19A	Nitrate (N)	mg/L	-	10	-	6/2018 - 11/2020	9	11%	9	11%	0.053	0.25	<0.050	<0.050	<0.050	0.25	-22	0.024	0.51	**Decreasing Trend**	--	0	--
MW-19A	Saturation pH (@ 20C)	N/A	-	-	-	9/2018 - 11/2020	7	0%	7	0%	10.3	10.6	--	--	10.3	10.6	-2	0.886	0.01	Stable	--	--	--
MW-19A	Saturation pH (@ 4C)	N/A	-	-	-	9/2018 - 11/2020	7	0%	7	0%	10.5	10.9	--	--	10.5	10.9	1	1	0.01	No trend identified	--	--	--
	Inorganics																						
MW-19A	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	22%	9	22%	5.3	8.7	<5.0	<5.0	<5.0	8.7	15	0.15	0.37	No trend identified	--	--	--
MW-19A	Total Chemical Oxygen Demand	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<20	<20	<20	<20	--	--	--	Insufficient data	--	--	--
MW-19A	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	9	0%	9	0%	1	4.1	--	--	1	4.1	-18	0.076	0.38	**Probably Decreasing**	0	--	0
MW-19A	Colour	TCU	-	-	15	6/2018 - 11/2020	9	78%	9	78%	7.1	9.8	<5.0	<5.0	<5.0	9.8	--	--	--	>50% ND	--	--	0
MW-19A	Nitrate + Nitrite	mg/L	-	-	-	6/2018 - 11/2020	9	11%	9	11%	0.067	0.25	<0.050	<0.050	<0.050	0.25	-22	0.024	0.49	**Decreasing Trend**	--	--	--
MW-19A	Nitrite	mg/L	-	1	-	6/2018 - 11/2020	9	89%	9	89%	0.015	0.015	<0.010	<0.010	<0.010	0.015	--	--	--	>50% ND	--	0	--
MW-19A	Nitrogen (Ammonia Nitrogen)	mg/L	-	-	-	6/2018 - 11/2020	9	78%	9	78%	0.097	0.11	<0.050	<0.050	<0.050	0.11	--	--	--	>50% ND	--	--	--
MW-19A	Dissolved Organic Carbon	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	1.4	1.4	--	--	1.4	1.4	--	--	--	Insufficient data	--	--	--
MW-19A	Total Organic Carbon	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.75	7.9	--	--	0.75	7.9	3	0.841	0.99	No trend identified	--	--	--
MW-19A	Orthophosphate	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-19A	pH	s.u.	-	-	10.5	6/2018 - 11/2020	9	0%	9	0%	5.81	6.46	--	--	5.81	6.46	11	0.309	0.04	No trend identified	--	--	0
MW-19A	pH	s.u.	-	-	7																		**9 ***
MW-19A	Dissolved Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-19A	Total Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	0.033	0.033	--	--	0.033	0.033	--	--	--	Insufficient data	--	--	--
MW-19A	Reactive Silica (SiO2)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	4.4	5.9	--	--	4.4	5.9	-6	0.612	0.11	Stable	--	--	--
MW-19A	Total Suspended Solids	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	38	38	--	--	38	38	--	--	--	Insufficient data	--	--	--
MW-19A	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	2.2	5.9	--	--	2.2	5.9	14	0.18	0.31	No trend identified	--	--	0
MW-19A	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	9	0%	9	0%	1.3	46	--	--	1.3	46	14	0.18	0.93	No trend identified	--	--	**9**
MW-19A	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	9	0%	9	0%	26	38	--	--	26	38	-2	0.92	0.13	Stable	--	--	--

Table 4.1

Statistical Screening and Trend Test (Mann Kendall) Results – Baseline Groundwater Quality Data
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test										Samples Outside Criteria (Count)		
			NSE	CDWQG		Date					Detects		Non-Detects						NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
	Metals																						
MW-19A	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	9	0%	9	0%	50	190	--	--	50	190	-9	0.417	0.47	Stable	--	--	**3**
MW-19A	Total Aluminum	µg/L	5	-	100	6/2019 - 11/2020	5	0%	5	0%	200	14000	--	--	200	14000	0	1	1.09	No trend identified	**5**	--	**5**
MW-19A	Dissolved Antimony	µg/L	-	6	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-19A	Total Antimony	µg/L	20	6	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-19A	Dissolved Arsenic	µg/L	-	10	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-19A	Total Arsenic	µg/L	5	10	-	6/2019 - 11/2020	5	60%	5	60%	3.4	9.8	<1.0	<1.0	<1.0	9.8	--	--	--	>50% ND	**1**	0	--
MW-19A	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	9	0%	9	0%	4.6	12	--	--	4.6	12	-16	0.12	0.29	Stable	--	0	--
MW-19A	Total Barium	µg/L	1000	2000	-	6/2019 - 11/2020	5	0%	5	0%	10	88	--	--	10	88	0	1	1.01	No trend identified	0	0	--
MW-19A	Dissolved Beryllium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-19A	Total Beryllium	µg/L	5.3	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-19A	Dissolved Bismuth	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-19A	Total Bismuth	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-19A	Dissolved Boron	µg/L	-	5000	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-19A	Total Boron	µg/L	1200	5000	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-19A	Dissolved Cadmium	µg/L	-	7	-	6/2018 - 11/2020	9	0%	9	0%	0.017	0.084	--	--	0.017	0.084	-19	0.06	0.60	**Probably Decreasing**	--	0	--
MW-19A	Total Cadmium	µg/L	0.01	7	-	6/2019 - 11/2020	5	0%	5	0%	0.034	0.071	--	--	0.034	0.071	0	1	0.35	Stable	**5**	0	--
MW-19A	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	660	1500	--	--	660	1500	-3	0.841	0.31	Stable	--	--	--
MW-19A	Total Calcium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	740	5000	--	--	740	5000	-4	0.484	0.86	Stable	--	--	--
MW-19A	Dissolved Chromium	µg/L	-	50	-	6/2018 - 11/2020	9	89%	9	89%	1.1	1.1	<1.0	<1.0	<1.0	1.1	--	--	--	>50% ND	--	0	--
MW-19A	Total Chromium	µg/L	-	50	-	6/2019 - 11/2020	5	20%	5	20%	1.2	20	<1.0	<1.0	<1.0	20	0	1	1.20	No trend identified	--	0	--
MW-19A	Dissolved Cobalt	µg/L	-	-	-	6/2018 - 11/2020	9	11%	9	11%	0.46	1.4	<0.40	<0.40	<0.40	1.4	-10	0.358	0.48	Stable	--	--	--
MW-19A	Total Cobalt	µg/L	10	-	-	6/2019 - 11/2020	5	0%	5	0%	0.8	11	--	--	0.8	11	-4	0.484	1.08	No trend identified	**1**	--	--
MW-19A	Dissolved Copper	µg/L	-	2000	1000	9/2018 - 11/2020	9	22%	7	0%	0.63	7.9	--	--	0.63	7.9	-9	0.238	0.71	Stable	--	0	0
MW-19A	Total Copper	µg/L	2	2000	1000	6/2019 - 11/2020	5	0%	5	0%	3.9	58	--	--	3.9	58	0	1	1.15	No trend identified	**5**	0	0
MW-19A	Dissolved Iron	µg/L	-	-	300	6/2018 - 11/2020	9	89%	9	89%	60	60	<50	<50	<50	60	--	--	--	>50% ND	--	--	0
MW-19A	Total Iron	µg/L	300	-	300	6/2019 - 11/2020	5	0%	5	0%	180	20000	--	--	180	20000	0	1	1.25	No trend identified	**4**	--	**4**
MW-19A	Dissolved Lead	µg/L	-	5	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-19A	Total Lead	µg/L	1	5	-	6/2019 - 11/2020	5	20%	5	20%	0.95	9.3	<0.50	<0.50	<0.50	9.3	2	0.816	1.11	No trend identified	**3**	**2**	--
MW-19A	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	320	600	--	--	320	600	-27	0.0041	0.20	**Decreasing Trend**	--	--	--
MW-19A	Total Magnesium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	450	5100	--	--	450	5100	0	1	1.01	No trend identified	--	--	--
MW-19A	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	9	0%	9	0%	16	83	--	--	16	83	-24	0.0126	0.47	**Decreasing Trend**	--	0	**7**
MW-19A	Total Manganese	µg/L	820	120	20	6/2019 - 11/2020	5	0%	5	0%	41	360	--	--	41	360	-2	0.816	0.97	Stable	0	**2**	**5**
MW-19A	Dissolved Molybdenum	µg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	2.3	2.3	<2.0	<2.0	<2.0	2.3	--	--	--	>50% ND	--	--	--
MW-19A	Total Molybdenum	µg/L	73	-	-	6/2019 - 11/2020	5	60%	5	60%	6.8	9.9	<2.0	<2.0	<2.0	9.9	--	--	--	>50% ND	0	--	--
MW-19A	Dissolved Nickel	µg/L	-	-	-	6/2018 - 11/2020	9	33%	9	33%	2.4	4.4	<2.0	<2.0	<2.0	4.4	0	1	0.52	Stable	--	--	--
MW-19A	Total Nickel	µg/L	25	-	-	6/2019 - 11/2020	5	0%	5	0%	2.2	27	--	--	2.2	27	-4	0.484	1.08	No trend identified	**1**	--	--
MW-19A	Dissolved Phosphorus	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-19A	Total Phosphorus	µg/L	-	-	-	6/2019 - 11/2020	5	60%	5	60%	320	490	<100	<100	<100	490	--	--	--	>50% ND	--	--	--
MW-19A	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	510	1100	--	--	510	1100	-16	0.12	0.22	Stable	--	--	--
MW-19A	Total Potassium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	740	4800	--	--	740	4800	0	1	0.89	Stable	--	--	--
MW-19A	Dissolved Selenium	µg/L	-	50	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-19A	Total Selenium	µg/L	1	50	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-19A	Dissolved Silver	µg/L	-	-	-	6/2018 - 11/2020	9	56%	9	56%	0.16	0.97	<0.10	<0.10	<0.10	0.97	--	--	--	>50% ND	--	--	--
MW-19A	Total Silver	µg/L	0.1	-	-	6/2019 - 11/2020	5	0%	5	0%	0.4	8.8	--	--	0.4	8.8	2	0.816	1.10	No trend identified	**5**	--	--
MW-19A	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	0%	1700	6100	--	--	1700	6100	-3	0.841	0.39	Stable	--	--	0
MW-19A	Total Sodium	µg/L	-	-	200000	6/2019 - 11/2020	5	0%	5	0%	2500	4900	--	--	2500	4900	6	0.234	0.31	No trend identified	--	--	0
MW-19A	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	9	0%	9	0%	5.1	11	--	--	5.1	11	-6	0.612	0.24	Stable	--	0	--
MW-19A	Total Strontium	µg/L	21000	7000	-	6/2019 - 11/2020	5	0%	5	0%	6.5	21	--	--	6.5	21	-2	0.816	0.53	Stable	0	0	--
MW-19A	Dissolved Thallium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-19A	Total Thallium	µg/L	0.8	-	-	6/2019 - 11/2020	5	60%	5	60%	0.14	0.27	<0.10	<0.10	<0.10	0.27	--	--	--	>50% ND	0	--	--
MW-19A	Dissolved Tin	µg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	2.6	2.6	<2.0	<2.0	<2.0	2.6	--	--	--	>50% ND	--	--	--
MW-19A	Total Tin	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-19A	Dissolved Titanium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-19A	Total Titanium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	6.7	580	--	--	6.7	580	0	1	1.19	No trend identified	--	--	--
MW-19A	Dissolved Uranium	µg/L	-	20	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-19A	Total Uranium	µg/L	300	20	-	6/2019 - 11/2020	5	20%	5	20%	0.16	1.7	<0.10	<0.10	<0.10	1.7	2	0.816	1.17	No trend identified	0	0	--
MW-19A	Dissolved Vanadium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-19A	Total Vanadium	µg/L	6	-	-	6/2019 - 11/2020	5	40%	5	40%	2.5	24	<2.0	<2.0	<2.0	24	-1	1	1.23	No trend identified	**2**	--	--
MW-19A	Dissolved Zinc	µg/L	-	-	5000	6/2018 - 11/2020	9	44%	9	44%	5.1	9.9	<5.0	<5.0	<5.0	9.9	0	1	0.55	Stable	--	--	0
MW-19A	Total Zinc	µg/L	30	-	5000	6/2019 - 11/2020	5	20%	5	20%	6.2	39	<5.0	<5.0	<5.0	39	2	0.816	0.95	No trend identified	**1**	--	0
MW-19A	Dissolved Mercury	µg/L	--	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
MW-19A	Total Mercury	µg/L	0.026	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
	Calculated Parameters																						
MW-19B	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1.43	1.65	--	--	1.43	1.65	-10	0.358	0.05	Stable	--	--	--
MW-19B	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	56	67	--	--	56	67	-12	0.26	0.06	Stable	--	--	--
MW-19B	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	84	94	--	--	84	94	-12	0.26	0.04	Stable	--	--	0
MW-19B	Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-19B	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1.36	1.5	--	--	1.36	1.5	-19	0.06	0.03	**Probably Decreasing**	--	--	--
MW-19B	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	57	63	--	--	57	63	-11	0.309	0.03	Stable	--	--	--
MW-19B	Ion Balance (% Difference)	%	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1.36	5.1	--	--	1.36	5.1	8	0.476	0.39	No trend identified	--	--	--
MW-19B	Langelier Index (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-0.569	-0.255	--	--	-0.569	-0.255	-18	0.076	-0.23	**Probably Decreasing**	--	--	--
MW-19B	Langelier Index (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-0.8205	-0.506	--	--	-0.8205	-0.506	-18	0.076	-0.14	**Probably Decreasing**	--	--	--
MW-19B	Nitrate (N)	mg/L	-	10	-	6/2018 - 11/2020	9	56%	9	56%	0.066	0.084	<0.050	<0.050	<0.050	0.084	--	--	--	>50% ND	--	0	--
MW-19B	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.17	8.27	--	--	8.17	8.27	9	0.417	0.00	No trend identified	--	--	--
MW-19B	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.43	8.52	--	--	8.43	8.52	10	0.358	0.00	No trend identified	--	--	--
	Inorganics																						
MW-19B	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	56	68	--	--	56	68	-10	0.358	0.06	Stable	--	--	--
MW-19B	Total Chemical Oxygen Demand	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<20	<20	<20	<20	--	--	--	Insufficient data	--	--	--

Table 4.1

Statistical Screening and Trend Test (Mann Kendall) Results – Baseline Groundwater Quality Data
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test											Samples Outside Criteria (Count)		
			NSE	CDWQG		Date					Detects		Non-Detects							NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
MW-19B	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	9	0%	9	0%	2	4.2	--	--	2	4.2	1	1	0.24	No trend identified	0	--	0
MW-19B	Colour	TCU	-	-	15	6/2018 - 11/2020	9	100%	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	--	100% ND	--	--	--
MW-19B	Nitrate + Nitrite	mg/L	-	-	-	6/2018 - 11/2020	9	56%	9	56%	0.066	0.084	<0.050	<0.050	<0.050	0.084	--	--	--	>50% ND	--	--	--
MW-19B	Nitrite	mg/L	-	1	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-19B	Nitrogen (Ammonia Nitrogen)	mg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	0.11	0.11	<0.050	<0.050	<0.050	0.11	--	--	--	>50% ND	--	--	--
MW-19B	Dissolved Organic Carbon	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.5	<0.5	<0.5	<0.5	--	--	--	Insufficient data	--	--	--
MW-19B	Total Organic Carbon	mg/L	-	-	-	6/2018 - 11/2020	9	67%	9	67%	0.705	1.2	<0.50	<0.50	<0.50	1.2	--	--	--	>50% ND	--	--	--
MW-19B	Orthophosphate	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-19B	pH	s.u.	-	-	10.5	6/2018 - 11/2020	9	0%	9	0%	7.675	7.93	--	--	7.675	7.93	-12	0.26	0.01	Stable	--	--	0
MW-19B	pH	s.u.	-	-	7																		0 *
MW-19B	Dissolved Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-19B	Total Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-19B	Reactive Silica (SiO2)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.9	9.6	--	--	8.9	9.6	12	0.26	0.02	No trend identified	--	--	--
MW-19B	Total Suspended Solids	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	8.6	8.6	--	--	8.6	8.6	--	--	--	Insufficient data	--	--	--
MW-19B	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	9.8	12	--	--	9.8	12	13	0.22	0.07	No trend identified	--	--	0
MW-19B	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	9	0%	9	0%	0.54	8.9	--	--	0.54	8.9	-7	0.544	0.94	Stable	--	--	**10**
MW-19B	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	9	0%	9	0%	130	160	--	--	130	160	-6	0.612	0.06	Stable	--	--	--
	Metals																						
MW-19B	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	9	0%	9	0%	8.7	17	--	--	8.7	17	-22	0.024	0.24	**Decreasing Trend**	--	--	0
MW-19B	Total Aluminum	µg/L	5	-	100	6/2019 - 11/2020	5	0%	5	0%	52	230	--	--	52	230	2	0.816	0.60	No trend identified	**5**	--	**3**
MW-19B	Dissolved Antimony	µg/L	-	6	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-19B	Total Antimony	µg/L	20	6	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-19B	Dissolved Arsenic	µg/L	-	10	-	6/2018 - 11/2020	9	0%	9	0%	6.4	8.5	--	--	6.4	8.5	-1	1	0.09	Stable	--	0	--
MW-19B	Total Arsenic	µg/L	5	10	-	6/2019 - 11/2020	5	0%	5	0%	6.3	8	--	--	6.3	8	-5	0.359	0.10	Stable	**5**	0	--
MW-19B	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	9	0%	9	0%	10	13	--	--	10	13	-13	0.22	0.09	Stable	--	0	--
MW-19B	Total Barium	µg/L	1000	2000	-	6/2019 - 11/2020	5	0%	5	0%	11	12	--	--	11	12	-3	0.65	0.04	Stable	0	0	--
MW-19B	Dissolved Beryllium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-19B	Total Beryllium	µg/L	5.3	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-19B	Dissolved Bismuth	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-19B	Total Bismuth	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-19B	Dissolved Boron	µg/L	-	5000	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-19B	Total Boron	µg/L	1200	5000	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-19B	Dissolved Cadmium	µg/L	-	7	-	6/2018 - 11/2020	8	100%	8	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-19B	Total Cadmium	µg/L	0.01	7	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-19B	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	21000	23000	--	--	21000	23000	-7	0.544	0.03	Stable	--	--	--
MW-19B	Total Calcium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	20000	22000	--	--	20000	22000	1	1	0.04	No trend identified	--	--	--
MW-19B	Dissolved Chromium	µg/L	-	50	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-19B	Total Chromium	µg/L	-	50	-	6/2019 - 11/2020	5	80%	5	80%	1	1	<1.0	<1.0	1	1	--	--	--	>50% ND	--	0	--
MW-19B	Dissolved Cobalt	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	--	100% ND	--	--	--
MW-19B	Total Cobalt	µg/L	10	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	--	100% ND	--	--	--
MW-19B	Dissolved Copper	µg/L	-	2000	1000	6/2018 - 11/2020	9	89%	9	89%	0.585	0.585	<0.50	<2.0	<0.50	<2.0	--	--	--	>50% ND	--	0	0
MW-19B	Total Copper	µg/L	2	2000	1000	6/2019 - 11/2020	5	0%	5	0%	0.7	1.3	--	--	0.7	1.3	-1	1	0.24	Stable	0	0	0
MW-19B	Dissolved Iron	µg/L	-	-	300	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-19B	Total Iron	µg/L	300	-	300	6/2019 - 11/2020	5	0%	5	0%	58	120	--	--	58	120	2	0.816	0.29	No trend identified	0	--	0
MW-19B	Dissolved Lead	µg/L	-	5	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-19B	Total Lead	µg/L	1	5	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-19B	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1300	1500	--	--	1300	1500	-24	0.0126	0.06	**Decreasing Trend**	--	--	--
MW-19B	Total Magnesium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	1300	1500	--	--	1300	1500	-3	0.65	0.05	Stable	--	--	--
MW-19B	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	9	56%	9	56%	2.2	21	<2.0	<2.0	<2.0	21	--	--	--	>50% ND	--	0	**1**
MW-19B	Total Manganese	µg/L	820	120	20	6/2019 - 11/2020	5	0%	5	0%	2.5	9.55	--	--	2.5	9.55	2	0.816	0.65	No trend identified	0	0	0
MW-19B	Dissolved Molybdenum	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2.2	18	--	--	2.2	18	-30	0.00086	0.90	**Decreasing Trend**	--	--	--
MW-19B	Total Molybdenum	µg/L	73	-	-	6/2019 - 11/2020	5	0%	5	0%	2.4	4	--	--	2.4	4	-7	0.159	0.23	Stable	0	--	--
MW-19B	Dissolved Nickel	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-19B	Total Nickel	µg/L	25	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-19B	Dissolved Phosphorus	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-19B	Total Phosphorus	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-19B	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1100	2300	--	--	1100	2300	-28	0.0024	0.28	**Decreasing Trend**	--	--	--
MW-19B	Total Potassium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	1100	1400	--	--	1100	1400	-7	0.159	0.11	Stable	--	--	--
MW-19B	Dissolved Selenium	µg/L	-	50	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-19B	Total Selenium	µg/L	1	50	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-19B	Dissolved Silver	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-19B	Total Silver	µg/L	0.1	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-19B	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	0%	4300	5500	--	--	4300	5500	-19	0.06	0.08	**Probably Decreasing**	--	--	0
MW-19B	Total Sodium	µg/L	-	-	200000	6/2019 - 11/2020	5	0%	5	0%	4100	4900	--	--	4100	4900	0	1	0.07	Stable	--	--	0
MW-19B	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	9	0%	9	0%	99.5	130	--	--	99.5	130	-25	0.0092	0.10	**Decreasing Trend**	--	0	--
MW-19B	Total Strontium	µg/L	21000	7000	-	6/2019 - 11/2020	5	0%	5	0%	99	110	--	--	99	110	-5	0.359	0.05	Stable	0	0	--
MW-19B	Dissolved Thallium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-19B	Total Thallium	µg/L	0.8	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-19B	Dissolved Tin	µg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	3	3	<2.0	<2.0	<2.0	3	--	--	--	>50% ND	--	--	--
MW-19B	Total Tin	µg/L	-	-	-	6/2019 - 11/2020	5	80%	5	80%	3.4	3.4	<2.0	<2.0	<2.0	3.4	--	--	--	>50% ND	--	--	--
MW-19B	Dissolved Titanium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-19B	Total Titanium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	2.4	8.7	--	--	2.4	8.7	0	1	0.57	Stable	--	--	--
MW-19B	Dissolved Uranium	µg/L	-	20	-	6/2018 - 11/2020	9	0%	9	0%	1.9	3.1	--	--	1.9	3.1	-21	0.034	0.15	**Decreasing Trend**	--	0	--
MW-19B	Total Uranium	µg/L	300	20	-	6/2019 - 11/2020	5	0%	5	0%	1.9	2.6	--	--	1.9	2.6	-4	0.484	0.12	Stable	0	0	--
MW-19B	Dissolved Vanadium	µg/L	-	-	-	6/2018 - 11/2020	9	56%	9	56%	2.1	3.1	<2.0	<2.0	<2.0	3.1	--	--	--	>50% ND	--	--	--
MW-19B	Total Vanadium	µg/L	6	-	-	6/2019 - 11/2020	5	60%	5	60%	2.3	3.1	<2.0	<2.0	<2.0	3.1	--	--	--	>50% ND	0	--	--
MW-19B	Dissolved Zinc	µg/L	-	-	5000	6/2018 - 11/2020	9	78%	9	78%	5.2	5.8	<5.0	<5.0	<5.0	5.8	--	--	--	>50% ND	--	--	0
MW-19B	Total Zinc	µg/L	30	-	5000	6/2019 - 11/2020	5	100%	5	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	--	100% ND	--	--	--
MW-19B	Dissolved Mercury	µg/L	--	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
MW-19B	Total Mercury	µg/L	0.026	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--

Table 4.1

Statistical Screening and Trend Test (Mann Kendall) Results – Baseline Groundwater Quality Data
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test											Samples Outside Criteria (Count)		
			NSE	CDWQG		Date					Detects		Non-Detects							NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
	Calculated Parameters																						
MW-19C	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.86	1.3	--	--	0.86	1.3	-29	0.00163	0.17	Decreasing Trend	--	--	--
MW-19C	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	33	46	--	--	33	46	-20	0.044	0.11	Decreasing Trend	--	--	--
MW-19C	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	54	83	--	--	54	83	-32	0.00024	0.17	Decreasing Trend	--	--	0
MW-19C	Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-19C	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.81	1.22	--	--	0.81	1.22	-33	0.00015	0.17	Decreasing Trend	--	--	--
MW-19C	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	28	41	--	--	28	41	-28	0.0024	0.13	Decreasing Trend	--	--	--
MW-19C	Ion Balance (% Difference)	%	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.51	5.26	--	--	0.51	5.26	2	0.92	0.49	No trend identified	--	--	--
MW-19C	Langelier Index (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-1.71	-1.19	--	--	-1.71	-1.19	-10	0.358	-0.10	Stable	--	--	--
MW-19C	Langelier Index (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-1.96	-1.44	--	--	-1.96	-1.44	-10	0.358	-0.08	Stable	--	--	--
MW-19C	Nitrate (N)	mg/L	-	10	-	6/2018 - 11/2020	9	11%	9	11%	0.052	0.23	<0.05	<0.05	<0.05	0.23	11	0.309	0.50	No trend identified	--	0	--
MW-19C	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.51	8.8	--	--	8.51	8.8	22	0.024	0.01	Increasing Trend	--	--	--
MW-19C	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.76	9.05	--	--	8.76	9.05	22	0.024	0.01	Increasing Trend	--	--	--
	Inorganics																						
MW-19C	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	33	46	--	--	33	46	-20	0.044	0.11	Decreasing Trend	--	--	--
MW-19C	Total Chemical Oxygen Demand	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<20	<20	<20	<20	--	--	--	Insufficient data	--	--	--
MW-19C	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	9	0%	9	0%	2	3.9	--	--	2	3.9	-10	0.358	0.22	Stable	0	--	0
MW-19C	Colour	TCU	-	-	15	6/2018 - 11/2020	9	100%	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	--	100% ND	--	--	--
MW-19C	Nitrate + Nitrite	mg/L	-	-	-	6/2018 - 11/2020	9	11%	9	11%	0.063	0.23	<0.05	<0.05	<0.05	0.23	7	0.544	0.47	No trend identified	--	--	--
MW-19C	Nitrite	mg/L	-	1	-	6/2018 - 11/2020	9	78%	9	78%	0.01	0.041	<0.010	<0.010	0.01	0.041	--	--	--	>50% ND	--	0	--
MW-19C	Nitrogen (Ammonia Nitrogen)	mg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	0.1235	0.1235	<0.050	<0.050	<0.050	0.1235	--	--	--	>50% ND	--	--	--
MW-19C	Dissolved Organic Carbon	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.5	<0.5	<0.5	<0.5	--	--	--	Insufficient data	--	--	--
MW-19C	Total Organic Carbon	mg/L	-	-	-	6/2018 - 7/2020	8	0%	8	0%	0.51	2.1	--	--	0.51	2.1	-8	0.398	0.53	Stable	--	--	--
MW-19C	Orthophosphate	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-19C	pH	s.u.	-	-	10.5	6/2018 - 11/2020	9	0%	9	0%	7.09	7.34	--	--	7.09	7.34	5	0.687	0.01	No trend identified	--	--	0
MW-19C	pH	s.u.	-	-	7																		0 *
MW-19C	Dissolved Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	0.026	0.026	--	--	0.026	0.026	--	--	--	Insufficient data	--	--	--
MW-19C	Total Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	0.03	0.03	--	--	0.03	0.03	--	--	--	Insufficient data	--	--	--
MW-19C	Reactive Silica (SiO2)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.8	10	--	--	8.8	10	-12	0.26	0.04	Stable	--	--	--
MW-19C	Total Suspended Solids	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	47	47	--	--	47	47	--	--	--	Insufficient data	--	--	--
MW-19C	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	5.2	20	--	--	5.2	20	-32	0.00024	0.53	Decreasing Trend	--	--	0
MW-19C	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	9	0%	9	0%	2.6	15	--	--	2.6	15	4	0.762	0.45	No trend identified	--	--	**10**
MW-19C	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	9	0%	9	0%	82	140	--	--	82	140	-28	0.0024	0.20	Decreasing Trend	--	--	--
	Metals																						
MW-19C	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	9	67%	9	67%	8.8	37	<5.0	<5.0	<5.0	37	--	--	--	>50% ND	--	--	0
MW-19C	Total Aluminum	µg/L	5	-	100	6/2019 - 11/2020	5	0%	5	0%	250	830	--	--	250	830	0	1	0.50	Stable	**5**	--	**5**
MW-19C	Dissolved Antimony	µg/L	-	6	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-19C	Total Antimony	µg/L	20	6	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-19C	Dissolved Arsenic	µg/L	-	10	-	6/2018 - 11/2020	9	0%	9	0%	2.4	4	--	--	2.4	4	-5	0.687	0.16	Stable	--	0	--
MW-19C	Total Arsenic	µg/L	5	10	-	6/2019 - 11/2020	5	0%	5	0%	3.7	3.9	--	--	3.7	3.9	5	0.359	0.02	No trend identified	0	0	--
MW-19C	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	9	0%	9	0%	4.9	7.3	--	--	4.9	7.3	-28	0.0024	0.17	Decreasing Trend	--	0	--
MW-19C	Total Barium	µg/L	1000	2000	-	6/2019 - 11/2020	5	0%	5	0%	6.8	9.5	--	--	6.8	9.5	-1	1	0.15	Stable	0	0	--
MW-19C	Dissolved Beryllium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-19C	Total Beryllium	µg/L	5.3	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-19C	Dissolved Bismuth	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-19C	Total Bismuth	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-19C	Dissolved Boron	µg/L	-	5000	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-19C	Total Boron	µg/L	1200	5000	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-19C	Dissolved Cadmium	µg/L	-	7	-	6/2018 - 11/2020	9	22%	9	22%	0.01	0.014	<0.010	<0.010	0.01	0.014	12	0.26	0.33	No trend identified	--	0	--
MW-19C	Total Cadmium	µg/L	0.01	7	-	6/2019 - 11/2020	5	0%	5	0%	0.011	0.019	--	--	0.011	0.019	6	0.234	0.20	No trend identified	**5**	0	--
MW-19C	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	9800	14000	--	--	9800	14000	-23	0.0183	0.12	Decreasing Trend	--	--	--
MW-19C	Total Calcium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	10000	12000	--	--	10000	12000	-5	0.359	0.08	Stable	--	--	--
MW-19C	Dissolved Chromium	µg/L	-	50	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-19C	Total Chromium	µg/L	-	50	-	6/2019 - 11/2020	5	40%	5	40%	1.1	1.4	<1.0	<1.0	<1.0	1.4	-5	0.359	0.45	Stable	--	0	--
MW-19C	Dissolved Cobalt	µg/L	-	-	-	6/2018 - 11/2020	9	78%	9	78%	0.94	1.2	<0.40	<0.40	<0.40	1.2	--	--	--	>50% ND	--	--	--
MW-19C	Total Cobalt	µg/L	10	-	-	6/2019 - 11/2020	5	20%	5	20%	0.43	0.6	<0.40	<0.40	<0.40	0.6	-2	0.816	0.34	Stable	0	--	--
MW-19C	Dissolved Copper	µg/L	-	2000	1000	9/2018 - 11/2020	9	22%	7	0%	0.54	2.1	--	--	0.54	2.1	-11	0.136	0.66	Stable	--	0	0
MW-19C	Total Copper	µg/L	2	2000	1000	6/2019 - 11/2020	5	0%	5	0%	1.65	3.1	--	--	1.65	3.1	2	0.816	0.22	No trend identified	**4**	0	0
MW-19C	Dissolved Iron	µg/L	-	-	300	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-19C	Total Iron	µg/L	300	-	300	6/2019 - 11/2020	5	0%	5	0%	325	910	--	--	325	910	2	0.816	0.46	No trend identified	**5**	--	**5**
MW-19C	Dissolved Lead	µg/L	-	5	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-19C	Total Lead	µg/L	1	5	-	6/2019 - 11/2020	5	80%	5	80%	1.2	1.2	<0.50	<0.50	<0.50	1.2	--	--	--	>50% ND	**1**	0	--
MW-19C	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	880	1300	--	--	880	1300	-28	0.0024	0.15	Decreasing Trend	--	--	--
MW-19C	Total Magnesium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	995	1300	--	--	995	1300	-4	0.484	0.12	Stable	--	--	--
MW-19C	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	9	0%	9	0%	10	170	--	--	10	170	-29	0.00163	0.99	Decreasing Trend	--	**1**	**7**
MW-19C	Total Manganese	µg/L	820	120	20	6/2019 - 11/2020	5	0%	5	0%	19	48	--	--	19	48	-2	0.816	0.32	Stable	0	0	**4**
MW-19C	Dissolved Molybdenum	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.6	18	--	--	8.6	18	-32	0.00024	0.26	Decreasing Trend	--	--	--
MW-19C	Total Molybdenum	µg/L	73	-	-	6/2019 - 11/2020	5	0%	5	0%	8.85	12	--	--	8.85	12	-6	0.234	0.14	Stable	0	--	--
MW-19C	Dissolved Nickel	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2.15	4	--	--	2.15	4	-19	0.06	0.24	Probably Decreasing	--	--	--
MW-19C	Total Nickel	µg/L	25	-	-	6/2019 - 11/2020	5	0%	5	0%	2.75	3.9	--	--	2.75	3.9	-3	0.65	0.14	Stable	0	--	--
MW-19C	Dissolved Phosphorus	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-19C	Total Phosphorus	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-19C	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1300	2100	--	--	1300	2100	-30	0.00086	0.20	Decreasing Trend	--	--	--
MW-19C	Total Potassium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	1300	1600	--	--	1300	1600	-3	0.65	0.08	Stable	--	--	--
MW-19C	Dissolved Selenium	µg/L	-	50	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-19C	Total Selenium	µg/L	1	50	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-19C	Dissolved Silver	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-19C	Total Silver	µg/L	0.1	-	-	6/2019 - 11/2020	5	20%	5	20%	0.13	0.4	<0.10	<0.10	<0.10	0.4	0	1	0.68	Stable	**4**	--	--

Table 4.1

Statistical Screening and Trend Test (Mann Kendall) Results – Baseline Groundwater Quality Data
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test										Samples Outside Criteria (Count)		
			NSE	CDWQG		Date					Detects		Non-Detects						NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
MW-19C	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	0%	5000	10000	--	--	5000	10000	-35	2.8E-05	0.29	Decreasing Trend	--	--	0
MW-19C	Total Sodium	µg/L	-	-	200000	6/2019 - 11/2020	5	0%	5	0%	5000	6000	--	--	5000	6000	-6	0.234	0.08	Stable	--	--	0
MW-19C	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	9	0%	9	0%	59	110	--	--	59	110	-19	0.06	0.20	Probably Decreasing	--	0	--
MW-19C	Total Strontium	µg/L	21000	7000	-	6/2019 - 11/2020	5	0%	5	0%	60	88	--	--	60	88	-8	0.084	0.15	Probably Decreasing	0	0	--
MW-19C	Dissolved Thallium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-19C	Total Thallium	µg/L	0.8	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-19C	Dissolved Tin	µg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	2.3	2.3	<2.0	<2.0	<2.0	2.3	--	--	--	>50% ND	--	--	--
MW-19C	Total Tin	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-19C	Dissolved Titanium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-19C	Total Titanium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	12	32	--	--	12	32	-1	1	0.44	Stable	--	--	--
MW-19C	Dissolved Uranium	µg/L	-	20	-	6/2018 - 11/2020	9	67%	9	67%	0.11	0.13	<0.10	<0.10	<0.10	0.13	--	--	--	>50% ND	--	0	--
MW-19C	Total Uranium	µg/L	300	20	-	6/2019 - 11/2020	5	0%	5	0%	0.11	0.18	--	--	0.11	0.18	2	0.816	0.22	No trend identified	0	0	--
MW-19C	Dissolved Vanadium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-19C	Total Vanadium	µg/L	6	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-19C	Dissolved Zinc	µg/L	-	-	5000	6/2018 - 11/2020	9	11%	9	11%	5.2	15	<5.0	<5.0	<5.0	15	14	0.18	0.47	No trend identified	--	--	0
MW-19C	Total Zinc	µg/L	30	-	5000	6/2019 - 11/2020	5	0%	5	0%	5.5	16	--	--	5.5	16	7	0.159	0.49	No trend identified	0	--	0
MW-19C	Dissolved Mercury	µg/L	--	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
MW-19C	Total Mercury	µg/L	0.026	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
	Calculated Parameters																						
MW-20A	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.04	0.76	--	--	0.04	0.76	-10	0.358	0.59	Stable	--	--	--
MW-20A	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	9	22%	9	22%	5.1	26.5	<1.0	<1.0	<1.0	26.5	-12	0.26	1.02	No trend identified	--	--	--
MW-20A	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	8	49.5	--	--	8	49.5	-5	0.687	0.46	Stable	--	--	0
MW-20A	Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-20A	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.13	0.67	--	--	0.13	0.67	-9	0.417	0.53	Stable	--	--	--
MW-20A	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	3.2	24.05	--	--	3.2	24.05	-8	0.476	0.86	Stable	--	--	--
MW-20A	Ion Balance (% Difference)	%	-	-	-	6/2018 - 11/2020	9	0%	9	0%	5	52.9	--	--	5	52.9	12	0.26	1.04	No trend identified	--	--	--
MW-20A	Langelier Index (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	7	0%	7	0%	-4.76	-2.515	--	--	-4.76	-2.515	-1	1	-0.18	Stable	--	--	--
MW-20A	Langelier Index (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	7	0%	7	0%	-5.01	-2.77	--	--	-5.01	-2.77	-1	1	-0.17	Stable	--	--	--
MW-20A	Nitrate (N)	mg/L	-	10	-	6/2018 - 11/2020	9	0%	9	0%	0.21	1.2	--	--	0.21	1.2	26	0.0058	0.60	Increasing Trend	--	0	--
MW-20A	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	7	0%	7	0%	9.25	10.6	--	--	9.25	10.6	3	0.772	0.04	No trend identified	--	--	--
MW-20A	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	7	0%	7	0%	9.515	10.9	--	--	9.515	10.9	3	0.772	0.04	No trend identified	--	--	--
	Inorganics																						
MW-20A	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	22%	9	22%	5.1	26.5	<5.0	<5.0	<5.0	26.5	-12	0.26	0.91	Stable	--	--	--
MW-20A	Total Chemical Oxygen Demand	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<20	<20	<20	<20	--	--	--	Insufficient data	--	--	--
MW-20A	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	9	11%	9	11%	1.45	4.8	<1.0	<1.0	<1.0	4.8	-20	0.044	0.46	Decreasing Trend	0	--	0
MW-20A	Colour	TCU	-	-	15	6/2018 - 11/2020	9	89%	9	89%	5.5	5.5	<5.0	<5.0	<5.0	5.5	--	--	--	>50% ND	--	--	0
MW-20A	Nitrate + Nitrite	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.21	1.2	--	--	0.21	1.2	26	0.0058	0.60	Increasing Trend	--	--	--
MW-20A	Nitrite	mg/L	-	1	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-20A	Nitrogen (Ammonia Nitrogen)	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.050	<0.050	<0.050	<0.050	--	--	--	100% ND	--	--	--
MW-20A	Dissolved Organic Carbon	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	1	1	--	--	1	1	--	--	--	Insufficient data	--	--	--
MW-20A	Total Organic Carbon	mg/L	-	-	-	6/2018 - 7/2020	9	11%	8	0%	0.97	1.8	--	--	0.97	1.8	-13	0.143	0.20	Stable **	--	--	--
MW-20A	Orthophosphate	mg/L	-	-	-	6/2018 - 11/2020	9	67%	9	67%	0.01	0.17	<0.010	<0.010	<0.010	0.17	--	--	--	>50% ND	--	--	--
MW-20A	pH	s.u.	-	-	10.5	6/2018 - 11/2020	9	0%	9	0%	5.15	6.735	--	--	5.15	6.735	-10	0.358	0.07	Stable	--	--	0
MW-20A	pH	s.u.	-	-	7																		**9 ***
MW-20A	Dissolved Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	0.063	0.063	--	--	0.063	0.063	--	--	--	Insufficient data	--	--	--
MW-20A	Total Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	0.03	0.03	--	--	0.03	0.03	--	--	--	Insufficient data	--	--	--
MW-20A	Reactive Silica (SiO2)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	3.2	9.6	--	--	3.2	9.6	-6	0.612	0.35	Stable	--	--	--
MW-20A	Total Suspended Solids	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	28	28	--	--	28	28	--	--	--	Insufficient data	--	--	--
MW-20A	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	9	11%	9	11%	2.3	5.8	<2.0	<2.0	<2.0	5.8	-4	0.762	0.48	Stable	--	--	0
MW-20A	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	9	0%	9	0%	3	7.8	--	--	3	7.8	4	0.762	0.26	No trend identified	--	--	**9**
MW-20A	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	9	0%	9	0%	26	75.5	--	--	26	75.5	-3	0.841	0.41	Stable	--	--	--
	Metals																						
MW-20A	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	9	0%	9	0%	11.85	660	--	--	11.85	660	16	0.12	1.26	No trend identified	--	--	**5**
MW-20A	Total Aluminum	µg/L	5	-	100	6/2019 - 11/2020	5	0%	5	0%	265	810	--	--	265	810	0	1	0.41	Stable	**5**	--	**5**
MW-20A	Dissolved Antimony	µg/L	-	6	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-20A	Total Antimony	µg/L	20	6	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-20A	Dissolved Arsenic	µg/L	-	10	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-20A	Total Arsenic	µg/L	5	10	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-20A	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	9	0%	9	0%	4.4	13	--	--	4.4	13	18	0.076	0.40	Probably Increasing	--	0	--
MW-20A	Total Barium	µg/L	1000	2000	-	6/2019 - 11/2020	5	0%	5	0%	6.1	13	--	--	6.1	13	0	1	0.29	Stable	0	0	--
MW-20A	Dissolved Beryllium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-20A	Total Beryllium	µg/L	5.3	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-20A	Dissolved Bismuth	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-20A	Total Bismuth	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-20A	Dissolved Boron	µg/L	-	5000	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-20A	Total Boron	µg/L	1200	5000	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-20A	Dissolved Cadmium	µg/L	-	7	-	6/2018 - 11/2020	9	0%	9	0%	0.027	0.043	--	--	0.027	0.043	14	0.18	0.16	No trend identified	--	0	--
MW-20A	Total Cadmium	µg/L	0.01	7	-	6/2019 - 11/2020	5	0%	5	0%	0.0295	0.051	--	--	0.0295	0.051	-1	1	0.20	Stable	**5**	0	--
MW-20A	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	750	8000	--	--	750	8000	-7	0.544	1.09	No trend identified	--	--	--
MW-20A	Total Calcium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	730	1750	--	--	730	1750	0	1	0.34	Stable	--	--	--
MW-20A	Dissolved Chromium	µg/L	-	50	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-20A	Total Chromium	µg/L	-	50	-	6/2019 - 11/2020	5	80%	5	80%	1.45	1.45	<1.0	<1.0	<1.0	1.45	--	--	--	>50% ND	--	0	--
MW-20A	Dissolved Cobalt	µg/L	-	-	-	6/2018 - 11/2020	9	11%	9	11%	1.1	7.3	<0.40	<0.40	<0.40	7.3	2	0.92	0.65	No trend identified	--	--	--
MW-20A	Total Cobalt	µg/L	10	-	-	6/2019 - 11/2020	5	0%	5	0%	1.4	8.85	--	--	1.4	8.85	-6	0.234	0.64	Stable	0	--	--
MW-20A	Dissolved Copper	µg/L	-	2000	1000	6/2018 - 11/2020	9	0%	9	0%	2.05	25	--	--	2.05	25	-3	0.841	0.60	Stable	--	0	0
MW-20A	Total Copper	µg/L	2	2000	1000	6/2019 - 11/2020	5	0%	5	0%	10	29	--	--	10	29	-7	0.159	0.43	Stable	**5**	0	0
MW-20A	Dissolved Iron	µg/L	-	-	300	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-20A	Total Iron	µg/L	300	-	300	6/2019 - 11/2020	5	0%	5	0%	180	570	--	--	180	570	0	1	0.46	Stable	**2**	--	**2**
MW-20A	Dissolved Lead	µg/L	-	5	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--

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Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test											Samples Outside Criteria (Count)		
			NSE	CDWQG		Date					Detects		Non-Detects							NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
MW-20A	Total Lead	µg/L	1	5	-	6/2019 - 11/2020	5	80%	5	80%	0.615	0.615	<0.50	<0.50	<0.50	0.615	--	--	--	>50% ND	0	0	--
MW-20A	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	320	1135	--	--	320	1135	-6	0.612	0.42	Stable	--	--	--
MW-20A	Total Magnesium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	370	740	--	--	370	740	2	0.816	0.25	No trend identified	--	--	--
MW-20A	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	9	0%	9	0%	38.5	150	--	--	38.5	150	-8	0.476	0.56	Stable	--	**1**	**9**
MW-20A	Total Manganese	µg/L	820	120	20	6/2019 - 11/2020	5	0%	5	0%	51.5	72.5	--	--	51.5	72.5	-2	0.816	0.13	Stable	0	0	**5**
MW-20A	Dissolved Molybdenum	µg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	2.3	2.3	<2.0	<2.0	<2.0	2.3	--	--	--	>50% ND	--	--	--
MW-20A	Total Molybdenum	µg/L	73	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-20A	Dissolved Nickel	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2.8	26	--	--	2.8	26	9	0.417	0.57	No trend identified	--	--	--
MW-20A	Total Nickel	µg/L	25	-	-	6/2019 - 11/2020	5	0%	5	0%	5.9	23	--	--	5.9	23	-2	0.816	0.42	Stable	0	--	--
MW-20A	Dissolved Phosphorus	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-20A	Total Phosphorus	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-20A	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	280	985	--	--	280	985	6	0.612	0.40	No trend identified	--	--	--
MW-20A	Total Potassium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	460	770	--	--	460	770	5	0.359	0.23	No trend identified	--	--	--
MW-20A	Dissolved Selenium	µg/L	-	50	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-20A	Total Selenium	µg/L	1	50	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-20A	Dissolved Silver	µg/L	-	-	-	6/2018 - 11/2020	9	78%	9	78%	0.12	0.17	<0.10	<0.10	<0.10	0.17	--	--	--	>50% ND	--	--	--
MW-20A	Total Silver	µg/L	0.1	-	-	6/2019 - 11/2020	5	0%	5	0%	0.12	0.56	--	--	0.12	0.56	-10	0.0166	0.62	**Decreasing Trend**	**5**	--	--
MW-20A	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	0%	1100	3800	--	--	1100	3800	-17	0.098	0.26	**Probably Decreasing**	--	--	0
MW-20A	Total Sodium	µg/L	-	-	200000	6/2019 - 11/2020	5	0%	5	0%	1100	3150	--	--	1100	3150	0	1	0.35	Stable	--	--	0
MW-20A	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	9	0%	9	0%	10	48	--	--	10	48	-5	0.687	0.65	Stable	--	0	--
MW-20A	Total Strontium	µg/L	21000	7000	-	6/2019 - 11/2020	5	0%	5	0%	11	17	--	--	11	17	2	0.816	0.18	No trend identified	0	0	--
MW-20A	Dissolved Thallium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-20A	Total Thallium	µg/L	0.8	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-20A	Dissolved Tin	µg/L	-	-	-	6/2018 - 11/2020	9	78%	9	78%	2.3	4	<2.0	<2.0	<2.0	4	--	--	--	>50% ND	--	--	--
MW-20A	Total Tin	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-20A	Dissolved Titanium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-20A	Total Titanium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	5	15	--	--	5	15	0	1	0.40	Stable	--	--	--
MW-20A	Dissolved Uranium	µg/L	-	20	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-20A	Total Uranium	µg/L	300	20	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-20A	Dissolved Vanadium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-20A	Total Vanadium	µg/L	6	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-20A	Dissolved Zinc	µg/L	-	-	5000	6/2018 - 11/2020	9	0%	9	0%	10	51	--	--	10	51	18	0.076	0.50	**Probably Increasing**	--	--	0
MW-20A	Total Zinc	µg/L	30	-	5000	6/2019 - 11/2020	5	0%	5	0%	19	48	--	--	19	48	0	1	0.33	Stable	**3**	--	0
MW-20A	Dissolved Mercury	µg/L	--	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
MW-20A	Total Mercury	µg/L	0.026	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
	Calculated Parameters																						
MW-20B	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.18	2.23	--	--	0.18	2.23	-26	0.0058	0.76	**Decreasing Trend**	--	--	--
MW-20B	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	9	11%	9	11%	5.5	96	<1.0	<1.0	<1.0	96	-28	0.0024	0.87	**Decreasing Trend**	--	--	--
MW-20B	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	19	120	--	--	19	120	-20	0.044	0.67	**Decreasing Trend**	--	--	0
MW-20B	Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-20B	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.22	2.01	--	--	0.22	2.01	-14	0.18	0.77	Stable	--	--	--
MW-20B	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	4.9	74	--	--	4.9	74	-18	0.076	0.84	**Probably Decreasing**	--	--	--
MW-20B	Ion Balance (% Difference)	%	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.75	21.1	--	--	0.75	21.1	10	0.358	0.74	No trend identified	--	--	--
MW-20B	Langelier Index (@ 20C)	N/A	-	-	-	6/2018 - 7/2020	8	0%	8	0%	-4.63	-0.041	--	--	-4.63	-0.041	-20	0.0142	-1.24	**Decreasing Trend**	--	--	--
MW-20B	Langelier Index (@ 4C)	N/A	-	-	-	6/2018 - 7/2020	8	0%	8	0%	-4.88	-0.291	--	--	-4.88	-0.291	-20	0.0142	-1.08	**Decreasing Trend**	--	--	--
MW-20B	Nitrate (N)	mg/L	-	10	-	6/2018 - 11/2020	9	22%	9	22%	0.052	0.92	<0.050	<0.050	<0.050	0.92	33	0.00015	1.25	**Increasing Trend**	--	0	--
MW-20B	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 7/2020	8	0%	8	0%	8.03	10.5	--	--	8.03	10.5	15	0.085	0.13	**Probably Increasing**	--	--	--
MW-20B	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 7/2020	8	0%	8	0%	8.28	10.7	--	--	8.28	10.7	15	0.085	0.13	**Probably Increasing**	--	--	--
	Inorganics																						
MW-20B	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	11%	9	11%	5.5	97	<5.0	<5.0	<5.0	97	-28	0.0024	0.86	**Decreasing Trend**	--	--	--
MW-20B	Total Chemical Oxygen Demand	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<20	<20	<20	<20	--	--	--	Insufficient data	--	--	--
MW-20B	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	9	0%	9	0%	2	3.6	--	--	2	3.6	-15	0.15	0.20	Stable	0	--	0
MW-20B	Colour	TCU	-	-	15	6/2018 - 11/2020	9	100%	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	--	100% ND	--	--	--
MW-20B	Nitrate + Nitrite	mg/L	-	-	-	6/2018 - 11/2020	9	22%	9	22%	0.052	0.92	<0.050	<0.050	<0.050	0.92	33	0.00015	1.25	**Increasing Trend**	--	--	--
MW-20B	Nitrite	mg/L	-	1	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-20B	Nitrogen (Ammonia Nitrogen)	mg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	0.054	0.054	<0.050	<0.050	<0.050	0.054	--	--	--	>50% ND	--	--	--
MW-20B	Dissolved Organic Carbon	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.5	<0.5	<0.5	<0.5	--	--	--	Insufficient data	--	--	--
MW-20B	Total Organic Carbon	mg/L	-	-	-	6/2018 - 11/2020	9	67%	9	67%	0.45	0.84	<0.50	<0.50	0.45	0.84	--	--	--	>50% ND	--	--	--
MW-20B	Orthophosphate	mg/L	-	-	-	6/2018 - 11/2020	9	67%	9	67%	0.01	0.015	<0.010	<0.010	<0.010	0.015	--	--	--	>50% ND	--	--	--
MW-20B	pH	s.u.	-	-	10.5	6/2018 - 11/2020	9	0%	9	0%	5.76	8.02	--	--	5.76	8.02	-30	0.00086	0.14	**Decreasing Trend**	--	--	0
MW-20B	pH	s.u.	-	-	7																		**4 ***
MW-20B	Dissolved Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	0.028	0.028	--	--	0.028	0.028	--	--	--	Insufficient data	--	--	--
MW-20B	Total Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-20B	Reactive Silica (SiO2)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	4.9	13	--	--	4.9	13	-20	0.044	0.33	**Decreasing Trend**	--	--	--
MW-20B	Total Suspended Solids	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	1.8	1.8	--	--	1.8	1.8	--	--	--	Insufficient data	--	--	--
MW-20B	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	2.2	10	--	--	2.2	10	-27	0.0041	0.55	**Decreasing Trend**	--	--	0
MW-20B	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	9	11%	9	11%	0.12	11	<0.10	<0.10	<0.10	11	-20	0.044	1.23	**Decreasing Trend**	--	--	**5**
MW-20B	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	9	0%	9	0%	28	200	--	--	28	200	-20	0.044	0.71	**Decreasing Trend**	--	--	--
	Metals																						
MW-20B	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	9	0%	9	0%	7.3	190	--	--	7.3	190	9	0.417	1.20	No trend identified	--	--	**2**
MW-20B	Total Aluminum	µg/L	5	-	100	6/2019 - 11/2020	5	0%	5	0%	31	1400	--	--	31	1400	-2	0.816	1.59	No trend identified	**5**	--	**3**
MW-20B	Dissolved Antimony	µg/L	-	6	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-20B	Total Antimony	µg/L	20	6	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-20B	Dissolved Arsenic	µg/L	-	10	-	6/2018 - 11/2020	9	44%	9	44%	7	10	<1.0	<1.0	<1.0	10	-18	0.076	0.87	**Probably Decreasing**	--	0	--
MW-20B	Total Arsenic	µg/L	5	10	-	6/2019 - 11/2020	5	80%	5	80%	8.8	8.8	<1.0	<1.0	<1.0	8.8	--	--	--	>50% ND	**1**	0	--
MW-20B	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	9	0%	9	0%	4.4	12	--	--	4.4	12	-23	0.0183	0.40	**Decreasing Trend**	--	0	--
MW-20B	Total Barium	µg/L	1000	2000	-	6/2019 - 11/2020	5	0%	5	0%	4.5	10	--	--	4.5	10	1	1	0.40	No trend identified	0	0	--
MW-20B	Dissolved Beryllium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--

Table 4.1

Statistical Screening and Trend Test (Mann Kendall) Results – Baseline Groundwater Quality Data
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test										Samples Outside Criteria (Count)		
			NSE	CDWQG		Date					Detects		Non-Detects						NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
MW-20B	Total Beryllium	µg/L	5.3	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-20B	Dissolved Bismuth	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-20B	Total Bismuth	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-20B	Dissolved Boron	µg/L	-	5000	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-20B	Total Boron	µg/L	1200	5000	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-20B	Dissolved Cadmium	µg/L	-	7	-	6/2018 - 11/2020	9	22%	9	22%	0.01	0.027	<0.010	<0.010	<0.010	0.027	22	0.024	0.55	Increasing Trend	--	0	--
MW-20B	Total Cadmium	µg/L	0.01	7	-	6/2019 - 11/2020	5	20%	5	20%	0.019	0.026	<0.010	<0.010	<0.010	0.026	4	0.484	0.43	No trend identified	**4**	0	--
MW-20B	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1100	22000	--	--	1100	22000	-21	0.034	0.87	Decreasing Trend	--	--	--
MW-20B	Total Calcium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	1100	21000	--	--	1100	21000	0	1	1.70	No trend identified	--	--	--
MW-20B	Dissolved Chromium	µg/L	-	50	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-20B	Total Chromium	µg/L	-	50	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-20B	Dissolved Cobalt	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	--	100% ND	--	--	--
MW-20B	Total Cobalt	µg/L	10	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	--	100% ND	--	--	--
MW-20B	Dissolved Copper	µg/L	-	2000	1000	11/2018 - 11/2020	9	56%	7	43%	0.63	2.7	<0.50	<0.50	<0.50	2.7	-15	0.03	1.03	Decreasing Trend	--	0	0
MW-20B	Total Copper	µg/L	2	2000	1000	6/2019 - 11/2020	5	60%	5	60%	0.81	1.1	<0.50	<0.50	<0.50	1.1	--	--	--	>50% ND	0	0	0
MW-20B	Dissolved Iron	µg/L	-	-	300	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-20B	Total Iron	µg/L	300	-	300	6/2019 - 11/2020	5	80%	5	80%	430	430	<50	<50	<50	430	--	--	--	>50% ND	**1**	--	**1**
MW-20B	Dissolved Lead	µg/L	-	5	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-20B	Total Lead	µg/L	1	5	-	6/2019 - 11/2020	5	80%	5	80%	0.63	0.63	<0.50	<0.50	<0.50	0.63	--	--	--	>50% ND	0	0	--
MW-20B	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	520	4700	--	--	520	4700	-15	0.15	0.76	Stable	--	--	--
MW-20B	Total Magnesium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	530	4700	--	--	530	4700	-2	0.816	1.31	No trend identified	--	--	--
MW-20B	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	9	0%	9	0%	27	110	--	--	27	110	-16	0.12	0.54	Stable	--	0	**9**
MW-20B	Total Manganese	µg/L	820	120	20	6/2019 - 11/2020	5	0%	5	0%	26	51	--	--	26	51	6	0.234	0.28	No trend identified	0	0	**5**
MW-20B	Dissolved Molybdenum	µg/L	-	-	-	6/2018 - 11/2020	9	56%	9	56%	5.5	6.8	<2.0	<2.0	<2.0	6.8	--	--	--	>50% ND	--	--	--
MW-20B	Total Molybdenum	µg/L	73	-	-	6/2019 - 11/2020	5	80%	5	80%	7.1	7.1	<2.0	<2.0	<2.0	7.1	--	--	--	>50% ND	0	--	--
MW-20B	Dissolved Nickel	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-20B	Total Nickel	µg/L	25	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-20B	Dissolved Phosphorus	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-20B	Total Phosphorus	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-20B	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	200	1800	--	--	200	1800	-21	0.034	0.69	Decreasing Trend	--	--	--
MW-20B	Total Potassium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	180	1100	--	--	180	1100	-2	0.816	0.88	Stable	--	--	--
MW-20B	Dissolved Selenium	µg/L	-	50	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-20B	Total Selenium	µg/L	1	50	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-20B	Dissolved Silver	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-20B	Total Silver	µg/L	0.1	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-20B	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	0%	2300	13000	--	--	2300	13000	-12	0.26	0.60	Stable	--	--	0
MW-20B	Total Sodium	µg/L	-	-	200000	6/2019 - 11/2020	5	0%	5	0%	2200	13000	--	--	2200	13000	-6	0.234	0.95	Stable	--	--	0
MW-20B	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	9	0%	9	0%	14	280	--	--	14	280	-20	0.044	0.88	Decreasing Trend	--	0	--
MW-20B	Total Strontium	µg/L	21000	7000	-	6/2019 - 11/2020	5	0%	5	0%	14	260	--	--	14	260	0	1	1.71	No trend identified	0	0	--
MW-20B	Dissolved Thallium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-20B	Total Thallium	µg/L	0.8	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-20B	Dissolved Tin	µg/L	-	-	-	6/2018 - 11/2020	9	78%	9	78%	2.1	2.1	<2.0	<2.0	<2.0	2.1	--	--	--	>50% ND	--	--	--
MW-20B	Total Tin	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-20B	Dissolved Titanium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-20B	Total Titanium	µg/L	-	-	-	6/2019 - 11/2020	5	80%	5	80%	12	12	<2.0	<2.0	<2.0	12	--	--	--	>50% ND	--	--	--
MW-20B	Dissolved Uranium	µg/L	-	20	-	6/2018 - 11/2020	9	44%	9	44%	0.45	0.88	<0.10	<0.10	<0.10	0.88	-16	0.12	0.89	Stable	--	0	--
MW-20B	Total Uranium	µg/L	300	20	-	6/2019 - 11/2020	5	80%	5	80%	1.3	1.3	<0.10	<0.10	<0.10	1.3	--	--	--	>50% ND	0	0	--
MW-20B	Dissolved Vanadium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-20B	Total Vanadium	µg/L	6	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-20B	Dissolved Zinc	µg/L	-	-	5000	6/2018 - 11/2020	9	78%	9	78%	5.2	17	<5.0	<5.0	<5.0	17	--	--	--	>50% ND	--	--	0
MW-20B	Total Zinc	µg/L	30	-	5000	6/2019 - 11/2020	5	100%	5	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	--	100% ND	--	--	--
MW-20B	Dissolved Mercury	µg/L	--	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
MW-20B	Total Mercury	µg/L	0.026	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
	Calculated Parameters																						
MW-21A	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.18	0.46	--	--	0.18	0.46	-8	0.476	0.29	Stable	--	--	--
MW-21A	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	5.3	16	--	--	5.3	16	-6	0.612	0.38	Stable	--	--	--
MW-21A	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	17	32	--	--	17	32	-6	0.612	0.23	Stable	--	--	0
MW-21A	Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-21A	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.215	0.4	--	--	0.215	0.4	-9	0.417	0.25	Stable	--	--	--
MW-21A	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	4.7	9.9	--	--	4.7	9.9	-16	0.12	0.25	Stable	--	--	--
MW-21A	Ion Balance (% Difference)	%	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2.04	13.15	--	--	2.04	13.15	4	0.762	0.45	No trend identified	--	--	--
MW-21A	Langelier Index (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-4.75	-3.75	--	--	-4.75	-3.75	0	1	-0.08	Stable	--	--	--
MW-21A	Langelier Index (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-5	-4	--	--	-5	-4	0	1	-0.07	Stable	--	--	--
MW-21A	Nitrate (N)	mg/L	-	10	-	6/2018 - 11/2020	9	0%	9	0%	0.066	0.67	--	--	0.066	0.67	-9	0.417	0.50	Stable	--	0	--
MW-21A	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	9.69	10.4	--	--	9.69	10.4	14	0.18	0.02	No trend identified	--	--	--
MW-21A	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	9.94	10.7	--	--	9.94	10.7	12	0.26	0.02	No trend identified	--	--	--
	Inorganics																						
MW-21A	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	5.3	16	--	--	5.3	16	-6	0.612	0.38	Stable	--	--	--
MW-21A	Total Chemical Oxygen Demand	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<20	<20	<20	<20	--	--	--	Insufficient data	--	--	--
MW-21A	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	9	11%	9	11%	1.3	3.1	<1.0	<1.0	<1.0	3.1	-22	0.024	0.42	Decreasing Trend	0	--	0
MW-21A	Colour	TCU	-	-	15	6/2018 - 11/2020	9	44%	9	44%	5.6	8	<5.0	<5.0	<5.0	8	-9	0.417	0.45	Stable	--	--	0
MW-21A	Nitrate + Nitrite	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.066	0.67	--	--	0.066	0.67	-9	0.417	0.50	Stable	--	--	--
MW-21A	Nitrite	mg/L	-	1	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-21A	Nitrogen (Ammonia Nitrogen)	mg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	0.059	0.059	<0.050	<0.050	<0.050	0.059	--	--	--	>50% ND	--	--	--
MW-21A	Dissolved Organic Carbon	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	2.2	2.2	--	--	2.2	2.2	--	--	--	Insufficient data	--	--	--
MW-21A	Total Organic Carbon	mg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	2	3.3	--	--	2	3.3	6	0.548	0.19	No trend identified	--	--	--
MW-21A	Orthophosphate	mg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	0.012	0.012	<0.010	<0.010	<0.010	0.012	--	--	--	>50% ND	--	--	--
MW-21A	pH	s.u.	-	-	10.5	6/2018 - 11/2020	9	0%	9	0%	5.62	6.36	--	--	5.62	6.36	8	0.476	0.05	No trend identified	--	--	0
MW-21A	pH	s.u.	-	-	7																		**9 ***
MW-21A	Dissolved Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	0.028	0.028	--	--	0.028	0.028	--	--	--	Insufficient data	--	--	--

Table 4.1

Statistical Screening and Trend Test (Mann Kendall) Results – Baseline Groundwater Quality Data
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test										Samples Outside Criteria (Count)		
			NSE	CDWQG		Date					Detects		Non-Detects						NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
MW-21A	Total Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-21A	Reactive Silica (SiO2)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	4.45	7	--	--	4.45	7	-4	0.762	0.14	Stable	--	--	--
MW-21A	Total Suspended Solids	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	23	23	--	--	23	23	--	--	--	Insufficient data	--	--	--
MW-21A	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	9	11%	9	11%	2.1	3.45	<2.0	<2.0	<2.0	3.45	14	0.18	0.29	No trend identified	--	--	0
MW-21A	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	9	0%	9	0%	1.1	770	--	--	1.1	770	8	0.476	2.55	No trend identified	--	--	**9**
MW-21A	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	9	0%	9	0%	26	48.5	--	--	26	48.5	-11	0.309	0.26	Stable	--	--	--
	Metals																						
MW-21A	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	9	0%	9	0%	165	430	--	--	165	430	-6	0.612	0.34	Stable	--	--	**9**
MW-21A	Total Aluminum	µg/L	5	-	100	6/2019 - 11/2020	5	0%	5	0%	430	10000	--	--	430	10000	-6	0.234	1.40	No trend identified	**5**	--	**5**
MW-21A	Dissolved Antimony	µg/L	-	6	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-21A	Total Antimony	µg/L	20	6	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-21A	Dissolved Arsenic	µg/L	-	10	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-21A	Total Arsenic	µg/L	5	10	-	6/2019 - 11/2020	5	80%	5	80%	3	3	<1.0	<1.0	<1.0	3	--	--	--	>50% ND	0	0	--
MW-21A	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	9	0%	9	0%	7.9	19	--	--	7.9	19	-13	0.22	0.27	Stable	--	0	--
MW-21A	Total Barium	µg/L	1000	2000	-	6/2019 - 11/2020	5	0%	5	0%	13	88	--	--	13	88	-6	0.234	0.89	Stable	0	0	--
MW-21A	Dissolved Beryllium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-21A	Total Beryllium	µg/L	5.3	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-21A	Dissolved Bismuth	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-21A	Total Bismuth	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-21A	Dissolved Boron	µg/L	-	5000	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-21A	Total Boron	µg/L	1200	5000	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-21A	Dissolved Cadmium	µg/L	-	7	-	6/2018 - 11/2020	9	0%	9	0%	0.033	0.066	--	--	0.033	0.066	-4	0.762	0.21	Stable	--	0	--
MW-21A	Total Cadmium	µg/L	0.01	7	-	6/2019 - 11/2020	5	0%	5	0%	0.04	0.076	--	--	0.04	0.076	-2	0.816	0.26	Stable	**5**	0	--
MW-21A	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1100	2550	--	--	1100	2550	-15	0.15	0.28	Stable	--	--	--
MW-21A	Total Calcium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	1100	3500	--	--	1100	3500	-6	0.234	0.53	Stable	--	--	--
MW-21A	Dissolved Chromium	µg/L	-	50	-	6/2018 - 11/2020	9	89%	9	89%	1.1	1.1	<1.0	<1.0	<1.0	1.1	--	--	--	>50% ND	--	0	--
MW-21A	Total Chromium	µg/L	-	50	-	6/2019 - 11/2020	5	40%	5	40%	1.85	26	<1.0	<1.0	<1.0	26	-7	0.159	1.72	No trend identified	--	0	--
MW-21A	Dissolved Cobalt	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1.6	4.2	--	--	1.6	4.2	-12	0.26	0.35	Stable	--	--	--
MW-21A	Total Cobalt	µg/L	10	-	-	6/2019 - 11/2020	5	0%	5	0%	2	8.2	--	--	2	8.2	-6	0.234	0.70	Stable	0	--	--
MW-21A	Dissolved Copper	µg/L	-	2000	1000	4/2019 - 11/2020	9	33%	6	0%	0.88	4.4	--	--	0.88	4.4	-7	0.272	0.90	Stable	--	0	0
MW-21A	Total Copper	µg/L	2	2000	1000	6/2019 - 11/2020	5	0%	5	0%	1.45	23	--	--	1.45	23	-4	0.484	1.38	No trend identified	**3**	0	0
MW-21A	Dissolved Iron	µg/L	-	-	300	6/2018 - 11/2020	9	78%	9	78%	64.5	65	<50	<50	<50	65	--	--	--	>50% ND	--	--	0
MW-21A	Total Iron	µg/L	300	-	300	6/2019 - 11/2020	5	0%	5	0%	74	18000	--	--	74	18000	-8	0.084	1.84	**Probably Decreasing**	**3**	--	**3**
MW-21A	Dissolved Lead	µg/L	-	5	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-21A	Total Lead	µg/L	1	5	-	6/2019 - 11/2020	5	60%	5	60%	1.45	4.2	<0.50	<0.50	<0.50	4.2	--	--	--	>50% ND	**2**	0	--
MW-21A	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	460	860	--	--	460	860	-20	0.044	0.22	**Decreasing Trend**	--	--	--
MW-21A	Total Magnesium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	430	4500	--	--	430	4500	-8	0.084	1.16	**Probably Decreasing**	--	--	--
MW-21A	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	9	0%	9	0%	160	650	--	--	160	650	-22	0.024	0.54	**Decreasing Trend**	--	**9**	**9**
MW-21A	Total Manganese	µg/L	820	120	20	6/2019 - 11/2020	5	0%	5	0%	160	670	--	--	160	670	-4	0.484	0.65	Stable	0	**5**	**5**
MW-21A	Dissolved Molybdenum	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-21A	Total Molybdenum	µg/L	73	-	-	6/2019 - 11/2020	5	80%	5	80%	5.8	5.8	<2.0	<2.0	<2.0	5.8	--	--	--	>50% ND	0	--	--
MW-21A	Dissolved Nickel	µg/L	-	-	-	6/2018 - 11/2020	9	56%	9	56%	2	3.2	<2.0	<2.0	2	3.2	--	--	--	>50% ND	--	--	--
MW-21A	Total Nickel	µg/L	25	-	-	6/2019 - 11/2020	5	40%	5	40%	2.65	17	<2.0	<2.0	<2.0	17	-7	0.159	1.40	No trend identified	0	--	--
MW-21A	Dissolved Phosphorus	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-21A	Total Phosphorus	µg/L	-	-	-	6/2019 - 11/2020	5	80%	5	80%	590	590	<100	<100	<100	590	--	--	--	>50% ND	--	--	--
MW-21A	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	565	970	--	--	565	970	-10	0.358	0.17	Stable	--	--	--
MW-21A	Total Potassium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	680	3800	--	--	680	3800	-8	0.084	0.92	**Probably Decreasing**	--	--	--
MW-21A	Dissolved Selenium	µg/L	-	50	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-21A	Total Selenium	µg/L	1	50	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-21A	Dissolved Silver	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-21A	Total Silver	µg/L	0.1	-	-	6/2019 - 11/2020	5	40%	5	40%	0.12	1.3	<0.10	<0.10	<0.10	1.3	-5	0.359	1.54	No trend identified	**3**	--	--
MW-21A	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	0%	1800	4400	--	--	1800	4400	1	1	0.33	No trend identified	--	--	0
MW-21A	Total Sodium	µg/L	-	-	200000	6/2019 - 11/2020	5	0%	5	0%	2050	3250	--	--	2050	3250	-4	0.484	0.17	Stable	--	--	0
MW-21A	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	9	0%	9	0%	11	18	--	--	11	18	-14	0.18	0.20	Stable	--	0	--
MW-21A	Total Strontium	µg/L	21000	7000	-	6/2019 - 11/2020	5	0%	5	0%	11	28	--	--	11	28	-4	0.484	0.41	Stable	0	0	--
MW-21A	Dissolved Thallium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-21A	Total Thallium	µg/L	0.8	-	-	6/2019 - 11/2020	5	80%	5	80%	0.18	0.18	<0.10	<0.10	<0.10	0.18	--	--	--	>50% ND	0	--	--
MW-21A	Dissolved Tin	µg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	2.2	2.2	<2.0	<2.0	<2.0	2.2	--	--	--	>50% ND	--	--	--
MW-21A	Total Tin	µg/L	-	-	-	6/2019 - 11/2020	5	60%	5	60%	2.6	3.5	<2.0	<2.0	<2.0	3.5	--	--	--	>50% ND	--	--	--
MW-21A	Dissolved Titanium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-21A	Total Titanium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	3	500	--	--	3	500	-8	0.084	1.70	**Probably Decreasing**	--	--	--
MW-21A	Dissolved Uranium	µg/L	-	20	-	6/2018 - 11/2020	9	89%	9	89%	0.1	0.1	<0.10	<0.10	0.1	0.1	--	--	--	>50% ND	--	0	--
MW-21A	Total Uranium	µg/L	300	20	-	6/2019 - 11/2020	5	40%	5	40%	0.18	1.4	<0.10	<0.10	<0.10	1.4	-5	0.359	1.24	No trend identified	0	0	--
MW-21A	Dissolved Vanadium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-21A	Total Vanadium	µg/L	6	-	-	6/2019 - 11/2020	5	80%	5	80%	16	16	<2.0	<2.0	<2.0	16	--	--	--	>50% ND	**1**	--	--
MW-21A	Dissolved Zinc	µg/L	-	-	5000	6/2018 - 11/2020	9	44%	9	44%	5.3	8.5	<5.0	<5.0	<5.0	8.5	15	0.15	0.47	No trend identified	--	--	0
MW-21A	Total Zinc	µg/L	30	-	5000	6/2019 - 11/2020	5	0%	5	0%	5.5	31	--	--	5.5	31	-4	0.484	0.97	Stable	**1**	--	0
MW-21A	Dissolved Mercury	µg/L	--	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
MW-21A	Total Mercury	µg/L	0.026	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
	Calculated Parameters																						
MW-21B	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.3	0.69	--	--	0.3	0.69	-19	0.06	0.32	**Probably Decreasing**	--	--	--
MW-21B	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	9.1	26	--	--	9.1	26	-23	0.0183	0.43	**Decreasing Trend**	--	--	--
MW-21B	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	21	46	--	--	21	46	-20	0.044	0.28	**Decreasing Trend**	--	--	0
MW-21B	Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-21B	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.26	0.62	--	--	0.26	0.62	-17	0.098	0.34	**Probably Decreasing**	--	--	--
MW-21B	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	7.7	20	--	--	7.7	20	-18	0.076	0.39	**Probably Decreasing**	--	--	--
MW-21B	Ion Balance (% Difference)	%	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2.65	10.3	--	--	2.65	10.3	8	0.476	0.37	No trend identified	--	--	--
MW-21B	Langelier Index (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-4.32	-2.91	--	--	-4.32	-2.91	-26	0.0058	-0.14	**Decreasing Trend**	--	--	--
MW-21B	Langelier Index (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-4.57	-3.16	--	--	-4.57	-3.16	-26	0.0058	-0.13	**Decreasing Trend**	--	--	--
MW-21B	Nitrate (N)	mg/L	-	10	-	6/2018 - 11/2020	9	0%	9	0%	0.12	0.53	--	--	0.12	0.53	-8	0.476	0.43	Stable	--	0	--

Table 4.1

Statistical Screening and Trend Test (Mann Kendall) Results – Baseline Groundwater Quality Data
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test											Samples Outside Criteria (Count)		
			NSE	CDWQG		Date					Detects		Non-Detects							NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
MW-21B	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	9.13	10	--	--	9.13	10	21	0.034	0.03	Increasing Trend	--	--	--
MW-21B	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	9.38	10.3	--	--	9.38	10.3	22	0.024	0.03	Increasing Trend	--	--	--
	Inorganics																						
MW-21B	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	9.1	26	--	--	9.1	26	-23	0.0183	0.43	Decreasing Trend	--	--	--
MW-21B	Total Chemical Oxygen Demand	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<20	<20	<20	<20	--	--	--	Insufficient data	--	--	--
MW-21B	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	9	0%	9	0%	1.2	3.5	--	--	1.2	3.5	-21	0.034	0.32	Decreasing Trend	0	--	0
MW-21B	Colour	TCU	-	-	15	6/2018 - 11/2020	9	100%	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	--	100% ND	--	--	--
MW-21B	Nitrate + Nitrite	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.12	0.53	--	--	0.12	0.53	-8	0.476	0.43	Stable	--	--	--
MW-21B	Nitrite	mg/L	-	1	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-21B	Nitrogen (Ammonia Nitrogen)	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.050	<0.050	<0.050	<0.050	--	--	--	100% ND	--	--	--
MW-21B	Dissolved Organic Carbon	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	1.8	1.8	--	--	1.8	1.8	--	--	--	Insufficient data	--	--	--
MW-21B	Total Organic Carbon	mg/L	-	-	-	6/2018 - 7/2020	8	0%	8	0%	1	2.1	--	--	1	2.1	0	1	0.25	Stable	--	--	--
MW-21B	Orthophosphate	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.017	0.023	--	--	0.017	0.023	-7	0.544	0.11	Stable	--	--	--
MW-21B	pH	s.u.	-	-	10.5	6/2018 - 11/2020	9	0%	9	0%	5.65	6.51	--	--	5.65	6.51	-12	0.26	0.04	Stable	--	--	0
MW-21B	pH	s.u.	-	-	7																		**9 ***
MW-21B	Dissolved Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	0.026	0.026	--	--	0.026	0.026	--	--	--	Insufficient data	--	--	--
MW-21B	Total Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	0.025	0.025	--	--	0.025	0.025	--	--	--	Insufficient data	--	--	--
MW-21B	Reactive Silica (SiO2)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	5.1	10	--	--	5.1	10	-12	0.26	0.23	Stable	--	--	--
MW-21B	Total Suspended Solids	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	18	18	--	--	18	18	--	--	--	Insufficient data	--	--	--
MW-21B	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	2.1	3.7	--	--	2.1	3.7	14	0.18	0.19	No trend identified	--	--	0
MW-21B	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	9	0%	9	0%	1.7	23	--	--	1.7	23	-11	0.309	1.00	Stable	--	--	**9**
MW-21B	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	9	0%	9	0%	29	71	--	--	29	71	-18	0.076	0.35	Probably Decreasing	--	--	--
	Metals																						
MW-21B	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	9	0%	9	0%	16	130	--	--	16	130	30	0.00086	0.52	Increasing Trend	--	--	**1**
MW-21B	Total Aluminum	µg/L	5	-	100	6/2019 - 11/2020	5	0%	5	0%	160	340	--	--	160	340	0	1	0.31	Stable	**5**	--	**5**
MW-21B	Dissolved Antimony	µg/L	-	6	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-21B	Total Antimony	µg/L	20	6	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-21B	Dissolved Arsenic	µg/L	-	10	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-21B	Total Arsenic	µg/L	5	10	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-21B	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	9	0%	9	0%	1.8	5.8	--	--	1.8	5.8	-4	0.762	0.34	Stable	--	0	--
MW-21B	Total Barium	µg/L	1000	2000	-	6/2019 - 11/2020	5	0%	5	0%	3	5.2	--	--	3	5.2	3	0.65	0.19	No trend identified	0	0	--
MW-21B	Dissolved Beryllium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-21B	Total Beryllium	µg/L	5.3	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-21B	Dissolved Bismuth	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-21B	Total Bismuth	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-21B	Dissolved Boron	µg/L	-	5000	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-21B	Total Boron	µg/L	1200	5000	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-21B	Dissolved Cadmium	µg/L	-	7	-	6/2018 - 11/2020	9	0%	9	0%	0.015	0.033	--	--	0.015	0.033	20	0.044	0.26	Increasing Trend	--	0	--
MW-21B	Total Cadmium	µg/L	0.01	7	-	6/2019 - 11/2020	5	0%	5	0%	0.022	0.031	--	--	0.022	0.031	4	0.484	0.13	No trend identified	**5**	0	--
MW-21B	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1800	5800	--	--	1800	5800	-18	0.076	0.48	Probably Decreasing	--	--	--
MW-21B	Total Calcium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	1800	2500	--	--	1800	2500	-4	0.484	0.15	Stable	--	--	--
MW-21B	Dissolved Chromium	µg/L	-	50	-	6/2018 - 11/2020	9	89%	9	89%	1.1	1.1	<1.0	<1.0	<1.0	1.1	--	--	--	>50% ND	--	0	--
MW-21B	Total Chromium	µg/L	-	50	-	6/2019 - 11/2020	5	80%	5	80%	1.3	1.3	<1.0	<1.0	<1.0	1.3	--	--	--	>50% ND	--	0	--
MW-21B	Dissolved Cobalt	µg/L	-	-	-	6/2018 - 11/2020	9	22%	9	22%	0.46	1.1	<0.40	<0.40	<0.40	1.1	25	0.0092	0.47	Increasing Trend	--	--	--
MW-21B	Total Cobalt	µg/L	10	-	-	6/2019 - 11/2020	5	0%	5	0%	0.63	1.1	--	--	0.63	1.1	4	0.484	0.22	No trend identified	0	--	--
MW-21B	Dissolved Copper	µg/L	-	2000	1000	11/2018 - 11/2020	9	22%	7	0%	0.62	19	--	--	0.62	19	-11	0.136	1.78	No trend identified	--	0	0
MW-21B	Total Copper	µg/L	2	2000	1000	6/2019 - 11/2020	5	0%	5	0%	0.96	1.8	--	--	0.96	1.8	1	1	0.30	No trend identified	0	0	0
MW-21B	Dissolved Iron	µg/L	-	-	300	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-21B	Total Iron	µg/L	300	-	300	6/2019 - 11/2020	5	0%	5	0%	84	230	--	--	84	230	0	1	0.38	Stable	0	--	0
MW-21B	Dissolved Lead	µg/L	-	5	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-21B	Total Lead	µg/L	1	5	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-21B	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	780	1500	--	--	780	1500	-20	0.044	0.26	Decreasing Trend	--	--	--
MW-21B	Total Magnesium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	790	1100	--	--	790	1100	-5	0.359	0.14	Stable	--	--	--
MW-21B	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	9	0%	9	0%	110	200	--	--	110	200	3	0.841	0.18	No trend identified	--	**7**	**9**
MW-21B	Total Manganese	µg/L	820	120	20	6/2019 - 11/2020	5	0%	5	0%	120	180	--	--	120	180	-4	0.484	0.16	Stable	0	**4**	**5**
MW-21B	Dissolved Molybdenum	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-21B	Total Molybdenum	µg/L	73	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-21B	Dissolved Nickel	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-21B	Total Nickel	µg/L	25	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-21B	Dissolved Phosphorus	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-21B	Total Phosphorus	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-21B	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	730	1200	--	--	730	1200	-15	0.15	0.19	Stable	--	--	--
MW-21B	Total Potassium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	760	950	--	--	760	950	-2	0.816	0.09	Stable	--	--	--
MW-21B	Dissolved Selenium	µg/L	-	50	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-21B	Total Selenium	µg/L	1	50	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-21B	Dissolved Silver	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-21B	Total Silver	µg/L	0.1	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-21B	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	0%	1800	4300	--	--	1800	4300	-18	0.076	0.30	Probably Decreasing	--	--	0
MW-21B	Total Sodium	µg/L	-	-	200000	6/2019 - 11/2020	5	0%	5	0%	1800	2700	--	--	1800	2700	-4	0.484	0.15	Stable	--	--	0
MW-21B	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	9	0%	9	0%	18	43	--	--	18	43	-17	0.098	0.34	Probably Decreasing	--	0	--
MW-21B	Total Strontium	µg/L	21000	7000	-	6/2019 - 11/2020	5	0%	5	0%	18	24	--	--	18	24	-5	0.359	0.12	Stable	0	0	--
MW-21B	Dissolved Thallium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-21B	Total Thallium	µg/L	0.8	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-21B	Dissolved Tin	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-21B	Total Tin	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-21B	Dissolved Titanium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-21B	Total Titanium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	3.1	9.4	--	--	3.1	9.4	0	1	0.41	Stable	--	--	--
MW-21B	Dissolved Uranium	µg/L	-	20	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-21B	Total Uranium	µg/L	300	20	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--

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Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test										Samples Outside Criteria (Count)		
			NSE	CDWQG		Date					Detects		Non-Detects						NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
MW-21B	Dissolved Vanadium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-21B	Total Vanadium	µg/L	6	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-21B	Dissolved Zinc	µg/L	-	-	5000	6/2018 - 11/2020	9	56%	9	56%	5.4	13	<5.0	<5.0	<5.0	13	--	--	--	>50% ND	--	--	0
MW-21B	Total Zinc	µg/L	30	-	5000	6/2019 - 11/2020	5	100%	5	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	--	100% ND	--	--	--
MW-21B	Dissolved Mercury	µg/L	--	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
MW-21B	Total Mercury	µg/L	0.026	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
	Calculated Parameters																						
MW-21C	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1.34	2.46	--	--	1.34	2.46	13	0.22	0.19	No trend identified	--	--	--
MW-21C	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	38	81	--	--	38	81	15	0.15	0.19	No trend identified	--	--	--
MW-21C	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	85	150	--	--	85	150	7	0.544	0.18	No trend identified	--	--	0
MW-21C	Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-21C	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1.2	2.39	--	--	1.2	2.39	10	0.358	0.22	No trend identified	--	--	--
MW-21C	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	25	64	--	--	25	64	14	0.18	0.23	No trend identified	--	--	--
MW-21C	Ion Balance (% Difference)	%	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.22	5.51	--	--	0.22	5.51	-10	0.358	0.57	Stable	--	--	--
MW-21C	Langelier Index (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-2.16	-1.23	--	--	-2.16	-1.23	4	0.762	-0.18	No trend identified	--	--	--
MW-21C	Langelier Index (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-2.41	-1.48	--	--	-2.41	-1.48	4	0.762	-0.15	No trend identified	--	--	--
MW-21C	Nitrate (N)	mg/L	-	10	-	6/2018 - 11/2020	9	22%	9	22%	0.073	0.26	<0.050	<0.050	<0.050	0.26	-5	0.687	0.59	Stable	--	0	--
MW-21C	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.28	8.95	--	--	8.28	8.95	-11	0.309	0.02	Stable	--	--	--
MW-21C	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.53	9.2	--	--	8.53	9.2	-11	0.309	0.02	Stable	--	--	--
	Inorganics																						
MW-21C	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	38	81	--	--	38	81	15	0.15	0.19	No trend identified	--	--	--
MW-21C	Total Chemical Oxygen Demand	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<20	<20	<20	<20	--	--	--	Insufficient data	--	--	--
MW-21C	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	9	0%	9	0%	3.4	5.6	--	--	3.4	5.6	-7	0.544	0.18	Stable	0	--	0
MW-21C	Colour	TCU	-	-	15	6/2018 - 11/2020	9	67%	9	67%	5.3	8	<5.0	<5.0	<5.0	8	--	--	--	>50% ND	--	--	0
MW-21C	Nitrate + Nitrite	mg/L	-	-	-	6/2018 - 11/2020	9	22%	9	22%	0.085	0.28	<0.050	<0.050	<0.050	0.28	-6	0.612	0.60	Stable	--	--	--
MW-21C	Nitrite	mg/L	-	1	-	6/2018 - 11/2020	9	22%	9	22%	0.01	0.041	<0.010	<0.010	<0.010	0.041	7	0.544	0.71	No trend identified	--	0	--
MW-21C	Nitrogen (Ammonia Nitrogen)	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.050	<0.050	<0.050	<0.050	--	--	--	100% ND	--	--	--
MW-21C	Dissolved Organic Carbon	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	2.4	2.4	--	--	2.4	2.4	--	--	--	Insufficient data	--	--	--
MW-21C	Total Organic Carbon	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2.3	8.6	--	--	2.3	8.6	10	0.358	0.55	No trend identified	--	--	--
MW-21C	Orthophosphate	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-21C	pH	s.u.	-	-	10.5	6/2018 - 11/2020	9	0%	9	0%	6.7	7.1	--	--	6.7	7.1	9	0.417	0.02	No trend identified	--	--	0
MW-21C	pH	s.u.	-	-	7																		**4 ***
MW-21C	Dissolved Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-21C	Reactive Silica (SiO2)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	10	19	--	--	10	19	-13	0.22	0.18	Stable	--	--	--
MW-21C	Total Suspended Solids	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	15	15	--	--	15	15	--	--	--	Insufficient data	--	--	--
MW-21C	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	14	38	--	--	14	38	11	0.309	0.36	No trend identified	--	--	0
MW-21C	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	9	0%	9	0%	1.8	31	--	--	1.8	31	12	0.26	1.03	No trend identified	--	--	**9**
MW-21C	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	9	0%	9	0%	130	240	--	--	130	240	4	0.762	0.20	No trend identified	--	--	--
	Metals																						
MW-21C	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	9	44%	9	44%	5	40	<5.0	<5.0	<5.0	40	10	0.358	1.33	No trend identified	--	--	0
MW-21C	Total Aluminum	µg/L	5	-	100	6/2019 - 11/2020	5	0%	5	0%	61	830	--	--	61	830	-6	0.234	0.90	Stable	**5**	--	**3**
MW-21C	Dissolved Antimony	µg/L	-	6	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-21C	Total Antimony	µg/L	20	6	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-21C	Dissolved Arsenic	µg/L	-	10	-	6/2018 - 11/2020	9	89%	9	89%	1.3	1.3	<1.0	<1.0	<1.0	1.3	--	--	--	>50% ND	--	0	--
MW-21C	Total Arsenic	µg/L	5	10	-	6/2019 - 11/2020	5	40%	5	40%	1.1	1.7	<1.0	<1.0	<1.0	1.7	1	1	0.51	No trend identified	0	0	--
MW-21C	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	9	0%	9	0%	7.5	13	--	--	7.5	13	3	0.841	0.19	No trend identified	--	0	--
MW-21C	Total Barium	µg/L	1000	2000	-	6/2019 - 11/2020	5	0%	5	0%	8.1	18	--	--	8.1	18	-4	0.484	0.30	Stable	0	0	--
MW-21C	Dissolved Beryllium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-21C	Total Beryllium	µg/L	5.3	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-21C	Dissolved Bismuth	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-21C	Total Bismuth	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-21C	Dissolved Boron	µg/L	-	5000	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-21C	Total Boron	µg/L	1200	5000	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-21C	Dissolved Cadmium	µg/L	-	7	-	6/2018 - 11/2020	9	78%	9	78%	0.019	0.019	<0.010	<0.010	<0.010	0.019	--	--	--	>50% ND	--	0	--
MW-21C	Total Cadmium	µg/L	0.01	7	-	6/2019 - 11/2020	5	60%	5	60%	0.014	0.036	<0.010	<0.010	<0.010	0.036	--	--	--	>50% ND	**2**	0	--
MW-21C	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	6400	15000	--	--	6400	15000	10	0.358	0.21	No trend identified	--	--	--
MW-21C	Total Calcium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	6400	15000	--	--	6400	15000	-3	0.65	0.29	Stable	--	--	--
MW-21C	Dissolved Chromium	µg/L	-	50	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-21C	Total Chromium	µg/L	-	50	-	6/2019 - 11/2020	5	40%	5	40%	1	1.2	<1.0	<1.0	1	1.2	-9	0.050	0.39	**Decreasing Trend**	--	0	--
MW-21C	Dissolved Cobalt	µg/L	-	-	-	6/2018 - 11/2020	9	11%	9	11%	0.41	0.93	<0.40	<0.40	<0.40	0.93	1	1	0.39	No trend identified	--	--	--
MW-21C	Total Cobalt	µg/L	10	-	-	6/2019 - 11/2020	5	0%	5	0%	0.48	1.2	--	--	0.48	1.2	-2	0.816	0.42	Stable	0	--	--
MW-21C	Dissolved Copper	µg/L	-	2000	1000	6/2018 - 11/2020	9	89%	9	89%	0.74	0.74	<0.50	<2.0	<0.50	<2.0	--	--	--	>50% ND	--	0	0
MW-21C	Total Copper	µg/L	2	2000	1000	6/2019 - 11/2020	5	0%	5	0%	0.59	6.4	--	--	0.59	6.4	-2	0.816	1.02	No trend identified	**2**	0	0
MW-21C	Dissolved Iron	µg/L	-	-	300	6/2018 - 11/2020	9	33%	9	33%	52	420	<50	<50	<50	420	27	0.0041	0.93	**Increasing Trend**	--	--	**4**
MW-21C	Total Iron	µg/L	300	-	300	6/2019 - 11/2020	5	0%	5	0%	530	1100	--	--	530	1100	-3	0.65	0.31	Stable	**5**	--	**5**
MW-21C	Dissolved Lead	µg/L	-	5	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-21C	Total Lead	µg/L	1	5	-	6/2019 - 11/2020	5	60%	5	60%	1	1.2	<0.50	<0.50	<0.50	1.2	--	--	--	>50% ND	**1**	0	--
MW-21C	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2200	6300	--	--	2200	6300	12	0.26	0.27	No trend identified	--	--	--
MW-21C	Total Magnesium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	2300	6100	--	--	2300	6100	-4	0.484	0.31	Stable	--	--	--
MW-21C	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	9	0%	9	0%	160	360	--	--	160	360	20	0.044	0.27	**Increasing Trend**	--	**9**	**9**
MW-21C	Total Manganese	µg/L	820	120	20	6/2019 - 11/2020	5	0%	5	0%	240	350	--	--	240	350	3	0.65	0.18	No trend identified	0	**5**	**5**
MW-21C	Dissolved Molybdenum	µg/L	-	-	-	6/2018 - 11/2020	9	67%	9	67%	2.2	2.6	<2.0	<2.0	<2.0	2.6	--	--	--	>50% ND	--	--	--
MW-21C	Total Molybdenum	µg/L	73	-	-	6/2019 - 11/2020	5	20%	5	20%	2.1	3.1	<2.0	<2.0	<2.0	3.1	-6	0.234	0.35	Stable	0	--	--
MW-21C	Dissolved Nickel	µg/L	-	-	-	6/2018 - 11/2020	9	78%	9	78%	3.5	3.7	<2.0	<2.0	<2.0	3.7	--	--	--	>50% ND	--	--	--
MW-21C	Total Nickel	µg/L	25	-	-	6/2019 - 11/2020	5	60%	5	60%	2.1	4.4	<2.0	<2.0	<2.0	4.4	--	--	--	>50% ND	0	--	--
MW-21C	Dissolved Phosphorus	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-21C	Total Phosphorus	µg/L	-	-	-	6/2019 - 11/2020	5	80%	5	80%	110	110	<100	<100	<100	110	--	--	--	>50% ND	--	--	--

Table 4.1

Statistical Screening and Trend Test (Mann Kendall) Results – Baseline Groundwater Quality Data
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test											Samples Outside Criteria (Count)		
			NSE	CDWQG		Date					Detects		Non-Detects							NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
MW-21C	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1500	2100	--	--	1500	2100	-17	0.098	0.10	**Probably Decreasing**	--	--	--
MW-21C	Total Potassium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	1500	2000	--	--	1500	2000	-5	0.359	0.12	Stable	--	--	--
MW-21C	Dissolved Selenium	µg/L	-	50	-	6/2018 - 11/2020	9	89%	9	89%	0.58	0.58	<0.50	<1.0	<0.50	<1.0	--	--	--	>50% ND	--	0	--
MW-21C	Total Selenium	µg/L	1	50	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-21C	Dissolved Silver	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-21C	Total Silver	µg/L	0.1	-	-	6/2019 - 11/2020	5	60%	5	60%	0.14	0.23	<0.10	<0.10	<0.10	0.23	--	--	--	>50% ND	**2**	--	--
MW-21C	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	0%	12000	29000	--	--	12000	29000	11	0.309	0.32	No trend identified	--	--	0
MW-21C	Total Sodium	µg/L	-	-	200000	6/2019 - 11/2020	5	0%	5	0%	15000	31000	--	--	15000	31000	-1	1	0.35	Stable	--	--	0
MW-21C	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	9	0%	9	0%	45	99	--	--	45	99	-6	0.612	0.20	Stable	--	0	--
MW-21C	Total Strontium	µg/L	21000	7000	-	6/2019 - 11/2020	5	0%	5	0%	44	95	--	--	44	95	0	1	0.28	Stable	0	0	--
MW-21C	Dissolved Thallium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-21C	Total Thallium	µg/L	0.8	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-21C	Dissolved Tin	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-21C	Total Tin	µg/L	-	-	-	6/2019 - 11/2020	5	80%	5	80%	2.3	2.3	<2.0	<2.0	<2.0	2.3	--	--	--	>50% ND	--	--	--
MW-21C	Dissolved Titanium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-21C	Total Titanium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	3.7	30	--	--	3.7	30	-8	0.084	0.76	**Probably Decreasing**	--	--	--
MW-21C	Dissolved Uranium	µg/L	-	20	-	6/2018 - 11/2020	9	0%	9	0%	0.29	0.85	--	--	0.29	0.85	22	0.024	0.42	**Increasing Trend**	--	0	--
MW-21C	Total Uranium	µg/L	300	20	-	6/2019 - 11/2020	5	0%	5	0%	0.83	0.99	--	--	0.83	0.99	-6	0.234	0.07	Stable	0	0	--
MW-21C	Dissolved Vanadium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-21C	Total Vanadium	µg/L	6	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-21C	Dissolved Zinc	µg/L	-	-	5000	6/2018 - 11/2020	9	44%	9	44%	6.5	15	<5.0	<5.0	<5.0	15	-12	0.26	0.70	Stable	--	--	0
MW-21C	Total Zinc	µg/L	30	-	5000	6/2019 - 11/2020	5	60%	5	60%	7.5	26	<5.0	<5.0	<5.0	26	--	--	--	>50% ND	0	--	0
MW-21C	Dissolved Mercury	µg/L	--	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
MW-21C	Total Mercury	µg/L	0.026	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
	Calculated Parameters																						
MW-22A	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.18	0.4	--	--	0.18	0.4	-6	0.612	0.20	Stable	--	--	--
MW-22A	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	9	11%	9	11%	5.8	11	<1.0	<1.0	<1.0	11	0	1	0.41	Stable	--	--	--
MW-22A	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	20	61	--	--	20	61	-4	0.762	0.41	Stable	--	--	0
MW-22A	Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-22A	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.25	2.01	--	--	0.25	2.01	-2	0.92	1.17	No trend identified	--	--	--
MW-22A	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2.5	58	--	--	2.5	58	-14	0.18	1.69	No trend identified	--	--	--
MW-22A	Ion Balance (% Difference)	%	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1.45	67.5	--	--	1.45	67.5	-2	0.92	1.28	No trend identified	--	--	--
MW-22A	Langelier Index (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	8	0%	8	0%	-4.9	-3.29	--	--	-4.9	-3.29	-7	0.473	-0.13	Stable	--	--	--
MW-22A	Langelier Index (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	8	0%	8	0%	-5.15	-3.54	--	--	-5.15	-3.54	-7	0.473	-0.13	Stable	--	--	--
MW-22A	Nitrate (N)	mg/L	-	10	-	6/2018 - 11/2020	9	33%	9	33%	0.059	0.096	<0.050	<0.050	<0.050	0.096	1	1	0.50	No trend identified	--	0	--
MW-22A	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	8	0%	8	0%	9.18	10.8	--	--	9.18	10.8	7	0.473	0.05	No trend identified	--	--	--
MW-22A	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	8	0%	8	0%	9.43	11	--	--	9.43	11	7	0.473	0.05	No trend identified	--	--	--
	Inorganics																						
MW-22A	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	11%	9	11%	5.8	11	<5.0	<5.0	<5.0	11	0	1	0.32	Stable	--	--	--
MW-22A	Total Chemical Oxygen Demand	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<20	<20	<20	<20	--	--	--	Insufficient data	--	--	--
MW-22A	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	9	0%	9	0%	2.3	6.1	--	--	2.3	6.1	-19	0.06	0.32	**Probably Decreasing**	0	--	0
MW-22A	Colour	TCU	-	-	15	6/2018 - 11/2020	9	100%	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	--	100% ND	--	--	--
MW-22A	Nitrate + Nitrite	mg/L	-	-	-	6/2018 - 11/2020	9	33%	9	33%	0.059	0.096	<0.050	<0.050	<0.050	0.096	1	1	0.50	No trend identified	--	--	--
MW-22A	Nitrite	mg/L	-	1	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-22A	Nitrogen (Ammonia Nitrogen)	mg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	0.065	0.065	<0.050	<0.050	<0.050	0.065	--	--	--	>50% ND	--	--	--
MW-22A	Dissolved Organic Carbon	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	1.1	1.1	--	--	1.1	1.1	--	--	--	Insufficient data	--	--	--
MW-22A	Total Organic Carbon	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.83	1.8	--	--	0.83	1.8	11	0.309	0.26	No trend identified	--	--	--
MW-22A	Orthophosphate	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-22A	pH	s.u.	-	-	10.5	6/2018 - 11/2020	9	0%	9	0%	5.73	6.58	--	--	5.73	6.58	-10	0.358	0.05	Stable	--	--	0
MW-22A	pH	s.u.	-	-	7																		**9 ***
MW-22A	Dissolved Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-22A	Total Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-22A	Reactive Silica (SiO2)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	4.9	10	--	--	4.9	10	-4	0.762	0.25	Stable	--	--	--
MW-22A	Total Suspended Solids	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	7.6	7.6	--	--	7.6	7.6	--	--	--	Insufficient data	--	--	--
MW-22A	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	3.3	5.9	--	--	3.3	5.9	19	0.06	0.21	**Probably Increasing**	--	--	0
MW-22A	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	9	0%	9	0%	2.2	23	--	--	2.2	23	20	0.044	1.01	**Increasing Trend**	--	--	**9**
MW-22A	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	9	0%	9	0%	33	45	--	--	33	45	-9	0.417	0.11	Stable	--	--	--
	Metals																						
MW-22A	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	9	0%	9	0%	11	330	--	--	11	330	6	0.612	1.03	No trend identified	--	--	**4**
MW-22A	Total Aluminum	µg/L	5	-	100	6/2019 - 11/2020	5	0%	5	0%	350	1400	--	--	350	1400	-2	0.816	0.60	Stable	**5**	--	**5**
MW-22A	Dissolved Antimony	µg/L	-	6	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-22A	Total Antimony	µg/L	20	6	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-22A	Dissolved Arsenic	µg/L	-	10	-	6/2018 - 11/2020	9	78%	9	78%	1.5	5.4	<1.0	<1.0	<1.0	5.4	--	--	--	>50% ND	--	0	--
MW-22A	Total Arsenic	µg/L	5	10	-	6/2019 - 11/2020	5	20%	5	20%	1.6	3.7	<1.0	<1.0	<1.0	3.7	7	0.159	0.63	No trend identified	0	0	--
MW-22A	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	9	0%	9	0%	4	12	--	--	4	12	2	0.92	0.39	No trend identified	--	0	--
MW-22A	Total Barium	µg/L	1000	2000	-	6/2019 - 11/2020	5	0%	5	0%	7.1	21	--	--	7.1	21	-4	0.484	0.51	Stable	0	0	--
MW-22A	Dissolved Beryllium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-22A	Total Beryllium	µg/L	5.3	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-22A	Dissolved Bismuth	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-22A	Total Bismuth	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-22A	Dissolved Boron	µg/L	-	5000	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-22A	Total Boron	µg/L	1200	5000	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-22A	Dissolved Cadmium	µg/L	-	7	-	6/2018 - 11/2020	9	11%	9	11%	0.012	0.041	<0.010	<0.010	<0.010	0.041	-2	0.92	0.53	Stable	--	0	--
MW-22A	Total Cadmium	µg/L	0.01	7	-	6/2019 - 11/2020	5	0%	5	0%	0.012	0.048	--	--	0.012	0.048	-6	0.234	0.58	Stable	**5**	0	--
MW-22A	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	500	18000	--	--	500	18000	-12	0.26	1.94	No trend identified	--	--	--
MW-22A	Total Calcium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	500	1500	--	--	500	1500	-4	0.484	0.44	Stable	--	--	--
MW-22A	Dissolved Chromium	µg/L	-	50	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-22A	Total Chromium	µg/L	-	50	-	6/2019 - 11/2020	5	60%	5	60%	1.3	3.1	<1.0	<1.0	<1.0	3.1	--	--	--	>50% ND	--	0	--
MW-22A	Dissolved Cobalt	µg/L	-	-	-	6/2018 - 11/2020	9	11%	9	11%	0.56	2.2	<0.40	<0.40	<0.40	2.2	-14	0.18	0.62	Stable	--	--	--

Table 4.1

Statistical Screening and Trend Test (Mann Kendall) Results – Baseline Groundwater Quality Data
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test										Samples Outside Criteria (Count)		
			NSE	CDWQG		Date					Detects		Non-Detects						NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
MW-22A	Total Cobalt	µg/L	10	-	-	6/2019 - 11/2020	5	0%	5	0%	0.74	3	--	--	0.74	3	-6	0.234	0.75	Stable	0	--	--
MW-22A	Dissolved Copper	µg/L	-	2000	1000	6/2018 - 11/2020	9	11%	9	11%	0.95	20	<0.50	<0.50	<0.50	20	-9	0.417	0.80	Stable	--	0	0
MW-22A	Total Copper	µg/L	2	2000	1000	6/2019 - 11/2020	5	0%	5	0%	3.1	12	--	--	3.1	12	0	1	0.41	Stable	**5**	0	0
MW-22A	Dissolved Iron	µg/L	-	-	300	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-22A	Total Iron	µg/L	300	-	300	6/2019 - 11/2020	5	0%	5	0%	330	1400	--	--	330	1400	-2	0.816	0.71	Stable	**5**	--	**5**
MW-22A	Dissolved Lead	µg/L	-	5	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-22A	Total Lead	µg/L	1	5	-	6/2019 - 11/2020	5	80%	5	80%	0.53	0.53	<0.50	<0.50	<0.50	0.53	--	--	--	>50% ND	0	0	--
MW-22A	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	310	3000	--	--	310	3000	-18	0.076	1.02	**Probably Decreasing**	--	--	--
MW-22A	Total Magnesium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	400	950	--	--	400	950	-4	0.484	0.37	Stable	--	--	--
MW-22A	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	9	0%	9	0%	36	240	--	--	36	240	-17	0.098	0.71	**Probably Decreasing**	--	**3**	**9**
MW-22A	Total Manganese	µg/L	820	120	20	6/2019 - 11/2020	5	0%	5	0%	41	270	--	--	41	270	-6	0.234	0.96	Stable	0	**1**	**5**
MW-22A	Dissolved Molybdenum	µg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	3.3	3.3	<2.0	<2.0	<2.0	3.3	--	--	--	>50% ND	--	--	--
MW-22A	Total Molybdenum	µg/L	73	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-22A	Dissolved Nickel	µg/L	-	-	-	6/2018 - 11/2020	9	22%	9	22%	4	11	<2.0	<2.0	<2.0	11	-11	0.309	0.63	Stable	--	--	--
MW-22A	Total Nickel	µg/L	25	-	-	6/2019 - 11/2020	5	0%	5	0%	2.8	5.7	--	--	2.8	5.7	2	0.816	0.25	No trend identified	0	--	--
MW-22A	Dissolved Phosphorus	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-22A	Total Phosphorus	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-22A	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	340	970	--	--	340	970	-16	0.12	0.29	Stable	--	--	--
MW-22A	Total Potassium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	370	1100	--	--	370	1100	-4	0.484	0.41	Stable	--	--	--
MW-22A	Dissolved Selenium	µg/L	-	50	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-22A	Total Selenium	µg/L	1	50	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-22A	Dissolved Silver	µg/L	-	-	-	6/2018 - 11/2020	9	56%	9	56%	0.15	1	<0.10	<0.10	<0.10	1	--	--	--	>50% ND	--	--	--
MW-22A	Total Silver	µg/L	0.1	-	-	6/2019 - 11/2020	5	0%	5	0%	0.12	2	--	--	0.12	2	4	0.484	0.69	No trend identified	**5**	--	--
MW-22A	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	0%	2200	19000	--	--	2200	19000	8	0.476	0.87	No trend identified	--	--	0
MW-22A	Total Sodium	µg/L	-	-	200000	6/2019 - 11/2020	5	0%	5	0%	3100	4700	--	--	3100	4700	9	0.050	0.16	**Increasing Trend**	--	--	0
MW-22A	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	9	0%	9	0%	6.9	270	--	--	6.9	270	-12	0.26	2.09	No trend identified	--	0	--
MW-22A	Total Strontium	µg/L	21000	7000	-	6/2019 - 11/2020	5	0%	5	0%	7.4	14	--	--	7.4	14	-1	1	0.29	Stable	0	0	--
MW-22A	Dissolved Thallium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-22A	Total Thallium	µg/L	0.8	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-22A	Dissolved Tin	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-22A	Total Tin	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-22A	Dissolved Titanium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-22A	Total Titanium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	9.6	60	--	--	9.6	60	-6	0.234	0.89	Stable	--	--	--
MW-22A	Dissolved Uranium	µg/L	-	20	-	6/2018 - 11/2020	9	89%	9	89%	0.72	0.72	<0.10	<0.10	<0.10	0.72	--	--	--	>50% ND	--	0	--
MW-22A	Total Uranium	µg/L	300	20	-	6/2019 - 11/2020	5	80%	5	80%	0.18	0.18	<0.10	<0.10	<0.10	0.18	--	--	--	>50% ND	0	0	--
MW-22A	Dissolved Vanadium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-22A	Total Vanadium	µg/L	6	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-22A	Dissolved Zinc	µg/L	-	-	5000	6/2018 - 11/2020	9	22%	9	22%	8.6	20	<5.0	<5.0	<5.0	20	-11	0.309	0.55	Stable	--	--	0
MW-22A	Total Zinc	µg/L	30	-	5000	6/2019 - 11/2020	5	0%	5	0%	6.9	14	--	--	6.9	14	0	1	0.34	Stable	0	--	0
MW-22A	Dissolved Mercury	µg/L	--	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
MW-22A	Total Mercury	µg/L	0.026	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
	Calculated Parameters																						
MW-22B	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.78	1.56	--	--	0.78	1.56	-4	0.762	0.24	Stable	--	--	--
MW-22B	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	26	59	--	--	26	59	-4	0.762	0.29	Stable	--	--	--
MW-22B	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	50	94	--	--	50	94	-5	0.687	0.21	Stable	--	--	0
MW-22B	Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-22B	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.7	1.38	--	--	0.7	1.38	-4	0.762	0.25	Stable	--	--	--
MW-22B	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	14	49	--	--	14	49	5	0.687	0.41	No trend identified	--	--	--
MW-22B	Ion Balance (% Difference)	%	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.37	6.67	--	--	0.37	6.67	-4	0.762	0.48	Stable	--	--	--
MW-22B	Langelier Index (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-2.52	-0.786	--	--	-2.52	-0.786	0	1	-0.32	Stable	--	--	--
MW-22B	Langelier Index (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-2.77	-1.04	--	--	-2.77	-1.04	0	1	-0.29	Stable	--	--	--
MW-22B	Nitrate (N)	mg/L	-	10	-	6/2018 - 11/2020	9	44%	9	44%	0.05	0.064	<0.050	<0.050	<0.050	0.064	12	0.26	0.39	No trend identified	--	0	--
MW-22B	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.41	9.23	--	--	8.41	9.23	0	1	0.03	Stable	--	--	--
MW-22B	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.66	9.48	--	--	8.66	9.48	0	1	0.03	Stable	--	--	--
	Inorganics																						
MW-22B	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	26	60	--	--	26	60	-4	0.762	0.29	Stable	--	--	--
MW-22B	Total Chemical Oxygen Demand	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<20	<20	<20	<20	--	--	--	Insufficient data	--	--	--
MW-22B	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	9	0%	9	0%	2.9	5.5	--	--	2.9	5.5	-14	0.18	0.20	Stable	0	--	0
MW-22B	Colour	TCU	-	-	15	6/2018 - 11/2020	9	100%	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	--	100% ND	--	--	--
MW-22B	Nitrate + Nitrite	mg/L	-	-	-	6/2018 - 11/2020	9	44%	9	44%	0.05	0.064	<0.050	<0.050	<0.050	0.064	12	0.26	0.39	No trend identified	--	--	--
MW-22B	Nitrite	mg/L	-	1	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-22B	Nitrogen (Ammonia Nitrogen)	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.050	<0.050	<0.050	<0.050	--	--	--	100% ND	--	--	--
MW-22B	Dissolved Organic Carbon	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	0.7	0.7	--	--	0.7	0.7	--	--	--	Insufficient data	--	--	--
MW-22B	Total Organic Carbon	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.57	2.8	--	--	0.57	2.8	-15	0.15	0.52	Stable	--	--	--
MW-22B	Orthophosphate	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-22B	pH	s.u.	-	-	10.5	6/2018 - 11/2020	9	0%	9	0%	6.56	7.63	--	--	6.56	7.63	-8	0.476	0.05	Stable	--	--	0
MW-22B	pH	s.u.	-	-	7																		**6 ***
MW-22B	Dissolved Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-22B	Total Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-22B	Reactive Silica (SiO2)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8	14	--	--	8	14	-14	0.18	0.18	Stable	--	--	--
MW-22B	Total Suspended Solids	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	8.8	8.8	--	--	8.8	8.8	--	--	--	Insufficient data	--	--	--
MW-22B	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	5.6	12	--	--	5.6	12	14	0.18	0.24	No trend identified	--	--	0
MW-22B	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	9	0%	9	0%	0.8	17	--	--	0.8	17	-2	0.92	1.17	No trend identified	--	--	**9**
MW-22B	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	9	0%	9	0%	77	150	--	--	77	150	-7	0.544	0.23	Stable	--	--	--
	Metals																						
MW-22B	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	9	0%	9	0%	7.3	77	--	--	7.3	77	2	0.92	0.87	No trend identified	--	--	0
MW-22B	Total Aluminum	µg/L	5	-	100	6/2019 - 11/2020	5	0%	5	0%	82	340	--	--	82	340	-1	1	0.55	Stable	**5**	--	**4**
MW-22B	Dissolved Antimony	µg/L	-	6	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--

Table 4.1

Statistical Screening and Trend Test (Mann Kendall) Results – Baseline Groundwater Quality Data
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test										Samples Outside Criteria (Count)		
			NSE	CDWQG		Date					Detects		Non-Detects						NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
MW-22B	Total Antimony	µg/L	20	6	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-22B	Dissolved Arsenic	µg/L	-	10	-	6/2018 - 11/2020	9	67%	9	67%	1.2	1.5	<1.0	<1.0	<1.0	1.5	--	--	--	>50% ND	--	0	--
MW-22B	Total Arsenic	µg/L	5	10	-	6/2019 - 11/2020	5	40%	5	40%	1	1.1	<1.0	<1.0	<1.0	1.1	4	0.484	0.37	No trend identified	0	0	--
MW-22B	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	9	0%	9	0%	2.5	9	--	--	2.5	9	2	0.92	0.45	No trend identified	--	0	--
MW-22B	Total Barium	µg/L	1000	2000	-	6/2019 - 11/2020	5	0%	5	0%	3.4	10	--	--	3.4	10	-2	0.816	0.42	Stable	0	0	--
MW-22B	Dissolved Beryllium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-22B	Total Beryllium	µg/L	5.3	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-22B	Dissolved Bismuth	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-22B	Total Bismuth	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-22B	Dissolved Boron	µg/L	-	5000	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-22B	Total Boron	µg/L	1200	5000	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-22B	Dissolved Cadmium	µg/L	-	7	-	6/2018 - 11/2020	9	22%	9	22%	0.012	0.045	<0.010	<0.010	<0.010	0.045	3	0.841	0.66	No trend identified	--	0	--
MW-22B	Total Cadmium	µg/L	0.01	7	-	6/2019 - 11/2020	5	20%	5	20%	0.015	0.028	<0.010	<0.010	<0.010	0.028	-6	0.234	0.52	Stable	**4**	0	--
MW-22B	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2300	14000	--	--	2300	14000	5	0.687	0.49	No trend identified	--	--	--
MW-22B	Total Calcium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	2500	12000	--	--	2500	12000	4	0.484	0.47	No trend identified	--	--	--
MW-22B	Dissolved Chromium	µg/L	-	50	-	6/2018 - 11/2020	9	89%	9	89%	1.1	1.1	<1.0	<1.0	<1.0	1.1	--	--	--	>50% ND	--	0	--
MW-22B	Total Chromium	µg/L	-	50	-	6/2019 - 11/2020	5	80%	5	80%	1.3	1.3	<1.0	<1.0	<1.0	1.3	--	--	--	>50% ND	--	0	--
MW-22B	Dissolved Cobalt	µg/L	-	-	-	6/2018 - 11/2020	9	56%	9	56%	0.41	1.1	<0.40	<0.40	<0.40	1.1	--	--	--	>50% ND	--	--	--
MW-22B	Total Cobalt	µg/L	10	-	-	6/2019 - 11/2020	5	40%	5	40%	0.53	0.87	<0.40	<0.40	<0.40	0.87	-1	1	0.60	Stable	0	--	--
MW-22B	Dissolved Copper	µg/L	-	2000	1000	4/2019 - 11/2020	9	33%	6	0%	0.77	4.1	--	--	0.77	4.1	-3	0.72	0.62	Stable	--	0	0
MW-22B	Total Copper	µg/L	2	2000	1000	6/2019 - 11/2020	5	0%	5	0%	1.4	5	--	--	1.4	5	0	1	0.40	Stable	**4**	0	0
MW-22B	Dissolved Iron	µg/L	-	-	300	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-22B	Total Iron	µg/L	300	-	300	6/2019 - 11/2020	5	0%	5	0%	76	230	--	--	76	230	-2	0.816	0.48	Stable	0	--	0
MW-22B	Dissolved Lead	µg/L	-	5	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-22B	Total Lead	µg/L	1	5	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-22B	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1000	3000	--	--	1000	3000	7	0.544	0.39	No trend identified	--	--	--
MW-22B	Total Magnesium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	1100	2400	--	--	1100	2400	5	0.359	0.31	No trend identified	--	--	--
MW-22B	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	9	0%	9	0%	89	230	--	--	89	230	-8	0.476	0.25	Stable	--	**7**	**9**
MW-22B	Total Manganese	µg/L	820	120	20	6/2019 - 11/2020	5	0%	5	0%	140	220	--	--	140	220	-1	1	0.16	Stable	0	**5**	**5**
MW-22B	Dissolved Molybdenum	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-22B	Total Molybdenum	µg/L	73	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-22B	Dissolved Nickel	µg/L	-	-	-	6/2018 - 11/2020	9	56%	9	56%	3.9	6.4	<2.0	<2.0	<2.0	6.4	--	--	--	>50% ND	--	--	--
MW-22B	Total Nickel	µg/L	25	-	-	6/2019 - 11/2020	5	60%	5	60%	2.1	4.9	<2.0	<2.0	<2.0	4.9	--	--	--	>50% ND	0	--	--
MW-22B	Dissolved Phosphorus	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-22B	Total Phosphorus	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-22B	Total Potassium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	600	1200	--	--	600	1200	-4	0.484	0.24	Stable	--	--	--
MW-22B	Dissolved Selenium	µg/L	-	50	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-22B	Total Selenium	µg/L	1	50	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-22B	Dissolved Silver	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-22B	Total Silver	µg/L	0.1	-	-	6/2019 - 11/2020	5	20%	5	20%	0.14	0.38	<0.10	<0.10	<0.10	0.38	8	0.084	0.65	Probably Increasing	**4**	--	--
MW-22B	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	0%	2600	11000	--	--	2600	11000	-14	0.18	0.34	Stable	--	--	0
MW-22B	Total Sodium	µg/L	-	-	200000	6/2019 - 11/2020	5	0%	5	0%	2500	8900	--	--	2500	8900	1	1	0.37	No trend identified	--	--	0
MW-22B	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	9	0%	9	0%	22	81	--	--	22	81	-8	0.476	0.34	Stable	--	0	--
MW-22B	Total Strontium	µg/L	21000	7000	-	6/2019 - 11/2020	5	0%	5	0%	24	77	--	--	24	77	2	0.816	0.42	No trend identified	0	0	--
MW-22B	Dissolved Thallium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-22B	Total Thallium	µg/L	0.8	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-22B	Dissolved Tin	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-22B	Total Tin	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-22B	Dissolved Titanium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-22B	Total Titanium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	2.5	9.4	--	--	2.5	9.4	-2	0.816	0.55	Stable	--	--	--
MW-22B	Dissolved Uranium	µg/L	-	20	-	6/2018 - 11/2020	9	44%	9	44%	0.11	0.26	<0.10	<0.10	<0.10	0.26	-9	0.417	0.65	Stable	--	0	--
MW-22B	Total Uranium	µg/L	300	20	-	6/2019 - 11/2020	5	40%	5	40%	0.11	0.21	<0.10	<0.10	<0.10	0.21	2	0.816	0.62	No trend identified	0	0	--
MW-22B	Dissolved Vanadium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-22B	Total Vanadium	µg/L	6	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-22B	Dissolved Zinc	µg/L	-	-	5000	6/2018 - 11/2020	9	33%	9	33%	5.2	20	<5.0	<5.0	<5.0	20	-11	0.309	0.77	Stable	--	--	0
MW-22B	Total Zinc	µg/L	30	-	5000	6/2019 - 11/2020	5	80%	5	80%	14	14	<5.0	<5.0	<5.0	14	--	--	--	>50% ND	0	--	0
MW-22B	Dissolved Mercury	µg/L	--	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
MW-22B	Total Mercury	µg/L	0.026	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
	Calculated Parameters																						
MW-22C	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1.8	2.24	--	--	1.8	2.24	-17	0.098	0.06	Probably Decreasing	--	--	--
MW-22C	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	75	95	--	--	75	95	-13	0.22	0.07	Stable	--	--	--
MW-22C	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	89	130	--	--	89	130	-7	0.544	0.11	Stable	--	--	0
MW-22C	Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	67%	9	67%	1	1.3	<1.0	<1.0	1	1.3	--	--	--	>50% ND	--	--	--
MW-22C	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.31	2.02	--	--	0.31	2.02	1	1	0.32	No trend identified	--	--	--
MW-22C	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	4.2	60	--	--	4.2	60	11	0.309	0.36	No trend identified	--	--	--
MW-22C	Ion Balance (% Difference)	%	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2.18	75.25	--	--	2.18	75.25	-10	0.358	1.91	No trend identified	--	--	--
MW-22C	Langelier Index (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-1.525	0.059	--	--	-1.525	0.059	-6	0.612	-1.45	Stable	--	--	--
MW-22C	Langelier Index (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-1.775	-0.192	--	--	-1.775	-0.192	-6	0.612	-0.84	Stable	--	--	--
MW-22C	Nitrate (N)	mg/L	-	10	-	6/2018 - 11/2020	9	89%	9	89%	0.11	0.11	<0.050	<0.050	<0.050	0.11	--	--	--	>50% ND	--	0	--
MW-22C	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.11	9.415	--	--	8.11	9.415	-8	0.476	0.05	Stable	--	--	--
MW-22C	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.36	9.665	--	--	8.36	9.665	-8	0.476	0.05	Stable	--	--	--
	Inorganics																						
MW-22C	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	76	96	--	--	76	96	-15	0.15	0.07	Stable	--	--	--
MW-22C	Total Chemical Oxygen Demand	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<20	<20	<20	<20	--	--	--	Insufficient data	--	--	--
MW-22C	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	9	0%	9	0%	3	4.2	--	--	3	4.2	-11	0.309	0.14	Stable	0	--	0
MW-22C	Colour	TCU	-	-	15	6/2018 - 11/2020	9	100%	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	--	100% ND	--	--	--
MW-22C	Nitrate + Nitrite	mg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	0.11	0.11	<0.050	<0.050	<0.050	0.11	--	--	--	>50% ND	--	--	--
MW-22C	Nitrite	mg/L	-	1	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--

Table 4.1

Statistical Screening and Trend Test (Mann Kendall) Results – Baseline Groundwater Quality Data
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test											Samples Outside Criteria (Count)		
			NSE	CDWQG		Date					Detects		Non-Detects							NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
MW-22C	Nitrogen (Ammonia Nitrogen)	mg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	0.071	0.071	<0.050	<0.050	<0.050	0.071	--	--	--	>50% ND	--	--	--
MW-22C	Dissolved Organic Carbon	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.5	<0.5	<0.5	<0.5	--	--	--	Insufficient data	--	--	--
MW-22C	Total Organic Carbon	mg/L	-	-	-	6/2018 - 11/2020	9	11%	9	11%	0.68	2.7	<0.50	<0.50	<0.50	2.7	-10	0.358	0.65	Stable	--	--	--
MW-22C	Orthophosphate	mg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	--	100% ND	--	--	--
MW-22C	pH	s.u.	-	-	10.5	6/2018 - 11/2020	9	0%	9	0%	7.56	8.17	--	--	7.56	8.17	-12	0.26	0.02	Stable	--	--	0
MW-22C	pH	s.u.	-	-	7																		0
MW-22C	Dissolved Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-22C	Total Phosphorus	mg/L	-	-	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	--	Insufficient data	--	--	--
MW-22C	Reactive Silica (SiO2)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	10	12	--	--	10	12	-4	0.762	0.06	Stable	--	--	--
MW-22C	Total Suspended Solids	mg/L	-	-	-	11/2020 - 11/2020	1	0%	1	0%	7.8	7.8	--	--	7.8	7.8	--	--	--	Insufficient data	--	--	--
MW-22C	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	5.3	10	--	--	5.3	10	0	1	0.22	Stable	--	--	0
MW-22C	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	9	0%	9	0%	0.46	12	--	--	0.46	12	6	0.612	1.01	No trend identified	--	--	**9**
MW-22C	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	9	0%	9	0%	160	210	--	--	160	210	-17	0.098	0.07	**Probably Decreasing**	--	--	--
	Metals																						
MW-22C	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	9	11%	9	11%	7.1	105	<5.0	<5.0	<5.0	105	-1	1	1.65	No trend identified	--	--	**1**
MW-22C	Total Aluminum	µg/L	5	-	100	6/2019 - 11/2020	5	0%	5	0%	54	670	--	--	54	670	2	0.816	0.73	No trend identified	**5**	--	**4**
MW-22C	Dissolved Antimony	µg/L	-	6	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-22C	Total Antimony	µg/L	20	6	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-22C	Dissolved Arsenic	µg/L	-	10	-	6/2018 - 11/2020	9	22%	9	22%	3.1	5.5	<1.0	<1.0	<1.0	5.5	-4	0.762	0.52	Stable	--	0	--
MW-22C	Total Arsenic	µg/L	5	10	-	6/2019 - 11/2020	5	20%	5	20%	3.8	5.1	<1.0	<1.0	<1.0	5.1	3	0.65	0.51	No trend identified	**2**	0	--
MW-22C	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	9	0%	9	0%	2.7	9.6	--	--	2.7	9.6	11	0.309	0.43	No trend identified	--	0	--
MW-22C	Total Barium	µg/L	1000	2000	-	6/2019 - 11/2020	5	0%	5	0%	4.4	13	--	--	4.4	13	3	0.65	0.43	No trend identified	0	0	--
MW-22C	Dissolved Beryllium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-22C	Total Beryllium	µg/L	5.3	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	100% ND	--	--	--
MW-22C	Dissolved Bismuth	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-22C	Total Bismuth	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-22C	Dissolved Boron	µg/L	-	5000	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-22C	Total Boron	µg/L	1200	5000	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<50	<50	<50	<50	--	--	--	100% ND	--	--	--
MW-22C	Dissolved Cadmium	µg/L	-	7	-	6/2018 - 11/2020	9	89%	9	89%	0.018	0.018	<0.010	<0.010	<0.010	0.018	--	--	--	>50% ND	--	0	--
MW-22C	Total Cadmium	µg/L	0.01	7	-	6/2019 - 11/2020	5	80%	5	80%	0.023	0.023	<0.010	<0.010	<0.010	0.023	--	--	--	>50% ND	**1**	0	--
MW-22C	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	885	19000	--	--	885	19000	8	0.476	0.40	No trend identified	--	--	--
MW-22C	Total Calcium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	12000	19000	--	--	12000	19000	5	0.359	0.19	No trend identified	--	--	--
MW-22C	Dissolved Chromium	µg/L	-	50	-	6/2018 - 11/2020	9	89%	9	89%	1.55	1.55	<1.0	<1.0	<1.0	1.55	--	--	--	>50% ND	--	0	--
MW-22C	Total Chromium	µg/L	-	50	-	6/2019 - 11/2020	5	80%	5	80%	1.2	1.2	<1.0	<1.0	<1.0	1.2	--	--	--	>50% ND	--	0	--
MW-22C	Dissolved Cobalt	µg/L	-	-	-	6/2018 - 11/2020	9	78%	9	78%	0.53	1.4	<0.40	<0.40	<0.40	1.4	--	--	--	>50% ND	--	--	--
MW-22C	Total Cobalt	µg/L	10	-	-	6/2019 - 11/2020	5	80%	5	80%	0.59	0.59	<0.40	<0.40	<0.40	0.59	--	--	--	>50% ND	0	--	--
MW-22C	Dissolved Copper	µg/L	-	2000	1000	6/2018 - 11/2020	9	89%	9	89%	9.8	9.8	<0.50	<2.0	<0.50	9.8	--	--	--	>50% ND	--	0	0
MW-22C	Total Copper	µg/L	2	2000	1000	6/2019 - 11/2020	5	40%	5	40%	0.85	2.3	<0.50	<0.50	<0.50	2.3	-1	1	0.91	Stable	**1**	0	0
MW-22C	Dissolved Iron	µg/L	-	-	300	6/2018 - 11/2020	9	89%	9	89%	350	350	<50	<50	<50	350	--	--	--	>50% ND	--	--	**1**
MW-22C	Total Iron	µg/L	300	-	300	6/2019 - 11/2020	5	20%	5	20%	82	610	<50	<50	<50	610	-2	0.816	0.94	Stable	**2**	--	**2**
MW-22C	Dissolved Lead	µg/L	-	5	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	100% ND	--	--	--
MW-22C	Total Lead	µg/L	1	5	-	6/2019 - 11/2020	5	80%	5	80%	0.73	0.73	<0.50	<0.50	<0.50	0.73	--	--	--	>50% ND	0	0	--
MW-22C	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	490	5600	--	--	490	5600	9	0.417	0.46	No trend identified	--	--	--
MW-22C	Total Magnesium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	2400	5700	--	--	2400	5700	-3	0.65	0.39	Stable	--	--	--
MW-22C	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	9	0%	9	0%	15	230	--	--	15	230	12	0.26	1.13	No trend identified	--	**1**	**8**
MW-22C	Total Manganese	µg/L	820	120	20	6/2019 - 11/2020	5	0%	5	0%	30	240	--	--	30	240	-4	0.484	1.07	No trend identified	0	**1**	**5**
MW-22C	Dissolved Molybdenum	µg/L	-	-	-	6/2018 - 11/2020	9	11%	9	11%	2.2	3.3	<2.0	<2.0	<2.0	3.3	-11	0.309	0.27	Stable	--	--	--
MW-22C	Total Molybdenum	µg/L	73	-	-	6/2019 - 11/2020	5	0%	5	0%	2.5	3.2	--	--	2.5	3.2	0	1	0.10	Stable	0	--	--
MW-22C	Dissolved Nickel	µg/L	-	-	-	6/2018 - 11/2020	9	78%	9	78%	2.2	7.8	<2.0	<2.0	<2.0	7.8	--	--	--	>50% ND	--	--	--
MW-22C	Total Nickel	µg/L	25	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-22C	Dissolved Phosphorus	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-22C	Total Phosphorus	µg/L	-	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<100	<100	<100	<100	--	--	--	100% ND	--	--	--
MW-22C	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	400	1700	--	--	400	1700	-10	0.358	0.34	Stable	--	--	--
MW-22C	Total Potassium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	910	1800	--	--	910	1800	-2	0.816	0.32	Stable	--	--	--
MW-22C	Dissolved Selenium	µg/L	-	50	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-22C	Total Selenium	µg/L	1	50	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	--	100% ND	--	--	--
MW-22C	Dissolved Silver	µg/L	-	-	-	6/2018 - 11/2020	9	89%	9	89%	0.22	0.22	<0.10	<0.10	<0.10	0.22	--	--	--	>50% ND	--	--	--
MW-22C	Total Silver	µg/L	0.1	-	-	6/2019 - 11/2020	5	80%	5	80%	0.25	0.25	<0.10	<0.10	<0.10	0.25	--	--	--	>50% ND	**1**	--	--
MW-22C	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	0%	4950	21000	--	--	4950	21000	-5	0.687	0.28	Stable	--	--	0
MW-22C	Total Sodium	µg/L	-	-	200000	6/2019 - 11/2020	5	0%	5	0%	16000	18000	--	--	16000	18000	6	0.234	0.05	No trend identified	--	--	0
MW-22C	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	9	0%	9	0%	11.5	280	--	--	11.5	280	2	0.92	0.47	No trend identified	--	0	--
MW-22C	Total Strontium	µg/L	21000	7000	-	6/2019 - 11/2020	5	0%	5	0%	80	280	--	--	80	280	6	0.234	0.38	No trend identified	0	0	--
MW-22C	Dissolved Thallium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-22C	Total Thallium	µg/L	0.8	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	--	100% ND	--	--	--
MW-22C	Dissolved Tin	µg/L	-	-	-	6/2018 - 11/2020	9	78%	9	78%	2.3	2.6	<2.0	<2.0	<2.0	2.6	--	--	--	>50% ND	--	--	--
MW-22C	Total Tin	µg/L	-	-	-	6/2019 - 11/2020	5	60%	5	60%	2	2.5	<2.0	<2.0	<2.0	2.5	--	--	--	>50% ND	--	--	--
MW-22C	Dissolved Titanium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-22C	Total Titanium	µg/L	-	-	-	6/2019 - 11/2020	5	20%	5	20%	4.2	22	<2.0	<2.0	<2.0	22	0	1	0.78	Stable	--	--	--
MW-22C	Dissolved Uranium	µg/L	-	20	-	6/2018 - 11/2020	9	22%	9	22%	0.12	0.85	<0.10	<0.10	<0.10	0.85	-1	1	0.99	Stable	--	0	--
MW-22C	Total Uranium	µg/L	300	20	-	6/2019 - 11/2020	5	0%	5	0%	0.1	0.99	--	--	0.1	0.99	-2	0.816	0.89	Stable	0	0	--
MW-22C	Dissolved Vanadium	µg/L	-	-	-	6/2018 - 11/2020	9	100%	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-22C	Total Vanadium	µg/L	6	-	-	6/2019 - 11/2020	5	100%	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	100% ND	--	--	--
MW-22C	Dissolved Zinc	µg/L	-	-	5000	6/2018 - 11/2020	9	89%	9	89%	13.5	13.5	<5.0	<5.0	<5.0	13.5	--	--	--	>50% ND	--	--	0
MW-22C	Total Zinc	µg/L	30	-	5000	6/2019 - 11/2020	5	80%	5	80%	8.6	8.6	<5.0	<5.0	<5.0	8.6	--	--	--	>50% ND	0	--	0
MW-22C	Dissolved Mercury	µg/L	--	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--
MW-22C	Total Mercury	µg/L	0.026	1	-	11/2020 - 11/2020	1	100%	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	--	Insufficient data	--	--	--

Table 4.1

Statistical Screening and Trend Test (Mann Kendall) Results – Baseline Groundwater Quality Data
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria						Data Used for Mann-Kendall Trend Test												Samples Outside Criteria (Count)		
			NSE	CDWQG			All Data				Detects		Non-Detects								NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Date Range	N	%ND	N	%ND	Min.	Max.	Min.	Max.	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO

Notes:

N	Number of samples
%ND	Percent non-detects
Min.	Minimum
Max.	Maximum
Stat.	Mann-Kendall Test Statistic: sum of the signs of all possible pair-wise data comparisons.
Prob.	Probability of Significance: for 95 percent confidence, a P-value equal to or below 0.05 is required.
NSE PSSs	2014 Nova Scotia Environment (NSE) Pathway-specific Standards (PSSs) for groundwater; Groundwater Discharge to Surface Water (0-10 m from a freshwater body).
CDWQG - MAC	Canadian Drinking Water Quality Guidelines - Maximum Acceptable Concentration.
CDWQG - AO	Canadian Drinking Water Quality Guidelines - Aesthetic Objectives
--	Not applicable
100% ND	100 percent non-detect, no trend test was performed.
>50% ND	Over 50 percent non-detect, no trend test was performed.
0.42 B u	Detected result was censored to non-detect.

C.O.V. - Coefficient of Variation
* Results are below the lower Criterion.
** The most recent result was excluded from the trend calculations. Non-detect results have been reported in 2020 with detection limits above previous detected results. This yields ambiguous data comparisons that may not be meaningfully assessed for temporal trend.

MAROS uses the following classification matrix to interpret Mann-Kendall trend test results:

Probability	M-K Statistic	C.O.V.				Classification
<0.05	Positive	--				Increasing
	Negative	--				Decreasing
0.05-0.10	Positive	--				Probably Increasing
	Negative	--				Probably Decreasing
>0.10	Positive	--				No Trend
	Negative	≥ 1				No Trend
	or zero	< 1				Stable

Table 4.2

Results Summary for Baseline Data Sets with Significant Trends in Groundwater over Time
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test								Samples Outside Criteria (Count)		
			NSE	CDWQG		Date											NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
	Calculated Parameters																		
MW-01A	Ion Balance (% Difference)	%	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2.22	20.3	22	0.024	0.74	Increasing Trend	--	--	--
	Inorganics																		
MW-01A	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	9	0%	9	0%	2.7	5.3	-22	0.024	0.21	Decreasing Trend	0	--	0
	Metals																		
MW-01A	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	9	0%	9	0%	1.3	8	19	0.06	0.38	Probably Increasing	--	0	--
MW-01A	Total Barium	µg/L	1000	2000	-	6/2019 - 11/2020	5	0%	5	0%	8.3	12	-9	0.050	0.17	Decreasing Trend	0	0	--
MW-01A	Total Chromium	µg/L	-	50	-	6/2019 - 11/2020	5	40%	5	40%	<1.0	1.7	-8	0.084	0.54	Probably Decreasing	--	0	--
MW-01A	Total Cobalt	µg/L	10	-	-	6/2019 - 11/2020	5	0%	5	0%	0.97	3.3	-10	0.0166	0.57	Decreasing Trend	0	--	--
MW-01A	Total Manganese	µg/L	820	120	20	6/2019 - 11/2020	5	0%	5	0%	86	380	-8	0.084	0.66	Probably Decreasing	0	**2**	**5**
MW-01A	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	450	1400	-18	0.076	0.35	Probably Decreasing	--	--	--
MW-01A	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	0%	2700	9900	-17	0.098	0.51	Probably Decreasing	--	--	0
	Calculated Parameters																		
MW-01B	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	88	92	-18	0.076	0.02	Probably Decreasing	--	--	0
MW-01B	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1.37	1.48	-24	0.0126	0.03	Decreasing Trend	--	--	--
MW-01B	Ion Balance (% Difference)	%	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1.35	6.8	20	0.044	0.41	Increasing Trend	--	--	--
	Inorganics																		
MW-01B	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	9	0%	9	0%	2.1	13	-17	0.098	0.72	Probably Decreasing	--	--	**9**
	Metals																		
MW-01B	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	9	0%	9	0%	7.7	20	-26	0.0058	0.34	Decreasing Trend	--	--	0
MW-01B	Dissolved Arsenic	µg/L	-	10	-	6/2018 - 11/2020	9	0%	9	0%	2.7	5.7	-33	0.000145	0.30	Decreasing Trend	--	0	--
MW-01B	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1900	2200	-21	0.034	0.05	Decreasing Trend	--	--	--
MW-01B	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1150	3100	-35	2.78E-05	0.37	Decreasing Trend	--	--	--
MW-01B	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	0%	4400	7100	-30	0.00086	0.16	Decreasing Trend	--	--	0
MW-01B	Total Sodium	µg/L	-	-	200000	6/2019 - 11/2020	5	0%	5	0%	4650	5000	-9	0.050	0.03	Decreasing Trend	--	--	0
MW-01B	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	9	0%	9	0%	47	69	-27	0.0041	0.14	Decreasing Trend	--	0	--
MW-01B	Dissolved Uranium	µg/L	-	20	-	6/2018 - 11/2020	9	0%	9	0%	0.65	0.9	-24	0.0126	0.11	Decreasing Trend	--	0	--
	Inorganics																		
MW-01C	pH	s.u.	-	-	10.5	6/2018 - 11/2020	9	0%	9	0%	6.53	7.47	-18	0.076	0.05	Probably Decreasing	--	--	0
MW-01C	pH	s.u.	-	-	7											Probably Decreasing			**7 ***
	Metals																		
MW-01C	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	9	11%	9	11%	<5.0	19	-20	0.044	0.64	Decreasing Trend	--	--	0
MW-01C	Total Barium	µg/L	1000	2000	-	6/2019 - 11/2020	5	0%	5	0%	4.95	7	8	0.084	0.14	Probably Increasing	0	0	--
MW-01C	Dissolved Cadmium	µg/L	-	7	-	6/2018 - 11/2020	9	22%	9	22%	<0.010	0.034	19	0.06	0.61	Probably Increasing	--	0	--
MW-01C	Total Calcium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	3000	5800	8	0.084	0.25	Probably Increasing	--	--	--
MW-01C	Total Magnesium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	500	760	9	0.050	0.16	Increasing Trend	--	--	--
MW-01C	Total Potassium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	650	900	8	0.084	0.16	Probably Increasing	--	--	--
MW-01C	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	0%	3500	8900	-18	0.076	0.40	Probably Decreasing	--	--	0
MW-01C	Total Strontium	µg/L	21000	7000	-	6/2019 - 11/2020	5	0%	5	0%	19	29	8	0.084	0.19	Probably Increasing	0	0	--
MW-01C	Dissolved Zinc	µg/L	-	-	5000	6/2018 - 11/2020	9	22%	9	22%	<5.0	14	18	0.076	0.46	Probably Increasing	--	--	0
MW-01C	Total Zinc	µg/L	30	-	5000	6/2019 - 11/2020	5	0%	5	0%	6.35	14	8	0.084	0.36	Probably Increasing	0	--	0
	Inorganics																		
MW-02A	pH	s.u.	-	-	7														**8**
MW-02A	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	8	0%	8	0%	2.6	4	17	0.047	0.15	Increasing Trend	--	--	0
MW-02A	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	8	0%	8	0%	26	38	-16	0.062	0.14	Probably Decreasing	--	--	--
	Metals																		
MW-02A	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	8	0%	8	0%	27	150	-17	0.047	0.78	Decreasing Trend	--	**2**	**8**
MW-02A	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	8	0%	8	0%	2600	3800	-16	0.062	0.11	Probably Decreasing	--	--	0
	Inorganics																		
MW-02B	Orthophosphate	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.058	0.087	24	0.0126	0.11	Increasing Trend	--	--	--
MW-02B	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	9	0%	9	0%	0.23	27.5	-25	0.0092	1.57	Decreasing Trend	--	--	**8**
	Metals																		
MW-02B	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	9	44%	9	44%	<5.0	16	-20	0.044	0.74	Decreasing Trend	--	--	0
MW-02B	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	9	0%	9	0%	2.15	5.6	-17	0.098	0.34	Probably Decreasing	--	0	--
MW-02B	Total Barium	µg/L	1000	2000	-	6/2019 - 11/2020	5	0%	5	0%	2.5	3.55	-8	0.084	0.14	Probably Decreasing	0	0	--
MW-02B	Dissolved Cadmium	µg/L	-	7	-	6/2018 - 11/2020	9	0%	9	0%	0.41	0.65	-21	0.034	0.19	Decreasing Trend	--	0	--
MW-02B	Dissolved Copper	µg/L	-	2000	1000	11/2018 - 11/2020	9	22%	7	0%	0.61	8.75	-18	0.0068	1.43	Decreasing Trend	--	0	0
MW-02B	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	9	0%	9	0%	2.8	27	-25	0.0092	0.80	Decreasing Trend	--	0	**2**
MW-02B	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	0%	4400	9100	-22	0.024	0.28	Decreasing Trend	--	--	0
	Calculated Parameters																		
MW-03A	Ion Balance (% Difference)	%	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2.78	16.7	18	0.076	0.61	Probably Increasing	--	--	--
	Inorganics																		
MW-03A	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	9	33%	9	33%	<2.0	4.2	19	0.06	0.50	Probably Increasing	--	--	0

Table 4.2

Results Summary for Baseline Data Sets with Significant Trends in Groundwater over Time
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test								Samples Outside Criteria (Count)		
			NSE	CDWQG		Date											NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
	Metals																		
MW-03A	Dissolved Nickel	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2	4.7	-23	0.0183	0.26	Decreasing Trend	--	--	--
	Calculated Parameters																		
MW-03B	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	59	67	-17	0.098	0.05	Probably Decreasing	--	--	0
	Inorganics																		
MW-03B	Reactive Silica (SiO2)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	9.7	11	-23	0.0183	0.04	Decreasing Trend	--	--	--
MW-03B	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	3.4	4.5	23	0.0183	0.09	Increasing Trend	--	--	0
MW-03B	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	9	0%	9	0%	0.26	3.6	20	0.044	0.82	Increasing Trend	--	--	**8**
	Metals																		
MW-03B	Dissolved Cadmium	µg/L	-	7	-	6/2018 - 11/2020	9	0%	9	0%	0.014	0.039	-18	0.076	0.32	Probably Decreasing	--	0	--
MW-03B	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	9	11%	9	11%	<2.0	32	-21	0.034	1.06	Decreasing Trend	--	0	**2**
MW-03B	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	830	1700	-21	0.034	0.29	Decreasing Trend	--	--	--
MW-03B	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	0%	4300	4900	-17	0.098	0.04	Probably Decreasing	--	--	0
MW-03B	Dissolved Uranium	µg/L	-	20	-	6/2018 - 11/2020	9	0%	9	0%	0.12	0.29	-17	0.098	0.23	Probably Decreasing	--	0	--
	Calculated Parameters																		
MW-03C	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1.69	1.93	-18	0.076	0.05	Probably Decreasing	--	--	--
MW-03C	Langelier Index (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-0.457	-0.073	-20	0.044	-0.55	Decreasing Trend	--	--	--
MW-03C	Langelier Index (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-0.708	-0.324	-20	0.044	-0.28	Decreasing Trend	--	--	--
	Inorganics																		
MW-03C	Total Organic Carbon	mg/L	-	-	-	6/2018 - 11/2020	9	22%	9	22%	<0.50	4.25	-21	0.034	1.09	Decreasing Trend	--	--	--
MW-03C	pH	s.u.	-	-	10.5	6/2018 - 11/2020	9	0%	9	0%	7.59	7.91	-20	0.044	0.01	Decreasing Trend	--	--	0
MW-03C	pH	s.u.	-	-	7											Decreasing Trend			0 *
MW-03C	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	3.8	5.8	21	0.034	0.12	Increasing Trend	--	--	0
	Metals																		
MW-03C	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	9	22%	9	22%	<5.0	28	-30	0.00086	0.83	Decreasing Trend	--	--	0
MW-03C	Total Aluminum	µg/L	5	-	100	6/2019 - 11/2020	5	0%	5	0%	43	200	-8	0.084	0.74	Probably Decreasing	**5**	--	**2**
MW-03C	Total Arsenic	µg/L	5	10	-	6/2019 - 11/2020	5	0%	5	0%	1.7	2.3	-9	0.050	0.12	Decreasing Trend	0	0	--
MW-03C	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	9	0%	9	0%	3	8.85	-28	0.0024	0.39	Decreasing Trend	--	0	--
MW-03C	Total Barium	µg/L	1000	2000	-	6/2019 - 11/2020	5	0%	5	0%	3.4	7.3	-10	0.0166	0.36	Decreasing Trend	0	0	--
MW-03C	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	9	0%	9	0%	2.5	170	-26	0.0058	1.03	Decreasing Trend	--	**1**	**6**
MW-03C	Total Manganese	µg/L	820	120	20	6/2019 - 11/2020	5	0%	5	0%	7.1	81	-10	0.0166	0.96	Decreasing Trend	0	0	**2**
MW-03C	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1600	4300	-33	0.000145	0.37	Decreasing Trend	--	--	--
MW-03C	Total Potassium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	1600	2400	-8	0.084	0.17	Probably Decreasing	--	--	--
MW-03C	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	0%	5300	7700	-30	0.00086	0.16	Decreasing Trend	--	--	0
MW-03C	Dissolved Uranium	µg/L	-	20	-	6/2018 - 11/2020	9	0%	9	0%	1.2	2.2	-26	0.0058	0.24	Decreasing Trend	--	0	--
MW-03C	Total Uranium	µg/L	300	20	-	6/2019 - 11/2020	5	0%	5	0%	1.2	1.6	-9	0.050	0.12	Decreasing Trend	0	0	--
MW-03C	Dissolved Zinc	µg/L	-	-	5000	6/2018 - 11/2020	9	22%	9	22%	<5.0	14	21	0.034	0.52	Increasing Trend	--	--	0
	Calculated Parameters																		
MW-04A	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	0.22	0.51	-15	0.085	0.30	Probably Decreasing	--	--	--
	Metals																		
MW-04A	Dissolved Cobalt	µg/L	-	-	-	6/2018 - 11/2020	8	50%	8	50%	<0.40	0.92	-16	0.062	0.69	Probably Decreasing	--	--	--
MW-04A	Dissolved Copper	µg/L	-	2000	1000	11/2018 - 11/2020	8	25%	6	0%	0.73	3.5	-15	0.0028	0.63	Decreasing Trend	--	0	0
MW-04A	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	370	1200	-16	0.062	0.45	Probably Decreasing	--	--	--
MW-04A	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	8	0%	8	0%	4.9	69	-22	0.0056	1.07	Decreasing Trend	--	0	**2**
MW-04A	Dissolved Nickel	µg/L	-	-	-	6/2018 - 11/2020	8	38%	8	38%	<2.0	5.4	-21	0.0099	0.66	Decreasing Trend	--	--	--
MW-04A	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	8	0%	8	0%	13	25	-16	0.062	0.21	Probably Decreasing	--	0	--
	Metals																		
MW-04B	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	1000	1600	-16	0.062	0.16	Probably Decreasing	--	--	--
MW-04B	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	8	0%	8	0%	3	55	-16	0.062	1.11	Probably Decreasing	--	0	**2**
MW-04B	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	490	1300	-16	0.062	0.36	Probably Decreasing	--	--	--
	Calculated Parameters																		
MW-05A	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	0.3	0.45	-18	0.032	0.14	Decreasing Trend	--	--	--
MW-05A	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	8	0%	8	0%	20	30	-15	0.085	0.14	Probably Decreasing	--	--	0
MW-05A	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	0.22	0.39	-15	0.085	0.20	Probably Decreasing	--	--	--
	Inorganics																		
MW-05A	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	8	0%	8	0%	2.8	4.65	-16	0.062	0.20	Probably Decreasing	0	--	0
	Metals																		
MW-05A	Dissolved Cadmium	µg/L	-	7	-	6/2018 - 11/2020	8	0%	8	0%	0.019	0.035	-21	0.0099	0.23	Decreasing Trend	--	0	--
MW-05A	Dissolved Cobalt	µg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	0.86	3.7	-24	0.00174	0.60	Decreasing Trend	--	--	--
MW-05A	Total Cobalt	µg/L	10	-	-	6/2019 - 11/2020	5	0%	5	0%	0.89	1.9	-10	0.0166	0.33	Decreasing Trend	0	--	--
MW-05A	Total Copper	µg/L	2	2000	1000	6/2019 - 11/2020	5	0%	5	0%	3.8	16	-8	0.084	0.45	Probably Decreasing	**5**	0	0
MW-05A	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	380	780	-16	0.062	0.29	Probably Decreasing	--	--	--
MW-05A	Dissolved Nickel	µg/L	-	-	-	6/2018 - 11/2020	8	13%	8	13%	<2.0	10	-22	0.0056	0.52	Decreasing Trend	--	--	--
MW-05A	Total Nickel	µg/L	25	-	-	6/2019 - 11/2020	5	20%	5	20%	<2.0	7.1	-10	0.0166	0.51	Decreasing Trend	0	--	--
MW-05A	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	330	995	-21	0.0099	0.36	Decreasing Trend	--	--	--
MW-05A	Total Zinc	µg/L	30	-	5000	6/2019 - 11/2020	5	20%	5	20%	<5.0	18	-10	0.0166	0.57	Decreasing Trend	0	--	0

Table 4.2

Results Summary for Baseline Data Sets with Significant Trends in Groundwater over Time
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test								Samples Outside Criteria (Count)		
			NSE	CDWQG		Date											NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
	Inorganics																		
MW-05B	pH	s.u.	-	-	10.5	6/2018 - 11/2020	8	0%	8	0%	7.23	7.725	-16	0.062	0.02	Probably Decreasing	--	--	0
MW-05B	pH	s.u.	-	-	7											Probably Decreasing			0 *
MW-05B	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	8	0%	8	0%	5.9	11.5	-16	0.062	0.23	Probably Decreasing	--	--	0
	Metals																		
MW-05B	Total Iron	µg/L	300	-	300	6/2019 - 11/2020	5	0%	5	0%	400	815	8	0.084	0.26	Probably Increasing	**5**	--	**5**
MW-05B	Total Lead	µg/L	1	5	-	6/2019 - 11/2020	5	0%	5	0%	0.57	1.25	8	0.084	0.35	Probably Increasing	**1**	0	--
MW-05B	Dissolved Molybdenum	µg/L	-	-	-	6/2018 - 11/2020	8	25%	8	25%	2	5.1	-19	0.0231	0.54	Decreasing Trend	--	--	--
MW-05B	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	8	0%	8	0%	4900	8400	-15	0.085	0.18	Probably Decreasing	--	--	0
MW-05B	Total Titanium	µg/L	-	-	-	10/2019 - 11/2020	4	0%	4	0%	10.25	31	6	0.084	0.40	Increasing Trend	--	--	--
MW-05B	Total Zinc	µg/L	30	-	5000	6/2019 - 11/2020	5	0%	5	0%	5.3	16.5	10	0.0166	0.53	Increasing Trend	0	--	0
	Calculated Parameters																		
MW-05D	Langelier Index (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	8	0%	8	0%	-0.463	-0.134	-16	0.062	-0.41	Probably Decreasing	--	--	--
MW-05D	Langelier Index (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	8	0%	8	0%	-0.714	-0.385	-16	0.062	-0.22	Probably Decreasing	--	--	--
	Metals																		
MW-05D	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	8	0%	8	0%	17	31	17	0.047	0.21	Increasing Trend	--	0	**5**
	Calculated Parameters																		
	Inorganics																		
MW-07A	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	9	0%	9	0%	2.9	4.8	-18	0.076	0.14	Probably Decreasing	0	--	0
MW-07A	pH	s.u.	-	-	7														**2 ***
MW-07A	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	12	15	20	0.044	0.09	Increasing Trend	--	--	0
	Metals																		
MW-07A	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	9	0%	9	0%	4.5	11	-30	0.00086	0.31	Decreasing Trend	--	0	--
MW-07A	Dissolved Iron	µg/L	-	-	300	6/2018 - 11/2020	9	0%	9	0%	2000	5100	-21	0.034	0.28	Decreasing Trend	--	--	**9**
MW-07A	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	0%	8800	11000	-20	0.044	0.07	Decreasing Trend	--	--	0
	Calculated Parameters																		
MW-07B	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	3.25	7.02	-33	0.000145	0.19	Decreasing Trend	--	--	--
MW-07B	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	130	320	-29	0.00163	0.21	Decreasing Trend	--	--	--
MW-07B	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	190	380	-32	0.00024	0.17	Decreasing Trend	--	--	0
MW-07B	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	3.18	6.68	-28	0.0024	0.18	Decreasing Trend	--	--	--
MW-07B	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	120	290	-26	0.0058	0.20	Decreasing Trend	--	--	--
MW-07B	Ion Balance (% Difference)	%	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.68	3.73	-20	0.044	0.52	Decreasing Trend	--	--	--
MW-07B	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	6.93	7.68	30	0.00086	0.03	Increasing Trend	--	--	--
MW-07B	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	7.18	7.93	30	0.00086	0.03	Increasing Trend	--	--	--
	Inorganics																		
MW-07B	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	130	320	-30	0.00086	0.21	Decreasing Trend	--	--	--
MW-07B	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	14	22	-20	0.044	0.16	Decreasing Trend	--	--	0
MW-07B	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	9	0%	9	0%	310	620	-27	0.0041	0.17	Decreasing Trend	--	--	--
	Metals																		
MW-07B	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	9	33%	9	33%	<5.0	7.2	-23	0.0183	0.37	Decreasing Trend	--	--	0
MW-07B	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	38000	100000	-27	0.0041	0.22	Decreasing Trend	--	--	--
MW-07B	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	6000	8600	-27	0.0041	0.10	Decreasing Trend	--	--	--
MW-07B	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1300	3600	-25	0.0092	0.22	Decreasing Trend	--	--	--
MW-07B	Total Sodium	µg/L	-	-	200000	6/2019 - 11/2020	5	0%	5	0%	17000	21000	-8	0.084	0.11	Probably Decreasing	--	--	0
MW-07B	Total Uranium	µg/L	300	20	-	6/2019 - 11/2020	5	0%	5	0%	0.67	3.2	-8	0.084	0.45	Probably Decreasing	0	0	--
	Calculated Parameters																		
MW-07D	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2.59	6.39	20	0.044	0.32	Increasing Trend	--	--	--
MW-07D	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	110	300	20	0.044	0.40	Increasing Trend	--	--	--
MW-07D	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	150	340	21	0.034	0.28	Increasing Trend	--	--	0
MW-07D	Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1.1	3.5	27	0.0041	0.49	Increasing Trend	--	--	--
MW-07D	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2.75	5.95	20	0.044	0.29	Increasing Trend	--	--	--
MW-07D	Langelier Index (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.288	1.09	28	0.0024	0.52	Increasing Trend	--	--	--
MW-07D	Langelier Index (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.038	0.845	28	0.0024	1.05	Increasing Trend	--	--	--
MW-07D	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	7	7.77	-19	0.06	0.03	Probably Decreasing	--	--	--
MW-07D	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	7.25	8.02	-19	0.06	0.03	Probably Decreasing	--	--	--
	Inorganics																		
MW-07D	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	110	300	22	0.024	0.38	Increasing Trend	--	--	--
MW-07D	pH	s.u.	-	-	10.5	6/2018 - 11/2020	9	0%	9	0%	8.01	8.38	20	0.044	0.01	Increasing Trend	--	--	0
MW-07D	pH	s.u.	-	-	7											Increasing Trend			0 *
MW-07D	Reactive Silica (SiO2)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	15	32	18	0.076	0.27	Probably Increasing	--	--	--
	Metals																		
MW-07D	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	5300	7500	22	0.024	0.11	Increasing Trend	--	--	--
	Calculated Parameters																		
MW-09A	Nitrate (N)	mg/L	-	10	-	6/2018 - 11/2020	9	11%	9	11%	<0.050	0.17	24	0.0126	0.53	Increasing Trend	--	0	--

Table 4.2

Results Summary for Baseline Data Sets with Significant Trends in Groundwater over Time
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test								Samples Outside Criteria (Count)		
			NSE	CDWQG		Date											NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
	Inorganics																		
MW-09A	Nitrate + Nitrite	mg/L	-	-	-	6/2018 - 11/2020	9	11%	9	11%	<0.050	0.17	24	0.0126	0.53	**Increasing Trend**	--	--	--
MW-09A	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	2.9	5.1	19	0.06	0.21	**Probably Increasing**	--	--	0
MW-09A	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	9	11%	9	11%	<0.10	4.4	19	0.06	0.77	**Probably Increasing**	--	--	**8**
	Metals																		
MW-09A	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	9	0%	9	0%	6.7	81	-29	0.00163	0.98	**Decreasing Trend**	--	--	0
MW-09A	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	360	900	-18	0.076	0.26	**Probably Decreasing**	--	--	--
MW-09A	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	9	0%	9	0%	20	110	-23	0.0183	0.68	**Decreasing Trend**	--	0	**7**
	Calculated Parameters																		
MW-09B	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2.08	2.75	-26	0.0058	0.09	**Decreasing Trend**	--	--	--
MW-09B	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	71	83	19	0.06	0.05	**Probably Increasing**	--	--	--
MW-09B	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	120	170	-28	0.0024	0.12	**Decreasing Trend**	--	--	0
MW-09B	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1.93	2.53	-26	0.0058	0.10	**Decreasing Trend**	--	--	--
MW-09B	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	66	81	19	0.06	0.07	**Probably Increasing**	--	--	--
MW-09B	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8	8.13	-27	0.0041	0.01	**Decreasing Trend**	--	--	--
MW-09B	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.25	8.38	-27	0.0041	0.01	**Decreasing Trend**	--	--	--
	Inorganics																		
MW-09B	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	72	83	19	0.06	0.05	**Probably Increasing**	--	--	--
MW-09B	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	9	0%	9	0%	2.5	5.1	-31	0.00055	0.24	**Decreasing Trend**	0	--	0
MW-09B	Total Organic Carbon	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.68	5.4	-26	0.0058	0.73	**Decreasing Trend**	--	--	--
MW-09B	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	22	53	-27	0.0041	0.34	**Decreasing Trend**	--	--	0
MW-09B	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	9	0%	9	0%	200	270	-19	0.06	0.11	**Probably Decreasing**	--	--	--
	Metals																		
MW-09B	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	23000	28000	19	0.06	0.07	**Probably Increasing**	--	--	--
MW-09B	Dissolved Molybdenum	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	4.2	9.2	-32	0.00024	0.31	**Decreasing Trend**	--	--	--
MW-09B	Total Molybdenum	µg/L	73	-	-	6/2019 - 11/2020	5	0%	5	0%	4	6.3	-8	0.084	0.19	**Probably Decreasing**	0	--	--
MW-09B	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1100	1700	-17	0.098	0.15	**Probably Decreasing**	--	--	--
MW-09B	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	0%	6400	27000	-23	0.0183	0.48	**Decreasing Trend**	--	--	0
MW-09B	Total Strontium	µg/L	21000	7000	-	6/2019 - 11/2020	5	0%	5	0%	360	440	-8	0.084	0.07	**Probably Decreasing**	0	0	--
MW-09B	Total Titanium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	6.1	16	-8	0.084	0.41	**Probably Decreasing**	--	--	--
MW-09B	Total Uranium	µg/L	300	20	-	6/2019 - 11/2020	5	0%	5	0%	4.9	7.8	-8	0.084	0.21	**Probably Decreasing**	0	0	--
	Calculated Parameters																		
MW-09D	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2.61	4.21	-20	0.044	0.16	**Decreasing Trend**	--	--	--
MW-09D	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	65	88.5	23	0.0183	0.09	**Increasing Trend**	--	--	--
MW-09D	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	160	260	-24	0.0126	0.17	**Decreasing Trend**	--	--	0
MW-09D	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2.42	4.01	-22	0.024	0.17	**Decreasing Trend**	--	--	--
MW-09D	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	83	120	-23	0.0183	0.13	**Decreasing Trend**	--	--	--
MW-09D	Ion Balance (% Difference)	%	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1.37	4.31	22	0.024	0.29	**Increasing Trend**	--	--	--
	Inorganics																		
MW-09D	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	65	89	23	0.0183	0.09	**Increasing Trend**	--	--	--
MW-09D	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	9	0%	9	0%	4.35	11	-28	0.0024	0.28	**Decreasing Trend**	0	--	0
MW-09D	Total Organic Carbon	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	3.85	17	-30	0.00086	0.47	**Decreasing Trend**	--	--	--
MW-09D	pH	s.u.	-	-	10.5	6/2018 - 11/2020	9	0%	9	0%	7.54	7.97	18	0.076	0.02	**Probably Increasing**	--	--	0
MW-09D	pH	s.u.	-	-	7											**Probably Increasing**			0 *
MW-09D	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	37	110	-27	0.0041	0.36	**Decreasing Trend**	--	--	0
MW-09D	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	9	0%	9	0%	245	430	-26	0.0058	0.20	Decreasing Trend	--	--	--
	Metals																		
MW-09D	Dissolved Arsenic	µg/L	-	10	-	6/2018 - 11/2020	9	0%	9	0%	86	140	-22	0.024	0.16	**Decreasing Trend**	--	**9**	--
MW-09D	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	27000	41000	-23	0.0183	0.14	**Decreasing Trend**	--	--	--
MW-09D	Total Calcium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	25500	33000	-10	0.0166	0.11	**Decreasing Trend**	--	--	--
MW-09D	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	3700	5400	-20	0.044	0.13	**Decreasing Trend**	--	--	--
MW-09D	Total Magnesium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	3400	4500	-8	0.084	0.12	**Probably Decreasing**	--	--	--
MW-09D	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	9	0%	9	0%	46	160	-17	0.098	0.51	**Probably Decreasing**	--	**1**	**9**
MW-09D	Dissolved Molybdenum	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2.8	15	-34	0.00005	0.59	**Decreasing Trend**	--	--	--
MW-09D	Total Molybdenum	µg/L	73	-	-	6/2019 - 11/2020	5	0%	5	0%	3.2	7.5	-8	0.084	0.39	**Probably Decreasing**	0	--	--
MW-09D	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1000	1400	-23	0.0183	0.11	**Decreasing Trend**	--	--	--
MW-09D	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	0%	15000	34000	-21	0.034	0.28	Decreasing Trend	--	--	0
MW-09D	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	9	0%	9	0%	590	890	-22	0.024	0.13	**Decreasing Trend**	--	0	--
MW-09D	Total Strontium	µg/L	21000	7000	-	6/2019 - 11/2020	5	0%	5	0%	555	720	-10	0.0166	0.11	**Decreasing Trend**	0	0	--
MW-09D	Dissolved Uranium	µg/L	-	20	-	6/2018 - 11/2020	9	0%	9	0%	1.35	3.8	-28	0.0024	0.36	**Decreasing Trend**	--	0	--
MW-09D	Total Uranium	µg/L	300	20	-	6/2019 - 11/2020	5	0%	5	0%	1.4	3.4	-9	0.050	0.42	**Decreasing Trend**	0	0	--
	Calculated Parameters																		
MW-11A	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	5.5	8.2	-17	0.047	0.17	**Decreasing Trend**	--	--	--
	Metals																		
MW-11A	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	1600	2500	-19	0.0231	0.17	**Decreasing Trend**	--	--	--
MW-11A	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	8	0%	8	0%	330	500	-15	0.085	0.17	**Probably Decreasing**	--	--	--
MW-11A	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	8	0%	8	0%	17	91	-16	0.062	0.64	**Probably Decreasing**	--	0	**6**
MW-11A	Dissolved Nickel	µg/L	-	-	-	6/2018 - 11/2020	8	50%	8	50%	<2.0	2.8	-17	0.047	0.47	**Decreasing Trend**	--	--	--
	Inorganics																		
MW-11B	Total Organic Carbon	mg/L	-	-	-	6/2018 - 11/2020	9	33%	8	25%	<0.50	9	-16	0.062	1.83	**Probably Decreasing**	--	--	--
MW-11B	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	9	0%	9	0%	1.2	21	-22	0.024	0.84	**Decreasing Trend**	--	--	**9**

Table 4.2

Results Summary for Baseline Data Sets with Significant Trends in Groundwater over Time
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test								Samples Outside Criteria (Count)		
			NSE	CDWQG		Date											NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
	Metals																		
MW-11B	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	9	44%	9	44%	<5.0	14	-22	0.024	0.71	Decreasing Trend	--	--	0
MW-11B	Total Calcium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	4800	24000	9	0.050	0.43	Increasing Trend	--	--	--
MW-11B	Total Cobalt	µg/L	10	-	-	6/2019 - 11/2020	5	40%	5	40%	0.4	1.6	-9	0.050	1.03	Decreasing Trend	0	--	--
MW-11B	Total Iron	µg/L	300	-	300	6/2019 - 11/2020	5	0%	5	0%	190	1700	-8	0.084	0.85	Probably Decreasing	**3**	--	**3**
MW-11B	Total Magnesium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	580	1600	10	0.0166	0.32	Increasing Trend	--	--	--
MW-11B	Total Manganese	µg/L	820	120	20	6/2019 - 11/2020	5	0%	5	0%	25	180	-8	0.084	0.67	Probably Decreasing	0	**2**	**5**
MW-11B	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	620	1600	-21	0.034	0.27	Decreasing Trend	--	--	--
MW-11B	Total Uranium	µg/L	300	20	-	6/2019 - 11/2020	5	0%	5	0%	0.17	0.71	8	0.084	0.41	Probably Increasing	0	0	--
	Calculated Parameters																		
MW-11C	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2.02	2.53	27	0.0041	0.08	Increasing Trend	--	--	--
MW-11C	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	68	82	18	0.076	0.07	Probably Increasing	--	--	--
MW-11C	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	120	150	25	0.0092	0.08	Increasing Trend	--	--	0
MW-11C	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1.82	2.38	21	0.034	0.09	Increasing Trend	--	--	--
	Inorganics																		
MW-11C	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	69	82	18	0.076	0.06	Probably Increasing	--	--	--
MW-11C	Orthophosphate	mg/L	-	-	-	6/2018 - 11/2020	9	11%	9	11%	<0.010	0.021	-25	0.0092	0.30	Decreasing Trend	--	--	--
MW-11C	pH	s.u.	-	-	7														0 *
MW-11C	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	23	37	24	0.0126	0.18	Increasing Trend	--	--	0
MW-11C	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	9	0%	9	0%	190	230	21	0.034	0.07	Increasing Trend	--	--	--
	Metals																		
MW-11C	Total Arsenic	µg/L	5	10	-	6/2019 - 11/2020	5	0%	5	0%	68	76	9	0.050	0.05	Increasing Trend	**5**	**5**	--
MW-11C	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	9	0%	9	0%	11	17	27	0.0041	0.20	Increasing Trend	--	0	--
MW-11C	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1000	1300	17	0.098	0.08	Probably Increasing	--	--	--
MW-11C	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	0%	7900	18000	25	0.0092	0.29	Increasing Trend	--	--	0
MW-11C	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	9	0%	9	0%	190	290	19	0.06	0.18	Probably Increasing	--	0	--
	Calculated Parameters																		
MW-12A	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	22	42	-18	0.076	0.22	Probably Decreasing	--	--	--
MW-12A	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	48	72	-20	0.044	0.14	Decreasing Trend	--	--	0
MW-12A	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.56	0.94	-21	0.034	0.20	Decreasing Trend	--	--	--
MW-12A	Langelier Index (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-3.16	-2.16	-24	0.0126	-0.12	Decreasing Trend	--	--	--
MW-12A	Langelier Index (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-3.41	-2.41	-24	0.0126	-0.11	Decreasing Trend	--	--	--
MW-12A	Nitrate (N)	mg/L	-	10	-	6/2018 - 11/2020	9	0%	9	0%	0.085	0.36	19	0.06	0.49	Probably Increasing	--	0	--
MW-12A	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.78	9.35	19	0.06	0.02	Probably Increasing	--	--	--
MW-12A	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	9.03	9.6	19	0.06	0.02	Probably Increasing	--	--	--
	Inorganics																		
MW-12A	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	22	42	-18	0.076	0.22	Probably Decreasing	--	--	--
MW-12A	Nitrate + Nitrite	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.085	0.36	19	0.06	0.49	Probably Increasing	--	--	--
MW-12A	Orthophosphate	mg/L	-	-	-	6/2018 - 11/2020	9	44%	9	44%	<0.010	0.017	21	0.034	0.52	Increasing Trend	--	--	--
	Metals																		
MW-12A	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	9	0%	9	0%	5	18	19	0.06	0.52	Probably Increasing	--	--	0
MW-12A	Dissolved Cobalt	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.74	2.6	-20	0.044	0.44	Decreasing Trend	--	--	--
MW-12A	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	9	0%	9	0%	120	1300	-23	0.0183	0.94	Decreasing Trend	--	**8**	**9**
MW-12A	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	850	2300	-20	0.044	0.37	Decreasing Trend	--	--	--
	Calculated Parameters																		
MW-12B	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2.2	2.56	24	0.0126	0.05	Increasing Trend	--	--	--
MW-12B	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	80	96	23	0.0183	0.05	Increasing Trend	--	--	--
MW-12B	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	130	150	19	0.06	0.05	Probably Increasing	--	--	0
MW-12B	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2.06	2.33	26	0.0058	0.04	Increasing Trend	--	--	--
MW-12B	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.01	8.08	-24	0.0126	0.00	Decreasing Trend	--	--	--
MW-12B	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.26	8.33	-24	0.0126	0.00	Decreasing Trend	--	--	--
	Inorganics																		
MW-12B	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	81	97	22	0.024	0.05	Increasing Trend	--	--	--
MW-12B	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	21	26	21	0.034	0.08	Increasing Trend	--	--	0
MW-12B	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	9	0%	9	0%	200	240	17	0.098	0.05	Probably Increasing	--	--	--
	Metals																		
MW-12B	Total Aluminum	µg/L	5	-	100	6/2019 - 11/2020	5	0%	5	0%	24	2300	-8	0.084	1.51	Probably Decreasing	**5**	--	**3**
MW-12B	Total Iron	µg/L	300	-	300	6/2019 - 11/2020	5	0%	5	0%	54	1000	-8	0.084	1.19	Probably Decreasing	**1**	--	**1**
MW-12B	Total Manganese	µg/L	820	120	20	6/2019 - 11/2020	5	0%	5	0%	210	320	-8	0.084	0.15	Probably Decreasing	0	**5**	**5**
MW-12B	Total Strontium	µg/L	21000	7000	-	6/2019 - 11/2020	5	0%	5	0%	89	170	-9	0.050	0.27	Decreasing Trend	0	0	--
MW-12B	Total Titanium	µg/L	-	-	-	6/2019 - 11/2020	5	20%	5	20%	<2.0	46	-8	0.084	1.42	Probably Decreasing	--	--	--
	Calculated Parameters																		
MW-14A	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	12	18	-25	0.0092	0.13	Decreasing Trend	--	--	--
	Metals																		
MW-14A	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	9	0%	9	0%	2.6	3.5	-20	0.044	0.10	Decreasing Trend	--	0	--
MW-14A	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	3400	4900	-27	0.0041	0.12	Decreasing Trend	--	--	--
MW-14A	Dissolved Cobalt	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.41	1.6	-18	0.076	0.46	Probably Decreasing	--	--	--
MW-14A	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	860	1300	-20	0.044	0.13	Decreasing Trend	--	--	--
MW-14A	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	9	0%	9	0%	36	200	-28	0.0024	0.58	Decreasing Trend	--	**4**	**9**
MW-14A	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	770	1300	-21	0.034	0.18	Decreasing Trend	--	--	--
MW-14A	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	9	0%	9	0%	28	38	-20	0.044	0.10	Decreasing Trend	--	0	--

Table 4.2

Results Summary for Baseline Data Sets with Significant Trends in Groundwater over Time
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test								Samples Outside Criteria (Count)		
			NSE	CDWQG		Date											NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
	Calculated Parameters																		
MW-14B	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2.07	5.055	-21	0.034	0.39	Decreasing Trend	--	--	--
MW-14B	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	120	315	-20	0.044	0.44	Decreasing Trend	--	--	0
MW-14B	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1.89	4.54	-23	0.0183	0.38	Decreasing Trend	--	--	--
MW-14B	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.17	8.29	-20	0.044	0.00	Decreasing Trend	--	--	--
MW-14B	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.42	8.54	-20	0.044	0.00	Decreasing Trend	--	--	--
	Inorganics																		
MW-14B	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	9	0%	9	0%	2.7	13	-22	0.024	0.63	Decreasing Trend	0	--	0
MW-14B	Total Organic Carbon	mg/L	-	-	-	6/2018 - 7/2020	9	22%	7	0%	0.83	14	-14	0.050	1.27	Decreasing Trend **	--	--	--
MW-14B	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	8.6	135	-19	0.06	1.27	Probably Decreasing	--	--	0
MW-14B	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	9	0%	9	0%	180	540	-17	0.098	0.48	Probably Decreasing	--	--	--
	Metals																		
MW-14B	Total Arsenic	µg/L	5	10	-	6/2019 - 11/2020	5	0%	5	0%	5.8	10	-10	0.0166	0.22	Decreasing Trend	**5**	0	--
MW-14B	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	9	0%	9	0%	3.5	7.2	-20	0.044	0.25	Decreasing Trend	--	0	--
MW-14B	Total Magnesium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	1900	2700	-8	0.084	0.16	Probably Decreasing	--	--	--
MW-14B	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	9	0%	9	0%	11	250	26	0.0058	0.75	Increasing Trend	--	**5**	**7**
MW-14B	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	0%	20000	82500	-31	0.00055	0.64	Decreasing Trend	--	--	0
MW-14B	Total Sodium	µg/L	-	-	200000	6/2019 - 11/2020	5	0%	5	0%	21000	27000	-10	0.0166	0.10	Decreasing Trend	--	--	0
MW-14B	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	9	0%	9	0%	74	350	-21	0.034	0.65	Decreasing Trend	--	0	--
MW-14B	Dissolved Uranium	µg/L	-	20	-	6/2018 - 11/2020	9	0%	9	0%	0.44	4.7	-28	0.0024	0.97	Decreasing Trend	--	0	--
	Calculated Parameters																		
MW-14C	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	66	73	-21	0.034	0.03	Decreasing Trend	--	--	--
MW-14C	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	29	34	18	0.076	0.05	Probably Increasing	--	--	--
	Inorganics																		
MW-14C	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	67	74	-24	0.0126	0.03	Decreasing Trend	--	--	--
MW-14C	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	9	0%	9	0%	0.57	33	-20	0.044	0.91	Decreasing Trend	--	--	**9**
	Metals																		
MW-14C	Total Aluminum	µg/L	5	-	100	6/2019 - 11/2020	5	0%	5	0%	19	2000	-8	0.084	1.20	Probably Decreasing	**5**	--	**3**
MW-14C	Dissolved Arsenic	µg/L	-	10	-	6/2018 - 11/2020	9	0%	9	0%	1.3	1.6	-23	0.0183	0.07	Decreasing Trend	--	0	--
MW-14C	Total Barium	µg/L	1000	2000	-	6/2019 - 11/2020	5	0%	5	0%	1.9	44	-8	0.084	1.23	Probably Decreasing	0	0	--
MW-14C	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	9300	11000	17	0.098	0.06	Probably Increasing	--	--	--
MW-14C	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	530	660	-22	0.024	0.07	Decreasing Trend	--	--	--
MW-14C	Total Potassium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	530	820	-8	0.084	0.21	Probably Decreasing	--	--	--
MW-14C	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	0%	20000	23000	-21	0.034	0.05	Decreasing Trend	--	--	0
MW-14C	Total Sodium	µg/L	-	-	200000	6/2019 - 11/2020	5	0%	5	0%	19000	22000	-9	0.050	0.06	Decreasing Trend	--	--	0
MW-14C	Total Titanium	µg/L	-	-	-	6/2019 - 11/2020	5	20%	5	20%	<2.0	45	-8	0.084	1.19	Probably Decreasing	--	--	--
MW-14C	Dissolved Uranium	µg/L	-	20	-	6/2018 - 11/2020	9	0%	9	0%	0.14	0.53	-20	0.044	0.50	Decreasing Trend	--	0	--
MW-14C	Total Uranium	µg/L	300	20	-	6/2019 - 11/2020	5	0%	5	0%	0.13	0.64	-10	0.0166	0.76	Decreasing Trend	0	0	--
	Metals																		
MW-16A	Total Barium	µg/L	1000	2000	-	6/2019 - 11/2020	5	0%	5	0%	9.6	92	-10	0.0166	0.87	Decreasing Trend	0	0	--
MW-16A	Total Lead	µg/L	1	5	-	6/2019 - 11/2020	5	0%	5	0%	0.8	12	-8	0.084	1.33	Probably Decreasing	**4**	**1**	--
MW-16A	Total Sodium	µg/L	-	-	200000	6/2019 - 11/2020	5	0%	5	0%	5100	18000	-10	0.0166	0.56	Decreasing Trend	--	--	0
MW-16A	Total Titanium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	12	260	-8	0.084	1.51	Probably Decreasing	--	--	--
	Metals																		
MW-16B	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1200	1400	-27	0.0041	0.05	Decreasing Trend	--	--	--
MW-16B	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1200	1700	-19	0.06	0.11	Probably Decreasing	--	--	--
	Calculated Parameters																		
MW-17A	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.26	0.64	-19	0.06	0.35	Probably Decreasing	--	--	--
MW-17A	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	6	23	-19	0.06	0.53	Probably Decreasing	--	--	--
MW-17A	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.21	0.54	-18	0.076	0.37	Probably Decreasing	--	--	--
MW-17A	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	3.6	18	-18	0.076	0.54	Probably Decreasing	--	--	--
MW-17A	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	9.17	10.6	20	0.044	0.05	Increasing Trend	--	--	--
MW-17A	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	9.42	10.9	20	0.044	0.05	Increasing Trend	--	--	--
	Inorganics																		
MW-17A	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	6	23	-19	0.06	0.53	Probably Decreasing	--	--	--
MW-17A	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	9	11%	9	11%	<2.0	4.1	25	0.0092	0.30	Increasing Trend	--	--	0
MW-17A	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	9	0%	9	0%	1.6	82	20	0.044	1.05	Increasing Trend	--	--	**9**
	Metals																		
MW-17A	Total Arsenic	µg/L	5	10	-	6/2019 - 11/2020	5	0%	5	0%	2.7	11	-8	0.084	0.60	Probably Decreasing	**2**	**1**	--
MW-17A	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	760	5900	-18	0.076	0.63	Probably Decreasing	--	--	--
MW-17A	Dissolved Cobalt	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.415	4.3	-26	0.0058	0.88	Decreasing Trend	--	--	--
MW-17A	Total Lead	µg/L	1	5	-	6/2019 - 11/2020	5	0%	5	0%	0.81	2	-8	0.084	0.39	Probably Decreasing	**3**	0	--
MW-17A	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	9	0%	9	0%	36	340	-28	0.0024	0.83	Decreasing Trend	--	**3**	**9**
MW-17A	Dissolved Nickel	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2.5	15	-18	0.076	0.64	Probably Decreasing	--	--	--
MW-17A	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	315	740	-17	0.098	0.31	Probably Decreasing	--	--	--
MW-17A	Total Silver	µg/L	0.1	-	-	6/2019 - 11/2020	5	0%	5	0%	0.31	0.65	-8	0.084	0.32	Probably Decreasing	**5**	--	--
MW-17A	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	9	0%	9	0%	15	32	-17	0.098	0.25	Probably Decreasing	--	0	--
	Metals																		
MW-17B	Dissolved Cadmium	µg/L	-	7	-	6/2018 - 11/2020	9	0%	9	0%	0.013	0.035	-23	0.0183	0.33	Decreasing Trend	--	0	--
MW-17B	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	9	0%	9	0%	3.2	200	-23	0.0183	2.45	Decreasing Trend	--	**1**	**1**

Table 4.2

Results Summary for Baseline Data Sets with Significant Trends in Groundwater over Time
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test								Samples Outside Criteria (Count)		
			NSE	CDWQG		Date											NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
	Calculated Parameters																		
MW-17C	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.31	0.45	-20	0.044	0.13	Decreasing Trend	--	--	--
MW-17C	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.4	15	-20	0.044	0.21	Decreasing Trend	--	--	--
MW-17C	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	26	35	-21	0.034	0.09	Decreasing Trend	--	--	0
MW-17C	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.3	0.41	-23	0.0183	0.11	Decreasing Trend	--	--	--
MW-17C	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8	12	-27	0.0041	0.16	Decreasing Trend	--	--	--
MW-17C	Langelier Index (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-3.78	-2.93	-20	0.044	-0.09	Decreasing Trend	--	--	--
MW-17C	Langelier Index (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-4.03	-3.18	-20	0.044	-0.08	Decreasing Trend	--	--	--
MW-17C	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	9.57	10	25	0.0092	0.02	Increasing Trend	--	--	--
MW-17C	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	9.82	10.3	25	0.0092	0.02	Increasing Trend	--	--	--
	Inorganics																		
MW-17C	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.4	15	-20	0.044	0.21	Decreasing Trend	--	--	--
MW-17C	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	9	0%	9	0%	0.74	13	20	0.044	1.12	Increasing Trend	--	--	**9**
MW-17C	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	9	0%	9	0%	35	45	-26	0.0058	0.10	Decreasing Trend	--	--	--
	Metals																		
MW-17C	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2200	3600	-27	0.0041	0.18	Decreasing Trend	--	--	--
MW-17C	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	9	0%	9	0%	3.4	20	-23	0.0183	0.62	Decreasing Trend	--	0	0
MW-17C	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	0%	3000	3600	-17	0.098	0.07	Probably Decreasing	--	--	0
	Metals																		
MW-18A	Dissolved Cobalt	µg/L	-	-	-	6/2018 - 11/2020	9	11%	9	11%	<0.40	2.2	-34	0.00005	0.65	Decreasing Trend	--	--	--
MW-18A	Total Cobalt	µg/L	10	-	-	6/2019 - 11/2020	5	20%	5	20%	<0.40	0.86	-10	0.0166	0.48	Decreasing Trend	0	--	--
MW-18A	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	430	710	-29	0.00163	0.18	Decreasing Trend	--	--	--
MW-18A	Total Magnesium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	440	520	-8	0.084	0.06	Probably Decreasing	--	--	--
MW-18A	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	9	0%	9	0%	10	53	-24	0.0126	0.62	Decreasing Trend	--	0	**4**
MW-18A	Dissolved Zinc	µg/L	-	-	5000	6/2018 - 11/2020	9	0%	9	0%	5.3	19	-21	0.034	0.46	Decreasing Trend	--	--	0
	Calculated Parameters																		
MW-18B	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1.21	1.39	-18	0.076	0.05	Probably Decreasing	--	--	--
MW-18B	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	43	50	-18	0.076	0.05	Probably Decreasing	--	--	--
MW-18B	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	75	86	-20	0.044	0.05	Decreasing Trend	--	--	0
MW-18B	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1.14	1.26	-23	0.0183	0.04	Decreasing Trend	--	--	--
MW-18B	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	30	45	27	0.0041	0.11	Increasing Trend	--	--	--
	Inorganics																		
MW-18B	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	43	50	-18	0.076	0.05	Probably Decreasing	--	--	--
MW-18B	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	9	0%	9	0%	2.9	43	-18	0.076	0.80	Probably Decreasing	--	--	**9**
MW-18B	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	9	0%	9	0%	110	140	-22	0.024	0.08	Decreasing Trend	--	--	--
	Metals																		
MW-18B	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	9	0%	9	0%	2.2	9	-20	0.044	0.55	Decreasing Trend	--	0	--
MW-18B	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	11000	16000	18	0.076	0.10	Probably Increasing	--	--	--
MW-18B	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	880	1400	23	0.0183	0.14	Increasing Trend	--	--	--
MW-18B	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	0%	4800	14000	-31	0.00055	0.43	Decreasing Trend	--	--	0
MW-18B	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	9	0%	9	0%	46	150	-24	0.0126	0.45	Decreasing Trend	--	0	--
MW-18B	Dissolved Uranium	µg/L	-	20	-	6/2018 - 11/2020	9	0%	9	0%	0.91	1.7	-25	0.0092	0.23	Decreasing Trend	--	0	--
	Calculated Parameters																		
MW-18C	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	52	81	31	0.00055	0.16	Increasing Trend	--	--	--
MW-18C	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	45	62	17	0.098	0.08	Probably Increasing	--	--	--
MW-18C	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.16	8.44	-30	0.00086	0.01	Decreasing Trend	--	--	--
MW-18C	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	8.42	8.69	-30	0.00086	0.01	Decreasing Trend	--	--	--
	Inorganics																		
MW-18C	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	52	81	32	0.00024	0.16	Increasing Trend	--	--	--
MW-18C	Total Organic Carbon	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	3.7	7.7	-22	0.024	0.23	Decreasing Trend	--	--	--
MW-18C	Reactive Silica (SiO2)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	11	13	18	0.076	0.05	Probably Increasing	--	--	--
MW-18C	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	28	59	-23	0.0183	0.25	Decreasing Trend	--	--	0
	Metals																		
MW-18C	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	9	11%	9	11%	<5.0	16	-21	0.034	0.43	Decreasing Trend	--	--	0
MW-18C	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	9	0%	9	0%	6.4	12	22	0.024	0.16	Increasing Trend	--	0	--
MW-18C	Total Manganese	µg/L	820	120	20	6/2019 - 11/2020	5	0%	5	0%	80	98.5	-8	0.084	0.08	Probably Decreasing	0	0	**5**
MW-18C	Dissolved Molybdenum	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	2.7	5.7	-22	0.024	0.23	Decreasing Trend	--	--	--
MW-18C	Total Molybdenum	µg/L	73	-	-	6/2019 - 11/2020	5	0%	5	0%	3.2	5.2	-8	0.084	0.23	Probably Decreasing	0	--	--
MW-18C	Dissolved Uranium	µg/L	-	20	-	6/2018 - 11/2020	9	0%	9	0%	0.65	1.8	-33	0.000145	0.38	Decreasing Trend	--	0	--
MW-18C	Total Uranium	µg/L	300	20	-	6/2019 - 11/2020	5	0%	5	0%	0.58	0.97	-8	0.084	0.20	Probably Decreasing	0	0	--
	Calculated Parameters																		
MW-19A	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.16	0.4	17	0.098	0.25	Probably Increasing	--	--	--
MW-19A	Nitrate (N)	mg/L	-	10	-	6/2018 - 11/2020	9	11%	9	11%	<0.050	0.25	-22	0.024	0.51	Decreasing Trend	--	0	--
	Inorganics																		
MW-19A	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	9	0%	9	0%	1	4.1	-18	0.076	0.38	Probably Decreasing	0	--	0
MW-19A	Nitrate + Nitrite	mg/L	-	-	-	6/2018 - 11/2020	9	11%	9	11%	<0.050	0.25	-22	0.024	0.49	Decreasing Trend	--	--	--
	Metals																		
MW-19A	Dissolved Cadmium	µg/L	-	7	-	6/2018 - 11/2020	9	0%	9	0%	0.017	0.084	-19	0.06	0.60	Probably Decreasing	--	0	--
MW-19A	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	320	600	-27	0.0041	0.20	Decreasing Trend	--	--	--
MW-19A	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	9	0%	9	0%	16	83	-24	0.0126	0.47	Decreasing Trend	--	0	**7**

Table 4.2

Results Summary for Baseline Data Sets with Significant Trends in Groundwater over Time
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test								Samples Outside Criteria (Count)		
			NSE	CDWQG		Date											NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
	Calculated Parameters																		
MW-19B	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	9	1.36	1.5	-19	0.06	0.03	Probably Decreasing	--	--	--
MW-19B	Langelier Index (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	9	-0.569	-0.255	-18	0.076	-0.23	Probably Decreasing	--	--	--
MW-19B	Langelier Index (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	9	-0.8205	-0.506	-18	0.076	-0.14	Probably Decreasing	--	--	--
	Metals																		
MW-19B	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	9	0%	9	9	8.7	17	-22	0.024	0.24	Decreasing Trend	--	--	0
MW-19B	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	9	1300	1500	-24	0.013	0.06	Decreasing Trend	--	--	--
MW-19B	Dissolved Molybdenum	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	9	2.2	18	-30	9E-04	0.90	Decreasing Trend	--	--	--
MW-19B	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	9	1100	2300	-28	0.002	0.28	Decreasing Trend	--	--	--
MW-19B	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	9	4300	5500	-19	0.06	0.08	Probably Decreasing	--	--	0
MW-19B	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	9	0%	9	9	99.5	130	-25	0.009	0.10	Decreasing Trend	--	0	--
MW-19B	Dissolved Uranium	µg/L	-	20	-	6/2018 - 11/2020	9	0%	9	9	1.9	3.1	-21	0.034	0.15	Decreasing Trend	--	0	--
	Calculated Parameters																		
MW-19C	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	9	0.86	1.3	-29	0.002	0.17	Decreasing Trend	--	--	--
MW-19C	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	9	33	46	-20	0.044	0.11	Decreasing Trend	--	--	--
MW-19C	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	9	54	83	-32	2E-04	0.17	Decreasing Trend	--	--	0
MW-19C	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	9	0.81	1.22	-33	1E-04	0.17	Decreasing Trend	--	--	--
MW-19C	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	9	28	41	-28	0.002	0.13	Decreasing Trend	--	--	--
MW-19C	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	9	8.51	8.8	22	0.024	0.01	Increasing Trend	--	--	--
MW-19C	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	9	8.76	9.05	22	0.024	0.01	Increasing Trend	--	--	--
	Inorganics																		
MW-19C	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	9	33	46	-20	0.044	0.11	Decreasing Trend	--	--	--
MW-19C	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	9	5.2	20	-32	2E-04	0.53	Decreasing Trend	--	--	0
MW-19C	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	9	0%	9	9	82	140	-28	0.002	0.20	Decreasing Trend	--	--	--
	Metals																		
MW-19C	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	9	0%	9	9	4.9	7.3	-28	0.002	0.17	Decreasing Trend	--	0	--
MW-19C	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	9	9800	14000	-23	0.018	0.12	Decreasing Trend	--	--	--
MW-19C	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	9	880	1300	-28	0.002	0.15	Decreasing Trend	--	--	--
MW-19C	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	9	0%	9	9	10	170	-29	0.002	0.99	Decreasing Trend	--	**1**	**7**
MW-19C	Dissolved Molybdenum	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	9	8.6	18	-32	2E-04	0.26	Decreasing Trend	--	--	--
MW-19C	Dissolved Nickel	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	9	2.15	4	-19	0.06	0.24	Probably Decreasing	--	--	--
MW-19C	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	9	1300	2100	-30	9E-04	0.20	Decreasing Trend	--	--	--
MW-19C	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	9	5000	10000	-35	3E-05	0.29	Decreasing Trend	--	--	0
MW-19C	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	9	0%	9	9	59	110	-19	0.06	0.20	Probably Decreasing	--	0	--
MW-19C	Total Strontium	µg/L	21000	7000	-	6/2019 - 11/2020	5	0%	5	5	60	88	-8	0.084	0.15	Probably Decreasing	0	0	--
	Calculated Parameters																		
MW-20A	Nitrate (N)	mg/L	-	10	-	6/2018 - 11/2020	9	0%	9	0%	0.21	1.2	26	0.006	0.60	Increasing Trend	--	0	--
	Inorganics																		
MW-20A	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	9	11%	9	11%	<1.0	4.8	-20	0.044	0.46	Decreasing Trend	0	--	0
MW-20A	Nitrate + Nitrite	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.21	1.2	26	0.0058	0.60	Increasing Trend	--	--	--
	Metals																		
MW-20A	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	9	0%	9	0%	4.4	13	18	0.076	0.40	Probably Increasing	--	0	--
MW-20A	Total Silver	µg/L	0.1	-	-	6/2019 - 11/2020	5	0%	5	0%	0.12	0.56	-10	0.017	0.62	Decreasing Trend	**5**	--	--
MW-20A	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	0%	1100	3800	-17	0.098	0.26	Probably Decreasing	--	--	0
MW-20A	Dissolved Zinc	µg/L	-	-	5000	6/2018 - 11/2020	9	0%	9	0%	10	51	18	0.076	0.50	Probably Increasing	--	--	0
	Calculated Parameters																		
MW-20B	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.18	2.23	-26	0.006	0.76	Decreasing Trend	--	--	--
MW-20B	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	9	11%	9	11%	<1.0	96	-28	0.002	0.87	Decreasing Trend	--	--	--
MW-20B	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	19	120	-20	0.044	0.67	Decreasing Trend	--	--	0
MW-20B	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	4.9	74	-18	0.076	0.84	Probably Decreasing	--	--	--
MW-20B	Langelier Index (@ 20C)	N/A	-	-	-	6/2018 - 7/2020	8	0%	8	0%	-4.63	-0.041	-20	0.014	-1.24	Decreasing Trend	--	--	--
MW-20B	Langelier Index (@ 4C)	N/A	-	-	-	6/2018 - 7/2020	8	0%	8	0%	-4.88	-0.291	-20	0.014	-1.08	Decreasing Trend	--	--	--
MW-20B	Nitrate (N)	mg/L	-	10	-	6/2018 - 11/2020	9	22%	9	22%	<0.050	0.92	33	1E-04	1.25	Increasing Trend	--	0	--
MW-20B	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 7/2020	8	0%	8	0%	8.03	10.5	15	0.085	0.13	Probably Increasing	--	--	--
MW-20B	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 7/2020	8	0%	8	0%	8.28	10.7	15	0.085	0.13	Probably Increasing	--	--	--
	Inorganics																		
MW-20B	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	11%	9	11%	<5.0	97	-28	0.002	0.86	Decreasing Trend	--	--	--
MW-20B	Nitrate + Nitrite	mg/L	-	-	-	6/2018 - 11/2020	9	22%	9	22%	<0.050	0.92	33	1E-04	1.25	Increasing Trend	--	--	--
MW-20B	pH	s.u.	-	-	10.5	6/2018 - 11/2020	9	0%	9	0%	5.76	8.02	-30	9E-04	0.14	Decreasing Trend	--	--	0
MW-20B	pH	s.u.	-	-	7											Decreasing Trend			**4 ***
MW-20B	Reactive Silica (SiO2)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	4.9	13	-20	0.044	0.33	Decreasing Trend	--	--	--
MW-20B	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	2.2	10	-27	0.004	0.55	Decreasing Trend	--	--	0
MW-20B	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	9	11%	9	11%	<0.10	11	-20	0.044	1.23	Decreasing Trend	--	--	**5**
MW-20B	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	9	0%	9	0%	28	200	-20	0.044	0.71	Decreasing Trend	--	--	--
	Metals																		
MW-20B	Dissolved Arsenic	µg/L	-	10	-	6/2018 - 11/2020	9	44%	9	44%	<1.0	10	-18	0.076	0.87	Probably Decreasing	--	0	--
MW-20B	Dissolved Barium	µg/L	-	2000	-	6/2018 - 11/2020	9	0%	9	0%	4.4	12	-23	0.018	0.40	Decreasing Trend	--	0	--
MW-20B	Dissolved Cadmium	µg/L	-	7	-	6/2018 - 11/2020	9	22%	9	22%	<0.010	0.027	22	0.024	0.55	Increasing Trend	--	0	--
MW-20B	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1100	22000	-21	0.034	0.87	Decreasing Trend	--	--	--
MW-20B	Dissolved Copper	µg/L	-	2000	1000	11/2018 - 11/2020	9	56%	7	43%	<0.50	2.7	-15	0.03	1.03	Decreasing Trend	--	0	0
MW-20B	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	200	1800	-21	0.034	0.69	Decreasing Trend	--	--	--
MW-20B	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	9	0%	9	0%	14	280	-20	0.044	0.88	Decreasing Trend	--	0	--

Table 4.2

Results Summary for Baseline Data Sets with Significant Trends in Groundwater over Time
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test							Samples Outside Criteria (Count)		
			NSE	CDWQG		Date										NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO
	Inorganics																		
MW-21A	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	9	11%	9	11%	<1.0	3.1	-22	0.024	0.42	Decreasing Trend	0	--	0
	Metals																		
MW-21A	Total Iron	µg/L	300	-	300	6/2019 - 11/2020	5	0%	5	0%	74	18000	-8	0.084	1.84	Probably Decreasing	**3**	--	**3**
MW-21A	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	460	860	-20	0.044	0.22	Decreasing Trend	--	--	--
MW-21A	Total Magnesium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	430	4500	-8	0.084	1.16	Probably Decreasing	--	--	--
MW-21A	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	9	0%	9	0%	160	650	-22	0.024	0.54	Decreasing Trend	--	**9**	**9**
MW-21A	Total Potassium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	680	3800	-8	0.084	0.92	Probably Decreasing	--	--	--
MW-21A	Total Titanium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	3	500	-8	0.084	1.70	Probably Decreasing	--	--	--
	Calculated Parameters																		
MW-21B	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.3	0.69	-19	0.06	0.32	Probably Decreasing	--	--	--
MW-21B	Bicarb. Alkalinity (calc. as CaCO3	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	9.1	26	-23	0.0183	0.43	Decreasing Trend	--	--	--
MW-21B	Calculated TDS	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	21	46	-20	0.044	0.28	Decreasing Trend	--	--	0
MW-21B	Cation Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	0.26	0.62	-17	0.098	0.34	Probably Decreasing	--	--	--
MW-21B	Hardness (CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	7.7	20	-18	0.076	0.39	Probably Decreasing	--	--	--
MW-21B	Langelier Index (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-4.32	-2.91	-26	0.0058	-0.14	Decreasing Trend	--	--	--
MW-21B	Langelier Index (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	-4.57	-3.16	-26	0.0058	-0.13	Decreasing Trend	--	--	--
MW-21B	Saturation pH (@ 20C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	9.13	10	21	0.034	0.03	Increasing Trend	--	--	--
MW-21B	Saturation pH (@ 4C)	N/A	-	-	-	6/2018 - 11/2020	9	0%	9	0%	9.38	10.3	22	0.024	0.03	Increasing Trend	--	--	--
	Inorganics																		
MW-21B	Total Alkalinity (Total as CaCO3)	mg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	9.1	26	-23	0.0183	0.43	Decreasing Trend	--	--	--
MW-21B	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	9	0%	9	0%	1.2	3.5	-21	0.034	0.32	Decreasing Trend	0	--	0
MW-21B	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	9	0%	9	0%	29	71	-18	0.076	0.35	Probably Decreasing	--	--	--
	Metals																		
MW-21B	Dissolved Aluminum	µg/L	-	-	100	6/2018 - 11/2020	9	0%	9	0%	16	130	30	0.00086	0.52	Increasing Trend	--	--	**1**
MW-21B	Dissolved Cadmium	µg/L	-	7	-	6/2018 - 11/2020	9	0%	9	0%	0.015	0.033	20	0.044	0.26	Increasing Trend	--	0	--
MW-21B	Dissolved Calcium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1800	5800	-18	0.076	0.48	Probably Decreasing	--	--	--
MW-21B	Dissolved Cobalt	µg/L	-	-	-	6/2018 - 11/2020	9	22%	9	22%	<0.40	1.1	25	0.0092	0.47	Increasing Trend	--	--	--
MW-21B	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	780	1500	-20	0.044	0.26	Decreasing Trend	--	--	--
MW-21B	Dissolved Sodium	µg/L	-	-	200000	6/2018 - 11/2020	9	0%	9	0%	1800	4300	-18	0.076	0.30	Probably Decreasing	--	--	0
MW-21B	Dissolved Strontium	µg/L	-	7000	-	6/2018 - 11/2020	9	0%	9	0%	18	43	-17	0.098	0.34	Probably Decreasing	--	0	--
	Metals																		
MW-21C	Total Chromium	µg/L	-	50	-	6/2019 - 11/2020	5	40%	5	40%	1	1.2	-9	0.050	0.39	Decreasing Trend	--	0	--
MW-21C	Dissolved Iron	µg/L	-	-	300	6/2018 - 11/2020	9	33%	9	33%	<50	420	27	0.0041	0.93	Increasing Trend	--	--	**4**
MW-21C	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	9	0%	9	0%	160	360	20	0.044	0.27	Increasing Trend	--	**9**	**9**
MW-21C	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1500	2100	-17	0.098	0.10	Probably Decreasing	--	--	--
MW-21C	Total Titanium	µg/L	-	-	-	6/2019 - 11/2020	5	0%	5	0%	3.7	30	-8	0.084	0.76	Probably Decreasing	--	--	--
MW-21C	Dissolved Uranium	µg/L	-	20	-	6/2018 - 11/2020	9	0%	9	0%	0.29	0.85	22	0.024	0.42	Increasing Trend	--	0	--
	Inorganics																		
MW-22A	Dissolved Chloride	mg/L	1500	-	250	6/2018 - 11/2020	9	0%	9	0%	2.3	6.1	-19	0.06	0.32	Probably Decreasing	0	--	0
MW-22A	Dissolved Sulphate (SO4)	mg/L	-	-	500	6/2018 - 11/2020	9	0%	9	0%	3.3	5.9	19	0.06	0.21	Probably Increasing	--	--	0
MW-22A	Turbidity	NTU	-	-	0.3	6/2018 - 11/2020	9	0%	9	0%	2.2	23	20	0.044	1.01	Increasing Trend	--	--	**9**
	Metals																		
MW-22A	Dissolved Magnesium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	310	3000	-18	0.076	1.02	Probably Decreasing	--	--	--
MW-22A	Dissolved Manganese	µg/L	-	120	20	6/2018 - 11/2020	9	0%	9	0%	36	240	-17	0.098	0.71	Probably Decreasing	--	**3**	**9**
MW-22A	Total Sodium	µg/L	-	-	200000	6/2019 - 11/2020	5	0%	5	0%	3100	4700	9	0.050	0.16	Increasing Trend	--	--	0
	Metals																		
MW-22B	Dissolved Potassium	µg/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	600	1600	-24	0.0126	0.32	Decreasing Trend	--	--	--
MW-22B	Total Silver	µg/L	0.1	-	-	6/2019 - 11/2020	5	20%	5	20%	<0.10	0.38	8	0.084	0.65	Probably Increasing	**4**	--	--
	Calculated Parameters																		
MW-22C	Anion Sum	me/L	-	-	-	6/2018 - 11/2020	9	0%	9	0%	1.8	2.24	-17	0.098	0.06	Probably Decreasing	--	--	--
	Inorganics																		
MW-22C	Conductivity	µS/cm	-	-	-	6/2018 - 11/2020	9	0%	9	0%	160	210	-17	0.098	0.07	Probably Decreasing	--	--	--

Table 4.2

Results Summary for Baseline Data Sets with Significant Trends in Groundwater over Time
Beaver Dam Mine Project
Marinette, Nova Scotia

			Criteria				All Data		Data Used for Mann-Kendall Trend Test							Samples Outside Criteria (Count)		
			NSE	CDWQG		Date										NSE	CDWQG	
Well	Analyte	Unit	PSS	MAC	AO	Range	N	%ND	N	%ND	Min.	Max.	Stat.	Prob.	C.O.V.	Conclusion	PSS	MAC	AO

Notes:

N	Number of samples
%ND	Percent non-detects
Min.	Minimum
Max.	Maximum
Stat.	Mann-Kendall Test Statistic: sum of the signs of all possible pair-wise data comparisons.
Prob.	Probability of Significance: for 95 percent confidence, a P-value equal to or below 0.05 is required.
NSE PSSs	2014 Nova Scotia Environment (NSE) Pathway-specific Standards (PSSs) for groundwater; Groundwater Discharge to Surface Water (0-10 m from a freshwater body).
CDWQG - MAC	Canadian Drinking Water Quality Guidelines - Maximum Acceptable Concentration.
CDWQG - AO	Canadian Drinking Water Quality Guidelines - Aesthetic Objectives
--	Not applicable
100% ND	100 percent non-detect, no trend test was performed.
>50% ND	Over 50 percent non-detect, no trend test was performed.
0.42 B u	Detected result was censored to non-detect.

C.O.V. - Coefficient of Variation
* Results are below the lower Criterion.
** The most recent result was excluded from the trend calculations. Non-detect results have been reported in 2020 with detection limits above previous detected results. This yields ambiguous data comparisons that may not be meaningfully assessed for temporal trend.

MAROS uses the following classification matrix to interpret Mann-Kendall trend test results:

Probability	M-K Statistic	C.O.V.				Classification
<0.05	Positive	--				**Increasing**
	Negative	--				**Decreasing**
0.05-0.10	Positive	--				**Probably Increasing**
	Negative	--				**Probably Decreasing**
>0.10	Positive	--				No Trend
	Negative	≥ 1				No Trend
	or zero	< 1				Stable

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
	Calculated Parameters																
MW-01A	Anion Sum	me/L	6/2018 - 11/2020	9	0%	0.25	0.77	--	--	0.25	0.77	0.44	0.149	Normal	Normal	0.895	1.06
MW-01A	Bicarb. Alkalinity (calc. as CaCO3	mg/L	6/2018 - 11/2020	9	0%	7.6	28	--	--	7.6	28	13.4	6.16	Normal	Normal	32.0	38.9
MW-01A	Calculated TDS	mg/L	6/2018 - 11/2020	9	0%	20	43	--	--	20	43	29.2	7.97	Normal	Normal	53.4	62.2
MW-01A	Carb. Alkalinity (calc. as CaCO3)	mg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-01A	Cation Sum	me/L	6/2018 - 11/2020	9	0%	0.23	0.51	--	--	0.23	0.51	0.38	0.099	Normal	Normal	0.678	0.788
MW-01A	Hardness (CaCO3)	mg/L	6/2018 - 11/2020	9	0%	2.2	17	--	--	2.2	17	7.92	4.08	Normal	Normal	20.3	24.8
MW-01A	Ion Balance (% Difference)	%	6/2018 - 11/2020	9	0%	2.22	20.3	--	--	2.22	20.3	1.97	0.457	Gamma	WH Approx. Gamma	37.6	57.5
MW-01A	Langelier Index (@ 20C)	N/A	6/2018 - 11/2020	9	0%	-4.26	-2.13	--	--	-4.26	-2.13	-3.39	0.577	Normal	Normal	-1.64	-1.00
MW-01A	Langelier Index (@ 4C)	N/A	6/2018 - 11/2020	9	0%	-4.52	-2.38	--	--	-4.52	-2.38	-3.64	0.581	Normal	Normal	-1.88	-1.24
MW-01A	Nitrate (N)	mg/L	6/2018 - 11/2020	9	56%	0.057	0.095	<0.050	<0.050	<0.050	0.095	0.06	0.016	Not tested	Normal (KM) **	0.095	0.095
MW-01A	Saturation pH (@ 20C)	N/A	6/2018 - 11/2020	9	0%	9.13	10.3	--	--	9.13	10.3	9.94	0.356	Normal	Normal	11.0	11.4
MW-01A	Saturation pH (@ 4C)	N/A	6/2018 - 11/2020	9	0%	9.38	10.6	--	--	9.38	10.6	10.2	0.350	Normal	Normal	11.2	11.6
	Inorganics																
MW-01A	Total Alkalinity (Total as CaCO3)	mg/L	6/2018 - 11/2020	9	0%	7.6	28	--	--	7.6	28	13.4	6.16	Normal	Normal	32.0	38.9
MW-01A	Total Chemical Oxygen Demand	mg/L	11/2020 - 11/2020	1	100%	--	--	<20	<20	<20	<20	--	--	Not tested	Reporting Limit	<20	<20
MW-01A	Dissolved Chloride (Cl-)	mg/L	6/2018 - 11/2020	9	0%	2.7	5.3	--	--	2.7	5.3	4.11	0.809	Normal	Normal	6.56	7.46
MW-01A	Colour	TCU	6/2018 - 11/2020	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	Not tested	Reporting Limit	<5.0	<5.0
MW-01A	Nitrate + Nitrite (N)	mg/L	6/2018 - 11/2020	9	56%	0.057	0.095	<0.050	<0.050	<0.050	0.095	0.06	0.016	Not tested	Normal (KM) **	0.095	0.095
MW-01A	Nitrite (N)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-01A	Nitrogen (Ammonia Nitrogen)	mg/L	6/2018 - 11/2020	9	78%	0.053	0.29	<0.050	<0.050	<0.050	0.29	0.08	0.075	Not tested	Maximum	0.290	0.290
MW-01A	Dissolved Organic Carbon (C)	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.5	<0.5	<0.5	<0.5	--	--	Not tested	Reporting Limit	<0.5	<0.5
MW-01A	Total Organic Carbon (C)	mg/L	6/2018 - 11/2020	9	78%	0.53	1.3	<0.40	<5.0	<0.40	<5.0	0.53	0.295	Not tested	Maximum	<5.0 *	<5.0 *
MW-01A	Orthophosphate (P)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-01A	pH (LTL - UTL)	s.u.	6/2018 - 11/2020	9	0%	6.06	7	--	--	6.06	7	6.54	0.277	Normal	Normal	5.56 - 7.53	5.28 - 7.81
MW-01A	Dissolved Phosphorus	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-01A	Total Phosphorus	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-01A	Reactive Silica (SiO2)	mg/L	6/2018 - 11/2020	9	0%	3.5	8.4	--	--	3.5	8.4	5.72	1.51	Normal	Normal	10.3	12.0
MW-01A	Total Suspended Solids	mg/L	11/2020 - 11/2020	1	0%	47	47	--	--	47	47	--	--	Not tested	Maximum	47.0	47.0
MW-01A	Dissolved Sulphate (SO4)	mg/L	6/2018 - 11/2020	9	22%	2.8	5	<2.0	<2.0	<2.0	5	3.29	0.921	Normal	Normal (KM)	6.08	7.10
MW-01A	Turbidity	NTU	6/2018 - 11/2020	9	0%	0.24	75	--	--	0.24	75	2.05	1.07	Gamma	WH Approx. Gamma	148	272
MW-01A	Conductivity	µS/cm	6/2018 - 11/2020	9	0%	27	56	--	--	27	56	42.3	9.79	Normal	Normal	72.0	82.9
	Metals																
MW-01A	Dissolved Aluminum (Al)	µg/L	6/2018 - 11/2020	9	33%	9.1	69	<5.0	<5.0	<5.0	69	2.50	0.882	Lognormal	Lognormal (KM)	177	471
MW-01A	Total Aluminum (Al)	µg/L	6/2019 - 11/2020	5	0%	120	710	--	--	120	710	410	218	Normal	Normal	1328	1664
MW-01A	Dissolved Antimony (Sb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-01A	Total Antimony (Sb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-01A	Dissolved Arsenic (As)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-01A	Total Arsenic (As)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-01A	Dissolved Barium (Ba)	µg/L	6/2018 - 11/2020	9	0%	1.3	8	--	--	1.3	8	5.74	2.05	Normal	Normal	12.0	14.2
MW-01A	Total Barium (Ba)	µg/L	6/2019 - 11/2020	5	0%	8.3	12	--	--	8.3	12	10.1	1.56	Normal	Normal	16.7	19.1
MW-01A	Dissolved Beryllium (Be)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-01A	Total Beryllium (Be)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-01A	Dissolved Bismuth (Bi)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-01A	Total Bismuth (Bi)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-01A	Dissolved Boron (B)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-01A	Total Boron (B)	µg/L	6/2019 - 11/2020	5	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-01A	Dissolved Cadmium (Cd)	µg/L	6/2018 - 11/2020	9	11%	0.011	0.037	<0.010	<0.010	<0.010	0.037	0.02	0.009	Normal	Normal (KM)	0.050	0.0607
MW-01A	Total Cadmium (Cd)	µg/L	6/2019 - 11/2020	5	0%	0.021	0.031	--	--	0.021	0.031	0.02	0.004	Normal	Normal	0.041	0.0472
MW-01A	Dissolved Calcium (Ca)	µg/L	6/2018 - 11/2020	9	0%	560	5400	--	--	560	5400	2196	1318	Normal	Normal	6190	7655
MW-01A	Total Calcium (Ca)	µg/L	6/2019 - 11/2020	5	0%	1100	5400	--	--	1100	5400	2640	1508	Normal	Normal	8978	11298
MW-01A	Dissolved Chromium (Cr)	µg/L	6/2018 - 11/2020	9	89%	1.4	1.4	<1.0	<1.0	<1.0	1.4	--	--	Not tested	Maximum	1.40	1.40
MW-01A	Total Chromium (Cr)	µg/L	6/2019 - 11/2020	5	40%	1.2	1.7	<1.0	<1.0	<1.0	1.7	1.32	0.319	Normal	Normal (KM)	2.66	3.15
MW-01A	Dissolved Cobalt (Co)	µg/L	6/2018 - 11/2020	9	56%	0.48	1.8	<0.40	<0.40	<0.40	1.8	0.59	0.431	Not tested	Normal (KM) **	1.80	1.80
MW-01A	Total Cobalt (Co)	µg/L	6/2019 - 11/2020	5	0%	0.97	3.3	--	--	0.97	3.3	1.69	0.860	Normal	Normal	5.31	6.63
MW-01A	Dissolved Copper (Cu)	µg/L	6/2018 - 11/2020	9	67%	0.7	1.4	<0.50	<2.0	<0.50	<2.0	0.78	0.348	Not tested	Maximum	<2.0	<2.0
MW-01A	Total Copper (Cu)	µg/L	6/2019 - 11/2020	5	0%	1.2	3.4	--	--	1.2	3.4	2.28	0.900	Normal	Normal	6.06	7.45
MW-01A	Dissolved Iron (Fe)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-01A	Total Iron (Fe)	µg/L	6/2019 - 11/2020	5	0%	200	1200	--	--	200	1200	692	381	Normal	Normal	2293	2879
MW-01A	Dissolved Lead (Pb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-01A	Total Lead (Pb)	µg/L	6/2019 - 11/2020	5	80%	0.95	0.95	<0.50	<0.50	<0.50	0.95	--	--	Not tested	Maximum	0.950	0.950
MW-01A	Dissolved Magnesium (Mg)	µg/L	6/2018 - 11/2020	9	0%	190	870	--	--	190	870	592	217	Normal	Normal	1250	1491
MW-01A	Total Magnesium (Mg)	µg/L	6/2019 - 11/2020	5	0%	530	1200	--	--	530	1200	806	247	Normal	Normal	1844	2224
MW-01A	Dissolved Manganese (Mn)	µg/L	6/2018 - 11/2020	9	0%	37	520	--	--	37	520	4.70	1.38	Gamma	WH Approx. Gamma	700	1128
MW-01A	Total Manganese (Mn)	µg/L	6/2019 - 11/2020	5	0%	86	380	--	--	86	380	183	109	Normal	Normal	639	806
MW-01A	Dissolved Molybdenum (Mo)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-01A	Total Molybdenum (Mo)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-01A	Dissolved Nickel (Ni)	µg/L	6/2018 - 11/2020	9	67%	2.2	4.2	<2.0	<2.0	<2.0	4.2	2.33	0.686	Not tested	Maximum	4.20	4.20
MW-01A	Total Nickel (Ni)	µg/L	6/2019 - 11/2020	5	60%	2.9	3.3	<2.0	<2.0	<2.0	3.3	2.44	0.554	Not tested	Maximum	3.30	3.30
MW-01A	Dissolved Phosphorus (P)	µg/L	6/2018 - 11/2020	9	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-01A	Total Phosphorus (P)	µg/L	6/2019 - 11/2020	5	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-01A	Dissolved Potassium (K)	µg/L	6/2018 - 11/2020	9	0%	450	1400	--	--	450	1400	918	301	Normal	Normal	1831	2166
MW-01A	Total Potassium (K)	µg/L	6/2019 - 11/2020	5	0%	590	1100	--	--	590	1100	850	188	Normal	Normal	1639	1928
MW-01A	Dissolved Selenium (Se)	µg/L	6/2018 - 11/2020	8	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-01A	Total Selenium (Se)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-01A	Dissolved Silver (Ag)	µg/L	6/2018 - 11/2020	8	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-01A	Total Silver (Ag)	µg/L	6/2019 - 11/2020	5	60%	0.1	0.16	<0.10	<0.10	<0.10	0.16	0.11	0.024	Not tested	Maximum	0.160	0.160
MW-01A	Dissolved Sodium (Na)	µg/L	6/2018 - 11/2020	9	0%	2700	9900	--	--	2700	9900	8.32	0.383	Lognormal	Lognormal	13076	20023
MW-01A	Total Sodium (Na)	µg/L	6/2019 - 11/2020	5	0%	2900	4200	--	--	2900	4200	3500	424	Normal	Normal	5283	5936
MW-01A	Dissolved Strontium (Sr)	µg/L	6/2018 - 11/2020	9	0%	6	29	--	--	6	29	14.4	6.20	Normal	Normal	33.2	40.1
MW-01A	Total Strontium (Sr)	µg/L	6/2019 - 11/2020	5	0%	9.7	28	--	--	9.7	28	16.7	6.21	Normal	Normal	42.8	52.4
MW-01A	Dissolved Thallium (Tl)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-01A	Total Thallium (Tl)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-01A	Dissolved Tin (Sn)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-01A	Total Tin (Sn)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-01A	Dissolved Titanium (Ti)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-01A	Total Titanium (Ti)	µg/L	6/2019 - 11/2020	5	0%	6.2	40	--	--	6.2	40	22.1	12.7	Normal	Normal	75.6	95.2
MW-01A	Dissolved Uranium (U)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-01A	Total Uranium (U)	µg/L	6/2019 - 11/2020	5	80%	0.11	0.11	<0.10	<0.10	<0.10	0.11	--	--	Not tested	Maximum	0.110	0.110
MW-01A	Dissolved Vanadium (V)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-01A	Total Vanadium (V)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-01A	Dissolved Zinc (Zn)	µg/L	6/2018 - 11/2020	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	Not tested	Reporting Limit	<5.0	<5.0
MW-01A	Total Zinc (Zn)	µg/L	6/2019 - 11/2020	5	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	Not tested	Reporting Limit	<5.0	<5.0
MW-01A	Dissolved Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
MW-01A	Total Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
	Calculated Parameters																
MW-01B	Anion Sum	me/L	6/2018 - 11/2020	9	0%	1.5	1.58	--	--	1.5	1.58	1.54	0.026	Normal	Normal	1.62	1.65
MW-01B	Bicarb. Alkalinity (calc. as CaCO3	mg/L	6/2018 - 11/2020	9	0%	57	62	--	--	57	62	59.5	1.41	Normal	Normal	63.8	65.4
MW-01B	Calculated TDS	mg/L	6/2018 - 11/2020	9	0%	88	92	--	--	88	92	89.4	1.29	Normal	Normal	93.3	94.7
MW-01B	Carb. Alkalinity (calc. as CaCO3)	mg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-01B	Cation Sum	me/L	6/2018 - 11/2020	9	0%	1.37	1.48	--	--	1.37	1.48	1.43	0.034	Normal	Normal	1.54	1.57
MW-01B	Hardness (CaCO3)	mg/L	6/2018 - 11/2020	9	0%	54	60	--	--	54	60	58.3	1.75	Not Normal	Normal **	63.9	66.0
MW-01B	Ion Balance (% Difference)	%	6/2018 - 11/2020	9	0%	1.35	6.8	--	--	1.35	6.8	3.65	1.40	Normal	Normal	7.88	9.44
MW-01B	Langelier Index (@ 20C)	N/A	6/2018 - 11/2020	9	0%	-0.512	-0.286	--	--	-0.512	-0.286	-0.43	0.080	Normal	Normal	-0.184	-0.095
MW-01B	Langelier Index (@ 4C)	N/A	6/2018 - 11/2020	9	0%	-0.763	-0.537	--	--	-0.763	-0.537	-0.68	0.080	Normal	Normal	-0.435	-0.35
MW-01B	Nitrate (N)	mg/L	6/2018 - 11/2020	9	89%	0.056	0.056	<0.050	<0.050	<0.050	0.056	--	--	Not tested	Maximum	0.056	0.0560
MW-01B	Saturation pH (@ 20C)	N/A	6/2018 - 11/2020	9	0%	8.24	8.29	--	--	8.24	8.29	8.26	0.015	Normal	Normal	8.31	8.32
MW-01B	Saturation pH (@ 4C)	N/A	6/2018 - 11/2020	9	0%	8.49	8.55	--	--	8.49	8.55	8.51	0.017	Normal	Normal	8.57	8.59
	Inorganics																
MW-01B	Total Alkalinity (Total as CaCO3)	mg/L	6/2018 - 11/2020	9	0%	57	62	--	--	57	62	60.1	1.47	Normal	Normal	64.6	66.2
MW-01B	Total Chemical Oxygen Demand	mg/L	11/2020 - 11/2020	1	100%	--	--	<20	<20	<20	<20	--	--	Not tested	Reporting Limit	<20	<20
MW-01B	Dissolved Chloride (Cl-)	mg/L	6/2018 - 11/2020	9	0%	3.4	4.5	--	--	3.4	4.5	4.05	0.357	Normal	Normal	5.13	5.53
MW-01B	Colour	TCU	6/2018 - 11/2020	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	Not tested	Reporting Limit	<5.0	<5.0
MW-01B	Nitrate + Nitrite (N)	mg/L	6/2018 - 11/2020	9	89%	0.056	0.056	<0.050	<0.050	<0.050	0.056	--	--	Not tested	Maximum	0.056	0.0560
MW-01B	Nitrite (N)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-01B	Nitrogen (Ammonia Nitrogen)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.050	<0.050	<0.050	<0.050	--	--	Not tested	Reporting Limit	<0.050	<0.050
MW-01B	Dissolved Organic Carbon (C)	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.5	<0.5	<0.5	<0.5	--	--	Not tested	Reporting Limit	<0.5	<0.5
MW-01B	Total Organic Carbon (C)	mg/L	6/2018 - 11/2020	9	89%	2.6	2.6	<0.40	<0.50	<0.40	2.6	--	--	Not tested	Maximum	2.60	2.60
MW-01B	Orthophosphate (P)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-01B	pH (LTL - UTL)	s.u.	6/2018 - 11/2020	9	0%	7.76	8	--	--	7.76	8	7.84	0.08	Not Normal	Non-Parametric	7.54 - 8.14	7.45 - 8.22
MW-01B	Dissolved Phosphorus	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.02	<0.02	<0.02	<0.02	--	--	Not tested	Reporting Limit	<0.02	<0.02
MW-01B	Total Phosphorus	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.02	<0.02	<0.02	<0.02	--	--	Not tested	Reporting Limit	<0.02	<0.02
MW-01B	Reactive Silica (SiO2)	mg/L	6/2018 - 11/2020	9	0%	9.4	10	--	--	9.4	10	9.73	0.231	Normal	Normal	10.4	10.7
MW-01B	Total Suspended Solids	mg/L	11/2020 - 11/2020	1	0%	12	12	--	--	12	12	--	--	Not tested	Maximum	12	12
MW-01B	Dissolved Sulphate (SO4)	mg/L	6/2018 - 11/2020	9	0%	10	12	--	--	10	12	11.0	0.471	Not Normal	Normal **	12.4	13.0
MW-01B	Turbidity	NTU	6/2018 - 11/2020	9	0%	2.1	13	--	--	2.1	13	1.73	0.387	Gamma	WH Approx. Gamma	24.4	37.0
MW-01B	Conductivity	µS/cm	6/2018 - 11/2020	9	0%	140	150	--	--	140	150	142	4.16	Not Normal	Normal **	155	159

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
	Metals																
MW-01B	Dissolved Aluminum (Al)	µg/L	6/2018 - 11/2020	9	0%	7.7	20	--	--	7.7	20	11.5	3.65	Normal	Normal	22.6	26.7
MW-01B	Total Aluminum (Al)	µg/L	6/2019 - 11/2020	5	0%	103	550	--	--	103	550	247	157	Normal	Normal	908	1149
MW-01B	Dissolved Antimony (Sb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-01B	Total Antimony (Sb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-01B	Dissolved Arsenic (As)	µg/L	6/2018 - 11/2020	9	0%	2.7	5.7	--	--	2.7	5.7	3.77	1.08	Normal	Normal	7.04	8.24
MW-01B	Total Arsenic (As)	µg/L	6/2019 - 11/2020	5	0%	2.7	3.8	--	--	2.7	3.8	3.08	0.382	Normal	Normal	4.68	5.27
MW-01B	Dissolved Barium (Ba)	µg/L	6/2018 - 11/2020	9	0%	4	7.25	--	--	4	7.25	5.63	0.813	Normal	Normal	8.09	9.00
MW-01B	Total Barium (Ba)	µg/L	6/2019 - 11/2020	5	0%	5.15	8.9	--	--	5.15	8.9	7.01	1.20	Normal	Normal	12.1	13.9
MW-01B	Dissolved Beryllium (Be)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-01B	Total Beryllium (Be)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-01B	Dissolved Bismuth (Bi)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-01B	Total Bismuth (Bi)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-01B	Dissolved Boron (B)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-01B	Total Boron (B)	µg/L	6/2019 - 11/2020	5	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-01B	Dissolved Cadmium (Cd)	µg/L	6/2018 - 11/2020	9	67%	0.012	0.0125	<0.010	<0.010	<0.010	0.0125	0.01	0.001	Not tested	Maximum	0.013	0.0125
MW-01B	Total Cadmium (Cd)	µg/L	6/2019 - 11/2020	5	20%	0.01	0.012	<0.010	<0.010	0.01	0.012	0.01	0.001	Not Normal	Normal (KM) **	0.015	0.0168
MW-01B	Dissolved Calcium (Ca)	µg/L	6/2018 - 11/2020	9	0%	18000	21000	--	--	18000	21000	20000	816	Not Normal	Normal **	22475	23383
MW-01B	Total Calcium (Ca)	µg/L	6/2019 - 11/2020	5	0%	20000	22000	--	--	20000	22000	20800	748	Normal	Normal	23945	25096
MW-01B	Dissolved Chromium (Cr)	µg/L	6/2018 - 11/2020	9	78%	1.1	1.7	<1.0	<1.0	<1.0	1.7	1.09	0.218	Not tested	Maximum	1.70	1.70
MW-01B	Total Chromium (Cr)	µg/L	6/2019 - 11/2020	5	80%	1	1	<1.0	<1.0	1	1	--	--	Not tested	Maximum	1.00	1.00
MW-01B	Dissolved Cobalt (Co)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	Not tested	Reporting Limit	<0.40	<0.40
MW-01B	Total Cobalt (Co)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	Not tested	Reporting Limit	<0.40	<0.40
MW-01B	Dissolved Copper (Cu)	µg/L	6/2018 - 11/2020	9	56%	0.52	1.05	<0.50	<2.0	<0.50	<2.0	0.68	0.198	Not tested	Normal (KM) **	<2.0	<2.0
MW-01B	Total Copper (Cu)	µg/L	6/2019 - 11/2020	5	0%	0.885	1.7	--	--	0.885	1.7	1.28	0.334	Normal	Normal	2.69	3.20
MW-01B	Dissolved Iron (Fe)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-01B	Total Iron (Fe)	µg/L	6/2019 - 11/2020	5	0%	120.5	430	--	--	120.5	430	236	109	Normal	Normal	693	861
MW-01B	Dissolved Lead (Pb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-01B	Total Lead (Pb)	µg/L	6/2019 - 11/2020	5	80%	0.79	0.79	<0.50	<0.50	<0.50	0.79	--	--	Not tested	Maximum	0.790	0.790
MW-01B	Dissolved Magnesium (Mg)	µg/L	6/2018 - 11/2020	9	0%	1900	2200	--	--	1900	2200	2094	107	Normal	Normal	2417	2536
MW-01B	Total Magnesium (Mg)	µg/L	6/2019 - 11/2020	5	0%	2050	2200	--	--	2050	2200	2110	49.0	Normal	Normal	2316	2391
MW-01B	Dissolved Manganese (Mn)	µg/L	6/2018 - 11/2020	9	56%	2.8	8	<2.0	<2.0	<2.0	8	3.09	1.85	Not tested	Normal (KM) **	8.00	8.00
MW-01B	Total Manganese (Mn)	µg/L	6/2019 - 11/2020	5	0%	4.05	9.8	--	--	4.05	9.8	6.69	2.37	Normal	Normal	16.7	20.3
MW-01B	Dissolved Molybdenum (Mo)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-01B	Total Molybdenum (Mo)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-01B	Dissolved Nickel (Ni)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-01B	Total Nickel (Ni)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-01B	Dissolved Phosphorus (P)	µg/L	6/2018 - 11/2020	9	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-01B	Total Phosphorus (P)	µg/L	6/2019 - 11/2020	5	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-01B	Dissolved Potassium (K)	µg/L	6/2018 - 11/2020	9	0%	1150	3100	--	--	1150	3100	11.7	1.25	Gamma	WH Approx. Gamma	3754	4856
MW-01B	Total Potassium (K)	µg/L	6/2019 - 11/2020	5	0%	1200	1500	--	--	1200	1500	1320	98.0	Normal	Normal	1732	1883
MW-01B	Dissolved Selenium (Se)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-01B	Total Selenium (Se)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-01B	Dissolved Silver (Ag)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-01B	Total Silver (Ag)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-01B	Dissolved Sodium (Na)	µg/L	6/2018 - 11/2020	9	0%	4400	7100	--	--	4400	7100	17.3	0.829	Gamma	WH Approx. Gamma	7721	8852
MW-01B	Total Sodium (Na)	µg/L	6/2019 - 11/2020	5	0%	4650	5000	--	--	4650	5000	4770	125	Normal	Normal	5295	5487
MW-01B	Dissolved Strontium (Sr)	µg/L	6/2018 - 11/2020	9	0%	47	69	--	--	47	69	57.6	7.74	Normal	Normal	81.0	89.6
MW-01B	Total Strontium (Sr)	µg/L	6/2019 - 11/2020	5	0%	49	60	--	--	49	60	52.9	4.18	Normal	Normal	70.5	76.9
MW-01B	Dissolved Thallium (Tl)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-01B	Total Thallium (Tl)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-01B	Dissolved Tin (Sn)	µg/L	6/2018 - 11/2020	9	89%	4.4	4.4	<2.0	<2.0	<2.0	4.4	--	--	Not tested	Maximum	4.40	4.40
MW-01B	Total Tin (Sn)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-01B	Dissolved Titanium (Ti)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-01B	Total Titanium (Ti)	µg/L	6/2019 - 11/2020	5	0%	5.95	17	--	--	5.95	17	9.33	4.26	Normal	Normal	27.2	33.8
MW-01B	Dissolved Uranium (U)	µg/L	6/2018 - 11/2020	9	0%	0.65	0.9	--	--	0.65	0.9	0.77	0.080	Normal	Normal	1.01	1.10
MW-01B	Total Uranium (U)	µg/L	6/2019 - 11/2020	5	0%	0.75	0.81	--	--	0.75	0.81	0.78	0.024	Normal	Normal	0.879	0.915
MW-01B	Dissolved Vanadium (V)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-01B	Total Vanadium (V)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-01B	Dissolved Zinc (Zn)	µg/L	6/2018 - 11/2020	9	78%	5.8	6	<5.0	<5.0	<5.0	6	5.20	0.377	Not tested	Maximum	6.00	6.00
MW-01B	Total Zinc (Zn)	µg/L	6/2019 - 11/2020	5	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	Not tested	Reporting Limit	<5.0	<5.0
MW-01B	Dissolved Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
MW-01B	Total Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
	Calculated Parameters																
MW-01C	Anion Sum	me/L	6/2018 - 11/2020	9	0%	0.395	1.35	--	--	0.395	1.35	0.87	0.114	Gamma	WH Approx. Gamma	1.80	2.43
MW-01C	Bicarb. Alkalinity (calc. as CaCO3	mg/L	6/2018 - 11/2020	9	0%	8.9	52	--	--	8.9	52	23.3	12.9	Normal	Normal	62.4	76.7
MW-01C	Calculated TDS	mg/L	6/2018 - 11/2020	9	0%	25.5	79	--	--	25.5	79	3.43	0.428	Gamma	WH Approx. Gamma	106	141
MW-01C	Carb. Alkalinity (calc. as CaCO3)	mg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-01C	Cation Sum	me/L	6/2018 - 11/2020	9	0%	0.355	1.26	--	--	0.355	1.26	0.84	0.121	Gamma	WH Approx. Gamma	1.78	2.43
MW-01C	Hardness (CaCO3)	mg/L	6/2018 - 11/2020	9	0%	9.1	40	--	--	9.1	40	20.0	10.1	Normal	Normal	50.7	61.9
MW-01C	Ion Balance (% Difference)	%	6/2018 - 11/2020	9	0%	0.53	12.2	--	--	0.53	12.2	4.97	3.19	Normal	Normal	14.7	18.2
MW-01C	Langelier Index (@ 20C)	N/A	6/2018 - 11/2020	9	0%	-3.125	-1.03	--	--	-3.125	-1.03	-2.37	0.695	Normal	Normal	-0.259	0.514
MW-01C	Langelier Index (@ 4C)	N/A	6/2018 - 11/2020	9	0%	-3.375	-1.28	--	--	-3.375	-1.28	-2.62	0.695	Normal	Normal	-0.509	0.264
MW-01C	Nitrate (N)	mg/L	6/2018 - 11/2020	9	78%	0.063	0.066	<0.050	<0.050	<0.050	0.066	0.05	0.006	Not tested	Maximum	0.066	0.0660
MW-01C	Saturation pH (@ 20C)	N/A	6/2018 - 11/2020	9	0%	8.5	9.875	--	--	8.5	9.875	9.23	0.414	Normal	Normal	10.5	10.9
MW-01C	Saturation pH (@ 4C)	N/A	6/2018 - 11/2020	9	0%	8.75	10.15	--	--	8.75	10.15	9.48	0.419	Normal	Normal	10.8	11.2
	Inorganics																
MW-01C	Total Alkalinity (Total as CaCO3)	mg/L	6/2018 - 11/2020	9	0%	8.9	52	--	--	8.9	52	23.3	12.9	Normal	Normal	62.4	76.7
MW-01C	Total Chemical Oxygen Demand	mg/L	11/2020 - 11/2020	1	100%	--	--	<20	<20	<20	<20	--	--	Not tested	Reporting Limit	<20	<20
MW-01C	Dissolved Chloride (Cl-)	mg/L	6/2018 - 11/2020	9	0%	3.3	5.5	--	--	3.3	5.5	4.73	0.616	Normal	Normal	6.60	7.29
MW-01C	Colour	TCU	6/2018 - 11/2020	9	89%	6.5	6.5	<5.0	<5.0	<5.0	6.5	--	--	Not tested	Maximum	6.50	6.50
MW-01C	Nitrate + Nitrite (N)	mg/L	6/2018 - 11/2020	9	78%	0.063	0.066	<0.050	<0.050	<0.050	0.066	0.05	0.006	Not tested	Maximum	0.066	0.0660
MW-01C	Nitrite (N)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.010	<0.050	<0.010	<0.050	--	--	Not tested	Reporting Limit	<0.050	<0.050
MW-01C	Nitrogen (Ammonia Nitrogen)	mg/L	6/2018 - 11/2020	9	89%	0.12	0.12	<0.050	<0.050	<0.050	0.12	--	--	Not tested	Maximum	0.120	0.120
MW-01C	Dissolved Organic Carbon (C)	mg/L	11/2020 - 11/2020	1	0%	0.6	0.6	--	--	0.6	0.6	--	--	Not tested	Maximum	0.600	0.600
MW-01C	Total Organic Carbon (C)	mg/L	6/2018 - 11/2020	9	0%	0.68	2.9	--	--	0.68	2.9	1.45	0.596	Normal	Normal	3.26	3.92
MW-01C	Orthophosphate (P)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-01C	pH (LTL - UTL)	s.u.	6/2018 - 11/2020	9	0%	6.53	7.47	--	--	6.53	7.47	6.86	0.310	Normal	Normal	5.76 - 7.96	5.45 - 8.28
MW-01C	Dissolved Phosphorus	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-01C	Total Phosphorus	mg/L	11/2020 - 11/2020	1	0%	0.022	0.022	--	--	0.022	0.022	--	--	Not tested	Maximum	0.022	0.0220
MW-01C	Reactive Silica (SiO2)	mg/L	6/2018 - 11/2020	9	0%	3.9	7.5	--	--	3.9	7.5	5.43	1.25	Normal	Normal	9.23	10.6
MW-01C	Total Suspended Solids	mg/L	11/2020 - 11/2020	1	0%	16	16	--	--	16	16	--	--	Not tested	Maximum	16.0	16.0
MW-01C	Dissolved Sulphate (SO4)	mg/L	6/2018 - 11/2020	9	0%	2.4	8.7	--	--	2.4	8.7	4.68	1.89	Normal	Normal	10.4	12.5
MW-01C	Turbidity	NTU	6/2018 - 11/2020	9	0%	0.55	17	--	--	0.55	17	5.35	4.91	Normal	Normal	20.2	25.7
MW-01C	Conductivity	µS/cm	6/2018 - 11/2020	9	0%	39	120	--	--	39	120	4.00	0.518	Gamma	WH Approx. Gamma	173	232
	Metals																
MW-01C	Dissolved Aluminum (Al)	µg/L	6/2018 - 11/2020	9	11%	5.6	19	<5.0	<5.0	<5.0	19	7.58	4.13	Not Normal	Normal (KM) **	20.1	24.7
MW-01C	Total Aluminum (Al)	µg/L	6/2019 - 11/2020	5	0%	120	270	--	--	120	270	170	56.2	Normal	Normal	406	493
MW-01C	Dissolved Antimony (Sb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-01C	Total Antimony (Sb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-01C	Dissolved Arsenic (As)	µg/L	6/2018 - 11/2020	9	89%	1.5	1.5	<1.0	<1.0	<1.0	1.5	--	--	Not tested	Maximum	1.50	1.50
MW-01C	Total Arsenic (As)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-01C	Dissolved Barium (Ba)	µg/L	6/2018 - 11/2020	9	0%	3.4	7.9	--	--	3.4	7.9	5.31	1.52	Normal	Normal	9.91	11.6
MW-01C	Total Barium (Ba)	µg/L	6/2019 - 11/2020	5	0%	4.95	7	--	--	4.95	7	5.63	0.718	Normal	Normal	8.65	9.75
MW-01C	Dissolved Beryllium (Be)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-01C	Total Beryllium (Be)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-01C	Dissolved Bismuth (Bi)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-01C	Total Bismuth (Bi)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-01C	Dissolved Boron (B)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-01C	Total Boron (B)	µg/L	6/2019 - 11/2020	5	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-01C	Dissolved Cadmium (Cd)	µg/L	6/2018 - 11/2020	9	22%	0.01	0.034	<0.010	<0.010	<0.010	0.034	0.02	0.008	Normal	Normal (KM)	0.042	0.0509
MW-01C	Total Cadmium (Cd)	µg/L	6/2019 - 11/2020	5	0%	0.012	0.027	--	--	0.012	0.027	0.02	0.006	Normal	Normal	0.044	0.0526
MW-01C	Dissolved Calcium (Ca)	µg/L	6/2018 - 11/2020	9	0%	2900	13000	--	--	2900	13000	6589	3329	Normal	Normal	16679	20380
MW-01C	Total Calcium (Ca)	µg/L	6/2019 - 11/2020	5	0%	3000	5800	--	--	3000	5800	4440	997	Normal	Normal	8631	10165
MW-01C	Dissolved Chromium (Cr)	µg/L	6/2018 - 11/2020	9	89%	1.2	1.2	<1.0	<1.0	<1.0	1.2	--	--	Not tested	Maximum	1.20	1.20
MW-01C	Total Chromium (Cr)	µg/L	6/2019 - 11/2020	5	80%	1.35	1.35	<1.0	<1.0	<1.0	1.35	--	--	Not tested	Maximum	1.35	1.35
MW-01C	Dissolved Cobalt (Co)	µg/L	6/2018 - 11/2020	9	78%	1	1.5	<0.40	<0.40	<0.40	1.5	0.59	0.373	Not tested	Maximum	1.50	1.50
MW-01C	Total Cobalt (Co)	µg/L	6/2019 - 11/2020	5	40%	0.485	0.6	<0.40	<0.40	<0.40	0.6	0.48	0.074	Normal	Normal (KM)	0.785	0.898
MW-01C	Dissolved Copper (Cu)	µg/L	6/2018 - 11/2020	9	44%	0.655	7	<0.50	<2.0	<0.50	7	-0.14	0.769	Lognormal	Lognormal (KM)	8.96	21.1
MW-01C	Total Copper (Cu)	µg/L	6/2019 - 11/2020	5	0%	1.35	2.4	--	--	1.35	2.4	1.93	0.387	Normal	Normal	3.56	4.15
MW-01C	Dissolved Iron (Fe)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-01C	Total Iron (Fe)	µg/L	6/2019 - 11/2020	5	0%	110	210	--	--	110	210	163	33.1	Normal	Normal	302	353
MW-01C	Dissolved Lead (Pb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-01C	Total Lead (Pb)	µg/L	6/2019 - 11/2020	5	80%	0.61	0.61	<0.50	<0.50	<0.50	0.61	--	--	Not tested	Maximum	0.610	0.610
MW-01C	Dissolved Magnesium (Mg)	µg/L	6/2018 - 11/2020	9	0%	460	1800	--	--	460	1800	9.30	1.51	Gamma	WH Approx. Gamma	2668	3756
MW-01C	Total Magnesium (Mg)	µg/L	6/2019 - 11/2020	5	0%	500	760	--	--	500	760	622	91.7	Normal	Normal	1008	1149
MW-01C	Dissolved Manganese (Mn)	µg/L	6/2018 - 11/2020	9	11%	6.45	270	<2.0	<2.0	<2.0	270	3.25	1.74	Gamma	WH Approx. Gamma (KM	620	1145
MW-01C	Total Manganese (Mn)	µg/L	6/2019 - 11/2020	5	0%	25	55	--	--	25	55	36.5	10.4	Normal	Normal	80.2	96.2
MW-01C	Dissolved Molybdenum (Mo)	µg/L	6/2018 - 11/2020	9	89%	2.1	2.1	<2.0	<2.0	<2.0	2.1	--	--	Not tested	Maximum	2.10	2.10

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-01C	Total Molybdenum (Mo)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-01C	Dissolved Nickel (Ni)	µg/L	6/2018 - 11/2020	9	33%	2	5.3	<2.0	<2.0	<2.0	5.3	2.83	1.31	Not Normal	Normal (KM) **	6.80	8.26
MW-01C	Total Nickel (Ni)	µg/L	6/2019 - 11/2020	5	0%	2.2	3.3	--	--	2.2	3.3	2.78	0.371	Normal	Normal	4.34	4.91
MW-01C	Dissolved Phosphorus (P)	µg/L	6/2018 - 11/2020	9	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-01C	Total Phosphorus (P)	µg/L	6/2019 - 11/2020	5	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-01C	Dissolved Potassium (K)	µg/L	6/2018 - 11/2020	9	0%	635	3100	--	--	635	3100	1281	814	Not Normal	Normal **	3747	4652
MW-01C	Total Potassium (K)	µg/L	6/2019 - 11/2020	5	0%	650	900	--	--	650	900	766	108	Normal	Normal	1219	1385
MW-01C	Dissolved Selenium (Se)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-01C	Total Selenium (Se)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-01C	Dissolved Silver (Ag)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-01C	Total Silver (Ag)	µg/L	6/2019 - 11/2020	5	60%	0.11	0.19	<0.10	<0.10	<0.10	0.19	0.12	0.035	Not tested	Maximum	0.190	0.190
MW-01C	Dissolved Sodium (Na)	µg/L	6/2018 - 11/2020	9	0%	3500	8900	--	--	3500	8900	4767	1778	Not Normal	Normal **	10155	12131
MW-01C	Total Sodium (Na)	µg/L	6/2019 - 11/2020	5	0%	3400	3700	--	--	3400	3700	3630	117	Not Normal	Normal **	4120	4300
MW-01C	Dissolved Strontium (Sr)	µg/L	6/2018 - 11/2020	9	0%	18.5	77	--	--	18.5	77	3.23	0.527	Gamma	WH Approx. Gamma	112	158
MW-01C	Total Strontium (Sr)	µg/L	6/2019 - 11/2020	5	0%	19	29	--	--	19	29	24.2	4.07	Normal	Normal	41.3	47.6
MW-01C	Dissolved Thallium (Tl)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-01C	Total Thallium (Tl)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-01C	Dissolved Tin (Sn)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-01C	Total Tin (Sn)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-01C	Dissolved Titanium (Ti)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-01C	Total Titanium (Ti)	µg/L	6/2019 - 11/2020	5	0%	4.2	9.9	--	--	4.2	9.9	7.20	2.01	Normal	Normal	15.6	18.7
MW-01C	Dissolved Uranium (U)	µg/L	6/2018 - 11/2020	9	11%	0.11	0.63	<0.10	<0.10	<0.10	0.63	0.19	0.158	Not Normal	Normal (KM) **	0.667	0.843
MW-01C	Total Uranium (U)	µg/L	6/2019 - 11/2020	5	0%	0.165	0.23	--	--	0.165	0.23	0.21	0.023	Normal	Normal	0.305	0.340
MW-01C	Dissolved Vanadium (V)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-01C	Total Vanadium (V)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-01C	Dissolved Zinc (Zn)	µg/L	6/2018 - 11/2020	9	22%	7.2	14	<5.0	<5.0	<5.0	14	9.03	2.83	Normal	Normal (KM)	17.6	20.8
MW-01C	Total Zinc (Zn)	µg/L	6/2019 - 11/2020	5	0%	6.35	14	--	--	6.35	14	8.81	2.83	Normal	Normal	20.7	25.0
MW-01C	Dissolved Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
MW-01C	Total Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
	Calculated Parameters																
MW-02A	Anion Sum	me/L	6/2018 - 11/2020	8	0%	0.18	0.36	--	--	0.18	0.36	0.26	0.071	Normal	Normal	0.483	0.565
MW-02A	Bicarb. Alkalinity (calc. as CaCO3	mg/L	6/2018 - 11/2020	8	38%	5.3	7	<1.0	<1.0	<1.0	7	4.24	2.55	Not Normal	Normal (KM) **	12.4	15.3
MW-02A	Calculated TDS	mg/L	6/2018 - 11/2020	8	0%	14	25	--	--	14	25	19.6	2.55	Normal	Normal	27.7	30.7
MW-02A	Carb. Alkalinity (calc. as CaCO3)	mg/L	6/2018 - 11/2020	8	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-02A	Cation Sum	me/L	6/2018 - 11/2020	8	0%	0.18	0.31	--	--	0.18	0.31	0.24	2.55	Normal	Normal	8.35	11.3
MW-02A	Hardness (CaCO3)	mg/L	6/2018 - 11/2020	8	0%	2.8	6.6	--	--	2.8	6.6	4.48	2.55	Normal	Normal	12.6	15.6
MW-02A	Ion Balance (% Difference)	%	6/2018 - 11/2020	8	0%	0	14.435	--	--	0	14.435	7.11	2.55	Normal	Normal	15.2	18.2
MW-02A	Langelier Index (@ 20C)	N/A	6/2018 - 11/2020	5	0%	-5	-3.86	--	--	-5	-3.86	-4.37	2.55	Normal	Normal	6.33	10.2
MW-02A	Langelier Index (@ 4C)	N/A	6/2018 - 11/2020	5	0%	-5.25	-4.11	--	--	-5.25	-4.11	-4.63	2.55	Normal	Normal	6.07	9.99
MW-02A	Nitrate (N)	mg/L	6/2018 - 11/2020	8	100%	--	--	<0.050	<0.050	<0.050	<0.050	--	--	Not tested	Reporting Limit	<0.050	<0.050
MW-02A	Saturation pH (@ 20C)	N/A	6/2018 - 11/2020	5	0%	10.2	10.7	--	--	10.2	10.7	10.4	2.55	Normal	Normal	21.1	25.0
MW-02A	Saturation pH (@ 4C)	N/A	6/2018 - 11/2020	5	0%	10.4	10.9	--	--	10.4	10.9	10.6	2.55	Normal	Normal	21.3	25.3
	Inorganics																
MW-02A	Total Alkalinity (Total as CaCO3)	mg/L	6/2018 - 11/2020	8	38%	5.3	7	<5.0	<5.0	<5.0	7	5.74	2.55	Normal	Normal (KM)	13.9	16.8
MW-02A	Total Chemical Oxygen Demand	mg/L	11/2020 - 11/2020	1	100%	--	--	<20	<20	<20	<20	--	--	Not tested	Reporting Limit	<20	<20
MW-02A	Dissolved Chloride (Cl-)	mg/L	6/2018 - 11/2020	8	0%	2.45	5.8	--	--	2.45	5.8	4.23	2.55	Normal	Normal	12.3	15.3
MW-02A	Colour	TCU	6/2018 - 11/2020	8	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	Not tested	Reporting Limit	<5.0	<5.0
MW-02A	Nitrate + Nitrite (N)	mg/L	6/2018 - 11/2020	8	100%	--	--	<0.050	<0.050	<0.050	<0.050	--	--	Not tested	Reporting Limit	<0.050	<0.050
MW-02A	Nitrite (N)	mg/L	6/2018 - 11/2020	8	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-02A	Nitrogen (Ammonia Nitrogen)	mg/L	6/2018 - 11/2020	8	88%	0.071	0.071	<0.050	<0.050	<0.050	0.071	--	--	Not tested	Maximum	0.071	0.0710
MW-02A	Dissolved Organic Carbon (C)	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-02A	Total Organic Carbon (C)	mg/L	6/2018 - 11/2020	8	38%	0.42	1.2	<0.50	<5.0	0.42	<5.0	0.62	2.55	Not Normal	Normal (KM) **	8.74	11.7
MW-02A	Orthophosphate (P)	mg/L	6/2018 - 11/2020	8	88%	0.011	0.011	<0.010	<0.010	<0.010	0.011	--	--	Not tested	Maximum	0.011	0.0110
MW-02A	pH (LTL - UTL)	s.u.	6/2018 - 11/2020	8	0%	5.51	6.31	--	--	5.51	6.31	5.95	2.55	Normal	Normal	-3.52 - 15.43	-6.23 - 18.14
MW-02A	Dissolved Phosphorus	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.02	<0.02	<0.02	<0.02	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-02A	Total Phosphorus	mg/L	11/2020 - 11/2020	1	0%	0.1315	0.1315	--	--	0.1315	0.1315	0.13	2.55	Not tested	Maximum	0.132	0.132
MW-02A	Reactive Silica (SiO2)	mg/L	6/2018 - 11/2020	8	0%	2.9	9.2	--	--	2.9	9.2	5.09	2.55	Normal	Normal	13.2	16.2
MW-02A	Total Suspended Solids	mg/L	11/2020 - 11/2020	1	0%	220	220	--	--	220	220	220	2.55	Not tested	Maximum	220	220
MW-02A	Dissolved Sulphate (SO4)	mg/L	6/2018 - 11/2020	8	0%	2.6	4	--	--	2.6	4	3.16	2.55	Normal	Normal	11.3	14.2
MW-02A	Turbidity	NTU	6/2018 - 11/2020	8	0%	1.7	180	--	--	1.7	180	2.85	2.55	Gamma	WH Approx. Gamma	1320	2708
MW-02A	Conductivity	µS/cm	6/2018 - 11/2020	8	0%	26	38	--	--	26	38	30.5	2.55	Normal	Normal	38.6	41.6
	Metals																
MW-02A	Dissolved Aluminum (Al)	µg/L	6/2018 - 11/2020	8	0%	34	290	--	--	34	290	130	2.55	Normal	Normal	138	141
MW-02A	Total Aluminum (Al)	µg/L	6/2019 - 11/2020	5	0%	560	3600	--	--	560	3600	1914	2.55	Normal	Normal	1925	1929
MW-02A	Dissolved Antimony (Sb)	µg/L	6/2018 - 11/2020	8	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-02A	Total Antimony (Sb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-02A	Dissolved Arsenic (As)	µg/L	6/2018 - 11/2020	8	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-02A	Total Arsenic (As)	µg/L	6/2019 - 11/2020	5	20%	1.1	3.5	<1.0	<1.0	<1.0	3.5	2.09	2.55	Normal	Normal (KM)	12.8	16.7
MW-02A	Dissolved Barium (Ba)	µg/L	6/2018 - 11/2020	8	0%	5.8	9.3	--	--	5.8	9.3	7.03	2.55	Normal	Normal	15.1	18.1
MW-02A	Total Barium (Ba)	µg/L	6/2019 - 11/2020	5	0%	9.6	23	--	--	9.6	23	15.7	2.55	Normal	Normal	26.4	30.3
MW-02A	Dissolved Beryllium (Be)	µg/L	6/2018 - 11/2020	8	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-02A	Total Beryllium (Be)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-02A	Dissolved Bismuth (Bi)	µg/L	6/2018 - 11/2020	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-02A	Total Bismuth (Bi)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-02A	Dissolved Boron (B)	µg/L	6/2018 - 11/2020	8	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-02A	Total Boron (B)	µg/L	6/2019 - 11/2020	5	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-02A	Dissolved Cadmium (Cd)	µg/L	6/2018 - 11/2020	8	0%	0.018	0.036	--	--	0.018	0.036	0.02	2.55	Normal	Normal	8.14	11.1
MW-02A	Total Cadmium (Cd)	µg/L	6/2019 - 11/2020	5	0%	0.021	0.0295	--	--	0.021	0.0295	0.03	2.55	Normal	Normal	10.7	14.6
MW-02A	Dissolved Calcium (Ca)	µg/L	6/2018 - 11/2020	8	0%	450	1800	--	--	450	1800	1038	2.55	Normal	Normal	1046	1049
MW-02A	Total Calcium (Ca)	µg/L	6/2019 - 11/2020	5	0%	520	1400	--	--	520	1400	937	2.55	Normal	Normal	948	952
MW-02A	Dissolved Chromium (Cr)	µg/L	6/2018 - 11/2020	8	88%	1.1	1.1	<1.0	<1.0	<1.0	1.1	--	--	Not tested	Maximum	1.10	1.10
MW-02A	Total Chromium (Cr)	µg/L	6/2019 - 11/2020	5	20%	1.3	4.1	<1.0	<1.0	<1.0	4.1	2.42	2.55	Normal	Normal (KM)	13.1	17.0
MW-02A	Dissolved Cobalt (Co)	µg/L	6/2018 - 11/2020	8	50%	0.465	1.9	<0.40	<0.40	<0.40	1.9	0.87	2.55	Not Normal	Normal (KM) **	8.98	12.0
MW-02A	Total Cobalt (Co)	µg/L	6/2019 - 11/2020	5	0%	0.76	2.1	--	--	0.76	2.1	1.54	2.55	Normal	Normal	12.2	16.2
MW-02A	Dissolved Copper (Cu)	µg/L	6/2018 - 11/2020	8	13%	0.83	8.7	<2.0	<2.0	0.83	8.7	1.37	2.55	Gamma	WH Approx. Gamma (KM	852	1929
MW-02A	Total Copper (Cu)	µg/L	6/2019 - 11/2020	5	0%	3.9	11	--	--	3.9	11	6.91	2.55	Normal	Normal	17.6	21.5
MW-02A	Dissolved Iron (Fe)	µg/L	6/2018 - 11/2020	8	88%	250	250	<50	<50	<50	250	--	--	Not tested	Maximum	250	250
MW-02A	Total Iron (Fe)	µg/L	6/2019 - 11/2020	5	0%	640	4600	--	--	640	4600	2538	2.55	Normal	Normal	2549	2553
MW-02A	Dissolved Lead (Pb)	µg/L	6/2018 - 11/2020	8	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-02A	Total Lead (Pb)	µg/L	6/2019 - 11/2020	5	20%	0.69	2.7	<0.50	<0.50	<0.50	2.7	1.40	2.55	Normal	Normal (KM)	12.1	16.0
MW-02A	Dissolved Magnesium (Mg)	µg/L	6/2018 - 11/2020	8	0%	370	540	--	--	370	540	452	2.55	Normal	Normal	460	463
MW-02A	Total Magnesium (Mg)	µg/L	6/2019 - 11/2020	5	0%	560	1400	--	--	560	1400	982	2.55	Normal	Normal	993	997
MW-02A	Dissolved Manganese (Mn)	µg/L	6/2018 - 11/2020	8	0%	27	150	--	--	27	150	3.95	2.55	Lognormal	Lognormal	172692	3364563
MW-02A	Total Manganese (Mn)	µg/L	6/2019 - 11/2020	5	0%	62	120	--	--	62	120	93.1	2.55	Normal	Normal	104	108
MW-02A	Dissolved Molybdenum (Mo)	µg/L	6/2018 - 11/2020	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-02A	Total Molybdenum (Mo)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-02A	Dissolved Nickel (Ni)	µg/L	6/2018 - 11/2020	8	63%	2.6	8.2	<2.0	<2.0	<2.0	8.2	3.58	2.55	Not tested	Maximum	8.20	8.20
MW-02A	Total Nickel (Ni)	µg/L	6/2019 - 11/2020	5	0%	2.1	4.9	--	--	2.1	4.9	3.72	2.55	Normal	Normal	14.4	18.3
MW-02A	Dissolved Phosphorus (P)	µg/L	6/2018 - 11/2020	8	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-02A	Total Phosphorus (P)	µg/L	6/2019 - 11/2020	5	20%	110	170	<100	<100	<100	170	132	2.55	Normal	Normal (KM)	143	147
MW-02A	Dissolved Potassium (K)	µg/L	6/2018 - 11/2020	8	0%	110	320	--	--	110	320	230	2.55	Normal	Normal	238	241
MW-02A	Total Potassium (K)	µg/L	6/2019 - 11/2020	5	0%	360	760	--	--	360	760	537	2.55	Normal	Normal	548	552
MW-02A	Dissolved Selenium (Se)	µg/L	6/2018 - 11/2020	8	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-02A	Total Selenium (Se)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-02A	Dissolved Silver (Ag)	µg/L	6/2018 - 11/2020	8	38%	0.1	0.2	<0.10	<0.10	<0.10	0.2	0.14	2.55	Not Normal	Normal (KM) **	8.25	11.2
MW-02A	Total Silver (Ag)	µg/L	6/2019 - 11/2020	5	0%	0.28	0.74	--	--	0.28	0.74	0.45	2.55	Normal	Normal	11.2	15.1
MW-02A	Dissolved Sodium (Na)	µg/L	6/2018 - 11/2020	8	0%	2600	3800	--	--	2600	3800	3200	2.55	Normal	Normal	3208	3211
MW-02A	Total Sodium (Na)	µg/L	6/2019 - 11/2020	5	0%	2600	3500	--	--	2600	3500	3160	2.55	Normal	Normal	3171	3175
MW-02A	Dissolved Strontium (Sr)	µg/L	6/2018 - 11/2020	8	0%	4.8	16	--	--	4.8	16	8.80	2.55	Normal	Normal	16.9	19.9
MW-02A	Total Strontium (Sr)	µg/L	6/2019 - 11/2020	5	0%	5.9	16	--	--	5.9	16	9.00	2.55	Normal	Normal	19.7	23.6
MW-02A	Dissolved Thallium (Tl)	µg/L	6/2018 - 11/2020	8	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-02A	Total Thallium (Tl)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-02A	Dissolved Tin (Sn)	µg/L	6/2018 - 11/2020	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-02A	Total Tin (Sn)	µg/L	6/2019 - 11/2020	5	80%	3.6	3.6	<2.0	<2.0	<2.0	3.6	--	--	Not tested	Maximum	3.60	3.60
MW-02A	Dissolved Titanium (Ti)	µg/L	6/2018 - 11/2020	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-02A	Total Titanium (Ti)	µg/L	6/2019 - 11/2020	5	0%	16	120	--	--	16	120	64.8	2.55	Normal	Normal	75.5	79.4
MW-02A	Dissolved Uranium (U)	µg/L	6/2018 - 11/2020	8	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-02A	Total Uranium (U)	µg/L	6/2019 - 11/2020	5	40%	0.14	0.23	<0.10	<0.10	<0.10	0.23	0.15	2.55	Normal	Normal (KM)	10.8	14.8
MW-02A	Dissolved Vanadium (V)	µg/L	6/2018 - 11/2020	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-02A	Total Vanadium (V)	µg/L	6/2019 - 11/2020	5	40%	2.1	3.9	<2.0	<2.0	<2.0	3.9	2.68	2.55	Normal	Normal (KM)	13.4	17.3
MW-02A	Dissolved Zinc (Zn)	µg/L	6/2018 - 11/2020	8	50%	5.1	13	<5.0	<5.0	<5.0	13	7.10	2.55	Not Normal	Normal (KM) **	15.2	18.2
MW-02A	Total Zinc (Zn)	µg/L	6/2019 - 11/2020	5	0%	5.6	11	--	--	5.6	11	8.63	2.55	Normal	Normal	19.3	23.2
MW-02A	Dissolved Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
MW-02A	Total Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
	Calculated Parameters																
MW-02B	Anion Sum	me/L	6/2018 - 11/2020	9	0%	0.46	0.54	--	--	0.46	0.54	0.49	0.029	Normal	Normal	0.580	0.612
MW-02B	Bicarb. Alkalinity (calc. as CaCO3	mg/L	6/2018 - 11/2020	9	0%	13.5	18	--	--	13.5	18	16.1	1.54	Normal	Normal	20.7	22.4
MW-02B	Calculated TDS	mg/L	6/2018 - 11/2020	9	0%	39	47	--	--	39	47	41.2	2.39	Not Normal	Normal **	48.5	51.1
MW-02B	Carb. Alkalinity (calc. as CaCO3)	mg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-02B	Cation Sum	me/L	6/2018 - 11/2020	9	0%	0.41	0.675	--	--	0.41	0.675	0.45	0.079	Not Normal	Normal **	0.694	0.782
MW-02B	Hardness (CaCO3)	mg/L	6/2018 - 11/2020	9	0%	9.6	12.5	--	--	9.6	12.5	10.3	0.858	Not Normal	Normal **	12.9	13.9
MW-02B	Ion Balance (% Difference)	%	6/2018 - 11/2020	9	0%	3.23	13.7	--	--	3.23	13.7	7.48	3.50	Normal	Normal	18.1	22.0

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-02B	Langelier Index (@ 20C)	N/A	6/2018 - 11/2020	9	0%	-3.2	-2.79	--	--	-3.2	-2.79	-3.03	0.135	Normal	Normal	-2.62	-2.47
MW-02B	Langelier Index (@ 4C)	N/A	6/2018 - 11/2020	9	0%	-3.45	-3.045	--	--	-3.45	-3.045	-3.29	0.133	Normal	Normal	-2.88	-2.73
MW-02B	Nitrate (N)	mg/L	6/2018 - 11/2020	9	56%	0.051	0.37	<0.050	<0.050	<0.050	0.37	0.09	0.100	Not tested	Normal (KM) **	0.370	0.370
MW-02B	Saturation pH (@ 20C)	N/A	6/2018 - 11/2020	9	0%	9.48	9.74	--	--	9.48	9.74	9.64	0.073	Normal	Normal	9.87	9.95
MW-02B	Saturation pH (@ 4C)	N/A	6/2018 - 11/2020	9	0%	9.735	9.985	--	--	9.735	9.985	9.90	0.071	Normal	Normal	10.1	10.2
	Inorganics																
MW-02B	Total Alkalinity (Total as CaCO3)	mg/L	6/2018 - 11/2020	9	0%	13.5	18	--	--	13.5	18	16.1	1.54	Normal	Normal	20.7	22.4
MW-02B	Total Chemical Oxygen Demand	mg/L	11/2020 - 11/2020	1	100%	--	--	<20	<20	<20	<20	--	--	Not tested	Reporting Limit	<20	<20
MW-02B	Dissolved Chloride (Cl-)	mg/L	6/2018 - 11/2020	9	0%	2.7	4.05	--	--	2.7	4.05	3.37	0.349	Normal	Normal	4.42	4.81
MW-02B	Colour	TCU	6/2018 - 11/2020	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	Not tested	Reporting Limit	<5.0	<5.0
MW-02B	Nitrate + Nitrite (N)	mg/L	6/2018 - 11/2020	9	56%	0.051	0.37	<0.050	<0.050	<0.050	0.37	0.09	0.100	Not tested	Normal (KM) **	0.370	0.370
MW-02B	Nitrite (N)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-02B	Nitrogen (Ammonia Nitrogen)	mg/L	6/2018 - 11/2020	9	67%	0.052	0.09	<0.050	<0.050	<0.050	0.09	0.05	0.012	Not tested	Maximum	0.090	0.0900
MW-02B	Dissolved Organic Carbon (C)	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.5	<0.5	<0.5	<0.5	--	--	Not tested	Reporting Limit	<0.5	<0.5
MW-02B	Total Organic Carbon (C)	mg/L	6/2018 - 11/2020	9	78%	0.565	1.9	<0.40	<0.50	<0.40	1.9	0.59	0.468	Not tested	Maximum	1.90	1.90
MW-02B	Orthophosphate (P)	mg/L	6/2018 - 11/2020	9	0%	0.058	0.087	--	--	0.058	0.087	0.07	0.007	Normal	Normal	0.094	0.102
MW-02B	pH (LTL - UTL)	s.u.	6/2018 - 11/2020	9	0%	6.44	6.795	--	--	6.44	6.795	6.61	0.138	Normal	Normal	6.12 - 7.1	5.98 - 7.24
MW-02B	Dissolved Phosphorus	mg/L	11/2020 - 11/2020	1	0%	0.061	0.061	--	--	0.061	0.061	--	--	Not tested	Maximum	0.061	0.0610
MW-02B	Total Phosphorus	mg/L	11/2020 - 11/2020	1	0%	0.075	0.075	--	--	0.075	0.075	--	--	Not tested	Maximum	0.075	0.0750
MW-02B	Reactive Silica (SiO2)	mg/L	6/2018 - 11/2020	9	0%	14.5	15	--	--	14.5	15	14.9	0.157	Not Normal	Normal **	15.4	15.6
MW-02B	Total Suspended Solids	mg/L	11/2020 - 11/2020	1	0%	3	3	--	--	3	3	--	--	Not tested	Maximum	3.00	3.00
MW-02B	Dissolved Sulphate (SO4)	mg/L	6/2018 - 11/2020	9	0%	2.7	4.5	--	--	2.7	4.5	3.34	0.486	Normal	Normal	4.82	5.36
MW-02B	Turbidity	NTU	6/2018 - 11/2020	9	0%	0.23	27.5	--	--	0.23	27.5	1.48	0.644	Gamma	WH Approx. Gamma	40.4	71.4
MW-02B	Conductivity	µS/cm	6/2018 - 11/2020	9	0%	43	51.5	--	--	43	51.5	46.9	2.63	Normal	Normal	54.9	57.8
	Metals																
MW-02B	Dissolved Aluminum (Al)	µg/L	6/2018 - 11/2020	9	44%	6	16	<5.0	<5.0	<5.0	16	8.21	3.97	Not Normal	Normal (KM) **	20.2	24.6
MW-02B	Total Aluminum (Al)	µg/L	6/2019 - 11/2020	5	0%	28	240	--	--	28	240	4.01	0.768	Lognormal	Lognormal	1398	4558
MW-02B	Total Antimony (Sb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-02B	Dissolved Antimony (Sb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-02B	Dissolved Arsenic (As)	µg/L	6/2018 - 11/2020	9	0%	2.1	2.5	--	--	2.1	2.5	2.39	0.107	Not Normal	Normal **	2.71	2.83
MW-02B	Total Arsenic (As)	µg/L	6/2019 - 11/2020	5	0%	2.4	2.6	--	--	2.4	2.6	2.50	0.089	Normal	Normal	2.88	3.01
MW-02B	Dissolved Barium (Ba)	µg/L	6/2018 - 11/2020	9	0%	2.15	5.6	--	--	2.15	5.6	3.24	1.05	Normal	Normal	6.41	7.57
MW-02B	Total Barium (Ba)	µg/L	6/2019 - 11/2020	5	0%	2.5	3.55	--	--	2.5	3.55	2.99	0.385	Normal	Normal	4.61	5.20
MW-02B	Dissolved Beryllium (Be)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-02B	Total Beryllium (Be)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-02B	Dissolved Bismuth (Bi)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-02B	Total Bismuth (Bi)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-02B	Dissolved Boron (B)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-02B	Total Boron (B)	µg/L	6/2019 - 11/2020	5	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-02B	Dissolved Cadmium (Cd)	µg/L	6/2018 - 11/2020	9	0%	0.41	0.65	--	--	0.41	0.65	0.50	0.091	Not Normal	Normal **	0.772	0.873
MW-02B	Total Cadmium (Cd)	µg/L	6/2019 - 11/2020	5	0%	0.43	0.505	--	--	0.43	0.505	0.45	0.028	Normal	Normal	0.572	0.615
MW-02B	Dissolved Calcium (Ca)	µg/L	6/2018 - 11/2020	9	0%	2600	3750	--	--	2600	3750	2878	342	Not Normal	Normal **	3913	4293
MW-02B	Total Calcium (Ca)	µg/L	6/2019 - 11/2020	5	0%	2700	3300	--	--	2700	3300	2890	224	Normal	Normal	3834	4179
MW-02B	Dissolved Chromium (Cr)	µg/L	6/2018 - 11/2020	9	89%	1.4	1.4	<1.0	<1.0	<1.0	1.4	--	--	Not tested	Maximum	1.40	1.40
MW-02B	Total Chromium (Cr)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-02B	Dissolved Cobalt (Co)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	Not tested	Reporting Limit	<0.40	<0.40
MW-02B	Total Cobalt (Co)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	Not tested	Reporting Limit	<0.40	<0.40
MW-02B	Dissolved Copper (Cu)	µg/L	6/2018 - 11/2020	9	22%	0.61	8.75	<2.0	<2.0	0.61	8.75	0.08	0.831	Lognormal	Lognormal (KM)	13.5	34.0
MW-02B	Total Copper (Cu)	µg/L	6/2019 - 11/2020	5	0%	0.8	1.4	--	--	0.8	1.4	1.07	0.202	Normal	Normal	1.91	2.22
MW-02B	Dissolved Iron (Fe)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-02B	Total Iron (Fe)	µg/L	6/2019 - 11/2020	5	80%	98	98	<50	<50	<50	98	--	--	Not tested	Maximum	98.0	98.0
MW-02B	Dissolved Lead (Pb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-02B	Total Lead (Pb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-02B	Dissolved Magnesium (Mg)	µg/L	6/2018 - 11/2020	9	0%	730	800	--	--	730	800	782	21.6	Not Normal	Normal **	847	871
MW-02B	Total Magnesium (Mg)	µg/L	6/2019 - 11/2020	5	0%	810	875	--	--	810	875	833	24.0	Normal	Normal	934	971
MW-02B	Dissolved Manganese (Mn)	µg/L	6/2018 - 11/2020	9	0%	2.8	27	--	--	2.8	27	10.7	8.04	Normal	Normal	35.0	44.0
MW-02B	Total Manganese (Mn)	µg/L	6/2019 - 11/2020	5	0%	3.7	10.5	--	--	3.7	10.5	5.76	2.49	Normal	Normal	16.2	20.1
MW-02B	Dissolved Molybdenum (Mo)	µg/L	6/2018 - 11/2020	9	89%	2.7	2.7	<2.0	<2.0	<2.0	2.7	--	--	Not tested	Maximum	2.70	2.70
MW-02B	Total Molybdenum (Mo)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-02B	Dissolved Nickel (Ni)	µg/L	6/2018 - 11/2020	9	89%	2.1	2.1	<2.0	<2.0	<2.0	2.1	--	--	Not tested	Maximum	2.10	2.10
MW-02B	Total Nickel (Ni)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-02B	Dissolved Phosphorus (P)	µg/L	6/2018 - 11/2020	9	33%	100	120	<100	<100	<100	120	107	7.86	Not Normal	Normal (KM) **	131	140
MW-02B	Total Phosphorus (P)	µg/L	6/2019 - 11/2020	5	20%	110	150	<100	<100	<100	150	124	18.5	Normal	Normal (KM)	202	230
MW-02B	Dissolved Potassium (K)	µg/L	6/2018 - 11/2020	9	0%	490	775	--	--	490	775	578	82.1	Normal	Normal	827	918
MW-02B	Total Potassium (K)	µg/L	6/2019 - 11/2020	5	0%	490	610	--	--	490	610	542	39.2	Normal	Normal	707	767
MW-02B	Dissolved Selenium (Se)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-02B	Total Selenium (Se)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-02B	Dissolved Silver (Ag)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-02B	Total Silver (Ag)	µg/L	6/2019 - 11/2020	5	80%	0.11	0.11	<0.10	<0.10	<0.10	0.11	--	--	Not tested	Maximum	0.110	0.110
MW-02B	Dissolved Sodium (Na)	µg/L	6/2018 - 11/2020	9	0%	4400	9100	--	--	4400	9100	5278	1406	Not Normal	Normal **	9540	11104
MW-02B	Total Sodium (Na)	µg/L	6/2019 - 11/2020	5	0%	4500	4850	--	--	4500	4850	4670	133	Normal	Normal	5228	5432
MW-02B	Dissolved Strontium (Sr)	µg/L	6/2018 - 11/2020	9	0%	17	28.5	--	--	17	28.5	19.7	3.28	Not Normal	Normal **	29.7	33.3
MW-02B	Total Strontium (Sr)	µg/L	6/2019 - 11/2020	5	0%	17	20	--	--	17	20	18.6	1.20	Normal	Normal	23.6	25.5
MW-02B	Dissolved Thallium (Tl)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-02B	Total Thallium (Tl)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-02B	Dissolved Tin (Sn)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-02B	Total Tin (Sn)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-02B	Dissolved Titanium (Ti)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-02B	Total Titanium (Ti)	µg/L	6/2019 - 11/2020	5	80%	3.1	3.1	<2.0	<2.0	<2.0	3.1	--	--	Not tested	Maximum	3.10	3.10
MW-02B	Dissolved Uranium (U)	µg/L	6/2018 - 11/2020	9	0%	0.56	1.145	--	--	0.56	1.145	0.85	0.177	Normal	Normal	1.39	1.59
MW-02B	Total Uranium (U)	µg/L	6/2019 - 11/2020	5	0%	0.915	1.3	--	--	0.915	1.3	1.01	0.043	Gamma	WH Approx. Gamma	1.68	1.98
MW-02B	Dissolved Vanadium (V)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-02B	Total Vanadium (V)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-02B	Dissolved Zinc (Zn)	µg/L	6/2018 - 11/2020	9	0%	73.5	100	--	--	73.5	100	89.0	7.55	Normal	Normal	112	120
MW-02B	Total Zinc (Zn)	µg/L	6/2019 - 11/2020	5	0%	89	98	--	--	89	98	93.6	3.14	Normal	Normal	107	112
MW-02B	Dissolved Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
MW-02B	Total Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
	Calculated Parameters																
MW-03A	Anion Sum	me/L	6/2018 - 11/2020	9	0%	0.16	0.42	--	--	0.16	0.42	0.29	0.081	Normal	Normal	0.540	0.630
MW-03A	Bicarb. Alkalinity (calc. as CaCO3	mg/L	6/2018 - 11/2020	9	22%	5.3	11	<1.0	<1.0	<1.0	11	5.90	3.18	Normal	Normal (KM)	15.5	19.1
MW-03A	Calculated TDS	mg/L	6/2018 - 11/2020	9	0%	15	31	--	--	15	31	22.1	5.02	Normal	Normal	37.3	42.9
MW-03A	Carb. Alkalinity (calc. as CaCO3)	mg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-03A	Cation Sum	me/L	6/2018 - 11/2020	9	0%	0.2	0.39	--	--	0.2	0.39	0.27	0.062	Normal	Normal	0.455	0.524
MW-03A	Hardness (CaCO3)	mg/L	6/2018 - 11/2020	9	0%	3.4	9.5	--	--	3.4	9.5	5.61	1.64	Normal	Normal	10.6	12.4
MW-03A	Ion Balance (% Difference)	%	6/2018 - 11/2020	9	0%	2.78	16.7	--	--	2.78	16.7	8.96	5.13	Normal	Normal	24.5	30.2
MW-03A	Langelier Index (@ 20C)	N/A	6/2018 - 11/2020	7	0%	-4.66	-3.65	--	--	-4.66	-3.65	-4.26	0.354	Normal	Normal	-3.05	-2.61
MW-03A	Langelier Index (@ 4C)	N/A	6/2018 - 11/2020	7	0%	-4.92	-3.91	--	--	-4.92	-3.91	-4.51	0.352	Normal	Normal	-3.31	-2.88
MW-03A	Nitrate (N)	mg/L	6/2018 - 11/2020	9	0%	0.26	1.2	--	--	0.26	1.2	0.58	0.300	Normal	Normal	1.49	1.82
MW-03A	Saturation pH (@ 20C)	N/A	6/2018 - 11/2020	7	0%	9.87	10.6	--	--	9.87	10.6	10.3	0.219	Normal	Normal	11.1	11.3
MW-03A	Saturation pH (@ 4C)	N/A	6/2018 - 11/2020	7	0%	10.1	10.8	--	--	10.1	10.8	10.5	0.212	Normal	Normal	11.2	11.5
	Inorganics																
MW-03A	Total Alkalinity (Total as CaCO3)	mg/L	6/2018 - 11/2020	9	22%	5.3	11	<5.0	<5.0	<5.0	11	1.88	0.268	Lognormal	Lognormal (KM)	14.7	19.8
MW-03A	Total Chemical Oxygen Demand	mg/L	11/2020 - 11/2020	1	100%	--	--	<20	<20	<20	<20	--	--	Not tested	Reporting Limit	<20	<20
MW-03A	Dissolved Chloride (Cl-)	mg/L	6/2018 - 11/2020	9	0%	1.8	4.9	--	--	1.8	4.9	3.46	1.01	Normal	Normal	6.50	7.62
MW-03A	Colour	TCU	6/2018 - 11/2020	9	44%	6	12	<5.0	<5.0	<5.0	12	1.86	0.286	Lognormal	Lognormal (KM)	15.2	20.9
MW-03A	Nitrate + Nitrite (N)	mg/L	6/2018 - 11/2020	9	0%	0.26	1.2	--	--	0.26	1.2	0.58	0.300	Normal	Normal	1.49	1.82
MW-03A	Nitrite (N)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-03A	Nitrogen (Ammonia Nitrogen)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.050	<0.050	<0.050	<0.050	--	--	Not tested	Reporting Limit	<0.050	<0.050
MW-03A	Dissolved Organic Carbon (C)	mg/L	11/2020 - 11/2020	1	0%	2.3	2.3	--	--	2.3	2.3	--	--	Not tested	Maximum	2.30	2.30
MW-03A	Total Organic Carbon (C)	mg/L	6/2018 - 11/2020	9	22%	1.2	3.6	<5.0	<5.0	1.2	<5.0	2.40	0.807	Normal	Normal (KM)	4.85	5.74
MW-03A	Orthophosphate (P)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-03A	pH (LTL - UTL)	s.u.	6/2018 - 11/2020	9	0%	5.82	6.28	--	--	5.82	6.28	6.04	0.191	Not Normal	Normal **	5.36 - 6.72	5.17 - 6.91
MW-03A	Dissolved Phosphorus	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-03A	Total Phosphorus	mg/L	11/2020 - 11/2020	1	0%	0.024	0.024	--	--	0.024	0.024	--	--	Not tested	Maximum	0.024	0.0240
MW-03A	Reactive Silica (SiO2)	mg/L	6/2018 - 11/2020	9	0%	3.1	7.4	--	--	3.1	7.4	5.00	1.19	Normal	Normal	8.62	9.94
MW-03A	Total Suspended Solids	mg/L	11/2020 - 11/2020	1	0%	140	140	--	--	140	140	--	--	Not tested	Maximum	140	140
MW-03A	Dissolved Sulphate (SO4)	mg/L	6/2018 - 11/2020	9	33%	2.5	4.2	<2.0	<2.0	<2.0	4.2	2.64	0.720	Not Normal	Normal (KM) **	4.83	5.63
MW-03A	Turbidity	NTU	6/2018 - 11/2020	9	0%	0.39	99	--	--	0.39	99	2.07	1.15	Gamma	WH Approx. Gamma	170	317
MW-03A	Conductivity	µS/cm	6/2018 - 11/2020	9	0%	25	43	--	--	25	43	32.1	5.97	Normal	Normal	50.2	56.8
	Metals																
MW-03A	Dissolved Aluminum (Al)	µg/L	6/2018 - 11/2020	9	0%	96	200	--	--	96	200	144	31.6	Normal	Normal	240	275
MW-03A	Total Aluminum (Al)	µg/L	6/2019 - 11/2020	5	0%	450	1900	--	--	450	1900	1056	492	Normal	Normal	3123	3880
MW-03A	Dissolved Antimony (Sb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-03A	Total Antimony (Sb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-03A	Dissolved Arsenic (As)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-03A	Total Arsenic (As)	µg/L	6/2019 - 11/2020	5	80%	1.1	1.1	<1.0	<1.0	<1.0	1.1	--	--	Not tested	Maximum	1.10	1.10
MW-03A	Dissolved Barium (Ba)	µg/L	6/2018 - 11/2020	9	0%	5	12	--	--	5	12	8.62	2.32	Normal	Normal	15.7	18.2
MW-03A	Total Barium (Ba)	µg/L	6/2019 - 11/2020	5	0%	9.4	35	--	--	9.4	35	19.7	8.98	Normal	Normal	57.4	71.2
MW-03A	Dissolved Beryllium (Be)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-03A	Total Beryllium (Be)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-03A	Dissolved Bismuth (Bi)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-03A	Total Bismuth (Bi)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-03A	Dissolved Boron (B)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-03A	Total Boron (B)	µg/L	6/2019 - 11/2020	5	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-03A	Dissolved Cadmium (Cd)	µg/L	6/2018 - 11/2020	9	0%	0.02	0.034	--	--	0.02	0.034	0.03	0.004	Normal	Normal	0.041	0.0456
MW-03A	Total Cadmium (Cd)	µg/L	6/2019 - 11/2020	5	0%	0.021	0.056	--	--	0.021	0.056	0.04	0.012	Normal	Normal	0.087	0.104
MW-03A	Dissolved Calcium (Ca)	µg/L	6/2018 - 11/2020	9	0%	820	2700	--	--	820	2700	1447	507	Normal	Normal	2985	3549
MW-03A	Total Calcium (Ca)	µg/L	6/2019 - 11/2020	5	0%	900	2100	--	--	900	2100	1500	395	Normal	Normal	3160	3768
MW-03A	Dissolved Chromium (Cr)	µg/L	6/2018 - 11/2020	9	78%	1.2	1.2	<1.0	<1.0	<1.0	1.2	1.04	0.083	Not tested	Maximum	1.20	1.20
MW-03A	Total Chromium (Cr)	µg/L	6/2019 - 11/2020	5	60%	1.4	1.9	<1.0	<1.0	<1.0	1.9	1.26	0.356	Not tested	Maximum	1.90	1.90
MW-03A	Dissolved Cobalt (Co)	µg/L	6/2018 - 11/2020	9	56%	0.46	0.6	<0.40	<0.40	<0.40	0.6	0.45	0.070	Not tested	Normal (KM) **	0.600	0.600
MW-03A	Total Cobalt (Co)	µg/L	6/2019 - 11/2020	5	20%	0.48	0.98	<0.40	<0.40	<0.40	0.98	0.63	0.214	Normal	Normal (KM)	1.53	1.86
MW-03A	Dissolved Copper (Cu)	µg/L	6/2018 - 11/2020	9	11%	1.2	2.7	<2.0	<2.0	1.2	2.7	2.04	0.449	Normal	Normal (KM)	3.40	3.90
MW-03A	Total Copper (Cu)	µg/L	6/2019 - 11/2020	5	0%	2	8.6	--	--	2	8.6	4.20	2.29	Normal	Normal	13.8	17.3
MW-03A	Dissolved Iron (Fe)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-03A	Total Iron (Fe)	µg/L	6/2019 - 11/2020	5	0%	300	2200	--	--	300	2200	1060	659	Normal	Normal	3830	4844
MW-03A	Dissolved Lead (Pb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-03A	Total Lead (Pb)	µg/L	6/2019 - 11/2020	5	0%	0.75	4.6	--	--	0.75	4.6	2.23	1.45	Normal	Normal	8.32	10.5
MW-03A	Dissolved Magnesium (Mg)	µg/L	6/2018 - 11/2020	9	0%	330	690	--	--	330	690	494	102	Normal	Normal	804	918
MW-03A	Total Magnesium (Mg)	µg/L	6/2019 - 11/2020	5	0%	490	930	--	--	490	930	658	157	Normal	Normal	1317	1559
MW-03A	Dissolved Manganese (Mn)	µg/L	6/2018 - 11/2020	9	0%	36	110	--	--	36	110	3.78	0.422	Gamma	WH Approx. Gamma	129	169
MW-03A	Total Manganese (Mn)	µg/L	6/2019 - 11/2020	5	0%	50	160	--	--	50	160	106	43.4	Normal	Normal	289	356
MW-03A	Dissolved Molybdenum (Mo)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-03A	Total Molybdenum (Mo)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-03A	Dissolved Nickel (Ni)	µg/L	6/2018 - 11/2020	9	0%	2	4.7	--	--	2	4.7	3.20	0.786	Normal	Normal	5.58	6.46
MW-03A	Total Nickel (Ni)	µg/L	6/2019 - 11/2020	5	0%	2.3	5	--	--	2.3	5	3.60	0.903	Normal	Normal	7.40	8.79
MW-03A	Dissolved Phosphorus (P)	µg/L	6/2018 - 11/2020	9	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-03A	Total Phosphorus (P)	µg/L	6/2019 - 11/2020	5	80%	140	140	<100	<100	<100	140	--	--	Not tested	Maximum	140	140
MW-03A	Dissolved Potassium (K)	µg/L	6/2018 - 11/2020	9	0%	390	1200	--	--	390	1200	731	221	Normal	Normal	1401	1647
MW-03A	Total Potassium (K)	µg/L	6/2019 - 11/2020	5	0%	570	1200	--	--	570	1200	842	211	Normal	Normal	1730	2055
MW-03A	Dissolved Selenium (Se)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-03A	Total Selenium (Se)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-03A	Dissolved Silver (Ag)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-03A	Total Silver (Ag)	µg/L	6/2019 - 11/2020	5	0%	0.18	0.76	--	--	0.18	0.76	0.36	0.213	Normal	Normal	1.25	1.58
MW-03A	Dissolved Sodium (Na)	µg/L	6/2018 - 11/2020	9	0%	2300	5300	--	--	2300	5300	14.4	1.30	Gamma	WH Approx. Gamma	6217	7803
MW-03A	Total Sodium (Na)	µg/L	6/2019 - 11/2020	5	0%	2400	3300	--	--	2400	3300	2760	338	Normal	Normal	4181	4702
MW-03A	Dissolved Strontium (Sr)	µg/L	6/2018 - 11/2020	9	0%	8.2	22	--	--	8.2	22	14.2	4.12	Normal	Normal	26.7	31.3
MW-03A	Total Strontium (Sr)	µg/L	6/2019 - 11/2020	5	0%	9.3	26	--	--	9.3	26	16.1	5.90	Normal	Normal	40.8	49.9
MW-03A	Dissolved Thallium (Tl)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-03A	Total Thallium (Tl)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-03A	Dissolved Tin (Sn)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-03A	Total Tin (Sn)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-03A	Dissolved Titanium (Ti)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-03A	Total Titanium (Ti)	µg/L	6/2019 - 11/2020	5	0%	8.3	45	--	--	8.3	45	21.5	13.1	Normal	Normal	76.6	96.8
MW-03A	Dissolved Uranium (U)	µg/L	6/2018 - 11/2020	9	78%	0.1	0.17	<0.10	<0.10	<0.10	0.17	0.11	0.022	Not tested	Maximum	0.170	0.170
MW-03A	Total Uranium (U)	µg/L	6/2019 - 11/2020	5	0%	0.23	1.5	--	--	0.23	1.5	0.68	0.486	Normal	Normal	2.73	3.47
MW-03A	Dissolved Vanadium (V)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-03A	Total Vanadium (V)	µg/L	6/2019 - 11/2020	5	80%	2	2	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Maximum	<2.0	<2.0
MW-03A	Dissolved Zinc (Zn)	µg/L	6/2018 - 11/2020	9	56%	5.2	13	<5.0	<5.0	<5.0	13	6.18	2.46	Not tested	Normal (KM) **	13.0	13.0
MW-03A	Total Zinc (Zn)	µg/L	6/2019 - 11/2020	5	20%	5.1	12	<5.0	<5.0	<5.0	12	8.34	2.81	Normal	Normal (KM)	20.1	24.5
MW-03A	Dissolved Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
MW-03A	Total Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
	Calculated Parameters																
MW-03B	Anion Sum	me/L	6/2018 - 11/2020	9	0%	0.95	1.12	--	--	0.95	1.12	1.00	0.052	Normal	Normal	1.16	1.22
MW-03B	Bicarb. Alkalinity (calc. as CaCO3	mg/L	6/2018 - 11/2020	9	0%	34	45	--	--	34	45	38.0	3.02	Normal	Normal	47.1	50.5
MW-03B	Calculated TDS	mg/L	6/2018 - 11/2020	9	0%	59	67	--	--	59	67	61.7	2.71	Normal	Normal	69.9	72.9
MW-03B	Carb. Alkalinity (calc. as CaCO3)	mg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-03B	Cation Sum	me/L	6/2018 - 11/2020	9	0%	0.88	1.02	--	--	0.88	1.02	0.93	0.043	Normal	Normal	1.06	1.11
MW-03B	Hardness (CaCO3)	mg/L	6/2018 - 11/2020	9	0%	34	40	--	--	34	40	35.7	1.83	Normal	Normal	41.2	43.2
MW-03B	Ion Balance (% Difference)	%	6/2018 - 11/2020	9	0%	1.06	5.88	--	--	1.06	5.88	3.60	1.25	Normal	Normal	7.40	8.80
MW-03B	Langelier Index (@ 20C)	N/A	6/2018 - 11/2020	9	0%	-2.01	-1.35	--	--	-2.01	-1.35	-1.80	0.229	Not Normal	Normal **	-1.11	-0.85
MW-03B	Langelier Index (@ 4C)	N/A	6/2018 - 11/2020	9	0%	-2.26	-1.6	--	--	-2.26	-1.6	-2.05	0.229	Not Normal	Normal **	-1.36	-1.10
MW-03B	Nitrate (N)	mg/L	6/2018 - 11/2020	9	11%	0.091	0.16	<0.050	<0.050	<0.050	0.16	0.11	0.028	Normal	Normal (KM)	0.190	0.220
MW-03B	Saturation pH (@ 20C)	N/A	6/2018 - 11/2020	9	0%	8.53	8.72	--	--	8.53	8.72	8.65	0.054	Normal	Normal	8.81	8.87
MW-03B	Saturation pH (@ 4C)	N/A	6/2018 - 11/2020	9	0%	8.78	8.97	--	--	8.78	8.97	8.90	0.055	Normal	Normal	9.07	9.13
	Inorganics																
MW-03B	Total Alkalinity (Total as CaCO3)	mg/L	6/2018 - 11/2020	9	0%	34	45	--	--	34	45	38.0	3.02	Normal	Normal	47.1	50.5

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-03B	Total Chemical Oxygen Demand	mg/L	11/2020 - 11/2020	1	100%	--	--	<20	<20	<20	<20	--	--	Not tested	Reporting Limit	<20	<20
MW-03B	Dissolved Chloride (Cl-)	mg/L	6/2018 - 11/2020	9	0%	4.5	6.3	--	--	4.5	6.3	5.43	0.581	Normal	Normal	7.20	7.84
MW-03B	Colour	TCU	6/2018 - 11/2020	9	89%	5.4	5.4	<5.0	<5.0	<5.0	5.4	--	--	Not tested	Maximum	5.40	5.40
MW-03B	Nitrate + Nitrite (N)	mg/L	6/2018 - 11/2020	9	11%	0.091	0.16	<0.050	<0.050	<0.050	0.16	0.11	0.028	Normal	Normal (KM)	0.190	0.220
MW-03B	Nitrite (N)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-03B	Nitrogen (Ammonia Nitrogen)	mg/L	6/2018 - 11/2020	9	89%	0.089	0.089	<0.050	<0.050	<0.050	0.089	--	--	Not tested	Maximum	0.089	0.0890
MW-03B	Dissolved Organic Carbon (C)	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.5	<0.5	<0.5	<0.5	--	--	Not tested	Reporting Limit	<0.5	<0.5
MW-03B	Total Organic Carbon (C)	mg/L	6/2018 - 11/2020	9	33%	0.51	1.3	<0.50	<0.50	<0.50	1.3	0.74	0.284	Not Normal	Normal (KM) **	1.60	1.91
MW-03B	Orthophosphate (P)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-03B	pH (LTL - UTL)	s.u.	6/2018 - 11/2020	9	0%	6.66	7.18	--	--	6.66	7.18	6.85	0.193	Not Normal	Normal **	6.17 - 7.54	5.97 - 7.73
MW-03B	Dissolved Phosphorus	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-03B	Total Phosphorus	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-03B	Reactive Silica (SiO2)	mg/L	6/2018 - 11/2020	9	0%	9.7	11	--	--	9.7	11	9.99	0.378	Not Normal	Normal **	11.1	11.6
MW-03B	Total Suspended Solids	mg/L	11/2020 - 11/2020	1	0%	4.6	4.6	--	--	4.6	4.6	--	--	Not tested	Maximum	4.6	4.6
MW-03B	Dissolved Sulphate (SO4)	mg/L	6/2018 - 11/2020	9	0%	3.4	4.5	--	--	3.4	4.5	3.89	0.345	Normal	Normal	4.93	5.32
MW-03B	Turbidity	NTU	6/2018 - 11/2020	9	0%	0.26	3.6	--	--	0.26	3.6	1.26	0.972	Normal	Normal	4.20	5.28
MW-03B	Conductivity	µS/cm	6/2018 - 11/2020	9	0%	89	100	--	--	89	100	94.0	3.46	Normal	Normal	105	108
	Metals																
MW-03B	Dissolved Aluminum (Al)	µg/L	6/2018 - 11/2020	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	Not tested	Reporting Limit	<5.0	<5.0
MW-03B	Total Aluminum (Al)	µg/L	6/2019 - 11/2020	5	0%	24	120	--	--	24	120	80.2	34.7	Normal	Normal	226	280
MW-03B	Dissolved Antimony (Sb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-03B	Total Antimony (Sb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-03B	Dissolved Arsenic (As)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-03B	Total Arsenic (As)	µg/L	6/2019 - 11/2020	5	80%	1	1	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Maximum	<1.0	<1.0
MW-03B	Dissolved Barium (Ba)	µg/L	6/2018 - 11/2020	9	0%	2.5	4.4	--	--	2.5	4.4	3.26	0.560	Normal	Normal	4.95	5.58
MW-03B	Total Barium (Ba)	µg/L	6/2019 - 11/2020	5	0%	3.2	4.4	--	--	3.2	4.4	3.56	0.441	Normal	Normal	5.41	6.09
MW-03B	Dissolved Beryllium (Be)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-03B	Total Beryllium (Be)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-03B	Dissolved Bismuth (Bi)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-03B	Total Bismuth (Bi)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-03B	Dissolved Boron (B)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-03B	Total Boron (B)	µg/L	6/2019 - 11/2020	5	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-03B	Dissolved Cadmium (Cd)	µg/L	6/2018 - 11/2020	9	0%	0.014	0.039	--	--	0.014	0.039	0.03	0.008	Normal	Normal	0.050	0.0584
MW-03B	Total Cadmium (Cd)	µg/L	6/2019 - 11/2020	5	0%	0.013	0.026	--	--	0.013	0.026	0.02	0.005	Normal	Normal	0.039	0.0462
MW-03B	Dissolved Calcium (Ca)	µg/L	6/2018 - 11/2020	9	0%	11000	14000	--	--	11000	14000	12222	786	Not Normal	Normal **	14604	15477
MW-03B	Total Calcium (Ca)	µg/L	6/2019 - 11/2020	5	0%	11000	14000	--	--	11000	14000	12200	1166	Normal	Normal	17101	18895
MW-03B	Dissolved Chromium (Cr)	µg/L	6/2018 - 11/2020	9	89%	1.5	1.5	<1.0	<1.0	<1.0	1.5	--	--	Not tested	Maximum	1.50	1.50
MW-03B	Total Chromium (Cr)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-03B	Dissolved Cobalt (Co)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	Not tested	Reporting Limit	<0.40	<0.40
MW-03B	Total Cobalt (Co)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	Not tested	Reporting Limit	<0.40	<0.40
MW-03B	Dissolved Copper (Cu)	µg/L	6/2018 - 11/2020	9	44%	0.54	27	<0.50	<2.0	<0.50	27	3.72	8.24	Not Normal	Normal (KM) **	28.7	37.9
MW-03B	Total Copper (Cu)	µg/L	6/2019 - 11/2020	5	0%	0.6	2	--	--	0.6	2	1.18	0.492	Normal	Normal	3.25	4.00
MW-03B	Dissolved Iron (Fe)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-03B	Total Iron (Fe)	µg/L	6/2019 - 11/2020	5	20%	91	180	<50	<50	<50	180	118	49.4	Normal	Normal (KM)	326	402
MW-03B	Dissolved Lead (Pb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-03B	Total Lead (Pb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-03B	Dissolved Magnesium (Mg)	µg/L	6/2018 - 11/2020	9	0%	1100	1300	--	--	1100	1300	1200	47.1	Not Normal	Normal **	1343	1395
MW-03B	Total Magnesium (Mg)	µg/L	6/2019 - 11/2020	5	0%	1200	1300	--	--	1200	1300	1240	49.0	Not Normal	Normal **	1446	1521
MW-03B	Dissolved Manganese (Mn)	µg/L	6/2018 - 11/2020	9	11%	2.4	32	<2.0	<2.0	<2.0	32	1.99	0.652	Gamma	WH Approx. Gamma (KM	62.1	103
MW-03B	Total Manganese (Mn)	µg/L	6/2019 - 11/2020	5	0%	2.9	14	--	--	2.9	14	7.06	3.89	Normal	Normal	23.4	29.4
MW-03B	Dissolved Molybdenum (Mo)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-03B	Total Molybdenum (Mo)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-03B	Dissolved Nickel (Ni)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-03B	Total Nickel (Ni)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-03B	Dissolved Phosphorus (P)	µg/L	6/2018 - 11/2020	9	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-03B	Total Phosphorus (P)	µg/L	6/2019 - 11/2020	5	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-03B	Dissolved Potassium (K)	µg/L	6/2018 - 11/2020	9	0%	830	1700	--	--	830	1700	1074	296	Not Normal	Normal **	1971	2300
MW-03B	Total Potassium (K)	µg/L	6/2019 - 11/2020	5	0%	780	1100	--	--	780	1100	910	108	Normal	Normal	1363	1528
MW-03B	Dissolved Selenium (Se)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-03B	Total Selenium (Se)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-03B	Dissolved Silver (Ag)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-03B	Total Silver (Ag)	µg/L	6/2019 - 11/2020	5	40%	0.12	0.25	<0.10	<0.10	<0.10	0.25	0.51	0.061	Gamma	WH Approx. Gamma (KM	0.456	0.646
MW-03B	Dissolved Sodium (Na)	µg/L	6/2018 - 11/2020	9	0%	4300	4900	--	--	4300	4900	4478	175	Normal	Normal	5008	5203
MW-03B	Total Sodium (Na)	µg/L	6/2019 - 11/2020	5	0%	4200	4600	--	--	4200	4600	4360	162	Normal	Normal	5043	5293
MW-03B	Dissolved Strontium (Sr)	µg/L	6/2018 - 11/2020	9	0%	24	29	--	--	24	29	25.3	1.49	Not Normal	Normal **	29.9	31.5
MW-03B	Total Strontium (Sr)	µg/L	6/2019 - 11/2020	5	0%	24	27	--	--	24	27	25.2	1.17	Normal	Normal	30.1	31.9
MW-03B	Dissolved Thallium (Tl)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-03B	Total Thallium (Tl)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-03B	Dissolved Tin (Sn)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-03B	Total Tin (Sn)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-03B	Dissolved Titanium (Ti)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-03B	Total Titanium (Ti)	µg/L	6/2019 - 11/2020	5	20%	5.3	9.5	<2.0	<2.0	<2.0	9.5	5.90	2.50	Normal	Normal (KM)	16.4	20.2
MW-03B	Dissolved Uranium (U)	µg/L	6/2018 - 11/2020	9	0%	0.12	0.29	--	--	0.12	0.29	0.23	0.050	Normal	Normal	0.383	0.439
MW-03B	Total Uranium (U)	µg/L	6/2019 - 11/2020	5	0%	0.22	0.31	--	--	0.22	0.31	0.27	0.033	Normal	Normal	0.408	0.459
MW-03B	Dissolved Vanadium (V)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-03B	Total Vanadium (V)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-03B	Dissolved Zinc (Zn)	µg/L	6/2018 - 11/2020	9	44%	6.4	10	<5.0	<5.0	<5.0	10	6.62	1.78	Normal	Normal (KM)	12.0	14.0
MW-03B	Total Zinc (Zn)	µg/L	6/2019 - 11/2020	5	60%	5.5	7.3	<5.0	<5.0	<5.0	7.3	5.56	0.891	Not tested	Maximum	7.30	7.30
MW-03B	Dissolved Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
MW-03B	Total Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
	Calculated Parameters																
MW-03C	Anion Sum	me/L	6/2018 - 11/2020	9	0%	1.73	2.13	--	--	1.73	2.13	1.97	0.124	Normal	Normal	2.34	2.48
MW-03C	Bicarb. Alkalinity (calc. as CaCO3	mg/L	6/2018 - 11/2020	9	0%	76	95	--	--	76	95	86.6	6.00	Normal	Normal	105	111
MW-03C	Calculated TDS	mg/L	6/2018 - 11/2020	9	0%	100	120	--	--	100	120	112	6.67	Normal	Normal	132	139
MW-03C	Carb. Alkalinity (calc. as CaCO3)	mg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-03C	Cation Sum	me/L	6/2018 - 11/2020	9	0%	1.69	1.93	--	--	1.69	1.93	1.81	0.093	Normal	Normal	2.09	2.20
MW-03C	Hardness (CaCO3)	mg/L	6/2018 - 11/2020	9	0%	66.5	80	--	--	66.5	80	74.3	4.52	Normal	Normal	88.0	93.0
MW-03C	Ion Balance (% Difference)	%	6/2018 - 11/2020	9	0%	1.17	8.67	--	--	1.17	8.67	4.05	2.49	Normal	Normal	11.6	14.4
MW-03C	Langelier Index (@ 20C)	N/A	6/2018 - 11/2020	9	0%	-0.457	-0.073	--	--	-0.457	-0.073	-0.26	0.136	Normal	Normal	0.149	0.301
MW-03C	Langelier Index (@ 4C)	N/A	6/2018 - 11/2020	9	0%	-0.708	-0.324	--	--	-0.708	-0.324	-0.51	0.136	Normal	Normal	-0.102	0.0498
MW-03C	Nitrate (N)	mg/L	6/2018 - 11/2020	9	22%	0.052	0.11	<0.050	<0.050	<0.050	0.11	0.08	0.025	Not Normal	Normal (KM) **	0.158	0.186
MW-03C	Saturation pH (@ 20C)	N/A	6/2018 - 11/2020	9	0%	7.94	8.08	--	--	7.94	8.08	8.00	0.053	Normal	Normal	8.16	8.22
MW-03C	Saturation pH (@ 4C)	N/A	6/2018 - 11/2020	9	0%	8.19	8.335	--	--	8.19	8.335	8.26	0.053	Normal	Normal	8.42	8.47
	Inorganics																
MW-03C	Total Alkalinity (Total as CaCO3)	mg/L	6/2018 - 11/2020	9	0%	76	95	--	--	76	95	87.0	6.05	Normal	Normal	105	112
MW-03C	Total Chemical Oxygen Demand	mg/L	11/2020 - 11/2020	1	100%	--	--	<20	<20	<20	<20	--	--	Not tested	Reporting Limit	<20	<20
MW-03C	Dissolved Chloride (Cl-)	mg/L	6/2018 - 11/2020	9	0%	3.6	5.1	--	--	3.6	5.1	4.36	0.503	Normal	Normal	5.88	6.44
MW-03C	Colour	TCU	6/2018 - 11/2020	9	89%	5.3	5.3	<5.0	<5.0	<5.0	5.3	--	--	Not tested	Maximum	5.30	5.30
MW-03C	Nitrate + Nitrite (N)	mg/L	6/2018 - 11/2020	9	22%	0.052	0.11	<0.050	<0.050	<0.050	0.11	0.08	0.025	Not Normal	Normal (KM) **	0.158	0.186
MW-03C	Nitrite (N)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-03C	Nitrogen (Ammonia Nitrogen)	mg/L	6/2018 - 11/2020	9	78%	0.052	0.069	<0.050	<0.050	<0.050	0.069	0.05	0.006	Not tested	Maximum	0.069	0.0690
MW-03C	Dissolved Organic Carbon (C)	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.5	<0.5	<0.5	<0.5	--	--	Not tested	Reporting Limit	<0.5	<0.5
MW-03C	Total Organic Carbon (C)	mg/L	6/2018 - 11/2020	9	22%	0.58	4.25	<0.50	<0.50	<0.50	4.25	1.20	1.13	Not Normal	Normal (KM) **	4.63	5.89
MW-03C	Orthophosphate (P)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-03C	pH (LTL - UTL)	s.u.	6/2018 - 11/2020	9	0%	7.59	7.91	--	--	7.59	7.91	7.74	0.109	Normal	Normal	7.35 - 8.13	7.24 - 8.24
MW-03C	Dissolved Phosphorus	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-03C	Total Phosphorus	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-03C	Reactive Silica (SiO2)	mg/L	6/2018 - 11/2020	9	0%	9.5	13	--	--	9.5	13	11.9	1.02	Normal	Normal	15.0	16.1
MW-03C	Total Suspended Solids	mg/L	11/2020 - 11/2020	1	0%	3.6	3.6	--	--	3.6	3.6	--	--	Not tested	Maximum	3.60	3.60
MW-03C	Dissolved Sulphate (SO4)	mg/L	6/2018 - 11/2020	9	0%	3.8	5.8	--	--	3.8	5.8	4.61	0.532	Normal	Normal	6.22	6.82
MW-03C	Turbidity	NTU	6/2018 - 11/2020	9	0%	0.685	3.7	--	--	0.685	3.7	1.81	0.839	Normal	Normal	4.35	5.29
MW-03C	Conductivity	µS/cm	6/2018 - 11/2020	9	0%	160	190	--	--	160	190	176	9.36	Normal	Normal	204	215
	Metals																
MW-03C	Dissolved Aluminum (Al)	µg/L	6/2018 - 11/2020	9	22%	5.1	28	<5.0	<5.0	<5.0	28	2.08	0.421	Gamma	WH Approx. Gamma (KM	37.9	56.0
MW-03C	Total Aluminum (Al)	µg/L	6/2019 - 11/2020	5	0%	43	200	--	--	43	200	92.2	60.9	Normal	Normal	348	442
MW-03C	Dissolved Antimony (Sb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-03C	Total Antimony (Sb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-03C	Dissolved Arsenic (As)	µg/L	6/2018 - 11/2020	9	0%	1.5	2.2	--	--	1.5	2.2	1.81	0.247	Normal	Normal	2.56	2.83
MW-03C	Total Arsenic (As)	µg/L	6/2019 - 11/2020	5	0%	1.7	2.3	--	--	1.7	2.3	1.92	0.214	Normal	Normal	2.82	3.15
MW-03C	Dissolved Barium (Ba)	µg/L	6/2018 - 11/2020	9	0%	3	8.85	--	--	3	8.85	4.85	1.80	Normal	Normal	10.3	12.3
MW-03C	Total Barium (Ba)	µg/L	6/2019 - 11/2020	5	0%	3.4	7.3	--	--	3.4	7.3	4.65	1.51	Normal	Normal	11.0	13.3
MW-03C	Dissolved Beryllium (Be)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-03C	Total Beryllium (Be)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-03C	Dissolved Bismuth (Bi)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-03C	Total Bismuth (Bi)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-03C	Dissolved Boron (B)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-03C	Total Boron (B)	µg/L	6/2019 - 11/2020	5	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-03C	Dissolved Cadmium (Cd)	µg/L	6/2018 - 11/2020	9	44%	0.01	0.014	<0.010	<0.010	<0.010	0.014	0.01	0.001	Not Normal	Normal (KM) **	0.015	0.0165
MW-03C	Total Cadmium (Cd)	µg/L	6/2019 - 11/2020	5	20%	0.01	0.021	<0.010	<0.010	<0.010	0.021	0.01	0.004	Normal	Normal (KM)	0.031	0.0371
MW-03C	Dissolved Calcium (Ca)	µg/L	6/2018 - 11/2020	9	0%	23000	28000	--	--	23000	28000	25667	1700	Normal	Normal	30819	32708
MW-03C	Total Calcium (Ca)	µg/L	6/2019 - 11/2020	5	0%	24000	28000	--	--	24000	28000	25500	1483	Normal	Normal	31734	34015
MW-03C	Dissolved Chromium (Cr)	µg/L	6/2018 - 11/2020	9	89%	1.1	1.1	<1.0	<1.0	<1.0	1.1	--	--	Not tested	Maximum	1.10	1.10

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-03C	Total Chromium (Cr)	µg/L	6/2019 - 11/2020	5	80%	1.2	1.2	<1.0	<1.0	<1.0	1.2	--	--	Not tested	Maximum	1.20	1.20
MW-03C	Dissolved Cobalt (Co)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	Not tested	Reporting Limit	<0.40	<0.40
MW-03C	Total Cobalt (Co)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	Not tested	Reporting Limit	<0.40	<0.40
MW-03C	Dissolved Copper (Cu)	µg/L	6/2018 - 11/2020	9	67%	0.735	1.6	<0.50	<2.0	<0.50	<2.0	0.81	0.399	Not tested	Maximum	<2.0	<2.0
MW-03C	Total Copper (Cu)	µg/L	6/2019 - 11/2020	5	0%	0.91	6.8	--	--	0.91	6.8	2.64	2.21	Normal	Normal	11.9	15.3
MW-03C	Dissolved Iron (Fe)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-03C	Total Iron (Fe)	µg/L	6/2019 - 11/2020	5	0%	59	340	--	--	59	340	157	100.0	Normal	Normal	577	731
MW-03C	Dissolved Lead (Pb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-03C	Total Lead (Pb)	µg/L	6/2019 - 11/2020	5	80%	0.7	0.7	<0.50	<0.50	<0.50	0.7	--	--	Not tested	Maximum	0.700	0.700
MW-03C	Dissolved Magnesium (Mg)	µg/L	6/2018 - 11/2020	9	0%	2300	2700	--	--	2300	2700	2500	133	Normal	Normal	2904	3052
MW-03C	Total Magnesium (Mg)	µg/L	6/2019 - 11/2020	5	0%	2400	2700	--	--	2400	2700	2500	110	Normal	Normal	2960	3129
MW-03C	Dissolved Manganese (Mn)	µg/L	6/2018 - 11/2020	9	0%	2.5	170	--	--	2.5	170	56.3	54.7	Normal	Normal	222	283
MW-03C	Total Manganese (Mn)	µg/L	6/2019 - 11/2020	5	0%	7.1	81	--	--	7.1	81	36.5	31.4	Normal	Normal	169	217
MW-03C	Dissolved Molybdenum (Mo)	µg/L	6/2018 - 11/2020	9	56%	2.1	6.5	<2.0	<2.0	<2.0	6.5	3.12	1.67	Not tested	Normal (KM) **	6.50	6.50
MW-03C	Total Molybdenum (Mo)	µg/L	6/2019 - 11/2020	5	80%	2.1	2.1	<2.0	<2.0	<2.0	2.1	--	--	Not tested	Maximum	2.10	2.10
MW-03C	Dissolved Nickel (Ni)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-03C	Total Nickel (Ni)	µg/L	6/2019 - 11/2020	5	80%	2.2	2.2	<2.0	<2.0	<2.0	2.2	--	--	Not tested	Maximum	2.20	2.20
MW-03C	Dissolved Phosphorus (P)	µg/L	6/2018 - 11/2020	9	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-03C	Total Phosphorus (P)	µg/L	6/2019 - 11/2020	5	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-03C	Dissolved Potassium (K)	µg/L	6/2018 - 11/2020	9	0%	1600	4300	--	--	1600	4300	2461	848	Normal	Normal	5031	5974
MW-03C	Total Potassium (K)	µg/L	6/2019 - 11/2020	5	0%	1600	2400	--	--	1600	2400	1920	293	Normal	Normal	3150	3600
MW-03C	Dissolved Selenium (Se)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-03C	Total Selenium (Se)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-03C	Dissolved Silver (Ag)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-03C	Total Silver (Ag)	µg/L	6/2019 - 11/2020	5	20%	0.12	1	<0.10	<0.10	<0.10	1	0.64	0.198	Gamma	WH Approx. Gamma (KM	3.18	5.59
MW-03C	Dissolved Sodium (Na)	µg/L	6/2018 - 11/2020	9	0%	5300	7700	--	--	5300	7700	6056	893	Not Normal	Normal **	8763	9757
MW-03C	Total Sodium (Na)	µg/L	6/2019 - 11/2020	5	0%	5200	5800	--	--	5200	5800	5460	206	Normal	Normal	6325	6642
MW-03C	Dissolved Strontium (Sr)	µg/L	6/2018 - 11/2020	9	0%	56	74	--	--	56	74	65.4	5.93	Normal	Normal	83.4	90.0
MW-03C	Total Strontium (Sr)	µg/L	6/2019 - 11/2020	5	0%	64	75	--	--	64	75	67.3	4.12	Normal	Normal	84.6	90.9
MW-03C	Dissolved Thallium (Tl)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-03C	Total Thallium (Tl)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-03C	Dissolved Tin (Sn)	µg/L	6/2018 - 11/2020	9	78%	2.7	3.8	<2.0	<2.0	<2.0	3.8	2.28	0.581	Not tested	Maximum	3.80	3.80
MW-03C	Total Tin (Sn)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-03C	Dissolved Titanium (Ti)	µg/L	6/2018 - 11/2020	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-03C	Total Titanium (Ti)	µg/L	6/2019 - 11/2020	5	0%	3.5	13	--	--	3.5	13	6.55	3.69	Normal	Normal	22.1	27.8
MW-03C	Dissolved Uranium (U)	µg/L	6/2018 - 11/2020	9	0%	1.2	2.2	--	--	1.2	2.2	1.53	0.343	Normal	Normal	2.57	2.96
MW-03C	Total Uranium (U)	µg/L	6/2019 - 11/2020	5	0%	1.2	1.6	--	--	1.2	1.6	1.33	0.140	Normal	Normal	1.92	2.13
MW-03C	Dissolved Vanadium (V)	µg/L	6/2018 - 11/2020	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-03C	Total Vanadium (V)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-03C	Dissolved Zinc (Zn)	µg/L	6/2018 - 11/2020	9	22%	5.8	14	<5.0	<5.0	<5.0	14	8.04	3.03	Normal	Normal (KM)	17.2	20.6
MW-03C	Total Zinc (Zn)	µg/L	6/2019 - 11/2020	5	0%	6.8	13	--	--	6.8	13	9.77	2.23	Normal	Normal	19.1	22.6
MW-03C	Dissolved Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
MW-03C	Total Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
	Calculated Parameters																
MW-04A	Anion Sum	me/L	6/2018 - 11/2020	8	0%	0.18	0.44	--	--	0.18	0.44	0.34	0.075	Normal	Normal	0.581	0.668
MW-04A	Bicarb. Alkalinity (calc. as CaCO3	mg/L	6/2018 - 11/2020	8	0%	5.3	11	--	--	5.3	11	7.81	1.87	Normal	Normal	13.8	16.0
MW-04A	Calculated TDS	mg/L	6/2018 - 11/2020	8	0%	15.5	32	--	--	15.5	32	24.7	5.03	Normal	Normal	40.7	46.6
MW-04A	Carb. Alkalinity (calc. as CaCO3)	mg/L	6/2018 - 11/2020	7	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-04A	Cation Sum	me/L	6/2018 - 11/2020	8	0%	0.22	0.51	--	--	0.22	0.51	0.32	0.089	Normal	Normal	0.600	0.704
MW-04A	Hardness (CaCO3)	mg/L	6/2018 - 11/2020	8	0%	5.2	17	--	--	5.2	17	8.58	3.63	Normal	Normal	20.1	24.4
MW-04A	Ion Balance (% Difference)	%	6/2018 - 11/2020	8	0%	3.7	17	--	--	3.7	17	9.11	4.50	Normal	Normal	23.4	28.7
MW-04A	Langelier Index (@ 20C)	N/A	6/2018 - 11/2020	8	0%	-4.31	-3.26	--	--	-4.31	-3.26	-3.73	0.384	Normal	Normal	-2.50	-2.05
MW-04A	Langelier Index (@ 4C)	N/A	6/2018 - 11/2020	8	0%	-4.56	-3.51	--	--	-4.56	-3.51	-3.98	0.382	Normal	Normal	-2.76	-2.32
MW-04A	Nitrate (N)	mg/L	6/2018 - 11/2020	8	50%	0.06	0.17	<0.050	<0.050	<0.050	0.17	0.08	0.043	Not Normal	Normal (KM) **	0.215	0.266
MW-04A	Saturation pH (@ 20C)	N/A	6/2018 - 11/2020	8	0%	9.58	10.4	--	--	9.58	10.4	10.1	0.257	Normal	Normal	10.9	11.2
MW-04A	Saturation pH (@ 4C)	N/A	6/2018 - 11/2020	8	0%	9.83	10.6	--	--	9.83	10.6	10.3	0.243	Normal	Normal	11.1	11.4
	Inorganics																
MW-04A	Total Alkalinity (Total as CaCO3)	mg/L	6/2018 - 11/2020	8	0%	5.3	11	--	--	5.3	11	7.83	1.89	Normal	Normal	13.8	16.0
MW-04A	Total Chemical Oxygen Demand	mg/L	11/2020 - 11/2020	1	100%	--	--	<20	<20	<20	<20	--	--	Not tested	Reporting Limit	<20	<20
MW-04A	Dissolved Chloride (Cl-)	mg/L	6/2018 - 11/2020	8	0%	2.65	6.4	--	--	2.65	6.4	4.46	1.16	Normal	Normal	8.17	9.53
MW-04A	Colour	TCU	6/2018 - 11/2020	8	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	Not tested	Reporting Limit	<5.0	<5.0
MW-04A	Nitrate + Nitrite (N)	mg/L	6/2018 - 11/2020	8	50%	0.06	0.17	<0.050	<0.050	<0.050	0.17	0.08	0.043	Not Normal	Normal (KM) **	0.215	0.266
MW-04A	Nitrite (N)	mg/L	6/2018 - 11/2020	8	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-04A	Nitrogen (Ammonia Nitrogen)	mg/L	6/2018 - 11/2020	8	100%	--	--	<0.050	<0.050	<0.050	<0.050	--	--	Not tested	Reporting Limit	<0.050	<0.050
MW-04A	Dissolved Organic Carbon (C)	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.5	<0.5	<0.5	<0.5	--	--	Not tested	Reporting Limit	<0.5	<0.5
MW-04A	Total Organic Carbon (C)	mg/L	6/2018 - 11/2020	8	63%	0.53	1.2	<0.50	<0.50	<0.50	1.2	0.62	0.231	Not tested	Maximum	1.20	1.20

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects		Non-Detects		Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs)		
						Min.	Max.	Min.	Max.						Method	95/95 UTL	95/99 UTL
MW-04A	Orthophosphate (P)	mg/L	6/2018 - 11/2020	8	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-04A	pH (LTL - UTL)	s.u.	6/2018 - 11/2020	8	0%	6.03	6.58	--	--	6.03	6.58	6.32	0.201	Normal	Normal	5.57 - 7.07	5.36 - 7.29
MW-04A	Dissolved Phosphorus	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-04A	Total Phosphorus	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-04A	Reactive Silica (SiO2)	mg/L	6/2018 - 11/2020	8	0%	3.75	8.4	--	--	3.75	8.4	5.93	1.30	Normal	Normal	10.1	11.6
MW-04A	Total Suspended Solids	mg/L	11/2020 - 11/2020	1	0%	5	5	--	--	5	5	--	--	Not tested	Maximum	5.00	5.00
MW-04A	Dissolved Sulphate (SO4)	mg/L	6/2018 - 11/2020	8	0%	2.2	3.8	--	--	2.2	3.8	2.91	0.631	Not Normal	Normal **	4.92	5.65
MW-04A	Turbidity	NTU	6/2018 - 11/2020	8	0%	0.22	130	--	--	0.22	130	17.3	42.6	Not Normal	Normal **	153	203
MW-04A	Conductivity	µS/cm	6/2018 - 11/2020	8	0%	25	45	--	--	25	45	34.4	6.36	Normal	Normal	54.7	62.1
	Metals																
MW-04A	Dissolved Aluminum (Al)	µg/L	6/2018 - 11/2020	8	0%	6	51.5	--	--	6	51.5	25.1	13.7	Normal	Normal	68.8	84.8
MW-04A	Total Aluminum (Al)	µg/L	6/2019 - 11/2020	5	0%	51	1600	--	--	51	1600	5.07	1.22	Lognormal	Lognormal	26883	175811
MW-04A	Dissolved Antimony (Sb)	µg/L	6/2018 - 11/2020	8	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-04A	Total Antimony (Sb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-04A	Dissolved Arsenic (As)	µg/L	6/2018 - 11/2020	8	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-04A	Total Arsenic (As)	µg/L	6/2019 - 11/2020	5	80%	2.4	2.4	<1.0	<1.0	<1.0	2.4	--	--	Not tested	Maximum	2.40	2.40
MW-04A	Dissolved Barium (Ba)	µg/L	6/2018 - 11/2020	8	0%	3	4.2	--	--	3	4.2	3.60	0.418	Normal	Normal	4.93	5.42
MW-04A	Total Barium (Ba)	µg/L	6/2019 - 11/2020	5	0%	3.3	10	--	--	3.3	10	5.01	2.51	Not Normal	Normal **	15.6	19.4
MW-04A	Dissolved Beryllium (Be)	µg/L	6/2018 - 11/2020	8	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-04A	Total Beryllium (Be)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-04A	Dissolved Bismuth (Bi)	µg/L	6/2018 - 11/2020	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-04A	Total Bismuth (Bi)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-04A	Dissolved Boron (B)	µg/L	6/2018 - 11/2020	8	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-04A	Total Boron (B)	µg/L	6/2019 - 11/2020	5	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-04A	Dissolved Cadmium (Cd)	µg/L	6/2018 - 11/2020	8	0%	0.011	0.015	--	--	0.011	0.015	0.01	0.002	Normal	Normal	0.018	0.0201
MW-04A	Total Cadmium (Cd)	µg/L	6/2019 - 11/2020	5	0%	0.013	0.016	--	--	0.013	0.016	0.02	0.001	Normal	Normal	0.020	0.0213
MW-04A	Dissolved Calcium (Ca)	µg/L	6/2018 - 11/2020	8	0%	1500	4800	--	--	1500	4800	2450	1034	Normal	Normal	5747	6954
MW-04A	Total Calcium (Ca)	µg/L	6/2019 - 11/2020	5	0%	1400	2900	--	--	1400	2900	1980	574	Normal	Normal	4393	5276
MW-04A	Dissolved Chromium (Cr)	µg/L	6/2018 - 11/2020	8	88%	1.6	1.6	<1.0	<1.0	<1.0	1.6	--	--	Not tested	Maximum	1.60	1.60
MW-04A	Total Chromium (Cr)	µg/L	6/2019 - 11/2020	5	60%	1.55	2.1	<1.0	<1.0	<1.0	2.1	1.33	0.440	Not tested	Maximum	2.10	2.10
MW-04A	Dissolved Cobalt (Co)	µg/L	6/2018 - 11/2020	8	50%	0.45	0.92	<0.40	<0.40	<0.40	0.92	0.54	0.206	Not Normal	Normal (KM) **	1.20	1.44
MW-04A	Total Cobalt (Co)	µg/L	6/2019 - 11/2020	5	80%	1.6	1.6	<0.40	<0.40	<0.40	1.6	--	--	Not tested	Maximum	1.60	1.60
MW-04A	Dissolved Copper (Cu)	µg/L	6/2018 - 11/2020	8	25%	0.73	3.5	<2.0	<2.0	0.73	3.5	1.49	0.867	Normal	Normal (KM)	4.26	5.27
MW-04A	Total Copper (Cu)	µg/L	6/2019 - 11/2020	5	0%	1	13	--	--	1	13	1.47	0.477	Gamma	WH Approx. Gamma	41.7	74.2
MW-04A	Dissolved Iron (Fe)	µg/L	6/2018 - 11/2020	8	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-04A	Total Iron (Fe)	µg/L	6/2019 - 11/2020	5	40%	100	2200	<50	<50	<50	2200	5.05	1.40	Lognormal	Lognormal (KM)	55717	479785
MW-04A	Dissolved Lead (Pb)	µg/L	6/2018 - 11/2020	8	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-04A	Total Lead (Pb)	µg/L	6/2019 - 11/2020	5	80%	1.2	1.2	<0.50	<0.50	<0.50	1.2	--	--	Not tested	Maximum	1.20	1.20
MW-04A	Dissolved Magnesium (Mg)	µg/L	6/2018 - 11/2020	8	0%	370	1200	--	--	370	1200	8.33	1.04	Gamma	WH Approx. Gamma	1583	2132
MW-04A	Total Magnesium (Mg)	µg/L	6/2019 - 11/2020	5	0%	380	1100	--	--	380	1100	8.14	1.15	Gamma	WH Approx. Gamma	2176	3190
MW-04A	Dissolved Manganese (Mn)	µg/L	6/2018 - 11/2020	8	0%	4.9	69	--	--	4.9	69	2.52	0.785	Gamma	WH Approx. Gamma	127	209
MW-04A	Total Manganese (Mn)	µg/L	6/2019 - 11/2020	5	0%	5.6	48	--	--	5.6	48	2.34	0.679	Gamma	WH Approx. Gamma	140	242
MW-04A	Dissolved Molybdenum (Mo)	µg/L	6/2018 - 11/2020	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-04A	Total Molybdenum (Mo)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-04A	Dissolved Nickel (Ni)	µg/L	6/2018 - 11/2020	8	38%	2.2	5.4	<2.0	<2.0	<2.0	5.4	2.81	1.19	Not Normal	Normal (KM) **	6.62	8.01
MW-04A	Total Nickel (Ni)	µg/L	6/2019 - 11/2020	5	80%	5.7	5.7	<2.0	<2.0	<2.0	5.7	--	--	Not tested	Maximum	5.70	5.70
MW-04A	Dissolved Phosphorus (P)	µg/L	6/2018 - 11/2020	8	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-04A	Total Phosphorus (P)	µg/L	6/2019 - 11/2020	5	80%	110	110	<100	<100	<100	110	--	--	Not tested	Maximum	110	110
MW-04A	Dissolved Potassium (K)	µg/L	6/2018 - 11/2020	8	0%	290	1100	--	--	290	1100	7.87	1.09	Gamma	WH Approx. Gamma	1456	2001
MW-04A	Total Potassium (K)	µg/L	6/2019 - 11/2020	5	0%	280	800	--	--	280	800	491	197	Normal	Normal	1317	1620
MW-04A	Dissolved Selenium (Se)	µg/L	6/2018 - 11/2020	8	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-04A	Total Selenium (Se)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-04A	Dissolved Silver (Ag)	µg/L	6/2018 - 11/2020	8	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-04A	Total Silver (Ag)	µg/L	6/2019 - 11/2020	5	0%	0.1	1.5	--	--	0.1	1.5	0.40	0.549	Not Normal	Normal **	2.71	3.55
MW-04A	Dissolved Sodium (Na)	µg/L	6/2018 - 11/2020	8	0%	2450	3500	--	--	2450	3500	3019	348	Normal	Normal	4128	4535
MW-04A	Total Sodium (Na)	µg/L	6/2019 - 11/2020	5	0%	2200	3300	--	--	2200	3300	2860	441	Normal	Normal	4713	5391
MW-04A	Dissolved Strontium (Sr)	µg/L	6/2018 - 11/2020	8	0%	13	25	--	--	13	25	17.8	3.53	Normal	Normal	29.0	33.1
MW-04A	Total Strontium (Sr)	µg/L	6/2019 - 11/2020	5	0%	12	21	--	--	12	21	15.7	3.40	Normal	Normal	30.0	35.2
MW-04A	Dissolved Thallium (Tl)	µg/L	6/2018 - 11/2020	8	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-04A	Total Thallium (Tl)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-04A	Dissolved Tin (Sn)	µg/L	6/2018 - 11/2020	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-04A	Total Tin (Sn)	µg/L	6/2019 - 11/2020	5	80%	2.7	2.7	<2.0	<2.0	<2.0	2.7	--	--	Not tested	Maximum	2.70	2.70
MW-04A	Dissolved Titanium (Ti)	µg/L	6/2018 - 11/2020	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-04A	Total Titanium (Ti)	µg/L	6/2019 - 11/2020	5	40%	3.1	59	<2.0	<2.0	<2.0	59	1.69	1.27	Lognormal	Lognormal (KM)	1106	7759
MW-04A	Dissolved Uranium (U)	µg/L	6/2018 - 11/2020	8	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-04A	Total Uranium (U)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-04A	Dissolved Vanadium (V)	µg/L	6/2018 - 11/2020	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-04A	Total Vanadium (V)	µg/L	6/2019 - 11/2020	5	80%	2.6	2.6	<2.0	<2.0	<2.0	2.6	--	--	Not tested	Maximum	2.60	2.60
MW-04A	Dissolved Zinc (Zn)	µg/L	6/2018 - 11/2020	8	88%	5.2	5.2	<5.0	<5.0	<5.0	5.2	--	--	Not tested	Maximum	5.20	5.20
MW-04A	Total Zinc (Zn)	µg/L	6/2019 - 11/2020	5	80%	8.9	8.9	<5.0	<5.0	<5.0	8.9	--	--	Not tested	Maximum	8.90	8.90
MW-04A	Dissolved Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
MW-04A	Total Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
	Calculated Parameters																
MW-04B	Anion Sum	me/L	6/2018 - 11/2020	8	0%	0.71	1.16	--	--	0.71	1.16	0.92	0.121	Normal	Normal	1.30	1.44
MW-04B	Bicarb. Alkalinity (calc. as CaCO3	mg/L	6/2018 - 11/2020	8	0%	23.5	41	--	--	23.5	41	30.9	4.97	Normal	Normal	46.8	52.6
MW-04B	Calculated TDS	mg/L	6/2018 - 11/2020	8	0%	48.5	71	--	--	48.5	71	58.3	6.14	Normal	Normal	77.9	85.0
MW-04B	Carb. Alkalinity (calc. as CaCO3)	mg/L	6/2018 - 11/2020	8	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-04B	Cation Sum	me/L	6/2018 - 11/2020	8	0%	0.695	1.08	--	--	0.695	1.08	0.85	0.110	Normal	Normal	1.20	1.33
MW-04B	Hardness (CaCO3)	mg/L	6/2018 - 11/2020	8	0%	24.5	44	--	--	24.5	44	32.8	5.37	Normal	Normal	49.9	56.2
MW-04B	Ion Balance (% Difference)	%	6/2018 - 11/2020	8	0%	1.18	9.09	--	--	1.18	9.09	4.45	2.10	Normal	Normal	11.1	13.6
MW-04B	Langelier Index (@ 20C)	N/A	6/2018 - 11/2020	8	0%	-2.5	-1.26	--	--	-2.5	-1.26	-1.69	0.347	Normal	Normal	-0.580	-0.18
MW-04B	Langelier Index (@ 4C)	N/A	6/2018 - 11/2020	8	0%	-2.75	-1.51	--	--	-2.75	-1.51	-1.94	0.347	Normal	Normal	-0.830	-0.43
MW-04B	Nitrate (N)	mg/L	6/2018 - 11/2020	8	38%	0.065	0.43	<0.050	<0.050	<0.050	0.43	0.12	0.122	Not Normal	Normal (KM) **	0.511	0.654
MW-04B	Saturation pH (@ 20C)	N/A	6/2018 - 11/2020	8	0%	8.54	9.295	--	--	8.54	9.295	8.82	0.202	Not Normal	Normal **	9.47	9.70
MW-04B	Saturation pH (@ 4C)	N/A	6/2018 - 11/2020	8	0%	8.79	9.54	--	--	8.79	9.54	9.08	0.201	Not Normal	Normal **	9.72	9.95
	Inorganics																
MW-04B	Total Alkalinity (Total as CaCO3)	mg/L	6/2018 - 11/2020	8	0%	23.5	41	--	--	23.5	41	30.9	4.97	Normal	Normal	46.8	52.6
MW-04B	Total Chemical Oxygen Demand	mg/L	11/2020 - 11/2020	1	100%	--	--	<20	<20	<20	<20	--	--	Not tested	Reporting Limit	<20	<20
MW-04B	Dissolved Chloride (Cl-)	mg/L	6/2018 - 11/2020	8	0%	3.7	5.6	--	--	3.7	5.6	4.50	0.610	Normal	Normal	6.45	7.16
MW-04B	Colour	TCU	6/2018 - 11/2020	8	88%	5.6	5.6	<5.0	<5.0	<5.0	5.6	--	--	Not tested	Maximum	5.60	5.60
MW-04B	Nitrate + Nitrite (N)	mg/L	6/2018 - 11/2020	8	38%	0.065	0.43	<0.050	<0.050	<0.050	0.43	0.12	0.122	Not Normal	Normal (KM) **	0.511	0.654
MW-04B	Nitrite (N)	mg/L	6/2018 - 11/2020	8	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-04B	Nitrogen (Ammonia Nitrogen)	mg/L	6/2018 - 11/2020	8	88%	0.07	0.07	<0.050	<0.050	<0.050	0.07	--	--	Not tested	Maximum	0.070	0.0700
MW-04B	Dissolved Organic Carbon (C)	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.5	<0.5	<0.5	<0.5	--	--	Not tested	Reporting Limit	<0.5	<0.5
MW-04B	Total Organic Carbon (C)	mg/L	6/2018 - 11/2020	8	25%	0.7	1.8	<0.50	<0.50	<0.50	1.8	0.97	0.459	Normal	Normal (KM)	2.44	2.97
MW-04B	Orthophosphate (P)	mg/L	6/2018 - 11/2020	8	88%	0.01	0.01	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Maximum	<0.010	<0.010
MW-04B	pH (LTL - UTL)	s.u.	6/2018 - 11/2020	8	0%	6.8	7.28	--	--	6.8	7.28	7.14	0.151	Normal	Normal	6.58 - 7.7	6.42 - 7.86
MW-04B	Dissolved Phosphorous	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-04B	Total Phosphorus	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-04B	Reactive Silica (SiO2)	mg/L	6/2018 - 11/2020	8	0%	9	10	--	--	9	10	9.51	0.267	Normal	Normal	10.4	10.7
MW-04B	Total Suspended Solids	mg/L	11/2020 - 11/2020	1	0%	17	17	--	--	17	17	--	--	Not tested	Maximum	17.0	17.0
MW-04B	Dissolved Sulphate (SO4)	mg/L	6/2018 - 11/2020	8	0%	5.7	9.6	--	--	5.7	9.6	8.04	1.02	Normal	Normal	11.3	12.5
MW-04B	Turbidity	NTU	6/2018 - 11/2020	8	0%	0.29	8.5	--	--	0.29	8.5	3.19	2.60	Normal	Normal	11.5	14.5
MW-04B	Conductivity	µS/cm	6/2018 - 11/2020	8	0%	76	110	--	--	76	110	88.8	9.98	Normal	Normal	121	132
	Metals																
MW-04B	Dissolved Aluminum (Al)	µg/L	6/2018 - 11/2020	8	50%	5.2	12	<5.0	<5.0	<5.0	12	6.53	2.44	Not Normal	Normal (KM) **	14.3	17.1
MW-04B	Total Aluminum (Al)	µg/L	6/2019 - 11/2020	5	0%	29	92	--	--	29	92	65.4	21.1	Normal	Normal	154	187
MW-04B	Dissolved Antimony (Sb)	µg/L	6/2018 - 11/2020	8	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-04B	Total Antimony (Sb)	µg/L	6/2019 - 11/2020	5	80%	1.6	1.6	<1.0	<1.0	<1.0	1.6	--	--	Not tested	Maximum	1.60	1.60
MW-04B	Dissolved Arsenic (As)	µg/L	6/2018 - 11/2020	8	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-04B	Total Arsenic (As)	µg/L	6/2019 - 11/2020	5	60%	1	1.1	<1.0	<1.0	1	1.1	1.02	0.040	Not tested	Maximum	1.10	1.10
MW-04B	Dissolved Barium (Ba)	µg/L	6/2018 - 11/2020	8	0%	1.5	4.45	--	--	1.5	4.45	1.37	0.196	Gamma	WH Approx. Gamma	7.93	11.0
MW-04B	Total Barium (Ba)	µg/L	6/2019 - 11/2020	5	0%	1.9	2.8	--	--	1.9	2.8	2.28	0.319	Normal	Normal	3.62	4.11
MW-04B	Dissolved Beryllium (Be)	µg/L	6/2018 - 11/2020	8	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-04B	Total Beryllium (Be)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-04B	Dissolved Bismuth (Bi)	µg/L	6/2018 - 11/2020	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-04B	Total Bismuth (Bi)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-04B	Dissolved Boron (B)	µg/L	6/2018 - 11/2020	8	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-04B	Total Boron (B)	µg/L	6/2019 - 11/2020	5	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-04B	Dissolved Cadmium (Cd)	µg/L	6/2018 - 11/2020	8	75%	0.013	0.022	<0.010	<0.010	<0.010	0.0215	0.01	0.004	Not tested	Maximum	0.022	0.022
MW-04B	Total Cadmium (Cd)	µg/L	6/2019 - 11/2020	5	80%	0.011	0.011	<0.010	<0.010	<0.010	0.011	--	--	Not tested	Maximum	0.011	0.0110
MW-04B	Dissolved Calcium (Ca)	µg/L	6/2018 - 11/2020	8	0%	7950	15000	--	--	7950	15000	11244	1931	Normal	Normal	17398	19651
MW-04B	Total Calcium (Ca)	µg/L	6/2019 - 11/2020	5	0%	10000	11000	--	--	10000	11000	10800	400	Not Normal	Normal **	12481	13096
MW-04B	Dissolved Chromium (Cr)	µg/L	6/2018 - 11/2020	8	88%	1.2	1.2	<1.0	<1.0	<1.0	1.2	--	--	Not tested	Maximum	1.20	1.20
MW-04B	Total Chromium (Cr)	µg/L	6/2019 - 11/2020	5	80%	1.1	1.1	<1.0	<1.0	<1.0	1.1	--	--	Not tested	Maximum	1.10	1.10
MW-04B	Dissolved Cobalt (Co)	µg/L	6/2018 - 11/2020	8	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	Not tested	Reporting Limit	<0.40	<0.40
MW-04B	Total Cobalt (Co)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	Not tested	Reporting Limit	<0.40	<0.40
MW-04B	Dissolved Copper (Cu)	µg/L	6/2018 - 11/2020	8	13%	1.6	30	<2.0	<2.0	1.6	30	5.78	9.19	Not Normal	Normal (KM) **	35.1	45.8
MW-04B	Total Copper (Cu)	µg/L	6/2019 - 11/2020	5	0%	3.4	6.4	--	--	3.4	6.4	4.48	1.15	Normal	Normal	9.31	11.1
MW-04B	Dissolved Iron (Fe)	µg/L	6/2018 - 11/2020	8	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-04B	Total Iron (Fe)	µg/L	6/2019 - 11/2020	5	20%	89	130	<50	<50	<50	130	102	30.0	Normal	Normal (KM)	228	274
MW-04B	Dissolved Lead (Pb)	µg/L	6/2018 - 11/2020	8	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-04B	Total Lead (Pb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-04B	Dissolved Magnesium (Mg)	µg/L	6/2018 - 11/2020	8	0%	1000	1600	--	--	1000	1600	1223	179	Normal	Normal	1793	2002
MW-04B	Total Magnesium (Mg)	µg/L	6/2019 - 11/2020	5	0%	1100	1200	--	--	1100	1200	1180	40.0	Not Normal	Normal **	1348	1410
MW-04B	Dissolved Manganese (Mn)	µg/L	6/2018 - 11/2020	8	0%	3	55	--	--	3	55	2.32	0.780	Gamma	WH Approx. Gamma	111	187
MW-04B	Total Manganese (Mn)	µg/L	6/2019 - 11/2020	5	0%	6.7	16	--	--	6.7	16	10.7	3.33	Normal	Normal	24.7	29.8
MW-04B	Dissolved Molybdenum (Mo)	µg/L	6/2018 - 11/2020	8	88%	2	2	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Maximum	<2.0	<2.0
MW-04B	Total Molybdenum (Mo)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-04B	Dissolved Nickel (Ni)	µg/L	6/2018 - 11/2020	8	88%	2.7	2.7	<2.0	<2.0	<2.0	2.7	--	--	Not tested	Maximum	2.70	2.70
MW-04B	Total Nickel (Ni)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-04B	Dissolved Phosphorus (P)	µg/L	6/2018 - 11/2020	8	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-04B	Total Phosphorus (P)	µg/L	6/2019 - 11/2020	5	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-04B	Dissolved Potassium (K)	µg/L	6/2018 - 11/2020	8	0%	490	1300	--	--	490	1300	796	265	Normal	Normal	1641	1951
MW-04B	Total Potassium (K)	µg/L	6/2019 - 11/2020	5	0%	470	790	--	--	470	790	608	103	Normal	Normal	1042	1201
MW-04B	Dissolved Selenium (Se)	µg/L	6/2018 - 11/2020	8	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-04B	Total Selenium (Se)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-04B	Dissolved Silver (Ag)	µg/L	6/2018 - 11/2020	8	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-04B	Total Silver (Ag)	µg/L	6/2019 - 11/2020	5	80%	0.11	0.11	<0.10	<0.10	<0.10	0.11	--	--	Not tested	Maximum	0.110	0.110
MW-04B	Dissolved Sodium (Na)	µg/L	6/2018 - 11/2020	8	0%	3500	4200	--	--	3500	4200	3913	220	Normal	Normal	4615	4872
MW-04B	Total Sodium (Na)	µg/L	6/2019 - 11/2020	5	0%	3500	4300	--	--	3500	4300	3840	265	Normal	Normal	4955	5363
MW-04B	Dissolved Strontium (Sr)	µg/L	6/2018 - 11/2020	8	0%	48.5	84	--	--	48.5	84	65.1	10.2	Normal	Normal	97.5	109
MW-04B	Total Strontium (Sr)	µg/L	6/2019 - 11/2020	5	0%	58	67	--	--	58	67	62.8	3.12	Normal	Normal	75.9	80.7
MW-04B	Dissolved Thallium (Tl)	µg/L	6/2018 - 11/2020	8	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-04B	Total Thallium (Tl)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-04B	Dissolved Tin (Sn)	µg/L	6/2018 - 11/2020	8	88%	2.8	2.8	<2.0	<2.0	<2.0	2.8	--	--	Not tested	Maximum	2.80	2.80
MW-04B	Total Tin (Sn)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-04B	Dissolved Titanium (Ti)	µg/L	6/2018 - 11/2020	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-04B	Total Titanium (Ti)	µg/L	6/2019 - 11/2020	5	20%	2.8	6.2	<2.0	<2.0	<2.0	6.2	3.70	1.47	Normal	Normal (KM)	9.88	12.1
MW-04B	Dissolved Uranium (U)	µg/L	6/2018 - 11/2020	8	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-04B	Total Uranium (U)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-04B	Dissolved Vanadium (V)	µg/L	6/2018 - 11/2020	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-04B	Total Vanadium (V)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-04B	Dissolved Zinc (Zn)	µg/L	6/2018 - 11/2020	8	13%	6.3	22	<5.0	<5.0	<5.0	22	11.6	5.00	Normal	Normal (KM)	27.6	33.4
MW-04B	Total Zinc (Zn)	µg/L	6/2019 - 11/2020	5	0%	5.9	14	--	--	5.9	14	9.86	2.95	Normal	Normal	22.3	26.8
MW-04B	Dissolved Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
MW-04B	Total Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
	Calculated Parameters																
MW-05A	Anion Sum	me/L	6/2018 - 11/2020	8	0%	0.3	0.45	--	--	0.3	0.45	0.36	0.048	Normal	Normal	0.516	0.572
MW-05A	Bicarb. Alkalinity (calc. as CaCO3	mg/L	6/2018 - 11/2020	8	0%	6.2	15	--	--	6.2	15	9.18	2.68	Normal	Normal	17.7	20.8
MW-05A	Calculated TDS	mg/L	6/2018 - 11/2020	8	0%	20	30	--	--	20	30	24.3	3.13	Normal	Normal	34.3	37.9
MW-05A	Carb. Alkalinity (calc. as CaCO3)	mg/L	6/2018 - 11/2020	8	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-05A	Cation Sum	me/L	6/2018 - 11/2020	8	0%	0.22	0.39	--	--	0.22	0.39	0.30	0.056	Normal	Normal	0.479	0.545
MW-05A	Hardness (CaCO3)	mg/L	6/2018 - 11/2020	8	0%	5.2	11	--	--	5.2	11	7.83	1.89	Normal	Normal	13.9	16.1
MW-05A	Ion Balance (% Difference)	%	6/2018 - 11/2020	8	0%	5.065	18.5	--	--	5.065	18.5	9.88	3.72	Normal	Normal	21.7	26.1
MW-05A	Langelier Index (@ 20C)	N/A	6/2018 - 11/2020	8	0%	-4.3	-3.35	--	--	-4.3	-3.35	-3.77	0.317	Normal	Normal	-2.76	-2.39
MW-05A	Langelier Index (@ 4C)	N/A	6/2018 - 11/2020	8	0%	-4.55	-3.6	--	--	-4.55	-3.6	-4.02	0.317	Normal	Normal	-3.01	-2.64
MW-05A	Nitrate (N)	mg/L	6/2018 - 11/2020	8	63%	0.051	0.083	<0.050	<0.050	<0.050	0.083	0.06	0.011	Not tested	Maximum	0.083	0.0830
MW-05A	Saturation pH (@ 20C)	N/A	6/2018 - 11/2020	8	0%	9.64	10.3	--	--	9.64	10.3	10.00	0.211	Normal	Normal	10.7	10.9
MW-05A	Saturation pH (@ 4C)	N/A	6/2018 - 11/2020	8	0%	9.89	10.5	--	--	9.89	10.5	10.3	0.219	Normal	Normal	11.0	11.2
	Inorganics																
MW-05A	Total Alkalinity (Total as CaCO3)	mg/L	6/2018 - 11/2020	8	0%	6.2	15	--	--	6.2	15	9.18	2.68	Normal	Normal	17.7	20.8
MW-05A	Total Chemical Oxygen Demand	mg/L	11/2020 - 11/2020	1	100%	--	--	<20	<20	<20	<20	--	--	Not tested	Reporting Limit	<20	<20
MW-05A	Dissolved Chloride (Cl-)	mg/L	6/2018 - 11/2020	8	0%	2.8	4.65	--	--	2.8	4.65	3.54	0.662	Normal	Normal	5.65	6.43
MW-05A	Colour	TCU	6/2018 - 11/2020	8	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	Not tested	Reporting Limit	<5.0	<5.0
MW-05A	Nitrate + Nitrite (N)	mg/L	6/2018 - 11/2020	8	63%	0.051	0.083	<0.050	<0.050	<0.050	0.083	0.06	0.011	Not tested	Maximum	0.083	0.0830
MW-05A	Nitrite (N)	mg/L	6/2018 - 11/2020	8	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-05A	Nitrogen (Ammonia Nitrogen)	mg/L	6/2018 - 11/2020	8	63%	0.057	0.21	<0.050	<0.050	<0.050	0.21	0.07	0.052	Not tested	Maximum	0.210	0.210
MW-05A	Dissolved Organic Carbon (C)	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.5	<0.5	<0.5	<0.5	--	--	Not tested	Reporting Limit	<0.5	<0.5
MW-05A	Total Organic Carbon (C)	mg/L	6/2018 - 11/2020	8	0%	0.57	1.5	--	--	0.57	1.5	0.92	0.097	Gamma	WH Approx. Gamma	1.87	2.44
MW-05A	Orthophosphate (P)	mg/L	6/2018 - 11/2020	8	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-05A	pH (LTL - UTL)	s.u.	6/2018 - 11/2020	8	0%	5.97	6.48	--	--	5.97	6.48	6.24	0.185	Normal	Normal	5.55 - 6.93	5.35 - 7.12
MW-05A	Dissolved Phosphorous	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-05A	Total Phosphorus	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-05A	Reactive Silica (SiO2)	mg/L	6/2018 - 11/2020	8	0%	4.1	6.4	--	--	4.1	6.4	5.04	0.653	Normal	Normal	7.12	7.89
MW-05A	Total Suspended Solids	mg/L	11/2020 - 11/2020	1	0%	6.4	6.4	--	--	6.4	6.4	--	--	Not tested	Maximum	6.40	6.40
MW-05A	Dissolved Sulphate (SO4)	mg/L	6/2018 - 11/2020	8	0%	3	4.5	--	--	3	4.5	3.69	0.625	Normal	Normal	5.68	6.41

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-05A	Turbidity	NTU	6/2018 - 11/2020	8	0%	0.98	3.8	--	--	0.98	3.8	0.37	0.420	Lognormal	Lognormal	5.56	9.07
MW-05A	Conductivity	µS/cm	6/2018 - 11/2020	8	0%	26	47	--	--	26	47	34.9	6.83	Normal	Normal	56.7	64.7
	Metals																
MW-05A	Dissolved Aluminum (Al)	µg/L	6/2018 - 11/2020	8	0%	8.55	34	--	--	8.55	34	20.8	7.38	Normal	Normal	44.3	53.0
MW-05A	Total Aluminum (Al)	µg/L	6/2019 - 11/2020	5	0%	76	260	--	--	76	260	134	66.4	Normal	Normal	413	515
MW-05A	Dissolved Antimony (Sb)	µg/L	6/2018 - 11/2020	8	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-05A	Total Antimony (Sb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-05A	Dissolved Arsenic (As)	µg/L	6/2018 - 11/2020	8	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-05A	Total Arsenic (As)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-05A	Dissolved Barium (Ba)	µg/L	6/2018 - 11/2020	8	0%	5.6	9.9	--	--	5.6	9.9	7.20	1.49	Normal	Normal	11.9	13.7
MW-05A	Total Barium (Ba)	µg/L	6/2019 - 11/2020	5	0%	5.7	9.4	--	--	5.7	9.4	7.34	1.58	Normal	Normal	14.0	16.4
MW-05A	Dissolved Beryllium (Be)	µg/L	6/2018 - 11/2020	8	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-05A	Total Beryllium (Be)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-05A	Dissolved Bismuth (Bi)	µg/L	6/2018 - 11/2020	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-05A	Total Bismuth (Bi)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-05A	Dissolved Boron (B)	µg/L	6/2018 - 11/2020	8	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-05A	Total Boron (B)	µg/L	6/2019 - 11/2020	5	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-05A	Dissolved Cadmium (Cd)	µg/L	6/2018 - 11/2020	8	0%	0.019	0.035	--	--	0.019	0.035	0.03	0.005	Normal	Normal	0.042	0.0482
MW-05A	Total Cadmium (Cd)	µg/L	6/2019 - 11/2020	5	0%	0.016	0.023	--	--	0.016	0.023	0.02	0.002	Normal	Normal	0.031	0.0344
MW-05A	Dissolved Calcium (Ca)	µg/L	6/2018 - 11/2020	8	0%	1400	3000	--	--	1400	3000	2238	545	Normal	Normal	3976	4612
MW-05A	Total Calcium (Ca)	µg/L	6/2019 - 11/2020	5	0%	1400	2500	--	--	1400	2500	1900	358	Normal	Normal	3404	3954
MW-05A	Dissolved Chromium (Cr)	µg/L	6/2018 - 11/2020	8	88%	1.5	1.5	<1.0	<1.0	<1.0	1.5	--	--	Not tested	Maximum	1.50	1.50
MW-05A	Total Chromium (Cr)	µg/L	6/2019 - 11/2020	5	80%	1.1	1.1	<1.0	<1.0	<1.0	1.1	--	--	Not tested	Maximum	1.10	1.10
MW-05A	Dissolved Cobalt (Co)	µg/L	6/2018 - 11/2020	8	0%	0.86	3.7	--	--	0.86	3.7	1.93	1.08	Normal	Normal	5.36	6.61
MW-05A	Total Cobalt (Co)	µg/L	6/2019 - 11/2020	5	0%	0.89	1.9	--	--	0.89	1.9	1.31	0.382	Normal	Normal	2.92	3.51
MW-05A	Dissolved Copper (Cu)	µg/L	6/2018 - 11/2020	8	0%	3.6	17	--	--	3.6	17	8.93	4.32	Normal	Normal	22.7	27.7
MW-05A	Total Copper (Cu)	µg/L	6/2019 - 11/2020	5	0%	3.8	16	--	--	3.8	16	10.1	4.01	Normal	Normal	26.9	33.1
MW-05A	Dissolved Iron (Fe)	µg/L	6/2018 - 11/2020	8	88%	310	310	<50	<50	<50	310	--	--	Not tested	Maximum	310	310
MW-05A	Total Iron (Fe)	µg/L	6/2019 - 11/2020	5	0%	61	450	--	--	61	450	177	141	Normal	Normal	769	986
MW-05A	Dissolved Lead (Pb)	µg/L	6/2018 - 11/2020	8	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-05A	Total Lead (Pb)	µg/L	6/2019 - 11/2020	5	60%	0.59	0.96	<0.50	<0.50	<0.50	0.96	0.61	0.178	Not tested	Maximum	0.960	0.960
MW-05A	Dissolved Magnesium (Mg)	µg/L	6/2018 - 11/2020	8	0%	380	780	--	--	380	780	541	148	Normal	Normal	1013	1186
MW-05A	Total Magnesium (Mg)	µg/L	6/2019 - 11/2020	5	0%	390	510	--	--	390	510	462	42.6	Normal	Normal	641	707
MW-05A	Dissolved Manganese (Mn)	µg/L	6/2018 - 11/2020	8	0%	27	290	--	--	27	290	4.09	1.23	Gamma	WH Approx. Gamma	512	839
MW-05A	Total Manganese (Mn)	µg/L	6/2019 - 11/2020	5	0%	28	55	--	--	28	55	38.2	9.74	Normal	Normal	79.2	94.1
MW-05A	Dissolved Molybdenum (Mo)	µg/L	6/2018 - 11/2020	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-05A	Total Molybdenum (Mo)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-05A	Dissolved Nickel (Ni)	µg/L	6/2018 - 11/2020	8	13%	3.3	10	<2.0	<2.0	<2.0	10	6.03	2.67	Normal	Normal (KM)	14.5	17.6
MW-05A	Total Nickel (Ni)	µg/L	6/2019 - 11/2020	5	20%	3.7	7.1	<2.0	<2.0	<2.0	7.1	4.54	1.68	Normal	Normal (KM)	11.6	14.2
MW-05A	Dissolved Phosphorus (P)	µg/L	6/2018 - 11/2020	8	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-05A	Total Phosphorus (P)	µg/L	6/2019 - 11/2020	5	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-05A	Dissolved Potassium (K)	µg/L	6/2018 - 11/2020	8	0%	330	995	--	--	330	995	636	216	Normal	Normal	1323	1574
MW-05A	Total Potassium (K)	µg/L	6/2019 - 11/2020	5	0%	330	620	--	--	330	620	506	97.3	Normal	Normal	915	1065
MW-05A	Dissolved Selenium (Se)	µg/L	6/2018 - 11/2020	8	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-05A	Total Selenium (Se)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-05A	Dissolved Silver (Ag)	µg/L	6/2018 - 11/2020	8	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-05A	Total Silver (Ag)	µg/L	6/2019 - 11/2020	5	20%	0.12	0.24	<0.10	<0.10	<0.10	0.24	0.15	0.050	Normal	Normal (KM)	0.360	0.437
MW-05A	Dissolved Sodium (Na)	µg/L	6/2018 - 11/2020	8	0%	2200	3300	--	--	2200	3300	2825	370	Normal	Normal	4004	4436
MW-05A	Total Sodium (Na)	µg/L	6/2019 - 11/2020	5	0%	2200	3000	--	--	2200	3000	2640	258	Normal	Normal	3723	4119
MW-05A	Dissolved Strontium (Sr)	µg/L	6/2018 - 11/2020	8	0%	9	15	--	--	9	15	11.8	2.11	Normal	Normal	18.5	20.9
MW-05A	Total Strontium (Sr)	µg/L	6/2019 - 11/2020	5	0%	8.2	12	--	--	8.2	12	10.4	1.29	Normal	Normal	15.9	17.8
MW-05A	Dissolved Thallium (Tl)	µg/L	6/2018 - 11/2020	8	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-05A	Total Thallium (Tl)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-05A	Dissolved Tin (Sn)	µg/L	6/2018 - 11/2020	8	88%	3	3	<2.0	<2.0	<2.0	3	--	--	Not tested	Maximum	3.00	3.00
MW-05A	Total Tin (Sn)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-05A	Dissolved Titanium (Ti)	µg/L	6/2018 - 11/2020	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-05A	Total Titanium (Ti)	µg/L	6/2019 - 11/2020	5	20%	2.8	9.6	<2.0	<2.0	<2.0	9.6	4.56	2.69	Normal	Normal (KM)	15.9	20.0
MW-05A	Dissolved Uranium (U)	µg/L	6/2018 - 11/2020	8	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-05A	Total Uranium (U)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-05A	Dissolved Vanadium (V)	µg/L	6/2018 - 11/2020	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-05A	Total Vanadium (V)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-05A	Dissolved Zinc (Zn)	µg/L	6/2018 - 11/2020	8	25%	5.2	26	<5.0	<5.0	<5.0	26	2.17	0.464	Gamma	WH Approx. Gamma (KM	48.5	73.4
MW-05A	Total Zinc (Zn)	µg/L	6/2019 - 11/2020	5	20%	8.3	18	<5.0	<5.0	<5.0	18	10.7	4.46	Normal	Normal (KM)	29.4	36.3
MW-05A	Dissolved Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
MW-05A	Total Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
	Calculated Parameters																

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-05B	Anion Sum	me/L	6/2018 - 11/2020	8	0%	0.99	1.81	--	--	0.99	1.81	1.24	0.260	Normal	Normal	2.07	2.37
MW-05B	Bicarb. Alkalinity (calc. as CaCO3	mg/L	6/2018 - 11/2020	8	0%	37	72.5	--	--	37	72.5	48.5	10.7	Normal	Normal	82.7	95.3
MW-05B	Calculated TDS	mg/L	6/2018 - 11/2020	8	0%	60	100	--	--	60	100	73.9	13.2	Normal	Normal	116	131
MW-05B	Carb. Alkalinity (calc. as CaCO3)	mg/L	6/2018 - 11/2020	8	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-05B	Cation Sum	me/L	6/2018 - 11/2020	8	0%	0.9	1.41	--	--	0.9	1.41	1.08	0.155	Normal	Normal	1.58	1.76
MW-05B	Hardness (CaCO3)	mg/L	6/2018 - 11/2020	8	0%	27	53	--	--	27	53	38.0	7.09	Normal	Normal	60.6	68.9
MW-05B	Ion Balance (% Difference)	%	6/2018 - 11/2020	8	0%	0.44	27.2	--	--	0.44	27.2	1.61	0.604	Gamma	WH Approx. Gamma	44.0	75.9
MW-05B	Langelier Index (@ 20C)	N/A	6/2018 - 11/2020	8	0%	-1.43	-0.697	--	--	-1.43	-0.697	-1.13	0.263	Normal	Normal	-0.290	0.0169
MW-05B	Langelier Index (@ 4C)	N/A	6/2018 - 11/2020	8	0%	-1.68	-0.9475	--	--	-1.68	-0.9475	-1.38	0.263	Normal	Normal	-0.543	-0.24
MW-05B	Nitrate (N)	mg/L	6/2018 - 11/2020	8	75%	0.061	0.0925	<0.050	<0.050	<0.050	0.0925	0.06	0.014	Not tested	Maximum	0.093	0.0925
MW-05B	Saturation pH (@ 20C)	N/A	6/2018 - 11/2020	8	0%	8.32	8.8	--	--	8.32	8.8	8.55	0.136	Normal	Normal	8.98	9.14
MW-05B	Saturation pH (@ 4C)	N/A	6/2018 - 11/2020	8	0%	8.57	9.05	--	--	8.57	9.05	8.80	0.135	Normal	Normal	9.23	9.39
	Inorganics																
MW-05B	Total Alkalinity (Total as CaCO3)	mg/L	6/2018 - 11/2020	8	0%	37	73	--	--	37	73	48.9	10.9	Normal	Normal	83.6	96.3
MW-05B	Total Chemical Oxygen Demand	mg/L	11/2020 - 11/2020	1	100%	--	--	<20	<20	<20	<20	--	--	Not tested	Reporting Limit	<20	<20
MW-05B	Dissolved Chloride (Cl-)	mg/L	6/2018 - 11/2020	8	0%	2.3	4.7	--	--	2.3	4.7	3.51	0.700	Normal	Normal	5.74	6.56
MW-05B	Colour	TCU	6/2018 - 11/2020	8	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	Not tested	Reporting Limit	<5.0	<5.0
MW-05B	Nitrate + Nitrite (N)	mg/L	6/2018 - 11/2020	8	75%	0.061	0.0925	<0.050	<0.050	<0.050	0.0925	0.06	0.014	Not tested	Maximum	0.093	0.0925
MW-05B	Nitrite (N)	mg/L	6/2018 - 11/2020	8	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-05B	Nitrogen (Ammonia Nitrogen)	mg/L	6/2018 - 11/2020	8	75%	0.074	0.19	<0.050	<0.050	<0.050	0.19	0.07	0.046	Not tested	Maximum	0.190	0.190
MW-05B	Dissolved Organic Carbon (C)	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-05B	Total Organic Carbon (C)	mg/L	6/2018 - 7/2020	7	0%	0.735	7.8	--	--	0.735	7.8	0.47	0.711	Lognormal	Lognormal	17.9	43.2
MW-05B	Orthophosphate (P)	mg/L	6/2018 - 11/2020	8	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-05B	pH (LTL - UTL)	s.u.	6/2018 - 11/2020	8	0%	7.23	7.725	--	--	7.23	7.725	7.42	0.164	Normal	Normal	6.8 - 8.03	6.63 - 8.2
MW-05B	Dissolved Phosphorous	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-05B	Total Phosphorus	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-05B	Reactive Silica (SiO2)	mg/L	6/2018 - 11/2020	8	0%	8.2	20.5	--	--	8.2	20.5	11.1	3.87	Not Normal	Normal **	23.4	27.9
MW-05B	Total Suspended Solids	mg/L	11/2020 - 11/2020	1	0%	32.5	32.5	--	--	32.5	32.5	--	--	Not tested	Maximum	32.5	32.5
MW-05B	Dissolved Sulphate (SO4)	mg/L	6/2018 - 11/2020	8	0%	5.9	11.5	--	--	5.9	11.5	7.71	1.65	Normal	Normal	13.0	14.9
MW-05B	Turbidity	NTU	6/2018 - 11/2020	8	0%	11	22	--	--	11	22	15.3	3.56	Normal	Normal	26.6	30.8
MW-05B	Conductivity	µS/cm	6/2018 - 11/2020	8	0%	96	170	--	--	96	170	118	23.9	Normal	Normal	194	222
	Metals																
MW-05B	Dissolved Aluminum (Al)	µg/L	6/2018 - 11/2020	8	13%	6.6	38	<5.0	<5.0	<5.0	38	11.8	10.0	Not Normal	Normal (KM) **	43.8	55.5
MW-05B	Total Aluminum (Al)	µg/L	6/2019 - 11/2020	5	0%	585	1300	--	--	585	1300	980	284	Normal	Normal	2174	2611
MW-05B	Dissolved Antimony (Sb)	µg/L	6/2018 - 11/2020	8	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-05B	Total Antimony (Sb)	µg/L	6/2019 - 11/2020	5	80%	1.6	1.6	<1.0	<1.0	<1.0	1.6	--	--	Not tested	Maximum	1.60	1.60
MW-05B	Dissolved Arsenic (As)	µg/L	6/2018 - 11/2020	8	50%	1	2.8	<1.0	<1.0	1	2.8	1.27	0.590	Not Normal	Normal (KM) **	3.15	3.84
MW-05B	Total Arsenic (As)	µg/L	6/2019 - 11/2020	5	20%	1.7	3.9	<1.0	<1.0	<1.0	3.9	2.22	0.958	Normal	Normal (KM)	6.25	7.72
MW-05B	Dissolved Barium (Ba)	µg/L	6/2018 - 11/2020	8	0%	5.5	25.5	--	--	5.5	25.5	9.34	6.28	Not Normal	Normal **	29.3	36.7
MW-05B	Total Barium (Ba)	µg/L	6/2019 - 11/2020	5	0%	8.4	22.5	--	--	8.4	22.5	14.3	5.19	Normal	Normal	36.1	44.1
MW-05B	Dissolved Beryllium (Be)	µg/L	6/2018 - 11/2020	8	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-05B	Total Beryllium (Be)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-05B	Dissolved Bismuth (Bi)	µg/L	6/2018 - 11/2020	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-05B	Total Bismuth (Bi)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-05B	Dissolved Boron (B)	µg/L	6/2018 - 11/2020	8	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-05B	Total Boron (B)	µg/L	6/2019 - 11/2020	5	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-05B	Dissolved Cadmium (Cd)	µg/L	6/2018 - 11/2020	8	38%	0.01	0.018	<0.010	<0.010	<0.010	0.018	0.01	0.003	Not Normal	Normal (KM) **	0.021	0.0246
MW-05B	Total Cadmium (Cd)	µg/L	6/2019 - 11/2020	5	0%	0.013	0.023	--	--	0.013	0.023	0.02	0.004	Normal	Normal	0.033	0.0393
MW-05B	Dissolved Calcium (Ca)	µg/L	6/2018 - 11/2020	8	0%	9000	18000	--	--	9000	18000	12875	2459	Normal	Normal	20713	23581
MW-05B	Total Calcium (Ca)	µg/L	6/2019 - 11/2020	5	0%	12500	18000	--	--	12500	18000	24.1	1.09	Gamma	WH Approx. Gamma	23599	27979
MW-05B	Dissolved Chromium (Cr)	µg/L	6/2018 - 11/2020	8	88%	1.3	1.3	<1.0	<1.0	<1.0	1.3	--	--	Not tested	Maximum	1.30	1.30
MW-05B	Total Chromium (Cr)	µg/L	6/2019 - 11/2020	5	80%	1.5	1.5	<1.0	<1.0	<1.0	1.5	--	--	Not tested	Maximum	1.50	1.50
MW-05B	Dissolved Cobalt (Co)	µg/L	6/2018 - 11/2020	8	63%	1.3	1.75	<0.40	<0.40	<0.40	1.75	0.83	0.568	Not tested	Maximum	1.75	1.75
MW-05B	Total Cobalt (Co)	µg/L	6/2019 - 11/2020	5	20%	0.52	1.15	<0.40	<0.40	<0.40	1.15	0.65	0.259	Normal	Normal (KM)	1.74	2.14
MW-05B	Dissolved Copper (Cu)	µg/L	6/2018 - 11/2020	8	88%	4.8	4.8	<0.50	<2.0	<0.50	4.8	--	--	Not tested	Maximum	4.80	4.80
MW-05B	Total Copper (Cu)	µg/L	6/2019 - 11/2020	5	0%	1.4	3.15	--	--	1.4	3.15	2.06	0.618	Normal	Normal	4.66	5.61
MW-05B	Dissolved Iron (Fe)	µg/L	6/2018 - 11/2020	8	63%	54	305	<50	<50	<50	305	88.6	83.4	Not tested	Maximum	305	305
MW-05B	Total Iron (Fe)	µg/L	6/2019 - 11/2020	5	0%	400	815	--	--	400	815	630	149	Normal	Normal	1255	1483
MW-05B	Dissolved Lead (Pb)	µg/L	6/2018 - 11/2020	8	88%	1.2	1.2	<0.50	<0.50	<0.50	1.2	--	--	Not tested	Maximum	1.20	1.20
MW-05B	Total Lead (Pb)	µg/L	6/2019 - 11/2020	5	0%	0.57	1.25	--	--	0.57	1.25	0.79	0.245	Normal	Normal	1.82	2.20
MW-05B	Dissolved Magnesium (Mg)	µg/L	6/2018 - 11/2020	8	0%	1200	1900	--	--	1200	1900	1400	224	Normal	Normal	2113	2374
MW-05B	Total Magnesium (Mg)	µg/L	6/2019 - 11/2020	5	0%	1400	2000	--	--	1400	2000	1620	214	Normal	Normal	2517	2846
MW-05B	Dissolved Manganese (Mn)	µg/L	6/2018 - 11/2020	8	0%	2.3	245	--	--	2.3	245	82.4	78.8	Normal	Normal	334	425
MW-05B	Total Manganese (Mn)	µg/L	6/2019 - 11/2020	5	0%	43	135	--	--	43	135	71.5	32.9	Normal	Normal	210	260
MW-05B	Dissolved Molybdenum (Mo)	µg/L	6/2018 - 11/2020	8	25%	2	5.1	<2.0	<2.0	2	5.1	3.03	1.13	Normal	Normal (KM)	6.61	7.93
MW-05B	Total Molybdenum (Mo)	µg/L	6/2019 - 11/2020	5	60%	2.35	5.5	<2.0	<2.0	<2.0	5.5	2.77	1.37	Not tested	Maximum	5.50	5.50

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-05B	Dissolved Nickel (Ni)	µg/L	6/2018 - 11/2020	8	63%	2.2	3.9	<2.0	<2.0	<2.0	3.9	2.38	0.646	Not tested	Maximum	3.90	3.90
MW-05B	Total Nickel (Ni)	µg/L	6/2019 - 11/2020	5	80%	2.15	2.15	<2.0	<2.0	<2.0	2.15	--	--	Not tested	Maximum	2.15	2.15
MW-05B	Dissolved Phosphorus (P)	µg/L	6/2018 - 11/2020	8	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-05B	Total Phosphorus (P)	µg/L	6/2019 - 11/2020	5	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-05B	Dissolved Potassium (K)	µg/L	6/2018 - 11/2020	8	0%	960	1400	--	--	960	1400	1203	151	Normal	Normal	1685	1861
MW-05B	Total Potassium (K)	µg/L	6/2019 - 11/2020	5	0%	1040	1400	--	--	1040	1400	1268	136	Normal	Normal	1840	2049
MW-05B	Dissolved Selenium (Se)	µg/L	6/2018 - 11/2020	8	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-05B	Total Selenium (Se)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-05B	Dissolved Silver (Ag)	µg/L	6/2018 - 11/2020	8	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-05B	Total Silver (Ag)	µg/L	6/2019 - 11/2020	5	40%	0.11	0.16	<0.10	<0.10	<0.10	0.16	0.12	0.022	Normal	Normal (KM)	0.212	0.246
MW-05B	Dissolved Sodium (Na)	µg/L	6/2018 - 11/2020	8	0%	4900	8400	--	--	4900	8400	6613	1124	Normal	Normal	10195	11507
MW-05B	Total Sodium (Na)	µg/L	6/2019 - 11/2020	5	0%	5200	6900	--	--	5200	6900	6010	705	Normal	Normal	8971	10055
MW-05B	Dissolved Strontium (Sr)	µg/L	6/2018 - 11/2020	8	0%	34	150	--	--	34	150	75.3	32.3	Normal	Normal	178	216
MW-05B	Total Strontium (Sr)	µg/L	6/2019 - 11/2020	5	0%	74.5	120	--	--	74.5	120	87.4	16.5	Not Normal	Normal **	157	182
MW-05B	Dissolved Thallium (Tl)	µg/L	6/2018 - 11/2020	8	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-05B	Total Thallium (Tl)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-05B	Dissolved Tin (Sn)	µg/L	6/2018 - 11/2020	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-05B	Total Tin (Sn)	µg/L	6/2019 - 11/2020	5	60%	2.8	5.7	<2.0	<2.0	<2.0	5.7	2.90	1.43	Not tested	Maximum	5.70	5.70
MW-05B	Dissolved Titanium (Ti)	µg/L	6/2018 - 11/2020	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-05B	Total Titanium (Ti)	µg/L	10/2019 - 11/2020	4	0%	10.25	31	--	--	10.25	31	19.7	8.24	Normal	Normal	62.1	77.7
MW-05B	Dissolved Uranium (U)	µg/L	6/2018 - 11/2020	8	0%	0.14	0.48	--	--	0.14	0.48	0.60	0.077	Gamma	WH Approx. Gamma	0.616	0.834
MW-05B	Total Uranium (U)	µg/L	6/2019 - 11/2020	5	0%	0.315	0.54	--	--	0.315	0.54	0.42	0.074	Normal	Normal	0.734	0.847
MW-05B	Dissolved Vanadium (V)	µg/L	6/2018 - 11/2020	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-05B	Total Vanadium (V)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-05B	Dissolved Zinc (Zn)	µg/L	6/2018 - 11/2020	8	38%	6.5	13	<5.0	<5.0	<5.0	13	1.91	0.206	Gamma	WH Approx. Gamma (KM	16.9	22.1
MW-05B	Total Zinc (Zn)	µg/L	6/2019 - 11/2020	5	0%	5.3	16.5	--	--	5.3	16.5	9.98	4.77	Normal	Normal	30.0	37.4
MW-05B	Dissolved Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
MW-05B	Total Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
	Calculated Parameters																
MW-05D	Anion Sum	me/L	6/2018 - 11/2020	8	0%	1.65	1.9	--	--	1.65	1.9	1.76	0.072	Normal	Normal	1.99	2.07
MW-05D	Bicarb. Alkalinity (calc. as CaCO3	mg/L	6/2018 - 11/2020	8	0%	62	71	--	--	62	71	67.0	2.74	Normal	Normal	75.7	78.9
MW-05D	Calculated TDS	mg/L	6/2018 - 11/2020	8	0%	98	110	--	--	98	110	101	3.46	Not Normal	Normal **	112	116
MW-05D	Carb. Alkalinity (calc. as CaCO3)	mg/L	6/2018 - 11/2020	8	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-05D	Cation Sum	me/L	6/2018 - 11/2020	8	0%	1.56	1.75	--	--	1.56	1.75	1.61	0.055	Not Normal	Normal **	1.79	1.85
MW-05D	Hardness (CaCO3)	mg/L	6/2018 - 11/2020	8	0%	54	56	--	--	54	56	55.4	0.857	Not Normal	Normal **	58.1	59.1
MW-05D	Ion Balance (% Difference)	%	6/2018 - 11/2020	8	0%	1.54	7.33	--	--	1.54	7.33	4.36	1.58	Normal	Normal	9.40	11.2
MW-05D	Langelier Index (@ 20C)	N/A	6/2018 - 11/2020	8	0%	-0.463	-0.134	--	--	-0.463	-0.134	-0.28	0.108	Normal	Normal	0.064	0.190
MW-05D	Langelier Index (@ 4C)	N/A	6/2018 - 11/2020	8	0%	-0.714	-0.385	--	--	-0.714	-0.385	-0.53	0.108	Normal	Normal	-0.187	-0.062
MW-05D	Nitrate (N)	mg/L	6/2018 - 11/2020	8	88%	0.066	0.066	<0.050	<0.050	<0.050	0.066	--	--	Not tested	Maximum	0.066	0.0660
MW-05D	Saturation pH (@ 20C)	N/A	6/2018 - 11/2020	8	0%	8.23	8.28	--	--	8.23	8.28	8.26	0.015	Normal	Normal	8.30	8.32
MW-05D	Saturation pH (@ 4C)	N/A	6/2018 - 11/2020	8	0%	8.49	8.54	--	--	8.49	8.54	8.51	0.014	Normal	Normal	8.56	8.57
	Inorganics																
MW-05D	Total Alkalinity (Total as CaCO3)	mg/L	6/2018 - 11/2020	8	0%	63	72	--	--	63	72	67.3	2.73	Normal	Normal	75.9	79.1
MW-05D	Total Chemical Oxygen Demand	mg/L	11/2020 - 11/2020	1	100%	--	--	<20	<20	<20	<20	--	--	Not tested	Reporting Limit	<20	<20
MW-05D	Dissolved Chloride (Cl-)	mg/L	6/2018 - 11/2020	8	0%	4.3	5.1	--	--	4.3	5.1	4.80	0.245	Normal	Normal	5.58	5.87
MW-05D	Colour	TCU	6/2018 - 11/2020	8	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	Not tested	Reporting Limit	<5.0	<5.0
MW-05D	Nitrate + Nitrite (N)	mg/L	6/2018 - 11/2020	8	88%	0.066	0.066	<0.050	<0.050	<0.050	0.066	--	--	Not tested	Maximum	0.066	0.0660
MW-05D	Nitrite (N)	mg/L	6/2018 - 11/2020	8	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-05D	Nitrogen (Ammonia Nitrogen)	mg/L	6/2018 - 11/2020	8	88%	0.089	0.089	<0.050	<0.050	<0.050	0.089	--	--	Not tested	Maximum	0.089	0.0890
MW-05D	Dissolved Organic Carbon (C)	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.5	<0.5	<0.5	<0.5	--	--	Not tested	Reporting Limit	<0.5	<0.5
MW-05D	Total Organic Carbon (C)	mg/L	6/2018 - 11/2020	8	38%	0.65	1.3	0.44 u	<0.50	0.44 u	1.3	0.76	0.305	Normal	Normal (KM)	1.73	2.08
MW-05D	Orthophosphate (P)	mg/L	6/2018 - 11/2020	8	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-05D	pH (LTL - UTL)	s.u.	6/2018 - 11/2020	8	0%	7.78	8.13	--	--	7.78	8.13	7.98	0.116	Normal	Normal	7.55 - 8.41	7.42 - 8.53
MW-05D	Dissolved Phosphorous	mg/L	11/2020 - 11/2020	1	0%	0.027	0.027	--	--	0.027	0.027	--	--	Not tested	Maximum	0.027	0.0270
MW-05D	Total Phosphorus	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-05D	Reactive Silica (SiO2)	mg/L	6/2018 - 11/2020	8	0%	11	12	--	--	11	12	11.9	0.331	Not Normal	Normal **	12.9	13.3
MW-05D	Total Suspended Solids	mg/L	11/2020 - 11/2020	1	0%	2.6	2.6	--	--	2.6	2.6	--	--	Not tested	Maximum	2.60	2.60
MW-05D	Dissolved Sulphate (SO4)	mg/L	6/2018 - 11/2020	8	0%	12	15	--	--	12	15	13.3	0.829	Normal	Normal	15.9	16.9
MW-05D	Turbidity	NTU	6/2018 - 11/2020	8	0%	0.4	17	--	--	0.4	17	7.80	6.16	Normal	Normal	27.4	34.6
MW-05D	Conductivity	µS/cm	6/2018 - 11/2020	8	0%	160	170	--	--	160	170	163	4.33	Not Normal	Normal **	176	181
	Metals																
MW-05D	Dissolved Aluminum (Al)	µg/L	6/2018 - 11/2020	8	0%	6.8	29	--	--	6.8	29	15.5	8.12	Normal	Normal	41.4	50.8
MW-05D	Total Aluminum (Al)	µg/L	6/2019 - 11/2020	5	0%	75	1600	--	--	75	1600	595	547	Normal	Normal	2895	3737
MW-05D	Dissolved Antimony (Sb)	µg/L	6/2018 - 11/2020	8	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-05D	Total Antimony (Sb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-05D	Dissolved Arsenic (As)	µg/L	6/2018 - 11/2020	8	88%	1.4	1.4	<1.0	<1.0	<1.0	1.4	--	--	Not tested	Maximum	1.40	1.40
MW-05D	Total Arsenic (As)	µg/L	6/2019 - 11/2020	5	60%	1.2	1.6	<1.0	<1.0	<1.0	1.6	1.16	0.513	Not tested	Maximum	1.60	1.60
MW-05D	Dissolved Barium (Ba)	µg/L	6/2018 - 11/2020	8	0%	2.2	7.6	--	--	2.2	7.6	4.80	1.78	Normal	Normal	10.5	12.5
MW-05D	Total Barium (Ba)	µg/L	6/2019 - 11/2020	5	0%	4.5	13	--	--	4.5	13	7.76	3.06	Normal	Normal	20.6	25.3
MW-05D	Dissolved Beryllium (Be)	µg/L	6/2018 - 11/2020	7	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-05D	Total Beryllium (Be)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-05D	Dissolved Bismuth (Bi)	µg/L	6/2018 - 11/2020	7	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-05D	Total Bismuth (Bi)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-05D	Dissolved Boron (B)	µg/L	6/2018 - 11/2020	8	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-05D	Total Boron (B)	µg/L	6/2019 - 11/2020	5	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-05D	Dissolved Cadmium (Cd)	µg/L	6/2018 - 11/2020	8	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-05D	Total Cadmium (Cd)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-05D	Dissolved Calcium (Ca)	µg/L	6/2018 - 11/2020	8	0%	18000	19000	--	--	18000	19000	18125	331	Not Normal	Normal **	19179	19565
MW-05D	Total Calcium (Ca)	µg/L	6/2019 - 11/2020	5	0%	18000	19000	--	--	18000	19000	18800	400	Not Normal	Normal **	20481	21096
MW-05D	Dissolved Chromium (Cr)	µg/L	6/2018 - 11/2020	8	88%	1.1	1.1	<1.0	<1.0	<1.0	1.1	--	--	Not tested	Maximum	1.10	1.10
MW-05D	Total Chromium (Cr)	µg/L	6/2019 - 11/2020	5	80%	1.7	1.7	<1.0	<1.0	<1.0	1.7	--	--	Not tested	Maximum	1.70	1.70
MW-05D	Dissolved Cobalt (Co)	µg/L	6/2018 - 11/2020	8	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	Not tested	Reporting Limit	<0.40	<0.40
MW-05D	Total Cobalt (Co)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	Not tested	Reporting Limit	<0.40	<0.40
MW-05D	Dissolved Copper (Cu)	µg/L	6/2018 - 11/2020	8	88%	0.67	0.67	<0.50	<2.0	<0.50	<2.0	--	--	Not tested	Maximum	<2.0	<2.0
MW-05D	Total Copper (Cu)	µg/L	6/2019 - 11/2020	5	60%	0.87	1.1	<0.50	<0.50	<0.50	1.1	0.69	0.411	Not tested	Maximum	1.10	1.10
MW-05D	Dissolved Iron (Fe)	µg/L	6/2018 - 11/2020	8	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-05D	Total Iron (Fe)	µg/L	6/2019 - 11/2020	5	0%	85	640	--	--	85	640	335	226	Normal	Normal	1283	1630
MW-05D	Dissolved Lead (Pb)	µg/L	6/2018 - 11/2020	8	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-05D	Total Lead (Pb)	µg/L	6/2019 - 11/2020	5	40%	0.61	0.95	<0.50	<0.50	<0.50	0.95	0.67	0.174	Normal	Normal (KM)	1.40	1.67
MW-05D	Dissolved Magnesium (Mg)	µg/L	6/2018 - 11/2020	8	0%	2300	2500	--	--	2300	2500	2400	50.0	Not Normal	Normal **	2559	2618
MW-05D	Total Magnesium (Mg)	µg/L	6/2019 - 11/2020	5	0%	2400	2700	--	--	2400	2700	2540	102	Normal	Normal	2969	3125
MW-05D	Dissolved Manganese (Mn)	µg/L	6/2018 - 11/2020	8	0%	17	31	--	--	17	31	24.0	4.69	Normal	Normal	38.9	44.4
MW-05D	Total Manganese (Mn)	µg/L	6/2019 - 11/2020	5	0%	30	40	--	--	30	40	33.2	3.66	Normal	Normal	48.6	54.2
MW-05D	Dissolved Molybdenum (Mo)	µg/L	6/2018 - 11/2020	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-05D	Total Molybdenum (Mo)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-05D	Dissolved Nickel (Ni)	µg/L	6/2018 - 11/2020	8	88%	2	2	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Maximum	<2.0	<2.0
MW-05D	Total Nickel (Ni)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-05D	Dissolved Phosphorus (P)	µg/L	6/2018 - 11/2020	8	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-05D	Total Phosphorus (P)	µg/L	6/2019 - 11/2020	5	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-05D	Dissolved Potassium (K)	µg/L	6/2018 - 11/2020	8	0%	930	1100	--	--	930	1100	998	44.9	Normal	Normal	1141	1193
MW-05D	Total Potassium (K)	µg/L	6/2019 - 11/2020	5	0%	970	1300	--	--	970	1300	1092	133	Normal	Normal	1652	1857
MW-05D	Dissolved Selenium (Se)	µg/L	6/2018 - 11/2020	8	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-05D	Total Selenium (Se)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-05D	Dissolved Silver (Ag)	µg/L	6/2018 - 11/2020	8	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-05D	Total Silver (Ag)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-05D	Dissolved Sodium (Na)	µg/L	6/2018 - 11/2020	8	0%	10000	15000	--	--	10000	15000	11000	1581	Not Normal	Normal **	16040	17884
MW-05D	Total Sodium (Na)	µg/L	6/2019 - 11/2020	5	0%	11000	15000	--	--	11000	15000	11800	1600	Not Normal	Normal **	18524	20986
MW-05D	Dissolved Strontium (Sr)	µg/L	6/2018 - 11/2020	8	0%	160	180	--	--	160	180	166	6.96	Not Normal	Normal **	188	197
MW-05D	Total Strontium (Sr)	µg/L	6/2019 - 11/2020	5	0%	160	190	--	--	160	190	172	9.80	Normal	Normal	213	228
MW-05D	Dissolved Thallium (Tl)	µg/L	6/2018 - 11/2020	8	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-05D	Total Thallium (Tl)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-05D	Dissolved Tin (Sn)	µg/L	6/2018 - 11/2020	8	88%	2.5	2.5	<2.0	<2.0	<2.0	2.5	--	--	Not tested	Maximum	2.50	2.50
MW-05D	Total Tin (Sn)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-05D	Dissolved Titanium (Ti)	µg/L	6/2018 - 11/2020	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-05D	Total Titanium (Ti)	µg/L	6/2019 - 11/2020	5	0%	2.5	30	--	--	2.5	30	12.4	9.78	Normal	Normal	53.4	68.5
MW-05D	Dissolved Uranium (U)	µg/L	6/2018 - 11/2020	8	0%	0.21	0.51	--	--	0.21	0.51	0.36	0.100	Normal	Normal	0.677	0.794
MW-05D	Total Uranium (U)	µg/L	6/2019 - 11/2020	5	0%	0.28	0.69	--	--	0.28	0.69	0.46	0.149	Normal	Normal	1.08	1.31
MW-05D	Dissolved Vanadium (V)	µg/L	6/2018 - 11/2020	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-05D	Total Vanadium (V)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-05D	Dissolved Zinc (Zn)	µg/L	6/2018 - 11/2020	8	88%	8.5	8.5	<5.0	<5.0	<5.0	8.5	--	--	Not tested	Maximum	8.50	8.50
MW-05D	Total Zinc (Zn)	µg/L	6/2019 - 11/2020	5	80%	6.2	6.2	<5.0	<5.0	<5.0	6.2	--	--	Not tested	Maximum	6.20	6.20
MW-05D	Dissolved Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
MW-05D	Total Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
	Calculated Parameters																
MW-07A	Anion Sum	me/L	6/2018 - 11/2020	9	0%	2.4	2.67	--	--	2.4	2.67	2.50	0.077	Normal	Normal	2.74	2.82
MW-07A	Bicarb. Alkalinity (calc. as CaCO3	mg/L	6/2018 - 11/2020	9	0%	100	110	--	--	100	110	106	4.97	Not Normal	Normal **	121	126
MW-07A	Calculated TDS	mg/L	6/2018 - 11/2020	9	0%	150	160	--	--	150	160	151	3.14	Not Normal	Normal **	161	164
MW-07A	Carb. Alkalinity (calc. as CaCO3)	mg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-07A	Cation Sum	me/L	6/2018 - 11/2020	9	0%	2.45	2.73	--	--	2.45	2.73	2.59	0.093	Normal	Normal	2.88	2.98
MW-07A	Hardness (CaCO3)	mg/L	6/2018 - 11/2020	9	0%	93	110	--	--	93	110	99.3	4.55	Normal	Normal	113	118
MW-07A	Ion Balance (% Difference)	%	6/2018 - 11/2020	9	0%	1.03	4.65	--	--	1.03	4.65	1.22	0.220	Gamma	WH Approx. Gamma	6.76	9.73
MW-07A	Langelier Index (@ 20C)	N/A	6/2018 - 11/2020	9	0%	-0.988	-0.642	--	--	-0.988	-0.642	-0.81	0.105	Normal	Normal	-0.495	-0.38

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-07A	Langelier Index (@ 4C)	N/A	6/2018 - 11/2020	9	0%	-1.24	-0.892	--	--	-1.24	-0.892	-1.06	0.105	Normal	Normal	-0.745	-0.63
MW-07A	Nitrate (N)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.050	<0.050	<0.050	<0.050	--	--	Not tested	Reporting Limit	<0.050	<0.050
MW-07A	Saturation pH (@ 20C)	N/A	6/2018 - 11/2020	9	0%	7.84	7.93	--	--	7.84	7.93	7.89	0.027	Normal	Normal	7.98	8.01
MW-07A	Saturation pH (@ 4C)	N/A	6/2018 - 11/2020	9	0%	8.09	8.18	--	--	8.09	8.18	8.14	0.027	Normal	Normal	8.23	8.26
	Inorganics																
MW-07A	Total Alkalinity (Total as CaCO3)	mg/L	6/2018 - 11/2020	9	0%	100	110	--	--	100	110	106	4.97	Not Normal	Normal **	121	126
MW-07A	Total Chemical Oxygen Demand	mg/L	11/2020 - 11/2020	1	100%	--	--	<20	<20	<20	<20	--	--	Not tested	Reporting Limit	<20	<20
MW-07A	Dissolved Chloride (Cl-)	mg/L	6/2018 - 11/2020	9	0%	2.9	4.8	--	--	2.9	4.8	4.04	0.552	Normal	Normal	5.72	6.33
MW-07A	Colour	TCU	6/2018 - 11/2020	9	0%	6.9	110	--	--	6.9	110	46.1	29.8	Normal	Normal	136	170
MW-07A	Nitrate + Nitrite (N)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.050	<0.050	<0.050	<0.050	--	--	Not tested	Reporting Limit	<0.050	<0.050
MW-07A	Nitrite (N)	mg/L	6/2018 - 11/2020	9	89%	0.022	0.022	<0.010	<0.010	<0.010	0.022	--	--	Not tested	Maximum	0.022	0.0220
MW-07A	Nitrogen (Ammonia Nitrogen)	mg/L	6/2018 - 11/2020	9	89%	0.091	0.091	<0.050	<0.050	<0.050	0.091	--	--	Not tested	Maximum	0.091	0.0910
MW-07A	Dissolved Organic Carbon (C)	mg/L	11/2020 - 11/2020	1	0%	0.6	0.6	--	--	0.6	0.6	--	--	Not tested	Maximum	0.600	0.600
MW-07A	Total Organic Carbon (C)	mg/L	6/2018 - 11/2020	9	11%	0.61	1.1	<0.50	<0.50	<0.50	1.1	0.81	0.194	Normal	Normal (KM)	1.40	1.61
MW-07A	Orthophosphate (P)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-07A	pH (LTL - UTL)	s.u.	6/2018 - 11/2020	9	0%	6.94	7.26	--	--	6.94	7.26	7.08	0.093	Normal	Normal	6.75 - 7.41	6.66 - 7.5
MW-07A	Dissolved Phosphorous	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-07A	Total Phosphorus	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-07A	Reactive Silica (SiO2)	mg/L	6/2018 - 11/2020	8	0%	20	22	--	--	20	22	20.7	0.816	Not Normal	Normal **	23.3	24.2
MW-07A	Total Suspended Solids	mg/L	11/2020 - 11/2020	1	0%	18	18	--	--	18	18	--	--	Not tested	Maximum	18.0	18.0
MW-07A	Dissolved Sulphate (SO4)	mg/L	6/2018 - 11/2020	9	0%	12	15	--	--	12	15	13.3	1.15	Normal	Normal	16.8	18.1
MW-07A	Turbidity	NTU	6/2018 - 11/2020	9	0%	16	55	--	--	16	55	37.7	12.6	Normal	Normal	75.8	89.8
MW-07A	Conductivity	µS/cm	6/2018 - 11/2020	9	0%	230	250	--	--	230	250	241	5.67	Not Normal	Normal **	258	265
	Metals																
MW-07A	Dissolved Aluminum (Al)	µg/L	6/2018 - 11/2020	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	Not tested	Reporting Limit	<5.0	<5.0
MW-07A	Total Aluminum (Al)	µg/L	6/2019 - 11/2020	5	0%	65	260	--	--	65	260	128	74.3	Normal	Normal	440	555
MW-07A	Dissolved Antimony (Sb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-07A	Total Antimony (Sb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-07A	Dissolved Arsenic (As)	µg/L	6/2018 - 11/2020	9	0%	2.1	20	--	--	2.1	20	10.4	5.93	Normal	Normal	28.3	34.9
MW-07A	Total Arsenic (As)	µg/L	6/2019 - 11/2020	5	0%	21	33	--	--	21	33	27.6	5.20	Normal	Normal	49.5	57.5
MW-07A	Dissolved Barium (Ba)	µg/L	6/2018 - 11/2020	9	0%	4.5	11	--	--	4.5	11	7.17	2.09	Normal	Normal	13.5	15.8
MW-07A	Total Barium (Ba)	µg/L	6/2019 - 11/2020	5	0%	4.9	7.5	--	--	4.9	7.5	6.32	0.945	Normal	Normal	10.3	11.7
MW-07A	Dissolved Beryllium (Be)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-07A	Total Beryllium (Be)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-07A	Dissolved Bismuth (Bi)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-07A	Total Bismuth (Bi)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-07A	Dissolved Boron (B)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-07A	Total Boron (B)	µg/L	6/2019 - 11/2020	5	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-07A	Dissolved Cadmium (Cd)	µg/L	6/2018 - 11/2020	9	89%	0.013	0.013	<0.010	<0.010	<0.010	0.013	--	--	Not tested	Maximum	0.013	0.0130
MW-07A	Total Cadmium (Cd)	µg/L	6/2019 - 11/2020	5	60%	0.012	0.012	<0.010	<0.010	<0.010	0.012	0.01	0.001	Not tested	Maximum	0.012	0.0120
MW-07A	Dissolved Calcium (Ca)	µg/L	6/2018 - 11/2020	9	0%	27000	30000	--	--	27000	30000	28333	943	Normal	Normal	31191	32239
MW-07A	Total Calcium (Ca)	µg/L	6/2019 - 11/2020	5	0%	26000	30000	--	--	26000	30000	28600	1497	Normal	Normal	34890	37192
MW-07A	Dissolved Chromium (Cr)	µg/L	6/2018 - 11/2020	9	78%	1.2	6.2	<1.0	<1.0	<1.0	6.2	1.60	1.63	Not tested	Maximum	6.20	6.20
MW-07A	Total Chromium (Cr)	µg/L	6/2019 - 11/2020	5	80%	1.1	1.1	<1.0	<1.0	<1.0	1.1	--	--	Not tested	Maximum	1.10	1.10
MW-07A	Dissolved Cobalt (Co)	µg/L	6/2018 - 11/2020	9	78%	0.44	0.55	<0.40	<0.40	<0.40	0.55	0.42	0.047	Not tested	Maximum	0.550	0.550
MW-07A	Total Cobalt (Co)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	Not tested	Reporting Limit	<0.40	<0.40
MW-07A	Dissolved Copper (Cu)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<2.0	<0.50	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-07A	Total Copper (Cu)	µg/L	6/2019 - 11/2020	5	60%	0.51	0.6	<0.50	<0.50	<0.50	0.6	0.52	0.039	Not tested	Maximum	0.600	0.600
MW-07A	Dissolved Iron (Fe)	µg/L	6/2018 - 11/2020	9	0%	2000	5100	--	--	2000	5100	3544	925	Normal	Normal	6349	7377
MW-07A	Total Iron (Fe)	µg/L	6/2019 - 11/2020	5	0%	3500	6300	--	--	3500	6300	4540	1056	Normal	Normal	8977	10601
MW-07A	Dissolved Lead (Pb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-07A	Total Lead (Pb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-07A	Dissolved Magnesium (Mg)	µg/L	6/2018 - 11/2020	9	0%	6400	7500	--	--	6400	7500	7078	388	Normal	Normal	8254	8686
MW-07A	Total Magnesium (Mg)	µg/L	6/2019 - 11/2020	5	0%	6600	7400	--	--	6600	7400	7100	283	Normal	Normal	8289	8724
MW-07A	Dissolved Manganese (Mn)	µg/L	6/2018 - 11/2020	9	0%	490	630	--	--	490	630	553	43.2	Normal	Normal	684	732
MW-07A	Total Manganese (Mn)	µg/L	6/2019 - 11/2020	5	0%	510	640	--	--	510	640	576	43.6	Normal	Normal	759	827
MW-07A	Dissolved Molybdenum (Mo)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-07A	Total Molybdenum (Mo)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-07A	Dissolved Nickel (Ni)	µg/L	6/2018 - 11/2020	9	89%	2.4	2.4	<2.0	<2.0	<2.0	2.4	--	--	Not tested	Maximum	2.40	2.40
MW-07A	Total Nickel (Ni)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-07A	Dissolved Phosphorus (P)	µg/L	6/2018 - 11/2020	9	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-07A	Total Phosphorus (P)	µg/L	6/2019 - 11/2020	5	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-07A	Dissolved Potassium (K)	µg/L	6/2018 - 11/2020	9	0%	1700	2000	--	--	1700	2000	1878	113	Not Normal	Normal **	2221	2347
MW-07A	Total Potassium (K)	µg/L	6/2019 - 11/2020	5	0%	1700	2000	--	--	1700	2000	1880	117	Normal	Normal	2370	2550
MW-07A	Dissolved Selenium (Se)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-07A	Total Selenium (Se)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-07A	Dissolved Silver (Ag)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-07A	Total Silver (Ag)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-07A	Dissolved Sodium (Na)	µg/L	6/2018 - 11/2020	9	0%	8800	11000	--	--	8800	11000	9689	614	Normal	Normal	11549	12231
MW-07A	Total Sodium (Na)	µg/L	6/2019 - 11/2020	5	0%	8900	9700	--	--	8900	9700	9400	276	Normal	Normal	10559	10983
MW-07A	Dissolved Strontium (Sr)	µg/L	6/2018 - 11/2020	9	0%	140	160	--	--	140	160	148	7.86	Not Normal	Normal **	172	180
MW-07A	Total Strontium (Sr)	µg/L	6/2019 - 11/2020	5	0%	140	160	--	--	140	160	154	8.00	Normal	Normal	188	200
MW-07A	Dissolved Thallium (Tl)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-07A	Total Thallium (Tl)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-07A	Dissolved Tin (Sn)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-07A	Total Tin (Sn)	µg/L	6/2019 - 11/2020	5	80%	2.3	2.3	<2.0	<2.0	<2.0	2.3	--	--	Not tested	Maximum	2.30	2.30
MW-07A	Dissolved Titanium (Ti)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-07A	Total Titanium (Ti)	µg/L	6/2019 - 11/2020	5	0%	2.1	9.3	--	--	2.1	9.3	4.58	2.75	Normal	Normal	16.1	20.4
MW-07A	Dissolved Uranium (U)	µg/L	6/2018 - 11/2020	9	78%	0.11	0.11	<0.10	<0.10	<0.10	0.11	0.10	0.004	Not tested	Maximum	0.110	0.110
MW-07A	Total Uranium (U)	µg/L	6/2019 - 11/2020	5	60%	0.12	0.12	<0.10	<0.10	<0.10	0.12	0.11	0.010	Not tested	Maximum	0.120	0.120
MW-07A	Dissolved Vanadium (V)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-07A	Total Vanadium (V)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-07A	Dissolved Zinc (Zn)	µg/L	6/2018 - 11/2020	9	56%	5.5	9.5	<5.0	<5.0	<5.0	9.5	5.84	1.42	Not tested	Normal (KM) **	9.50	9.50
MW-07A	Total Zinc (Zn)	µg/L	6/2019 - 11/2020	5	80%	6.3	6.3	<5.0	<5.0	<5.0	6.3	--	--	Not tested	Maximum	6.30	6.30
MW-07A	Dissolved Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
MW-07A	Total Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
	Calculated Parameters																
MW-07B	Anion Sum	me/L	6/2018 - 11/2020	9	0%	3.25	7.02	--	--	3.25	7.02	6.19	1.09	Not Normal	Normal **	9.50	10.7
MW-07B	Bicarb. Alkalinity (calc. as CaCO3	mg/L	6/2018 - 11/2020	9	0%	130	320	--	--	130	320	280	54.8	Not Normal	Normal **	446	507
MW-07B	Calculated TDS	mg/L	6/2018 - 11/2020	9	0%	190	380	--	--	190	380	334	54.0	Not Normal	Normal **	498	558
MW-07B	Carb. Alkalinity (calc. as CaCO3)	mg/L	6/2018 - 11/2020	9	0%	1.4	3	--	--	1.4	3	2.13	0.414	Normal	Normal	3.38	3.84
MW-07B	Cation Sum	me/L	6/2018 - 11/2020	9	0%	3.18	6.68	--	--	3.18	6.68	5.92	1.00	Not Normal	Normal **	8.96	10.1
MW-07B	Hardness (CaCO3)	mg/L	6/2018 - 11/2020	9	0%	120	290	--	--	120	290	252	48.3	Not Normal	Normal **	398	452
MW-07B	Ion Balance (% Difference)	%	6/2018 - 11/2020	9	0%	0.68	3.73	--	--	0.68	3.73	2.20	1.07	Normal	Normal	5.45	6.65
MW-07B	Langelier Index (@ 20C)	N/A	6/2018 - 11/2020	9	0%	0.486	1.04	--	--	0.486	1.04	0.85	0.153	Normal	Normal	1.31	1.48
MW-07B	Langelier Index (@ 4C)	N/A	6/2018 - 11/2020	9	0%	0.236	0.788	--	--	0.236	0.788	0.60	0.153	Normal	Normal	1.06	1.23
MW-07B	Nitrate (N)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.050	<0.050	<0.050	<0.050	--	--	Not tested	Reporting Limit	<0.050	<0.050
MW-07B	Saturation pH (@ 20C)	N/A	6/2018 - 11/2020	9	0%	6.93	7.68	--	--	6.93	7.68	7.06	0.221	Not Normal	Normal **	7.73	7.98
MW-07B	Saturation pH (@ 4C)	N/A	6/2018 - 11/2020	9	0%	7.18	7.93	--	--	7.18	7.93	7.31	0.221	Not Normal	Normal **	7.98	8.23
	Inorganics																
MW-07B	Total Alkalinity (Total as CaCO3)	mg/L	6/2018 - 11/2020	9	0%	130	320	--	--	130	320	281	55.1	Not Normal	Normal **	448	509
MW-07B	Total Chemical Oxygen Demand	mg/L	11/2020 - 11/2020	1	100%	--	--	<20	<20	<20	<20	--	--	Not tested	Reporting Limit	<20	<20
MW-07B	Dissolved Chloride (Cl-)	mg/L	6/2018 - 11/2020	9	0%	4.5	8.2	--	--	4.5	8.2	5.94	1.08	Normal	Normal	9.23	10.4
MW-07B	Colour	TCU	6/2018 - 11/2020	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	Not tested	Reporting Limit	<5.0	<5.0
MW-07B	Nitrate + Nitrite (N)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.050	<0.050	<0.050	<0.050	--	--	Not tested	Reporting Limit	<0.050	<0.050
MW-07B	Nitrite (N)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-07B	Nitrogen (Ammonia Nitrogen)	mg/L	6/2018 - 11/2020	9	67%	0.059	0.112	<0.050	<0.050	<0.050	0.112	0.06	0.019	Not tested	Maximum	0.112	0.112
MW-07B	Dissolved Organic Carbon (C)	mg/L	11/2020 - 11/2020	1	0%	1.5	1.5	--	--	1.5	1.5	--	--	Not tested	Maximum	1.50	1.50
MW-07B	Total Organic Carbon (C)	mg/L	6/2018 - 11/2020	9	0%	2.1	4.15	--	--	2.1	4.15	2.98	0.628	Normal	Normal	4.89	5.59
MW-07B	Orthophosphate (P)	mg/L	6/2018 - 11/2020	9	33%	0.011	0.026	<0.010	<0.010	<0.010	0.026	0.01	0.005	Not Normal	Normal (KM) **	0.027	0.0326
MW-07B	pH (LTL - UTL)	s.u.	6/2018 - 11/2020	9	0%	7.69	8.17	--	--	7.69	8.17	7.91	0.126	Normal	Normal	7.46 - 8.36	7.33 - 8.48
MW-07B	Dissolved Phosphorous	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-07B	Total Phosphorus	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-07B	Reactive Silica (SiO2)	mg/L	6/2018 - 11/2020	9	0%	20	24	--	--	20	24	22.7	1.56	Not Normal	Normal **	27.4	29.1
MW-07B	Total Suspended Solids	mg/L	11/2020 - 11/2020	1	0%	12	12	--	--	12	12	--	--	Not tested	Maximum	12.0	12.0
MW-07B	Dissolved Sulphate (SO4)	mg/L	6/2018 - 11/2020	9	0%	14	22	--	--	14	22	17.8	2.74	Normal	Normal	26.1	29.1
MW-07B	Turbidity	NTU	6/2018 - 11/2020	9	0%	0.94	21	--	--	0.94	21	7.73	5.49	Normal	Normal	24.4	30.5
MW-07B	Conductivity	µS/cm	6/2018 - 11/2020	9	0%	310	620	--	--	310	620	548	88.3	Not Normal	Normal **	815	914
	Metals																
MW-07B	Dissolved Aluminum (Al)	µg/L	6/2018 - 11/2020	9	33%	5.1	7.2	<5.0	<5.0	<5.0	7.2	5.49	0.677	Not Normal	Normal (KM) **	7.54	8.30
MW-07B	Total Aluminum (Al)	µg/L	6/2019 - 11/2020	5	0%	93	685	--	--	93	685	300	213	Normal	Normal	1193	1520
MW-07B	Dissolved Antimony (Sb)	µg/L	6/2018 - 11/2020	9	89%	1.9	1.9	<1.0	<1.0	<1.0	1.9	--	--	Not tested	Maximum	1.90	1.90
MW-07B	Total Antimony (Sb)	µg/L	6/2019 - 11/2020	5	80%	1.6	1.6	<1.0	<1.0	<1.0	1.6	--	--	Not tested	Maximum	1.60	1.60
MW-07B	Dissolved Arsenic (As)	µg/L	6/2018 - 11/2020	9	0%	29	170	--	--	29	170	48.6	43.1	Not Normal	Normal **	179	227
MW-07B	Total Arsenic (As)	µg/L	6/2019 - 11/2020	5	0%	36	180	--	--	36	180	65.2	57.4	Not Normal	Normal **	306	395
MW-07B	Dissolved Barium (Ba)	µg/L	6/2018 - 11/2020	9	0%	7.2	17.5	--	--	7.2	17.5	14.3	2.74	Not Normal	Normal **	22.6	25.7
MW-07B	Total Barium (Ba)	µg/L	6/2019 - 11/2020	5	0%	7.6	25	--	--	7.6	25	16.5	5.66	Normal	Normal	40.3	49.0
MW-07B	Dissolved Beryllium (Be)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-07B	Total Beryllium (Be)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-07B	Dissolved Bismuth (Bi)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-07B	Total Bismuth (Bi)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-07B	Dissolved Boron (B)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-07B	Total Boron (B)	µg/L	6/2019 - 11/2020	5	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-07B	Dissolved Cadmium (Cd)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-07B	Total Cadmium (Cd)	µg/L	6/2019 - 11/2020	5	60%	0.01	0.025	<0.010	<0.010	0.01	0.025	0.01	0.006	Not tested	Maximum	0.025	0.0250
MW-07B	Dissolved Calcium (Ca)	µg/L	6/2018 - 11/2020	9	0%	38000	100000	--	--	38000	100000	87444	17945	Not Normal	Normal **	141840	161791
MW-07B	Total Calcium (Ca)	µg/L	6/2019 - 11/2020	5	0%	39000	98000	--	--	39000	98000	81400	21574	Not Normal	Normal **	172069	205259
MW-07B	Dissolved Chromium (Cr)	µg/L	6/2018 - 11/2020	9	89%	1.4	1.4	<1.0	<1.0	<1.0	1.4	--	--	Not tested	Maximum	1.40	1.40
MW-07B	Total Chromium (Cr)	µg/L	6/2019 - 11/2020	5	80%	1.3	1.3	<1.0	<1.0	<1.0	1.3	--	--	Not tested	Maximum	1.30	1.30
MW-07B	Dissolved Cobalt (Co)	µg/L	6/2018 - 11/2020	9	89%	0.43	0.43	<0.40	<0.40	<0.40	0.43	--	--	Not tested	Maximum	0.430	0.430
MW-07B	Total Cobalt (Co)	µg/L	6/2019 - 11/2020	5	80%	0.415	0.415	<0.40	<0.40	<0.40	0.415	--	--	Not tested	Maximum	0.415	0.415
MW-07B	Dissolved Copper (Cu)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<2.0	<0.50	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-07B	Total Copper (Cu)	µg/L	6/2019 - 11/2020	5	40%	0.65	1.8	<0.50	<0.50	<0.50	1.8	0.92	0.157	Gamma	WH Approx. Gamma (KM	3.95	6.04
MW-07B	Dissolved Iron (Fe)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-07B	Total Iron (Fe)	µg/L	6/2019 - 11/2020	5	0%	110	830	--	--	110	830	386	250	Normal	Normal	1436	1820
MW-07B	Dissolved Lead (Pb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-07B	Total Lead (Pb)	µg/L	6/2019 - 11/2020	5	80%	0.92	0.92	<0.50	<0.50	<0.50	0.92	--	--	Not tested	Maximum	0.920	0.920
MW-07B	Dissolved Magnesium (Mg)	µg/L	6/2018 - 11/2020	9	0%	6000	8600	--	--	6000	8600	7661	716	Normal	Normal	9830	10626
MW-07B	Total Magnesium (Mg)	µg/L	6/2019 - 11/2020	5	0%	6000	8300	--	--	6000	8300	7400	792	Normal	Normal	10730	11950
MW-07B	Dissolved Manganese (Mn)	µg/L	6/2018 - 11/2020	9	0%	53	1200	--	--	53	1200	861	366	Not Normal	Normal **	1969	2375
MW-07B	Total Manganese (Mn)	µg/L	6/2019 - 11/2020	5	0%	57	1300	--	--	57	1300	887	430	Normal	Normal	2696	3358
MW-07B	Dissolved Molybdenum (Mo)	µg/L	6/2018 - 11/2020	9	67%	2.7	4.1	<2.0	<2.0	<2.0	4.1	2.47	0.738	Not tested	Maximum	4.10	4.10
MW-07B	Total Molybdenum (Mo)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-07B	Dissolved Nickel (Ni)	µg/L	6/2018 - 11/2020	9	89%	3.3	3.3	<2.0	<2.0	<2.0	3.3	--	--	Not tested	Maximum	3.30	3.30
MW-07B	Total Nickel (Ni)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-07B	Dissolved Phosphorus (P)	µg/L	6/2018 - 11/2020	9	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-07B	Total Phosphorus (P)	µg/L	6/2019 - 11/2020	5	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-07B	Dissolved Potassium (K)	µg/L	6/2018 - 11/2020	9	0%	1300	3600	--	--	1300	3600	2994	629	Not Normal	Normal **	4901	5601
MW-07B	Total Potassium (K)	µg/L	6/2019 - 11/2020	5	0%	1300	3300	--	--	1300	3300	2810	762	Not Normal	Normal **	6012	7184
MW-07B	Dissolved Selenium (Se)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-07B	Total Selenium (Se)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-07B	Dissolved Silver (Ag)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-07B	Total Silver (Ag)	µg/L	6/2019 - 11/2020	5	80%	0.21	0.21	<0.10	<0.10	<0.10	0.21	--	--	Not tested	Maximum	0.210	0.210
MW-07B	Dissolved Sodium (Na)	µg/L	6/2018 - 11/2020	9	0%	17000	21000	--	--	17000	21000	19000	1491	Normal	Normal	23519	25176
MW-07B	Total Sodium (Na)	µg/L	6/2019 - 11/2020	5	0%	17000	21000	--	--	17000	21000	19000	1789	Normal	Normal	26518	29270
MW-07B	Dissolved Strontium (Sr)	µg/L	6/2018 - 11/2020	9	0%	310	360	--	--	310	360	333	15.5	Normal	Normal	380	397
MW-07B	Total Strontium (Sr)	µg/L	6/2019 - 11/2020	5	0%	320	370	--	--	320	370	342	17.2	Normal	Normal	414	441
MW-07B	Dissolved Thallium (Tl)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-07B	Total Thallium (Tl)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-07B	Dissolved Tin (Sn)	µg/L	6/2018 - 11/2020	9	89%	11	11	<2.0	<2.0	<2.0	11	--	--	Not tested	Maximum	11.0	11.0
MW-07B	Total Tin (Sn)	µg/L	6/2019 - 11/2020	5	80%	3.7	3.7	<2.0	<2.0	<2.0	3.7	--	--	Not tested	Maximum	3.70	3.70
MW-07B	Dissolved Titanium (Ti)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-07B	Total Titanium (Ti)	µg/L	6/2019 - 11/2020	5	0%	2.8	21.5	--	--	2.8	21.5	9.22	6.58	Normal	Normal	36.9	47.0
MW-07B	Dissolved Uranium (U)	µg/L	6/2018 - 11/2020	9	0%	0.62	3.4	--	--	0.62	3.4	2.37	0.755	Normal	Normal	4.66	5.50
MW-07B	Total Uranium (U)	µg/L	6/2019 - 11/2020	5	0%	0.67	3.2	--	--	0.67	3.2	2.27	0.917	Normal	Normal	6.13	7.54
MW-07B	Dissolved Vanadium (V)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-07B	Total Vanadium (V)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-07B	Dissolved Zinc (Zn)	µg/L	6/2018 - 11/2020	9	78%	6	6.2	<5.0	<5.0	<5.0	6.2	5.24	0.460	Not tested	Maximum	6.20	6.20
MW-07B	Total Zinc (Zn)	µg/L	6/2019 - 11/2020	5	80%	7.15	7.15	<5.0	<5.0	<5.0	7.15	--	--	Not tested	Maximum	7.15	7.15
MW-07B	Dissolved Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
MW-07B	Total Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
	Calculated Parameters																
MW-07D	Anion Sum	me/L	6/2018 - 11/2020	9	0%	2.59	6.39	--	--	2.59	6.39	1.24	0.252	Lognormal	Lognormal	7.42	9.81
MW-07D	Bicarb. Alkalinity (calc. as CaCO3	mg/L	6/2018 - 11/2020	9	0%	110	300	--	--	110	300	148	55.5	Not Normal	Normal **	316	378
MW-07D	Calculated TDS	mg/L	6/2018 - 11/2020	9	0%	150	340	--	--	150	340	5.86	0.465	Gamma	WH Approx. Gamma	385	473
MW-07D	Carb. Alkalinity (calc. as CaCO3)	mg/L	6/2018 - 11/2020	9	0%	1.1	3.5	--	--	1.1	3.5	0.54	0.401	Lognormal	Lognormal	5.76	8.99
MW-07D	Cation Sum	me/L	6/2018 - 11/2020	9	0%	2.75	5.95	--	--	2.75	5.95	3.46	0.941	Not Normal	Normal **	6.31	7.36
MW-07D	Hardness (CaCO3)	mg/L	6/2018 - 11/2020	9	0%	110	260	--	--	110	260	134	44.7	Not Normal	Normal **	270	320
MW-07D	Ion Balance (% Difference)	%	6/2018 - 11/2020	9	0%	0.52	3.57	--	--	0.52	3.57	2.05	0.989	Normal	Normal	5.05	6.15
MW-07D	Langelier Index (@ 20C)	N/A	6/2018 - 11/2020	9	0%	0.288	1.09	--	--	0.288	1.09	0.77	0.112	Gamma	WH Approx. Gamma	1.39	1.90
MW-07D	Langelier Index (@ 4C)	N/A	6/2018 - 11/2020	9	0%	0.038	0.845	--	--	0.038	0.845	0.57	0.186	Gamma	WH Approx. Gamma	1.45	2.39
MW-07D	Nitrate (N)	mg/L	6/2018 - 11/2020	9	89%	0.17	0.17	<0.050	<0.050	<0.050	0.17	--	--	Not tested	Maximum	0.170	0.170
MW-07D	Saturation pH (@ 20C)	N/A	6/2018 - 11/2020	9	0%	7	7.77	--	--	7	7.77	7.61	0.223	Not Normal	Normal **	8.29	8.54
MW-07D	Saturation pH (@ 4C)	N/A	6/2018 - 11/2020	9	0%	7.25	8.02	--	--	7.25	8.02	7.86	0.223	Not Normal	Normal **	8.54	8.79
	Inorganics																
MW-07D	Total Alkalinity (Total as CaCO3)	mg/L	6/2018 - 11/2020	9	0%	110	300	--	--	110	300	152	54.3	Not Normal	Normal **	317	377
MW-07D	Total Chemical Oxygen Demand	mg/L	11/2020 - 11/2020	1	100%	--	--	<20	<20	<20	<20	--	--	Not tested	Reporting Limit	<20	<20

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-07D	Dissolved Chloride (Cl-)	mg/L	6/2018 - 11/2020	9	0%	5.2	9.2	--	--	5.2	9.2	6.96	1.12	Normal	Normal	10.3	11.6
MW-07D	Colour	TCU	6/2018 - 11/2020	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	Not tested	Reporting Limit	<5.0	<5.0
MW-07D	Nitrate + Nitrite (N)	mg/L	6/2018 - 11/2020	9	89%	0.17	0.17	<0.050	<0.050	<0.050	0.17	--	--	Not tested	Maximum	0.170	0.170
MW-07D	Nitrite (N)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-07D	Nitrogen (Ammonia Nitrogen)	mg/L	6/2018 - 11/2020	9	33%	0.061	0.15	<0.050	<0.050	<0.050	0.15	0.44	0.066	Gamma	WH Approx. Gamma (KM	0.257	0.357
MW-07D	Dissolved Organic Carbon (C)	mg/L	11/2020 - 11/2020	1	0%	1.9	1.9	--	--	1.9	1.9	--	--	Not tested	Maximum	1.90	1.90
MW-07D	Total Organic Carbon (C)	mg/L	6/2018 - 11/2020	9	0%	1.8	5	--	--	1.8	5	3.13	1.11	Normal	Normal	6.50	7.73
MW-07D	Orthophosphate (P)	mg/L	6/2018 - 11/2020	9	22%	0.03	0.043	<0.010	<0.010	<0.010	0.043	0.03	0.011	Not Normal	Normal (KM) **	0.063	0.0755
MW-07D	pH (LTL - UTL)	s.u.	6/2018 - 11/2020	9	0%	8.01	8.38	--	--	8.01	8.38	8.11	0.105	Not Normal	Normal **	7.74 - 8.48	7.63 - 8.59
MW-07D	Dissolved Phosphorous	mg/L	11/2020 - 11/2020	1	0%	0.033	0.033	--	--	0.033	0.033	--	--	Not tested	Maximum	0.033	0.0330
MW-07D	Total Phosphorus	mg/L	11/2020 - 11/2020	1	0%	0.022	0.022	--	--	0.022	0.022	--	--	Not tested	Maximum	0.022	0.0220
MW-07D	Reactive Silica (SiO2)	mg/L	6/2018 - 11/2020	9	0%	15	32	--	--	15	32	2.68	0.212	Gamma	WH Approx. Gamma	36.7	45.1
MW-07D	Total Suspended Solids	mg/L	11/2020 - 11/2020	1	0%	11	11	--	--	11	11	--	--	Not tested	Maximum	11.0	11.0
MW-07D	Dissolved Sulphate (SO4)	mg/L	6/2018 - 11/2020	9	0%	12	33	--	--	12	33	18.3	6.57	Normal	Normal	38.2	45.5
MW-07D	Turbidity	NTU	6/2018 - 11/2020	9	0%	2.5	24	--	--	2.5	24	9.82	6.91	Normal	Normal	30.8	38.4
MW-07D	Conductivity	µS/cm	6/2018 - 11/2020	9	0%	280	550	--	--	280	550	332	81.5	Not Normal	Normal **	579	670
	Metals																
MW-07D	Dissolved Aluminum (Al)	µg/L	6/2018 - 11/2020	9	33%	5.2	80	<5.0	<5.0	<5.0	80	16.9	22.8	Not Normal	Normal (KM) **	85.9	111
MW-07D	Total Aluminum (Al)	µg/L	6/2019 - 11/2020	5	0%	9.5	1700	--	--	9.5	1700	530	601	Normal	Normal	3055	3979
MW-07D	Dissolved Antimony (Sb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-07D	Total Antimony (Sb)	µg/L	6/2019 - 11/2020	5	80%	1.1	1.1	<1.0	<1.0	<1.0	1.1	--	--	Not tested	Maximum	1.10	1.10
MW-07D	Dissolved Arsenic (As)	µg/L	6/2018 - 11/2020	9	0%	37	180	--	--	37	180	152	41.4	Not Normal	Normal **	277	323
MW-07D	Total Arsenic (As)	µg/L	6/2019 - 11/2020	5	0%	37	180	--	--	37	180	149	56.3	Not Normal	Normal **	386	473
MW-07D	Dissolved Barium (Ba)	µg/L	6/2018 - 11/2020	9	0%	5.5	18	--	--	5.5	18	2.06	0.245	Gamma	WH Approx. Gamma	22.0	29.0
MW-07D	Total Barium (Ba)	µg/L	6/2019 - 11/2020	5	0%	10	18	--	--	10	18	13.4	2.65	Normal	Normal	24.6	28.6
MW-07D	Dissolved Beryllium (Be)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-07D	Total Beryllium (Be)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-07D	Dissolved Bismuth (Bi)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-07D	Total Bismuth (Bi)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-07D	Dissolved Boron (B)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-07D	Total Boron (B)	µg/L	6/2019 - 11/2020	5	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-07D	Dissolved Cadmium (Cd)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-07D	Total Cadmium (Cd)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-07D	Dissolved Calcium (Ca)	µg/L	6/2018 - 11/2020	9	0%	34000	91000	--	--	34000	91000	43889	16763	Not Normal	Normal **	94701	113337
MW-07D	Total Calcium (Ca)	µg/L	6/2019 - 11/2020	5	0%	36000	96000	--	--	36000	96000	51400	22429	Not Normal	Normal **	145660	180165
MW-07D	Dissolved Chromium (Cr)	µg/L	6/2018 - 11/2020	9	89%	1.2	1.2	<1.0	<1.0	<1.0	1.2	--	--	Not tested	Maximum	1.20	1.20
MW-07D	Total Chromium (Cr)	µg/L	6/2019 - 11/2020	5	60%	1.1	1.1	<1.0	<1.0	<1.0	1.1	1.04	0.049	Not tested	Maximum	1.10	1.10
MW-07D	Dissolved Cobalt (Co)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	Not tested	Reporting Limit	<0.40	<0.40
MW-07D	Total Cobalt (Co)	µg/L	6/2019 - 11/2020	5	80%	0.69	0.69	<0.40	<0.40	<0.40	0.69	--	--	Not tested	Maximum	0.690	0.690
MW-07D	Dissolved Copper (Cu)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<2.0	<0.50	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-07D	Total Copper (Cu)	µg/L	6/2019 - 11/2020	5	20%	0.52	1.8	<0.50	<0.50	<0.50	1.8	0.88	0.492	Normal	Normal (KM)	2.95	3.70
MW-07D	Dissolved Iron (Fe)	µg/L	6/2018 - 11/2020	9	89%	140	140	<50	<50	<50	140	--	--	Not tested	Maximum	140	140
MW-07D	Total Iron (Fe)	µg/L	6/2019 - 11/2020	5	20%	260	1600	<50	<50	<50	1600	542	547	Normal	Normal (KM)	2839	3680
MW-07D	Dissolved Lead (Pb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-07D	Total Lead (Pb)	µg/L	6/2019 - 11/2020	5	80%	1.4	1.4	<0.50	<0.50	<0.50	1.4	--	--	Not tested	Maximum	1.40	1.40
MW-07D	Dissolved Magnesium (Mg)	µg/L	6/2018 - 11/2020	9	0%	5300	7500	--	--	5300	7500	5889	638	Not Normal	Normal **	7824	8534
MW-07D	Total Magnesium (Mg)	µg/L	6/2019 - 11/2020	5	0%	5900	8000	--	--	5900	8000	6520	776	Normal	Normal	9780	10973
MW-07D	Dissolved Manganese (Mn)	µg/L	6/2018 - 11/2020	9	0%	38	1300	--	--	38	1300	203	390	Not Normal	Normal **	1384	1817
MW-07D	Total Manganese (Mn)	µg/L	6/2019 - 11/2020	5	0%	55	1300	--	--	55	1300	5.10	1.10	Lognormal	Lognormal	16847	91843
MW-07D	Dissolved Molybdenum (Mo)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-07D	Total Molybdenum (Mo)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-07D	Dissolved Nickel (Ni)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-07D	Total Nickel (Ni)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-07D	Dissolved Phosphorus (P)	µg/L	6/2018 - 11/2020	9	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-07D	Total Phosphorus (P)	µg/L	6/2019 - 11/2020	5	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-07D	Dissolved Potassium (K)	µg/L	6/2018 - 11/2020	9	0%	1100	3000	--	--	1100	3000	1444	564	Not Normal	Normal **	3154	3781
MW-07D	Total Potassium (K)	µg/L	6/2019 - 11/2020	5	0%	1300	3100	--	--	1300	3100	1760	674	Not Normal	Normal **	4593	5630
MW-07D	Dissolved Selenium (Se)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-07D	Total Selenium (Se)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-07D	Dissolved Silver (Ag)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-07D	Total Silver (Ag)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-07D	Dissolved Sodium (Na)	µg/L	6/2018 - 11/2020	9	0%	9200	29000	--	--	9200	29000	17022	6349	Normal	Normal	36269	43328
MW-07D	Total Sodium (Na)	µg/L	6/2019 - 11/2020	5	0%	10000	29000	--	--	10000	29000	21000	6899	Normal	Normal	49996	60609
MW-07D	Dissolved Strontium (Sr)	µg/L	6/2018 - 11/2020	9	0%	310	380	--	--	310	380	332	22.5	Normal	Normal	400	425
MW-07D	Total Strontium (Sr)	µg/L	6/2019 - 11/2020	5	0%	340	390	--	--	340	390	364	20.6	Normal	Normal	451	482
MW-07D	Dissolved Thallium (Tl)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-07D	Total Thallium (Tl)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-07D	Dissolved Tin (Sn)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-07D	Total Tin (Sn)	µg/L	6/2019 - 11/2020	5	80%	5	5	<2.0	<2.0	<2.0	5	--	--	Not tested	Maximum	5.00	5.00
MW-07D	Dissolved Titanium (Ti)	µg/L	6/2018 - 11/2020	9	89%	2	2	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Maximum	<2.0	<2.0
MW-07D	Total Titanium (Ti)	µg/L	6/2019 - 11/2020	5	20%	8.6	40	<2.0	<2.0	<2.0	40	2.21	0.694	Gamma	WH Approx. Gamma (KM	135	237
MW-07D	Dissolved Uranium (U)	µg/L	6/2018 - 11/2020	9	0%	0.63	2.9	--	--	0.63	2.9	1.04	0.183	Gamma	WH Approx. Gamma	4.04	5.80
MW-07D	Total Uranium (U)	µg/L	6/2019 - 11/2020	5	0%	0.69	2.9	--	--	0.69	2.9	1.61	0.775	Normal	Normal	4.87	6.06
MW-07D	Dissolved Vanadium (V)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-07D	Total Vanadium (V)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-07D	Dissolved Zinc (Zn)	µg/L	6/2018 - 11/2020	9	89%	5.8	5.8	<5.0	<5.0	<5.0	5.8	--	--	Not tested	Maximum	5.80	5.80
MW-07D	Total Zinc (Zn)	µg/L	6/2019 - 11/2020	5	80%	5.2	5.2	<5.0	<5.0	<5.0	5.2	--	--	Not tested	Maximum	5.20	5.20
MW-07D	Dissolved Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
MW-07D	Total Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
	Calculated Parameters																
MW-09A	Anion Sum	me/L	6/2018 - 11/2020	9	0%	0.33	0.93	--	--	0.33	0.93	0.53	0.176	Normal	Normal	1.07	1.26
MW-09A	Bicarb. Alkalinity (calc. as CaCO3	mg/L	6/2018 - 11/2020	9	0%	9	37	--	--	9	37	18.1	8.49	Normal	Normal	43.8	53.3
MW-09A	Calculated TDS	mg/L	6/2018 - 11/2020	9	0%	28	56	--	--	28	56	3.54	0.215	Lognormal	Lognormal	65.9	83.7
MW-09A	Carb. Alkalinity (calc. as CaCO3)	mg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-09A	Cation Sum	me/L	6/2018 - 11/2020	9	0%	0.36	0.87	--	--	0.36	0.87	0.52	0.160	Normal	Normal	1.00	1.18
MW-09A	Hardness (CaCO3)	mg/L	6/2018 - 11/2020	9	0%	10	36	--	--	10	36	18.6	7.75	Normal	Normal	42.0	50.7
MW-09A	Ion Balance (% Difference)	%	6/2018 - 11/2020	9	0%	1.12	31.25	--	--	1.12	31.25	1.85	0.607	Gamma	WH Approx. Gamma	50.3	83.2
MW-09A	Langelier Index (@ 20C)	N/A	6/2018 - 11/2020	9	0%	-3.15	-1.79	--	--	-3.15	-1.79	-2.69	0.493	Not Normal	Normal **	-1.20	-0.65
MW-09A	Langelier Index (@ 4C)	N/A	6/2018 - 11/2020	9	0%	-3.4	-2.04	--	--	-3.4	-2.04	-2.94	0.494	Not Normal	Normal **	-1.45	-0.90
MW-09A	Nitrate (N)	mg/L	6/2018 - 11/2020	9	11%	0.051	0.17	<0.050	<0.050	<0.050	0.17	0.10	0.047	Normal	Normal (KM)	0.248	0.301
MW-09A	Saturation pH (@ 20C)	N/A	6/2018 - 11/2020	9	0%	8.64	9.65	--	--	8.64	9.65	9.30	0.313	Normal	Normal	10.3	10.6
MW-09A	Saturation pH (@ 4C)	N/A	6/2018 - 11/2020	9	0%	8.89	9.9	--	--	8.89	9.9	9.56	0.313	Normal	Normal	10.5	10.9
	Inorganics																
MW-09A	Total Alkalinity (Total as CaCO3)	mg/L	6/2018 - 11/2020	9	0%	9	37	--	--	9	37	18.1	8.49	Normal	Normal	43.8	53.3
MW-09A	Total Chemical Oxygen Demand	mg/L	11/2020 - 11/2020	1	100%	--	--	<20	<20	<20	<20	--	--	Not tested	Reporting Limit	<20	<20
MW-09A	Dissolved Chloride (Cl-)	mg/L	6/2018 - 11/2020	9	0%	1.5	4	--	--	1.5	4	2.90	0.946	Normal	Normal	5.77	6.82
MW-09A	Colour	TCU	6/2018 - 11/2020	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	Not tested	Reporting Limit	<5.0	<5.0
MW-09A	Nitrate + Nitrite (N)	mg/L	6/2018 - 11/2020	9	11%	0.051	0.17	<0.050	<0.050	<0.050	0.17	0.10	0.047	Normal	Normal (KM)	0.248	0.301
MW-09A	Nitrite (N)	mg/L	6/2018 - 11/2020	9	89%	0.021	0.021	<0.010	<0.010	<0.010	0.021	--	--	Not tested	Maximum	0.021	0.0210
MW-09A	Nitrogen (Ammonia Nitrogen)	mg/L	6/2018 - 11/2020	9	89%	0.12	0.12	<0.050	<0.050	<0.050	0.12	--	--	Not tested	Maximum	0.120	0.120
MW-09A	Dissolved Organic Carbon (C)	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.5	<0.5	<0.5	<0.5	--	--	Not tested	Reporting Limit	<0.5	<0.5
MW-09A	Total Organic Carbon (C)	mg/L	6/2018 - 11/2020	9	56%	0.52	0.76	<0.50	<0.50	<0.50	0.76	0.57	0.102	Not tested	Normal (KM) **	0.760	0.760
MW-09A	Orthophosphate (P)	mg/L	6/2018 - 11/2020	9	89%	0.17	0.17	<0.010	<0.010	<0.010	0.17	--	--	Not tested	Maximum	0.170	0.170
MW-09A	pH (LTL - UTL)	s.u.	6/2018 - 11/2020	9	0%	6.3	7.02	--	--	6.3	7.02	6.61	0.232	Normal	Normal	5.79 - 7.43	5.56 - 7.67
MW-09A	Dissolved Phosphorous	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-09A	Total Phosphorus	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-09A	Reactive Silica (SiO2)	mg/L	6/2018 - 11/2020	9	0%	5.1	8.6	--	--	5.1	8.6	6.42	1.01	Normal	Normal	9.49	10.6
MW-09A	Total Suspended Solids	mg/L	11/2020 - 11/2020	1	0%	9.2	9.2	--	--	9.2	9.2	--	--	Not tested	Maximum	9.20	9.20
MW-09A	Dissolved Sulphate (SO4)	mg/L	6/2018 - 11/2020	9	0%	2.9	5.1	--	--	2.9	5.1	3.80	0.738	Normal	Normal	6.04	6.86
MW-09A	Turbidity	NTU	6/2018 - 11/2020	9	11%	0.31	4.4	<0.10	<0.10	<0.10	4.4	2.06	1.48	Normal	Normal (KM)	6.54	8.18
MW-09A	Conductivity	µS/cm	6/2018 - 11/2020	9	0%	30.5	93	--	--	30.5	93	52.5	17.5	Normal	Normal	105	125
	Metals																
MW-09A	Dissolved Aluminum (Al)	µg/L	6/2018 - 11/2020	9	0%	6.7	81	--	--	6.7	81	2.68	0.698	Gamma	WH Approx. Gamma	110	173
MW-09A	Total Aluminum (Al)	µg/L	6/2019 - 11/2020	5	0%	58	290	--	--	58	290	196	81.8	Normal	Normal	539	665
MW-09A	Dissolved Antimony (Sb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-09A	Total Antimony (Sb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-09A	Dissolved Arsenic (As)	µg/L	6/2018 - 11/2020	9	0%	1	5.5	--	--	1	5.5	2.82	1.19	Normal	Normal	6.42	7.74
MW-09A	Total Arsenic (As)	µg/L	6/2019 - 11/2020	5	0%	2.8	6	--	--	2.8	6	4.26	1.25	Normal	Normal	9.53	11.5
MW-09A	Dissolved Barium (Ba)	µg/L	6/2018 - 11/2020	9	0%	3.8	15	--	--	3.8	15	8.33	3.37	Normal	Normal	18.6	22.3
MW-09A	Total Barium (Ba)	µg/L	6/2019 - 11/2020	5	0%	6.6	14	--	--	6.6	14	10.0	2.93	Normal	Normal	22.4	26.9
MW-09A	Dissolved Beryllium (Be)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-09A	Total Beryllium (Be)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-09A	Dissolved Bismuth (Bi)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-09A	Total Bismuth (Bi)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-09A	Dissolved Boron (B)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-09A	Total Boron (B)	µg/L	6/2019 - 11/2020	5	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-09A	Dissolved Cadmium (Cd)	µg/L	6/2018 - 11/2020	9	0%	0.028	0.069	--	--	0.028	0.069	0.05	0.015	Normal	Normal	0.095	0.111
MW-09A	Total Cadmium (Cd)	µg/L	6/2019 - 11/2020	5	0%	0.029	0.081	--	--	0.029	0.081	0.05	0.019	Normal	Normal	0.131	0.160
MW-09A	Dissolved Calcium (Ca)	µg/L	6/2018 - 11/2020	9	0%	3500	13000	--	--	3500	13000	6494	2899	Normal	Normal	15281	18504
MW-09A	Total Calcium (Ca)	µg/L	6/2019 - 11/2020	5	0%	3100	7900	--	--	3100	7900	5240	1604	Normal	Normal	11983	14452
MW-09A	Dissolved Chromium (Cr)	µg/L	6/2018 - 11/2020	9	89%	1.2	1.2	<1.0	<1.0	<1.0	1.2	--	--	Not tested	Maximum	1.20	1.20
MW-09A	Total Chromium (Cr)	µg/L	6/2019 - 11/2020	5	80%	2.2	2.2	<1.0	<1.0	<1.0	2.2	--	--	Not tested	Maximum	2.20	2.20

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-09A	Dissolved Cobalt (Co)	µg/L	6/2018 - 11/2020	9	22%	0.42	1.25	<0.40	<0.40	<0.40	1.25	0.65	0.280	Normal	Normal (KM)	1.50	1.81
MW-09A	Total Cobalt (Co)	µg/L	6/2019 - 11/2020	5	20%	0.63	1	<0.40	<0.40	<0.40	1	0.70	0.202	Normal	Normal (KM)	1.55	1.86
MW-09A	Dissolved Copper (Cu)	µg/L	6/2018 - 11/2020	9	22%	0.96	5.1	<2.0	<2.0	0.96	5.1	2.27	1.31	Normal	Normal (KM)	6.24	7.70
MW-09A	Total Copper (Cu)	µg/L	6/2019 - 11/2020	5	0%	2.1	5.1	--	--	2.1	5.1	3.36	1.11	Normal	Normal	8.04	9.75
MW-09A	Dissolved Iron (Fe)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-09A	Total Iron (Fe)	µg/L	6/2019 - 11/2020	5	0%	71	230	--	--	71	230	160	56.3	Normal	Normal	397	483
MW-09A	Dissolved Lead (Pb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-09A	Total Lead (Pb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-09A	Dissolved Magnesium (Mg)	µg/L	6/2018 - 11/2020	9	0%	360	900	--	--	360	900	574	140	Normal	Normal	998	1154
MW-09A	Total Magnesium (Mg)	µg/L	6/2019 - 11/2020	5	0%	360	620	--	--	360	620	542	93.5	Normal	Normal	935	1079
MW-09A	Dissolved Manganese (Mn)	µg/L	6/2018 - 11/2020	9	0%	20	110	--	--	20	110	3.37	0.642	Gamma	WH Approx. Gamma	150	220
MW-09A	Total Manganese (Mn)	µg/L	6/2019 - 11/2020	5	0%	25	59	--	--	25	59	37.6	12.2	Normal	Normal	89.0	108
MW-09A	Dissolved Molybdenum (Mo)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-09A	Total Molybdenum (Mo)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-09A	Dissolved Nickel (Ni)	µg/L	6/2018 - 11/2020	9	11%	2.1	4.8	<2.0	<2.0	<2.0	4.8	3.18	1.00	Normal	Normal (KM)	6.22	7.34
MW-09A	Total Nickel (Ni)	µg/L	6/2019 - 11/2020	5	20%	2.3	5.1	<2.0	<2.0	<2.0	5.1	3.22	1.24	Normal	Normal (KM)	8.44	10.3
MW-09A	Dissolved Phosphorus (P)	µg/L	6/2018 - 11/2020	9	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-09A	Total Phosphorus (P)	µg/L	6/2019 - 11/2020	5	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-09A	Dissolved Potassium (K)	µg/L	6/2018 - 11/2020	9	0%	430	740	--	--	430	740	597	100	Normal	Normal	901	1012
MW-09A	Total Potassium (K)	µg/L	6/2019 - 11/2020	5	0%	430	720	--	--	430	720	578	101	Normal	Normal	1001	1156
MW-09A	Dissolved Selenium (Se)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-09A	Total Selenium (Se)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-09A	Dissolved Silver (Ag)	µg/L	6/2018 - 11/2020	9	89%	0.71	0.71	<0.10	<0.10	<0.10	0.71	--	--	Not tested	Maximum	0.710	0.710
MW-09A	Total Silver (Ag)	µg/L	6/2019 - 11/2020	5	20%	0.32	1.4	<0.10	<0.10	<0.10	1.4	0.58	0.448	Normal	Normal (KM)	2.47	3.15
MW-09A	Dissolved Sodium (Na)	µg/L	6/2018 - 11/2020	9	0%	2400	4200	--	--	2400	4200	3006	682	Not Normal	Normal **	5072	5830
MW-09A	Total Sodium (Na)	µg/L	6/2019 - 11/2020	5	0%	2500	4100	--	--	2500	4100	3340	653	Normal	Normal	6084	7089
MW-09A	Dissolved Strontium (Sr)	µg/L	6/2018 - 11/2020	9	0%	11	20	--	--	11	20	15.6	2.36	Normal	Normal	22.7	25.3
MW-09A	Total Strontium (Sr)	µg/L	6/2019 - 11/2020	5	0%	11	18	--	--	11	18	15.4	2.33	Normal	Normal	25.2	28.8
MW-09A	Dissolved Thallium (Tl)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-09A	Total Thallium (Tl)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-09A	Dissolved Tin (Sn)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-09A	Total Tin (Sn)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-09A	Dissolved Titanium (Ti)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-09A	Total Titanium (Ti)	µg/L	6/2019 - 11/2020	5	0%	2.1	6.2	--	--	2.1	6.2	3.78	1.37	Normal	Normal	9.53	11.6
MW-09A	Dissolved Uranium (U)	µg/L	6/2018 - 11/2020	9	22%	0.1	0.3	<0.10	<0.10	<0.10	0.3	0.14	0.063	Not Normal	Normal (KM) **	0.336	0.406
MW-09A	Total Uranium (U)	µg/L	6/2019 - 11/2020	5	0%	0.11	0.23	--	--	0.11	0.23	0.16	0.042	Normal	Normal	0.334	0.398
MW-09A	Dissolved Vanadium (V)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-09A	Total Vanadium (V)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-09A	Dissolved Zinc (Zn)	µg/L	6/2018 - 11/2020	9	22%	5.2	8.7	<5.0	<5.0	<5.0	8.7	6.22	1.13	Normal	Normal (KM)	9.66	10.9
MW-09A	Total Zinc (Zn)	µg/L	6/2019 - 11/2020	5	40%	5.2	6.5	<5.0	<5.0	<5.0	6.5	5.46	0.564	Normal	Normal (KM)	7.83	8.70
MW-09A	Dissolved Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
MW-09A	Total Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
	Calculated Parameters																
MW-09B	Anion Sum	me/L	6/2018 - 11/2020	9	0%	2.08	2.75	--	--	2.08	2.75	2.31	0.197	Normal	Normal	2.91	3.13
MW-09B	Bicarb. Alkalinity (calc. as CaCO3	mg/L	6/2018 - 11/2020	9	0%	71	83	--	--	71	83	76.9	3.57	Normal	Normal	87.7	91.7
MW-09B	Calculated TDS	mg/L	6/2018 - 11/2020	9	0%	120	170	--	--	120	170	134	15.7	Normal	Normal	182	200
MW-09B	Carb. Alkalinity (calc. as CaCO3)	mg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-09B	Cation Sum	me/L	6/2018 - 11/2020	9	0%	1.93	2.53	--	--	1.93	2.53	2.14	0.192	Normal	Normal	2.72	2.93
MW-09B	Hardness (CaCO3)	mg/L	6/2018 - 11/2020	9	0%	66	81	--	--	66	81	75.3	4.94	Normal	Normal	90.3	95.8
MW-09B	Ion Balance (% Difference)	%	6/2018 - 11/2020	9	0%	1.86	5.34	--	--	1.86	5.34	4.01	0.902	Normal	Normal	6.75	7.75
MW-09B	Langelier Index (@ 20C)	N/A	6/2018 - 11/2020	9	0%	-0.434	0.023	--	--	-0.434	0.023	-0.14	0.143	Normal	Normal	0.298	0.457
MW-09B	Langelier Index (@ 4C)	N/A	6/2018 - 11/2020	9	0%	-0.684	-0.227	--	--	-0.684	-0.227	-0.39	0.143	Normal	Normal	0.046	0.205
MW-09B	Nitrate (N)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.050	<0.050	<0.050	<0.050	--	--	Not tested	Reporting Limit	<0.050	<0.050
MW-09B	Saturation pH (@ 20C)	N/A	6/2018 - 11/2020	9	0%	8	8.13	--	--	8	8.13	8.05	0.042	Normal	Normal	8.18	8.22
MW-09B	Saturation pH (@ 4C)	N/A	6/2018 - 11/2020	9	0%	8.25	8.38	--	--	8.25	8.38	8.30	0.042	Normal	Normal	8.43	8.47
	Inorganics																
MW-09B	Total Alkalinity (Total as CaCO3)	mg/L	6/2018 - 11/2020	9	0%	72	83	--	--	72	83	77.8	3.39	Normal	Normal	88.1	91.8
MW-09B	Total Chemical Oxygen Demand	mg/L	11/2020 - 11/2020	1	100%	--	--	<20	<20	<20	<20	--	--	Not tested	Reporting Limit	<20	<20
MW-09B	Dissolved Chloride (Cl-)	mg/L	6/2018 - 11/2020	9	0%	2.5	5.1	--	--	2.5	5.1	3.66	0.835	Normal	Normal	6.19	7.12
MW-09B	Colour	TCU	6/2018 - 11/2020	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	Not tested	Reporting Limit	<5.0	<5.0
MW-09B	Nitrate + Nitrite (N)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.050	<0.050	<0.050	<0.050	--	--	Not tested	Reporting Limit	<0.050	<0.050
MW-09B	Nitrite (N)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-09B	Nitrogen (Ammonia Nitrogen)	mg/L	6/2018 - 11/2020	9	89%	0.18	0.18	<0.050	<0.050	<0.050	0.18	--	--	Not tested	Maximum	0.180	0.180
MW-09B	Dissolved Organic Carbon (C)	mg/L	11/2020 - 11/2020	1	0%	0.8	0.8	--	--	0.8	0.8	--	--	Not tested	Maximum	0.800	0.800
MW-09B	Total Organic Carbon (C)	mg/L	6/2018 - 11/2020	9	0%	0.68	5.4	--	--	0.68	5.4	2.02	1.40	Normal	Normal	6.26	7.82
MW-09B	Orthophosphate (P)	mg/L	6/2018 - 11/2020	9	0%	0.014	0.027	--	--	0.014	0.027	0.02	0.005	Normal	Normal	0.035	0.0401

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-09B	pH (LTL - UTL)	s.u.	6/2018 - 11/2020	9	0%	7.6	8.05	--	--	7.6	8.05	7.91	0.142	Normal	Normal	7.41 - 8.42	7.27 - 8.56
MW-09B	Dissolved Phosphorous	mg/L	11/2020 - 11/2020	1	0%	0.031	0.031	--	--	0.031	0.031	--	--	Not tested	Maximum	0.031	0.0310
MW-09B	Total Phosphorus	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-09B	Reactive Silica (SiO2)	mg/L	6/2018 - 11/2020	9	0%	9	9.8	--	--	9	9.8	9.36	0.250	Normal	Normal	10.1	10.4
MW-09B	Total Suspended Solids	mg/L	11/2020 - 11/2020	1	0%	8.2	8.2	--	--	8.2	8.2	--	--	Not tested	Maximum	8.20	8.20
MW-09B	Dissolved Sulphate (SO4)	mg/L	6/2018 - 11/2020	9	0%	22	53	--	--	22	53	31.6	10.1	Normal	Normal	62.2	73.4
MW-09B	Turbidity	NTU	6/2018 - 11/2020	9	0%	3.5	36	--	--	3.5	36	9.71	9.45	Not Normal	Normal **	38.4	48.9
MW-09B	Conductivity	µS/cm	6/2018 - 11/2020	9	0%	200	270	--	--	200	270	216	22.7	Not Normal	Normal **	284	309
	Metals																
MW-09B	Dissolved Aluminum (Al)	µg/L	6/2018 - 11/2020	9	22%	5.6	61	<5.0	<5.0	<5.0	61	13.7	16.8	Not Normal	Normal (KM) **	64.8	83.5
MW-09B	Total Aluminum (Al)	µg/L	6/2019 - 11/2020	5	0%	280	1100	--	--	280	1100	8.09	1.70	Gamma	WH Approx. Gamma	3534	5682
MW-09B	Dissolved Antimony (Sb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-09B	Total Antimony (Sb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-09B	Dissolved Arsenic (As)	µg/L	6/2018 - 11/2020	9	0%	96	120	--	--	96	120	108	9.75	Normal	Normal	138	148
MW-09B	Total Arsenic (As)	µg/L	6/2019 - 11/2020	5	0%	99	130	--	--	99	130	110	12.8	Normal	Normal	164	183
MW-09B	Dissolved Barium (Ba)	µg/L	6/2018 - 11/2020	9	0%	12	17	--	--	12	17	2.63	0.089	Lognormal	Lognormal	18.1	20.0
MW-09B	Total Barium (Ba)	µg/L	6/2019 - 11/2020	5	0%	13	19	--	--	13	19	14.8	2.23	Normal	Normal	24.2	27.6
MW-09B	Dissolved Beryllium (Be)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-09B	Total Beryllium (Be)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-09B	Dissolved Bismuth (Bi)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-09B	Total Bismuth (Bi)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-09B	Dissolved Boron (B)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-09B	Total Boron (B)	µg/L	6/2019 - 11/2020	5	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-09B	Dissolved Cadmium (Cd)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-09B	Total Cadmium (Cd)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-09B	Dissolved Calcium (Ca)	µg/L	6/2018 - 11/2020	9	0%	23000	28000	--	--	23000	28000	26333	1633	Normal	Normal	31283	33099
MW-09B	Total Calcium (Ca)	µg/L	6/2019 - 11/2020	5	0%	26000	29000	--	--	26000	29000	27400	1020	Normal	Normal	31686	33255
MW-09B	Dissolved Chromium (Cr)	µg/L	6/2018 - 11/2020	9	89%	1.3	1.3	<1.0	<1.0	<1.0	1.3	--	--	Not tested	Maximum	1.30	1.30
MW-09B	Total Chromium (Cr)	µg/L	6/2019 - 11/2020	5	80%	1.1	1.1	<1.0	<1.0	<1.0	1.1	--	--	Not tested	Maximum	1.10	1.10
MW-09B	Dissolved Cobalt (Co)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	Not tested	Reporting Limit	<0.40	<0.40
MW-09B	Total Cobalt (Co)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	Not tested	Reporting Limit	<0.40	<0.40
MW-09B	Dissolved Copper (Cu)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<2.0	<0.50	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-09B	Total Copper (Cu)	µg/L	6/2019 - 11/2020	5	40%	0.68	1.1	<0.50	<0.50	<0.50	1.1	0.70	0.219	Normal	Normal (KM)	1.62	1.95
MW-09B	Dissolved Iron (Fe)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-09B	Total Iron (Fe)	µg/L	6/2019 - 11/2020	5	0%	110	260	--	--	110	260	186	53.9	Normal	Normal	412	495
MW-09B	Dissolved Lead (Pb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-09B	Total Lead (Pb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-09B	Dissolved Magnesium (Mg)	µg/L	6/2018 - 11/2020	9	0%	1800	2500	--	--	1800	2500	2267	216	Normal	Normal	2921	3162
MW-09B	Total Magnesium (Mg)	µg/L	6/2019 - 11/2020	5	0%	2300	2600	--	--	2300	2600	2420	98.0	Normal	Normal	2832	2983
MW-09B	Dissolved Manganese (Mn)	µg/L	6/2018 - 11/2020	9	0%	11	69	--	--	11	69	45.8	15.6	Normal	Normal	93.1	110
MW-09B	Total Manganese (Mn)	µg/L	6/2019 - 11/2020	5	0%	41	64	--	--	41	64	48.8	8.01	Normal	Normal	82.5	94.8
MW-09B	Dissolved Molybdenum (Mo)	µg/L	6/2018 - 11/2020	9	0%	4.2	9.2	--	--	4.2	9.2	6.52	1.89	Normal	Normal	12.3	14.4
MW-09B	Total Molybdenum (Mo)	µg/L	6/2019 - 11/2020	5	0%	4	6.3	--	--	4	6.3	5.04	0.838	Normal	Normal	8.56	9.85
MW-09B	Dissolved Nickel (Ni)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-09B	Total Nickel (Ni)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-09B	Dissolved Phosphorus (P)	µg/L	6/2018 - 11/2020	9	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-09B	Total Phosphorus (P)	µg/L	6/2019 - 11/2020	5	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-09B	Dissolved Potassium (K)	µg/L	6/2018 - 11/2020	9	0%	1100	1700	--	--	1100	1700	1333	183	Normal	Normal	1887	2090
MW-09B	Total Potassium (K)	µg/L	6/2019 - 11/2020	5	0%	1100	1400	--	--	1100	1400	1220	117	Normal	Normal	1710	1890
MW-09B	Dissolved Selenium (Se)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-09B	Total Selenium (Se)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-09B	Dissolved Silver (Ag)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-09B	Total Silver (Ag)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-09B	Dissolved Sodium (Na)	µg/L	6/2018 - 11/2020	9	0%	6400	27000	--	--	6400	27000	13656	6208	Normal	Normal	32474	39376
MW-09B	Total Sodium (Na)	µg/L	6/2019 - 11/2020	5	0%	6700	16000	--	--	6700	16000	10300	3594	Normal	Normal	25404	30933
MW-09B	Dissolved Strontium (Sr)	µg/L	6/2018 - 11/2020	9	0%	310	420	--	--	310	420	371	31.8	Normal	Normal	467	503
MW-09B	Total Strontium (Sr)	µg/L	6/2019 - 11/2020	5	0%	360	440	--	--	360	440	400	26.1	Normal	Normal	510	550
MW-09B	Dissolved Thallium (Tl)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-09B	Total Thallium (Tl)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-09B	Dissolved Tin (Sn)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-09B	Total Tin (Sn)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-09B	Dissolved Titanium (Ti)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-09B	Total Titanium (Ti)	µg/L	6/2019 - 11/2020	5	0%	6.1	16	--	--	6.1	16	10.1	3.76	Normal	Normal	25.9	31.7
MW-09B	Dissolved Uranium (U)	µg/L	6/2018 - 11/2020	9	0%	5	8.7	--	--	5	8.7	6.48	1.15	Normal	Normal	9.97	11.3
MW-09B	Total Uranium (U)	µg/L	6/2019 - 11/2020	5	0%	4.9	7.8	--	--	4.9	7.8	6.10	1.15	Normal	Normal	10.9	12.7
MW-09B	Dissolved Vanadium (V)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-09B	Total Vanadium (V)	µg/L	6/2019 - 11/2020	5	60%	2.2	2.5	<2.0	<2.0	<2.0	2.5	2.14	0.196	Not tested	Maximum	2.50	2.50

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-09B	Dissolved Zinc (Zn)	µg/L	6/2018 - 11/2020	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	Not tested	Reporting Limit	<5.0	<5.0
MW-09B	Total Zinc (Zn)	µg/L	6/2019 - 11/2020	5	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	Not tested	Reporting Limit	<5.0	<5.0
MW-09B	Dissolved Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
MW-09B	Total Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
	Calculated Parameters																
MW-09D	Anion Sum	me/L	6/2018 - 11/2020	9	0%	2.61	4.21	--	--	2.61	4.21	1.45	0.069	Gamma	WH Approx. Gamma	4.55	5.21
MW-09D	Bicarb. Alkalinity (calc. as CaCO3	mg/L	6/2018 - 11/2020	9	0%	65	88.5	--	--	65	88.5	76.3	6.31	Normal	Normal	95.4	102
MW-09D	Calculated TDS	mg/L	6/2018 - 11/2020	9	0%	160	260	--	--	160	260	5.70	0.291	Gamma	WH Approx. Gamma	285	329
MW-09D	Carb. Alkalinity (calc. as CaCO3)	mg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-09D	Cation Sum	me/L	6/2018 - 11/2020	9	0%	2.42	4.01	--	--	2.42	4.01	1.42	0.072	Gamma	WH Approx. Gamma	4.36	5.03
MW-09D	Hardness (CaCO3)	mg/L	6/2018 - 11/2020	9	0%	83	120	--	--	83	120	97.1	11.6	Normal	Normal	132	145
MW-09D	Ion Balance (% Difference)	%	6/2018 - 11/2020	9	0%	1.37	4.31	--	--	1.37	4.31	3.22	0.887	Normal	Normal	5.91	6.89
MW-09D	Langelier Index (@ 20C)	N/A	6/2018 - 11/2020	9	0%	-0.547	-0.049	--	--	-0.547	-0.049	-0.19	0.146	Normal	Normal	0.253	0.415
MW-09D	Langelier Index (@ 4C)	N/A	6/2018 - 11/2020	9	0%	-0.798	-0.3	--	--	-0.798	-0.3	-0.44	0.146	Not Normal	Normal **	0.003	0.166
MW-09D	Nitrate (N)	mg/L	6/2018 - 11/2020	9	78%	0.052	0.0645	<0.050	<0.050	<0.050	0.0645	0.05	0.005	Not tested	Maximum	0.065	0.0645
MW-09D	Saturation pH (@ 20C)	N/A	6/2018 - 11/2020	9	0%	7.9	8.09	--	--	7.9	8.09	8.00	0.047	Normal	Normal	8.14	8.19
MW-09D	Saturation pH (@ 4C)	N/A	6/2018 - 11/2020	9	0%	8.15	8.34	--	--	8.15	8.34	8.25	0.047	Normal	Normal	8.39	8.44
	Inorganics																
MW-09D	Total Alkalinity (Total as CaCO3)	mg/L	6/2018 - 11/2020	9	0%	65	89	--	--	65	89	76.8	6.58	Normal	Normal	96.8	104
MW-09D	Total Chemical Oxygen Demand	mg/L	11/2020 - 11/2020	1	100%	--	--	<20	<20	<20	<20	--	--	Not tested	Reporting Limit	<20	<20
MW-09D	Dissolved Chloride (Cl-)	mg/L	6/2018 - 11/2020	9	0%	4.35	11	--	--	4.35	11	7.34	1.92	Normal	Normal	13.2	15.3
MW-09D	Colour	TCU	6/2018 - 11/2020	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	Not tested	Reporting Limit	<5.0	<5.0
MW-09D	Nitrate + Nitrite (N)	mg/L	6/2018 - 11/2020	9	78%	0.052	0.0645	<0.050	<0.050	<0.050	0.0645	0.05	0.005	Not tested	Maximum	0.065	0.0645
MW-09D	Nitrite (N)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-09D	Nitrogen (Ammonia Nitrogen)	mg/L	6/2018 - 11/2020	9	78%	0.05	0.13	<0.050	<0.050	<0.050	0.13	0.06	0.025	Not tested	Maximum	0.130	0.130
MW-09D	Dissolved Organic Carbon (C)	mg/L	11/2020 - 11/2020	1	0%	4.15	4.15	--	--	4.15	4.15	--	--	Not tested	Maximum	4.15	4.15
MW-09D	Total Organic Carbon (C)	mg/L	6/2018 - 11/2020	9	0%	3.85	17	--	--	3.85	17	8.33	3.71	Normal	Normal	19.6	23.7
MW-09D	Orthophosphate (P)	mg/L	6/2018 - 11/2020	9	11%	0.012	0.015	<0.010	<0.010	<0.010	0.015	0.01	0.002	Normal	Normal (KM)	0.018	0.0194
MW-09D	pH (LTL - UTL)	s.u.	6/2018 - 11/2020	9	0%	7.54	7.97	--	--	7.54	7.97	7.81	0.124	Normal	Normal	7.37 - 8.25	7.24 - 8.37
MW-09D	Dissolved Phosphorous	mg/L	11/2020 - 11/2020	1	0%	0.032	0.032	--	--	0.032	0.032	--	--	Not tested	Maximum	0.032	0.0320
MW-09D	Total Phosphorus	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-09D	Reactive Silica (SiO2)	mg/L	6/2018 - 11/2020	9	0%	11	12	--	--	11	12	11.6	0.458	Not Normal	Normal **	13.0	13.5
MW-09D	Total Suspended Solids	mg/L	11/2020 - 11/2020	1	0%	3.2	3.2	--	--	3.2	3.2	--	--	Not tested	Maximum	3.20	3.20
MW-09D	Dissolved Sulphate (SO4)	mg/L	6/2018 - 11/2020	9	0%	37	110	--	--	37	110	62.7	21.4	Normal	Normal	127	151
MW-09D	Turbidity	NTU	6/2018 - 11/2020	9	0%	0.87	14	--	--	0.87	14	5.32	3.95	Normal	Normal	17.3	21.7
MW-09D	Conductivity	µS/cm	6/2018 - 11/2020	9	0%	245	430	--	--	245	430	294	54.0	Not Normal	Normal **	458	518
	Metals																
MW-09D	Dissolved Aluminum (Al)	µg/L	6/2018 - 11/2020	9	22%	5.1	10.35	<5.0	<5.0	<5.0	10.35	6.78	2.00	Not Normal	Normal (KM) **	12.8	15.1
MW-09D	Total Aluminum (Al)	µg/L	6/2019 - 11/2020	5	0%	27	200	--	--	27	200	105	74.8	Normal	Normal	419	535
MW-09D	Dissolved Antimony (Sb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-09D	Total Antimony (Sb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-09D	Dissolved Arsenic (As)	µg/L	6/2018 - 11/2020	9	0%	86	140	--	--	86	140	114	17.1	Normal	Normal	166	185
MW-09D	Total Arsenic (As)	µg/L	6/2019 - 11/2020	5	0%	110	140	--	--	110	140	126	10.2	Normal	Normal	169	185
MW-09D	Dissolved Barium (Ba)	µg/L	6/2018 - 11/2020	9	0%	8.3	16	--	--	8.3	16	2.32	0.186	Lognormal	Lognormal	17.9	22.0
MW-09D	Total Barium (Ba)	µg/L	6/2019 - 11/2020	5	0%	8.9	11.5	--	--	8.9	11.5	9.98	0.861	Normal	Normal	13.6	14.9
MW-09D	Dissolved Beryllium (Be)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-09D	Total Beryllium (Be)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-09D	Dissolved Bismuth (Bi)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-09D	Total Bismuth (Bi)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-09D	Dissolved Boron (B)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-09D	Total Boron (B)	µg/L	6/2019 - 11/2020	5	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-09D	Dissolved Cadmium (Cd)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-09D	Total Cadmium (Cd)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-09D	Dissolved Calcium (Ca)	µg/L	6/2018 - 11/2020	9	0%	27000	41000	--	--	27000	41000	31944	4140	Normal	Normal	44492	49095
MW-09D	Total Calcium (Ca)	µg/L	6/2019 - 11/2020	5	0%	25500	33000	--	--	25500	33000	29100	2905	Normal	Normal	41310	45779
MW-09D	Dissolved Chromium (Cr)	µg/L	6/2018 - 11/2020	9	89%	1.3	1.3	<1.0	<1.0	<1.0	1.3	--	--	Not tested	Maximum	1.30	1.30
MW-09D	Total Chromium (Cr)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-09D	Dissolved Cobalt (Co)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	Not tested	Reporting Limit	<0.40	<0.40
MW-09D	Total Cobalt (Co)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	Not tested	Reporting Limit	<0.40	<0.40
MW-09D	Dissolved Copper (Cu)	µg/L	6/2018 - 11/2020	9	89%	0.69	0.69	<0.50	<2.0	<0.50	<2.0	--	--	Not tested	Maximum	<2.0	<2.0
MW-09D	Total Copper (Cu)	µg/L	6/2019 - 11/2020	5	40%	0.9	1.3	<0.50	<0.50	<0.50	1.3	0.83	0.303	Normal	Normal (KM)	2.11	2.57
MW-09D	Dissolved Iron (Fe)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-09D	Total Iron (Fe)	µg/L	6/2019 - 11/2020	5	20%	60	200	<50	<50	<50	200	104	55.3	Normal	Normal (KM)	336	421
MW-09D	Dissolved Lead (Pb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-09D	Total Lead (Pb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-09D	Dissolved Magnesium (Mg)	µg/L	6/2018 - 11/2020	9	0%	3700	5400	--	--	3700	5400	4294	531	Normal	Normal	5905	6496
MW-09D	Total Magnesium (Mg)	µg/L	6/2019 - 11/2020	5	0%	3400	4500	--	--	3400	4500	3920	431	Normal	Normal	5731	6393
MW-09D	Dissolved Manganese (Mn)	µg/L	6/2018 - 11/2020	9	0%	46	160	--	--	46	160	4.17	0.379	Lognormal	Lognormal	205	313
MW-09D	Total Manganese (Mn)	µg/L	6/2019 - 11/2020	5	0%	49	63	--	--	49	63	54.8	4.83	Normal	Normal	75.1	82.5
MW-09D	Dissolved Molybdenum (Mo)	µg/L	6/2018 - 11/2020	9	0%	2.8	15	--	--	2.8	15	6.69	3.70	Normal	Normal	17.9	22.0
MW-09D	Total Molybdenum (Mo)	µg/L	6/2019 - 11/2020	5	0%	3.2	7.5	--	--	3.2	7.5	4.54	1.59	Normal	Normal	11.2	13.7
MW-09D	Dissolved Nickel (Ni)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-09D	Total Nickel (Ni)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-09D	Dissolved Phosphorus (P)	µg/L	6/2018 - 11/2020	9	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-09D	Total Phosphorus (P)	µg/L	6/2019 - 11/2020	5	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-09D	Dissolved Potassium (K)	µg/L	6/2018 - 11/2020	9	0%	1000	1400	--	--	1000	1400	1150	115	Normal	Normal	1500	1628
MW-09D	Total Potassium (K)	µg/L	6/2019 - 11/2020	5	0%	1000	1100	--	--	1000	1100	1050	44.7	Normal	Normal	1238	1307
MW-09D	Dissolved Selenium (Se)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-09D	Total Selenium (Se)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-09D	Dissolved Silver (Ag)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-09D	Total Silver (Ag)	µg/L	6/2019 - 11/2020	5	40%	0.11	0.15	<0.10	<0.10	<0.10	0.15	-2.18	0.149	Lognormal	Lognormal (KM)	0.211	0.266
MW-09D	Dissolved Sodium (Na)	µg/L	6/2018 - 11/2020	9	0%	15000	34000	--	--	15000	34000	27.1	2.17	Gamma	WH Approx. Gamma	38055	46834
MW-09D	Total Sodium (Na)	µg/L	6/2019 - 11/2020	5	0%	15000	19000	--	--	15000	19000	16800	1470	Normal	Normal	22977	25238
MW-09D	Dissolved Strontium (Sr)	µg/L	6/2018 - 11/2020	9	0%	590	890	--	--	590	890	697	88.2	Normal	Normal	964	1062
MW-09D	Total Strontium (Sr)	µg/L	6/2019 - 11/2020	5	0%	555	720	--	--	555	720	635	65.0	Normal	Normal	908	1008
MW-09D	Dissolved Thallium (Tl)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-09D	Total Thallium (Tl)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-09D	Dissolved Tin (Sn)	µg/L	6/2018 - 11/2020	9	89%	2.6	2.6	<2.0	<2.0	<2.0	2.6	--	--	Not tested	Maximum	2.60	2.60
MW-09D	Total Tin (Sn)	µg/L	6/2019 - 11/2020	5	80%	2	2	<2.0	<2.0	2	2	--	--	Not tested	Maximum	2.00	2.00
MW-09D	Dissolved Titanium (Ti)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-09D	Total Titanium (Ti)	µg/L	6/2019 - 11/2020	5	20%	2.1	6	<2.0	<2.0	<2.0	6	3.36	1.52	Normal	Normal (KM)	9.74	12.1
MW-09D	Dissolved Uranium (U)	µg/L	6/2018 - 11/2020	9	0%	1.35	3.8	--	--	1.35	3.8	2.61	0.893	Normal	Normal	5.32	6.31
MW-09D	Total Uranium (U)	µg/L	6/2019 - 11/2020	5	0%	1.4	3.4	--	--	1.4	3.4	2.10	0.785	Normal	Normal	5.40	6.61
MW-09D	Dissolved Vanadium (V)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-09D	Total Vanadium (V)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-09D	Dissolved Zinc (Zn)	µg/L	6/2018 - 11/2020	9	89%	5.8	5.8	<5.0	<5.0	<5.0	5.8	--	--	Not tested	Maximum	5.80	5.80
MW-09D	Total Zinc (Zn)	µg/L	6/2019 - 11/2020	5	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	Not tested	Reporting Limit	<5.0	<5.0
MW-09D	Dissolved Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
MW-09D	Total Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
	Calculated Parameters																
MW-11A	Anion Sum	me/L	6/2018 - 11/2020	8	0%	0.27	0.36	--	--	0.27	0.36	0.31	0.028	Normal	Normal	0.399	0.431
MW-11A	Bicarb. Alkalinity (calc. as CaCO3	mg/L	6/2018 - 11/2020	8	0%	5.5	8.3	--	--	5.5	8.3	6.56	0.801	Normal	Normal	9.12	10.1
MW-11A	Calculated TDS	mg/L	6/2018 - 11/2020	8	0%	17	23	--	--	17	23	20.9	1.69	Normal	Normal	26.3	28.2
MW-11A	Carb. Alkalinity (calc. as CaCO3)	mg/L	6/2018 - 11/2020	8	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-11A	Cation Sum	me/L	6/2018 - 11/2020	8	0%	0.22	0.29	--	--	0.22	0.29	0.25	0.027	Normal	Normal	0.341	0.373
MW-11A	Hardness (CaCO3)	mg/L	6/2018 - 11/2020	8	0%	5.5	8.2	--	--	5.5	8.2	1.88	0.098	Gamma	WH Approx. Gamma	10.5	12.2
MW-11A	Ion Balance (% Difference)	%	6/2018 - 11/2020	8	0%	3.45	24.1	--	--	3.45	24.1	10.3	6.09	Normal	Normal	29.7	36.8
MW-11A	Langelier Index (@ 20C)	N/A	6/2018 - 11/2020	8	0%	-4.365	-3.63	--	--	-4.365	-3.63	-3.94	0.232	Normal	Normal	-3.20	-2.93
MW-11A	Langelier Index (@ 4C)	N/A	6/2018 - 11/2020	8	0%	-4.615	-3.88	--	--	-4.615	-3.88	-4.19	0.231	Normal	Normal	-3.46	-3.19
MW-11A	Nitrate (N)	mg/L	6/2018 - 11/2020	8	75%	0.059	0.064	<0.050	<0.050	<0.050	0.064	0.05	0.005	Not tested	Maximum	0.064	0.0640
MW-11A	Saturation pH (@ 20C)	N/A	6/2018 - 11/2020	8	0%	10	10.3	--	--	10	10.3	10.2	0.109	Not Normal	Normal **	10.5	10.6
MW-11A	Saturation pH (@ 4C)	N/A	6/2018 - 11/2020	8	0%	10.3	10.5	--	--	10.3	10.5	10.4	0.083	Not Normal	Normal **	10.7	10.8
	Inorganics																
MW-11A	Total Alkalinity (Total as CaCO3)	mg/L	6/2018 - 11/2020	8	0%	5.5	8.3	--	--	5.5	8.3	6.56	0.801	Normal	Normal	9.12	10.1
MW-11A	Total Chemical Oxygen Demand	mg/L	11/2020 - 11/2020	1	100%	--	--	<20	<20	<20	<20	--	--	Not tested	Reporting Limit	<20	<20
MW-11A	Dissolved Chloride (Cl-)	mg/L	6/2018 - 11/2020	8	0%	2.65	5.6	--	--	2.65	5.6	3.99	0.912	Normal	Normal	6.90	7.96
MW-11A	Colour	TCU	6/2018 - 11/2020	8	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	Not tested	Reporting Limit	<5.0	<5.0
MW-11A	Nitrate + Nitrite (N)	mg/L	6/2018 - 11/2020	8	75%	0.059	0.064	<0.050	<0.050	<0.050	0.064	0.05	0.005	Not tested	Maximum	0.064	0.0640
MW-11A	Nitrite (N)	mg/L	6/2018 - 11/2020	8	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-11A	Nitrogen (Ammonia Nitrogen)	mg/L	6/2018 - 11/2020	8	88%	0.16	0.16	<0.050	<0.050	<0.050	0.16	--	--	Not tested	Maximum	0.160	0.160
MW-11A	Dissolved Organic Carbon (C)	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-11A	Total Organic Carbon (C)	mg/L	6/2018 - 11/2020	8	13%	0.57	1.3	<0.50	<0.50	<0.50	1.3	0.81	0.286	Normal	Normal (KM)	1.72	2.05
MW-11A	Orthophosphate (P)	mg/L	6/2018 - 11/2020	8	88%	0.038	0.038	<0.010	<0.010	<0.010	0.038	--	--	Not tested	Maximum	0.038	0.0380
MW-11A	pH (LTL - UTL)	s.u.	6/2018 - 11/2020	8	0%	5.815	6.51	--	--	5.815	6.51	6.23	0.204	Normal	Normal	5.47 - 6.99	5.25 - 7.21
MW-11A	Dissolved Phosphorous	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-11A	Total Phosphorus	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-11A	Reactive Silica (SiO2)	mg/L	6/2018 - 11/2020	8	0%	3	5.2	--	--	3	5.2	4.17	0.631	Normal	Normal	6.18	6.92
MW-11A	Total Suspended Solids	mg/L	11/2020 - 11/2020	1	0%	4.7	4.7	--	--	4.7	4.7	--	--	Not tested	Maximum	4.70	4.70
MW-11A	Dissolved Sulphate (SO4)	mg/L	6/2018 - 11/2020	8	0%	2.6	3.8	--	--	2.6	3.8	3.20	0.456	Normal	Normal	4.65	5.18
MW-11A	Turbidity	NTU	6/2018 - 11/2020	8	0%	0.55	14	--	--	0.55	14	2.46	4.37	Not Normal	Normal **	16.4	21.5
MW-11A	Conductivity	µS/cm	6/2018 - 11/2020	8	0%	24	36	--	--	24	36	30.6	4.07	Normal	Normal	43.5	48.3

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
	Metals																
MW-11A	Dissolved Aluminum (Al)	µg/L	6/2018 - 11/2020	8	0%	17	78	--	--	17	78	45.1	19.8	Normal	Normal	108	131
MW-11A	Total Aluminum (Al)	µg/L	6/2019 - 11/2020	5	0%	65	560	--	--	65	560	5.27	1.54	Gamma	WH Approx. Gamma	1620	2813
MW-11A	Dissolved Antimony (Sb)	µg/L	6/2018 - 11/2020	8	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-11A	Total Antimony (Sb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-11A	Dissolved Arsenic (As)	µg/L	6/2018 - 11/2020	8	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-11A	Total Arsenic (As)	µg/L	6/2019 - 11/2020	5	80%	2.5	2.5	<1.0	<1.0	<1.0	2.5	--	--	Not tested	Maximum	2.50	2.50
MW-11A	Dissolved Barium (Ba)	µg/L	6/2018 - 11/2020	8	0%	4.6	8	--	--	4.6	8	6.37	1.08	Normal	Normal	9.81	11.1
MW-11A	Total Barium (Ba)	µg/L	6/2019 - 11/2020	5	0%	5	8.2	--	--	5	8.2	6.37	1.12	Normal	Normal	11.1	12.8
MW-11A	Dissolved Beryllium (Be)	µg/L	6/2018 - 11/2020	8	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-11A	Total Beryllium (Be)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-11A	Dissolved Bismuth (Bi)	µg/L	6/2018 - 11/2020	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-11A	Total Bismuth (Bi)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-11A	Dissolved Boron (B)	µg/L	6/2018 - 11/2020	8	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-11A	Total Boron (B)	µg/L	6/2019 - 11/2020	5	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-11A	Dissolved Cadmium (Cd)	µg/L	6/2018 - 11/2020	8	0%	0.016	0.0445	--	--	0.016	0.045	-3.77	0.282	Lognormal	Lognormal	0.057	0.0789
MW-11A	Total Cadmium (Cd)	µg/L	6/2019 - 11/2020	5	0%	0.018	0.028	--	--	0.018	0.028	0.02	0.004	Normal	Normal	0.041	0.0471
MW-11A	Dissolved Calcium (Ca)	µg/L	6/2018 - 11/2020	8	0%	1600	2500	--	--	1600	2500	2000	324	Normal	Normal	3033	3411
MW-11A	Total Calcium (Ca)	µg/L	6/2019 - 11/2020	5	0%	1600	1900	--	--	1600	1900	1820	117	Not Normal	Normal **	2310	2490
MW-11A	Dissolved Chromium (Cr)	µg/L	6/2018 - 11/2020	8	88%	1.3	1.3	<1.0	<1.0	<1.0	1.3	--	--	Not tested	Maximum	1.30	1.30
MW-11A	Total Chromium (Cr)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-11A	Dissolved Cobalt (Co)	µg/L	6/2018 - 11/2020	8	38%	0.545	1.1	<0.40	<0.40	<0.40	1.1	0.69	0.276	Normal	Normal (KM)	1.57	1.89
MW-11A	Total Cobalt (Co)	µg/L	6/2019 - 11/2020	5	20%	0.44	1.5	<0.40	<0.40	<0.40	1.5	-0.52	0.482	Lognormal	Lognormal (KM)	4.51	9.46
MW-11A	Dissolved Copper (Cu)	µg/L	6/2018 - 11/2020	8	63%	1.8	3.5	<0.50	<2.0	<0.50	3.5	1.41	1.04	Not tested	Maximum	3.50	3.50
MW-11A	Total Copper (Cu)	µg/L	6/2019 - 11/2020	5	0%	0.795	3.6	--	--	0.795	3.6	1.94	1.05	Normal	Normal	6.34	7.95
MW-11A	Dissolved Iron (Fe)	µg/L	6/2018 - 11/2020	8	88%	100	100	<50	<50	<50	100	--	--	Not tested	Maximum	100	100
MW-11A	Total Iron (Fe)	µg/L	6/2019 - 11/2020	5	20%	52	920	<50	<50	<50	920	5.46	2.24	Gamma	WH Approx. Gamma (KM	3286	6139
MW-11A	Dissolved Lead (Pb)	µg/L	6/2018 - 11/2020	8	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-11A	Total Lead (Pb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-11A	Dissolved Magnesium (Mg)	µg/L	6/2018 - 11/2020	8	0%	330	500	--	--	330	500	397	64.0	Normal	Normal	601	675
MW-11A	Total Magnesium (Mg)	µg/L	6/2019 - 11/2020	5	0%	330	530	--	--	330	530	398	71.9	Normal	Normal	700	811
MW-11A	Dissolved Manganese (Mn)	µg/L	6/2018 - 11/2020	8	0%	17	91	--	--	17	91	46.6	27.7	Normal	Normal	135	167
MW-11A	Total Manganese (Mn)	µg/L	6/2019 - 11/2020	5	0%	18	73	--	--	18	73	3.32	0.507	Lognormal	Lognormal	233	507
MW-11A	Dissolved Molybdenum (Mo)	µg/L	6/2018 - 11/2020	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-11A	Total Molybdenum (Mo)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-11A	Dissolved Nickel (Ni)	µg/L	6/2018 - 11/2020	8	50%	2.2	2.8	<2.0	<2.0	<2.0	2.8	2.24	0.308	Not Normal	Normal (KM) **	3.22	3.58
MW-11A	Total Nickel (Ni)	µg/L	6/2019 - 11/2020	5	80%	2.4	2.4	<2.0	<2.0	<2.0	2.4	--	--	Not tested	Maximum	2.40	2.40
MW-11A	Dissolved Phosphorus (P)	µg/L	6/2018 - 11/2020	8	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-11A	Total Phosphorus (P)	µg/L	6/2019 - 11/2020	5	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-11A	Dissolved Potassium (K)	µg/L	6/2018 - 11/2020	8	0%	360	700	--	--	360	700	516	108	Normal	Normal	860	986
MW-11A	Total Potassium (K)	µg/L	6/2019 - 11/2020	5	0%	390	560	--	--	390	560	469	58.3	Normal	Normal	714	804
MW-11A	Dissolved Selenium (Se)	µg/L	6/2018 - 11/2020	8	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-11A	Total Selenium (Se)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-11A	Dissolved Silver (Ag)	µg/L	6/2018 - 11/2020	8	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-11A	Total Silver (Ag)	µg/L	6/2019 - 11/2020	5	80%	0.1	0.1	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Maximum	<0.10	<0.10
MW-11A	Dissolved Sodium (Na)	µg/L	6/2018 - 11/2020	8	0%	2000	2700	--	--	2000	2700	2406	248	Normal	Normal	3197	3486
MW-11A	Total Sodium (Na)	µg/L	6/2019 - 11/2020	5	0%	2000	2800	--	--	2000	2800	2370	279	Normal	Normal	3541	3969
MW-11A	Dissolved Strontium (Sr)	µg/L	6/2018 - 11/2020	8	0%	11	17	--	--	11	17	13.6	2.00	Normal	Normal	20.0	22.3
MW-11A	Total Strontium (Sr)	µg/L	6/2019 - 11/2020	5	0%	11	13.5	--	--	11	13.5	12.3	0.872	Normal	Normal	16.0	17.3
MW-11A	Dissolved Thallium (Tl)	µg/L	6/2018 - 11/2020	8	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-11A	Total Thallium (Tl)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-11A	Dissolved Tin (Sn)	µg/L	6/2018 - 11/2020	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-11A	Total Tin (Sn)	µg/L	6/2019 - 11/2020	5	80%	3	3	<2.0	<2.0	<2.0	3	--	--	Not tested	Maximum	3.00	3.00
MW-11A	Dissolved Titanium (Ti)	µg/L	6/2018 - 11/2020	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-11A	Total Titanium (Ti)	µg/L	6/2019 - 11/2020	5	40%	2.85	20	<2.0	<2.0	<2.0	20	1.67	0.546	Gamma	WH Approx. Gamma (KM	62.4	111
MW-11A	Dissolved Uranium (U)	µg/L	6/2018 - 11/2020	8	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-11A	Total Uranium (U)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-11A	Dissolved Vanadium (V)	µg/L	6/2018 - 11/2020	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-11A	Total Vanadium (V)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-11A	Dissolved Zinc (Zn)	µg/L	6/2018 - 11/2020	8	50%	6.5	12	<5.0	<5.0	<5.0	12	1.87	0.307	Lognormal	Lognormal (KM)	17.2	24.6
MW-11A	Total Zinc (Zn)	µg/L	6/2019 - 11/2020	5	60%	5.2	8.1	<5.0	<5.0	<5.0	8.1	5.66	1.22	Not tested	Maximum	8.10	8.10
MW-11A	Dissolved Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
MW-11A	Total Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
	Calculated Parameters																
MW-11B	Anion Sum	me/L	6/2018 - 11/2020	9	0%	0.53	1.87	--	--	0.53	1.87	1.47	0.409	Normal	Normal	2.71	3.16
MW-11B	Bicarb. Alkalinity (calc. as CaCO3	mg/L	6/2018 - 11/2020	9	0%	18	78	--	--	18	78	60.8	17.8	Normal	Normal	115	135

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-11B	Calculated TDS	mg/L	6/2018 - 11/2020	9	0%	33	100	--	--	33	100	82.6	21.0	Not Normal	Normal **	146	169
MW-11B	Carb. Alkalinity (calc. as CaCO3)	mg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-11B	Cation Sum	me/L	6/2018 - 11/2020	9	0%	0.5	1.71	--	--	0.5	1.71	1.39	0.363	Not Normal	Normal **	2.49	2.89
MW-11B	Hardness (CaCO3)	mg/L	6/2018 - 11/2020	9	0%	13	71	--	--	13	71	53.8	19.8	Not Normal	Normal **	114	136
MW-11B	Ion Balance (% Difference)	%	6/2018 - 11/2020	9	0%	0	4.84	--	--	0	4.84	3.43	1.40	Not Normal	Normal **	7.67	9.23
MW-11B	Langelier Index (@ 20C)	N/A	6/2018 - 11/2020	9	0%	-2.5	0.069	--	--	-2.5	0.069	-0.69	0.745	Not Normal	Normal **	1.57	2.39
MW-11B	Langelier Index (@ 4C)	N/A	6/2018 - 11/2020	9	0%	-2.75	-0.182	--	--	-2.75	-0.182	-0.95	0.745	Not Normal	Normal **	1.31	2.14
MW-11B	Nitrate (N)	mg/L	6/2018 - 11/2020	9	22%	0.067	0.19	<0.050	<0.050	<0.050	0.19	0.44	0.068	Gamma	WH Approx. Gamma (KM	0.269	0.375
MW-11B	Saturation pH (@ 20C)	N/A	6/2018 - 11/2020	9	0%	8.05	9.39	--	--	8.05	9.39	8.35	0.420	Not Normal	Normal **	9.62	10.1
MW-11B	Saturation pH (@ 4C)	N/A	6/2018 - 11/2020	9	0%	8.3	9.64	--	--	8.3	9.64	8.60	0.420	Not Normal	Normal **	9.87	10.3
	Inorganics																
MW-11B	Total Alkalinity (Total as CaCO3)	mg/L	6/2018 - 11/2020	9	0%	18	79	--	--	18	79	61.2	18.0	Normal	Normal	116	136
MW-11B	Total Chemical Oxygen Demand	mg/L	11/2020 - 11/2020	1	100%	--	--	<20	<20	<20	<20	--	--	Not tested	Reporting Limit	<20	<20
MW-11B	Dissolved Chloride (Cl-)	mg/L	6/2018 - 11/2020	9	0%	2.8	4.3	--	--	2.8	4.3	3.68	0.516	Normal	Normal	5.24	5.82
MW-11B	Colour	TCU	6/2018 - 11/2020	9	89%	13	13	<5.0	<5.0	<5.0	13	--	--	Not tested	Maximum	13.0	13.0
MW-11B	Nitrate + Nitrite (N)	mg/L	6/2018 - 11/2020	9	22%	0.067	0.19	<0.050	<0.050	<0.050	0.19	0.44	0.068	Gamma	WH Approx. Gamma (KM	0.269	0.375
MW-11B	Nitrite (N)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-11B	Nitrogen (Ammonia Nitrogen)	mg/L	6/2018 - 11/2020	9	78%	0.05	0.06	<0.050	<0.050	<0.050	0.06	0.05	0.003	Not tested	Maximum	0.060	0.0600
MW-11B	Dissolved Organic Carbon (C)	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.5	<0.5	<0.5	<0.5	--	--	Not tested	Reporting Limit	<0.5	<0.5
MW-11B	Total Organic Carbon (C)	mg/L	6/2018 - 11/2020	9	33%	0.53	9	<0.50	<0.50	<0.50	9	1.58	2.63	Not Normal	Normal (KM) **	9.54	12.5
MW-11B	Orthophosphate (P)	mg/L	6/2018 - 11/2020	9	78%	0.01	0.018	<0.010	<0.010	<0.010	0.018	0.01	0.003	Not tested	Maximum	0.018	0.0180
MW-11B	pH (LTL - UTL)	s.u.	6/2018 - 11/2020	9	0%	6.89	8.11	--	--	6.89	8.11	7.65	0.335	Normal	Normal	6.47 - 8.84	6.13 - 9.18
MW-11B	Dissolved Phosphorous	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-11B	Total Phosphorus	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-11B	Reactive Silica (SiO2)	mg/L	6/2018 - 11/2020	9	0%	4.5	9.4	--	--	4.5	9.4	7.63	1.74	Not Normal	Normal **	12.9	14.8
MW-11B	Total Suspended Solids	mg/L	11/2020 - 11/2020	1	0%	8.4	8.4	--	--	8.4	8.4	--	--	Not tested	Maximum	8.40	8.40
MW-11B	Dissolved Sulphate (SO4)	mg/L	6/2018 - 11/2020	9	11%	3.7	9.7	<2.0	<2.0	<2.0	9.7	6.60	2.29	Normal	Normal (KM)	13.5	16.1
MW-11B	Turbidity	NTU	6/2018 - 11/2020	9	0%	1.2	21	--	--	1.2	21	8.46	6.69	Normal	Normal	28.7	36.2
MW-11B	Conductivity	µS/cm	6/2018 - 11/2020	9	0%	48	170	--	--	48	170	136	34.6	Not Normal	Normal **	241	280
	Metals																
MW-11B	Dissolved Aluminum (Al)	µg/L	6/2018 - 11/2020	9	44%	5.6	14	<5.0	<5.0	<5.0	14	7.56	3.38	Not Normal	Normal (KM) **	17.8	21.6
MW-11B	Total Aluminum (Al)	µg/L	6/2019 - 11/2020	5	0%	45	220	--	--	45	220	108	59.7	Normal	Normal	359	451
MW-11B	Dissolved Antimony (Sb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-11B	Total Antimony (Sb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-11B	Dissolved Arsenic (As)	µg/L	6/2018 - 11/2020	9	11%	3.2	60	<1.0	<1.0	<1.0	60	18.2	18.2	Normal	Normal (KM)	73.4	93.6
MW-11B	Total Arsenic (As)	µg/L	6/2019 - 11/2020	5	0%	3.5	30	--	--	3.5	30	14.7	8.85	Normal	Normal	51.9	65.5
MW-11B	Dissolved Barium (Ba)	µg/L	6/2018 - 11/2020	9	0%	3.8	10	--	--	3.8	10	6.58	2.41	Normal	Normal	13.9	16.6
MW-11B	Total Barium (Ba)	µg/L	6/2019 - 11/2020	5	0%	4	8.8	--	--	4	8.8	6.32	1.99	Normal	Normal	14.7	17.8
MW-11B	Dissolved Beryllium (Be)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-11B	Total Beryllium (Be)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-11B	Dissolved Bismuth (Bi)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-11B	Total Bismuth (Bi)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-11B	Dissolved Boron (B)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-11B	Total Boron (B)	µg/L	6/2019 - 11/2020	5	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-11B	Dissolved Cadmium (Cd)	µg/L	6/2018 - 11/2020	9	89%	0.017	0.017	<0.010	<0.010	<0.010	0.017	--	--	Not tested	Maximum	0.017	0.0170
MW-11B	Total Cadmium (Cd)	µg/L	6/2019 - 11/2020	5	80%	0.015	0.015	<0.010	<0.010	<0.010	0.015	--	--	Not tested	Maximum	0.015	0.0150
MW-11B	Dissolved Calcium (Ca)	µg/L	6/2018 - 11/2020	9	0%	4400	25000	--	--	4400	25000	19033	7198	Not Normal	Normal **	40854	48857
MW-11B	Total Calcium (Ca)	µg/L	6/2019 - 11/2020	5	0%	4800	24000	--	--	4800	24000	17760	6752	Normal	Normal	46137	56524
MW-11B	Dissolved Chromium (Cr)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-11B	Total Chromium (Cr)	µg/L	6/2019 - 11/2020	5	80%	2	2	<1.0	<1.0	<1.0	2	--	--	Not tested	Maximum	2.00	2.00
MW-11B	Dissolved Cobalt (Co)	µg/L	6/2018 - 11/2020	9	89%	1.4	1.4	<0.40	<0.40	<0.40	1.4	--	--	Not tested	Maximum	1.40	1.40
MW-11B	Total Cobalt (Co)	µg/L	6/2019 - 11/2020	5	40%	0.4	1.6	<0.40	<0.40	0.4	1.6	0.65	0.476	Not Normal	Normal (KM) **	2.65	3.38
MW-11B	Dissolved Copper (Cu)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<2.0	<0.50	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-11B	Total Copper (Cu)	µg/L	6/2019 - 11/2020	5	0%	0.72	2.1	--	--	0.72	2.1	1.14	0.498	Normal	Normal	3.23	4.00
MW-11B	Dissolved Iron (Fe)	µg/L	6/2018 - 11/2020	9	67%	98	3800	<50	<50	<50	3800	578	1177	Not tested	Maximum	3800	3800
MW-11B	Total Iron (Fe)	µg/L	6/2019 - 11/2020	5	0%	190	1700	--	--	190	1700	718	549	Normal	Normal	3023	3867
MW-11B	Dissolved Lead (Pb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-11B	Total Lead (Pb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-11B	Dissolved Magnesium (Mg)	µg/L	6/2018 - 11/2020	9	0%	520	1800	--	--	520	1800	1391	364	Not Normal	Normal **	2495	2900
MW-11B	Total Magnesium (Mg)	µg/L	6/2019 - 11/2020	5	0%	580	1600	--	--	580	1600	1276	362	Normal	Normal	2798	3355
MW-11B	Dissolved Manganese (Mn)	µg/L	6/2018 - 11/2020	9	0%	29	650	--	--	29	650	4.32	0.911	Lognormal	Lognormal	1186	3268
MW-11B	Total Manganese (Mn)	µg/L	6/2019 - 11/2020	5	0%	25	180	--	--	25	180	96.2	57.7	Normal	Normal	339	428
MW-11B	Dissolved Molybdenum (Mo)	µg/L	6/2018 - 11/2020	9	89%	4.6	4.6	<2.0	<2.0	<2.0	4.6	--	--	Not tested	Maximum	4.60	4.60
MW-11B	Total Molybdenum (Mo)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-11B	Dissolved Nickel (Ni)	µg/L	6/2018 - 11/2020	9	78%	4	8.5	<2.0	<2.0	<2.0	8.5	2.94	2.06	Not tested	Maximum	8.50	8.50
MW-11B	Total Nickel (Ni)	µg/L	6/2019 - 11/2020	5	40%	2.7	9.3	<2.0	<2.0	<2.0	9.3	4.12	2.76	Normal	Normal (KM)	15.7	20.0

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-11B	Dissolved Phosphorus (P)	µg/L	6/2018 - 11/2020	9	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-11B	Total Phosphorus (P)	µg/L	6/2019 - 11/2020	5	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-11B	Dissolved Potassium (K)	µg/L	6/2018 - 11/2020	9	0%	620	1600	--	--	620	1600	1067	273	Normal	Normal	1894	2198
MW-11B	Total Potassium (K)	µg/L	6/2019 - 11/2020	5	0%	660	1000	--	--	660	1000	870	115	Normal	Normal	1354	1532
MW-11B	Dissolved Selenium (Se)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-11B	Total Selenium (Se)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-11B	Dissolved Silver (Ag)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-11B	Total Silver (Ag)	µg/L	6/2019 - 11/2020	5	80%	0.14	0.14	<0.10	<0.10	<0.10	0.14	--	--	Not tested	Maximum	0.140	0.140
MW-11B	Dissolved Sodium (Na)	µg/L	6/2018 - 11/2020	9	0%	4100	12000	--	--	4100	12000	18.1	1.96	Gamma	WH Approx. Gamma	13880	18004
MW-11B	Total Sodium (Na)	µg/L	6/2019 - 11/2020	5	0%	4300	6200	--	--	4300	6200	4900	696	Normal	Normal	7824	8894
MW-11B	Dissolved Strontium (Sr)	µg/L	6/2018 - 11/2020	9	0%	19	86	--	--	19	86	53.0	20.4	Normal	Normal	115	137
MW-11B	Total Strontium (Sr)	µg/L	6/2019 - 11/2020	5	0%	20	60	--	--	20	60	45.0	13.5	Normal	Normal	102	123
MW-11B	Dissolved Thallium (Tl)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-11B	Total Thallium (Tl)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-11B	Dissolved Tin (Sn)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-11B	Total Tin (Sn)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-11B	Dissolved Titanium (Ti)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-11B	Total Titanium (Ti)	µg/L	6/2019 - 11/2020	5	20%	2.4	8.7	<2.0	<2.0	<2.0	8.7	4.10	2.47	Normal	Normal (KM)	14.5	18.3
MW-11B	Dissolved Uranium (U)	µg/L	6/2018 - 11/2020	9	22%	0.53	0.93	<0.10	<0.10	<0.10	0.93	0.61	0.308	Normal	Normal (KM)	1.54	1.88
MW-11B	Total Uranium (U)	µg/L	6/2019 - 11/2020	5	0%	0.17	0.71	--	--	0.17	0.71	0.53	0.197	Normal	Normal	1.36	1.66
MW-11B	Dissolved Vanadium (V)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-11B	Total Vanadium (V)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-11B	Dissolved Zinc (Zn)	µg/L	6/2018 - 11/2020	9	78%	5.6	17	<5.0	<5.0	<5.0	17	6.40	3.75	Not tested	Maximum	17.0	17.0
MW-11B	Total Zinc (Zn)	µg/L	6/2019 - 11/2020	5	80%	17	17	<5.0	<5.0	<5.0	17	--	--	Not tested	Maximum	17.0	17.0
MW-11B	Dissolved Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
MW-11B	Total Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
	Calculated Parameters																
MW-11C	Anion Sum	me/L	6/2018 - 11/2020	8	0%	2.02	2.53	--	--	2.02	2.53	2.22	0.172	Normal	Normal	2.77	2.97
MW-11C	Bicarb. Alkalinity (calc. as CaCO3	mg/L	6/2018 - 11/2020	8	0%	68	82	--	--	68	82	74.1	4.76	Normal	Normal	89.2	94.8
MW-11C	Calculated TDS	mg/L	6/2018 - 11/2020	8	0%	120	150	--	--	120	150	130	10	Normal	Normal	162	174
MW-11C	Carb. Alkalinity (calc. as CaCO3)	mg/L	6/2018 - 11/2020	8	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-11C	Cation Sum	me/L	6/2018 - 11/2020	8	0%	1.82	2.38	--	--	1.82	2.38	2.04	0.171	Normal	Normal	2.59	2.78
MW-11C	Hardness (CaCO3)	mg/L	6/2018 - 11/2020	8	0%	70	78	--	--	70	78	73.4	2.55	Normal	Normal	81.5	84.5
MW-11C	Ion Balance (% Difference)	%	6/2018 - 11/2020	8	0%	2.8	5.31	--	--	2.8	5.31	4.29	0.965	Normal	Normal	7.36	8.49
MW-11C	Langelier Index (@ 20C)	N/A	6/2018 - 11/2020	8	0%	-0.567	-0.092	--	--	-0.567	-0.092	-0.28	0.129	Normal	Normal	0.133	0.283
MW-11C	Langelier Index (@ 4C)	N/A	6/2018 - 11/2020	8	0%	-0.819	-0.342	--	--	-0.819	-0.342	-0.53	0.129	Normal	Normal	-0.116	0.0347
MW-11C	Nitrate (N)	mg/L	6/2018 - 11/2020	8	50%	0.053	0.13	<0.050	<0.050	<0.050	0.13	0.07	0.026	Not Normal	Normal (KM) **	0.151	0.181
MW-11C	Saturation pH (@ 20C)	N/A	6/2018 - 11/2020	8	0%	8.02	8.12	--	--	8.02	8.12	8.08	0.028	Normal	Normal	8.17	8.21
MW-11C	Saturation pH (@ 4C)	N/A	6/2018 - 11/2020	8	0%	8.27	8.37	--	--	8.27	8.37	8.33	0.028	Normal	Normal	8.42	8.46
	Inorganics																
MW-11C	Total Alkalinity (Total as CaCO3)	mg/L	6/2018 - 11/2020	8	0%	69	82	--	--	69	82	74.6	4.50	Normal	Normal	88.9	94.1
MW-11C	Total Chemical Oxygen Demand	mg/L	11/2020 - 11/2020	1	100%	--	--	<20	<20	<20	<20	--	--	Not tested	Reporting Limit	<20	<20
MW-11C	Dissolved Chloride (Cl-)	mg/L	6/2018 - 11/2020	8	0%	3.75	5.3	--	--	3.75	5.3	4.38	0.491	Normal	Normal	5.95	6.52
MW-11C	Colour	TCU	6/2018 - 11/2020	8	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	Not tested	Reporting Limit	<5.0	<5.0
MW-11C	Nitrate + Nitrite (N)	mg/L	6/2018 - 11/2020	8	50%	0.053	0.13	<0.050	<0.050	<0.050	0.13	0.07	0.026	Not Normal	Normal (KM) **	0.151	0.181
MW-11C	Nitrite (N)	mg/L	6/2018 - 11/2020	8	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-11C	Nitrogen (Ammonia Nitrogen)	mg/L	6/2018 - 11/2020	8	88%	0.15	0.15	<0.050	<0.050	<0.050	0.15	--	--	Not tested	Maximum	0.150	0.150
MW-11C	Dissolved Organic Carbon (C)	mg/L	11/2020 - 11/2020	1	0%	2.3	2.3	--	--	2.3	2.3	--	--	Not tested	Maximum	2.30	2.30
MW-11C	Total Organic Carbon (C)	mg/L	6/2018 - 7/2020	7	0%	0.93	2.4	--	--	0.93	2.4	1.77	0.555	Normal	Normal	3.66	4.35
MW-11C	Orthophosphate (P)	mg/L	6/2018 - 11/2020	8	13%	0.013	0.021	<0.010	<0.010	<0.010	0.021	0.02	0.003	Normal	Normal (KM)	0.027	0.0307
MW-11C	pH (LTL - UTL)	s.u.	6/2018 - 11/2020	8	0%	7.55	7.96	--	--	7.55	7.96	7.80	0.121	Normal	Normal	7.35 - 8.25	7.22 - 8.38
MW-11C	Dissolved Phosphorous	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-11C	Total Phosphorus	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-11C	Reactive Silica (SiO2)	mg/L	6/2018 - 11/2020	8	0%	8.3	9.1	--	--	8.3	9.1	8.74	0.244	Normal	Normal	9.52	9.81
MW-11C	Total Suspended Solids	mg/L	11/2020 - 11/2020	1	0%	15	15	--	--	15	15	--	--	Not tested	Maximum	15.0	15.0
MW-11C	Dissolved Sulphate (SO4)	mg/L	6/2018 - 11/2020	8	0%	23	37	--	--	23	37	29.0	4.66	Normal	Normal	43.9	49.3
MW-11C	Turbidity	NTU	6/2018 - 11/2020	8	0%	0.82	11	--	--	0.82	11	5.43	3.45	Normal	Normal	16.4	20.5
MW-11C	Conductivity	µS/cm	6/2018 - 11/2020	8	0%	190	230	--	--	190	230	209	13.8	Normal	Normal	253	269
	Metals																
MW-11C	Dissolved Aluminum (Al)	µg/L	6/2018 - 11/2020	8	63%	6.9	18	<5.0	<5.0	<5.0	18	7.11	4.20	Not tested	Maximum	18.0	18.0
MW-11C	Total Aluminum (Al)	µg/L	6/2019 - 11/2020	5	0%	110	450	--	--	110	450	296	113	Normal	Normal	771	945
MW-11C	Dissolved Antimony (Sb)	µg/L	6/2018 - 11/2020	8	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-11C	Total Antimony (Sb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-11C	Dissolved Arsenic (As)	µg/L	6/2018 - 11/2020	8	0%	62	78	--	--	62	78	72.8	5.26	Not Normal	Normal **	89.5	95.7
MW-11C	Total Arsenic (As)	µg/L	6/2019 - 11/2020	5	0%	68	76	--	--	68	76	72.2	3.25	Normal	Normal	85.9	90.9

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-11C	Dissolved Barium (Ba)	µg/L	6/2018 - 11/2020	8	0%	11	17	--	--	11	17	13.5	2.55	Not Normal	Normal **	21.6	24.6
MW-11C	Total Barium (Ba)	µg/L	6/2019 - 11/2020	5	0%	14	17	--	--	14	17	15.8	1.17	Normal	Normal	20.7	22.5
MW-11C	Dissolved Beryllium (Be)	µg/L	6/2018 - 11/2020	8	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-11C	Total Beryllium (Be)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-11C	Dissolved Bismuth (Bi)	µg/L	6/2018 - 11/2020	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-11C	Total Bismuth (Bi)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-11C	Dissolved Boron (B)	µg/L	6/2018 - 11/2020	8	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-11C	Total Boron (B)	µg/L	6/2019 - 11/2020	5	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-11C	Dissolved Cadmium (Cd)	µg/L	6/2018 - 11/2020	8	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-11C	Total Cadmium (Cd)	µg/L	6/2019 - 11/2020	5	60%	0.016	0.016	<0.010	<0.010	<0.010	0.016	0.01	0.003	Not tested	Maximum	0.016	0.0160
MW-11C	Dissolved Calcium (Ca)	µg/L	6/2018 - 11/2020	8	0%	25000	27000	--	--	25000	27000	25625	696	Not Normal	Normal **	27843	28655
MW-11C	Total Calcium (Ca)	µg/L	6/2019 - 11/2020	5	0%	24000	26000	--	--	24000	26000	25600	800	Not Normal	Normal **	28962	30193
MW-11C	Dissolved Chromium (Cr)	µg/L	6/2018 - 11/2020	8	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-11C	Total Chromium (Cr)	µg/L	6/2019 - 11/2020	5	80%	1.7	1.7	<1.0	<1.0	<1.0	1.7	--	--	Not tested	Maximum	1.70	1.70
MW-11C	Dissolved Cobalt (Co)	µg/L	6/2018 - 11/2020	8	88%	0.44	0.44	<0.40	<0.40	<0.40	0.44	--	--	Not tested	Maximum	0.440	0.440
MW-11C	Total Cobalt (Co)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	Not tested	Reporting Limit	<0.40	<0.40
MW-11C	Dissolved Copper (Cu)	µg/L	6/2018 - 11/2020	8	100%	--	--	<0.50	<2.0	<0.50	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-11C	Total Copper (Cu)	µg/L	6/2019 - 11/2020	5	40%	0.77	2.6	<0.50	<0.50	<0.50	2.6	0.97	0.214	Gamma	WH Approx. Gamma (KM	6.54	10.6
MW-11C	Dissolved Iron (Fe)	µg/L	6/2018 - 11/2020	8	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-11C	Total Iron (Fe)	µg/L	6/2019 - 11/2020	5	0%	100	510	--	--	100	510	240	143	Normal	Normal	841	1062
MW-11C	Dissolved Lead (Pb)	µg/L	6/2018 - 11/2020	8	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-11C	Total Lead (Pb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-11C	Dissolved Magnesium (Mg)	µg/L	6/2018 - 11/2020	8	0%	2100	2500	--	--	2100	2500	2275	120	Normal	Normal	2657	2797
MW-11C	Total Magnesium (Mg)	µg/L	6/2019 - 11/2020	5	0%	2200	2400	--	--	2200	2400	2340	80.0	Normal	Normal	2676	2799
MW-11C	Dissolved Manganese (Mn)	µg/L	6/2018 - 11/2020	8	0%	7.8	75	--	--	7.8	75	33.8	22.9	Normal	Normal	107	134
MW-11C	Total Manganese (Mn)	µg/L	6/2019 - 11/2020	5	0%	20	76	--	--	20	76	44.8	19.1	Normal	Normal	125	155
MW-11C	Dissolved Molybdenum (Mo)	µg/L	6/2018 - 11/2020	8	0%	2.6	6.4	--	--	2.6	6.4	3.41	1.16	Not Normal	Normal **	7.10	8.46
MW-11C	Total Molybdenum (Mo)	µg/L	6/2019 - 11/2020	5	0%	2.9	3.4	--	--	2.9	3.4	3.10	0.210	Normal	Normal	3.98	4.30
MW-11C	Dissolved Nickel (Ni)	µg/L	6/2018 - 11/2020	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-11C	Total Nickel (Ni)	µg/L	6/2019 - 11/2020	5	80%	2.3	2.3	<2.0	<2.0	<2.0	2.3	--	--	Not tested	Maximum	2.30	2.30
MW-11C	Dissolved Phosphorus (P)	µg/L	6/2018 - 11/2020	8	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-11C	Total Phosphorus (P)	µg/L	6/2019 - 11/2020	5	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-11C	Dissolved Potassium (K)	µg/L	6/2018 - 11/2020	8	0%	1000	1300	--	--	1000	1300	1138	85.7	Normal	Normal	1411	1511
MW-11C	Total Potassium (K)	µg/L	6/2019 - 11/2020	5	0%	1100	1200	--	--	1100	1200	1180	40.0	Not Normal	Normal **	1348	1410
MW-11C	Dissolved Selenium (Se)	µg/L	6/2018 - 11/2020	8	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-11C	Total Selenium (Se)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-11C	Dissolved Silver (Ag)	µg/L	6/2018 - 11/2020	8	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-11C	Total Silver (Ag)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-11C	Dissolved Sodium (Na)	µg/L	6/2018 - 11/2020	8	0%	7900	18000	--	--	7900	18000	12550	3403	Normal	Normal	23396	27366
MW-11C	Total Sodium (Na)	µg/L	6/2019 - 11/2020	5	0%	13000	17000	--	--	13000	17000	14600	1497	Normal	Normal	20890	23192
MW-11C	Dissolved Strontium (Sr)	µg/L	6/2018 - 11/2020	8	0%	190	290	--	--	190	290	236	42.1	Normal	Normal	370	420
MW-11C	Total Strontium (Sr)	µg/L	6/2019 - 11/2020	5	0%	200	290	--	--	200	290	256	32.6	Normal	Normal	393	443
MW-11C	Dissolved Thallium (Tl)	µg/L	6/2018 - 11/2020	8	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-11C	Total Thallium (Tl)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-11C	Dissolved Tin (Sn)	µg/L	6/2018 - 11/2020	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-11C	Total Tin (Sn)	µg/L	6/2019 - 11/2020	5	80%	2.7	2.7	<2.0	<2.0	<2.0	2.7	--	--	Not tested	Maximum	2.70	2.70
MW-11C	Dissolved Titanium (Ti)	µg/L	6/2018 - 11/2020	8	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-11C	Total Titanium (Ti)	µg/L	6/2019 - 11/2020	5	0%	2.2	9.6	--	--	2.2	9.6	6.10	2.47	Normal	Normal	16.5	20.3
MW-11C	Dissolved Uranium (U)	µg/L	6/2018 - 11/2020	8	0%	3.3	6.8	--	--	3.3	6.8	4.16	1.17	Not Normal	Normal **	7.90	9.27
MW-11C	Total Uranium (U)	µg/L	6/2019 - 11/2020	5	0%	3.5	6.5	--	--	3.5	6.5	4.60	1.16	Normal	Normal	9.48	11.3
MW-11C	Dissolved Vanadium (V)	µg/L	6/2018 - 11/2020	8	88%	2.5	2.5	<2.0	<2.0	<2.0	2.5	--	--	Not tested	Maximum	2.50	2.50
MW-11C	Total Vanadium (V)	µg/L	6/2019 - 11/2020	5	60%	2.1	2.3	<2.0	<2.0	<2.0	2.3	2.08	0.117	Not tested	Maximum	2.30	2.30
MW-11C	Dissolved Zinc (Zn)	µg/L	6/2018 - 11/2020	8	25%	5.5	10	<5.0	<5.0	<5.0	10	6.66	1.92	Not Normal	Normal (KM) **	12.8	15.0
MW-11C	Total Zinc (Zn)	µg/L	6/2019 - 11/2020	5	20%	5.9	18	<5.0	<5.0	<5.0	18	2.02	0.319	Gamma	WH Approx. Gamma (KM	37.7	56.8
MW-11C	Dissolved Mercury (Hg)	µg/L	100%	0	--	--	--	--	--	--	--	--	--	Not tested	--	--	--
MW-11C	Total Mercury (Hg)	µg/L	100%	0	--	--	--	--	--	--	--	--	--	Not tested	--	--	--
	Calculated Parameters																
MW-12A	Anion Sum	me/L	6/2018 - 11/2020	9	0%	0.64	1.05	--	--	0.64	1.05	0.78	0.128	Normal	Normal	1.17	1.31
MW-12A	Bicarb. Alkalinity (calc. as CaCO3	mg/L	6/2018 - 11/2020	9	0%	22	42	--	--	22	42	29.7	6.27	Normal	Normal	48.7	55.7
MW-12A	Calculated TDS	mg/L	6/2018 - 11/2020	9	0%	48	72	--	--	48	72	56.3	7.64	Normal	Normal	79.5	88.0
MW-12A	Carb. Alkalinity (calc. as CaCO3)	mg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-12A	Cation Sum	me/L	6/2018 - 11/2020	9	0%	0.56	0.94	--	--	0.56	0.94	0.72	0.138	Normal	Normal	1.14	1.29
MW-12A	Hardness (CaCO3)	mg/L	6/2018 - 11/2020	9	0%	12	31	--	--	12	31	20.6	6.34	Normal	Normal	39.8	46.8
MW-12A	Ion Balance (% Difference)	%	6/2018 - 11/2020	9	0%	2.82	8.2	--	--	2.82	8.2	5.70	1.48	Normal	Normal	10.2	11.8
MW-12A	Langelier Index (@ 20C)	N/A	6/2018 - 11/2020	9	0%	-3.16	-2.16	--	--	-3.16	-2.16	-2.71	0.309	Normal	Normal	-1.78	-1.43
MW-12A	Langelier Index (@ 4C)	N/A	6/2018 - 11/2020	9	0%	-3.41	-2.41	--	--	-3.41	-2.41	-2.96	0.309	Normal	Normal	-2.03	-1.68
MW-12A	Nitrate (N)	mg/L	6/2018 - 11/2020	9	0%	0.085	0.36	--	--	0.085	0.36	0.22	0.100	Normal	Normal	0.518	0.629

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-12A	Saturation pH (@ 20C)	N/A	6/2018 - 11/2020	9	0%	8.78	9.35	--	--	8.78	9.35	9.14	0.201	Normal	Normal	9.75	9.98
MW-12A	Saturation pH (@ 4C)	N/A	6/2018 - 11/2020	9	0%	9.03	9.6	--	--	9.03	9.6	9.40	0.200	Normal	Normal	10.0	10.2
	Inorganics																
MW-12A	Total Alkalinity (Total as CaCO3)	mg/L	6/2018 - 11/2020	9	0%	22	42	--	--	22	42	29.7	6.27	Normal	Normal	48.7	55.7
MW-12A	Total Chemical Oxygen Demand	mg/L	11/2020 - 11/2020	1	100%	--	--	<20	<20	<20	<20	--	--	Not tested	Reporting Limit	<20	<20
MW-12A	Dissolved Chloride (Cl-)	mg/L	6/2018 - 11/2020	9	0%	2.4	3.4	--	--	2.4	3.4	2.91	0.387	Normal	Normal	4.08	4.52
MW-12A	Colour	TCU	6/2018 - 11/2020	9	89%	11	11	<5.0	<5.0	<5.0	11	--	--	Not tested	Maximum	11.0	11.0
MW-12A	Nitrate + Nitrite (N)	mg/L	6/2018 - 11/2020	9	0%	0.085	0.36	--	--	0.085	0.36	0.22	0.100	Normal	Normal	0.518	0.629
MW-12A	Nitrite (N)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-12A	Nitrogen (Ammonia Nitrogen)	mg/L	6/2018 - 11/2020	9	89%	0.13	0.13	<0.050	<0.050	<0.050	0.13	--	--	Not tested	Maximum	0.130	0.130
MW-12A	Dissolved Organic Carbon (C)	mg/L	11/2020 - 11/2020	1	0%	0.7	0.7	--	--	0.7	0.7	--	--	Not tested	Maximum	0.700	0.700
MW-12A	Total Organic Carbon (C)	mg/L	6/2018 - 7/2020	7	100%	--	--	<0.40	<0.50	<0.40	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-12A	Orthophosphate (P)	mg/L	6/2018 - 11/2020	9	44%	0.013	0.017	<0.010	<0.010	<0.010	0.017	0.01	0.003	Not Normal	Normal (KM) **	0.022	0.0249
MW-12A	pH (LTL - UTL)	s.u.	6/2018 - 11/2020	9	0%	6.14	6.64	--	--	6.14	6.64	6.43	0.168	Normal	Normal	5.84 - 7.03	5.67 - 7.2
MW-12A	Dissolved Phosphorous	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-01B	pH (LTL - UTL)	s.u.	6/2018 - 11/2020	9	0%	7.76	8	--	--	7.76	8	7.84	0.085	Not Normal	Normal **	7.54 - 8.14	7.45 - 8.22
MW-12A	Total Phosphorus	mg/L	11/2020 - 11/2020	1	0%	0.26	0.26	--	--	0.26	0.26	--	--	Not tested	Maximum	0.260	0.260
MW-12A	Reactive Silica (SiO2)	mg/L	6/2018 - 11/2020	9	0%	9	18	--	--	9	18	15.1	2.47	Normal	Normal	22.6	25.3
MW-12A	Total Suspended Solids	mg/L	11/2020 - 11/2020	1	0%	180	180	--	--	180	180	--	--	Not tested	Maximum	180	180
MW-12A	Dissolved Sulphate (SO4)	mg/L	6/2018 - 11/2020	9	0%	3	5.6	--	--	3	5.6	4.11	0.717	Normal	Normal	6.29	7.08
MW-12A	Turbidity	NTU	6/2018 - 11/2020	9	0%	2.6	360	--	--	2.6	360	3.55	1.66	Gamma	WH Approx. Gamma	634	1139
MW-12A	Conductivity	µS/cm	6/2018 - 11/2020	9	0%	62	100	--	--	62	100	75.4	11.8	Normal	Normal	111	124
	Metals																
MW-12A	Dissolved Aluminum (Al)	µg/L	6/2018 - 11/2020	9	0%	5	18	--	--	5	18	2.02	0.301	Gamma	WH Approx. Gamma	25.2	34.9
MW-12A	Total Aluminum (Al)	µg/L	6/2019 - 11/2020	5	0%	640	3800	--	--	640	3800	1734	1129	Normal	Normal	6478	8214
MW-12A	Dissolved Antimony (Sb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-12A	Total Antimony (Sb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-12A	Dissolved Arsenic (As)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-12A	Total Arsenic (As)	µg/L	6/2019 - 11/2020	5	40%	1	2.5	<1.0	<1.0	<1.0	2.5	1.32	0.591	Not Normal	Normal (KM) **	3.80	4.71
MW-12A	Dissolved Barium (Ba)	µg/L	6/2018 - 11/2020	9	0%	5.4	10	--	--	5.4	10	7.13	1.63	Normal	Normal	12.1	13.9
MW-12A	Total Barium (Ba)	µg/L	6/2019 - 11/2020	5	0%	11	33	--	--	11	33	18.6	7.91	Normal	Normal	51.9	64.0
MW-12A	Dissolved Beryllium (Be)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-12A	Total Beryllium (Be)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-12A	Dissolved Bismuth (Bi)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-12A	Total Bismuth (Bi)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-12A	Dissolved Boron (B)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-12A	Total Boron (B)	µg/L	6/2019 - 11/2020	5	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-12A	Dissolved Cadmium (Cd)	µg/L	6/2018 - 11/2020	9	0%	0.022	0.048	--	--	0.022	0.048	0.03	0.007	Normal	Normal	0.054	0.0626
MW-12A	Total Cadmium (Cd)	µg/L	6/2019 - 11/2020	5	0%	0.034	0.057	--	--	0.034	0.057	0.04	0.009	Not Normal	Normal **	0.076	0.0898
MW-12A	Dissolved Calcium (Ca)	µg/L	6/2018 - 11/2020	9	0%	3100	8300	--	--	3100	8300	5322	1706	Normal	Normal	10494	12390
MW-12A	Total Calcium (Ca)	µg/L	6/2019 - 11/2020	5	0%	4100	5300	--	--	4100	5300	4620	417	Normal	Normal	6371	7012
MW-12A	Dissolved Chromium (Cr)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-12A	Total Chromium (Cr)	µg/L	6/2019 - 11/2020	5	0%	1.1	6.3	--	--	1.1	6.3	1.32	0.278	Gamma	WH Approx. Gamma	15.5	24.9
MW-12A	Dissolved Cobalt (Co)	µg/L	6/2018 - 11/2020	9	0%	0.74	2.6	--	--	0.74	2.6	1.48	0.620	Normal	Normal	3.36	4.05
MW-12A	Total Cobalt (Co)	µg/L	6/2019 - 11/2020	5	0%	1.5	3.7	--	--	1.5	3.7	2.48	0.755	Normal	Normal	5.65	6.81
MW-12A	Dissolved Copper (Cu)	µg/L	6/2018 - 11/2020	9	78%	0.61	1.2	<0.50	<2.0	<0.50	<2.0	0.64	0.256	Not tested	Maximum	<2.0	<2.0
MW-12A	Total Copper (Cu)	µg/L	6/2019 - 11/2020	5	0%	1.5	7.8	--	--	1.5	7.8	3.60	2.21	Normal	Normal	12.9	16.3
MW-12A	Dissolved Iron (Fe)	µg/L	6/2018 - 11/2020	9	89%	220	220	<50	<50	<50	220	--	--	Not tested	Maximum	220	220
MW-12A	Total Iron (Fe)	µg/L	6/2019 - 11/2020	5	0%	880	5700	--	--	880	5700	2496	1677	Normal	Normal	9545	12125
MW-12A	Dissolved Lead (Pb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-12A	Total Lead (Pb)	µg/L	6/2019 - 11/2020	5	20%	0.61	2.4	<0.50	<0.50	<0.50	2.4	1.14	0.675	Normal	Normal (KM)	3.98	5.02
MW-12A	Dissolved Magnesium (Mg)	µg/L	6/2018 - 11/2020	9	0%	1000	2700	--	--	1000	2700	1778	487	Normal	Normal	3254	3796
MW-12A	Total Magnesium (Mg)	µg/L	6/2019 - 11/2020	5	0%	1700	2800	--	--	1700	2800	2100	374	Normal	Normal	3673	4248
MW-12A	Dissolved Manganese (Mn)	µg/L	6/2018 - 11/2020	9	0%	120	1300	--	--	120	1300	6.88	1.95	Gamma	WH Approx. Gamma	2093	3348
MW-12A	Total Manganese (Mn)	µg/L	6/2019 - 11/2020	5	0%	160	340	--	--	160	340	242	73.3	Normal	Normal	550	663
MW-12A	Dissolved Molybdenum (Mo)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-12A	Total Molybdenum (Mo)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-12A	Dissolved Nickel (Ni)	µg/L	6/2018 - 11/2020	9	11%	2.2	5.8	<2.0	<2.0	<2.0	5.8	3.13	1.12	Normal	Normal (KM)	6.52	7.76
MW-12A	Total Nickel (Ni)	µg/L	6/2019 - 11/2020	5	0%	3.6	8.4	--	--	3.6	8.4	5.34	1.66	Normal	Normal	12.3	14.9
MW-12A	Dissolved Phosphorus (P)	µg/L	6/2018 - 11/2020	9	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-12A	Total Phosphorus (P)	µg/L	6/2019 - 11/2020	5	60%	110	150	<100	<100	<100	150	112	19.4	Not tested	Maximum	150	150
MW-12A	Dissolved Potassium (K)	µg/L	6/2018 - 11/2020	9	0%	850	2300	--	--	850	2300	1343	468	Normal	Normal	2763	3284
MW-12A	Total Potassium (K)	µg/L	6/2019 - 11/2020	5	0%	1100	1900	--	--	1100	1900	1400	283	Normal	Normal	2589	3024
MW-12A	Dissolved Selenium (Se)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-12A	Total Selenium (Se)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-12A	Dissolved Silver (Ag)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-12A	Total Silver (Ag)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-12A	Dissolved Sodium (Na)	µg/L	6/2018 - 11/2020	9	0%	4800	11000	--	--	4800	11000	6256	1768	Not Normal	Normal **	11616	13582
MW-12A	Total Sodium (Na)	µg/L	6/2019 - 11/2020	5	0%	4700	5900	--	--	4700	5900	5380	417	Normal	Normal	7131	7772
MW-12A	Dissolved Strontium (Sr)	µg/L	6/2018 - 11/2020	9	0%	26	59	--	--	26	59	44.2	8.94	Normal	Normal	71.3	81.3
MW-12A	Total Strontium (Sr)	µg/L	6/2019 - 11/2020	5	0%	42	48	--	--	42	48	45.6	2.94	Not Normal	Normal **	58.0	62.5
MW-12A	Dissolved Thallium (Tl)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-12A	Total Thallium (Tl)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-12A	Dissolved Tin (Sn)	µg/L	6/2018 - 11/2020	9	78%	3.2	4.4	<2.0	<2.0	<2.0	4.4	2.40	0.800	Not tested	Maximum	4.40	4.40
MW-12A	Total Tin (Sn)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-12A	Dissolved Titanium (Ti)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-12A	Total Titanium (Ti)	µg/L	6/2019 - 11/2020	5	0%	21	130	--	--	21	130	59.0	37.6	Normal	Normal	217	275
MW-12A	Dissolved Uranium (U)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-12A	Total Uranium (U)	µg/L	6/2019 - 11/2020	5	40%	0.12	0.25	<0.10	<0.10	<0.10	0.25	0.15	0.061	Normal	Normal (KM)	0.408	0.502
MW-12A	Dissolved Vanadium (V)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-12A	Total Vanadium (V)	µg/L	6/2019 - 11/2020	5	80%	4.8	4.8	<2.0	<2.0	<2.0	4.8	--	--	Not tested	Maximum	4.80	4.80
MW-12A	Dissolved Zinc (Zn)	µg/L	6/2018 - 11/2020	9	56%	5.2	6.7	<5.0	<5.0	<5.0	6.7	5.30	0.529	Not tested	Normal (KM) **	6.70	6.70
MW-12A	Total Zinc (Zn)	µg/L	6/2019 - 11/2020	5	40%	6	14	<5.0	<5.0	<5.0	14	7.70	3.40	Normal	Normal (KM)	22.0	27.2
MW-12A	Dissolved Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
MW-12A	Total Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
	Calculated Parameters																
MW-12B	Anion Sum	me/L	6/2018 - 11/2020	9	0%	2.2	2.56	--	--	2.2	2.56	2.32	0.106	Normal	Normal	2.64	2.76
MW-12B	Bicarb. Alkalinity (calc. as CaCO3	mg/L	6/2018 - 11/2020	9	0%	80	96	--	--	80	96	86.6	4.19	Normal	Normal	99.3	104
MW-12B	Calculated TDS	mg/L	6/2018 - 11/2020	9	0%	130	150	--	--	130	150	136	6.85	Not Normal	Normal **	156	164
MW-12B	Carb. Alkalinity (calc. as CaCO3)	mg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-12B	Cation Sum	me/L	6/2018 - 11/2020	9	0%	2.06	2.33	--	--	2.06	2.33	2.16	0.074	Normal	Normal	2.38	2.47
MW-12B	Hardness (CaCO3)	mg/L	6/2018 - 11/2020	9	0%	67	74	--	--	67	74	70.4	2.01	Normal	Normal	76.5	78.8
MW-12B	Ion Balance (% Difference)	%	6/2018 - 11/2020	9	0%	2.33	5.45	--	--	2.33	5.45	3.65	0.971	Normal	Normal	6.59	7.67
MW-12B	Langelier Index (@ 20C)	N/A	6/2018 - 11/2020	9	0%	-0.362	-0.098	--	--	-0.362	-0.098	-0.22	0.086	Normal	Normal	0.042	0.138
MW-12B	Langelier Index (@ 4C)	N/A	6/2018 - 11/2020	9	0%	-0.613	-0.348	--	--	-0.613	-0.348	-0.47	0.087	Normal	Normal	-0.208	-0.11
MW-12B	Nitrate (N)	mg/L	6/2018 - 11/2020	9	89%	0.062	0.062	<0.050	<0.050	<0.050	0.062	--	--	Not tested	Maximum	0.062	0.0620
MW-12B	Saturation pH (@ 20C)	N/A	6/2018 - 11/2020	9	0%	8.01	8.08	--	--	8.01	8.08	8.05	0.023	Normal	Normal	8.11	8.14
MW-12B	Saturation pH (@ 4C)	N/A	6/2018 - 11/2020	9	0%	8.26	8.33	--	--	8.26	8.33	8.30	0.023	Normal	Normal	8.36	8.39
	Inorganics																
MW-12B	Total Alkalinity (Total as CaCO3)	mg/L	6/2018 - 11/2020	9	0%	81	97	--	--	81	97	87.0	4.37	Normal	Normal	100	105
MW-12B	Total Chemical Oxygen Demand	mg/L	11/2020 - 11/2020	1	100%	--	--	<20	<20	<20	<20	--	--	Not tested	Reporting Limit	<20	<20
MW-12B	Dissolved Chloride (Cl-)	mg/L	6/2018 - 11/2020	9	0%	2.9	4.6	--	--	2.9	4.6	3.54	0.469	Normal	Normal	4.97	5.49
MW-12B	Colour	TCU	6/2018 - 11/2020	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	Not tested	Reporting Limit	<5.0	<5.0
MW-12B	Nitrate + Nitrite (N)	mg/L	6/2018 - 11/2020	9	89%	0.062	0.062	<0.050	<0.050	<0.050	0.062	--	--	Not tested	Maximum	0.062	0.0620
MW-12B	Nitrite (N)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-12B	Nitrogen (Ammonia Nitrogen)	mg/L	6/2018 - 11/2020	9	22%	0.05	0.21	<0.050	<0.050	<0.050	0.21	0.08	0.048	Not Normal	Normal (KM) **	0.227	0.280
MW-12B	Dissolved Organic Carbon (C)	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.5	<0.5	<0.5	<0.5	--	--	Not tested	Reporting Limit	<0.5	<0.5
MW-12B	Total Organic Carbon (C)	mg/L	6/2018 - 11/2020	9	33%	0.65	1.3	<0.50	<0.50	<0.50	1.3	0.82	0.308	Normal	Normal (KM)	1.75	2.09
MW-12B	Orthophosphate (P)	mg/L	6/2018 - 11/2020	9	22%	0.013	0.017	<0.010	<0.010	<0.010	0.017	0.01	0.002	Normal	Normal (KM)	0.020	0.0228
MW-12B	pH (LTL - UTL)	s.u.	6/2018 - 11/2020	9	0%	7.69	7.92	--	--	7.69	7.92	7.82	0.080	Normal	Normal	7.54 - 8.11	7.46 - 8.19
MW-12B	Dissolved Phosphorous	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-12B	Total Phosphorus	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-12B	Reactive Silica (SiO2)	mg/L	6/2018 - 11/2020	9	0%	10	11	--	--	10	11	10.8	0.416	Not Normal	Normal **	12.0	12.5
MW-12B	Total Suspended Solids	mg/L	11/2020 - 11/2020	1	0%	2.4	2.4	--	--	2.4	2.4	--	--	Not tested	Maximum	2.40	2.40
MW-12B	Dissolved Sulphate (SO4)	mg/L	6/2018 - 11/2020	9	0%	21	26	--	--	21	26	23.0	1.76	Normal	Normal	28.3	30.3
MW-12B	Turbidity	NTU	6/2018 - 11/2020	9	0%	0.51	35	--	--	0.51	35	1.68	0.821	Gamma	WH Approx. Gamma	72.4	131
MW-12B	Conductivity	µS/cm	6/2018 - 11/2020	9	0%	200	240	--	--	200	240	216	10.7	Normal	Normal	248	260
	Metals																
MW-12B	Dissolved Aluminum (Al)	µg/L	6/2018 - 11/2020	9	89%	5.5	5.5	<5.0	<5.0	<5.0	5.5	--	--	Not tested	Maximum	5.50	5.50
MW-12B	Total Aluminum (Al)	µg/L	6/2019 - 11/2020	5	0%	24	2300	--	--	24	2300	6.92	3.59	Gamma	WH Approx. Gamma	10640	20827
MW-12B	Dissolved Antimony (Sb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-12B	Total Antimony (Sb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-12B	Dissolved Arsenic (As)	µg/L	6/2018 - 11/2020	9	0%	23	44	--	--	23	44	37.6	6.13	Normal	Normal	56.1	63.0
MW-12B	Total Arsenic (As)	µg/L	6/2019 - 11/2020	5	0%	26	49	--	--	26	49	39.0	7.92	Normal	Normal	72.3	84.5
MW-12B	Dissolved Barium (Ba)	µg/L	6/2018 - 11/2020	9	0%	8	21	--	--	8	21	2.22	0.232	Gamma	WH Approx. Gamma	24.9	32.1
MW-12B	Total Barium (Ba)	µg/L	6/2019 - 11/2020	5	0%	9.2	21	--	--	9.2	21	15.0	4.37	Normal	Normal	33.4	40.1
MW-12B	Dissolved Beryllium (Be)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-12B	Total Beryllium (Be)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-12B	Dissolved Bismuth (Bi)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-12B	Total Bismuth (Bi)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-12B	Dissolved Boron (B)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-12B	Total Boron (B)	µg/L	6/2019 - 11/2020	5	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-12B	Dissolved Cadmium (Cd)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-12B	Total Cadmium (Cd)	µg/L	6/2019 - 11/2020	5	60%	0.011	0.021	<0.010	<0.010	<0.010	0.021	0.01	0.004	Not tested	Maximum	0.021	0.0210
MW-12B	Dissolved Calcium (Ca)	µg/L	6/2018 - 11/2020	9	0%	23000	25000	--	--	23000	25000	24000	667	Normal	Normal	26021	26762
MW-12B	Total Calcium (Ca)	µg/L	6/2019 - 11/2020	5	0%	24000	25000	--	--	24000	25000	24800	400	Not Normal	Normal **	26481	27096
MW-12B	Dissolved Chromium (Cr)	µg/L	6/2018 - 11/2020	9	89%	2.3	2.3	<1.0	<1.0	<1.0	2.3	--	--	Not tested	Maximum	2.30	2.30
MW-12B	Total Chromium (Cr)	µg/L	6/2019 - 11/2020	5	80%	2.1	2.1	<1.0	<1.0	<1.0	2.1	--	--	Not tested	Maximum	2.10	2.10
MW-12B	Dissolved Cobalt (Co)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	Not tested	Reporting Limit	<0.40	<0.40
MW-12B	Total Cobalt (Co)	µg/L	6/2019 - 11/2020	5	80%	0.46	0.46	<0.40	<0.40	<0.40	0.46	--	--	Not tested	Maximum	0.460	0.460
MW-12B	Dissolved Copper (Cu)	µg/L	6/2018 - 11/2020	9	89%	1.6	1.6	<0.50	<2.0	<0.50	<2.0	--	--	Not tested	Maximum	<2.0	<2.0
MW-12B	Total Copper (Cu)	µg/L	6/2019 - 11/2020	5	40%	0.61	2.9	<0.50	<0.50	<0.50	2.9	0.98	0.240	Gamma	WH Approx. Gamma (KM	7.86	13.1
MW-12B	Dissolved Iron (Fe)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-12B	Total Iron (Fe)	µg/L	6/2019 - 11/2020	5	0%	54	1000	--	--	54	1000	6.15	2.14	Gamma	WH Approx. Gamma	3468	6257
MW-12B	Dissolved Lead (Pb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-12B	Total Lead (Pb)	µg/L	6/2019 - 11/2020	5	80%	1.5	1.5	<0.50	<0.50	<0.50	1.5	--	--	Not tested	Maximum	1.50	1.50
MW-12B	Dissolved Magnesium (Mg)	µg/L	6/2018 - 11/2020	9	0%	2400	2700	--	--	2400	2700	2533	94.3	Normal	Normal	2819	2924
MW-12B	Total Magnesium (Mg)	µg/L	6/2019 - 11/2020	5	0%	2600	3000	--	--	2600	3000	2740	136	Normal	Normal	3310	3519
MW-12B	Dissolved Manganese (Mn)	µg/L	6/2018 - 11/2020	9	0%	190	280	--	--	190	280	243	25.8	Normal	Normal	322	350
MW-12B	Total Manganese (Mn)	µg/L	6/2019 - 11/2020	5	0%	210	320	--	--	210	320	272	37.6	Normal	Normal	430	488
MW-12B	Dissolved Molybdenum (Mo)	µg/L	6/2018 - 11/2020	9	0%	17	19	--	--	17	19	17.7	0.667	Not Normal	Normal **	19.7	20.4
MW-12B	Total Molybdenum (Mo)	µg/L	6/2019 - 11/2020	5	0%	18	19	--	--	18	19	18.8	0.400	Not Normal	Normal **	20.5	21.1
MW-12B	Dissolved Nickel (Ni)	µg/L	6/2018 - 11/2020	9	89%	2.5	2.5	<2.0	<2.0	<2.0	2.5	--	--	Not tested	Maximum	2.50	2.50
MW-12B	Total Nickel (Ni)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-12B	Dissolved Phosphorus (P)	µg/L	6/2018 - 11/2020	9	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-12B	Total Phosphorus (P)	µg/L	6/2019 - 11/2020	5	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-12B	Dissolved Potassium (K)	µg/L	6/2018 - 11/2020	9	0%	1500	1600	--	--	1500	1600	1511	31.4	Not Normal	Normal **	1606	1641
MW-12B	Total Potassium (K)	µg/L	6/2019 - 11/2020	5	0%	1500	1900	--	--	1500	1900	1620	147	Normal	Normal	2238	2464
MW-12B	Dissolved Selenium (Se)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-12B	Total Selenium (Se)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-12B	Dissolved Silver (Ag)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-12B	Total Silver (Ag)	µg/L	6/2019 - 11/2020	5	80%	0.33	0.33	<0.10	<0.10	<0.10	0.33	--	--	Not tested	Maximum	0.330	0.330
MW-12B	Dissolved Sodium (Na)	µg/L	6/2018 - 11/2020	9	0%	14000	20000	--	--	14000	20000	16333	1633	Normal	Normal	21283	23099
MW-12B	Total Sodium (Na)	µg/L	6/2019 - 11/2020	5	0%	16000	20000	--	--	16000	20000	17400	1497	Normal	Normal	23690	25992
MW-12B	Dissolved Strontium (Sr)	µg/L	6/2018 - 11/2020	9	0%	79	150	--	--	79	150	103	24.1	Normal	Normal	176	203
MW-12B	Total Strontium (Sr)	µg/L	6/2019 - 11/2020	5	0%	89	170	--	--	89	170	119	28.4	Normal	Normal	238	282
MW-12B	Dissolved Thallium (Tl)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-12B	Total Thallium (Tl)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-12B	Dissolved Tin (Sn)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-12B	Total Tin (Sn)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-12B	Dissolved Titanium (Ti)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-12B	Total Titanium (Ti)	µg/L	6/2019 - 11/2020	5	20%	3	46	<2.0	<2.0	<2.0	46	2.05	0.823	Gamma	WH Approx. Gamma (KM	167	311
MW-12B	Dissolved Uranium (U)	µg/L	6/2018 - 11/2020	9	0%	1.5	2	--	--	1.5	2	1.72	0.204	Not Normal	Normal **	2.34	2.57
MW-12B	Total Uranium (U)	µg/L	6/2019 - 11/2020	5	0%	1.6	2.1	--	--	1.6	2.1	1.82	0.194	Normal	Normal	2.63	2.93
MW-12B	Dissolved Vanadium (V)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-12B	Total Vanadium (V)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-12B	Dissolved Zinc (Zn)	µg/L	6/2018 - 11/2020	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	Not tested	Reporting Limit	<5.0	<5.0
MW-12B	Total Zinc (Zn)	µg/L	6/2019 - 11/2020	5	80%	6.6	6.6	<5.0	<5.0	<5.0	6.6	--	--	Not tested	Maximum	6.60	6.60
MW-12B	Dissolved Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
MW-12B	Total Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
	Calculated Parameters																
MW-14A	Anion Sum	me/L	6/2018 - 11/2020	9	0%	0.6	1.03	--	--	0.6	1.03	0.89	0.048	Gamma	WH Approx. Gamma	1.13	1.31
MW-14A	Bicarb. Alkalinity (calc. as CaCO3	mg/L	6/2018 - 11/2020	9	0%	20	41	--	--	20	41	26.0	6.22	Normal	Normal	44.8	51.8
MW-14A	Calculated TDS	mg/L	6/2018 - 11/2020	9	0%	45	74	--	--	45	74	3.97	0.138	Lognormal	Lognormal	80.4	93.8
MW-14A	Carb. Alkalinity (calc. as CaCO3)	mg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-14A	Cation Sum	me/L	6/2018 - 11/2020	9	0%	0.53	0.93	--	--	0.53	0.93	0.65	0.119	Normal	Normal	1.01	1.14
MW-14A	Hardness (CaCO3)	mg/L	6/2018 - 11/2020	9	0%	12	18	--	--	12	18	2.41	0.097	Gamma	WH Approx. Gamma	19.7	22.1
MW-14A	Ion Balance (% Difference)	%	6/2018 - 11/2020	9	0%	3.85	7.83	--	--	3.85	7.83	5.53	1.37	Normal	Normal	9.68	11.2
MW-14A	Langelier Index (@ 20C)	N/A	6/2018 - 11/2020	9	0%	-3.03	-2.3	--	--	-3.03	-2.3	-2.66	0.217	Normal	Normal	-2.00	-1.76
MW-14A	Langelier Index (@ 4C)	N/A	6/2018 - 11/2020	9	0%	-3.29	-2.56	--	--	-3.29	-2.56	-2.92	0.216	Normal	Normal	-2.26	-2.02
MW-14A	Nitrate (N)	mg/L	6/2018 - 11/2020	9	11%	0.084	0.16	<0.050	<0.050	<0.050	0.16	0.11	0.029	Normal	Normal (KM)	0.192	0.224
MW-14A	Saturation pH (@ 20C)	N/A	6/2018 - 11/2020	9	0%	9.17	9.45	--	--	9.17	9.45	9.31	0.103	Normal	Normal	9.62	9.74
MW-14A	Saturation pH (@ 4C)	N/A	6/2018 - 11/2020	9	0%	9.42	9.71	--	--	9.42	9.71	9.57	0.105	Normal	Normal	9.88	10.0
	Inorganics																
MW-14A	Total Alkalinity (Total as CaCO3)	mg/L	6/2018 - 11/2020	9	0%	20	41	--	--	20	41	26.0	6.22	Normal	Normal	44.8	51.8
MW-14A	Total Chemical Oxygen Demand	mg/L	11/2020 - 11/2020	1	100%	--	--	<20	<20	<20	<20	--	--	Not tested	Reporting Limit	<20	<20

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-14A	Dissolved Chloride (Cl-)	mg/L	6/2018 - 11/2020	9	0%	3.2	5.6	--	--	3.2	5.6	3.86	0.645	Not Normal	Normal **	5.81	6.53
MW-14A	Colour	TCU	6/2018 - 11/2020	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	Not tested	Reporting Limit	<5.0	<5.0
MW-14A	Nitrate + Nitrite (N)	mg/L	6/2018 - 11/2020	9	11%	0.084	0.16	<0.050	<0.050	<0.050	0.16	0.11	0.029	Normal	Normal (KM)	0.192	0.224
MW-14A	Nitrite (N)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-14A	Nitrogen (Ammonia Nitrogen)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.050	<0.050	<0.050	<0.050	--	--	Not tested	Reporting Limit	<0.050	<0.050
MW-14A	Dissolved Organic Carbon (C)	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.5	<0.5	<0.5	<0.5	--	--	Not tested	Reporting Limit	<0.5	<0.5
MW-14A	Total Organic Carbon (C)	mg/L	6/2018 - 7/2020	8	88%	0.62	0.62	<0.40	<5.0	<0.40	<5.0	--	--	Not tested	Maximum	<5.0	<5.0
MW-14A	Orthophosphate (P)	mg/L	6/2018 - 11/2020	9	22%	0.012	0.027	<0.010	<0.010	<0.010	0.027	0.01	0.005	Normal	Normal (KM)	0.030	0.0353
MW-14A	pH (LTL - UTL)	s.u.	6/2018 - 11/2020	9	0%	6.35	6.88	--	--	6.35	6.88	6.65	0.164	Normal	Normal	6.07 - 7.23	5.91 - 7.4
MW-14A	Dissolved Phosphorous	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-14A	Total Phosphorus	mg/L	11/2020 - 11/2020	1	0%	0.088	0.088	--	--	0.088	0.088	--	--	Not tested	Maximum	0.088	0.0880
MW-14A	Reactive Silica (SiO2)	mg/L	6/2018 - 11/2020	9	0%	14	20	--	--	14	20	15.4	1.89	Not Normal	Normal **	21.2	23.3
MW-14A	Total Suspended Solids	mg/L	11/2020 - 11/2020	1	0%	76	76	--	--	76	76	--	--	Not tested	Maximum	76.0	76.0
MW-14A	Dissolved Sulphate (SO4)	mg/L	6/2018 - 11/2020	9	0%	2.9	5.7	--	--	2.9	5.7	4.21	0.692	Normal	Normal	6.30	7.07
MW-14A	Turbidity	NTU	6/2018 - 11/2020	9	0%	1.4	140	--	--	1.4	140	50.6	49.1	Normal	Normal	199	254
MW-14A	Conductivity	µS/cm	6/2018 - 11/2020	9	0%	56	100	--	--	56	100	69.9	12.4	Normal	Normal	108	121
	Metals																
MW-14A	Dissolved Aluminum (Al)	µg/L	6/2018 - 11/2020	9	89%	9.8	9.8	<5.0	<5.0	<5.0	9.8	--	--	Not tested	Maximum	9.80	9.80
MW-14A	Total Aluminum (Al)	µg/L	6/2019 - 11/2020	5	0%	490	3800	--	--	490	3800	2089	1328	Normal	Normal	7671	9714
MW-14A	Dissolved Antimony (Sb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-14A	Total Antimony (Sb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-14A	Dissolved Arsenic (As)	µg/L	6/2018 - 11/2020	9	0%	1.3	7.9	--	--	1.3	7.9	4.08	1.86	Normal	Normal	9.71	11.8
MW-14A	Total Arsenic (As)	µg/L	6/2019 - 11/2020	5	0%	7.9	52	--	--	7.9	52	31.0	18.1	Normal	Normal	107	135
MW-14A	Dissolved Barium (Ba)	µg/L	6/2018 - 11/2020	9	0%	2.6	3.5	--	--	2.6	3.5	2.96	0.275	Normal	Normal	3.79	4.10
MW-14A	Total Barium (Ba)	µg/L	6/2019 - 11/2020	5	0%	5.9	29	--	--	5.9	29	17.3	9.35	Normal	Normal	56.6	71.0
MW-14A	Dissolved Beryllium (Be)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-14A	Total Beryllium (Be)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-14A	Dissolved Bismuth (Bi)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-14A	Total Bismuth (Bi)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-14A	Dissolved Boron (B)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-14A	Total Boron (B)	µg/L	6/2019 - 11/2020	5	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-14A	Dissolved Cadmium (Cd)	µg/L	6/2018 - 11/2020	9	0%	0.01	0.014	--	--	0.01	0.014	0.01	0.001	Normal	Normal	0.016	0.0172
MW-14A	Total Cadmium (Cd)	µg/L	6/2019 - 11/2020	5	0%	0.0145	0.02	--	--	0.0145	0.02	0.02	0.002	Normal	Normal	0.025	0.0284
MW-14A	Dissolved Calcium (Ca)	µg/L	6/2018 - 11/2020	9	0%	3400	4900	--	--	3400	4900	3933	457	Normal	Normal	5319	5827
MW-14A	Total Calcium (Ca)	µg/L	6/2019 - 11/2020	5	0%	3600	4400	--	--	3600	4400	8.25	0.071	Lognormal	Lognormal	5171	5772
MW-14A	Dissolved Chromium (Cr)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-14A	Total Chromium (Cr)	µg/L	6/2019 - 11/2020	5	20%	1.3	5.3	<1.0	<1.0	<1.0	5.3	2.92	1.62	Normal	Normal (KM)	9.74	12.2
MW-14A	Dissolved Cobalt (Co)	µg/L	6/2018 - 11/2020	9	0%	0.41	1.6	--	--	0.41	1.6	0.80	0.346	Normal	Normal	1.85	2.24
MW-14A	Total Cobalt (Co)	µg/L	6/2019 - 11/2020	5	0%	0.89	2.7	--	--	0.89	2.7	1.82	0.646	Normal	Normal	4.53	5.53
MW-14A	Dissolved Copper (Cu)	µg/L	6/2018 - 11/2020	9	22%	1.25	5.9	<2.0	<2.0	1.25	5.9	1.99	1.41	Not Normal	Normal (KM) **	6.25	7.82
MW-14A	Total Copper (Cu)	µg/L	6/2019 - 11/2020	5	0%	3.1	19	--	--	3.1	19	9.09	5.75	Normal	Normal	33.3	42.1
MW-14A	Dissolved Iron (Fe)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-14A	Total Iron (Fe)	µg/L	6/2019 - 11/2020	5	0%	680	5600	--	--	680	5600	3172	1952	Normal	Normal	11376	14378
MW-14A	Dissolved Lead (Pb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-14A	Total Lead (Pb)	µg/L	6/2019 - 11/2020	5	20%	0.585	3.7	<0.50	<0.50	<0.50	3.7	1.98	1.28	Normal	Normal (KM)	7.34	9.31
MW-14A	Dissolved Magnesium (Mg)	µg/L	6/2018 - 11/2020	9	0%	860	1300	--	--	860	1300	997	126	Normal	Normal	1377	1517
MW-14A	Total Magnesium (Mg)	µg/L	6/2019 - 11/2020	5	0%	1100	2200	--	--	1100	2200	1610	422	Normal	Normal	3385	4035
MW-14A	Dissolved Manganese (Mn)	µg/L	6/2018 - 11/2020	9	0%	36	200	--	--	36	200	113	61.7	Normal	Normal	300	368
MW-14A	Total Manganese (Mn)	µg/L	6/2019 - 11/2020	5	0%	85.5	200	--	--	85.5	200	121	41.9	Normal	Normal	297	361
MW-14A	Dissolved Molybdenum (Mo)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-14A	Total Molybdenum (Mo)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-14A	Dissolved Nickel (Ni)	µg/L	6/2018 - 11/2020	9	0%	3.5	5.3	--	--	3.5	5.3	4.33	0.601	Normal	Normal	6.15	6.82
MW-14A	Total Nickel (Ni)	µg/L	6/2019 - 11/2020	5	0%	5.15	9.7	--	--	5.15	9.7	7.65	1.79	Normal	Normal	15.2	17.9
MW-14A	Dissolved Phosphorus (P)	µg/L	6/2018 - 11/2020	9	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-14A	Total Phosphorus (P)	µg/L	6/2019 - 11/2020	5	40%	130	140	<100	<100	<100	140	120	16.7	Normal	Normal (KM)	190	216
MW-14A	Dissolved Potassium (K)	µg/L	6/2018 - 11/2020	9	0%	770	1300	--	--	770	1300	1038	179	Normal	Normal	1581	1780
MW-14A	Total Potassium (K)	µg/L	6/2019 - 11/2020	5	0%	920	1800	--	--	920	1800	1394	329	Normal	Normal	2779	3285
MW-14A	Dissolved Selenium (Se)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-14A	Total Selenium (Se)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-14A	Dissolved Silver (Ag)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-14A	Total Silver (Ag)	µg/L	6/2019 - 11/2020	5	80%	0.11	0.11	<0.10	<0.10	<0.10	0.11	--	--	Not tested	Maximum	0.110	0.110
MW-14A	Dissolved Sodium (Na)	µg/L	6/2018 - 11/2020	9	0%	5600	15000	--	--	5600	15000	8.92	0.286	Lognormal	Lognormal	17834	24518
MW-14A	Total Sodium (Na)	µg/L	6/2019 - 11/2020	5	0%	5700	16000	--	--	5700	16000	20.2	2.61	Gamma	WH Approx. Gamma	30228	43481
MW-14A	Dissolved Strontium (Sr)	µg/L	6/2018 - 11/2020	9	0%	28	38	--	--	28	38	3.43	0.089	Lognormal	Lognormal	40.3	44.5
MW-14A	Total Strontium (Sr)	µg/L	6/2019 - 11/2020	5	0%	29.5	38	--	--	29.5	38	33.1	2.91	Normal	Normal	45.3	49.8
MW-14A	Dissolved Thallium (Tl)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-14A	Total Thallium (Tl)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-14A	Dissolved Tin (Sn)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-14A	Total Tin (Sn)	µg/L	6/2019 - 11/2020	5	80%	6.2	6.2	<2.0	<2.0	<2.0	6.2	--	--	Not tested	Maximum	6.20	6.20
MW-14A	Dissolved Titanium (Ti)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-14A	Total Titanium (Ti)	µg/L	6/2019 - 11/2020	5	0%	17	130	--	--	17	130	75.2	46.6	Normal	Normal	271	343
MW-14A	Dissolved Uranium (U)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-14A	Total Uranium (U)	µg/L	6/2019 - 11/2020	5	40%	0.23	0.32	<0.10	<0.10	<0.10	0.32	0.21	0.091	Normal	Normal (KM)	0.589	0.729
MW-14A	Dissolved Vanadium (V)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-14A	Total Vanadium (V)	µg/L	6/2019 - 11/2020	5	40%	3.2	5	<2.0	<2.0	<2.0	5	3.36	1.26	Normal	Normal (KM)	8.66	10.6
MW-14A	Dissolved Zinc (Zn)	µg/L	6/2018 - 11/2020	9	0%	6.1	10	--	--	6.1	10	7.98	1.26	Normal	Normal	11.8	13.2
MW-14A	Total Zinc (Zn)	µg/L	6/2019 - 11/2020	5	0%	7.9	20	--	--	7.9	20	13.9	4.93	Normal	Normal	34.6	42.2
MW-14A	Dissolved Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
MW-14A	Total Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
	Calculated Parameters																
MW-14B	Anion Sum	me/L	6/2018 - 11/2020	9	0%	2.07	5.055	--	--	2.07	5.055	2.72	1.00	Not Normal	Normal **	5.76	6.87
MW-14B	Bicarb. Alkalinity (calc. as CaCO3	mg/L	6/2018 - 11/2020	9	0%	84	94	--	--	84	94	90.5	2.94	Normal	Normal	99.4	103
MW-14B	Calculated TDS	mg/L	6/2018 - 11/2020	9	0%	120	315	--	--	120	315	159	66.1	Not Normal	Normal **	359	433
MW-14B	Carb. Alkalinity (calc. as CaCO3)	mg/L	6/2018 - 11/2020	9	56%	1	1.4	<1.0	<1.0	1	1.4	1.07	0.125	Not tested	Normal (KM) **	1.40	1.40
MW-14B	Cation Sum	me/L	6/2018 - 11/2020	9	0%	1.89	4.54	--	--	1.89	4.54	2.47	0.882	Not Normal	Normal **	5.15	6.13
MW-14B	Hardness (CaCO3)	mg/L	6/2018 - 11/2020	9	0%	44	54	--	--	44	54	48.3	3.42	Normal	Normal	58.7	62.5
MW-14B	Ion Balance (% Difference)	%	6/2018 - 11/2020	9	0%	3.46	5.54	--	--	3.46	5.54	4.62	0.685	Normal	Normal	6.70	7.46
MW-14B	Langelier Index (@ 20C)	N/A	6/2018 - 11/2020	9	0%	-0.419	-0.076	--	--	-0.419	-0.076	-0.23	0.136	Normal	Normal	0.187	0.338
MW-14B	Langelier Index (@ 4C)	N/A	6/2018 - 11/2020	9	0%	-0.669	-0.327	--	--	-0.669	-0.327	-0.48	0.136	Normal	Normal	-0.063	0.0879
MW-14B	Nitrate (N)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.050	<0.050	<0.050	<0.050	--	--	Not tested	Reporting Limit	<0.050	<0.050
MW-14B	Saturation pH (@ 20C)	N/A	6/2018 - 11/2020	9	0%	8.17	8.29	--	--	8.17	8.29	8.22	0.034	Normal	Normal	8.32	8.36
MW-14B	Saturation pH (@ 4C)	N/A	6/2018 - 11/2020	9	0%	8.42	8.54	--	--	8.42	8.54	8.47	0.034	Normal	Normal	8.57	8.61
	Inorganics																
MW-14B	Total Alkalinity (Total as CaCO3)	mg/L	6/2018 - 11/2020	9	0%	85	95	--	--	85	95	91.3	2.94	Normal	Normal	100	103
MW-14B	Total Chemical Oxygen Demand	mg/L	11/2020 - 11/2020	1	100%	--	--	<20	<20	<20	<20	--	--	Not tested	Reporting Limit	<20	<20
MW-14B	Dissolved Chloride (Cl-)	mg/L	6/2018 - 11/2020	9	0%	2.7	13	--	--	2.7	13	1.54	0.476	Lognormal	Lognormal	19.7	33.5
MW-14B	Colour	TCU	6/2018 - 11/2020	9	89%	5.7	5.7	<5.0	<5.0	<5.0	5.7	--	--	Not tested	Maximum	5.70	5.70
MW-14B	Nitrate + Nitrite (N)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.050	<0.050	<0.050	<0.050	--	--	Not tested	Reporting Limit	<0.050	<0.050
MW-14B	Nitrite (N)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-14B	Nitrogen (Ammonia Nitrogen)	mg/L	6/2018 - 11/2020	9	78%	0.089	0.21	<0.050	<0.050	<0.050	0.21	0.07	0.050	Not tested	Maximum	0.210	0.210
MW-14B	Dissolved Organic Carbon (C)	mg/L	11/2020 - 11/2020	1	0%	0.7	0.7	--	--	0.7	0.7	--	--	Not tested	Maximum	0.700	0.700
MW-14B	Total Organic Carbon (C)	mg/L	6/2018 - 7/2020	7	0%	0.83	14	--	--	0.83	14	3.27	4.15	Not Normal	Normal **	17.4	22.5
MW-14B	Orthophosphate (P)	mg/L	6/2018 - 11/2020	9	67%	0.012	0.014	<0.010	<0.010	<0.010	0.014	0.01	0.002	Not tested	Maximum	0.014	0.0140
MW-14B	pH (LTL - UTL)	s.u.	6/2018 - 11/2020	9	0%	7.82	8.205	--	--	7.82	8.205	7.99	0.142	Normal	Normal	7.49 - 8.5	7.34 - 8.64
MW-14B	Dissolved Phosphorous	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-14B	Total Phosphorus	mg/L	11/2020 - 11/2020	1	0%	0.02	0.02	--	--	0.02	0.02	--	--	Not tested	Maximum	0.020	0.0200
MW-14B	Reactive Silica (SiO2)	mg/L	6/2018 - 11/2020	9	0%	7.8	11	--	--	7.8	11	9.18	0.896	Normal	Normal	11.9	12.9
MW-14B	Total Suspended Solids	mg/L	11/2020 - 11/2020	1	0%	4.4	4.4	--	--	4.4	4.4	--	--	Not tested	Maximum	4.40	4.40
MW-14B	Dissolved Sulphate (SO4)	mg/L	6/2018 - 11/2020	9	0%	8.6	135	--	--	8.6	135	35.7	42.7	Not Normal	Normal **	165	213
MW-14B	Turbidity	NTU	6/2018 - 11/2020	9	0%	0.88	540	--	--	0.88	540	2.67	1.89	Lognormal	Lognormal	4412	35919
MW-14B	Conductivity	µS/cm	6/2018 - 11/2020	9	0%	180	540	--	--	180	540	259	118	Not Normal	Normal **	616	747
	Metals																
MW-14B	Dissolved Aluminum (Al)	µg/L	6/2018 - 11/2020	9	33%	5.3	8.8	<5.0	<5.0	<5.0	8.8	6.27	1.37	Normal	Normal (KM)	10.4	11.9
MW-14B	Total Aluminum (Al)	µg/L	6/2019 - 11/2020	5	0%	139	4000	--	--	139	4000	8.52	3.89	Gamma	WH Approx. Gamma	15403	29421
MW-14B	Dissolved Antimony (Sb)	µg/L	6/2018 - 11/2020	9	78%	1.3	1.6	<1.0	<1.0	<1.0	1.6	1.10	0.200	Not tested	Maximum	1.60	1.60
MW-14B	Total Antimony (Sb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-14B	Dissolved Arsenic (As)	µg/L	6/2018 - 11/2020	9	0%	4.4	11	--	--	4.4	11	7.02	1.99	Normal	Normal	13.1	15.3
MW-14B	Total Arsenic (As)	µg/L	6/2019 - 11/2020	5	0%	5.8	10	--	--	5.8	10	7.67	1.49	Normal	Normal	13.9	16.2
MW-14B	Dissolved Barium (Ba)	µg/L	6/2018 - 11/2020	9	0%	3.5	7.2	--	--	3.5	7.2	5.19	1.21	Normal	Normal	8.86	10.2
MW-14B	Total Barium (Ba)	µg/L	6/2019 - 11/2020	5	0%	4.95	33	--	--	4.95	33	2.18	0.684	Lognormal	Lognormal	157	449
MW-14B	Dissolved Beryllium (Be)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-14B	Total Beryllium (Be)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-14B	Dissolved Bismuth (Bi)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-14B	Total Bismuth (Bi)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-14B	Dissolved Boron (B)	µg/L	6/2018 - 11/2020	9	67%	77	81	<50	<50	<50	81	59.6	13.5	Not tested	Maximum	81.0	81.0
MW-14B	Total Boron (B)	µg/L	6/2019 - 11/2020	5	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-14B	Dissolved Cadmium (Cd)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-14B	Total Cadmium (Cd)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-14B	Dissolved Calcium (Ca)	µg/L	6/2018 - 11/2020	9	0%	14000	17000	--	--	14000	17000	15778	916	Normal	Normal	18555	19574
MW-14B	Total Calcium (Ca)	µg/L	6/2019 - 11/2020	5	0%	16000	17000	--	--	16000	17000	16200	400	Not Normal	Normal **	17881	18496
MW-14B	Dissolved Chromium (Cr)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-14B	Total Chromium (Cr)	µg/L	6/2019 - 11/2020	5	80%	5	5	<1.0	<1.0	<1.0	5	--	--	Not tested	Maximum	5.00	5.00

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-14B	Dissolved Cobalt (Co)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	Not tested	Reporting Limit	<0.40	<0.40
MW-14B	Total Cobalt (Co)	µg/L	6/2019 - 11/2020	5	60%	0.4	1.5	<0.40	<0.40	<0.40	1.5	0.62	0.440	Not tested	Maximum	1.50	1.50
MW-14B	Dissolved Copper (Cu)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<2.0	<0.50	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-14B	Total Copper (Cu)	µg/L	6/2019 - 11/2020	5	20%	0.75	4.8	<0.50	<0.50	<0.50	4.8	1.08	0.316	Gamma	WH Approx. Gamma (KM	14.0	24.3
MW-14B	Dissolved Iron (Fe)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-14B	Total Iron (Fe)	µg/L	6/2019 - 11/2020	5	0%	110	3500	--	--	110	3500	1118	1229	Normal	Normal	6281	8172
MW-14B	Dissolved Lead (Pb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-14B	Total Lead (Pb)	µg/L	6/2019 - 11/2020	5	40%	0.51	2.1	<0.50	<0.50	<0.50	2.1	0.84	0.633	Not Normal	Normal (KM) **	3.49	4.47
MW-14B	Dissolved Magnesium (Mg)	µg/L	6/2018 - 11/2020	9	0%	1700	2900	--	--	1700	2900	2194	386	Normal	Normal	3365	3794
MW-14B	Total Magnesium (Mg)	µg/L	6/2019 - 11/2020	5	0%	1900	2700	--	--	1900	2700	2280	319	Normal	Normal	3620	4110
MW-14B	Dissolved Manganese (Mn)	µg/L	6/2018 - 11/2020	9	0%	11	250	--	--	11	250	122	86.4	Normal	Normal	384	480
MW-14B	Total Manganese (Mn)	µg/L	6/2019 - 11/2020	5	0%	84	300	--	--	84	300	206	74.9	Normal	Normal	520	636
MW-14B	Dissolved Molybdenum (Mo)	µg/L	6/2018 - 11/2020	9	0%	8.4	17	--	--	8.4	17	12.3	2.56	Normal	Normal	20.0	22.9
MW-14B	Total Molybdenum (Mo)	µg/L	6/2019 - 11/2020	5	0%	11	17	--	--	11	17	13.6	2.15	Normal	Normal	22.7	26.0
MW-14B	Dissolved Nickel (Ni)	µg/L	6/2018 - 11/2020	9	89%	3.9	3.9	<2.0	<2.0	<2.0	3.9	--	--	Not tested	Maximum	3.90	3.90
MW-14B	Total Nickel (Ni)	µg/L	6/2019 - 11/2020	5	80%	3.6	3.6	<2.0	<2.0	<2.0	3.6	--	--	Not tested	Maximum	3.60	3.60
MW-14B	Dissolved Phosphorus (P)	µg/L	6/2018 - 11/2020	9	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-14B	Total Phosphorus (P)	µg/L	6/2019 - 11/2020	5	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-14B	Dissolved Potassium (K)	µg/L	6/2018 - 11/2020	9	0%	920	1550	--	--	920	1550	1308	178	Normal	Normal	1848	2047
MW-14B	Total Potassium (K)	µg/L	6/2019 - 11/2020	5	0%	1200	2400	--	--	1200	2400	1620	412	Normal	Normal	3351	3984
MW-14B	Dissolved Selenium (Se)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-14B	Total Selenium (Se)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-14B	Dissolved Silver (Ag)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-14B	Total Silver (Ag)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-14B	Dissolved Sodium (Na)	µg/L	6/2018 - 11/2020	9	0%	20000	82500	--	--	20000	82500	33778	20224	Not Normal	Normal **	95081	117566
MW-14B	Total Sodium (Na)	µg/L	6/2019 - 11/2020	5	0%	21000	27000	--	--	21000	27000	23700	2088	Normal	Normal	32475	35688
MW-14B	Dissolved Strontium (Sr)	µg/L	6/2018 - 11/2020	9	0%	74	350	--	--	74	350	191	117	Not Normal	Normal **	545	675
MW-14B	Total Strontium (Sr)	µg/L	6/2019 - 11/2020	5	0%	75	230	--	--	75	230	120	58.5	Normal	Normal	366	456
MW-14B	Dissolved Thallium (Tl)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-14B	Total Thallium (Tl)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-14B	Dissolved Tin (Sn)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-14B	Total Tin (Sn)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-14B	Dissolved Titanium (Ti)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-14B	Total Titanium (Ti)	µg/L	6/2019 - 11/2020	5	20%	4.8	110	<20	<20	4.8	110	2.58	1.20	Gamma	WH Approx. Gamma (KM	444	851
MW-14B	Dissolved Uranium (U)	µg/L	6/2018 - 11/2020	9	0%	0.44	4.7	--	--	0.44	4.7	1.07	0.312	Gamma	WH Approx. Gamma	8.18	13.2
MW-14B	Total Uranium (U)	µg/L	6/2019 - 11/2020	5	0%	0.47	1	--	--	0.47	1	0.71	0.175	Normal	Normal	1.45	1.72
MW-14B	Dissolved Vanadium (V)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-14B	Total Vanadium (V)	µg/L	6/2019 - 11/2020	5	80%	4.9	4.9	<2.0	<2.0	<2.0	4.9	--	--	Not tested	Maximum	4.90	4.90
MW-14B	Dissolved Zinc (Zn)	µg/L	6/2018 - 11/2020	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	Not tested	Reporting Limit	<5.0	<5.0
MW-14B	Total Zinc (Zn)	µg/L	6/2019 - 11/2020	5	80%	8.9	8.9	<5.0	<5.0	<5.0	8.9	--	--	Not tested	Maximum	8.90	8.90
MW-14B	Dissolved Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
MW-14B	Total Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
	Calculated Parameters																
MW-14C	Anion Sum	me/L	6/2018 - 11/2020	9	0%	1.66	1.8	--	--	1.66	1.8	1.74	0.038	Normal	Normal	1.86	1.90
MW-14C	Bicarb. Alkalinity (calc. as CaCO3	mg/L	6/2018 - 11/2020	9	0%	66	73	--	--	66	73	70.4	1.89	Normal	Normal	76.2	78.3
MW-14C	Calculated TDS	mg/L	6/2018 - 11/2020	9	0%	98	100	--	--	98	100	99.8	0.629	Not Normal	Normal **	102	102
MW-14C	Carb. Alkalinity (calc. as CaCO3)	mg/L	6/2018 - 11/2020	9	56%	1	1.4	<1.0	<1.0	<1.0	1.4	1.09	0.145	Not tested	Normal (KM) **	1.40	1.40
MW-14C	Cation Sum	me/L	6/2018 - 11/2020	9	0%	1.55	1.62	--	--	1.55	1.62	1.58	0.023	Normal	Normal	1.65	1.68
MW-14C	Hardness (CaCO3)	mg/L	6/2018 - 11/2020	9	0%	29	34	--	--	29	34	32.6	1.59	Normal	Normal	37.4	39.2
MW-14C	Ion Balance (% Difference)	%	6/2018 - 11/2020	9	0%	3.11	5.88	--	--	3.11	5.88	4.79	0.841	Normal	Normal	7.34	8.27
MW-14C	Langelier Index (@ 20C)	N/A	6/2018 - 11/2020	9	0%	-0.648	-0.174	--	--	-0.648	-0.174	-0.39	0.158	Normal	Normal	0.087	0.263
MW-14C	Langelier Index (@ 4C)	N/A	6/2018 - 11/2020	9	0%	-0.899	-0.425	--	--	-0.899	-0.425	-0.64	0.158	Normal	Normal	-0.164	0.0119
MW-14C	Nitrate (N)	mg/L	6/2018 - 11/2020	9	89%	0.052	0.052	<0.050	<0.050	<0.050	0.052	--	--	Not tested	Maximum	0.052	0.0520
MW-14C	Saturation pH (@ 20C)	N/A	6/2018 - 11/2020	9	0%	8.46	8.52	--	--	8.46	8.52	8.48	0.018	Normal	Normal	8.54	8.56
MW-14C	Saturation pH (@ 4C)	N/A	6/2018 - 11/2020	9	0%	8.71	8.77	--	--	8.71	8.77	8.73	0.017	Normal	Normal	8.79	8.81
	Inorganics																
MW-14C	Total Alkalinity (Total as CaCO3)	mg/L	6/2018 - 11/2020	9	0%	67	74	--	--	67	74	71.4	1.91	Normal	Normal	77.2	79.3
MW-14C	Total Chemical Oxygen Demand	mg/L	11/2020 - 11/2020	1	100%	--	--	<20	<20	<20	<20	--	--	Not tested	Reporting Limit	<20	<20
MW-14C	Dissolved Chloride (Cl-)	mg/L	6/2018 - 11/2020	9	0%	2.6	4	--	--	2.6	4	3.42	0.490	Normal	Normal	4.90	5.45
MW-14C	Colour	TCU	6/2018 - 11/2020	9	89%	5.1	5.1	<5.0	<5.0	<5.0	5.1	--	--	Not tested	Maximum	5.10	5.10
MW-14C	Nitrate + Nitrite (N)	mg/L	6/2018 - 11/2020	9	89%	0.052	0.052	<0.050	<0.050	<0.050	0.052	--	--	Not tested	Maximum	0.052	0.0520
MW-14C	Nitrite (N)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-14C	Nitrogen (Ammonia Nitrogen)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.050	<0.050	<0.050	<0.050	--	--	Not tested	Reporting Limit	<0.050	<0.050
MW-14C	Dissolved Organic Carbon (C)	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.5	<0.5	<0.5	<0.5	--	--	Not tested	Reporting Limit	<0.5	<0.5
MW-14C	Total Organic Carbon (C)	mg/L	6/2018 - 11/2020	9	56%	0.53	2.1	0.48 u	<0.50	0.48 u	2.1	0.79	0.558	Not tested	Normal (KM) **	2.10	2.10
MW-14C	Orthophosphate (P)	mg/L	6/2018 - 11/2020	9	89%	0.01	0.01	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Maximum	<0.010	<0.010

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-14C	pH (LTL - UTL)	s.u.	6/2018 - 11/2020	9	0%	7.83	8.31	--	--	7.83	8.31	8.09	0.168	Normal	Normal	7.5 - 8.68	7.33 - 8.85
MW-14C	Dissolved Phosphorous	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-14C	Total Phosphorus	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-14C	Reactive Silica (SiO2)	mg/L	6/2018 - 11/2020	9	0%	10	11	--	--	10	11	10.7	0.471	Not Normal	Normal **	12.1	12.6
MW-14C	Total Suspended Solids	mg/L	11/2020 - 11/2020	1	0%	3	3	--	--	3	3	--	--	Not tested	Maximum	3.00	3.00
MW-14C	Dissolved Sulphate (SO4)	mg/L	6/2018 - 11/2020	9	0%	9.5	11	--	--	9.5	11	10.4	0.585	Not Normal	Normal **	12.1	12.8
MW-14C	Turbidity	NTU	6/2018 - 11/2020	9	0%	0.57	33	--	--	0.57	33	11.6	9.99	Normal	Normal	41.9	53.0
MW-14C	Conductivity	µS/cm	6/2018 - 11/2020	9	0%	150	170	--	--	150	170	160	4.71	Not Normal	Normal **	174	180
	Metals																
MW-14C	Dissolved Aluminum (Al)	µg/L	6/2018 - 11/2020	9	33%	5.4	27	<5.0	<5.0	<5.0	27	9.30	6.63	Not Normal	Normal (KM) **	29.4	36.8
MW-14C	Total Aluminum (Al)	µg/L	6/2019 - 11/2020	5	0%	19	2000	--	--	19	2000	822	884	Normal	Normal	4538	5898
MW-14C	Dissolved Antimony (Sb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-14C	Total Antimony (Sb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-14C	Dissolved Arsenic (As)	µg/L	6/2018 - 11/2020	9	0%	1.3	1.6	--	--	1.3	1.6	1.41	0.087	Normal	Normal	1.68	1.77
MW-14C	Total Arsenic (As)	µg/L	6/2019 - 11/2020	5	0%	1.3	1.7	--	--	1.3	1.7	1.48	0.147	Normal	Normal	2.10	2.32
MW-14C	Dissolved Barium (Ba)	µg/L	6/2018 - 11/2020	9	0%	1.7	39	--	--	1.7	39	1.99	0.700	Gamma	WH Approx. Gamma	69.3	117
MW-14C	Total Barium (Ba)	µg/L	6/2019 - 11/2020	5	0%	1.9	44	--	--	1.9	44	15.6	17.1	Normal	Normal	87.5	114
MW-14C	Dissolved Beryllium (Be)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-14C	Total Beryllium (Be)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-14C	Dissolved Bismuth (Bi)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-14C	Total Bismuth (Bi)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-14C	Dissolved Boron (B)	µg/L	6/2018 - 11/2020	9	11%	110	125	<50	<50	<50	125	109	21.7	Not Normal	Normal (KM) **	175	199
MW-14C	Total Boron (B)	µg/L	6/2019 - 11/2020	5	0%	110	130	--	--	110	130	116	8.00	Normal	Normal	150	162
MW-14C	Dissolved Cadmium (Cd)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-14C	Total Cadmium (Cd)	µg/L	6/2019 - 11/2020	5	80%	0.014	0.014	<0.010	<0.010	<0.010	0.014	--	--	Not tested	Maximum	0.014	0.0140
MW-14C	Dissolved Calcium (Ca)	µg/L	6/2018 - 11/2020	9	0%	9300	11000	--	--	9300	11000	10422	590	Normal	Normal	12211	12868
MW-14C	Total Calcium (Ca)	µg/L	6/2019 - 11/2020	5	0%	9900	11000	--	--	9900	11000	10580	515	Not Normal	Normal **	12746	13539
MW-14C	Dissolved Chromium (Cr)	µg/L	6/2018 - 11/2020	9	89%	1.1	1.1	<1.0	<1.0	<1.0	1.1	--	--	Not tested	Maximum	1.10	1.10
MW-14C	Total Chromium (Cr)	µg/L	6/2019 - 11/2020	5	80%	1.4	1.4	<1.0	<1.0	<1.0	1.4	--	--	Not tested	Maximum	1.40	1.40
MW-14C	Dissolved Cobalt (Co)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	Not tested	Reporting Limit	<0.40	<0.40
MW-14C	Total Cobalt (Co)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	Not tested	Reporting Limit	<0.40	<0.40
MW-14C	Dissolved Copper (Cu)	µg/L	6/2018 - 11/2020	9	89%	0.86	0.86	<0.50	<2.0	<0.50	<2.0	--	--	Not tested	Maximum	<2.0	<2.0
MW-14C	Total Copper (Cu)	µg/L	6/2019 - 11/2020	5	40%	0.62	0.89	<0.50	<0.50	<0.50	0.89	0.63	0.143	Normal	Normal (KM)	1.24	1.46
MW-14C	Dissolved Iron (Fe)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-14C	Total Iron (Fe)	µg/L	6/2019 - 11/2020	5	0%	70	630	--	--	70	630	294	247	Normal	Normal	1333	1713
MW-14C	Dissolved Lead (Pb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-14C	Total Lead (Pb)	µg/L	6/2019 - 11/2020	5	60%	0.94	1	<0.50	<0.50	<0.50	1	0.69	0.231	Not tested	Maximum	1.00	1.00
MW-14C	Dissolved Magnesium (Mg)	µg/L	6/2018 - 11/2020	9	0%	1400	1800	--	--	1400	1800	1661	129	Normal	Normal	2051	2194
MW-14C	Total Magnesium (Mg)	µg/L	6/2019 - 11/2020	5	0%	1700	2100	--	--	1700	2100	1880	147	Normal	Normal	2498	2724
MW-14C	Dissolved Manganese (Mn)	µg/L	6/2018 - 11/2020	9	11%	9.85	20	<2.0	<2.0	<2.0	20	12.7	4.63	Normal	Normal (KM)	26.7	31.8
MW-14C	Total Manganese (Mn)	µg/L	6/2019 - 11/2020	5	0%	13	20	--	--	13	20	17.6	2.42	Normal	Normal	27.8	31.5
MW-14C	Dissolved Molybdenum (Mo)	µg/L	6/2018 - 11/2020	9	89%	4.9	4.9	<2.0	<2.0	<2.0	4.9	--	--	Not tested	Maximum	4.90	4.90
MW-14C	Total Molybdenum (Mo)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-14C	Dissolved Nickel (Ni)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-14C	Total Nickel (Ni)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-14C	Dissolved Phosphorus (P)	µg/L	6/2018 - 11/2020	9	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-14C	Total Phosphorus (P)	µg/L	6/2019 - 11/2020	5	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-14C	Dissolved Potassium (K)	µg/L	6/2018 - 11/2020	9	0%	530	660	--	--	530	660	596	40.1	Normal	Normal	718	762
MW-14C	Total Potassium (K)	µg/L	6/2019 - 11/2020	5	0%	530	820	--	--	530	820	660	125	Normal	Normal	1184	1376
MW-14C	Dissolved Selenium (Se)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-14C	Total Selenium (Se)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-14C	Dissolved Silver (Ag)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-14C	Total Silver (Ag)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-14C	Dissolved Sodium (Na)	µg/L	6/2018 - 11/2020	9	0%	20000	23000	--	--	20000	23000	20944	1012	Normal	Normal	24013	25138
MW-14C	Total Sodium (Na)	µg/L	6/2019 - 11/2020	5	0%	19000	22000	--	--	19000	22000	20400	1020	Normal	Normal	24686	26255
MW-14C	Dissolved Strontium (Sr)	µg/L	6/2018 - 11/2020	9	0%	240	350	--	--	240	350	269	34.7	Not Normal	Normal **	375	413
MW-14C	Total Strontium (Sr)	µg/L	6/2019 - 11/2020	5	0%	240	370	--	--	240	370	284	52.4	Normal	Normal	504	585
MW-14C	Dissolved Thallium (Tl)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-14C	Total Thallium (Tl)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-14C	Dissolved Tin (Sn)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-14C	Total Tin (Sn)	µg/L	6/2019 - 11/2020	5	60%	3.1	3.1	<2.0	<2.0	<2.0	3.1	2.44	0.539	Not tested	Maximum	3.10	3.10
MW-14C	Dissolved Titanium (Ti)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-14C	Total Titanium (Ti)	µg/L	6/2019 - 11/2020	5	20%	2.5	45	<2.0	<2.0	<2.0	45	17.9	18.7	Normal	Normal (KM)	96.4	125
MW-14C	Dissolved Uranium (U)	µg/L	6/2018 - 11/2020	9	0%	0.14	0.53	--	--	0.14	0.53	0.27	0.125	Normal	Normal	0.647	0.786
MW-14C	Total Uranium (U)	µg/L	6/2019 - 11/2020	5	0%	0.13	0.64	--	--	0.13	0.64	0.32	0.218	Normal	Normal	1.24	1.57
MW-14C	Dissolved Vanadium (V)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-14C	Total Vanadium (V)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-14C	Dissolved Zinc (Zn)	µg/L	6/2018 - 11/2020	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	Not tested	Reporting Limit	<5.0	<5.0
MW-14C	Total Zinc (Zn)	µg/L	6/2019 - 11/2020	5	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	Not tested	Reporting Limit	<5.0	<5.0
MW-14C	Dissolved Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
MW-14C	Total Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
	Calculated Parameters																
MW-16A	Anion Sum	me/L	6/2018 - 11/2020	9	0%	0.9	2.18	--	--	0.9	2.18	1.47	0.367	Normal	Normal	2.58	2.99
MW-16A	Bicarb. Alkalinity (calc. as CaCO3	mg/L	6/2018 - 11/2020	9	0%	39	79	--	--	39	79	60.2	12.4	Normal	Normal	97.8	112
MW-16A	Calculated TDS	mg/L	6/2018 - 11/2020	9	0%	53	120	--	--	53	120	83.8	18.8	Normal	Normal	141	162
MW-16A	Carb. Alkalinity (calc. as CaCO3)	mg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-16A	Cation Sum	me/L	6/2018 - 11/2020	9	0%	0.81	1.72	--	--	0.81	1.72	1.30	0.258	Normal	Normal	2.08	2.37
MW-16A	Hardness (CaCO3)	mg/L	6/2018 - 11/2020	9	0%	3	66	--	--	3	66	39.3	18.6	Normal	Normal	95.7	116
MW-16A	Ion Balance (% Difference)	%	6/2018 - 11/2020	9	0%	1.68	18.5	--	--	1.68	18.5	1.71	0.387	Gamma	WH Approx. Gamma	24.1	36.5
MW-16A	Langelier Index (@ 20C)	N/A	6/2018 - 11/2020	9	0%	-2.59	-0.291	--	--	-2.59	-0.291	-1.31	0.671	Normal	Normal	0.722	1.47
MW-16A	Langelier Index (@ 4C)	N/A	6/2018 - 11/2020	9	0%	-2.84	-0.542	--	--	-2.84	-0.542	-1.56	0.671	Normal	Normal	0.470	1.22
MW-16A	Nitrate (N)	mg/L	6/2018 - 11/2020	9	44%	0.0645	0.12	<0.050	<0.050	<0.050	0.12	0.07	0.024	Normal	Normal (KM)	0.144	0.171
MW-16A	Saturation pH (@ 20C)	N/A	6/2018 - 11/2020	9	0%	8.08	9.52	--	--	8.08	9.52	8.53	0.422	Normal	Normal	9.81	10.3
MW-16A	Saturation pH (@ 4C)	N/A	6/2018 - 11/2020	9	0%	8.33	9.77	--	--	8.33	9.77	8.78	0.423	Normal	Normal	10.1	10.5
	Inorganics																
MW-16A	Total Alkalinity (Total as CaCO3)	mg/L	6/2018 - 11/2020	9	0%	39	79	--	--	39	79	60.3	12.4	Normal	Normal	97.9	112
MW-16A	Total Chemical Oxygen Demand	mg/L	11/2020 - 11/2020	1	100%	--	--	<20	<20	<20	<20	--	--	Not tested	Reporting Limit	<20	<20
MW-16A	Dissolved Chloride (Cl-)	mg/L	6/2018 - 11/2020	9	0%	2	6.5	--	--	2	6.5	3.67	1.14	Normal	Normal	7.13	8.40
MW-16A	Colour	TCU	6/2018 - 11/2020	9	89%	250	250	<5.0	<5.0	<5.0	250	--	--	Not tested	Maximum	250	250
MW-16A	Nitrate + Nitrite (N)	mg/L	6/2018 - 11/2020	9	44%	0.0645	0.12	<0.050	<0.050	<0.050	0.12	0.07	0.024	Normal	Normal (KM)	0.144	0.171
MW-16A	Nitrite (N)	mg/L	6/2018 - 11/2020	9	89%	0.034	0.034	<0.010	<0.010	<0.010	0.034	--	--	Not tested	Maximum	0.034	0.0340
MW-16A	Nitrogen (Ammonia Nitrogen)	mg/L	6/2018 - 11/2020	9	67%	0.07	0.11	<0.050	<0.050	<0.050	0.11	0.06	0.023	Not tested	Maximum	0.110	0.110
MW-16A	Dissolved Organic Carbon (C)	mg/L	11/2020 - 11/2020	1	0%	2	2	--	--	2	2	--	--	Not tested	Maximum	2.00	2.00
MW-16A	Total Organic Carbon (C)	mg/L	6/2018 - 11/2020	8	13%	0.6	2.3	<0.50	<0.50	<0.50	2.3	1.24	0.519	Normal	Normal (KM)	2.89	3.50
MW-16A	Orthophosphate (P)	mg/L	6/2018 - 11/2020	9	89%	0.033	0.033	<0.010	<0.010	<0.010	0.033	--	--	Not tested	Maximum	0.033	0.0330
MW-16A	pH (LTL - UTL)	s.u.	6/2018 - 11/2020	9	0%	6.77	7.79	--	--	6.77	7.79	7.22	0.294	Normal	Normal	6.18 - 8.26	5.88 - 8.56
MW-16A	Dissolved Phosphorous	mg/L	11/2020 - 11/2020	1	0%	0.02	0.02	--	--	0.02	0.02	--	--	Not tested	Maximum	0.020	0.0200
MW-16A	Total Phosphorus	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-16A	Reactive Silica (SiO2)	mg/L	6/2018 - 11/2020	9	0%	6.8	11	--	--	6.8	11	9.07	1.25	Normal	Normal	12.9	14.3
MW-16A	Total Suspended Solids	mg/L	11/2020 - 11/2020	1	0%	40	40	--	--	40	40	--	--	Not tested	Maximum	40.0	40.0
MW-16A	Dissolved Sulphate (SO4)	mg/L	6/2018 - 11/2020	9	0%	3.1	36	--	--	3.1	36	7.64	10.0	Not Normal	Normal **	38.1	49.3
MW-16A	Turbidity	NTU	6/2018 - 11/2020	9	0%	3	220	--	--	3	220	3.41	1.53	Gamma	WH Approx. Gamma	525	934
MW-16A	Conductivity	µS/cm	6/2018 - 11/2020	9	0%	85	160	--	--	85	160	128	23.0	Normal	Normal	198	223
	Metals																
MW-16A	Dissolved Aluminum (Al)	µg/L	6/2018 - 11/2020	9	22%	5.2	830	<5.0	<5.0	<5.0	830	104	257	Not Normal	Normal (KM) **	884	1170
MW-16A	Total Aluminum (Al)	µg/L	6/2019 - 11/2020	5	0%	530	20000	--	--	530	20000	4620	7695	Not Normal	Normal **	36959	48797
MW-16A	Dissolved Antimony (Sb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-16A	Total Antimony (Sb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-16A	Dissolved Arsenic (As)	µg/L	6/2018 - 11/2020	9	67%	1.1	1.5	<1.0	<1.0	<1.0	1.5	1.12	0.204	Not tested	Maximum	1.50	1.50
MW-16A	Total Arsenic (As)	µg/L	6/2019 - 11/2020	5	0%	1	3.1	--	--	1	3.1	1.80	0.713	Normal	Normal	4.80	5.89
MW-16A	Dissolved Barium (Ba)	µg/L	6/2018 - 11/2020	9	0%	1.2	5.2	--	--	1.2	5.2	3.51	1.18	Normal	Normal	7.10	8.41
MW-16A	Total Barium (Ba)	µg/L	6/2019 - 11/2020	5	0%	9.6	92	--	--	9.6	92	36.9	28.6	Normal	Normal	157	201
MW-16A	Dissolved Beryllium (Be)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-16A	Total Beryllium (Be)	µg/L	6/2019 - 11/2020	5	80%	1.5	1.5	<1.0	<1.0	<1.0	1.5	--	--	Not tested	Maximum	1.50	1.50
MW-16A	Dissolved Bismuth (Bi)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-16A	Total Bismuth (Bi)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-16A	Dissolved Boron (B)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-16A	Total Boron (B)	µg/L	6/2019 - 11/2020	5	80%	51	51	<50	<50	<50	51	--	--	Not tested	Maximum	51.0	51.0
MW-16A	Dissolved Cadmium (Cd)	µg/L	6/2018 - 11/2020	9	0%	0.013	0.049	--	--	0.013	0.049	0.03	0.011	Normal	Normal	0.062	0.0742
MW-16A	Total Cadmium (Cd)	µg/L	6/2019 - 11/2020	5	0%	0.013	0.15	--	--	0.013	0.15	0.06	0.049	Normal	Normal	0.262	0.338
MW-16A	Dissolved Calcium (Ca)	µg/L	6/2018 - 11/2020	9	0%	1000	23000	--	--	1000	23000	13839	6686	Normal	Normal	34107	41541
MW-16A	Total Calcium (Ca)	µg/L	6/2019 - 11/2020	5	0%	10000	26000	--	--	10000	26000	19200	5913	Normal	Normal	44049	53145
MW-16A	Dissolved Chromium (Cr)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-16A	Total Chromium (Cr)	µg/L	6/2019 - 11/2020	5	80%	2.8	2.8	<1.0	<1.0	<1.0	2.8	--	--	Not tested	Maximum	2.80	2.80
MW-16A	Dissolved Cobalt (Co)	µg/L	6/2018 - 11/2020	9	22%	0.955	2.4	<0.40	<0.40	<0.40	2.4	1.37	0.697	Normal	Normal (KM)	3.49	4.26
MW-16A	Total Cobalt (Co)	µg/L	6/2019 - 11/2020	5	20%	1.4	6.8	<0.40	<0.40	<0.40	6.8	2.78	2.23	Normal	Normal (KM)	12.2	15.6
MW-16A	Dissolved Copper (Cu)	µg/L	6/2018 - 11/2020	9	33%	0.95	1.6	<2.0	<2.0	0.95	<2.0	1.29	0.266	Normal	Normal (KM)	2.09	2.39
MW-16A	Total Copper (Cu)	µg/L	6/2019 - 11/2020	5	0%	1.4	19	--	--	1.4	19	1.65	0.537	Gamma	WH Approx. Gamma	59.5	106
MW-16A	Dissolved Iron (Fe)	µg/L	6/2018 - 11/2020	9	78%	52	270	<50	<50	<50	270	74.7	69.1	Not tested	Maximum	270	270
MW-16A	Total Iron (Fe)	µg/L	6/2019 - 11/2020	5	0%	410	9900	--	--	410	9900	7.13	1.10	Lognormal	Lognormal	125796	679944
MW-16A	Dissolved Lead (Pb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-16A	Total Lead (Pb)	µg/L	6/2019 - 11/2020	5	0%	0.8	12	--	--	0.8	12	1.35	0.489	Gamma	WH Approx. Gamma	39.6	72.0

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-16A	Dissolved Magnesium (Mg)	µg/L	6/2018 - 11/2020	9	0%	110	1900	--	--	110	1900	1119	481	Normal	Normal	2578	3113
MW-16A	Total Magnesium (Mg)	µg/L	6/2019 - 11/2020	5	0%	1200	5800	--	--	1200	5800	2320	1747	Not Normal	Normal **	9664	12352
MW-16A	Dissolved Manganese (Mn)	µg/L	6/2018 - 11/2020	9	0%	84	840	--	--	84	840	473	243	Normal	Normal	1209	1479
MW-16A	Total Manganese (Mn)	µg/L	6/2019 - 11/2020	5	0%	86	1600	--	--	86	1600	749	539	Normal	Normal	3014	3843
MW-16A	Dissolved Molybdenum (Mo)	µg/L	6/2018 - 11/2020	9	89%	2.3	2.3	<2.0	<2.0	<2.0	2.3	--	--	Not tested	Maximum	2.30	2.30
MW-16A	Total Molybdenum (Mo)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-16A	Dissolved Nickel (Ni)	µg/L	6/2018 - 11/2020	9	78%	3.5	3.7	<2.0	<2.0	<2.0	3.7	2.36	0.667	Not tested	Maximum	3.70	3.70
MW-16A	Total Nickel (Ni)	µg/L	6/2019 - 11/2020	5	60%	2.6	9.9	<2.0	<2.0	<2.0	9.9	3.70	3.11	Not tested	Maximum	9.90	9.90
MW-16A	Dissolved Phosphorus (P)	µg/L	6/2018 - 11/2020	9	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-16A	Total Phosphorus (P)	µg/L	6/2019 - 11/2020	5	80%	160	160	<100	<100	<100	160	--	--	Not tested	Maximum	160	160
MW-16A	Dissolved Potassium (K)	µg/L	6/2018 - 11/2020	9	0%	400	1500	--	--	400	1500	876	359	Normal	Normal	1962	2361
MW-16A	Total Potassium (K)	µg/L	6/2019 - 11/2020	5	0%	690	1800	--	--	690	1800	1378	380	Normal	Normal	2975	3559
MW-16A	Dissolved Selenium (Se)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-16A	Total Selenium (Se)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-16A	Dissolved Silver (Ag)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-16A	Total Silver (Ag)	µg/L	6/2019 - 11/2020	5	0%	0.14	1	--	--	0.14	1	-1.33	0.691	Lognormal	Lognormal	4.80	13.9
MW-16A	Dissolved Sodium (Na)	µg/L	6/2018 - 11/2020	9	0%	5400	27000	--	--	5400	27000	21.7	3.78	Gamma	WH Approx. Gamma	36411	52097
MW-16A	Total Sodium (Na)	µg/L	6/2019 - 11/2020	5	0%	5100	18000	--	--	5100	18000	9220	4651	Normal	Normal	28766	35921
MW-16A	Dissolved Strontium (Sr)	µg/L	6/2018 - 11/2020	9	0%	5.7	81	--	--	5.7	81	51.4	22.2	Normal	Normal	119	143
MW-16A	Total Strontium (Sr)	µg/L	6/2019 - 11/2020	5	0%	47	140	--	--	47	140	83.8	31.9	Normal	Normal	218	267
MW-16A	Dissolved Thallium (Tl)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-16A	Total Thallium (Tl)	µg/L	6/2019 - 11/2020	5	80%	0.11	0.11	<0.10	<0.10	<0.10	0.11	--	--	Not tested	Maximum	0.110	0.110
MW-16A	Dissolved Tin (Sn)	µg/L	6/2018 - 11/2020	9	89%	3	3	<2.0	<2.0	<2.0	3	--	--	Not tested	Maximum	3.00	3.00
MW-16A	Total Tin (Sn)	µg/L	6/2019 - 11/2020	5	80%	4.7	4.7	<2.0	<2.0	<2.0	4.7	--	--	Not tested	Maximum	4.70	4.70
MW-16A	Dissolved Titanium (Ti)	µg/L	6/2018 - 11/2020	9	89%	8.1	8.1	<2.0	<2.0	<2.0	8.1	--	--	Not tested	Maximum	8.10	8.10
MW-16A	Total Titanium (Ti)	µg/L	6/2019 - 11/2020	5	0%	12	260	--	--	12	260	3.57	1.05	Lognormal	Lognormal	2905	14558
MW-16A	Dissolved Uranium (U)	µg/L	6/2018 - 11/2020	9	0%	0.23	2.4	--	--	0.23	2.4	0.88	0.220	Gamma	WH Approx. Gamma	3.67	5.70
MW-16A	Total Uranium (U)	µg/L	6/2019 - 11/2020	5	0%	1.2	10	--	--	1.2	10	3.18	3.41	Not Normal	Normal **	17.5	22.8
MW-16A	Dissolved Vanadium (V)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-16A	Total Vanadium (V)	µg/L	6/2019 - 11/2020	5	80%	4.2	4.2	<2.0	<2.0	<2.0	4.2	--	--	Not tested	Maximum	4.20	4.20
MW-16A	Dissolved Zinc (Zn)	µg/L	6/2018 - 11/2020	9	56%	5.5	6.3	<5.0	<5.0	<5.0	6.3	5.35	0.445	Not tested	Normal (KM) **	6.30	6.30
MW-16A	Total Zinc (Zn)	µg/L	6/2019 - 11/2020	5	60%	5.9	24	<5.0	<5.0	<5.0	24	8.98	7.52	Not tested	Maximum	24.0	24.0
MW-16A	Dissolved Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
MW-16A	Total Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
	Calculated Parameters																
MW-16B	Anion Sum	me/L	6/2018 - 11/2020	9	0%	1.38	1.475	--	--	1.38	1.475	1.43	0.024	Normal	Normal	1.50	1.53
MW-16B	Bicarb. Alkalinity (calc. as CaCO3	mg/L	6/2018 - 11/2020	9	0%	58	62.5	--	--	58	62.5	59.3	1.27	Not Normal	Normal **	63.1	64.5
MW-16B	Calculated TDS	mg/L	6/2018 - 11/2020	9	0%	80	84	--	--	80	84	82.9	1.29	Not Normal	Normal **	86.8	88.2
MW-16B	Carb. Alkalinity (calc. as CaCO3)	mg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-16B	Cation Sum	me/L	6/2018 - 11/2020	9	0%	1.28	1.34	--	--	1.28	1.34	1.31	0.019	Normal	Normal	1.37	1.39
MW-16B	Hardness (CaCO3)	mg/L	6/2018 - 11/2020	9	0%	52	55	--	--	52	55	53.9	0.896	Normal	Normal	56.7	57.7
MW-16B	Ion Balance (% Difference)	%	6/2018 - 11/2020	9	0%	2.99	5.54	--	--	2.99	5.54	4.21	0.857	Normal	Normal	6.81	7.76
MW-16B	Langelier Index (@ 20C)	N/A	6/2018 - 11/2020	9	0%	-0.595	-0.249	--	--	-0.595	-0.249	-0.41	0.117	Normal	Normal	-0.060	0.0708
MW-16B	Langelier Index (@ 4C)	N/A	6/2018 - 11/2020	9	0%	-0.846	-0.501	--	--	-0.846	-0.501	-0.67	0.117	Normal	Normal	-0.311	-0.18
MW-16B	Nitrate (N)	mg/L	6/2018 - 11/2020	9	0%	0.12	0.85	--	--	0.12	0.85	0.23	0.221	Not Normal	Normal **	0.898	1.14
MW-16B	Saturation pH (@ 20C)	N/A	6/2018 - 11/2020	9	0%	8.245	8.29	--	--	8.245	8.29	8.27	0.011	Not Normal	Normal **	8.30	8.31
MW-16B	Saturation pH (@ 4C)	N/A	6/2018 - 11/2020	9	0%	8.495	8.54	--	--	8.495	8.54	8.52	0.012	Normal	Normal	8.56	8.57
	Inorganics																
MW-16B	Total Alkalinity (Total as CaCO3)	mg/L	6/2018 - 11/2020	9	0%	58	62.5	--	--	58	62.5	59.7	1.27	Normal	Normal	63.6	65.0
MW-16B	Total Chemical Oxygen Demand	mg/L	11/2020 - 11/2020	1	100%	--	--	<20	<20	<20	<20	--	--	Not tested	Reporting Limit	<20	<20
MW-16B	Dissolved Chloride (Cl-)	mg/L	6/2018 - 11/2020	9	0%	2.6	4.1	--	--	2.6	4.1	3.47	0.562	Normal	Normal	5.17	5.79
MW-16B	Colour	TCU	6/2018 - 11/2020	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	Not tested	Reporting Limit	<5.0	<5.0
MW-16B	Nitrate + Nitrite (N)	mg/L	6/2018 - 11/2020	9	0%	0.12	0.85	--	--	0.12	0.85	0.23	0.221	Not Normal	Normal **	0.898	1.14
MW-16B	Nitrite (N)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-16B	Nitrogen (Ammonia Nitrogen)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.050	<0.050	<0.050	<0.050	--	--	Not tested	Reporting Limit	<0.050	<0.050
MW-16B	Dissolved Organic Carbon (C)	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.5	<0.5	<0.5	<0.5	--	--	Not tested	Reporting Limit	<0.5	<0.5
MW-16B	Total Organic Carbon (C)	mg/L	6/2018 - 7/2020	8	63%	0.41	0.65	<0.50	<0.50	0.41	0.65	0.46	0.087	Not tested	Maximum	0.650	0.650
MW-16B	Orthophosphate (P)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-16B	pH (LTL - UTL)	s.u.	6/2018 - 11/2020	9	0%	7.68	8.02	--	--	7.68	8.02	7.86	0.114	Normal	Normal	7.45 - 8.26	7.33 - 8.38
MW-16B	Dissolved Phosphorous	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-16B	Total Phosphorus	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-16B	Reactive Silica (SiO2)	mg/L	6/2018 - 11/2020	9	0%	9.6	10	--	--	9.6	10	9.91	0.145	Not Normal	Normal **	10.4	10.5
MW-16B	Total Suspended Solids	mg/L	11/2020 - 11/2020	1	0%	1.8	1.8	--	--	1.8	1.8	--	--	Not tested	Maximum	1.80	1.80
MW-16B	Dissolved Sulphate (SO4)	mg/L	6/2018 - 11/2020	9	0%	5.3	6.5	--	--	5.3	6.5	5.77	0.353	Normal	Normal	6.84	7.23
MW-16B	Turbidity	NTU	6/2018 - 11/2020	9	0%	0.35	6.75	--	--	0.35	6.75	1.18	0.359	Gamma	WH Approx. Gamma	11.7	19.0
MW-16B	Conductivity	µS/cm	6/2018 - 11/2020	9	0%	120	140	--	--	120	140	130	4.71	Not Normal	Normal **	144	150

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
	Metals																
MW-16B	Dissolved Aluminum (Al)	µg/L	6/2018 - 11/2020	9	0%	6.7	21	--	--	6.7	21	2.37	0.285	Lognormal	Lognormal	25.2	34.6
MW-16B	Total Aluminum (Al)	µg/L	6/2019 - 11/2020	5	0%	34	670	--	--	34	670	5.19	1.93	Gamma	WH Approx. Gamma	2342	4285
MW-16B	Dissolved Antimony (Sb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-16B	Total Antimony (Sb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-16B	Dissolved Arsenic (As)	µg/L	6/2018 - 11/2020	9	0%	8.6	10	--	--	8.6	10	9.56	0.414	Normal	Normal	10.8	11.3
MW-16B	Total Arsenic (As)	µg/L	6/2019 - 11/2020	5	0%	9.1	11	--	--	9.1	11	10.0	0.602	Normal	Normal	12.5	13.5
MW-16B	Dissolved Barium (Ba)	µg/L	6/2018 - 11/2020	9	0%	2	4.6	--	--	2	4.6	3.09	0.795	Normal	Normal	5.50	6.38
MW-16B	Total Barium (Ba)	µg/L	6/2019 - 11/2020	5	0%	2.6	7.2	--	--	2.6	7.2	4.06	1.66	Normal	Normal	11.0	13.6
MW-16B	Dissolved Beryllium (Be)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-16B	Total Beryllium (Be)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-16B	Dissolved Bismuth (Bi)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-16B	Total Bismuth (Bi)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-16B	Dissolved Boron (B)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-16B	Total Boron (B)	µg/L	6/2019 - 11/2020	5	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-16B	Dissolved Cadmium (Cd)	µg/L	6/2018 - 11/2020	9	89%	0.013	0.013	<0.010	<0.010	<0.010	0.013	--	--	Not tested	Maximum	0.013	0.0130
MW-16B	Total Cadmium (Cd)	µg/L	6/2019 - 11/2020	5	60%	0.01	0.017	<0.010	<0.010	<0.010	0.017	0.01	0.003	Not tested	Maximum	0.017	0.0170
MW-16B	Dissolved Calcium (Ca)	µg/L	6/2018 - 11/2020	9	0%	19000	20000	--	--	19000	20000	19389	458	Not Normal	Normal **	20778	21287
MW-16B	Total Calcium (Ca)	µg/L	6/2019 - 11/2020	5	0%	18000	20000	--	--	18000	20000	19400	800	Normal	Normal	22762	23993
MW-16B	Dissolved Chromium (Cr)	µg/L	6/2018 - 11/2020	9	78%	1.2	1.4	<1.0	<1.0	<1.0	1.4	1.07	0.133	Not tested	Maximum	1.40	1.40
MW-16B	Total Chromium (Cr)	µg/L	6/2019 - 11/2020	5	60%	1.2	1.4	<1.0	<1.0	<1.0	1.4	1.12	0.160	Not tested	Maximum	1.40	1.40
MW-16B	Dissolved Cobalt (Co)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	Not tested	Reporting Limit	<0.40	<0.40
MW-16B	Total Cobalt (Co)	µg/L	6/2019 - 11/2020	5	80%	0.52	0.52	<0.40	<0.40	<0.40	0.52	--	--	Not tested	Maximum	0.520	0.520
MW-16B	Dissolved Copper (Cu)	µg/L	6/2018 - 11/2020	9	78%	0.595	0.72	<0.50	<2.0	<0.50	<2.0	0.55	0.083	Not tested	Maximum	<2.0	<2.0
MW-16B	Total Copper (Cu)	µg/L	6/2019 - 11/2020	5	40%	1.1	3.5	<0.50	<0.50	<0.50	3.5	1.04	0.265	Gamma	WH Approx. Gamma (KM	9.98	16.8
MW-16B	Dissolved Iron (Fe)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-16B	Total Iron (Fe)	µg/L	6/2019 - 11/2020	5	20%	52	820	<50	<50	<50	820	4.76	1.03	Lognormal	Lognormal (KM)	9005	44197
MW-16B	Dissolved Lead (Pb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-16B	Total Lead (Pb)	µg/L	6/2019 - 11/2020	5	80%	1.1	1.1	<0.50	<0.50	<0.50	1.1	--	--	Not tested	Maximum	1.10	1.10
MW-16B	Dissolved Magnesium (Mg)	µg/L	6/2018 - 11/2020	9	0%	1200	1400	--	--	1200	1400	1272	62.9	Normal	Normal	1463	1533
MW-16B	Total Magnesium (Mg)	µg/L	6/2019 - 11/2020	5	0%	1200	1550	--	--	1200	1550	1330	117	Normal	Normal	1820	2000
MW-16B	Dissolved Manganese (Mn)	µg/L	6/2018 - 11/2020	9	33%	2	6.3	<2.0	<2.0	2	6.3	3.33	1.63	Not Normal	Normal (KM) **	8.28	10.1
MW-16B	Total Manganese (Mn)	µg/L	6/2019 - 11/2020	5	20%	3.7	26.5	<2.0	<2.0	<2.0	26.5	1.64	0.865	Lognormal	Lognormal (KM)	197	744
MW-16B	Dissolved Molybdenum (Mo)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-16B	Total Molybdenum (Mo)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-16B	Dissolved Nickel (Ni)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-16B	Total Nickel (Ni)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-16B	Dissolved Phosphorus (P)	µg/L	6/2018 - 11/2020	9	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-16B	Total Phosphorus (P)	µg/L	6/2019 - 11/2020	5	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-16B	Dissolved Potassium (K)	µg/L	6/2018 - 11/2020	9	0%	1200	1700	--	--	1200	1700	1339	141	Not Normal	Normal **	1766	1923
MW-16B	Total Potassium (K)	µg/L	6/2019 - 11/2020	5	0%	1200	1450	--	--	1200	1450	1310	80.0	Normal	Normal	1646	1769
MW-16B	Dissolved Selenium (Se)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-16B	Total Selenium (Se)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-16B	Dissolved Silver (Ag)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-16B	Total Silver (Ag)	µg/L	6/2019 - 11/2020	5	80%	0.325	0.325	<0.10	<0.10	<0.10	0.325	--	--	Not tested	Maximum	0.325	0.325
MW-16B	Dissolved Sodium (Na)	µg/L	6/2018 - 11/2020	9	0%	4300	5200	--	--	4300	5200	4644	259	Normal	Normal	5429	5716
MW-16B	Total Sodium (Na)	µg/L	6/2019 - 11/2020	5	0%	4500	5100	--	--	4500	5100	4730	218	Normal	Normal	5647	5983
MW-16B	Dissolved Strontium (Sr)	µg/L	6/2018 - 11/2020	9	0%	71	75	--	--	71	75	72.5	1.37	Normal	Normal	76.7	78.2
MW-16B	Total Strontium (Sr)	µg/L	6/2019 - 11/2020	5	0%	70	74.5	--	--	70	74.5	72.7	1.60	Normal	Normal	79.4	81.9
MW-16B	Dissolved Thallium (Tl)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-16B	Total Thallium (Tl)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-16B	Dissolved Tin (Sn)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-16B	Total Tin (Sn)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-16B	Dissolved Titanium (Ti)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-16B	Total Titanium (Ti)	µg/L	6/2019 - 11/2020	4	25%	3.4	44.5	<2.0	<2.0	<2.0	44.5	1.63	1.11	Lognormal	Lognormal (KM)	1560	12907
MW-16B	Dissolved Uranium (U)	µg/L	6/2018 - 11/2020	9	0%	2.3	2.6	--	--	2.3	2.6	2.38	0.088	Not Normal	Normal **	2.65	2.75
MW-16B	Total Uranium (U)	µg/L	6/2019 - 11/2020	5	0%	2.3	2.4	--	--	2.3	2.4	2.37	0.040	Normal	Normal	2.54	2.60
MW-16B	Dissolved Vanadium (V)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-16B	Total Vanadium (V)	µg/L	6/2019 - 11/2020	5	80%	3.35	3.35	<2.0	<2.0	<2.0	3.35	--	--	Not tested	Maximum	3.35	3.35
MW-16B	Dissolved Zinc (Zn)	µg/L	6/2018 - 11/2020	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	Not tested	Reporting Limit	<5.0	<5.0
MW-16B	Total Zinc (Zn)	µg/L	6/2019 - 11/2020	5	80%	6.15	6.15	<5.0	<5.0	<5.0	6.15	--	--	Not tested	Maximum	6.15	6.15
MW-16B	Dissolved Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
MW-16B	Total Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
	Calculated Parameters																
MW-17A	Anion Sum	me/L	6/2018 - 11/2020	9	0%	0.26	0.64	--	--	0.26	0.64	0.38	0.127	Normal	Normal	0.767	0.908
MW-17A	Bicarb. Alkalinity (calc. as CaCO3	mg/L	6/2018 - 11/2020	9	0%	6	23	--	--	6	23	2.14	0.330	Gamma	WH Approx. Gamma	26.6	32.5

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-17A	Calculated TDS	mg/L	6/2018 - 11/2020	9	0%	19	42	--	--	19	42	27.2	7.66	Normal	Normal	50.4	58.9
MW-17A	Carb. Alkalinity (calc. as CaCO3)	mg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-17A	Cation Sum	me/L	6/2018 - 11/2020	9	0%	0.21	0.54	--	--	0.21	0.54	0.33	0.116	Normal	Normal	0.684	0.812
MW-17A	Hardness (CaCO3)	mg/L	6/2018 - 11/2020	9	0%	3.6	18	--	--	3.6	18	9.42	4.75	Normal	Normal	23.8	29.1
MW-17A	Ion Balance (% Difference)	%	6/2018 - 11/2020	9	0%	4.08	16	--	--	4.08	16	8.46	3.70	Normal	Normal	19.7	23.8
MW-17A	Langelier Index (@ 20C)	N/A	6/2018 - 11/2020	9	0%	-5.14	-2.47	--	--	-5.14	-2.47	-3.73	0.788	Normal	Normal	-1.34	-0.47
MW-17A	Langelier Index (@ 4C)	N/A	6/2018 - 11/2020	9	0%	-5.4	-2.72	--	--	-5.4	-2.72	-3.98	0.789	Normal	Normal	-1.59	-0.71
MW-17A	Nitrate (N)	mg/L	6/2018 - 11/2020	9	67%	0.055	0.12	<0.050	<0.050	<0.050	0.12	0.06	0.022	Not tested	Maximum	0.120	0.120
MW-17A	Saturation pH (@ 20C)	N/A	6/2018 - 11/2020	9	0%	9.17	10.6	--	--	9.17	10.6	9.94	0.454	Normal	Normal	11.3	11.8
MW-17A	Saturation pH (@ 4C)	N/A	6/2018 - 11/2020	9	0%	9.42	10.9	--	--	9.42	10.9	10.2	0.462	Normal	Normal	11.6	12.1
	Inorganics																
MW-17A	Total Alkalinity (Total as CaCO3)	mg/L	6/2018 - 11/2020	9	0%	6	23	--	--	6	23	2.14	0.329	Gamma	WH Approx. Gamma	26.6	32.5
MW-17A	Total Chemical Oxygen Demand	mg/L	11/2020 - 11/2020	1	100%	--	--	<20	<20	<20	<20	--	--	Not tested	Reporting Limit	<20	<20
MW-17A	Dissolved Chloride (Cl-)	mg/L	6/2018 - 11/2020	9	0%	1.6	6	--	--	1.6	6	3.89	1.37	Normal	Normal	8.05	9.58
MW-17A	Colour	TCU	6/2018 - 11/2020	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	Not tested	Reporting Limit	<5.0	<5.0
MW-17A	Nitrate + Nitrite (N)	mg/L	6/2018 - 11/2020	9	67%	0.055	0.12	<0.050	<0.050	<0.050	0.12	0.06	0.022	Not tested	Maximum	0.120	0.120
MW-17A	Nitrite (N)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-17A	Nitrogen (Ammonia Nitrogen)	mg/L	6/2018 - 11/2020	9	78%	0.06	0.17	<0.050	<0.050	<0.050	0.17	0.06	0.037	Not tested	Maximum	0.170	0.170
MW-17A	Dissolved Organic Carbon (C)	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.5	<0.5	<0.5	<0.5	--	--	Not tested	Reporting Limit	<0.5	<0.5
MW-17A	Total Organic Carbon (C)	mg/L	6/2018 - 7/2020	9	56%	0.55	1	0.41 u	<0.50	0.41 u	1	0.57	0.195	Not tested	Normal (KM) **	1.00	1.00
MW-17A	Orthophosphate (P)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-17A	pH (LTL - UTL)	s.u.	6/2018 - 11/2020	9	0%	5.48	6.7	--	--	5.48	6.7	6.21	0.375	Normal	Normal	4.89 - 7.35	4.51 - 7.77
MW-17A	Dissolved Phosphorous	mg/L	11/2020 - 11/2020	1	0%	0.024	0.024	--	--	0.024	0.024	--	--	Not tested	Maximum	0.024	0.0240
MW-17A	Total Phosphorus	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-17A	Reactive Silica (SiO2)	mg/L	6/2018 - 11/2020	9	0%	3.8	9.7	--	--	3.8	9.7	6.82	1.75	Normal	Normal	12.1	14.1
MW-17A	Total Suspended Solids	mg/L	11/2020 - 11/2020	1	0%	70	70	--	--	70	70	--	--	Not tested	Maximum	70.0	70.0
MW-17A	Dissolved Sulphate (SO4)	mg/L	6/2018 - 11/2020	9	11%	2.6	4.1	<2.0	<2.0	<2.0	4.1	3.13	0.600	Normal	Normal (KM)	4.95	5.62
MW-17A	Turbidity	NTU	6/2018 - 11/2020	9	0%	1.6	82	--	--	1.6	82	2.57	0.946	Gamma	WH Approx. Gamma	96.4	123
MW-17A	Conductivity	µS/cm	6/2018 - 11/2020	9	0%	27.5	64	--	--	27.5	64	39.3	11.7	Normal	Normal	74.7	87.6
	Metals																
MW-17A	Dissolved Aluminum (Al)	µg/L	6/2018 - 11/2020	9	11%	6.4	320	<5.0	<5.0	<5.0	320	3.64	1.48	Gamma	WH Approx. Gamma (KM	353	455
MW-17A	Total Aluminum (Al)	µg/L	6/2019 - 11/2020	5	0%	1130	3200	--	--	1130	3200	1746	761	Normal	Normal	4944	6114
MW-17A	Dissolved Antimony (Sb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-17A	Total Antimony (Sb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-17A	Dissolved Arsenic (As)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-17A	Total Arsenic (As)	µg/L	6/2019 - 11/2020	5	0%	2.7	11	--	--	2.7	11	5.44	2.91	Normal	Normal	17.7	22.1
MW-17A	Dissolved Barium (Ba)	µg/L	6/2018 - 11/2020	9	0%	8.8	20	--	--	8.8	20	12.8	3.82	Normal	Normal	24.4	28.6
MW-17A	Total Barium (Ba)	µg/L	6/2019 - 11/2020	5	0%	16	32	--	--	16	32	21.7	5.67	Normal	Normal	45.5	54.3
MW-17A	Dissolved Beryllium (Be)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-17A	Total Beryllium (Be)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-17A	Dissolved Bismuth (Bi)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-17A	Total Bismuth (Bi)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-17A	Dissolved Boron (B)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-17A	Total Boron (B)	µg/L	6/2019 - 11/2020	5	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-17A	Dissolved Cadmium (Cd)	µg/L	6/2018 - 11/2020	9	0%	0.038	0.062	--	--	0.038	0.062	0.35	0.019	Gamma	WH Approx. Gamma	0.068	0.0770
MW-17A	Total Cadmium (Cd)	µg/L	6/2019 - 11/2020	5	0%	0.0385	0.059	--	--	0.0385	0.059	0.05	0.009	Normal	Normal	0.085	0.0982
MW-17A	Dissolved Calcium (Ca)	µg/L	6/2018 - 11/2020	9	0%	760	5900	--	--	760	5900	2829	1683	Normal	Normal	7930	9800
MW-17A	Total Calcium (Ca)	µg/L	6/2019 - 11/2020	5	0%	1400	4200	--	--	1400	4200	2360	1021	Normal	Normal	6651	8222
MW-17A	Dissolved Chromium (Cr)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-17A	Total Chromium (Cr)	µg/L	6/2019 - 11/2020	5	0%	1.5	3.6	--	--	1.5	3.6	2.44	0.786	Normal	Normal	5.74	6.95
MW-17A	Dissolved Cobalt (Co)	µg/L	6/2018 - 11/2020	9	0%	0.415	4.3	--	--	0.415	4.3	1.07	0.295	Gamma	WH Approx. Gamma	5.41	6.83
MW-17A	Total Cobalt (Co)	µg/L	6/2019 - 11/2020	5	0%	0.97	2.6	--	--	0.97	2.6	1.53	0.604	Normal	Normal	4.07	5.00
MW-17A	Dissolved Copper (Cu)	µg/L	6/2018 - 11/2020	9	0%	2.1	15	--	--	2.1	15	1.73	0.371	Gamma	WH Approx. Gamma	18.7	23.3
MW-17A	Total Copper (Cu)	µg/L	6/2019 - 11/2020	5	0%	7.45	17	--	--	7.45	17	11.2	3.70	Normal	Normal	26.7	32.4
MW-17A	Dissolved Iron (Fe)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-17A	Total Iron (Fe)	µg/L	6/2019 - 11/2020	5	0%	1515	4400	--	--	1515	4400	2463	1045	Normal	Normal	6856	8464
MW-17A	Dissolved Lead (Pb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-17A	Total Lead (Pb)	µg/L	6/2019 - 11/2020	5	0%	0.81	2	--	--	0.81	2	1.27	0.446	Normal	Normal	3.14	3.83
MW-17A	Dissolved Magnesium (Mg)	µg/L	6/2018 - 11/2020	9	0%	330	860	--	--	330	860	605	178	Normal	Normal	1144	1342
MW-17A	Total Magnesium (Mg)	µg/L	6/2019 - 11/2020	5	0%	790	1700	--	--	790	1700	1124	339	Normal	Normal	2551	3073
MW-17A	Dissolved Manganese (Mn)	µg/L	6/2018 - 11/2020	9	0%	36	340	--	--	36	340	4.74	1.24	Gamma	WH Approx. Gamma	437	550
MW-17A	Total Manganese (Mn)	µg/L	6/2019 - 11/2020	5	0%	72.5	160	--	--	72.5	160	101	34.1	Normal	Normal	245	297
MW-17A	Dissolved Molybdenum (Mo)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-17A	Total Molybdenum (Mo)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-17A	Dissolved Nickel (Ni)	µg/L	6/2018 - 11/2020	9	0%	2.5	15	--	--	2.5	15	6.79	4.08	Normal	Normal	19.2	23.7
MW-17A	Total Nickel (Ni)	µg/L	6/2019 - 11/2020	5	0%	3.75	11	--	--	3.75	11	6.13	2.56	Normal	Normal	16.9	20.8

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-17A	Dissolved Phosphorus (P)	µg/L	6/2018 - 11/2020	9	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-17A	Total Phosphorus (P)	µg/L	6/2019 - 11/2020	5	80%	140	140	<100	<100	<100	140	--	--	Not tested	Maximum	140	140
MW-17A	Dissolved Potassium (K)	µg/L	6/2018 - 11/2020	9	0%	315	740	--	--	315	740	481	140	Normal	Normal	904	1059
MW-17A	Total Potassium (K)	µg/L	6/2019 - 11/2020	5	0%	490	1000	--	--	490	1000	702	173	Normal	Normal	1428	1694
MW-17A	Dissolved Selenium (Se)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-17A	Total Selenium (Se)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-17A	Dissolved Silver (Ag)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-17A	Total Silver (Ag)	µg/L	6/2019 - 11/2020	5	0%	0.31	0.65	--	--	0.31	0.65	0.48	0.135	Normal	Normal	1.04	1.25
MW-17A	Dissolved Sodium (Na)	µg/L	6/2018 - 11/2020	9	0%	2300	3700	--	--	2300	3700	2967	490	Normal	Normal	4452	4996
MW-17A	Total Sodium (Na)	µg/L	6/2019 - 11/2020	5	0%	2200	3600	--	--	2200	3600	2720	504	Normal	Normal	4836	5611
MW-17A	Dissolved Strontium (Sr)	µg/L	6/2018 - 11/2020	9	0%	15	32	--	--	15	32	24.4	5.76	Normal	Normal	41.9	48.3
MW-17A	Total Strontium (Sr)	µg/L	6/2019 - 11/2020	5	0%	18.5	31	--	--	18.5	31	24.5	5.53	Normal	Normal	47.7	56.3
MW-17A	Dissolved Thallium (Tl)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-17A	Total Thallium (Tl)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-17A	Dissolved Tin (Sn)	µg/L	6/2018 - 11/2020	9	56%	2.2	3.7	<2.0	<2.0	<2.0	3.7	2.32	0.529	Not tested	Normal (KM) **	3.70	3.70
MW-17A	Total Tin (Sn)	µg/L	6/2019 - 11/2020	5	80%	2	2	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Maximum	<2.0	<2.0
MW-17A	Dissolved Titanium (Ti)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-17A	Total Titanium (Ti)	µg/L	6/2019 - 11/2020	5	0%	33.65	110	--	--	33.65	110	56.9	28.3	Normal	Normal	176	219
MW-17A	Dissolved Uranium (U)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-17A	Total Uranium (U)	µg/L	6/2019 - 11/2020	5	20%	0.1	0.24	<0.10	<0.10	<0.10	0.24	0.15	0.051	Normal	Normal (KM)	0.361	0.440
MW-17A	Dissolved Vanadium (V)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-17A	Total Vanadium (V)	µg/L	6/2019 - 11/2020	5	40%	2.5	4.2	<2.0	<2.0	<2.0	4.2	1.37	0.129	Gamma	WH Approx. Gamma (KM	6.05	7.30
MW-17A	Dissolved Zinc (Zn)	µg/L	6/2018 - 11/2020	9	0%	7.5	24	--	--	7.5	24	13.8	4.81	Normal	Normal	28.4	33.7
MW-17A	Total Zinc (Zn)	µg/L	6/2019 - 11/2020	5	0%	9.4	22	--	--	9.4	22	14.5	5.74	Not Normal	Normal **	38.6	47.5
MW-17A	Dissolved Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
MW-17A	Total Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
	Calculated Parameters																
MW-17B	Anion Sum	me/L	6/2018 - 11/2020	9	0%	0.3	0.37	--	--	0.3	0.37	0.33	0.019	Normal	Normal	0.386	0.407
MW-17B	Bicarb. Alkalinity (calc. as CaCO3	mg/L	6/2018 - 11/2020	9	0%	6.6	9.6	--	--	6.6	9.6	8.13	0.898	Normal	Normal	10.9	11.9
MW-17B	Calculated TDS	mg/L	6/2018 - 11/2020	9	0%	25	28	--	--	25	28	26.4	0.956	Normal	Normal	29.3	30.4
MW-17B	Carb. Alkalinity (calc. as CaCO3)	mg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-17B	Cation Sum	me/L	6/2018 - 11/2020	9	0%	0.25	0.29	--	--	0.25	0.29	0.27	0.015	Normal	Normal	0.320	0.337
MW-17B	Hardness (CaCO3)	mg/L	6/2018 - 11/2020	9	0%	6.1	7.3	--	--	6.1	7.3	6.72	0.440	Normal	Normal	8.05	8.54
MW-17B	Ion Balance (% Difference)	%	6/2018 - 11/2020	9	0%	3.33	13.8	--	--	3.33	13.8	8.66	3.02	Normal	Normal	17.8	21.2
MW-17B	Langelier Index (@ 20C)	N/A	6/2018 - 11/2020	9	0%	-4.09	-3.59	--	--	-4.09	-3.59	-3.90	0.159	Normal	Normal	-3.42	-3.24
MW-17B	Langelier Index (@ 4C)	N/A	6/2018 - 11/2020	9	0%	-4.34	-3.84	--	--	-4.34	-3.84	-4.15	0.157	Normal	Normal	-3.67	-3.50
MW-17B	Nitrate (N)	mg/L	6/2018 - 11/2020	9	78%	0.051	0.059	<0.050	<0.050	<0.050	0.059	0.05	0.003	Not tested	Maximum	0.059	0.0590
MW-17B	Saturation pH (@ 20C)	N/A	6/2018 - 11/2020	9	0%	10.1	10.2	--	--	10.1	10.2	10.2	0.050	Not Normal	Normal **	10.3	10.4
MW-17B	Saturation pH (@ 4C)	N/A	6/2018 - 11/2020	9	0%	10.4	10.5	--	--	10.4	10.5	10.4	0.042	Not Normal	Normal **	10.5	10.6
	Inorganics																
MW-17B	Total Alkalinity (Total as CaCO3)	mg/L	6/2018 - 11/2020	9	0%	6.6	9.6	--	--	6.6	9.6	8.13	0.898	Normal	Normal	10.9	11.9
MW-17B	Total Chemical Oxygen Demand	mg/L	11/2020 - 11/2020	1	100%	--	--	<20	<20	<20	<20	--	--	Not tested	Reporting Limit	<20	<20
MW-17B	Dissolved Chloride (Cl-)	mg/L	6/2018 - 11/2020	9	0%	2.7	5.2	--	--	2.7	5.2	3.50	0.775	Normal	Normal	5.85	6.71
MW-17B	Colour	TCU	6/2018 - 11/2020	9	89%	5.3	5.3	<5.0	<5.0	<5.0	5.3	--	--	Not tested	Maximum	5.30	5.30
MW-17B	Nitrate + Nitrite (N)	mg/L	6/2018 - 11/2020	9	78%	0.051	0.059	<0.050	<0.050	<0.050	0.059	0.05	0.003	Not tested	Maximum	0.059	0.0590
MW-17B	Nitrite (N)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-17B	Nitrogen (Ammonia Nitrogen)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.050	<0.050	<0.050	<0.050	--	--	Not tested	Reporting Limit	<0.050	<0.050
MW-17B	Dissolved Organic Carbon (C)	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.5	<0.5	<0.5	<0.5	--	--	Not tested	Reporting Limit	<0.5	<0.5
MW-17B	Total Organic Carbon (C)	mg/L	6/2018 - 7/2020	8	63%	0.535	1.1	<0.40	<0.50	<0.40	1.1	0.53	0.229	Not tested	Maximum	1.10	1.10
MW-17B	Orthophosphate (P)	mg/L	6/2018 - 11/2020	9	0%	0.0155	0.068	--	--	0.0155	0.068	0.02	0.016	Not Normal	Normal **	0.072	0.0891
MW-17B	pH (LTL - UTL)	s.u.	6/2018 - 11/2020	9	0%	6.08	6.58	--	--	6.08	6.58	6.27	0.176	Normal	Normal	5.65 - 6.89	5.47 - 7.07
MW-17B	Dissolved Phosphorous	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-17B	Total Phosphorus	mg/L	11/2020 - 11/2020	1	0%	0.043	0.043	--	--	0.043	0.043	--	--	Not tested	Maximum	0.043	0.0430
MW-17B	Reactive Silica (SiO2)	mg/L	6/2018 - 11/2020	9	0%	8.7	10	--	--	8.7	10	9.26	0.408	Normal	Normal	10.5	11.0
MW-17B	Total Suspended Solids	mg/L	11/2020 - 11/2020	1	0%	24	24	--	--	24	24	--	--	Not tested	Maximum	24.0	24.0
MW-17B	Dissolved Sulphate (SO4)	mg/L	6/2018 - 11/2020	9	0%	2.5	4	--	--	2.5	4	3.03	0.541	Not Normal	Normal **	4.67	5.27
MW-17B	Turbidity	NTU	6/2018 - 11/2020	9	0%	0.695	6.4	--	--	0.695	6.4	3.21	2.06	Normal	Normal	9.47	11.8
MW-17B	Conductivity	µS/cm	6/2018 - 11/2020	9	0%	29	34	--	--	29	34	32.1	1.52	Normal	Normal	36.7	38.4
	Metals																
MW-17B	Dissolved Aluminum (Al)	µg/L	6/2018 - 11/2020	9	0%	8	14	--	--	8	14	10.4	1.65	Normal	Normal	15.4	17.3
MW-17B	Total Aluminum (Al)	µg/L	6/2019 - 11/2020	5	0%	23	640	--	--	23	640	355	219	Normal	Normal	1276	1613
MW-17B	Dissolved Antimony (Sb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-17B	Total Antimony (Sb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-17B	Dissolved Arsenic (As)	µg/L	6/2018 - 11/2020	9	67%	1	1.1	<1.0	<1.0	<1.0	1.1	1.01	0.031	Not tested	Maximum	1.10	1.10
MW-17B	Total Arsenic (As)	µg/L	6/2019 - 11/2020	5	20%	1.3	2	<1.0	<1.0	<1.0	2	1.52	0.354	Normal	Normal (KM)	3.01	3.55

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-17B	Dissolved Barium (Ba)	µg/L	6/2018 - 11/2020	9	0%	2.95	4.1	--	--	2.95	4.1	3.43	0.334	Normal	Normal	4.44	4.81
MW-17B	Total Barium (Ba)	µg/L	6/2019 - 11/2020	5	0%	3.3	7.7	--	--	3.3	7.7	5.72	1.56	Normal	Normal	12.3	14.7
MW-17B	Dissolved Beryllium (Be)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-17B	Total Beryllium (Be)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-17B	Dissolved Bismuth (Bi)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-17B	Total Bismuth (Bi)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-17B	Dissolved Boron (B)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-17B	Total Boron (B)	µg/L	6/2019 - 11/2020	5	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-17B	Dissolved Cadmium (Cd)	µg/L	6/2018 - 11/2020	9	0%	0.013	0.035	--	--	0.013	0.035	0.27	0.026	Gamma	WH Approx. Gamma	0.041	0.0517
MW-17B	Total Cadmium (Cd)	µg/L	6/2019 - 11/2020	5	0%	0.012	0.022	--	--	0.012	0.022	0.02	0.004	Normal	Normal	0.033	0.0390
MW-17B	Dissolved Calcium (Ca)	µg/L	6/2018 - 11/2020	9	0%	1500	1800	--	--	1500	1800	1622	103	Normal	Normal	1935	2049
MW-17B	Total Calcium (Ca)	µg/L	6/2019 - 11/2020	5	0%	1600	1900	--	--	1600	1900	1720	117	Normal	Normal	2210	2390
MW-17B	Dissolved Chromium (Cr)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-17B	Total Chromium (Cr)	µg/L	6/2019 - 11/2020	5	60%	1.4	1.5	<1.0	<1.0	<1.0	1.5	1.18	0.223	Not tested	Maximum	1.50	1.50
MW-17B	Dissolved Cobalt (Co)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	Not tested	Reporting Limit	<0.40	<0.40
MW-17B	Total Cobalt (Co)	µg/L	6/2019 - 11/2020	5	80%	0.4	0.4	<0.40	<0.40	<0.40	<0.40	--	--	Not tested	Maximum	<0.40	<0.40
MW-17B	Dissolved Copper (Cu)	µg/L	6/2018 - 11/2020	9	89%	0.7	0.7	<0.50	<2.0	<0.50	<2.0	--	--	Not tested	Maximum	<2.0	<2.0
MW-17B	Total Copper (Cu)	µg/L	6/2019 - 11/2020	5	20%	1.2	1.5	<0.50	<0.50	<0.50	1.5	1.20	0.369	Normal	Normal (KM)	2.75	3.32
MW-17B	Dissolved Iron (Fe)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-17B	Total Iron (Fe)	µg/L	6/2019 - 11/2020	5	20%	260	850	<50	<50	<50	850	430	268	Normal	Normal (KM)	1556	1968
MW-17B	Dissolved Lead (Pb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-17B	Total Lead (Pb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-17B	Dissolved Magnesium (Mg)	µg/L	6/2018 - 11/2020	9	0%	570	730	--	--	570	730	641	49.1	Normal	Normal	790	844
MW-17B	Total Magnesium (Mg)	µg/L	6/2019 - 11/2020	5	0%	660	860	--	--	660	860	768	79.3	Normal	Normal	1101	1224
MW-17B	Dissolved Manganese (Mn)	µg/L	6/2018 - 11/2020	9	0%	3.2	200	--	--	3.2	200	26.6	61.3	Not Normal	Normal **	212	281
MW-17B	Total Manganese (Mn)	µg/L	6/2019 - 11/2020	5	0%	4	30	--	--	4	30	19.8	9.37	Normal	Normal	59.2	73.6
MW-17B	Dissolved Molybdenum (Mo)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-17B	Total Molybdenum (Mo)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-17B	Dissolved Nickel (Ni)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-17B	Total Nickel (Ni)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-17B	Dissolved Phosphorus (P)	µg/L	6/2018 - 11/2020	9	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-17B	Total Phosphorus (P)	µg/L	6/2019 - 11/2020	5	80%	120	120	<100	<100	<100	120	--	--	Not tested	Maximum	120	120
MW-17B	Dissolved Potassium (K)	µg/L	6/2018 - 11/2020	9	0%	360	460	--	--	360	460	404	29.5	Normal	Normal	494	527
MW-17B	Total Potassium (K)	µg/L	6/2019 - 11/2020	5	0%	350	580	--	--	350	580	486	79.6	Normal	Normal	821	943
MW-17B	Dissolved Selenium (Se)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-17B	Total Selenium (Se)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-17B	Dissolved Silver (Ag)	µg/L	6/2018 - 11/2020	9	89%	0.19	0.19	<0.10	<0.10	<0.10	0.19	--	--	Not tested	Maximum	0.190	0.190
MW-17B	Total Silver (Ag)	µg/L	6/2019 - 11/2020	5	20%	0.15	0.55	<0.10	<0.10	<0.10	0.55	0.26	0.161	Normal	Normal (KM)	0.936	1.18
MW-17B	Dissolved Sodium (Na)	µg/L	6/2018 - 11/2020	9	0%	2750	3200	--	--	2750	3200	2983	167	Normal	Normal	3489	3674
MW-17B	Total Sodium (Na)	µg/L	6/2019 - 11/2020	5	0%	2800	3500	--	--	2800	3500	3100	228	Normal	Normal	4058	4409
MW-17B	Dissolved Strontium (Sr)	µg/L	6/2018 - 11/2020	9	0%	18.5	23	--	--	18.5	23	20.6	1.56	Normal	Normal	25.3	27.1
MW-17B	Total Strontium (Sr)	µg/L	6/2019 - 11/2020	5	0%	21	23	--	--	21	23	22.0	0.632	Normal	Normal	24.7	25.6
MW-17B	Dissolved Thallium (Tl)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-17B	Total Thallium (Tl)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-17B	Dissolved Tin (Sn)	µg/L	6/2018 - 11/2020	9	67%	2.4	3.3	<2.0	<2.0	<2.0	3.3	2.32	0.512	Not tested	Maximum	3.30	3.30
MW-17B	Total Tin (Sn)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-17B	Dissolved Titanium (Ti)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-17B	Total Titanium (Ti)	µg/L	6/2019 - 11/2020	5	20%	8.3	33	<2.0	<2.0	<2.0	33	16.3	10.6	Normal	Normal (KM)	60.9	77.2
MW-17B	Dissolved Uranium (U)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-17B	Total Uranium (U)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-17B	Dissolved Vanadium (V)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-17B	Total Vanadium (V)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-17B	Dissolved Zinc (Zn)	µg/L	6/2018 - 11/2020	9	67%	5.4	7.9	<5.0	<5.0	<5.0	7.9	5.54	0.970	Not tested	Maximum	7.90	7.90
MW-17B	Total Zinc (Zn)	µg/L	6/2019 - 11/2020	5	80%	7.6	7.6	<5.0	<5.0	<5.0	7.6	--	--	Not tested	Maximum	7.60	7.60
MW-17B	Dissolved Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
MW-17B	Total Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
	Calculated Parameters																
MW-17C	Anion Sum	me/L	6/2018 - 11/2020	9	0%	0.31	0.45	--	--	0.31	0.45	0.39	0.048	Normal	Normal	0.531	0.584
MW-17C	Bicarb. Alkalinity (calc. as CaCO3	mg/L	6/2018 - 11/2020	9	0%	8.4	15	--	--	8.4	15	11.3	2.26	Normal	Normal	18.1	20.7
MW-17C	Calculated TDS	mg/L	6/2018 - 11/2020	9	0%	26	35	--	--	26	35	30.8	2.62	Normal	Normal	38.7	41.6
MW-17C	Carb. Alkalinity (calc. as CaCO3)	mg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-17C	Cation Sum	me/L	6/2018 - 11/2020	9	0%	0.3	0.41	--	--	0.3	0.41	0.35	0.037	Normal	Normal	0.467	0.508
MW-17C	Hardness (CaCO3)	mg/L	6/2018 - 11/2020	9	0%	8	12	--	--	8	12	10.1	1.49	Normal	Normal	14.6	16.2
MW-17C	Ion Balance (% Difference)	%	6/2018 - 11/2020	9	0%	1.45	7.69	--	--	1.45	7.69	4.57	2.18	Normal	Normal	11.2	13.6
MW-17C	Langelier Index (@ 20C)	N/A	6/2018 - 11/2020	9	0%	-3.78	-2.93	--	--	-3.78	-2.93	-3.32	0.272	Normal	Normal	-2.49	-2.19
MW-17C	Langelier Index (@ 4C)	N/A	6/2018 - 11/2020	9	0%	-4.03	-3.18	--	--	-4.03	-3.18	-3.57	0.272	Normal	Normal	-2.75	-2.45
MW-17C	Nitrate (N)	mg/L	6/2018 - 11/2020	9	67%	0.051	0.062	<0.050	<0.050	<0.050	0.062	0.05	0.004	Not tested	Maximum	0.062	0.0620

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects		Non-Detects		Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs)		
						Min.	Max.	Min.	Max.						Method	95/95 UTL	95/99 UTL
MW-17C	Saturation pH (@ 20C)	N/A	6/2018 - 11/2020	9	0%	9.57	10	--	--	9.57	10	9.78	0.150	Normal	Normal	10.2	10.4
MW-17C	Saturation pH (@ 4C)	N/A	6/2018 - 11/2020	9	0%	9.82	10.3	--	--	9.82	10.3	10.0	0.160	Normal	Normal	10.5	10.7
	Inorganics																
MW-17C	Total Alkalinity (Total as CaCO3)	mg/L	6/2018 - 11/2020	9	0%	8.4	15	--	--	8.4	15	11.3	2.26	Normal	Normal	18.1	20.7
MW-17C	Total Chemical Oxygen Demand	mg/L	11/2020 - 11/2020	1	100%	--	--	<20	<20	<20	<20	--	--	Not tested	Reporting Limit	<20	<20
MW-17C	Dissolved Chloride (Cl-)	mg/L	6/2018 - 11/2020	9	0%	2.6	5.1	--	--	2.6	5.1	3.37	0.754	Normal	Normal	5.65	6.49
MW-17C	Colour	TCU	6/2018 - 11/2020	9	89%	5.7	5.7	<5.0	<5.0	<5.0	5.7	--	--	Not tested	Maximum	5.70	5.70
MW-17C	Nitrate + Nitrite (N)	mg/L	6/2018 - 11/2020	9	67%	0.051	0.062	<0.050	<0.050	<0.050	0.062	0.05	0.004	Not tested	Maximum	0.062	0.0620
MW-17C	Nitrite (N)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-17C	Nitrogen (Ammonia Nitrogen)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.050	<0.050	<0.050	<0.050	--	--	Not tested	Reporting Limit	<0.050	<0.050
MW-17C	Dissolved Organic Carbon (C)	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.5	<0.5	<0.5	<0.5	--	--	Not tested	Reporting Limit	<0.5	<0.5
MW-17C	Total Organic Carbon (C)	mg/L	6/2018 - 11/2020	9	56%	0.56	1.2	0.42 u	<0.50	0.42 u	1.2	0.66	0.319	Not tested	Normal (KM) **	1.20	1.20
MW-17C	Orthophosphate (P)	mg/L	6/2018 - 11/2020	9	22%	0.015	0.02	<0.010	<0.010	<0.010	0.02	0.02	0.003	Normal	Normal (KM)	0.026	0.0297
MW-17C	pH (LTL - UTL)	s.u.	6/2018 - 11/2020	9	0%	6.2	6.71	--	--	6.2	6.71	6.46	0.190	Normal	Normal	5.79 - 7.14	5.6 - 7.33
MW-17C	Dissolved Phosphorous	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-17C	Total Phosphorus	mg/L	11/2020 - 11/2020	1	0%	0.041	0.041	--	--	0.041	0.041	--	--	Not tested	Maximum	0.041	0.0410
MW-17C	Reactive Silica (SiO2)	mg/L	6/2018 - 11/2020	9	0%	9.5	11	--	--	9.5	11	10.1	0.529	Not Normal	Normal **	11.7	12.3
MW-17C	Total Suspended Solids	mg/L	11/2020 - 11/2020	1	0%	8.4	8.4	--	--	8.4	8.4	--	--	Not tested	Maximum	8.40	8.40
MW-17C	Dissolved Sulphate (SO4)	mg/L	6/2018 - 11/2020	9	0%	2.1	3.5	--	--	2.1	3.5	2.92	0.376	Normal	Normal	4.06	4.48
MW-17C	Turbidity	NTU	6/2018 - 11/2020	9	0%	0.74	13	--	--	0.74	13	1.38	0.429	Gamma	WH Approx. Gamma	19.3	31.5
MW-17C	Conductivity	µS/cm	6/2018 - 11/2020	9	0%	35	45	--	--	35	45	39.2	3.74	Normal	Normal	50.5	54.7
	Metals																
MW-17C	Dissolved Aluminum (Al)	µg/L	6/2018 - 11/2020	9	44%	5.9	7.9	<5.0	<5.0	<5.0	7.9	5.88	0.946	Normal	Normal (KM)	8.75	9.80
MW-17C	Total Aluminum (Al)	µg/L	6/2019 - 11/2020	5	0%	31	400	--	--	31	400	201	133	Normal	Normal	760	965
MW-17C	Dissolved Antimony (Sb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-17C	Total Antimony (Sb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-17C	Dissolved Arsenic (As)	µg/L	6/2018 - 11/2020	9	0%	1.2	2.8	--	--	1.2	2.8	2.18	0.442	Normal	Normal	3.52	4.01
MW-17C	Total Arsenic (As)	µg/L	6/2019 - 11/2020	5	0%	1.9	4.5	--	--	1.9	4.5	3.20	1.02	Normal	Normal	7.49	9.05
MW-17C	Dissolved Barium (Ba)	µg/L	6/2018 - 11/2020	9	22%	1.2	2.4	<1.0	<1.0	<1.0	2.4	1.11	0.105	Gamma	WH Approx. Gamma (KM	2.91	3.69
MW-17C	Total Barium (Ba)	µg/L	6/2019 - 11/2020	5	0%	1.3	3.1	--	--	1.3	3.1	2.20	0.704	Normal	Normal	5.16	6.24
MW-17C	Dissolved Beryllium (Be)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-17C	Total Beryllium (Be)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-17C	Dissolved Bismuth (Bi)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-17C	Total Bismuth (Bi)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-17C	Dissolved Boron (B)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-17C	Total Boron (B)	µg/L	6/2019 - 11/2020	5	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-17C	Dissolved Cadmium (Cd)	µg/L	6/2018 - 11/2020	9	22%	0.01	0.018	<0.010	<0.010	<0.010	0.018	0.01	0.003	Normal	Normal (KM)	0.021	0.0245
MW-17C	Total Cadmium (Cd)	µg/L	6/2019 - 11/2020	5	20%	0.013	0.019	<0.010	<0.010	<0.010	0.019	0.01	0.003	Normal	Normal (KM)	0.026	0.0306
MW-17C	Dissolved Calcium (Ca)	µg/L	6/2018 - 11/2020	9	0%	2200	3600	--	--	2200	3600	2911	504	Normal	Normal	4440	5000
MW-17C	Total Calcium (Ca)	µg/L	6/2019 - 11/2020	5	0%	2100	2800	--	--	2100	2800	2520	240	Normal	Normal	3529	3898
MW-17C	Dissolved Chromium (Cr)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-17C	Total Chromium (Cr)	µg/L	6/2019 - 11/2020	5	80%	1.2	1.2	<1.0	<1.0	<1.0	1.2	--	--	Not tested	Maximum	1.20	1.20
MW-17C	Dissolved Cobalt (Co)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	Not tested	Reporting Limit	<0.40	<0.40
MW-17C	Total Cobalt (Co)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	Not tested	Reporting Limit	<0.40	<0.40
MW-17C	Dissolved Copper (Cu)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<2.0	<0.50	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-17C	Total Copper (Cu)	µg/L	6/2019 - 11/2020	5	0%	0.59	1.5	--	--	0.59	1.5	0.98	0.345	Normal	Normal	2.43	2.96
MW-17C	Dissolved Iron (Fe)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-17C	Total Iron (Fe)	µg/L	6/2019 - 11/2020	5	20%	110	580	<50	<50	<50	580	288	194	Normal	Normal (KM)	1104	1403
MW-17C	Dissolved Lead (Pb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-17C	Total Lead (Pb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-17C	Dissolved Magnesium (Mg)	µg/L	6/2018 - 11/2020	9	0%	600	720	--	--	600	720	661	40.4	Normal	Normal	784	828
MW-17C	Total Magnesium (Mg)	µg/L	6/2019 - 11/2020	5	0%	590	740	--	--	590	740	686	52.0	Normal	Normal	905	985
MW-17C	Dissolved Manganese (Mn)	µg/L	6/2018 - 11/2020	9	0%	3.4	20	--	--	3.4	20	8.30	4.86	Normal	Normal	23.0	28.4
MW-17C	Total Manganese (Mn)	µg/L	6/2019 - 11/2020	5	0%	4.9	19	--	--	4.9	19	12.1	5.12	Normal	Normal	33.6	41.5
MW-17C	Dissolved Molybdenum (Mo)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-17C	Total Molybdenum (Mo)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-17C	Dissolved Nickel (Ni)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-17C	Total Nickel (Ni)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-17C	Dissolved Phosphorus (P)	µg/L	6/2018 - 11/2020	9	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-17C	Total Phosphorus (P)	µg/L	6/2019 - 11/2020	5	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-17C	Dissolved Potassium (K)	µg/L	6/2018 - 11/2020	9	0%	360	470	--	--	360	470	408	35.5	Normal	Normal	515	555
MW-17C	Total Potassium (K)	µg/L	6/2019 - 11/2020	5	0%	350	520	--	--	350	520	448	66.2	Normal	Normal	726	828
MW-17C	Dissolved Selenium (Se)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-17C	Total Selenium (Se)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-17C	Dissolved Silver (Ag)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-17C	Total Silver (Ag)	µg/L	6/2019 - 11/2020	5	20%	0.13	0.32	<0.10	<0.10	<0.10	0.32	0.21	0.088	Normal	Normal (KM)	0.580	0.716

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-17C	Dissolved Sodium (Na)	µg/L	6/2018 - 11/2020	9	0%	3000	3600	--	--	3000	3600	3278	204	Normal	Normal	3897	4124
MW-17C	Total Sodium (Na)	µg/L	6/2019 - 11/2020	5	0%	3000	3300	--	--	3000	3300	3120	117	Normal	Normal	3610	3790
MW-17C	Dissolved Strontium (Sr)	µg/L	6/2018 - 11/2020	9	0%	18	21	--	--	18	21	19.1	0.994	Normal	Normal	22.1	23.2
MW-17C	Total Strontium (Sr)	µg/L	6/2019 - 11/2020	5	0%	18	20	--	--	18	20	19.0	0.632	Normal	Normal	21.7	22.6
MW-17C	Dissolved Thallium (Tl)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-17C	Total Thallium (Tl)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-17C	Dissolved Tin (Sn)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-17C	Total Tin (Sn)	µg/L	6/2019 - 11/2020	5	60%	2.4	3.4	<2.0	<2.0	<2.0	3.4	2.36	0.543	Not tested	Maximum	3.40	3.40
MW-17C	Dissolved Titanium (Ti)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-17C	Total Titanium (Ti)	µg/L	6/2019 - 11/2020	5	0%	2.1	15	--	--	2.1	15	8.96	5.45	Normal	Normal	31.8	40.2
MW-17C	Dissolved Uranium (U)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-17C	Total Uranium (U)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-17C	Dissolved Vanadium (V)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-17C	Total Vanadium (V)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-17C	Dissolved Zinc (Zn)	µg/L	6/2018 - 11/2020	9	78%	8.3	9.8	<5.0	<5.0	<5.0	9.8	5.90	1.72	Not tested	Maximum	9.80	9.80
MW-17C	Total Zinc (Zn)	µg/L	6/2019 - 11/2020	5	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	Not tested	Reporting Limit	<5.0	<5.0
MW-17C	Dissolved Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
MW-17C	Total Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
	Calculated Parameters																
MW-18A	Anion Sum	me/L	6/2018 - 11/2020	9	0%	0.17	0.325	--	--	0.17	0.325	0.28	0.044	Not Normal	Normal **	0.418	0.467
MW-18A	Bicarb. Alkalinity (calc. as CaCO3	mg/L	6/2018 - 11/2020	9	11%	5	7.05	<1.0	<1.0	<1.0	7.05	5.42	1.68	Not Normal	Normal (KM) **	10.5	12.4
MW-18A	Calculated TDS	mg/L	6/2018 - 11/2020	9	0%	17	24	--	--	17	24	21.4	2.05	Normal	Normal	27.6	29.9
MW-18A	Carb. Alkalinity (calc. as CaCO3)	mg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-18A	Cation Sum	me/L	6/2018 - 11/2020	9	0%	0.22	0.28	--	--	0.22	0.28	0.24	0.018	Normal	Normal	0.300	0.320
MW-18A	Hardness (CaCO3)	mg/L	6/2018 - 11/2020	9	0%	5.2	7.45	--	--	5.2	7.45	6.03	0.676	Normal	Normal	8.08	8.83
MW-18A	Ion Balance (% Difference)	%	6/2018 - 11/2020	9	0%	6.12	13.5	--	--	6.12	13.5	9.76	2.62	Normal	Normal	17.7	20.6
MW-18A	Langelier Index (@ 20C)	N/A	6/2018 - 11/2020	8	0%	-4.42	-3.84	--	--	-4.42	-3.84	-4.15	0.204	Normal	Normal	-3.50	-3.26
MW-18A	Langelier Index (@ 4C)	N/A	6/2018 - 11/2020	8	0%	-4.68	-4.09	--	--	-4.68	-4.09	-4.40	0.205	Normal	Normal	-3.75	-3.51
MW-18A	Nitrate (N)	mg/L	6/2018 - 11/2020	9	33%	0.0525	0.1	<0.050	<0.050	<0.050	0.1	0.07	0.020	Not Normal	Normal (KM) **	0.126	0.148
MW-18A	Saturation pH (@ 20C)	N/A	6/2018 - 11/2020	8	0%	10.15	10.4	--	--	10.15	10.4	10.3	0.088	Normal	Normal	10.6	10.7
MW-18A	Saturation pH (@ 4C)	N/A	6/2018 - 11/2020	8	0%	10.4	10.7	--	--	10.4	10.7	10.6	0.083	Normal	Normal	10.8	10.9
	Inorganics																
MW-18A	Total Alkalinity (Total as CaCO3)	mg/L	6/2018 - 11/2020	9	11%	5	7.05	<5.0	<5.0	5	7.05	5.86	0.702	Normal	Normal (KM)	7.99	8.77
MW-18A	Total Chemical Oxygen Demand	mg/L	11/2020 - 11/2020	1	100%	--	--	<20	<20	<20	<20	--	--	Not tested	Reporting Limit	<20	<20
MW-18A	Dissolved Chloride (Cl-)	mg/L	6/2018 - 11/2020	9	0%	2.2	4.3	--	--	2.2	4.3	3.39	0.721	Normal	Normal	5.58	6.38
MW-18A	Colour	TCU	6/2018 - 11/2020	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	Not tested	Reporting Limit	<5.0	<5.0
MW-18A	Nitrate + Nitrite (N)	mg/L	6/2018 - 11/2020	9	33%	0.0525	0.1	<0.050	<0.050	<0.050	0.1	0.07	0.020	Not Normal	Normal (KM) **	0.126	0.148
MW-18A	Nitrite (N)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-18A	Nitrogen (Ammonia Nitrogen)	mg/L	6/2018 - 11/2020	9	89%	0.081	0.081	<0.050	<0.050	<0.050	0.081	--	--	Not tested	Maximum	0.081	0.0810
MW-18A	Dissolved Organic Carbon (C)	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.5	<0.5	<0.5	<0.5	--	--	Not tested	Reporting Limit	<0.5	<0.5
MW-18A	Total Organic Carbon (C)	mg/L	6/2018 - 11/2020	9	44%	0.55	2.2	<0.50	<0.50	<0.50	2.2	0.90	0.589	Not Normal	Normal (KM) **	2.69	3.34
MW-18A	Orthophosphate (P)	mg/L	6/2018 - 11/2020	9	78%	0.011	0.017	<0.010	<0.010	<0.010	0.017	0.01	0.002	Not tested	Maximum	0.017	0.0170
MW-18A	pH (LTL - UTL)	s.u.	6/2018 - 11/2020	9	0%	5.945	6.53	--	--	5.945	6.53	6.19	0.197	Normal	Normal	5.49 - 6.89	5.29 - 7.09
MW-18A	Dissolved Phosphorous	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-18A	Total Phosphorus	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-18A	Reactive Silica (SiO2)	mg/L	6/2018 - 11/2020	9	0%	5	6.55	--	--	5	6.55	5.61	0.506	Normal	Normal	7.14	7.71
MW-18A	Total Suspended Solids	mg/L	11/2020 - 11/2020	1	0%	5	5	--	--	5	5	--	--	Not tested	Maximum	5.00	5.00
MW-18A	Dissolved Sulphate (SO4)	mg/L	6/2018 - 11/2020	9	0%	3.1	4.6	--	--	3.1	4.6	3.81	0.458	Normal	Normal	5.20	5.71
MW-18A	Turbidity	NTU	6/2018 - 11/2020	9	0%	0.28	4.3	--	--	0.28	4.3	0.97	0.285	Gamma	WH Approx. Gamma	6.17	9.95
MW-18A	Conductivity	µS/cm	6/2018 - 11/2020	9	0%	27	36	--	--	27	36	31.3	3.28	Normal	Normal	41.2	44.8
	Metals																
MW-18A	Dissolved Aluminum (Al)	µg/L	6/2018 - 11/2020	9	0%	23	49	--	--	23	49	36.4	8.27	Normal	Normal	61.5	70.7
MW-18A	Total Aluminum (Al)	µg/L	6/2019 - 11/2020	5	0%	53	180	--	--	53	180	96.6	43.9	Normal	Normal	281	349
MW-18A	Dissolved Antimony (Sb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-18A	Total Antimony (Sb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-18A	Dissolved Arsenic (As)	µg/L	6/2018 - 11/2020	9	0%	5.7	40	--	--	5.7	40	13.2	11.0	Not Normal	Normal **	46.5	58.7
MW-18A	Total Arsenic (As)	µg/L	6/2019 - 11/2020	5	0%	7.8	16	--	--	7.8	16	11.7	3.34	Normal	Normal	25.7	30.8
MW-18A	Dissolved Barium (Ba)	µg/L	6/2018 - 11/2020	9	0%	4	8.55	--	--	4	8.55	5.81	1.24	Normal	Normal	9.57	10.9
MW-18A	Total Barium (Ba)	µg/L	6/2019 - 11/2020	5	0%	4.4	7.7	--	--	4.4	7.7	5.76	1.21	Normal	Normal	10.8	12.7
MW-18A	Dissolved Beryllium (Be)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-18A	Total Beryllium (Be)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-18A	Dissolved Bismuth (Bi)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-18A	Total Bismuth (Bi)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-18A	Dissolved Boron (B)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-18A	Total Boron (B)	µg/L	6/2019 - 11/2020	5	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-18A	Dissolved Cadmium (Cd)	µg/L	6/2018 - 11/2020	9	0%	0.013	0.033	--	--	0.013	0.033	0.02	0.006	Normal	Normal	0.039	0.0456
MW-18A	Total Cadmium (Cd)	µg/L	6/2019 - 11/2020	5	0%	0.015	0.028	--	--	0.015	0.028	0.02	0.004	Normal	Normal	0.039	0.0451
MW-18A	Dissolved Calcium (Ca)	µg/L	6/2018 - 11/2020	9	0%	1400	1900	--	--	1400	1900	1572	158	Normal	Normal	2052	2228
MW-18A	Total Calcium (Ca)	µg/L	6/2019 - 11/2020	5	0%	1300	1600	--	--	1300	1600	1470	117	Normal	Normal	1960	2140
MW-18A	Dissolved Chromium (Cr)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-18A	Total Chromium (Cr)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-18A	Dissolved Cobalt (Co)	µg/L	6/2018 - 11/2020	9	11%	0.445	2.2	<0.40	<0.40	<0.40	2.2	0.94	0.165	Gamma	WH Approx. Gamma (KM)	2.97	4.26
MW-18A	Total Cobalt (Co)	µg/L	6/2019 - 11/2020	5	20%	0.44	0.86	<0.40	<0.40	<0.40	0.86	0.60	0.189	Normal	Normal (KM)	1.40	1.69
MW-18A	Dissolved Copper (Cu)	µg/L	6/2018 - 11/2020	9	0%	1.7	11	--	--	1.7	11	4.49	2.64	Normal	Normal	12.5	15.4
MW-18A	Total Copper (Cu)	µg/L	6/2019 - 11/2020	5	0%	1.9	5.5	--	--	1.9	5.5	3.60	1.24	Normal	Normal	8.80	10.7
MW-18A	Dissolved Iron (Fe)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-18A	Total Iron (Fe)	µg/L	6/2019 - 11/2020	5	20%	65	210	<50	<50	<50	210	4.41	0.793	Gamma	WH Approx. Gamma (KM)	465	721
MW-18A	Dissolved Lead (Pb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-18A	Total Lead (Pb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-18A	Dissolved Magnesium (Mg)	µg/L	6/2018 - 11/2020	9	0%	430	710	--	--	430	710	523	87.3	Normal	Normal	788	885
MW-18A	Total Magnesium (Mg)	µg/L	6/2019 - 11/2020	5	0%	440	520	--	--	440	520	483	27.9	Normal	Normal	600	643
MW-18A	Dissolved Manganese (Mn)	µg/L	6/2018 - 11/2020	9	0%	10	53	--	--	10	53	2.80	0.519	Gamma	WH Approx. Gamma	83.4	121
MW-18A	Total Manganese (Mn)	µg/L	6/2019 - 11/2020	5	0%	11	26	--	--	11	26	16.4	5.31	Normal	Normal	38.7	46.9
MW-18A	Dissolved Molybdenum (Mo)	µg/L	6/2018 - 11/2020	9	89%	3.55	3.55	<2.0	<2.0	<2.0	3.55	--	--	Not tested	Maximum	3.55	3.55
MW-18A	Total Molybdenum (Mo)	µg/L	6/2019 - 11/2020	5	80%	3.35	3.35	<2.0	<2.0	<2.0	3.35	--	--	Not tested	Maximum	3.35	3.35
MW-18A	Dissolved Nickel (Ni)	µg/L	6/2018 - 11/2020	9	56%	3.05	6.3	<2.0	<2.0	<2.0	6.3	3.00	1.39	Not tested	Normal (KM) **	6.30	6.30
MW-18A	Total Nickel (Ni)	µg/L	6/2019 - 11/2020	5	80%	2	2	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Maximum	<2.0	<2.0
MW-18A	Dissolved Phosphorus (P)	µg/L	6/2018 - 11/2020	9	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-18A	Total Phosphorus (P)	µg/L	6/2019 - 11/2020	5	80%	100	100	<100	<100	<100	<100	--	--	Not tested	Maximum	<100	<100
MW-18A	Dissolved Potassium (K)	µg/L	6/2018 - 11/2020	9	0%	410	790	--	--	410	790	589	115	Normal	Normal	937	1065
MW-18A	Total Potassium (K)	µg/L	6/2019 - 11/2020	5	0%	420	630	--	--	420	630	546	69.7	Normal	Normal	839	946
MW-18A	Dissolved Selenium (Se)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-18A	Total Selenium (Se)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-18A	Dissolved Silver (Ag)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-18A	Total Silver (Ag)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-18A	Dissolved Sodium (Na)	µg/L	6/2018 - 11/2020	9	0%	2300	2600	--	--	2300	2600	2456	107	Normal	Normal	2779	2897
MW-18A	Total Sodium (Na)	µg/L	6/2019 - 11/2020	5	0%	2300	2700	--	--	2300	2700	2420	147	Normal	Normal	3038	3264
MW-18A	Dissolved Strontium (Sr)	µg/L	6/2018 - 11/2020	9	0%	11	13	--	--	11	13	12.1	0.737	Normal	Normal	14.3	15.2
MW-18A	Total Strontium (Sr)	µg/L	6/2019 - 11/2020	5	0%	11	12	--	--	11	12	11.6	0.490	Not Normal	Normal **	13.7	14.4
MW-18A	Dissolved Thallium (Tl)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-18A	Total Thallium (Tl)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-18A	Dissolved Tin (Sn)	µg/L	6/2018 - 11/2020	9	89%	2.7	2.7	<2.0	<2.0	<2.0	2.7	--	--	Not tested	Maximum	2.70	2.70
MW-18A	Total Tin (Sn)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-18A	Dissolved Titanium (Ti)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-18A	Total Titanium (Ti)	µg/L	6/2019 - 11/2020	5	80%	5.2	5.2	<2.0	<2.0	<2.0	5.2	--	--	Not tested	Maximum	5.20	5.20
MW-18A	Dissolved Uranium (U)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-18A	Total Uranium (U)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-18A	Dissolved Vanadium (V)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-18A	Total Vanadium (V)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-18A	Dissolved Zinc (Zn)	µg/L	6/2018 - 11/2020	9	0%	5.3	19	--	--	5.3	19	2.05	0.263	Gamma	WH Approx. Gamma	23.1	30.9
MW-18A	Total Zinc (Zn)	µg/L	6/2019 - 11/2020	5	60%	5.8	6.6	<5.0	<5.0	<5.0	6.6	5.48	0.640	Not tested	Maximum	6.60	6.60
MW-18A	Dissolved Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
MW-18A	Total Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
	Calculated Parameters																
MW-18B	Anion Sum	me/L	6/2018 - 11/2020	9	0%	1.21	1.39	--	--	1.21	1.39	1.28	0.062	Normal	Normal	1.46	1.53
MW-18B	Bicarb. Alkalinity (calc. as CaCO3	mg/L	6/2018 - 11/2020	9	0%	43	50	--	--	43	50	45.7	2.21	Normal	Normal	52.4	54.8
MW-18B	Calculated TDS	mg/L	6/2018 - 11/2020	9	0%	75	86	--	--	75	86	79.1	3.73	Normal	Normal	90.4	94.5
MW-18B	Carb. Alkalinity (calc. as CaCO3)	mg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-18B	Cation Sum	me/L	6/2018 - 11/2020	9	0%	1.14	1.26	--	--	1.14	1.26	1.18	0.048	Not Normal	Normal **	1.33	1.38
MW-18B	Hardness (CaCO3)	mg/L	6/2018 - 11/2020	9	0%	30	45	--	--	30	45	41.8	4.42	Not Normal	Normal **	55.2	60.1
MW-18B	Ion Balance (% Difference)	%	6/2018 - 11/2020	9	0%	2.11	6.56	--	--	2.11	6.56	3.87	1.31	Normal	Normal	7.83	9.28
MW-18B	Langelier Index (@ 20C)	N/A	6/2018 - 11/2020	9	0%	-0.953	-0.564	--	--	-0.953	-0.564	-0.78	0.120	Normal	Normal	-0.414	-0.28
MW-18B	Langelier Index (@ 4C)	N/A	6/2018 - 11/2020	9	0%	-1.2	-0.815	--	--	-1.2	-0.815	-1.03	0.120	Normal	Normal	-0.665	-0.53
MW-18B	Nitrate (N)	mg/L	6/2018 - 11/2020	9	89%	0.075	0.075	<0.050	<0.050	<0.050	0.075	--	--	Not tested	Maximum	0.075	0.0750
MW-18B	Saturation pH (@ 20C)	N/A	6/2018 - 11/2020	9	0%	8.47	8.61	--	--	8.47	8.61	8.51	0.040	Not Normal	Normal **	8.63	8.67
MW-18B	Saturation pH (@ 4C)	N/A	6/2018 - 11/2020	9	0%	8.72	8.86	--	--	8.72	8.86	8.76	0.039	Not Normal	Normal **	8.88	8.92
	Inorganics																
MW-18B	Total Alkalinity (Total as CaCO3)	mg/L	6/2018 - 11/2020	9	0%	43	50	--	--	43	50	45.8	2.25	Normal	Normal	52.6	55.1
MW-18B	Total Chemical Oxygen Demand	mg/L	11/2020 - 11/2020	1	100%	--	--	<20	<20	<20	<20	--	--	Not tested	Reporting Limit	<20	<20
MW-18B	Dissolved Chloride (Cl-)	mg/L	6/2018 - 11/2020	9	0%	1.8	6.4	--	--	1.8	6.4	1.45	0.172	Gamma	WH Approx. Gamma	7.63	10.1
MW-18B	Colour	TCU	6/2018 - 11/2020	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	Not tested	Reporting Limit	<5.0	<5.0

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-18B	Nitrate + Nitrite (N)	mg/L	6/2018 - 11/2020	9	89%	0.075	0.075	<0.050	<0.050	<0.050	0.075	--	--	Not tested	Maximum	0.075	0.0750
MW-18B	Nitrite (N)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-18B	Nitrogen (Ammonia Nitrogen)	mg/L	6/2018 - 11/2020	9	89%	0.14	0.14	<0.050	<0.050	<0.050	0.14	--	--	Not tested	Maximum	0.140	0.140
MW-18B	Dissolved Organic Carbon (C)	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.5	<0.5	<0.5	<0.5	--	--	Not tested	Reporting Limit	<0.5	<0.5
MW-18B	Total Organic Carbon (C)	mg/L	6/2018 - 11/2020	9	56%	0.78	1.6	<0.50	<0.50	<0.50	1.6	0.80	0.405	Not tested	Normal (KM) **	1.60	1.60
MW-18B	Orthophosphate (P)	mg/L	6/2018 - 11/2020	9	0%	0.028	0.065	--	--	0.028	0.065	0.05	0.011	Normal	Normal	0.082	0.0937
MW-18B	pH (LTL - UTL)	s.u.	6/2018 - 11/2020	9	0%	7.55	8.04	--	--	7.55	8.04	7.73	0.141	Normal	Normal	7.23 - 8.23	7.09 - 8.37
MW-18B	Dissolved Phosphorous	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-18B	Total Phosphorus	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-18B	Reactive Silica (SiO2)	mg/L	6/2018 - 11/2020	9	0%	11	11	--	--	11	11	11.0	0	Not Normal	Normal **	11.0	11.0
MW-18B	Total Suspended Solids	mg/L	11/2020 - 11/2020	1	0%	14	14	--	--	14	14	--	--	Not tested	Maximum	14.0	14.0
MW-18B	Dissolved Sulphate (SO4)	mg/L	6/2018 - 11/2020	9	0%	11	17	--	--	11	17	13.0	1.83	Normal	Normal	18.5	20.6
MW-18B	Turbidity	NTU	6/2018 - 11/2020	9	0%	2.9	43	--	--	2.9	43	15.3	11.5	Normal	Normal	50.2	63.0
MW-18B	Conductivity	µS/cm	6/2018 - 11/2020	9	0%	110	140	--	--	110	140	122	9.16	Normal	Normal	150	160
	Metals																
MW-18B	Dissolved Aluminum (Al)	µg/L	6/2018 - 11/2020	9	0%	6.5	35	--	--	6.5	35	2.37	0.386	Gamma	WH Approx. Gamma	44.3	62.5
MW-18B	Total Aluminum (Al)	µg/L	6/2019 - 11/2020	5	0%	150	1900	--	--	150	1900	682	626	Normal	Normal	3312	4274
MW-18B	Dissolved Antimony (Sb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-18B	Total Antimony (Sb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-18B	Dissolved Arsenic (As)	µg/L	6/2018 - 11/2020	9	0%	220	270	--	--	220	270	240	17.6	Not Normal	Normal **	293	313
MW-18B	Total Arsenic (As)	µg/L	6/2019 - 11/2020	5	0%	230	270	--	--	230	270	246	19.6	Not Normal	Normal **	328	359
MW-18B	Dissolved Barium (Ba)	µg/L	6/2018 - 11/2020	9	0%	2.2	9	--	--	2.2	9	4.59	2.40	Normal	Normal	11.9	14.5
MW-18B	Total Barium (Ba)	µg/L	6/2019 - 11/2020	5	0%	2.8	6.8	--	--	2.8	6.8	4.22	1.41	Normal	Normal	10.2	12.3
MW-18B	Dissolved Beryllium (Be)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-18B	Total Beryllium (Be)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-18B	Dissolved Bismuth (Bi)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-18B	Total Bismuth (Bi)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-18B	Dissolved Boron (B)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-18B	Total Boron (B)	µg/L	6/2019 - 11/2020	5	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-18B	Dissolved Cadmium (Cd)	µg/L	6/2018 - 11/2020	9	89%	0.01	0.01	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Maximum	<0.010	<0.010
MW-18B	Total Cadmium (Cd)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-18B	Dissolved Calcium (Ca)	µg/L	6/2018 - 11/2020	9	0%	11000	16000	--	--	11000	16000	14778	1397	Not Normal	Normal **	19011	20564
MW-18B	Total Calcium (Ca)	µg/L	6/2019 - 11/2020	5	0%	15000	17000	--	--	15000	17000	16000	632	Normal	Normal	18658	19631
MW-18B	Dissolved Chromium (Cr)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-18B	Total Chromium (Cr)	µg/L	6/2019 - 11/2020	5	80%	1.5	1.5	<1.0	<1.0	<1.0	1.5	--	--	Not tested	Maximum	1.50	1.50
MW-18B	Dissolved Cobalt (Co)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	Not tested	Reporting Limit	<0.40	<0.40
MW-18B	Total Cobalt (Co)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	Not tested	Reporting Limit	<0.40	<0.40
MW-18B	Dissolved Copper (Cu)	µg/L	6/2018 - 11/2020	9	89%	0.61	0.61	<0.50	<2.0	<0.50	<2.0	--	--	Not tested	Maximum	<2.0	<2.0
MW-18B	Total Copper (Cu)	µg/L	6/2019 - 11/2020	5	0%	0.58	6.9	--	--	0.58	6.9	1.18	0.374	Gamma	WH Approx. Gamma	20.9	36.9
MW-18B	Dissolved Iron (Fe)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-18B	Total Iron (Fe)	µg/L	6/2019 - 11/2020	5	0%	67	810	--	--	67	810	343	249	Normal	Normal	1388	1770
MW-18B	Dissolved Lead (Pb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-18B	Total Lead (Pb)	µg/L	6/2019 - 11/2020	5	80%	0.95	0.95	<0.50	<0.50	<0.50	0.95	--	--	Not tested	Maximum	0.950	0.950
MW-18B	Dissolved Magnesium (Mg)	µg/L	6/2018 - 11/2020	9	0%	880	1400	--	--	880	1400	1264	162	Not Normal	Normal **	1754	1934
MW-18B	Total Magnesium (Mg)	µg/L	6/2019 - 11/2020	5	0%	1400	1800	--	--	1400	1800	1520	147	Normal	Normal	2138	2364
MW-18B	Dissolved Manganese (Mn)	µg/L	6/2018 - 11/2020	9	56%	2.8	6.5	<2.0	<2.0	<2.0	6.5	3.04	1.54	Not tested	Normal (KM) **	6.50	6.50
MW-18B	Total Manganese (Mn)	µg/L	6/2019 - 11/2020	5	20%	4.6	7.8	<2.0	<2.0	<2.0	7.8	5.30	2.07	Normal	Normal (KM)	14.0	17.2
MW-18B	Dissolved Molybdenum (Mo)	µg/L	6/2018 - 11/2020	9	0%	4.4	10	--	--	4.4	10	5.59	1.59	Not Normal	Normal **	10.4	12.2
MW-18B	Total Molybdenum (Mo)	µg/L	6/2019 - 11/2020	5	0%	4.4	5.8	--	--	4.4	5.8	5.06	0.463	Normal	Normal	7.01	7.72
MW-18B	Dissolved Nickel (Ni)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-18B	Total Nickel (Ni)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-18B	Dissolved Phosphorus (P)	µg/L	6/2018 - 11/2020	9	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-18B	Total Phosphorus (P)	µg/L	6/2019 - 11/2020	5	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-18B	Dissolved Potassium (K)	µg/L	6/2018 - 11/2020	9	0%	1200	1600	--	--	1200	1600	1356	134	Normal	Normal	1763	1912
MW-18B	Total Potassium (K)	µg/L	6/2019 - 11/2020	5	0%	1200	1500	--	--	1200	1500	1400	110	Normal	Normal	1860	2029
MW-18B	Dissolved Selenium (Se)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-18B	Total Selenium (Se)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-18B	Dissolved Silver (Ag)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-18B	Total Silver (Ag)	µg/L	6/2019 - 11/2020	5	40%	0.11	0.15	<0.10	<0.10	<0.10	0.15	0.12	0.019	Normal	Normal (KM)	0.194	0.222
MW-18B	Dissolved Sodium (Na)	µg/L	6/2018 - 11/2020	9	0%	4800	14000	--	--	4800	14000	8.79	0.341	Lognormal	Lognormal	18499	27023
MW-18B	Total Sodium (Na)	µg/L	6/2019 - 11/2020	5	0%	4800	5800	--	--	4800	5800	5140	377	Normal	Normal	6726	7306
MW-18B	Dissolved Strontium (Sr)	µg/L	6/2018 - 11/2020	9	0%	46	150	--	--	46	150	79.8	33.6	Normal	Normal	182	219
MW-18B	Total Strontium (Sr)	µg/L	6/2019 - 11/2020	5	0%	46	70	--	--	46	70	55.0	9.12	Normal	Normal	93.3	107
MW-18B	Dissolved Thallium (Tl)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-18B	Total Thallium (Tl)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-18B	Dissolved Tin (Sn)	µg/L	6/2018 - 11/2020	9	89%	3.9	3.9	<2.0	<2.0	<2.0	3.9	--	--	Not tested	Maximum	3.90	3.90
MW-18B	Total Tin (Sn)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-18B	Dissolved Titanium (Ti)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-18B	Total Titanium (Ti)	µg/L	6/2019 - 11/2020	5	0%	3.6	24	--	--	3.6	24	11.1	6.85	Normal	Normal	39.9	50.5
MW-18B	Dissolved Uranium (U)	µg/L	6/2018 - 11/2020	9	0%	0.91	1.7	--	--	0.91	1.7	1.04	0.071	Gamma	WH Approx. Gamma	1.96	2.35
MW-18B	Total Uranium (U)	µg/L	6/2019 - 11/2020	5	0%	0.93	1.2	--	--	0.93	1.2	1	0.101	Not Normal	Normal **	1.42	1.58
MW-18B	Dissolved Vanadium (V)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-18B	Total Vanadium (V)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-18B	Dissolved Zinc (Zn)	µg/L	6/2018 - 11/2020	9	78%	5.5	9.8	<5.0	<5.0	<5.0	9.8	5.59	1.50	Not tested	Maximum	9.80	9.80
MW-18B	Total Zinc (Zn)	µg/L	6/2019 - 11/2020	5	80%	6.1	6.1	<5.0	<5.0	<5.0	6.1	--	--	Not tested	Maximum	6.10	6.10
MW-18B	Dissolved Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
MW-18B	Total Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
	Calculated Parameters																
MW-18C	Anion Sum	me/L	6/2018 - 11/2020	9	0%	1.97	2.52	--	--	1.97	2.52	2.21	0.189	Normal	Normal	2.78	2.99
MW-18C	Bicarb. Alkalinity (calc. as CaCO3	mg/L	6/2018 - 11/2020	9	0%	52	81	--	--	52	81	64.3	9.93	Normal	Normal	94.4	105
MW-18C	Calculated TDS	mg/L	6/2018 - 11/2020	9	0%	120	160	--	--	120	160	136	10.7	Normal	Normal	168	180
MW-18C	Carb. Alkalinity (calc. as CaCO3)	mg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-18C	Cation Sum	me/L	6/2018 - 11/2020	9	0%	1.88	2.33	--	--	1.88	2.33	2.04	0.143	Normal	Normal	2.47	2.63
MW-18C	Hardness (CaCO3)	mg/L	6/2018 - 11/2020	9	0%	45	62	--	--	45	62	55.8	4.42	Normal	Normal	69.2	74.1
MW-18C	Ion Balance (% Difference)	%	6/2018 - 11/2020	9	0%	2	7.66	--	--	2	7.66	3.86	1.58	Normal	Normal	8.66	10.4
MW-18C	Langelier Index (@ 20C)	N/A	6/2018 - 11/2020	9	0%	-0.709	-0.393	--	--	-0.709	-0.393	-0.56	0.114	Normal	Normal	-0.210	-0.082
MW-18C	Langelier Index (@ 4C)	N/A	6/2018 - 11/2020	9	0%	-0.959	-0.644	--	--	-0.959	-0.644	-0.81	0.115	Normal	Normal	-0.460	-0.33
MW-18C	Nitrate (N)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.050	<0.050	<0.050	<0.050	--	--	Not tested	Reporting Limit	<0.050	<0.050
MW-18C	Saturation pH (@ 20C)	N/A	6/2018 - 11/2020	9	0%	8.16	8.44	--	--	8.16	8.44	8.28	0.088	Normal	Normal	8.54	8.64
MW-18C	Saturation pH (@ 4C)	N/A	6/2018 - 11/2020	9	0%	8.42	8.69	--	--	8.42	8.69	8.53	0.086	Normal	Normal	8.79	8.89
	Inorganics																
MW-18C	Total Alkalinity (Total as CaCO3)	mg/L	6/2018 - 11/2020	9	0%	52	81	--	--	52	81	64.4	9.89	Normal	Normal	94.4	105
MW-18C	Total Chemical Oxygen Demand	mg/L	11/2020 - 11/2020	1	100%	--	--	<20	<20	<20	<20	--	--	Not tested	Reporting Limit	<20	<20
MW-18C	Dissolved Chloride (Cl-)	mg/L	6/2018 - 11/2020	9	0%	4.1	5.8	--	--	4.1	5.8	5.05	0.597	Normal	Normal	6.86	7.52
MW-18C	Colour	TCU	6/2018 - 11/2020	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	Not tested	Reporting Limit	<5.0	<5.0
MW-18C	Nitrate + Nitrite (N)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.050	<0.050	<0.050	<0.050	--	--	Not tested	Reporting Limit	<0.050	<0.050
MW-18C	Nitrite (N)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-18C	Nitrogen (Ammonia Nitrogen)	mg/L	6/2018 - 11/2020	9	89%	0.089	0.089	<0.050	<0.050	<0.050	0.089	--	--	Not tested	Maximum	0.089	0.0890
MW-18C	Dissolved Organic Carbon (C)	mg/L	11/2020 - 11/2020	1	0%	3.6	3.6	--	--	3.6	3.6	--	--	Not tested	Maximum	3.60	3.60
MW-18C	Total Organic Carbon (C)	mg/L	6/2018 - 11/2020	9	0%	3.7	7.7	--	--	3.7	7.7	5.13	1.13	Normal	Normal	8.55	9.80
MW-18C	Orthophosphate (P)	mg/L	6/2018 - 11/2020	9	33%	0.015	0.026	<0.010	<0.010	<0.010	0.026	0.02	0.006	Normal	Normal (KM)	0.036	0.0422
MW-18C	pH (LTL - UTL)	s.u.	6/2018 - 11/2020	9	0%	7.575	7.86	--	--	7.575	7.86	7.72	0.096	Normal	Normal	7.38 - 8.06	7.28 - 8.16
MW-18C	Dissolved Phosphorous	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-18C	Total Phosphorus	mg/L	11/2020 - 11/2020	1	0%	0.023	0.023	--	--	0.023	0.023	--	--	Not tested	Maximum	0.023	0.0230
MW-18C	Reactive Silica (SiO2)	mg/L	6/2018 - 11/2020	9	0%	11	13	--	--	11	13	11.9	0.567	Not Normal	Normal **	13.6	14.2
MW-18C	Total Suspended Solids	mg/L	11/2020 - 11/2020	1	0%	3.2	3.2	--	--	3.2	3.2	--	--	Not tested	Maximum	3.20	3.20
MW-18C	Dissolved Sulphate (SO4)	mg/L	6/2018 - 11/2020	9	0%	28	59	--	--	28	59	3.32	0.242	Gamma	WH Approx. Gamma	66.6	80.7
MW-18C	Turbidity	NTU	6/2018 - 11/2020	9	0%	1.1	18	--	--	1.1	18	6.60	5.30	Normal	Normal	22.7	28.5
MW-18C	Conductivity	µS/cm	6/2018 - 11/2020	9	0%	190	260	--	--	190	260	215	20.3	Normal	Normal	276	299
	Metals																
MW-18C	Dissolved Aluminum (Al)	µg/L	6/2018 - 11/2020	9	11%	5.95	16	<5.0	<5.0	<5.0	16	9.08	3.13	Normal	Normal (KM)	18.6	22.1
MW-18C	Total Aluminum (Al)	µg/L	6/2019 - 11/2020	5	0%	36	320	--	--	36	320	139	105	Normal	Normal	578	739
MW-18C	Dissolved Antimony (Sb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-18C	Total Antimony (Sb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-18C	Dissolved Arsenic (As)	µg/L	6/2018 - 11/2020	9	0%	57	110	--	--	57	110	95.3	16.4	Not Normal	Normal **	145	163
MW-18C	Total Arsenic (As)	µg/L	6/2019 - 11/2020	5	0%	92	125	--	--	92	125	110	12.4	Normal	Normal	163	182
MW-18C	Dissolved Barium (Ba)	µg/L	6/2018 - 11/2020	9	0%	6.4	12	--	--	6.4	12	10.2	1.52	Not Normal	Normal **	14.8	16.5
MW-18C	Total Barium (Ba)	µg/L	6/2019 - 11/2020	5	0%	11	12	--	--	11	12	11.6	0.374	Normal	Normal	13.2	13.7
MW-18C	Dissolved Beryllium (Be)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-18C	Total Beryllium (Be)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-18C	Dissolved Bismuth (Bi)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-18C	Total Bismuth (Bi)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-18C	Dissolved Boron (B)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-18C	Total Boron (B)	µg/L	6/2019 - 11/2020	5	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-18C	Dissolved Cadmium (Cd)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-18C	Total Cadmium (Cd)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-18C	Dissolved Calcium (Ca)	µg/L	6/2018 - 11/2020	9	0%	16000	21000	--	--	16000	21000	19056	1301	Normal	Normal	22998	24444
MW-18C	Total Calcium (Ca)	µg/L	6/2019 - 11/2020	5	0%	19000	20000	--	--	19000	20000	19400	490	Not Normal	Normal **	21459	22213
MW-18C	Dissolved Chromium (Cr)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-18C	Total Chromium (Cr)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-18C	Dissolved Cobalt (Co)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	Not tested	Reporting Limit	<0.40	<0.40
MW-18C	Total Cobalt (Co)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	Not tested	Reporting Limit	<0.40	<0.40

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-18C	Dissolved Copper (Cu)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<2.0	<0.50	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-18C	Total Copper (Cu)	µg/L	6/2019 - 11/2020	5	80%	0.9	0.9	<0.50	<0.50	<0.50	0.9	--	--	Not tested	Maximum	0.900	0.900
MW-18C	Dissolved Iron (Fe)	µg/L	6/2018 - 11/2020	9	78%	51	66	<50	<50	<50	66	51.9	5.00	Not tested	Maximum	66.0	66.0
MW-18C	Total Iron (Fe)	µg/L	6/2019 - 11/2020	5	0%	82	335	--	--	82	335	169	91.6	Normal	Normal	554	695
MW-18C	Dissolved Lead (Pb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-18C	Total Lead (Pb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-18C	Dissolved Magnesium (Mg)	µg/L	6/2018 - 11/2020	9	0%	1400	2200	--	--	1400	2200	1878	197	Not Normal	Normal **	2476	2695
MW-18C	Total Magnesium (Mg)	µg/L	6/2019 - 11/2020	5	0%	1850	2000	--	--	1850	2000	1950	63.2	Normal	Normal	2216	2313
MW-18C	Dissolved Manganese (Mn)	µg/L	6/2018 - 11/2020	9	0%	13	95	--	--	13	95	79.3	24.5	Not Normal	Normal **	154	181
MW-18C	Total Manganese (Mn)	µg/L	6/2019 - 11/2020	5	0%	80	98.5	--	--	80	98.5	89.6	6.69	Normal	Normal	118	128
MW-18C	Dissolved Molybdenum (Mo)	µg/L	6/2018 - 11/2020	9	0%	2.7	5.7	--	--	2.7	5.7	4.38	0.960	Normal	Normal	7.29	8.36
MW-18C	Total Molybdenum (Mo)	µg/L	6/2019 - 11/2020	5	0%	3.2	5.2	--	--	3.2	5.2	4.05	0.846	Normal	Normal	7.61	8.91
MW-18C	Dissolved Nickel (Ni)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-18C	Total Nickel (Ni)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-18C	Dissolved Phosphorus (P)	µg/L	6/2018 - 11/2020	9	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-18C	Total Phosphorus (P)	µg/L	6/2019 - 11/2020	5	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-18C	Dissolved Potassium (K)	µg/L	6/2018 - 11/2020	9	0%	1300	1800	--	--	1300	1800	1467	141	Not Normal	Normal **	1895	2053
MW-18C	Total Potassium (K)	µg/L	6/2019 - 11/2020	5	0%	1300	1450	--	--	1300	1450	1380	51.0	Normal	Normal	1594	1673
MW-18C	Dissolved Selenium (Se)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-18C	Total Selenium (Se)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-18C	Dissolved Silver (Ag)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-18C	Total Silver (Ag)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-18C	Dissolved Sodium (Na)	µg/L	6/2018 - 11/2020	9	0%	17500	26000	--	--	17500	26000	20556	2420	Normal	Normal	27892	30583
MW-18C	Total Sodium (Na)	µg/L	6/2019 - 11/2020	5	0%	18000	21000	--	--	18000	21000	19500	1000	Normal	Normal	23703	25241
MW-18C	Dissolved Strontium (Sr)	µg/L	6/2018 - 11/2020	9	0%	180	240	--	--	180	240	207	16.2	Normal	Normal	256	274
MW-18C	Total Strontium (Sr)	µg/L	6/2019 - 11/2020	5	0%	190	210	--	--	190	210	198	6.78	Normal	Normal	227	237
MW-18C	Dissolved Thallium (Tl)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-18C	Total Thallium (Tl)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-18C	Dissolved Tin (Sn)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-18C	Total Tin (Sn)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-18C	Dissolved Titanium (Ti)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-18C	Total Titanium (Ti)	µg/L	6/2019 - 11/2020	5	40%	3.1	8.85	<2.0	<2.0	<2.0	8.85	4.21	2.58	Normal	Normal (KM)	15.1	19.0
MW-18C	Dissolved Uranium (U)	µg/L	6/2018 - 11/2020	9	0%	0.65	1.8	--	--	0.65	1.8	1.05	0.373	Normal	Normal	2.18	2.60
MW-18C	Total Uranium (U)	µg/L	6/2019 - 11/2020	5	0%	0.58	0.97	--	--	0.58	0.97	0.80	0.141	Normal	Normal	1.39	1.61
MW-18C	Dissolved Vanadium (V)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-18C	Total Vanadium (V)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-18C	Dissolved Zinc (Zn)	µg/L	6/2018 - 11/2020	9	78%	5.7	7.3	<5.0	<5.0	<5.0	7.3	5.33	0.729	Not tested	Maximum	7.30	7.30
MW-18C	Total Zinc (Zn)	µg/L	6/2019 - 11/2020	5	80%	5.55	5.55	<5.0	<5.0	<5.0	5.55	--	--	Not tested	Maximum	5.55	5.55
MW-18C	Dissolved Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
MW-18C	Total Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
	Calculated Parameters																
MW-19A	Anion Sum	me/L	6/2018 - 11/2020	9	0%	0.16	0.4	--	--	0.16	0.4	0.28	0.064	Normal	Normal	0.471	0.542
MW-19A	Bicarb. Alkalinity (calc. as CaCO3	mg/L	6/2018 - 11/2020	9	22%	5.3	8.7	<1.0	<1.0	<1.0	8.7	5.53	2.60	Normal	Normal (KM)	13.4	16.3
MW-19A	Calculated TDS	mg/L	6/2018 - 11/2020	9	0%	17	29	--	--	17	29	21.2	3.26	Normal	Normal	31.1	34.7
MW-19A	Carb. Alkalinity (calc. as CaCO3)	mg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-19A	Cation Sum	me/L	6/2018 - 11/2020	9	0%	0.18	0.37	--	--	0.18	0.37	0.25	0.051	Normal	Normal	0.404	0.461
MW-19A	Hardness (CaCO3)	mg/L	6/2018 - 11/2020	9	0%	3	5.4	--	--	3	5.4	4.31	0.940	Normal	Normal	7.16	8.20
MW-19A	Ion Balance (% Difference)	%	6/2018 - 11/2020	9	0%	3.9	18.4	--	--	3.9	18.4	12.0	4.52	Normal	Normal	25.6	30.7
MW-19A	Langelier Index (@ 20C)	N/A	9/2018 - 11/2020	7	0%	-4.73	-3.8	--	--	-4.73	-3.8	-4.37	0.340	Normal	Normal	-3.22	-2.79
MW-19A	Langelier Index (@ 4C)	N/A	9/2018 - 11/2020	7	0%	-4.99	-4.06	--	--	-4.99	-4.06	-4.63	0.340	Normal	Normal	-3.47	-3.05
MW-19A	Nitrate (N)	mg/L	6/2018 - 11/2020	9	11%	0.053	0.25	<0.050	<0.050	<0.050	0.25	0.14	0.059	Normal	Normal (KM)	0.315	0.381
MW-19A	Saturation pH (@ 20C)	N/A	9/2018 - 11/2020	7	0%	10.3	10.6	--	--	10.3	10.6	10.5	0.118	Normal	Normal	10.9	11.0
MW-19A	Saturation pH (@ 4C)	N/A	9/2018 - 11/2020	7	0%	10.5	10.9	--	--	10.5	10.9	10.7	0.146	Normal	Normal	11.2	11.4
	Inorganics																
MW-19A	Total Alkalinity (Total as CaCO3)	mg/L	6/2018 - 11/2020	9	22%	5.3	8.7	<5.0	<5.0	<5.0	8.7	6.42	1.20	Normal	Normal (KM)	10.1	11.4
MW-19A	Total Chemical Oxygen Demand	mg/L	11/2020 - 11/2020	1	100%	--	--	<20	<20	<20	<20	--	--	Not tested	Reporting Limit	<20	<20
MW-19A	Dissolved Chloride (Cl-)	mg/L	6/2018 - 11/2020	9	0%	1	4.1	--	--	1	4.1	2.72	0.984	Normal	Normal	5.71	6.80
MW-19A	Colour	TCU	6/2018 - 11/2020	9	78%	7.1	9.8	<5.0	<5.0	<5.0	9.8	5.77	1.57	Not tested	Maximum	9.80	9.80
MW-19A	Nitrate + Nitrite (N)	mg/L	6/2018 - 11/2020	9	11%	0.067	0.25	<0.050	<0.050	<0.050	0.25	0.14	0.057	Normal	Normal (KM)	0.310	0.374
MW-19A	Nitrite (N)	mg/L	6/2018 - 11/2020	9	89%	0.015	0.015	<0.010	<0.010	<0.010	0.015	--	--	Not tested	Maximum	0.015	0.0150
MW-19A	Nitrogen (Ammonia Nitrogen)	mg/L	6/2018 - 11/2020	9	78%	0.097	0.11	<0.050	<0.050	<0.050	0.11	0.06	0.022	Not tested	Maximum	0.110	0.110
MW-19A	Dissolved Organic Carbon (C)	mg/L	11/2020 - 11/2020	1	0%	1.4	1.4	--	--	1.4	1.4	--	--	Not tested	Maximum	1.40	1.40
MW-19A	Total Organic Carbon (C)	mg/L	6/2018 - 11/2020	9	0%	0.75	7.9	--	--	0.75	7.9	0.53	0.662	Lognormal	Lognormal	12.6	26.3
MW-19A	Orthophosphate (P)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-19A	pH (LTL - UTL)	s.u.	6/2018 - 11/2020	9	0%	5.81	6.46	--	--	5.81	6.46	6.06	0.211	Normal	Normal	5.32 - 6.7	5.1 - 6.94
MW-19A	Dissolved Phosphorous	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-19A	Total Phosphorus	mg/L	11/2020 - 11/2020	1	0%	0.033	0.033	--	--	0.033	0.033	--	--	Not tested	Maximum	0.033	0.0330
MW-19A	Reactive Silica (SiO2)	mg/L	6/2018 - 11/2020	9	0%	4.4	5.9	--	--	4.4	5.9	5.20	0.531	Normal	Normal	6.81	7.40
MW-19A	Total Suspended Solids	mg/L	11/2020 - 11/2020	1	0%	38	38	--	--	38	38	--	--	Not tested	Maximum	38.0	38.0
MW-19A	Dissolved Sulphate (SO4)	mg/L	6/2018 - 11/2020	9	0%	2.2	5.9	--	--	2.2	5.9	4.02	1.16	Normal	Normal	7.54	8.83
MW-19A	Turbidity	NTU	6/2018 - 11/2020	9	0%	1.3	46	--	--	1.3	46	14.6	12.8	Normal	Normal	53.3	67.5
MW-19A	Conductivity	µS/cm	6/2018 - 11/2020	9	0%	26	38	--	--	26	38	30.1	3.60	Normal	Normal	41.0	45.0
	Metals																
MW-19A	Dissolved Aluminum (Al)	µg/L	6/2018 - 11/2020	9	0%	50	190	--	--	50	190	93.1	41.0	Normal	Normal	217	263
MW-19A	Total Aluminum (Al)	µg/L	6/2019 - 11/2020	5	0%	200	14000	--	--	200	14000	5100	4972	Normal	Normal	25995	33644
MW-19A	Dissolved Antimony (Sb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-19A	Total Antimony (Sb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-19A	Dissolved Arsenic (As)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-19A	Total Arsenic (As)	µg/L	6/2019 - 11/2020	5	60%	3.4	9.8	<1.0	<1.0	<1.0	9.8	3.24	3.41	Not tested	Maximum	9.80	9.80
MW-19A	Dissolved Barium (Ba)	µg/L	6/2018 - 11/2020	9	0%	4.6	12	--	--	4.6	12	8.07	2.17	Normal	Normal	14.7	17.1
MW-19A	Total Barium (Ba)	µg/L	6/2019 - 11/2020	5	0%	10	88	--	--	10	88	34.0	30.8	Normal	Normal	163	211
MW-19A	Dissolved Beryllium (Be)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-19A	Total Beryllium (Be)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-19A	Dissolved Bismuth (Bi)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-19A	Total Bismuth (Bi)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-19A	Dissolved Boron (B)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-19A	Total Boron (B)	µg/L	6/2019 - 11/2020	5	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-19A	Dissolved Cadmium (Cd)	µg/L	6/2018 - 11/2020	9	0%	0.017	0.084	--	--	0.017	0.084	0.32	0.051	Gamma	WH Approx. Gamma	0.104	0.146
MW-19A	Total Cadmium (Cd)	µg/L	6/2019 - 11/2020	5	0%	0.034	0.071	--	--	0.034	0.071	0.05	0.014	Normal	Normal	0.106	0.129
MW-19A	Dissolved Calcium (Ca)	µg/L	6/2018 - 11/2020	9	0%	660	1500	--	--	660	1500	1043	310	Normal	Normal	1982	2327
MW-19A	Total Calcium (Ca)	µg/L	6/2019 - 11/2020	5	0%	740	5000	--	--	740	5000	2042	1577	Normal	Normal	8670	11096
MW-19A	Dissolved Chromium (Cr)	µg/L	6/2018 - 11/2020	9	89%	1.1	1.1	<1.0	<1.0	<1.0	1.1	--	--	Not tested	Maximum	1.10	1.10
MW-19A	Total Chromium (Cr)	µg/L	6/2019 - 11/2020	5	20%	1.2	20	<1.0	<1.0	<1.0	20	7.10	7.44	Normal	Normal (KM)	38.4	49.8
MW-19A	Dissolved Cobalt (Co)	µg/L	6/2018 - 11/2020	9	11%	0.46	1.4	<0.40	<0.40	<0.40	1.4	0.93	0.379	Normal	Normal (KM)	2.08	2.50
MW-19A	Total Cobalt (Co)	µg/L	6/2019 - 11/2020	5	0%	0.8	11	--	--	0.8	11	4.08	3.94	Normal	Normal	20.7	26.7
MW-19A	Dissolved Copper (Cu)	µg/L	6/2018 - 11/2020	9	22%	0.63	7.9	<2.0	<2.0	0.63	7.9	2.92	2.40	Normal	Normal (KM)	10.2	12.8
MW-19A	Total Copper (Cu)	µg/L	6/2019 - 11/2020	5	0%	3.9	58	--	--	3.9	58	20.8	21.4	Normal	Normal	111	144
MW-19A	Dissolved Iron (Fe)	µg/L	6/2018 - 11/2020	9	89%	60	60	<50	<50	<50	60	--	--	Not tested	Maximum	60.0	60.0
MW-19A	Total Iron (Fe)	µg/L	6/2019 - 11/2020	5	0%	180	20000	--	--	180	20000	6656	7446	Normal	Normal	37949	49404
MW-19A	Dissolved Lead (Pb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-19A	Total Lead (Pb)	µg/L	6/2019 - 11/2020	5	20%	0.95	9.3	<0.50	<0.50	<0.50	9.3	3.67	3.54	Normal	Normal (KM)	18.6	24.0
MW-19A	Dissolved Magnesium (Mg)	µg/L	6/2018 - 11/2020	9	0%	320	600	--	--	320	600	413	76.6	Normal	Normal	646	731
MW-19A	Total Magnesium (Mg)	µg/L	6/2019 - 11/2020	5	0%	450	5100	--	--	450	5100	1972	1777	Normal	Normal	9441	12175
MW-19A	Dissolved Manganese (Mn)	µg/L	6/2018 - 11/2020	9	0%	16	83	--	--	16	83	45.0	19.9	Normal	Normal	105	127
MW-19A	Total Manganese (Mn)	µg/L	6/2019 - 11/2020	5	0%	41	360	--	--	41	360	144	124	Normal	Normal	667	859
MW-19A	Dissolved Molybdenum (Mo)	µg/L	6/2018 - 11/2020	9	89%	2.3	2.3	<2.0	<2.0	<2.0	2.3	--	--	Not tested	Maximum	2.30	2.30
MW-19A	Total Molybdenum (Mo)	µg/L	6/2019 - 11/2020	5	60%	6.8	9.9	<2.0	<2.0	<2.0	9.9	4.54	3.26	Not tested	Maximum	9.90	9.90
MW-19A	Dissolved Nickel (Ni)	µg/L	6/2018 - 11/2020	9	33%	2.4	4.4	<2.0	<2.0	<2.0	4.4	3.08	0.916	Normal	Normal (KM)	5.86	6.87
MW-19A	Total Nickel (Ni)	µg/L	6/2019 - 11/2020	5	0%	2.2	27	--	--	2.2	27	9.78	9.46	Normal	Normal	49.6	64.1
MW-19A	Dissolved Phosphorus (P)	µg/L	6/2018 - 11/2020	9	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-19A	Total Phosphorus (P)	µg/L	6/2019 - 11/2020	5	60%	320	490	<100	<100	<100	490	222	159	Not tested	Maximum	490	490
MW-19A	Dissolved Potassium (K)	µg/L	6/2018 - 11/2020	9	0%	510	1100	--	--	510	1100	747	158	Normal	Normal	1225	1401
MW-19A	Total Potassium (K)	µg/L	6/2019 - 11/2020	5	0%	740	4800	--	--	740	4800	2096	1665	Normal	Normal	9095	11657
MW-19A	Dissolved Selenium (Se)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-19A	Total Selenium (Se)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-19A	Dissolved Silver (Ag)	µg/L	6/2018 - 11/2020	9	56%	0.16	0.97	<0.10	<0.10	<0.10	0.97	0.32	0.312	Not tested	Normal (KM) **	0.970	0.970
MW-19A	Total Silver (Ag)	µg/L	6/2019 - 11/2020	5	0%	0.4	8.8	--	--	0.4	8.8	1.35	0.582	Gamma	WH Approx. Gamma	54.7	103
MW-19A	Dissolved Sodium (Na)	µg/L	6/2018 - 11/2020	9	0%	1700	6100	--	--	1700	6100	3256	1197	Normal	Normal	6885	8216
MW-19A	Total Sodium (Na)	µg/L	6/2019 - 11/2020	5	0%	2500	4900	--	--	2500	4900	3160	880	Not Normal	Normal **	6858	8212
MW-19A	Dissolved Strontium (Sr)	µg/L	6/2018 - 11/2020	9	0%	5.1	11	--	--	5.1	11	8.21	1.85	Normal	Normal	13.8	15.9
MW-19A	Total Strontium (Sr)	µg/L	6/2019 - 11/2020	5	0%	6.5	21	--	--	6.5	21	12.2	5.75	Normal	Normal	36.4	45.2
MW-19A	Dissolved Thallium (Tl)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-19A	Total Thallium (Tl)	µg/L	6/2019 - 11/2020	5	60%	0.14	0.27	<0.10	<0.10	<0.10	0.27	0.14	0.066	Not tested	Maximum	0.270	0.270
MW-19A	Dissolved Tin (Sn)	µg/L	6/2018 - 11/2020	9	89%	2.6	2.6	<2.0	<2.0	<2.0	2.6	--	--	Not tested	Maximum	2.60	2.60
MW-19A	Total Tin (Sn)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-19A	Dissolved Titanium (Ti)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-19A	Total Titanium (Ti)	µg/L	6/2019 - 11/2020	5	0%	6.7	580	--	--	6.7	580	204	218	Normal	Normal	1119	1454
MW-19A	Dissolved Uranium (U)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-19A	Total Uranium (U)	µg/L	6/2019 - 11/2020	5	20%	0.16	1.7	<0.10	<0.10	<0.10	1.7	0.62	0.624	Normal	Normal (KM)	3.24	4.20
MW-19A	Dissolved Vanadium (V)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-19A	Total Vanadium (V)	µg/L	6/2019 - 11/2020	5	40%	2.5	24	<2.0	<2.0	<2.0	24	8.50	8.64	Normal	Normal (KM)	44.8	58.1
MW-19A	Dissolved Zinc (Zn)	µg/L	6/2018 - 11/2020	9	44%	5.1	9.9	<5.0	<5.0	<5.0	9.9	6.09	1.65	Not Normal	Normal (KM) **	11.1	12.9
MW-19A	Total Zinc (Zn)	µg/L	6/2019 - 11/2020	5	20%	6.2	39	<5.0	<5.0	<5.0	39	16.3	13.0	Normal	Normal (KM)	71.2	91.2

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-19A	Dissolved Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
MW-19A	Total Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
	Calculated Parameters																
MW-19B	Anion Sum	me/L	6/2018 - 11/2020	9	0%	1.43	1.65	--	--	1.43	1.65	1.53	0.068	Normal	Normal	1.73	1.81
MW-19B	Bicarb. Alkalinity (calc. as CaCO3	mg/L	6/2018 - 11/2020	9	0%	56	67	--	--	56	67	60.7	3.29	Normal	Normal	70.7	74.4
MW-19B	Calculated TDS	mg/L	6/2018 - 11/2020	9	0%	84	94	--	--	84	94	88.7	3.03	Normal	Normal	97.9	101
MW-19B	Carb. Alkalinity (calc. as CaCO3)	mg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-19B	Cation Sum	me/L	6/2018 - 11/2020	9	0%	1.36	1.5	--	--	1.36	1.5	1.43	0.043	Normal	Normal	1.56	1.61
MW-19B	Hardness (CaCO3)	mg/L	6/2018 - 11/2020	9	0%	57	63	--	--	57	63	59.3	1.63	Normal	Normal	64.3	66.1
MW-19B	Ion Balance (% Difference)	%	6/2018 - 11/2020	9	0%	1.36	5.1	--	--	1.36	5.1	3.38	1.25	Normal	Normal	7.16	8.54
MW-19B	Langelier Index (@ 20C)	N/A	6/2018 - 11/2020	9	0%	-0.569	-0.255	--	--	-0.569	-0.255	-0.42	0.091	Normal	Normal	-0.149	-0.048
MW-19B	Langelier Index (@ 4C)	N/A	6/2018 - 11/2020	9	0%	-0.8205	-0.506	--	--	-0.8205	-0.506	-0.68	0.091	Normal	Normal	-0.399	-0.30
MW-19B	Nitrate (N)	mg/L	6/2018 - 11/2020	9	56%	0.066	0.084	<0.050	<0.050	<0.050	0.084	0.06	0.013	Not tested	Normal (KM) **	0.084	0.0840
MW-19B	Saturation pH (@ 20C)	N/A	6/2018 - 11/2020	9	0%	8.17	8.27	--	--	8.17	8.27	8.22	0.032	Normal	Normal	8.32	8.35
MW-19B	Saturation pH (@ 4C)	N/A	6/2018 - 11/2020	9	0%	8.43	8.52	--	--	8.43	8.52	8.48	0.030	Normal	Normal	8.57	8.60
	Inorganics																
MW-19B	Total Alkalinity (Total as CaCO3)	mg/L	6/2018 - 11/2020	9	0%	56	68	--	--	56	68	61.1	3.48	Normal	Normal	71.7	75.5
MW-19B	Total Chemical Oxygen Demand	mg/L	11/2020 - 11/2020	1	100%	--	--	<20	<20	<20	<20	--	--	Not tested	Reporting Limit	<20	<20
MW-19B	Dissolved Chloride (Cl-)	mg/L	6/2018 - 11/2020	9	0%	2	4.2	--	--	2	4.2	2.88	0.639	Normal	Normal	4.81	5.53
MW-19B	Colour	TCU	6/2018 - 11/2020	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	Not tested	Reporting Limit	<5.0	<5.0
MW-19B	Nitrate + Nitrite (N)	mg/L	6/2018 - 11/2020	9	56%	0.066	0.084	<0.050	<0.050	<0.050	0.084	0.06	0.013	Not tested	Normal (KM) **	0.084	0.0840
MW-19B	Nitrite (N)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-19B	Nitrogen (Ammonia Nitrogen)	mg/L	6/2018 - 11/2020	9	89%	0.11	0.11	<0.050	<0.050	<0.050	0.11	--	--	Not tested	Maximum	0.110	0.110
MW-19B	Dissolved Organic Carbon (C)	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.5	<0.5	<0.5	<0.5	--	--	Not tested	Reporting Limit	<0.5	<0.5
MW-19B	Total Organic Carbon (C)	mg/L	6/2018 - 11/2020	9	67%	0.705	1.2	<0.50	<0.50	<0.50	1.2	0.65	0.243	Not tested	Maximum	1.20	1.20
MW-19B	Orthophosphate (P)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-19B	pH (LTL - UTL)	s.u.	6/2018 - 11/2020	9	0%	7.675	7.93	--	--	7.675	7.93	7.80	0.084	Normal	Normal	7.51 - 8.05	7.42 - 8.15
MW-19B	Dissolved Phosphorous	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-19B	Total Phosphorus	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-19B	Reactive Silica (SiO2)	mg/L	6/2018 - 11/2020	9	0%	8.9	9.6	--	--	8.9	9.6	9.28	0.204	Normal	Normal	9.90	10.1
MW-19B	Total Suspended Solids	mg/L	11/2020 - 11/2020	1	0%	8.6	8.6	--	--	8.6	8.6	--	--	Not tested	Maximum	8.60	8.60
MW-19B	Dissolved Sulphate (SO4)	mg/L	6/2018 - 11/2020	9	0%	9.8	12	--	--	9.8	12	10.6	0.691	Normal	Normal	12.7	13.5
MW-19B	Turbidity	NTU	6/2018 - 11/2020	9	0%	0.54	8.9	--	--	0.54	8.9	1.29	0.333	Gamma	WH Approx. Gamma	12.2	19.2
MW-19B	Conductivity	µS/cm	6/2018 - 11/2020	9	0%	130	160	--	--	130	160	143	7.86	Normal	Normal	167	175
	Metals																
MW-19B	Dissolved Aluminum (Al)	µg/L	6/2018 - 11/2020	9	0%	8.7	17	--	--	8.7	17	12.1	2.73	Normal	Normal	20.3	23.4
MW-19B	Total Aluminum (Al)	µg/L	6/2019 - 11/2020	5	0%	52	230	--	--	52	230	132	70.6	Normal	Normal	428	537
MW-19B	Dissolved Antimony (Sb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-19B	Total Antimony (Sb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-19B	Dissolved Arsenic (As)	µg/L	6/2018 - 11/2020	9	0%	6.4	8.5	--	--	6.4	8.5	7.37	0.630	Normal	Normal	9.28	9.98
MW-19B	Total Arsenic (As)	µg/L	6/2019 - 11/2020	5	0%	6.3	8	--	--	6.3	8	7.42	0.634	Normal	Normal	10.1	11.1
MW-19B	Dissolved Barium (Ba)	µg/L	6/2018 - 11/2020	9	0%	10	13	--	--	10	13	10.8	0.882	Not Normal	Normal **	13.5	14.5
MW-19B	Total Barium (Ba)	µg/L	6/2019 - 11/2020	5	0%	11	12	--	--	11	12	11.3	0.400	Normal	Normal	13.0	13.6
MW-19B	Dissolved Beryllium (Be)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-19B	Total Beryllium (Be)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-19B	Dissolved Bismuth (Bi)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-19B	Total Bismuth (Bi)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-19B	Dissolved Boron (B)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-19B	Total Boron (B)	µg/L	6/2019 - 11/2020	5	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-19B	Dissolved Cadmium (Cd)	µg/L	6/2018 - 11/2020	8	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-19B	Total Cadmium (Cd)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-19B	Dissolved Calcium (Ca)	µg/L	6/2018 - 11/2020	9	0%	21000	23000	--	--	21000	23000	21333	667	Not Normal	Normal **	23354	24095
MW-19B	Total Calcium (Ca)	µg/L	6/2019 - 11/2020	5	0%	20000	22000	--	--	20000	22000	21300	748	Normal	Normal	24445	25596
MW-19B	Dissolved Chromium (Cr)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-19B	Total Chromium (Cr)	µg/L	6/2019 - 11/2020	5	80%	1	1	<1.0	<1.0	1	1	--	--	Not tested	Maximum	1.00	1.00
MW-19B	Dissolved Cobalt (Co)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	Not tested	Reporting Limit	<0.40	<0.40
MW-19B	Total Cobalt (Co)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	Not tested	Reporting Limit	<0.40	<0.40
MW-19B	Dissolved Copper (Cu)	µg/L	6/2018 - 11/2020	9	89%	0.585	0.585	<0.50	<2.0	<0.50	<2.0	--	--	Not tested	Maximum	<2.0	<2.0
MW-19B	Total Copper (Cu)	µg/L	6/2019 - 11/2020	5	0%	0.7	1.3	--	--	0.7	1.3	1.06	0.226	Normal	Normal	2.01	2.36
MW-19B	Dissolved Iron (Fe)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-19B	Total Iron (Fe)	µg/L	6/2019 - 11/2020	5	0%	58	120	--	--	58	120	85.8	22.4	Normal	Normal	180	214
MW-19B	Dissolved Lead (Pb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-19B	Total Lead (Pb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-19B	Dissolved Magnesium (Mg)	µg/L	6/2018 - 11/2020	9	0%	1300	1500	--	--	1300	1500	1422	78.6	Not Normal	Normal **	1660	1748
MW-19B	Total Magnesium (Mg)	µg/L	6/2019 - 11/2020	5	0%	1300	1500	--	--	1300	1500	1410	66.3	Normal	Normal	1689	1791

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-19B	Dissolved Manganese (Mn)	µg/L	6/2018 - 11/2020	9	56%	2.2	21	<2.0	<2.0	<2.0	21	5.41	5.98	Not tested	Normal (KM) **	21.0	21.0
MW-19B	Total Manganese (Mn)	µg/L	6/2019 - 11/2020	5	0%	2.5	9.55	--	--	2.5	9.55	1.60	0.278	Gamma	WH Approx. Gamma	21.3	32.7
MW-19B	Dissolved Molybdenum (Mo)	µg/L	6/2018 - 11/2020	9	0%	2.2	18	--	--	2.2	18	1.58	0.707	Lognormal	Lognormal	41.6	91.3
MW-19B	Total Molybdenum (Mo)	µg/L	6/2019 - 11/2020	5	0%	2.4	4	--	--	2.4	4	3.04	0.612	Normal	Normal	5.61	6.55
MW-19B	Dissolved Nickel (Ni)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-19B	Total Nickel (Ni)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-19B	Dissolved Phosphorus (P)	µg/L	6/2018 - 11/2020	9	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-19B	Total Phosphorus (P)	µg/L	6/2019 - 11/2020	5	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-19B	Dissolved Potassium (K)	µg/L	6/2018 - 11/2020	9	0%	1100	2300	--	--	1100	2300	11.3	0.927	Gamma	WH Approx. Gamma	2783	3441
MW-19B	Total Potassium (K)	µg/L	6/2019 - 11/2020	5	0%	1100	1400	--	--	1100	1400	1230	117	Normal	Normal	1720	1900
MW-19B	Dissolved Selenium (Se)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-19B	Total Selenium (Se)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-19B	Dissolved Silver (Ag)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-19B	Total Silver (Ag)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-19B	Dissolved Sodium (Na)	µg/L	6/2018 - 11/2020	9	0%	4300	5500	--	--	4300	5500	4739	374	Normal	Normal	5873	6288
MW-19B	Total Sodium (Na)	µg/L	6/2019 - 11/2020	5	0%	4100	4900	--	--	4100	4900	4530	268	Normal	Normal	5655	6066
MW-19B	Dissolved Strontium (Sr)	µg/L	6/2018 - 11/2020	9	0%	99.5	130	--	--	99.5	130	112	10.4	Normal	Normal	144	155
MW-19B	Total Strontium (Sr)	µg/L	6/2019 - 11/2020	5	0%	99	110	--	--	99	110	105	4.71	Normal	Normal	125	132
MW-19B	Dissolved Thallium (Tl)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-19B	Total Thallium (Tl)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-19B	Dissolved Tin (Sn)	µg/L	6/2018 - 11/2020	9	89%	3	3	<2.0	<2.0	<2.0	3	--	--	Not tested	Maximum	3.00	3.00
MW-19B	Total Tin (Sn)	µg/L	6/2019 - 11/2020	5	80%	3.4	3.4	<2.0	<2.0	<2.0	3.4	--	--	Not tested	Maximum	3.40	3.40
MW-19B	Dissolved Titanium (Ti)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-19B	Total Titanium (Ti)	µg/L	6/2019 - 11/2020	5	0%	2.4	8.7	--	--	2.4	8.7	4.42	2.27	Normal	Normal	14.0	17.4
MW-19B	Dissolved Uranium (U)	µg/L	6/2018 - 11/2020	9	0%	1.9	3.1	--	--	1.9	3.1	2.48	0.357	Normal	Normal	3.57	3.96
MW-19B	Total Uranium (U)	µg/L	6/2019 - 11/2020	5	0%	1.9	2.6	--	--	1.9	2.6	2.31	0.246	Normal	Normal	3.34	3.72
MW-19B	Dissolved Vanadium (V)	µg/L	6/2018 - 11/2020	9	56%	2.1	3.1	<2.0	<2.0	<2.0	3.1	2.23	0.356	Not tested	Normal (KM) **	3.10	3.10
MW-19B	Total Vanadium (V)	µg/L	6/2019 - 11/2020	5	60%	2.3	3.1	<2.0	<2.0	<2.0	3.1	2.28	0.426	Not tested	Maximum	3.10	3.10
MW-19B	Dissolved Zinc (Zn)	µg/L	6/2018 - 11/2020	9	78%	5.2	5.8	<5.0	<5.0	<5.0	5.8	5.11	0.251	Not tested	Maximum	5.80	5.80
MW-19B	Total Zinc (Zn)	µg/L	6/2019 - 11/2020	5	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	Not tested	Reporting Limit	<5.0	<5.0
MW-19B	Dissolved Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
MW-19B	Total Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
	Calculated Parameters																
MW-19C	Anion Sum	me/L	6/2018 - 11/2020	9	0%	0.86	1.3	--	--	0.86	1.3	1.07	0.168	Normal	Normal	1.58	1.76
MW-19C	Bicarb. Alkalinity (calc. as CaCO3	mg/L	6/2018 - 11/2020	9	0%	33	46	--	--	33	46	37.7	3.86	Normal	Normal	49.4	53.7
MW-19C	Calculated TDS	mg/L	6/2018 - 11/2020	9	0%	54	83	--	--	54	83	66.8	10.6	Normal	Normal	98.9	111
MW-19C	Carb. Alkalinity (calc. as CaCO3)	mg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-19C	Cation Sum	me/L	6/2018 - 11/2020	9	0%	0.81	1.22	--	--	0.81	1.22	1.00	0.156	Normal	Normal	1.47	1.64
MW-19C	Hardness (CaCO3)	mg/L	6/2018 - 11/2020	9	0%	28	41	--	--	28	41	33.1	4.12	Normal	Normal	45.6	50.2
MW-19C	Ion Balance (% Difference)	%	6/2018 - 11/2020	9	0%	0.51	5.26	--	--	0.51	5.26	3.19	1.49	Normal	Normal	7.69	9.34
MW-19C	Langelier Index (@ 20C)	N/A	6/2018 - 11/2020	9	0%	-1.71	-1.19	--	--	-1.71	-1.19	-1.44	0.133	Normal	Normal	-1.03	-0.88
MW-19C	Langelier Index (@ 4C)	N/A	6/2018 - 11/2020	9	0%	-1.96	-1.44	--	--	-1.96	-1.44	-1.69	0.133	Normal	Normal	-1.28	-1.13
MW-19C	Nitrate (N)	mg/L	6/2018 - 11/2020	9	11%	0.052	0.23	<0.050	<0.050	<0.050	0.23	0.12	0.054	Normal	Normal (KM)	0.287	0.347
MW-19C	Saturation pH (@ 20C)	N/A	6/2018 - 11/2020	9	0%	8.51	8.8	--	--	8.51	8.8	8.69	0.087	Normal	Normal	8.95	9.05
MW-19C	Saturation pH (@ 4C)	N/A	6/2018 - 11/2020	9	0%	8.76	9.05	--	--	8.76	9.05	8.94	0.087	Normal	Normal	9.20	9.30
	Inorganics																
MW-19C	Total Alkalinity (Total as CaCO3)	mg/L	6/2018 - 11/2020	9	0%	33	46	--	--	33	46	37.7	3.86	Normal	Normal	49.4	53.7
MW-19C	Total Chemical Oxygen Demand	mg/L	11/2020 - 11/2020	1	100%	--	--	<20	<20	<20	<20	--	--	Not tested	Reporting Limit	<20	<20
MW-19C	Dissolved Chloride (Cl-)	mg/L	6/2018 - 11/2020	9	0%	2	3.9	--	--	2	3.9	3.05	0.645	Normal	Normal	5.00	5.72
MW-19C	Colour	TCU	6/2018 - 11/2020	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	Not tested	Reporting Limit	<5.0	<5.0
MW-19C	Nitrate + Nitrite (N)	mg/L	6/2018 - 11/2020	9	11%	0.063	0.23	<0.050	<0.050	<0.050	0.23	0.13	0.052	Normal	Normal (KM)	0.289	0.347
MW-19C	Nitrite (N)	mg/L	6/2018 - 11/2020	9	78%	0.01	0.041	<0.010	<0.010	0.01	0.041	0.01	0.010	Not tested	Maximum	0.041	0.0410
MW-19C	Nitrogen (Ammonia Nitrogen)	mg/L	6/2018 - 11/2020	9	89%	0.1235	0.1235	<0.050	<0.050	<0.050	0.1235	--	--	Not tested	Maximum	0.124	0.124
MW-19C	Dissolved Organic Carbon (C)	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.5	<0.5	<0.5	<0.5	--	--	Not tested	Reporting Limit	<0.5	<0.5
MW-19C	Total Organic Carbon (C)	mg/L	6/2018 - 7/2020	8	0%	0.51	2.1	--	--	0.51	2.1	1.24	0.610	Normal	Normal	3.18	3.89
MW-19C	Orthophosphate (P)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-19C	pH (LTL - UTL)	s.u.	6/2018 - 11/2020	9	0%	7.09	7.34	--	--	7.09	7.34	7.26	0.087	Normal	Normal	6.95 - 7.56	6.86 - 7.65
MW-19C	Dissolved Phosphorous	mg/L	11/2020 - 11/2020	1	0%	0.026	0.026	--	--	0.026	0.026	--	--	Not tested	Maximum	0.026	0.0260
MW-19C	Total Phosphorus	mg/L	11/2020 - 11/2020	1	0%	0.03	0.03	--	--	0.03	0.03	--	--	Not tested	Maximum	0.030	0.0300
MW-19C	Reactive Silica (SiO2)	mg/L	6/2018 - 11/2020	9	0%	8.8	10	--	--	8.8	10	9.21	0.351	Normal	Normal	10.3	10.7
MW-19C	Total Suspended Solids	mg/L	11/2020 - 11/2020	1	0%	47	47	--	--	47	47	--	--	Not tested	Maximum	47.0	47.0
MW-19C	Dissolved Sulphate (SO4)	mg/L	6/2018 - 11/2020	9	0%	5.2	20	--	--	5.2	20	2.12	0.338	Gamma	WH Approx. Gamma	31.1	43.6
MW-19C	Turbidity	NTU	6/2018 - 11/2020	9	0%	2.6	15	--	--	2.6	15	8.16	3.47	Normal	Normal	18.7	22.5
MW-19C	Conductivity	µS/cm	6/2018 - 11/2020	9	0%	82	140	--	--	82	140	104	19.4	Normal	Normal	163	184
	Metals																

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-19C	Dissolved Aluminum (Al)	µg/L	6/2018 - 11/2020	9	67%	8.8	37	<5.0	<5.0	<5.0	37	10.8	10.5	Not tested	Maximum	37.0	37.0
MW-19C	Total Aluminum (Al)	µg/L	6/2019 - 11/2020	5	0%	250	830	--	--	250	830	544	243	Normal	Normal	1564	1938
MW-19C	Dissolved Antimony (Sb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-19C	Total Antimony (Sb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-19C	Dissolved Arsenic (As)	µg/L	6/2018 - 11/2020	9	0%	2.4	4	--	--	2.4	4	3.06	0.459	Normal	Normal	4.45	4.96
MW-19C	Total Arsenic (As)	µg/L	6/2019 - 11/2020	5	0%	3.7	3.9	--	--	3.7	3.9	3.76	0.080	Normal	Normal	4.10	4.22
MW-19C	Dissolved Barium (Ba)	µg/L	6/2018 - 11/2020	9	0%	4.9	7.3	--	--	4.9	7.3	5.87	0.930	Normal	Normal	8.68	9.72
MW-19C	Total Barium (Ba)	µg/L	6/2019 - 11/2020	5	0%	6.8	9.5	--	--	6.8	9.5	8.08	1.06	Normal	Normal	12.5	14.1
MW-19C	Dissolved Beryllium (Be)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-19C	Total Beryllium (Be)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-19C	Dissolved Bismuth (Bi)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-19C	Total Bismuth (Bi)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-19C	Dissolved Boron (B)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-19C	Total Boron (B)	µg/L	6/2019 - 11/2020	5	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-19C	Dissolved Cadmium (Cd)	µg/L	6/2018 - 11/2020	9	22%	0.01	0.014	<0.010	<0.010	0.01	0.014	0.01	0.002	Normal	Normal (KM)	0.017	0.0185
MW-19C	Total Cadmium (Cd)	µg/L	6/2019 - 11/2020	5	0%	0.011	0.019	--	--	0.011	0.019	0.02	0.003	Normal	Normal	0.028	0.0324
MW-19C	Dissolved Calcium (Ca)	µg/L	6/2018 - 11/2020	9	0%	9800	14000	--	--	9800	14000	11422	1284	Normal	Normal	15314	16741
MW-19C	Total Calcium (Ca)	µg/L	6/2019 - 11/2020	5	0%	10000	12000	--	--	10000	12000	10500	775	Not Normal	Normal **	13755	14947
MW-19C	Dissolved Chromium (Cr)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-19C	Total Chromium (Cr)	µg/L	6/2019 - 11/2020	5	40%	1.1	1.4	<1.0	<1.0	<1.0	1.4	1.16	0.162	Normal	Normal (KM)	1.84	2.09
MW-19C	Dissolved Cobalt (Co)	µg/L	6/2018 - 11/2020	9	78%	0.94	1.2	<0.40	<0.40	<0.40	1.2	0.55	0.285	Not tested	Maximum	1.20	1.20
MW-19C	Total Cobalt (Co)	µg/L	6/2019 - 11/2020	5	20%	0.43	0.6	<0.40	<0.40	<0.40	0.6	0.47	0.069	Normal	Normal (KM)	0.760	0.866
MW-19C	Dissolved Copper (Cu)	µg/L	6/2018 - 11/2020	9	22%	0.54	2.1	<2.0	<2.0	0.54	2.1	0.80	0.467	Not Normal	Normal (KM) **	2.22	2.74
MW-19C	Total Copper (Cu)	µg/L	6/2019 - 11/2020	5	0%	1.65	3.1	--	--	1.65	3.1	2.59	0.516	Normal	Normal	4.76	5.55
MW-19C	Dissolved Iron (Fe)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-19C	Total Iron (Fe)	µg/L	6/2019 - 11/2020	5	0%	325	910	--	--	325	910	633	258	Normal	Normal	1716	2112
MW-19C	Dissolved Lead (Pb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-19C	Total Lead (Pb)	µg/L	6/2019 - 11/2020	5	80%	1.2	1.2	<0.50	<0.50	<0.50	1.2	--	--	Not tested	Maximum	1.20	1.20
MW-19C	Dissolved Magnesium (Mg)	µg/L	6/2018 - 11/2020	9	0%	880	1300	--	--	880	1300	1056	150	Normal	Normal	1510	1676
MW-19C	Total Magnesium (Mg)	µg/L	6/2019 - 11/2020	5	0%	995	1300	--	--	995	1300	1119	118	Normal	Normal	1613	1795
MW-19C	Dissolved Manganese (Mn)	µg/L	6/2018 - 11/2020	9	0%	10	170	--	--	10	170	3.47	1.11	Gamma	WH Approx. Gamma	320	527
MW-19C	Total Manganese (Mn)	µg/L	6/2019 - 11/2020	5	0%	19	48	--	--	19	48	35.2	9.99	Normal	Normal	77.2	92.5
MW-19C	Dissolved Molybdenum (Mo)	µg/L	6/2018 - 11/2020	9	0%	8.6	18	--	--	8.6	18	11.8	2.90	Normal	Normal	20.6	23.8
MW-19C	Total Molybdenum (Mo)	µg/L	6/2019 - 11/2020	5	0%	8.85	12	--	--	8.85	12	10.0	1.26	Normal	Normal	15.3	17.2
MW-19C	Dissolved Nickel (Ni)	µg/L	6/2018 - 11/2020	9	0%	2.15	4	--	--	2.15	4	1.41	0.103	Gamma	WH Approx. Gamma	5.10	6.18
MW-19C	Total Nickel (Ni)	µg/L	6/2019 - 11/2020	5	0%	2.75	3.9	--	--	2.75	3.9	3.49	0.432	Normal	Normal	5.30	5.97
MW-19C	Dissolved Phosphorus (P)	µg/L	6/2018 - 11/2020	9	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-19C	Total Phosphorus (P)	µg/L	6/2019 - 11/2020	5	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-19C	Dissolved Potassium (K)	µg/L	6/2018 - 11/2020	9	0%	1300	2100	--	--	1300	2100	1533	291	Not Normal	Normal **	2414	2737
MW-19C	Total Potassium (K)	µg/L	6/2019 - 11/2020	5	0%	1300	1600	--	--	1300	1600	1460	102	Normal	Normal	1889	2045
MW-19C	Dissolved Selenium (Se)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-19C	Total Selenium (Se)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-19C	Dissolved Silver (Ag)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-19C	Total Silver (Ag)	µg/L	6/2019 - 11/2020	5	20%	0.13	0.4	<0.10	<0.10	<0.10	0.4	0.20	0.105	Normal	Normal (KM)	0.642	0.804
MW-19C	Dissolved Sodium (Na)	µg/L	6/2018 - 11/2020	9	0%	5000	10000	--	--	5000	10000	18.8	1.64	Gamma	WH Approx. Gamma	13423	16759
MW-19C	Total Sodium (Na)	µg/L	6/2019 - 11/2020	5	0%	5000	6000	--	--	5000	6000	5450	385	Normal	Normal	7067	7659
MW-19C	Dissolved Strontium (Sr)	µg/L	6/2018 - 11/2020	9	0%	59	110	--	--	59	110	77.1	14.8	Normal	Normal	122	138
MW-19C	Total Strontium (Sr)	µg/L	6/2019 - 11/2020	5	0%	60	88	--	--	60	88	70.2	9.43	Normal	Normal	110	124
MW-19C	Dissolved Thallium (Tl)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-19C	Total Thallium (Tl)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-19C	Dissolved Tin (Sn)	µg/L	6/2018 - 11/2020	9	89%	2.3	2.3	<2.0	<2.0	<2.0	2.3	--	--	Not tested	Maximum	2.30	2.30
MW-19C	Total Tin (Sn)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-19C	Dissolved Titanium (Ti)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-19C	Total Titanium (Ti)	µg/L	6/2019 - 11/2020	5	0%	12	32	--	--	12	32	22.0	8.58	Normal	Normal	58.1	71.3
MW-19C	Dissolved Uranium (U)	µg/L	6/2018 - 11/2020	9	67%	0.11	0.13	<0.10	<0.10	<0.10	0.13	0.11	0.011	Not tested	Maximum	0.130	0.130
MW-19C	Total Uranium (U)	µg/L	6/2019 - 11/2020	5	0%	0.11	0.18	--	--	0.11	0.18	0.14	0.028	Normal	Normal	0.260	0.304
MW-19C	Dissolved Vanadium (V)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-19C	Total Vanadium (V)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-19C	Dissolved Zinc (Zn)	µg/L	6/2018 - 11/2020	9	11%	5.2	15	<5.0	<5.0	<5.0	15	8.34	3.21	Normal	Normal (KM)	18.1	21.7
MW-19C	Total Zinc (Zn)	µg/L	6/2019 - 11/2020	5	0%	5.5	16	--	--	5.5	16	10.5	4.58	Normal	Normal	29.8	36.8
MW-19C	Dissolved Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
MW-19C	Total Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
	Calculated Parameters																
MW-20A	Anion Sum	me/L	6/2018 - 11/2020	9	0%	0.04	0.76	--	--	0.04	0.76	0.33	0.181	Normal	Normal	0.874	1.07
MW-20A	Bicarb. Alkalinity (calc. as CaCO3	mg/L	6/2018 - 11/2020	9	22%	5.1	26.5	<1.0	<1.0	<1.0	26.5	1.81	0.556	Gamma	WH Approx. Gamma (KM	42.6	69.5
MW-20A	Calculated TDS	mg/L	6/2018 - 11/2020	9	0%	8	49.5	--	--	8	49.5	24.4	10.5	Normal	Normal	56.3	68.0
MW-20A	Carb. Alkalinity (calc. as CaCO3)	mg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-20A	Cation Sum	me/L	6/2018 - 11/2020	9	0%	0.13	0.67	--	--	0.13	0.67	0.65	0.093	Gamma	WH Approx. Gamma	0.803	1.10
MW-20A	Hardness (CaCO3)	mg/L	6/2018 - 11/2020	9	0%	3.2	24.05	--	--	3.2	24.05	1.81	0.563	Lognormal	Lognormal	33.6	62.8
MW-20A	Ion Balance (% Difference)	%	6/2018 - 11/2020	9	0%	5	52.9	--	--	5	52.9	14.2	13.9	Not Normal	Normal **	56.2	71.6
MW-20A	Langelier Index (@ 20C)	N/A	6/2018 - 11/2020	7	0%	-4.76	-2.515	--	--	-4.76	-2.515	-4.03	0.686	Normal	Normal	-1.69	-0.84
MW-20A	Langelier Index (@ 4C)	N/A	6/2018 - 11/2020	7	0%	-5.01	-2.77	--	--	-5.01	-2.77	-4.28	0.684	Normal	Normal	-1.95	-1.10
MW-20A	Nitrate (N)	mg/L	6/2018 - 11/2020	9	0%	0.21	1.2	--	--	0.21	1.2	0.56	0.316	Normal	Normal	1.51	1.87
MW-20A	Saturation pH (@ 20C)	N/A	6/2018 - 11/2020	7	0%	9.25	10.6	--	--	9.25	10.6	10.2	0.404	Normal	Normal	11.5	12.0
MW-20A	Saturation pH (@ 4C)	N/A	6/2018 - 11/2020	7	0%	9.515	10.9	--	--	9.515	10.9	10.4	0.400	Normal	Normal	11.8	12.3
	Inorganics																
MW-20A	Total Alkalinity (Total as CaCO3)	mg/L	6/2018 - 11/2020	9	22%	5.1	26.5	<5.0	<5.0	<5.0	26.5	8.53	6.46	Not Normal	Normal (KM) **	28.1	35.3
MW-20A	Total Chemical Oxygen Demand	mg/L	11/2020 - 11/2020	1	100%	--	--	<20	<20	<20	<20	--	--	Not tested	Reporting Limit	<20	<20
MW-20A	Dissolved Chloride (Cl-)	mg/L	6/2018 - 11/2020	9	11%	1.45	4.8	<1.0	<1.0	<1.0	4.8	2.85	1.10	Normal	Normal (KM)	6.18	7.40
MW-20A	Colour	TCU	6/2018 - 11/2020	9	89%	5.5	5.5	<5.0	<5.0	<5.0	5.5	--	--	Not tested	Maximum	5.50	5.50
MW-20A	Nitrate + Nitrite (N)	mg/L	6/2018 - 11/2020	9	0%	0.21	1.2	--	--	0.21	1.2	0.56	0.316	Normal	Normal	1.51	1.87
MW-20A	Nitrite (N)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-20A	Nitrogen (Ammonia Nitrogen)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.050	<0.050	<0.050	<0.050	--	--	Not tested	Reporting Limit	<0.050	<0.050
MW-20A	Dissolved Organic Carbon (C)	mg/L	11/2020 - 11/2020	1	0%	1	1	--	--	1	1	--	--	Not tested	Maximum	1.00	1.00
MW-20A	Total Organic Carbon (C)	mg/L	6/2018 - 7/2020	8	0%	0.97	1.8	--	--	0.97	1.8	1.32	0.249	Normal	Normal	2.11	2.40
MW-20A	Orthophosphate (P)	mg/L	6/2018 - 11/2020	9	67%	0.01	0.17	<0.010	<0.010	<0.010	0.17	0.03	0.050	Not tested	Maximum	0.170	0.170
MW-20A	pH (LTL - UTL)	s.u.	6/2018 - 11/2020	9	0%	5.15	6.735	--	--	5.15	6.735	5.99	0.423	Normal	Normal	4.49 - 7.48	4.06 - 7.91
MW-20A	Dissolved Phosphorous	mg/L	11/2020 - 11/2020	1	0%	0.063	0.063	--	--	0.063	0.063	--	--	Not tested	Maximum	0.063	0.0630
MW-20A	Total Phosphorus	mg/L	11/2020 - 11/2020	1	0%	0.03	0.03	--	--	0.03	0.03	--	--	Not tested	Maximum	0.030	0.0300
MW-20A	Reactive Silica (SiO2)	mg/L	6/2018 - 11/2020	9	0%	3.2	9.6	--	--	3.2	9.6	5.72	1.89	Normal	Normal	11.4	13.5
MW-20A	Total Suspended Solids	mg/L	11/2020 - 11/2020	1	0%	28	28	--	--	28	28	--	--	Not tested	Maximum	28.0	28.0
MW-20A	Dissolved Sulphate (SO4)	mg/L	6/2018 - 11/2020	9	11%	2.3	5.8	<2.0	<2.0	<2.0	5.8	1.08	0.345	Lognormal	Lognormal (KM)	8.34	12.2
MW-20A	Turbidity	NTU	6/2018 - 11/2020	9	0%	3	7.8	--	--	3	7.8	5.06	1.22	Normal	Normal	8.76	10.1
MW-20A	Conductivity	µS/cm	6/2018 - 11/2020	9	0%	26	75.5	--	--	26	75.5	36.9	14.2	Not Normal	Normal **	79.8	95.6
	Metals																
MW-20A	Dissolved Aluminum (Al)	µg/L	6/2018 - 11/2020	9	0%	11.85	660	--	--	11.85	660	4.80	1.70	Gamma	WH Approx. Gamma	984	1658
MW-20A	Total Aluminum (Al)	µg/L	6/2019 - 11/2020	5	0%	265	810	--	--	265	810	525	194	Normal	Normal	1341	1639
MW-20A	Dissolved Antimony (Sb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-20A	Total Antimony (Sb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-20A	Dissolved Arsenic (As)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-20A	Total Arsenic (As)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-20A	Dissolved Barium (Ba)	µg/L	6/2018 - 11/2020	9	0%	4.4	13	--	--	4.4	13	1.87	0.213	Gamma	WH Approx. Gamma	16.0	20.9
MW-20A	Total Barium (Ba)	µg/L	6/2019 - 11/2020	5	0%	6.1	13	--	--	6.1	13	9.80	2.52	Normal	Normal	20.4	24.2
MW-20A	Dissolved Beryllium (Be)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-20A	Total Beryllium (Be)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-20A	Dissolved Bismuth (Bi)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-20A	Total Bismuth (Bi)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-20A	Dissolved Boron (B)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-20A	Total Boron (B)	µg/L	6/2019 - 11/2020	5	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-20A	Dissolved Cadmium (Cd)	µg/L	6/2018 - 11/2020	9	0%	0.027	0.043	--	--	0.027	0.043	0.04	0.005	Normal	Normal	0.051	0.0569
MW-20A	Total Cadmium (Cd)	µg/L	6/2019 - 11/2020	5	0%	0.0295	0.051	--	--	0.0295	0.051	0.04	0.007	Normal	Normal	0.070	0.0807
MW-20A	Dissolved Calcium (Ca)	µg/L	6/2018 - 11/2020	9	0%	750	8000	--	--	750	8000	7.34	0.665	Lognormal	Lognormal	11608	24317
MW-20A	Total Calcium (Ca)	µg/L	6/2019 - 11/2020	5	0%	730	1750	--	--	730	1750	1330	408	Normal	Normal	3044	3672
MW-20A	Dissolved Chromium (Cr)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-20A	Total Chromium (Cr)	µg/L	6/2019 - 11/2020	5	80%	1.45	1.45	<1.0	<1.0	<1.0	1.45	--	--	Not tested	Maximum	1.45	1.45
MW-20A	Dissolved Cobalt (Co)	µg/L	6/2018 - 11/2020	9	11%	1.1	7.3	<0.40	<0.40	<0.40	7.3	4.09	2.44	Normal	Normal (KM)	11.5	14.2
MW-20A	Total Cobalt (Co)	µg/L	6/2019 - 11/2020	5	0%	1.4	8.85	--	--	1.4	8.85	4.87	2.80	Normal	Normal	16.7	21.0
MW-20A	Dissolved Copper (Cu)	µg/L	6/2018 - 11/2020	9	0%	2.05	25	--	--	2.05	25	13.2	7.44	Normal	Normal	35.8	44.1
MW-20A	Total Copper (Cu)	µg/L	6/2019 - 11/2020	5	0%	10	29	--	--	10	29	16.8	6.49	Normal	Normal	44.1	54.1
MW-20A	Dissolved Iron (Fe)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-20A	Total Iron (Fe)	µg/L	6/2019 - 11/2020	5	0%	180	570	--	--	180	570	328	134	Normal	Normal	890	1096
MW-20A	Dissolved Lead (Pb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-20A	Total Lead (Pb)	µg/L	6/2019 - 11/2020	5	80%	0.615	0.615	<0.50	<0.50	<0.50	0.615	--	--	Not tested	Maximum	0.615	0.615
MW-20A	Dissolved Magnesium (Mg)	µg/L	6/2018 - 11/2020	9	0%	320	1135	--	--	320	1135	573	227	Normal	Normal	1262	1515
MW-20A	Total Magnesium (Mg)	µg/L	6/2019 - 11/2020	5	0%	370	740	--	--	370	740	574	127	Normal	Normal	1109	1305
MW-20A	Dissolved Manganese (Mn)	µg/L	6/2018 - 11/2020	9	0%	38.5	150	--	--	38.5	150	60.8	32.4	Not Normal	Normal **	159	195
MW-20A	Total Manganese (Mn)	µg/L	6/2019 - 11/2020	5	0%	51.5	72.5	--	--	51.5	72.5	59.2	7.09	Normal	Normal	89.0	99.9
MW-20A	Dissolved Molybdenum (Mo)	µg/L	6/2018 - 11/2020	9	89%	2.3	2.3	<2.0	<2.0	<2.0	2.3	--	--	Not tested	Maximum	2.30	2.30
MW-20A	Total Molybdenum (Mo)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-20A	Dissolved Nickel (Ni)	µg/L	6/2018 - 11/2020	9	0%	2.8	26	--	--	2.8	26	13.4	7.20	Normal	Normal	35.2	43.2
MW-20A	Total Nickel (Ni)	µg/L	6/2019 - 11/2020	5	0%	5.9	23	--	--	5.9	23	15.7	5.84	Normal	Normal	40.2	49.2
MW-20A	Dissolved Phosphorus (P)	µg/L	6/2018 - 11/2020	9	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-20A	Total Phosphorus (P)	µg/L	6/2019 - 11/2020	5	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-20A	Dissolved Potassium (K)	µg/L	6/2018 - 11/2020	9	0%	280	985	--	--	280	985	534	203	Normal	Normal	1148	1374
MW-20A	Total Potassium (K)	µg/L	6/2019 - 11/2020	5	0%	460	770	--	--	460	770	558	116	Normal	Normal	1046	1225
MW-20A	Dissolved Selenium (Se)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-20A	Total Selenium (Se)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-20A	Dissolved Silver (Ag)	µg/L	6/2018 - 11/2020	9	78%	0.12	0.17	<0.10	<0.10	<0.10	0.17	0.11	0.022	Not tested	Maximum	0.170	0.170
MW-20A	Total Silver (Ag)	µg/L	6/2019 - 11/2020	5	0%	0.12	0.56	--	--	0.12	0.56	0.28	0.153	Normal	Normal	0.920	1.16
MW-20A	Dissolved Sodium (Na)	µg/L	6/2018 - 11/2020	9	0%	1100	3800	--	--	1100	3800	2856	710	Not Normal	Normal **	5009	5799
MW-20A	Total Sodium (Na)	µg/L	6/2019 - 11/2020	5	0%	1100	3150	--	--	1100	3150	2470	764	Normal	Normal	5681	6856
MW-20A	Dissolved Strontium (Sr)	µg/L	6/2018 - 11/2020	9	0%	10	48	--	--	10	48	17.9	10.9	Not Normal	Normal **	51.0	63.2
MW-20A	Total Strontium (Sr)	µg/L	6/2019 - 11/2020	5	0%	11	17	--	--	11	17	14.2	2.32	Normal	Normal	23.9	27.5
MW-20A	Dissolved Thallium (Tl)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-20A	Total Thallium (Tl)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-20A	Dissolved Tin (Sn)	µg/L	6/2018 - 11/2020	9	78%	2.3	4	<2.0	<2.0	<2.0	4	2.26	0.624	Not tested	Maximum	4.00	4.00
MW-20A	Total Tin (Sn)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-20A	Dissolved Titanium (Ti)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-20A	Total Titanium (Ti)	µg/L	6/2019 - 11/2020	5	0%	5	15	--	--	5	15	9.32	3.31	Normal	Normal	23.2	28.3
MW-20A	Dissolved Uranium (U)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-20A	Total Uranium (U)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-20A	Dissolved Vanadium (V)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-20A	Total Vanadium (V)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-20A	Dissolved Zinc (Zn)	µg/L	6/2018 - 11/2020	9	0%	10	51	--	--	10	51	28.4	13.5	Normal	Normal	69.2	84.2
MW-20A	Total Zinc (Zn)	µg/L	6/2019 - 11/2020	5	0%	19	48	--	--	19	48	33.3	9.88	Normal	Normal	74.8	90.0
MW-20A	Dissolved Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
MW-20A	Total Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
	Calculated Parameters																
MW-20B	Anion Sum	me/L	6/2018 - 11/2020	9	0%	0.18	2.23	--	--	0.18	2.23	1.29	0.925	Not Normal	Normal **	4.09	5.12
MW-20B	Bicarb. Alkalinity (calc. as CaCO3	mg/L	6/2018 - 11/2020	9	11%	5.5	96	<1.0	<1.0	<1.0	96	52.4	42.8	Not Normal	Normal (KM) **	182	230
MW-20B	Calculated TDS	mg/L	6/2018 - 11/2020	9	0%	19	120	--	--	19	120	74.3	47.0	Not Normal	Normal **	217	269
MW-20B	Carb. Alkalinity (calc. as CaCO3)	mg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-20B	Cation Sum	me/L	6/2018 - 11/2020	9	0%	0.22	2.01	--	--	0.22	2.01	1.14	0.820	Not Normal	Normal **	3.62	4.53
MW-20B	Hardness (CaCO3)	mg/L	6/2018 - 11/2020	9	0%	4.9	74	--	--	4.9	74	40.0	31.7	Not Normal	Normal **	136	171
MW-20B	Ion Balance (% Difference)	%	6/2018 - 11/2020	9	0%	0.75	21.1	--	--	0.75	21.1	9.01	6.30	Normal	Normal	28.1	35.1
MW-20B	Langelier Index (@ 20C)	N/A	6/2018 - 7/2020	8	0%	-4.63	-0.041	--	--	-4.63	-0.041	-1.66	1.93	Not Normal	Normal **	4.48	6.73
MW-20B	Langelier Index (@ 4C)	N/A	6/2018 - 7/2020	8	0%	-4.88	-0.291	--	--	-4.88	-0.291	-1.91	1.93	Not Normal	Normal **	4.23	6.48
MW-20B	Nitrate (N)	mg/L	6/2018 - 11/2020	9	22%	0.052	0.92	<0.050	<0.050	<0.050	0.92	-1.87	1.14	Lognormal	Lognormal (KM)	4.84	17.2
MW-20B	Saturation pH (@ 20C)	N/A	6/2018 - 7/2020	8	0%	8.03	10.5	--	--	8.03	10.5	8.98	1.13	Not Normal	Normal **	12.6	13.9
MW-20B	Saturation pH (@ 4C)	N/A	6/2018 - 7/2020	8	0%	8.28	10.7	--	--	8.28	10.7	9.21	1.11	Not Normal	Normal **	12.7	14.0
	Inorganics																
MW-20B	Total Alkalinity (Total as CaCO3)	mg/L	6/2018 - 11/2020	9	11%	5.5	97	<5.0	<5.0	<5.0	97	53.1	42.6	Not Normal	Normal (KM) **	182	230
MW-20B	Total Chemical Oxygen Demand	mg/L	11/2020 - 11/2020	1	100%	--	--	<20	<20	<20	<20	--	--	Not tested	Reporting Limit	<20	<20
MW-20B	Dissolved Chloride (Cl-)	mg/L	6/2018 - 11/2020	9	0%	2	3.6	--	--	2	3.6	2.87	0.546	Normal	Normal	4.52	5.13
MW-20B	Colour	TCU	6/2018 - 11/2020	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	Not tested	Reporting Limit	<5.0	<5.0
MW-20B	Nitrate + Nitrite (N)	mg/L	6/2018 - 11/2020	9	22%	0.052	0.92	<0.050	<0.050	<0.050	0.92	-1.87	1.14	Lognormal	Lognormal (KM)	4.84	17.2
MW-20B	Nitrite (N)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-20B	Nitrogen (Ammonia Nitrogen)	mg/L	6/2018 - 11/2020	9	89%	0.054	0.054	<0.050	<0.050	<0.050	0.054	--	--	Not tested	Maximum	0.054	0.0540
MW-20B	Dissolved Organic Carbon (C)	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.5	<0.5	<0.5	<0.5	--	--	Not tested	Reporting Limit	<0.5	<0.5
MW-20B	Total Organic Carbon (C)	mg/L	6/2018 - 11/2020	9	67%	0.45	0.84	<0.50	<0.50	0.45	0.84	0.53	0.149	Not tested	Maximum	0.840	0.840
MW-20B	Orthophosphate (P)	mg/L	6/2018 - 11/2020	9	67%	0.01	0.015	<0.010	<0.010	<0.010	0.015	0.01	0.002	Not tested	Maximum	0.015	0.0150
MW-20B	pH (LTL - UTL)	s.u.	6/2018 - 11/2020	9	0%	5.76	8.02	--	--	5.76	8.02	7.14	0.911	Not Normal	Normal **	3.91 - 10.36	2.99 - 11.29
MW-20B	Dissolved Phosphorous	mg/L	11/2020 - 11/2020	1	0%	0.028	0.028	--	--	0.028	0.028	--	--	Not tested	Maximum	0.028	0.0280
MW-20B	Total Phosphorus	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-20B	Reactive Silica (SiO2)	mg/L	6/2018 - 11/2020	9	0%	4.9	13	--	--	4.9	13	9.61	2.97	Not Normal	Normal **	18.6	21.9
MW-20B	Total Suspended Solids	mg/L	11/2020 - 11/2020	1	0%	1.8	1.8	--	--	1.8	1.8	--	--	Not tested	Maximum	1.80	1.80
MW-20B	Dissolved Sulphate (SO4)	mg/L	6/2018 - 11/2020	9	0%	2.2	10	--	--	2.2	10	6.60	3.44	Not Normal	Normal **	17.0	20.8
MW-20B	Turbidity	NTU	6/2018 - 11/2020	9	11%	0.12	11	<0.10	<0.10	<0.10	11	1.16	0.615	Gamma	WH Approx. Gamma (KM	27.6	50.9
MW-20B	Conductivity	µS/cm	6/2018 - 11/2020	9	0%	28	200	--	--	28	200	120	80.7	Not Normal	Normal **	365	454
	Metals																
MW-20B	Dissolved Aluminum (Al)	µg/L	6/2018 - 11/2020	9	0%	7.3	190	--	--	7.3	190	3.26	1.30	Gamma	WH Approx. Gamma	374	647
MW-20B	Total Aluminum (Al)	µg/L	6/2019 - 11/2020	5	0%	31	1400	--	--	31	1400	5.88	2.79	Gamma	WH Approx. Gamma	5471	10531
MW-20B	Dissolved Antimony (Sb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-20B	Total Antimony (Sb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-20B	Dissolved Arsenic (As)	µg/L	6/2018 - 11/2020	9	44%	7	10	<1.0	<1.0	<1.0	10	5.10	3.74	Not Normal	Normal (KM) **	16.4	20.6
MW-20B	Total Arsenic (As)	µg/L	6/2019 - 11/2020	5	80%	8.8	8.8	<1.0	<1.0	<1.0	8.8	--	--	Not tested	Maximum	8.80	8.80
MW-20B	Dissolved Barium (Ba)	µg/L	6/2018 - 11/2020	9	0%	4.4	12	--	--	4.4	12	7.89	2.97	Normal	Normal	16.9	20.2
MW-20B	Total Barium (Ba)	µg/L	6/2019 - 11/2020	5	0%	4.5	10	--	--	4.5	10	5.86	2.08	Not Normal	Normal **	14.6	17.8

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-20B	Dissolved Beryllium (Be)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-20B	Total Beryllium (Be)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-20B	Dissolved Bismuth (Bi)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-20B	Total Bismuth (Bi)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-20B	Dissolved Boron (B)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-20B	Total Boron (B)	µg/L	6/2019 - 11/2020	5	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-20B	Dissolved Cadmium (Cd)	µg/L	6/2018 - 11/2020	9	22%	0.01	0.027	<0.010	<0.010	<0.010	0.027	0.25	0.034	Gamma	WH Approx. Gamma (KM	0.045	0.0607
MW-20B	Total Cadmium (Cd)	µg/L	6/2019 - 11/2020	5	20%	0.019	0.026	<0.010	<0.010	<0.010	0.026	0.02	0.005	Normal	Normal (KM)	0.043	0.0514
MW-20B	Dissolved Calcium (Ca)	µg/L	6/2018 - 11/2020	9	0%	1100	22000	--	--	1100	22000	11778	9700	Not Normal	Normal **	41182	51966
MW-20B	Total Calcium (Ca)	µg/L	6/2019 - 11/2020	5	0%	1100	21000	--	--	1100	21000	5200	7901	Not Normal	Normal **	38404	50558
MW-20B	Dissolved Chromium (Cr)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-20B	Total Chromium (Cr)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-20B	Dissolved Cobalt (Co)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	Not tested	Reporting Limit	<0.40	<0.40
MW-20B	Total Cobalt (Co)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.40	<0.40	<0.40	<0.40	--	--	Not tested	Reporting Limit	<0.40	<0.40
MW-20B	Dissolved Copper (Cu)	µg/L	6/2018 - 11/2020	9	56%	0.63	2.7	<0.50	<2.0	<0.50	2.7	0.95	0.723	Not tested	Normal (KM) **	2.70	2.70
MW-20B	Total Copper (Cu)	µg/L	6/2019 - 11/2020	5	60%	0.81	1.1	<0.50	<0.50	<0.50	1.1	0.68	0.241	Not tested	Maximum	1.10	1.10
MW-20B	Dissolved Iron (Fe)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-20B	Total Iron (Fe)	µg/L	6/2019 - 11/2020	5	80%	430	430	<50	<50	<50	430	--	--	Not tested	Maximum	430	430
MW-20B	Dissolved Lead (Pb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-20B	Total Lead (Pb)	µg/L	6/2019 - 11/2020	5	80%	0.63	0.63	<0.50	<0.50	<0.50	0.63	--	--	Not tested	Maximum	0.630	0.630
MW-20B	Dissolved Magnesium (Mg)	µg/L	6/2018 - 11/2020	9	0%	520	4700	--	--	520	4700	2638	1889	Not Normal	Normal **	8364	10464
MW-20B	Total Magnesium (Mg)	µg/L	6/2019 - 11/2020	5	0%	530	4700	--	--	530	4700	1404	1649	Not Normal	Normal **	8333	10869
MW-20B	Dissolved Manganese (Mn)	µg/L	6/2018 - 11/2020	9	0%	27	110	--	--	27	110	3.71	0.583	Gamma	WH Approx. Gamma	164	230
MW-20B	Total Manganese (Mn)	µg/L	6/2019 - 11/2020	5	0%	26	51	--	--	26	51	37.2	9.24	Normal	Normal	76.0	90.2
MW-20B	Dissolved Molybdenum (Mo)	µg/L	6/2018 - 11/2020	9	56%	5.5	6.8	<2.0	<2.0	<2.0	6.8	3.97	2.23	Not tested	Normal (KM) **	6.80	6.80
MW-20B	Total Molybdenum (Mo)	µg/L	6/2019 - 11/2020	5	80%	7.1	7.1	<2.0	<2.0	<2.0	7.1	--	--	Not tested	Maximum	7.10	7.10
MW-20B	Dissolved Nickel (Ni)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-20B	Total Nickel (Ni)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-20B	Dissolved Phosphorus (P)	µg/L	6/2018 - 11/2020	9	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-20B	Total Phosphorus (P)	µg/L	6/2019 - 11/2020	5	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-20B	Dissolved Potassium (K)	µg/L	6/2018 - 11/2020	9	0%	200	1800	--	--	200	1800	988	647	Normal	Normal	2949	3668
MW-20B	Total Potassium (K)	µg/L	6/2019 - 11/2020	5	0%	180	1100	--	--	180	1100	5.84	0.610	Lognormal	Lognormal	4469	11423
MW-20B	Dissolved Selenium (Se)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-20B	Total Selenium (Se)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-20B	Dissolved Silver (Ag)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-20B	Total Silver (Ag)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-20B	Dissolved Sodium (Na)	µg/L	6/2018 - 11/2020	9	0%	2300	13000	--	--	2300	13000	7011	3941	Normal	Normal	18958	23340
MW-20B	Total Sodium (Na)	µg/L	6/2019 - 11/2020	5	0%	2200	13000	--	--	2200	13000	4820	4102	Not Normal	Normal **	22059	28369
MW-20B	Dissolved Strontium (Sr)	µg/L	6/2018 - 11/2020	9	0%	14	280	--	--	14	280	146	121	Not Normal	Normal **	514	649
MW-20B	Total Strontium (Sr)	µg/L	6/2019 - 11/2020	5	0%	14	260	--	--	14	260	64.0	98.0	Not Normal	Normal **	476	627
MW-20B	Dissolved Thallium (Tl)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-20B	Total Thallium (Tl)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-20B	Dissolved Tin (Sn)	µg/L	6/2018 - 11/2020	9	78%	2.1	2.1	<2.0	<2.0	<2.0	2.1	2.02	0.042	Not tested	Maximum	2.10	2.10
MW-20B	Total Tin (Sn)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-20B	Dissolved Titanium (Ti)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-20B	Total Titanium (Ti)	µg/L	6/2019 - 11/2020	5	80%	12	12	<2.0	<2.0	<2.0	12	--	--	Not tested	Maximum	12.0	12.0
MW-20B	Dissolved Uranium (U)	µg/L	6/2018 - 11/2020	9	44%	0.45	0.88	<0.10	<0.10	<0.10	0.88	0.48	0.361	Not Normal	Normal (KM) **	1.57	1.97
MW-20B	Total Uranium (U)	µg/L	6/2019 - 11/2020	5	80%	1.3	1.3	<0.10	<0.10	<0.10	1.3	--	--	Not tested	Maximum	1.30	1.30
MW-20B	Dissolved Vanadium (V)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-20B	Total Vanadium (V)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-20B	Dissolved Zinc (Zn)	µg/L	6/2018 - 11/2020	9	78%	5.2	17	<5.0	<5.0	<5.0	17	6.36	3.76	Not tested	Maximum	17.0	17.0
MW-20B	Total Zinc (Zn)	µg/L	6/2019 - 11/2020	5	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	Not tested	Reporting Limit	<5.0	<5.0
MW-20B	Dissolved Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
MW-20B	Total Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
	Calculated Parameters																
MW-21A	Anion Sum	me/L	6/2018 - 11/2020	9	0%	0.18	0.46	--	--	0.18	0.46	0.30	0.082	Normal	Normal	0.553	0.644
MW-21A	Bicarb. Alkalinity (calc. as CaCO3	mg/L	6/2018 - 11/2020	9	0%	5.3	16	--	--	5.3	16	9.01	3.23	Normal	Normal	18.8	22.4
MW-21A	Calculated TDS	mg/L	6/2018 - 11/2020	9	0%	17	32	--	--	17	32	22.9	5.02	Normal	Normal	38.1	43.7
MW-21A	Carb. Alkalinity (calc. as CaCO3)	mg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-21A	Cation Sum	me/L	6/2018 - 11/2020	9	0%	0.215	0.4	--	--	0.215	0.4	0.27	0.064	Not Normal	Normal **	0.465	0.536
MW-21A	Hardness (CaCO3)	mg/L	6/2018 - 11/2020	9	0%	4.7	9.9	--	--	4.7	9.9	6.52	1.52	Normal	Normal	11.1	12.8
MW-21A	Ion Balance (% Difference)	%	6/2018 - 11/2020	9	0%	2.04	13.15	--	--	2.04	13.15	7.85	3.30	Normal	Normal	17.9	21.5
MW-21A	Langelier Index (@ 20C)	N/A	6/2018 - 11/2020	9	0%	-4.75	-3.75	--	--	-4.75	-3.75	-4.23	0.318	Normal	Normal	-3.27	-2.91
MW-21A	Langelier Index (@ 4C)	N/A	6/2018 - 11/2020	9	0%	-5	-4	--	--	-5	-4	-4.49	0.316	Normal	Normal	-3.53	-3.17
MW-21A	Nitrate (N)	mg/L	6/2018 - 11/2020	9	0%	0.066	0.67	--	--	0.066	0.67	0.37	0.172	Normal	Normal	0.888	1.08
MW-21A	Saturation pH (@ 20C)	N/A	6/2018 - 11/2020	9	0%	9.69	10.4	--	--	9.69	10.4	10.2	0.226	Normal	Normal	10.9	11.1
MW-21A	Saturation pH (@ 4C)	N/A	6/2018 - 11/2020	9	0%	9.94	10.7	--	--	9.94	10.7	10.4	0.223	Normal	Normal	11.1	11.3

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
	Inorganics																
MW-21A	Total Alkalinity (Total as CaCO3)	mg/L	6/2018 - 11/2020	9	0%	5.3	16	--	--	5.3	16	9.01	3.23	Normal	Normal	18.8	22.4
MW-21A	Total Chemical Oxygen Demand	mg/L	11/2020 - 11/2020	1	100%	--	--	<20	<20	<20	<20	--	--	Not tested	Reporting Limit	<20	<20
MW-21A	Dissolved Chloride (Cl-)	mg/L	6/2018 - 11/2020	9	11%	1.3	3.1	<1.0	<1.0	<1.0	3.1	1.99	0.665	Normal	Normal (KM)	4.01	4.75
MW-21A	Colour	TCU	6/2018 - 11/2020	9	44%	5.6	8	<5.0	<5.0	<5.0	8	5.63	0.899	Not Normal	Normal (KM) **	8.36	9.36
MW-21A	Nitrate + Nitrite (N)	mg/L	6/2018 - 11/2020	9	0%	0.066	0.67	--	--	0.066	0.67	0.37	0.172	Normal	Normal	0.888	1.08
MW-21A	Nitrite (N)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-21A	Nitrogen (Ammonia Nitrogen)	mg/L	6/2018 - 11/2020	9	89%	0.059	0.059	<0.050	<0.050	<0.050	0.059	--	--	Not tested	Maximum	0.059	0.0590
MW-21A	Dissolved Organic Carbon (C)	mg/L	11/2020 - 11/2020	1	0%	2.2	2.2	--	--	2.2	2.2	--	--	Not tested	Maximum	2.20	2.20
MW-21A	Total Organic Carbon (C)	mg/L	6/2018 - 11/2020	8	0%	2	3.3	--	--	2	3.3	2.38	0.423	Normal	Normal	3.72	4.22
MW-21A	Orthophosphate (P)	mg/L	6/2018 - 11/2020	9	89%	0.012	0.012	<0.010	<0.010	<0.010	0.012	--	--	Not tested	Maximum	0.012	0.0120
MW-21A	pH (LTL - UTL)	s.u.	6/2018 - 11/2020	9	0%	5.62	6.36	--	--	5.62	6.36	5.94	0.261	Normal	Normal	5.02 - 6.73	4.75 - 7.03
MW-21A	Dissolved Phosphorous	mg/L	11/2020 - 11/2020	1	0%	0.028	0.028	--	--	0.028	0.028	--	--	Not tested	Maximum	0.028	0.0280
MW-21A	Total Phosphorus	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-21A	Reactive Silica (SiO2)	mg/L	6/2018 - 11/2020	9	0%	4.45	7	--	--	4.45	7	5.83	0.768	Normal	Normal	8.16	9.01
MW-21A	Total Suspended Solids	mg/L	11/2020 - 11/2020	1	0%	23	23	--	--	23	23	--	--	Not tested	Maximum	23.0	23.0
MW-21A	Dissolved Sulphate (SO4)	mg/L	6/2018 - 11/2020	9	11%	2.1	3.45	<2.0	<2.0	<2.0	3.45	2.48	0.452	Normal	Normal (KM)	3.85	4.35
MW-21A	Turbidity	NTU	6/2018 - 11/2020	9	0%	1.1	770	--	--	1.1	770	2.54	1.87	Lognormal	Lognormal	3673	29328
MW-21A	Conductivity	µS/cm	6/2018 - 11/2020	9	0%	26	48.5	--	--	26	48.5	33.6	8.23	Not Normal	Normal **	58.5	67.7
	Metals																
MW-21A	Dissolved Aluminum (Al)	µg/L	6/2018 - 11/2020	9	0%	165	430	--	--	165	430	293	93.0	Normal	Normal	575	679
MW-21A	Total Aluminum (Al)	µg/L	6/2019 - 11/2020	5	0%	430	10000	--	--	430	10000	12.2	5.03	Gamma	WH Approx. Gamma	37114	69366
MW-21A	Dissolved Antimony (Sb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-21A	Total Antimony (Sb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-21A	Dissolved Arsenic (As)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-21A	Total Arsenic (As)	µg/L	6/2019 - 11/2020	5	80%	3	3	<1.0	<1.0	<1.0	3	--	--	Not tested	Maximum	3.00	3.00
MW-21A	Dissolved Barium (Ba)	µg/L	6/2018 - 11/2020	9	0%	7.9	19	--	--	7.9	19	12.5	3.17	Normal	Normal	22.2	25.7
MW-21A	Total Barium (Ba)	µg/L	6/2019 - 11/2020	5	0%	13	88	--	--	13	88	34.7	27.7	Normal	Normal	151	194
MW-21A	Dissolved Beryllium (Be)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-21A	Total Beryllium (Be)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-21A	Dissolved Bismuth (Bi)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-21A	Total Bismuth (Bi)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-21A	Dissolved Boron (B)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-21A	Total Boron (B)	µg/L	6/2019 - 11/2020	5	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-21A	Dissolved Cadmium (Cd)	µg/L	6/2018 - 11/2020	9	0%	0.033	0.066	--	--	0.033	0.066	0.05	0.009	Normal	Normal	0.073	0.0833
MW-21A	Total Cadmium (Cd)	µg/L	6/2019 - 11/2020	5	0%	0.04	0.076	--	--	0.04	0.076	0.05	0.012	Normal	Normal	0.104	0.123
MW-21A	Dissolved Calcium (Ca)	µg/L	6/2018 - 11/2020	9	0%	1100	2550	--	--	1100	2550	1572	410	Normal	Normal	2816	3272
MW-21A	Total Calcium (Ca)	µg/L	6/2019 - 11/2020	5	0%	1100	3500	--	--	1100	3500	1820	863	Normal	Normal	5449	6777
MW-21A	Dissolved Chromium (Cr)	µg/L	6/2018 - 11/2020	9	89%	1.1	1.1	<1.0	<1.0	<1.0	1.1	--	--	Not tested	Maximum	1.10	1.10
MW-21A	Total Chromium (Cr)	µg/L	6/2019 - 11/2020	5	40%	1.85	26	<1.0	<1.0	<1.0	26	1.00	1.21	Lognormal	Lognormal (KM)	431	2754
MW-21A	Dissolved Cobalt (Co)	µg/L	6/2018 - 11/2020	9	0%	1.6	4.2	--	--	1.6	4.2	2.54	0.833	Normal	Normal	5.06	5.99
MW-21A	Total Cobalt (Co)	µg/L	6/2019 - 11/2020	5	0%	2	8.2	--	--	2	8.2	1.49	0.272	Gamma	WH Approx. Gamma	18.2	28.3
MW-21A	Dissolved Copper (Cu)	µg/L	6/2018 - 11/2020	9	33%	0.88	4.4	<2.0	<2.0	0.88	4.4	0.14	0.484	Lognormal	Lognormal (KM)	5.01	8.58
MW-21A	Total Copper (Cu)	µg/L	6/2019 - 11/2020	5	0%	1.45	23	--	--	1.45	23	1.65	0.623	Gamma	WH Approx. Gamma	77.6	143
MW-21A	Dissolved Iron (Fe)	µg/L	6/2018 - 11/2020	9	78%	64.5	65	<50	<50	<50	65	53.3	6.13	Not tested	Maximum	65.0	65.0
MW-21A	Total Iron (Fe)	µg/L	6/2019 - 11/2020	5	0%	74	18000	--	--	74	18000	11.7	7.77	Gamma	WH Approx. Gamma	87191	178382
MW-21A	Dissolved Lead (Pb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-21A	Total Lead (Pb)	µg/L	6/2019 - 11/2020	5	60%	1.45	4.2	<0.50	<0.50	<0.50	4.2	1.43	1.43	Not tested	Maximum	4.20	4.20
MW-21A	Dissolved Magnesium (Mg)	µg/L	6/2018 - 11/2020	9	0%	460	860	--	--	460	860	637	133	Normal	Normal	1042	1190
MW-21A	Total Magnesium (Mg)	µg/L	6/2019 - 11/2020	5	0%	430	4500	--	--	430	4500	10.4	3.17	Gamma	WH Approx. Gamma	13347	23403
MW-21A	Dissolved Manganese (Mn)	µg/L	6/2018 - 11/2020	9	0%	160	650	--	--	160	650	360	182	Normal	Normal	912	1114
MW-21A	Total Manganese (Mn)	µg/L	6/2019 - 11/2020	5	0%	160	670	--	--	160	670	317	184	Normal	Normal	1090	1373
MW-21A	Dissolved Molybdenum (Mo)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-21A	Total Molybdenum (Mo)	µg/L	6/2019 - 11/2020	5	80%	5.8	5.8	<2.0	<2.0	<2.0	5.8	--	--	Not tested	Maximum	5.80	5.80
MW-21A	Dissolved Nickel (Ni)	µg/L	6/2018 - 11/2020	9	56%	2	3.2	<2.0	<2.0	2	3.2	2.27	0.422	Not tested	Normal (KM) **	3.20	3.20
MW-21A	Total Nickel (Ni)	µg/L	6/2019 - 11/2020	5	40%	2.65	17	<2.0	<2.0	<2.0	17	5.29	5.86	Not Normal	Normal (KM) **	29.9	39.0
MW-21A	Dissolved Phosphorus (P)	µg/L	6/2018 - 11/2020	9	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-21A	Total Phosphorus (P)	µg/L	6/2019 - 11/2020	5	80%	590	590	<100	<100	<100	590	--	--	Not tested	Maximum	590	590
MW-21A	Dissolved Potassium (K)	µg/L	6/2018 - 11/2020	9	0%	565	970	--	--	565	970	754	124	Normal	Normal	1130	1267
MW-21A	Total Potassium (K)	µg/L	6/2019 - 11/2020	5	0%	680	3800	--	--	680	3800	7.04	0.623	Lognormal	Lognormal	15627	40759
MW-21A	Dissolved Selenium (Se)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-21A	Total Selenium (Se)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-21A	Dissolved Silver (Ag)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-21A	Total Silver (Ag)	µg/L	6/2019 - 11/2020	5	40%	0.12	1.3	<0.10	<0.10	<0.10	1.3	-1.59	0.973	Lognormal	Lognormal (KM)	12.2	54.5
MW-21A	Dissolved Sodium (Na)	µg/L	6/2018 - 11/2020	9	0%	1800	4400	--	--	1800	4400	13.8	1.36	Gamma	WH Approx. Gamma	5778	7371
MW-21A	Total Sodium (Na)	µg/L	6/2019 - 11/2020	5	0%	2050	3250	--	--	2050	3250	2760	421	Normal	Normal	4530	5178

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-21A	Dissolved Strontium (Sr)	µg/L	6/2018 - 11/2020	9	0%	11	18	--	--	11	18	14.2	2.71	Normal	Normal	22.4	25.4
MW-21A	Total Strontium (Sr)	µg/L	6/2019 - 11/2020	5	0%	11	28	--	--	11	28	16.5	6.07	Normal	Normal	42.0	51.3
MW-21A	Dissolved Thallium (Tl)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-21A	Total Thallium (Tl)	µg/L	6/2019 - 11/2020	5	80%	0.18	0.18	<0.10	<0.10	<0.10	0.18	--	--	Not tested	Maximum	0.180	0.180
MW-21A	Dissolved Tin (Sn)	µg/L	6/2018 - 11/2020	9	89%	2.2	2.2	<2.0	<2.0	<2.0	2.2	--	--	Not tested	Maximum	2.20	2.20
MW-21A	Total Tin (Sn)	µg/L	6/2019 - 11/2020	5	60%	2.6	3.5	<2.0	<2.0	<2.0	3.5	2.42	0.588	Not tested	Maximum	3.50	3.50
MW-21A	Dissolved Titanium (Ti)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-21A	Total Titanium (Ti)	µg/L	6/2019 - 11/2020	5	0%	3	500	--	--	3	500	3.80	2.27	Gamma	WH Approx. Gamma	2377	4776
MW-21A	Dissolved Uranium (U)	µg/L	6/2018 - 11/2020	9	89%	0.1	0.1	<0.10	<0.10	0.1	0.1	--	--	Not tested	Maximum	0.100	0.100
MW-21A	Total Uranium (U)	µg/L	6/2019 - 11/2020	5	40%	0.18	1.4	<0.10	<0.10	<0.10	1.4	0.48	0.500	Normal	Normal (KM)	2.59	3.36
MW-21A	Dissolved Vanadium (V)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-21A	Total Vanadium (V)	µg/L	6/2019 - 11/2020	5	80%	16	16	<2.0	<2.0	<2.0	16	--	--	Not tested	Maximum	16.0	16.0
MW-21A	Dissolved Zinc (Zn)	µg/L	6/2018 - 11/2020	9	44%	5.3	8.5	<5.0	<5.0	<5.0	8.5	5.64	1.05	Not Normal	Normal (KM) **	8.83	9.99
MW-21A	Total Zinc (Zn)	µg/L	6/2019 - 11/2020	5	0%	5.5	31	--	--	5.5	31	11.3	9.87	Not Normal	Normal **	52.8	68.0
MW-21A	Dissolved Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
MW-21A	Total Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
	Calculated Parameters																
MW-21B	Anion Sum	me/L	6/2018 - 11/2020	9	0%	0.3	0.69	--	--	0.3	0.69	0.42	0.127	Normal	Normal	0.810	0.952
MW-21B	Bicarb. Alkalinity (calc. as CaCO3	mg/L	6/2018 - 11/2020	9	0%	9.1	26	--	--	9.1	26	14.0	5.69	Not Normal	Normal **	31.3	37.6
MW-21B	Calculated TDS	mg/L	6/2018 - 11/2020	9	0%	21	46	--	--	21	46	30.1	7.94	Normal	Normal	54.2	63.0
MW-21B	Carb. Alkalinity (calc. as CaCO3)	mg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-21B	Cation Sum	me/L	6/2018 - 11/2020	9	0%	0.26	0.62	--	--	0.26	0.62	0.38	0.123	Normal	Normal	0.755	0.892
MW-21B	Hardness (CaCO3)	mg/L	6/2018 - 11/2020	9	0%	7.7	20	--	--	7.7	20	11.9	4.35	Normal	Normal	25.1	29.9
MW-21B	Ion Balance (% Difference)	%	6/2018 - 11/2020	9	0%	2.65	10.3	--	--	2.65	10.3	5.75	2.01	Normal	Normal	11.8	14.1
MW-21B	Langelier Index (@ 20C)	N/A	6/2018 - 11/2020	9	0%	-4.32	-2.91	--	--	-4.32	-2.91	-3.57	0.471	Normal	Normal	-2.15	-1.62
MW-21B	Langelier Index (@ 4C)	N/A	6/2018 - 11/2020	9	0%	-4.57	-3.16	--	--	-4.57	-3.16	-3.83	0.471	Normal	Normal	-2.40	-1.88
MW-21B	Nitrate (N)	mg/L	6/2018 - 11/2020	9	0%	0.12	0.53	--	--	0.12	0.53	0.29	0.119	Normal	Normal	0.654	0.787
MW-21B	Saturation pH (@ 20C)	N/A	6/2018 - 11/2020	9	0%	9.13	10	--	--	9.13	10	9.73	0.318	Not Normal	Normal **	10.7	11.0
MW-21B	Saturation pH (@ 4C)	N/A	6/2018 - 11/2020	9	0%	9.38	10.3	--	--	9.38	10.3	9.99	0.323	Normal	Normal	11.0	11.3
	Inorganics																
MW-21B	Total Alkalinity (Total as CaCO3)	mg/L	6/2018 - 11/2020	9	0%	9.1	26	--	--	9.1	26	14.0	5.69	Not Normal	Normal **	31.3	37.6
MW-21B	Total Chemical Oxygen Demand	mg/L	11/2020 - 11/2020	1	100%	--	--	<20	<20	<20	<20	--	--	Not tested	Reporting Limit	<20	<20
MW-21B	Dissolved Chloride (Cl-)	mg/L	6/2018 - 11/2020	9	0%	1.2	3.5	--	--	1.2	3.5	2.33	0.715	Normal	Normal	4.50	5.30
MW-21B	Colour	TCU	6/2018 - 11/2020	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	Not tested	Reporting Limit	<5.0	<5.0
MW-21B	Nitrate + Nitrite (N)	mg/L	6/2018 - 11/2020	9	0%	0.12	0.53	--	--	0.12	0.53	0.29	0.119	Normal	Normal	0.654	0.787
MW-21B	Nitrite (N)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-21B	Nitrogen (Ammonia Nitrogen)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.050	<0.050	<0.050	<0.050	--	--	Not tested	Reporting Limit	<0.050	<0.050
MW-21B	Dissolved Organic Carbon (C)	mg/L	11/2020 - 11/2020	1	0%	1.8	1.8	--	--	1.8	1.8	--	--	Not tested	Maximum	1.80	1.80
MW-21B	Total Organic Carbon (C)	mg/L	6/2018 - 7/2020	8	0%	1	2.1	--	--	1	2.1	1.59	0.366	Normal	Normal	2.75	3.18
MW-21B	Orthophosphate (P)	mg/L	6/2018 - 11/2020	9	0%	0.017	0.023	--	--	0.017	0.023	0.02	0.002	Normal	Normal	0.026	0.0281
MW-21B	pH (LTL - UTL)	s.u.	6/2018 - 11/2020	9	0%	5.65	6.51	--	--	5.65	6.51	6.16	0.249	Normal	Normal	5.28 - 6.92	5.03 - 7.2
MW-21B	Dissolved Phosphorous	mg/L	11/2020 - 11/2020	1	0%	0.026	0.026	--	--	0.026	0.026	--	--	Not tested	Maximum	0.026	0.0260
MW-21B	Total Phosphorus	mg/L	11/2020 - 11/2020	1	0%	0.025	0.025	--	--	0.025	0.025	--	--	Not tested	Maximum	0.025	0.0250
MW-21B	Reactive Silica (SiO2)	mg/L	6/2018 - 11/2020	9	0%	5.1	10	--	--	5.1	10	7.31	1.56	Normal	Normal	12.0	13.8
MW-21B	Total Suspended Solids	mg/L	11/2020 - 11/2020	1	0%	18	18	--	--	18	18	--	--	Not tested	Maximum	18.0	18.0
MW-21B	Dissolved Sulphate (SO4)	mg/L	6/2018 - 11/2020	9	0%	2.1	3.7	--	--	2.1	3.7	2.74	0.504	Normal	Normal	4.27	4.83
MW-21B	Turbidity	NTU	6/2018 - 11/2020	9	0%	1.7	23	--	--	1.7	23	1.64	0.977	Lognormal	Lognormal	99.9	296
MW-21B	Conductivity	µS/cm	6/2018 - 11/2020	9	0%	29	71	--	--	29	71	42.7	13.9	Normal	Normal	84.9	100
	Metals																
MW-21B	Dissolved Aluminum (Al)	µg/L	6/2018 - 11/2020	9	0%	16	130	--	--	16	130	67.0	32.6	Normal	Normal	166	202
MW-21B	Total Aluminum (Al)	µg/L	6/2019 - 11/2020	5	0%	160	340	--	--	160	340	252	70.8	Normal	Normal	550	659
MW-21B	Dissolved Antimony (Sb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-21B	Total Antimony (Sb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-21B	Dissolved Arsenic (As)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-21B	Total Arsenic (As)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-21B	Dissolved Barium (Ba)	µg/L	6/2018 - 11/2020	9	0%	1.8	5.8	--	--	1.8	5.8	3.36	1.08	Normal	Normal	6.62	7.82
MW-21B	Total Barium (Ba)	µg/L	6/2019 - 11/2020	5	0%	3	5.2	--	--	3	5.2	4.30	0.738	Normal	Normal	7.40	8.53
MW-21B	Dissolved Beryllium (Be)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-21B	Total Beryllium (Be)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-21B	Dissolved Bismuth (Bi)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-21B	Total Bismuth (Bi)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-21B	Dissolved Boron (B)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-21B	Total Boron (B)	µg/L	6/2019 - 11/2020	5	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-21B	Dissolved Cadmium (Cd)	µg/L	6/2018 - 11/2020	9	0%	0.015	0.033	--	--	0.015	0.033	0.03	0.006	Normal	Normal	0.044	0.0507
MW-21B	Total Cadmium (Cd)	µg/L	6/2019 - 11/2020	5	0%	0.022	0.031	--	--	0.022	0.031	0.03	0.003	Normal	Normal	0.040	0.0448

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-21B	Dissolved Calcium (Ca)	µg/L	6/2018 - 11/2020	9	0%	1800	5800	--	--	1800	5800	14.1	1.99	Gamma	WH Approx. Gamma	8152	11142
MW-21B	Total Calcium (Ca)	µg/L	6/2019 - 11/2020	5	0%	1800	2500	--	--	1800	2500	2160	287	Normal	Normal	3366	3808
MW-21B	Dissolved Chromium (Cr)	µg/L	6/2018 - 11/2020	9	89%	1.1	1.1	<1.0	<1.0	<1.0	1.1	--	--	Not tested	Maximum	1.10	1.10
MW-21B	Total Chromium (Cr)	µg/L	6/2019 - 11/2020	5	80%	1.3	1.3	<1.0	<1.0	<1.0	1.3	--	--	Not tested	Maximum	1.30	1.30
MW-21B	Dissolved Cobalt (Co)	µg/L	6/2018 - 11/2020	9	22%	0.46	1.1	<0.40	<0.40	<0.40	1.1	0.66	0.211	Normal	Normal (KM)	1.30	1.54
MW-21B	Total Cobalt (Co)	µg/L	6/2019 - 11/2020	5	0%	0.63	1.1	--	--	0.63	1.1	0.84	0.162	Normal	Normal	1.52	1.77
MW-21B	Dissolved Copper (Cu)	µg/L	6/2018 - 11/2020	9	22%	0.62	19	<2.0	<2.0	0.62	19	0.30	1.06	Lognormal	Lognormal (KM)	33.6	109
MW-21B	Total Copper (Cu)	µg/L	6/2019 - 11/2020	5	0%	0.96	1.8	--	--	0.96	1.8	1.23	0.326	Normal	Normal	2.60	3.11
MW-21B	Dissolved Iron (Fe)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-21B	Total Iron (Fe)	µg/L	6/2019 - 11/2020	5	0%	84	230	--	--	84	230	149	50.5	Normal	Normal	361	439
MW-21B	Dissolved Lead (Pb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-21B	Total Lead (Pb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-21B	Dissolved Magnesium (Mg)	µg/L	6/2018 - 11/2020	9	0%	780	1500	--	--	780	1500	1090	267	Normal	Normal	1901	2198
MW-21B	Total Magnesium (Mg)	µg/L	6/2019 - 11/2020	5	0%	790	1100	--	--	790	1100	958	123	Normal	Normal	1476	1666
MW-21B	Dissolved Manganese (Mn)	µg/L	6/2018 - 11/2020	9	0%	110	200	--	--	110	200	148	25.7	Normal	Normal	226	254
MW-21B	Total Manganese (Mn)	µg/L	6/2019 - 11/2020	5	0%	120	180	--	--	120	180	154	21.5	Normal	Normal	245	278
MW-21B	Dissolved Molybdenum (Mo)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-21B	Total Molybdenum (Mo)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-21B	Dissolved Nickel (Ni)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-21B	Total Nickel (Ni)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-21B	Dissolved Phosphorus (P)	µg/L	6/2018 - 11/2020	9	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-21B	Total Phosphorus (P)	µg/L	6/2019 - 11/2020	5	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-21B	Dissolved Potassium (K)	µg/L	6/2018 - 11/2020	9	0%	730	1200	--	--	730	1200	916	166	Normal	Normal	1418	1602
MW-21B	Total Potassium (K)	µg/L	6/2019 - 11/2020	5	0%	760	950	--	--	760	950	836	65.9	Normal	Normal	1113	1214
MW-21B	Dissolved Selenium (Se)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-21B	Total Selenium (Se)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-21B	Dissolved Silver (Ag)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-21B	Total Silver (Ag)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-21B	Dissolved Sodium (Na)	µg/L	6/2018 - 11/2020	9	0%	1800	4300	--	--	1800	4300	2756	770	Normal	Normal	5091	5948
MW-21B	Total Sodium (Na)	µg/L	6/2019 - 11/2020	5	0%	1800	2700	--	--	1800	2700	2300	303	Normal	Normal	3575	4041
MW-21B	Dissolved Strontium (Sr)	µg/L	6/2018 - 11/2020	9	0%	18	43	--	--	18	43	2.89	0.288	Gamma	WH Approx. Gamma	53.5	68.3
MW-21B	Total Strontium (Sr)	µg/L	6/2019 - 11/2020	5	0%	18	24	--	--	18	24	21.0	2.19	Normal	Normal	30.2	33.6
MW-21B	Dissolved Thallium (Tl)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-21B	Total Thallium (Tl)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-21B	Dissolved Tin (Sn)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-21B	Total Tin (Sn)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-21B	Dissolved Titanium (Ti)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-21B	Total Titanium (Ti)	µg/L	6/2019 - 11/2020	5	0%	3.1	9.4	--	--	3.1	9.4	5.72	2.12	Normal	Normal	14.6	17.9
MW-21B	Dissolved Uranium (U)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-21B	Total Uranium (U)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-21B	Dissolved Vanadium (V)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-21B	Total Vanadium (V)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-21B	Dissolved Zinc (Zn)	µg/L	6/2018 - 11/2020	9	56%	5.4	13	<5.0	<5.0	<5.0	13	6.96	3.25	Not tested	Normal (KM) **	13.0	13.0
MW-21B	Total Zinc (Zn)	µg/L	6/2019 - 11/2020	5	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	Not tested	Reporting Limit	<5.0	<5.0
MW-21B	Dissolved Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
MW-21B	Total Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
	Calculated Parameters																
MW-21C	Anion Sum	me/L	6/2018 - 11/2020	9	0%	1.34	2.46	--	--	1.34	2.46	1.82	0.322	Normal	Normal	2.80	3.16
MW-21C	Bicarb. Alkalinity (calc. as CaCO3	mg/L	6/2018 - 11/2020	9	0%	38	81	--	--	38	81	60.9	10.8	Normal	Normal	93.7	106
MW-21C	Calculated TDS	mg/L	6/2018 - 11/2020	9	0%	85	150	--	--	85	150	116	20.2	Normal	Normal	177	200
MW-21C	Carb. Alkalinity (calc. as CaCO3)	mg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-21C	Cation Sum	me/L	6/2018 - 11/2020	9	0%	1.2	2.39	--	--	1.2	2.39	1.71	0.359	Normal	Normal	2.80	3.20
MW-21C	Hardness (CaCO3)	mg/L	6/2018 - 11/2020	9	0%	25	64	--	--	25	64	45.2	9.80	Normal	Normal	74.9	85.8
MW-21C	Ion Balance (% Difference)	%	6/2018 - 11/2020	9	0%	0.22	5.51	--	--	0.22	5.51	3.34	1.78	Normal	Normal	8.75	10.7
MW-21C	Langelier Index (@ 20C)	N/A	6/2018 - 11/2020	9	0%	-2.16	-1.23	--	--	-2.16	-1.23	-1.64	0.274	Normal	Normal	-0.808	-0.50
MW-21C	Langelier Index (@ 4C)	N/A	6/2018 - 11/2020	9	0%	-2.41	-1.48	--	--	-2.41	-1.48	-1.89	0.274	Normal	Normal	-1.06	-0.76
MW-21C	Nitrate (N)	mg/L	6/2018 - 11/2020	9	22%	0.073	0.26	<0.050	<0.050	<0.050	0.26	0.14	0.069	Normal	Normal (KM)	0.354	0.431
MW-21C	Saturation pH (@ 20C)	N/A	6/2018 - 11/2020	9	0%	8.28	8.95	--	--	8.28	8.95	8.56	0.165	Normal	Normal	9.06	9.25
MW-21C	Saturation pH (@ 4C)	N/A	6/2018 - 11/2020	9	0%	8.53	9.2	--	--	8.53	9.2	8.81	0.165	Normal	Normal	9.31	9.50
	Inorganics																
MW-21C	Total Alkalinity (Total as CaCO3)	mg/L	6/2018 - 11/2020	9	0%	38	81	--	--	38	81	60.9	10.8	Normal	Normal	93.7	106
MW-21C	Total Chemical Oxygen Demand	mg/L	11/2020 - 11/2020	1	100%	--	--	<20	<20	<20	<20	--	--	Not tested	Reporting Limit	<20	<20
MW-21C	Dissolved Chloride (Cl-)	mg/L	6/2018 - 11/2020	9	0%	3.4	5.6	--	--	3.4	5.6	4.43	0.735	Normal	Normal	6.66	7.48
MW-21C	Colour	TCU	6/2018 - 11/2020	9	67%	5.3	8	<5.0	<5.0	<5.0	8	5.42	0.927	Not tested	Maximum	8.00	8.00
MW-21C	Nitrate + Nitrite (N)	mg/L	6/2018 - 11/2020	9	22%	0.085	0.28	<0.050	<0.050	<0.050	0.28	0.16	0.078	Normal	Normal (KM)	0.394	0.481
MW-21C	Nitrite (N)	mg/L	6/2018 - 11/2020	9	22%	0.01	0.041	<0.010	<0.010	<0.010	0.041	-4.21	0.454	Lognormal	Lognormal (KM)	0.058	0.0968

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-21C	Nitrogen (Ammonia Nitrogen)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.050	<0.050	<0.050	<0.050	--	--	Not tested	Reporting Limit	<0.050	<0.050
MW-21C	Dissolved Organic Carbon (C)	mg/L	11/2020 - 11/2020	1	0%	2.4	2.4	--	--	2.4	2.4	--	--	Not tested	Maximum	2.40	2.40
MW-21C	Total Organic Carbon (C)	mg/L	6/2018 - 11/2020	9	0%	2.3	8.6	--	--	2.3	8.6	1.62	0.277	Gamma	WH Approx. Gamma	14.9	21.2
MW-21C	Orthophosphate (P)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-21C	pH (LTL - UTL)	s.u.	6/2018 - 11/2020	9	0%	6.7	7.1	--	--	6.7	7.1	6.93	0.146	Normal	Normal	6.41 - 7.37	6.26 - 7.53
MW-21C	Dissolved Phosphorous	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-21C	Total Phosphorus	mg/L	11/2020 - 11/2020	1	0%	0.024	0.024	--	--	0.024	0.024	--	--	Not tested	Maximum	0.024	0.0240
MW-21C	Reactive Silica (SiO2)	mg/L	6/2018 - 11/2020	9	0%	10	19	--	--	10	19	16.7	2.79	Not Normal	Normal **	25.1	28.2
MW-21C	Total Suspended Solids	mg/L	11/2020 - 11/2020	1	0%	15	15	--	--	15	15	--	--	Not tested	Maximum	15.0	15.0
MW-21C	Dissolved Sulphate (SO4)	mg/L	6/2018 - 11/2020	9	0%	14	38	--	--	14	38	22.8	7.63	Normal	Normal	45.9	54.4
MW-21C	Turbidity	NTU	6/2018 - 11/2020	9	0%	1.8	31	--	--	1.8	31	1.93	0.608	Gamma	WH Approx. Gamma	53.8	88.1
MW-21C	Conductivity	µS/cm	6/2018 - 11/2020	9	0%	130	240	--	--	130	240	173	32.7	Normal	Normal	272	309
	Metals																
MW-21C	Dissolved Aluminum (Al)	µg/L	6/2018 - 11/2020	9	44%	5	40	<5.0	<5.0	<5.0	40	10.2	10.8	Not Normal	Normal (KM) **	42.8	54.8
MW-21C	Total Aluminum (Al)	µg/L	6/2019 - 11/2020	5	0%	61	830	--	--	61	830	351	284	Normal	Normal	1544	1981
MW-21C	Dissolved Antimony (Sb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-21C	Total Antimony (Sb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-21C	Dissolved Arsenic (As)	µg/L	6/2018 - 11/2020	9	89%	1.3	1.3	<1.0	<1.0	<1.0	1.3	--	--	Not tested	Maximum	1.30	1.30
MW-21C	Total Arsenic (As)	µg/L	6/2019 - 11/2020	5	40%	1.1	1.7	<1.0	<1.0	<1.0	1.7	1.20	0.261	Normal	Normal (KM)	2.30	2.70
MW-21C	Dissolved Barium (Ba)	µg/L	6/2018 - 11/2020	9	0%	7.5	13	--	--	7.5	13	9.29	1.70	Normal	Normal	14.4	16.3
MW-21C	Total Barium (Ba)	µg/L	6/2019 - 11/2020	5	0%	8.1	18	--	--	8.1	18	13.0	3.55	Normal	Normal	27.9	33.4
MW-21C	Dissolved Beryllium (Be)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-21C	Total Beryllium (Be)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-21C	Dissolved Bismuth (Bi)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-21C	Total Bismuth (Bi)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-21C	Dissolved Boron (B)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-21C	Total Boron (B)	µg/L	6/2019 - 11/2020	5	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-21C	Dissolved Cadmium (Cd)	µg/L	6/2018 - 11/2020	9	78%	0.019	0.019	<0.010	<0.010	<0.010	0.019	0.01	0.004	Not tested	Maximum	0.019	0.0190
MW-21C	Total Cadmium (Cd)	µg/L	6/2019 - 11/2020	5	60%	0.014	0.036	<0.010	<0.010	<0.010	0.036	0.02	0.010	Not tested	Maximum	0.036	0.0360
MW-21C	Dissolved Calcium (Ca)	µg/L	6/2018 - 11/2020	9	0%	6400	15000	--	--	6400	15000	10333	2083	Normal	Normal	16648	18964
MW-21C	Total Calcium (Ca)	µg/L	6/2019 - 11/2020	5	0%	6400	15000	--	--	6400	15000	11040	2849	Normal	Normal	23015	27398
MW-21C	Dissolved Chromium (Cr)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-21C	Total Chromium (Cr)	µg/L	6/2019 - 11/2020	5	40%	1	1.2	<1.0	<1.0	1	1.2	1.06	0.080	Normal	Normal (KM)	1.40	1.52
MW-21C	Dissolved Cobalt (Co)	µg/L	6/2018 - 11/2020	9	11%	0.41	0.93	<0.40	<0.40	<0.40	0.93	0.81	0.071	Gamma	WH Approx. Gamma (KM	1.07	1.34
MW-21C	Total Cobalt (Co)	µg/L	6/2019 - 11/2020	5	0%	0.48	1.2	--	--	0.48	1.2	0.72	0.267	Normal	Normal	1.84	2.25
MW-21C	Dissolved Copper (Cu)	µg/L	6/2018 - 11/2020	9	89%	0.74	0.74	<0.50	<2.0	<0.50	<2.0	--	--	Not tested	Maximum	<2.0	<2.0
MW-21C	Total Copper (Cu)	µg/L	6/2019 - 11/2020	5	0%	0.59	6.4	--	--	0.59	6.4	2.40	2.19	Normal	Normal	11.6	15.0
MW-21C	Dissolved Iron (Fe)	µg/L	6/2018 - 11/2020	9	33%	52	420	<50	<50	<50	420	194	155	Not Normal	Normal (KM) **	665	838
MW-21C	Total Iron (Fe)	µg/L	6/2019 - 11/2020	5	0%	530	1100	--	--	530	1100	712	200	Normal	Normal	1551	1859
MW-21C	Dissolved Lead (Pb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-21C	Total Lead (Pb)	µg/L	6/2019 - 11/2020	5	60%	1	1.2	<0.50	<0.50	<0.50	1.2	0.74	0.301	Not tested	Maximum	1.20	1.20
MW-21C	Dissolved Magnesium (Mg)	µg/L	6/2018 - 11/2020	9	0%	2200	6300	--	--	2200	6300	4633	1187	Normal	Normal	8231	9551
MW-21C	Total Magnesium (Mg)	µg/L	6/2019 - 11/2020	5	0%	2300	6100	--	--	2300	6100	4980	1366	Not Normal	Normal **	10720	12822
MW-21C	Dissolved Manganese (Mn)	µg/L	6/2018 - 11/2020	9	0%	160	360	--	--	160	360	250	63.1	Normal	Normal	441	511
MW-21C	Total Manganese (Mn)	µg/L	6/2019 - 11/2020	5	0%	240	350	--	--	240	350	290	45.6	Normal	Normal	482	552
MW-21C	Dissolved Molybdenum (Mo)	µg/L	6/2018 - 11/2020	9	67%	2.2	2.6	<2.0	<2.0	<2.0	2.6	2.16	0.245	Not tested	Maximum	2.60	2.60
MW-21C	Total Molybdenum (Mo)	µg/L	6/2019 - 11/2020	5	20%	2.1	3.1	<2.0	<2.0	<2.0	3.1	2.46	0.393	Normal	Normal (KM)	4.11	4.72
MW-21C	Dissolved Nickel (Ni)	µg/L	6/2018 - 11/2020	9	78%	3.5	3.7	<2.0	<2.0	<2.0	3.7	2.36	0.667	Not tested	Maximum	3.70	3.70
MW-21C	Total Nickel (Ni)	µg/L	6/2019 - 11/2020	5	60%	2.1	4.4	<2.0	<2.0	<2.0	4.4	2.50	0.951	Not tested	Maximum	4.40	4.40
MW-21C	Dissolved Phosphorus (P)	µg/L	6/2018 - 11/2020	9	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-21C	Total Phosphorus (P)	µg/L	6/2019 - 11/2020	5	80%	110	110	<100	<100	<100	110	--	--	Not tested	Maximum	110	110
MW-21C	Dissolved Potassium (K)	µg/L	6/2018 - 11/2020	9	0%	1500	2100	--	--	1500	2100	1744	171	Normal	Normal	2262	2452
MW-21C	Total Potassium (K)	µg/L	6/2019 - 11/2020	5	0%	1500	2000	--	--	1500	2000	1700	190	Normal	Normal	2497	2789
MW-21C	Dissolved Selenium (Se)	µg/L	6/2018 - 11/2020	9	89%	0.58	0.58	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Maximum	<1.0	<1.0
MW-21C	Total Selenium (Se)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-21C	Dissolved Silver (Ag)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-21C	Total Silver (Ag)	µg/L	6/2019 - 11/2020	5	60%	0.14	0.23	<0.10	<0.10	<0.10	0.23	0.13	0.050	Not tested	Maximum	0.230	0.230
MW-21C	Dissolved Sodium (Na)	µg/L	6/2018 - 11/2020	9	0%	12000	29000	--	--	12000	29000	25.6	2.40	Gamma	WH Approx. Gamma	35704	45110
MW-21C	Total Sodium (Na)	µg/L	6/2019 - 11/2020	5	0%	15000	31000	--	--	15000	31000	19800	6177	Normal	Normal	45762	55265
MW-21C	Dissolved Strontium (Sr)	µg/L	6/2018 - 11/2020	9	0%	45	99	--	--	45	99	75.8	14.3	Normal	Normal	119	135
MW-21C	Total Strontium (Sr)	µg/L	6/2019 - 11/2020	5	0%	44	95	--	--	44	95	76.4	18.8	Normal	Normal	156	185
MW-21C	Dissolved Thallium (Tl)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-21C	Total Thallium (Tl)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-21C	Dissolved Tin (Sn)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-21C	Total Tin (Sn)	µg/L	6/2019 - 11/2020	5	80%	2.3	2.3	<2.0	<2.0	<2.0	2.3	--	--	Not tested	Maximum	2.30	2.30
MW-21C	Dissolved Titanium (Ti)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-21C	Total Titanium (Ti)	µg/L	6/2019 - 11/2020	5	0%	3.7	30	--	--	3.7	30	14.1	9.54	Normal	Normal	54.2	68.9

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-21C	Dissolved Uranium (U)	µg/L	6/2018 - 11/2020	9	0%	0.29	0.85	--	--	0.29	0.85	0.53	0.210	Normal	Normal	1.17	1.40
MW-21C	Total Uranium (U)	µg/L	6/2019 - 11/2020	5	0%	0.83	0.99	--	--	0.83	0.99	0.93	0.058	Normal	Normal	1.17	1.26
MW-21C	Dissolved Vanadium (V)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-21C	Total Vanadium (V)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-21C	Dissolved Zinc (Zn)	µg/L	6/2018 - 11/2020	9	44%	6.5	15	<5.0	<5.0	<5.0	15	1.96	0.388	Lognormal	Lognormal (KM)	22.9	35.3
MW-21C	Total Zinc (Zn)	µg/L	6/2019 - 11/2020	5	60%	7.5	26	<5.0	<5.0	<5.0	26	9.70	8.21	Not tested	Maximum	26.0	26.0
MW-21C	Dissolved Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
MW-21C	Total Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
	Calculated Parameters																
MW-22A	Anion Sum	me/L	6/2018 - 11/2020	9	0%	0.18	0.4	--	--	0.18	0.4	0.34	0.064	Not Normal	Normal **	0.529	0.600
MW-22A	Bicarb. Alkalinity (calc. as CaCO3	mg/L	6/2018 - 11/2020	9	11%	5.8	11	<1.0	<1.0	<1.0	11	6.60	2.43	Normal	Normal (KM)	14.0	16.7
MW-22A	Calculated TDS	mg/L	6/2018 - 11/2020	9	0%	20	61	--	--	20	61	29.8	11.5	Not Normal	Normal **	64.7	77.5
MW-22A	Carb. Alkalinity (calc. as CaCO3)	mg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-22A	Cation Sum	me/L	6/2018 - 11/2020	9	0%	0.25	2.01	--	--	0.25	2.01	0.49	0.538	Not Normal	Normal **	2.12	2.72
MW-22A	Hardness (CaCO3)	mg/L	6/2018 - 11/2020	9	0%	2.5	58	--	--	2.5	58	10.6	16.8	Not Normal	Normal **	61.6	80.3
MW-22A	Ion Balance (% Difference)	%	6/2018 - 11/2020	9	0%	1.45	67.5	--	--	1.45	67.5	2.24	0.778	Gamma	WH Approx. Gamma	96.9	163
MW-22A	Langelier Index (@ 20C)	N/A	6/2018 - 11/2020	8	0%	-4.9	-3.29	--	--	-4.9	-3.29	-4.21	0.531	Normal	Normal	-2.51	-1.89
MW-22A	Langelier Index (@ 4C)	N/A	6/2018 - 11/2020	8	0%	-5.15	-3.54	--	--	-5.15	-3.54	-4.46	0.532	Normal	Normal	-2.76	-2.14
MW-22A	Nitrate (N)	mg/L	6/2018 - 11/2020	9	33%	0.059	0.096	<0.050	<0.050	<0.050	0.096	0.07	0.019	Not Normal	Normal (KM) **	0.130	0.152
MW-22A	Saturation pH (@ 20C)	N/A	6/2018 - 11/2020	8	0%	9.18	10.8	--	--	9.18	10.8	10.3	0.478	Normal	Normal	11.8	12.4
MW-22A	Saturation pH (@ 4C)	N/A	6/2018 - 11/2020	8	0%	9.43	11	--	--	9.43	11	10.6	0.468	Not Normal	Normal **	12.0	12.6
	Inorganics																
MW-22A	Total Alkalinity (Total as CaCO3)	mg/L	6/2018 - 11/2020	9	11%	5.8	11	<5.0	<5.0	<5.0	11	7.04	1.58	Normal	Normal (KM)	11.8	13.6
MW-22A	Total Chemical Oxygen Demand	mg/L	11/2020 - 11/2020	1	100%	--	--	<20	<20	<20	<20	--	--	Not tested	Reporting Limit	<20	<20
MW-22A	Dissolved Chloride (Cl-)	mg/L	6/2018 - 11/2020	9	0%	2.3	6.1	--	--	2.3	6.1	3.67	1.12	Normal	Normal	7.05	8.29
MW-22A	Colour	TCU	6/2018 - 11/2020	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	Not tested	Reporting Limit	<5.0	<5.0
MW-22A	Nitrate + Nitrite (N)	mg/L	6/2018 - 11/2020	9	33%	0.059	0.096	<0.050	<0.050	<0.050	0.096	0.07	0.019	Not Normal	Normal (KM) **	0.130	0.152
MW-22A	Nitrite (N)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-22A	Nitrogen (Ammonia Nitrogen)	mg/L	6/2018 - 11/2020	9	89%	0.065	0.065	<0.050	<0.050	<0.050	0.065	--	--	Not tested	Maximum	0.065	0.0650
MW-22A	Dissolved Organic Carbon (C)	mg/L	11/2020 - 11/2020	1	0%	1.1	1.1	--	--	1.1	1.1	--	--	Not tested	Maximum	1.10	1.10
MW-22A	Total Organic Carbon (C)	mg/L	6/2018 - 11/2020	9	0%	0.83	1.8	--	--	0.83	1.8	1.25	0.301	Normal	Normal	2.16	2.50
MW-22A	Orthophosphate (P)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-22A	pH (LTL - UTL)	s.u.	6/2018 - 11/2020	9	0%	5.73	6.58	--	--	5.73	6.58	6.10	0.260	Normal	Normal	5.18 - 7.02	4.91 - 7.28
MW-22A	Dissolved Phosphorous	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-22A	Total Phosphorus	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-22A	Reactive Silica (SiO2)	mg/L	6/2018 - 11/2020	9	0%	4.9	10	--	--	4.9	10	6.74	1.58	Normal	Normal	11.5	13.3
MW-22A	Total Suspended Solids	mg/L	11/2020 - 11/2020	1	0%	7.6	7.6	--	--	7.6	7.6	--	--	Not tested	Maximum	7.60	7.60
MW-22A	Dissolved Sulphate (SO4)	mg/L	6/2018 - 11/2020	9	0%	3.3	5.9	--	--	3.3	5.9	4.72	0.938	Normal	Normal	7.56	8.61
MW-22A	Turbidity	NTU	6/2018 - 11/2020	9	0%	2.2	23	--	--	2.2	23	8.33	7.92	Not Normal	Normal **	32.3	41.1
MW-22A	Conductivity	µS/cm	6/2018 - 11/2020	9	0%	33	45	--	--	33	45	37.0	3.97	Normal	Normal	49.0	53.5
	Metals																
MW-22A	Dissolved Aluminum (Al)	µg/L	6/2018 - 11/2020	9	0%	11	330	--	--	11	330	100	97.2	Normal	Normal	395	503
MW-22A	Total Aluminum (Al)	µg/L	6/2019 - 11/2020	5	0%	350	1400	--	--	350	1400	744	398	Normal	Normal	2416	3028
MW-22A	Dissolved Antimony (Sb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-22A	Total Antimony (Sb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-22A	Dissolved Arsenic (As)	µg/L	6/2018 - 11/2020	9	78%	1.5	5.4	<1.0	<1.0	<1.0	5.4	1.54	1.37	Not tested	Maximum	5.40	5.40
MW-22A	Total Arsenic (As)	µg/L	6/2019 - 11/2020	5	20%	1.6	3.7	<1.0	<1.0	<1.0	3.7	1.94	0.918	Normal	Normal (KM)	5.80	7.21
MW-22A	Dissolved Barium (Ba)	µg/L	6/2018 - 11/2020	9	0%	4	12	--	--	4	12	6.73	2.50	Normal	Normal	14.3	17.1
MW-22A	Total Barium (Ba)	µg/L	6/2019 - 11/2020	5	0%	7.1	21	--	--	7.1	21	2.19	0.297	Gamma	WH Approx. Gamma	40.6	59.0
MW-22A	Dissolved Beryllium (Be)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-22A	Total Beryllium (Be)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-22A	Dissolved Bismuth (Bi)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-22A	Total Bismuth (Bi)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-22A	Dissolved Boron (B)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-22A	Total Boron (B)	µg/L	6/2019 - 11/2020	5	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-22A	Dissolved Cadmium (Cd)	µg/L	6/2018 - 11/2020	9	11%	0.012	0.041	<0.010	<0.010	<0.010	0.041	0.26	0.035	Gamma	WH Approx. Gamma (KM	0.049	0.0666
MW-22A	Total Cadmium (Cd)	µg/L	6/2019 - 11/2020	5	0%	0.012	0.048	--	--	0.012	0.048	0.02	0.013	Normal	Normal	0.079	0.0991
MW-22A	Dissolved Calcium (Ca)	µg/L	6/2018 - 11/2020	9	0%	500	18000	--	--	500	18000	2919	5343	Not Normal	Normal **	19115	25055
MW-22A	Total Calcium (Ca)	µg/L	6/2019 - 11/2020	5	0%	500	1500	--	--	500	1500	972	385	Normal	Normal	2588	3180
MW-22A	Dissolved Chromium (Cr)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-22A	Total Chromium (Cr)	µg/L	6/2019 - 11/2020	5	60%	1.3	3.1	<1.0	<1.0	<1.0	3.1	1.48	0.818	Not tested	Maximum	3.10	3.10
MW-22A	Dissolved Cobalt (Co)	µg/L	6/2018 - 11/2020	9	11%	0.56	2.2	<0.40	<0.40	<0.40	2.2	1.09	0.594	Normal	Normal (KM)	2.89	3.55
MW-22A	Total Cobalt (Co)	µg/L	6/2019 - 11/2020	5	0%	0.74	3	--	--	0.74	3	1.29	0.861	Not Normal	Normal **	4.91	6.23
MW-22A	Dissolved Copper (Cu)	µg/L	6/2018 - 11/2020	9	11%	0.95	20	<0.50	<0.50	<0.50	20	7.12	5.34	Normal	Normal (KM)	23.3	29.3
MW-22A	Total Copper (Cu)	µg/L	6/2019 - 11/2020	5	0%	3.1	12	--	--	3.1	12	8.40	3.11	Normal	Normal	21.5	26.2

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-22A	Dissolved Iron (Fe)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-22A	Total Iron (Fe)	µg/L	6/2019 - 11/2020	5	0%	330	1400	--	--	330	1400	684	434	Normal	Normal	2508	3176
MW-22A	Dissolved Lead (Pb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-22A	Total Lead (Pb)	µg/L	6/2019 - 11/2020	5	80%	0.53	0.53	<0.50	<0.50	<0.50	0.53	--	--	Not tested	Maximum	0.530	0.530
MW-22A	Dissolved Magnesium (Mg)	µg/L	6/2018 - 11/2020	9	0%	310	3000	--	--	310	3000	819	785	Not Normal	Normal **	3198	4071
MW-22A	Total Magnesium (Mg)	µg/L	6/2019 - 11/2020	5	0%	400	950	--	--	400	950	620	203	Normal	Normal	1474	1786
MW-22A	Dissolved Manganese (Mn)	µg/L	6/2018 - 11/2020	9	0%	36	240	--	--	36	240	101	67.7	Normal	Normal	307	382
MW-22A	Total Manganese (Mn)	µg/L	6/2019 - 11/2020	5	0%	41	270	--	--	41	270	4.36	1.10	Gamma	WH Approx. Gamma	721	1209
MW-22A	Dissolved Molybdenum (Mo)	µg/L	6/2018 - 11/2020	9	89%	3.3	3.3	<2.0	<2.0	<2.0	3.3	--	--	Not tested	Maximum	3.30	3.30
MW-22A	Total Molybdenum (Mo)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-22A	Dissolved Nickel (Ni)	µg/L	6/2018 - 11/2020	9	22%	4	11	<2.0	<2.0	<2.0	11	5.38	2.77	Normal	Normal (KM)	13.8	16.8
MW-22A	Total Nickel (Ni)	µg/L	6/2019 - 11/2020	5	0%	2.8	5.7	--	--	2.8	5.7	4.50	1.00	Normal	Normal	8.71	10.3
MW-22A	Dissolved Phosphorus (P)	µg/L	6/2018 - 11/2020	9	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-22A	Total Phosphorus (P)	µg/L	6/2019 - 11/2020	5	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-22A	Dissolved Potassium (K)	µg/L	6/2018 - 11/2020	9	0%	340	970	--	--	340	970	667	182	Normal	Normal	1219	1421
MW-22A	Total Potassium (K)	µg/L	6/2019 - 11/2020	5	0%	370	1100	--	--	370	1100	688	253	Normal	Normal	1752	2141
MW-22A	Dissolved Selenium (Se)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-22A	Total Selenium (Se)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-22A	Dissolved Silver (Ag)	µg/L	6/2018 - 11/2020	9	56%	0.15	1	<0.10	<0.10	<0.10	1	0.23	0.278	Not tested	Normal (KM) **	1.00	1.00
MW-22A	Total Silver (Ag)	µg/L	6/2019 - 11/2020	5	0%	0.12	2	--	--	0.12	2	1.04	0.635	Normal	Normal	3.70	4.68
MW-22A	Dissolved Sodium (Na)	µg/L	6/2018 - 11/2020	9	0%	2200	19000	--	--	2200	19000	8.47	0.561	Lognormal	Lognormal	26052	48591
MW-22A	Total Sodium (Na)	µg/L	6/2019 - 11/2020	5	0%	3100	4700	--	--	3100	4700	4320	614	Not Normal	Normal **	6903	7848
MW-22A	Dissolved Strontium (Sr)	µg/L	6/2018 - 11/2020	9	0%	6.9	270	--	--	6.9	270	41.0	81.0	Not Normal	Normal **	287	377
MW-22A	Total Strontium (Sr)	µg/L	6/2019 - 11/2020	5	0%	7.4	14	--	--	7.4	14	11.0	2.84	Normal	Normal	23.0	27.3
MW-22A	Dissolved Thallium (Tl)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-22A	Total Thallium (Tl)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-22A	Dissolved Tin (Sn)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-22A	Total Tin (Sn)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-22A	Dissolved Titanium (Ti)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-22A	Total Titanium (Ti)	µg/L	6/2019 - 11/2020	5	0%	9.6	60	--	--	9.6	60	24.1	19.1	Normal	Normal	105	134
MW-22A	Dissolved Uranium (U)	µg/L	6/2018 - 11/2020	9	89%	0.72	0.72	<0.10	<0.10	<0.10	0.72	--	--	Not tested	Maximum	0.720	0.720
MW-22A	Total Uranium (U)	µg/L	6/2019 - 11/2020	5	80%	0.18	0.18	<0.10	<0.10	<0.10	0.18	--	--	Not tested	Maximum	0.180	0.180
MW-22A	Dissolved Vanadium (V)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-22A	Total Vanadium (V)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-22A	Dissolved Zinc (Zn)	µg/L	6/2018 - 11/2020	9	22%	8.6	20	<5.0	<5.0	<5.0	20	11.1	4.63	Normal	Normal (KM)	25.1	30.2
MW-22A	Total Zinc (Zn)	µg/L	6/2019 - 11/2020	5	0%	6.9	14	--	--	6.9	14	9.06	2.72	Normal	Normal	20.5	24.7
MW-22A	Dissolved Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
MW-22A	Total Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
	Calculated Parameters																
MW-22B	Anion Sum	me/L	6/2018 - 11/2020	9	0%	0.78	1.56	--	--	0.78	1.56	1.08	0.245	Normal	Normal	1.82	2.09
MW-22B	Bicarb. Alkalinity (calc. as CaCO3	mg/L	6/2018 - 11/2020	9	0%	26	59	--	--	26	59	39.7	10.7	Normal	Normal	72.3	84.2
MW-22B	Calculated TDS	mg/L	6/2018 - 11/2020	9	0%	50	94	--	--	50	94	67.9	13.5	Normal	Normal	109	124
MW-22B	Carb. Alkalinity (calc. as CaCO3)	mg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-22B	Cation Sum	me/L	6/2018 - 11/2020	9	0%	0.7	1.38	--	--	0.7	1.38	0.99	0.231	Normal	Normal	1.69	1.95
MW-22B	Hardness (CaCO3)	mg/L	6/2018 - 11/2020	9	0%	14	49	--	--	14	49	30.3	11.8	Normal	Normal	66.0	79.1
MW-22B	Ion Balance (% Difference)	%	6/2018 - 11/2020	9	0%	0.37	6.67	--	--	0.37	6.67	4.21	1.89	Normal	Normal	9.95	12.1
MW-22B	Langelier Index (@ 20C)	N/A	6/2018 - 11/2020	9	0%	-2.52	-0.786	--	--	-2.52	-0.786	-1.83	0.561	Normal	Normal	-0.131	0.492
MW-22B	Langelier Index (@ 4C)	N/A	6/2018 - 11/2020	9	0%	-2.77	-1.04	--	--	-2.77	-1.04	-2.08	0.561	Normal	Normal	-0.383	0.241
MW-22B	Nitrate (N)	mg/L	6/2018 - 11/2020	9	44%	0.05	0.064	<0.050	<0.050	<0.050	0.064	0.05	0.005	Not Normal	Normal (KM) **	0.067	0.0716
MW-22B	Saturation pH (@ 20C)	N/A	6/2018 - 11/2020	9	0%	8.41	9.23	--	--	8.41	9.23	8.82	0.282	Normal	Normal	9.68	9.99
MW-22B	Saturation pH (@ 4C)	N/A	6/2018 - 11/2020	9	0%	8.66	9.48	--	--	8.66	9.48	9.08	0.282	Normal	Normal	9.93	10.2
	Inorganics																
MW-22B	Total Alkalinity (Total as CaCO3)	mg/L	6/2018 - 11/2020	9	0%	26	60	--	--	26	60	39.8	11.0	Normal	Normal	73.0	85.2
MW-22B	Total Chemical Oxygen Demand	mg/L	11/2020 - 11/2020	1	100%	--	--	<20	<20	<20	<20	--	--	Not tested	Reporting Limit	<20	<20
MW-22B	Dissolved Chloride (Cl-)	mg/L	6/2018 - 11/2020	9	0%	2.9	5.5	--	--	2.9	5.5	4.06	0.762	Normal	Normal	6.36	7.21
MW-22B	Colour	TCU	6/2018 - 11/2020	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	Not tested	Reporting Limit	<5.0	<5.0
MW-22B	Nitrate + Nitrite (N)	mg/L	6/2018 - 11/2020	9	44%	0.05	0.064	<0.050	<0.050	<0.050	0.064	0.05	0.005	Not Normal	Normal (KM) **	0.067	0.0716
MW-22B	Nitrite (N)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-22B	Nitrogen (Ammonia Nitrogen)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.050	<0.050	<0.050	<0.050	--	--	Not tested	Reporting Limit	<0.050	<0.050
MW-22B	Dissolved Organic Carbon (C)	mg/L	11/2020 - 11/2020	1	0%	0.7	0.7	--	--	0.7	0.7	--	--	Not tested	Maximum	0.700	0.700
MW-22B	Total Organic Carbon (C)	mg/L	6/2018 - 11/2020	9	0%	0.57	2.8	--	--	0.57	2.8	1.49	0.721	Normal	Normal	3.67	4.47
MW-22B	Orthophosphate (P)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-22B	pH (LTL - UTL)	s.u.	6/2018 - 11/2020	9	0%	6.56	7.63	--	--	6.56	7.63	6.99	0.304	Normal	Normal	5.92 - 8.07	5.61 - 8.38
MW-22B	Dissolved Phosphorous	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-22B	Total Phosphorus	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-22B	Reactive Silica (SiO2)	mg/L	6/2018 - 11/2020	9	0%	8	14	--	--	8	14	11.3	1.90	Normal	Normal	17.0	19.2

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-22B	Total Suspended Solids	mg/L	11/2020 - 11/2020	1	0%	8.8	8.8	--	--	8.8	8.8	--	--	Not tested	Maximum	8.80	8.80
MW-22B	Dissolved Sulphate (SO4)	mg/L	6/2018 - 11/2020	9	0%	5.6	12	--	--	5.6	12	8.16	1.83	Normal	Normal	13.7	15.7
MW-22B	Turbidity	NTU	6/2018 - 11/2020	9	0%	0.8	17	--	--	0.8	17	1.47	0.465	Gamma	WH Approx. Gamma	24.0	39.4
MW-22B	Conductivity	µS/cm	6/2018 - 11/2020	9	0%	77	150	--	--	77	150	104	22.5	Normal	Normal	172	197
	Metals																
MW-22B	Dissolved Aluminum (Al)	µg/L	6/2018 - 11/2020	9	0%	7.3	77	--	--	7.3	77	2.78	0.709	Gamma	WH Approx. Gamma	120	187
MW-22B	Total Aluminum (Al)	µg/L	6/2019 - 11/2020	5	0%	82	340	--	--	82	340	180	88.1	Normal	Normal	551	686
MW-22B	Dissolved Antimony (Sb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-22B	Total Antimony (Sb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-22B	Dissolved Arsenic (As)	µg/L	6/2018 - 11/2020	9	67%	1.2	1.5	<1.0	<1.0	<1.0	1.5	1.12	0.187	Not tested	Maximum	1.50	1.50
MW-22B	Total Arsenic (As)	µg/L	6/2019 - 11/2020	5	40%	1	1.1	<1.0	<1.0	<1.0	1.1	1.04	0.049	Not Normal	Normal (KM) **	1.25	1.32
MW-22B	Dissolved Barium (Ba)	µg/L	6/2018 - 11/2020	9	0%	2.5	9	--	--	2.5	9	5.42	2.30	Normal	Normal	12.4	15.0
MW-22B	Total Barium (Ba)	µg/L	6/2019 - 11/2020	5	0%	3.4	10	--	--	3.4	10	6.02	2.24	Normal	Normal	15.4	18.9
MW-22B	Dissolved Beryllium (Be)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-22B	Total Beryllium (Be)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-22B	Dissolved Bismuth (Bi)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-22B	Total Bismuth (Bi)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-22B	Dissolved Boron (B)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-22B	Total Boron (B)	µg/L	6/2019 - 11/2020	5	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-22B	Dissolved Cadmium (Cd)	µg/L	6/2018 - 11/2020	9	22%	0.012	0.045	<0.010	<0.010	<0.010	0.045	0.02	0.011	Normal	Normal (KM)	0.054	0.0667
MW-22B	Total Cadmium (Cd)	µg/L	6/2019 - 11/2020	5	20%	0.015	0.028	<0.010	<0.010	<0.010	0.028	0.02	0.007	Normal	Normal (KM)	0.048	0.0584
MW-22B	Dissolved Calcium (Ca)	µg/L	6/2018 - 11/2020	9	0%	2300	14000	--	--	2300	14000	7544	3478	Normal	Normal	18086	21952
MW-22B	Total Calcium (Ca)	µg/L	6/2019 - 11/2020	5	0%	2500	12000	--	--	2500	12000	7920	3325	Normal	Normal	21893	27007
MW-22B	Dissolved Chromium (Cr)	µg/L	6/2018 - 11/2020	9	89%	1.1	1.1	<1.0	<1.0	<1.0	1.1	--	--	Not tested	Maximum	1.10	1.10
MW-22B	Total Chromium (Cr)	µg/L	6/2019 - 11/2020	5	80%	1.3	1.3	<1.0	<1.0	<1.0	1.3	--	--	Not tested	Maximum	1.30	1.30
MW-22B	Dissolved Cobalt (Co)	µg/L	6/2018 - 11/2020	9	56%	0.41	1.1	<0.40	<0.40	<0.40	1.1	0.52	0.235	Not tested	Normal (KM) **	1.10	1.10
MW-22B	Total Cobalt (Co)	µg/L	6/2019 - 11/2020	5	40%	0.53	0.87	<0.40	<0.40	<0.40	0.87	0.56	0.172	Normal	Normal (KM)	1.28	1.55
MW-22B	Dissolved Copper (Cu)	µg/L	6/2018 - 11/2020	9	33%	0.77	4.1	<2.0	<2.0	0.77	4.1	1.74	0.988	Normal	Normal (KM)	4.74	5.83
MW-22B	Total Copper (Cu)	µg/L	6/2019 - 11/2020	5	0%	1.4	5	--	--	1.4	5	3.34	1.20	Normal	Normal	8.37	10.2
MW-22B	Dissolved Iron (Fe)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-22B	Total Iron (Fe)	µg/L	6/2019 - 11/2020	5	0%	76	230	--	--	76	230	131	57.0	Normal	Normal	371	458
MW-22B	Dissolved Lead (Pb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-22B	Total Lead (Pb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-22B	Dissolved Magnesium (Mg)	µg/L	6/2018 - 11/2020	9	0%	1000	3000	--	--	1000	3000	1722	629	Normal	Normal	3627	4326
MW-22B	Total Magnesium (Mg)	µg/L	6/2019 - 11/2020	5	0%	1100	2400	--	--	1100	2400	1760	484	Normal	Normal	3795	4540
MW-22B	Dissolved Manganese (Mn)	µg/L	6/2018 - 11/2020	9	0%	89	230	--	--	89	230	165	39.4	Normal	Normal	285	329
MW-22B	Total Manganese (Mn)	µg/L	6/2019 - 11/2020	5	0%	140	220	--	--	140	220	182	25.6	Normal	Normal	290	329
MW-22B	Dissolved Molybdenum (Mo)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-22B	Total Molybdenum (Mo)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-22B	Dissolved Nickel (Ni)	µg/L	6/2018 - 11/2020	9	56%	3.9	6.4	<2.0	<2.0	<2.0	6.4	3.20	1.50	Not tested	Normal (KM) **	6.40	6.40
MW-22B	Total Nickel (Ni)	µg/L	6/2019 - 11/2020	5	60%	2.1	4.9	<2.0	<2.0	<2.0	4.9	2.60	1.15	Not tested	Maximum	4.90	4.90
MW-22B	Dissolved Phosphorus (P)	µg/L	6/2018 - 11/2020	9	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-22B	Total Phosphorus (P)	µg/L	6/2019 - 11/2020	5	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-22B	Dissolved Potassium (K)	µg/L	6/2018 - 11/2020	9	0%	600	1600	--	--	600	1600	1091	327	Normal	Normal	2082	2446
MW-22B	Total Potassium (K)	µg/L	6/2019 - 11/2020	5	0%	600	1200	--	--	600	1200	906	191	Normal	Normal	1709	2003
MW-22B	Dissolved Selenium (Se)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-22B	Total Selenium (Se)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-22B	Dissolved Silver (Ag)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-22B	Total Silver (Ag)	µg/L	6/2019 - 11/2020	5	20%	0.14	0.38	<0.10	<0.10	<0.10	0.38	0.20	0.099	Normal	Normal (KM)	0.618	0.771
MW-22B	Dissolved Sodium (Na)	µg/L	6/2018 - 11/2020	9	0%	2600	11000	--	--	2600	11000	7722	2456	Normal	Normal	15168	17898
MW-22B	Total Sodium (Na)	µg/L	6/2019 - 11/2020	5	0%	2500	8900	--	--	2500	8900	6220	2068	Normal	Normal	14912	18094
MW-22B	Dissolved Strontium (Sr)	µg/L	6/2018 - 11/2020	9	0%	22	81	--	--	22	81	54.0	17.1	Normal	Normal	106	125
MW-22B	Total Strontium (Sr)	µg/L	6/2019 - 11/2020	5	0%	24	77	--	--	24	77	50.2	18.7	Normal	Normal	129	158
MW-22B	Dissolved Thallium (Tl)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-22B	Total Thallium (Tl)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-22B	Dissolved Tin (Sn)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-22B	Total Tin (Sn)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-22B	Dissolved Titanium (Ti)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-22B	Total Titanium (Ti)	µg/L	6/2019 - 11/2020	5	0%	2.5	9.4	--	--	2.5	9.4	4.82	2.38	Normal	Normal	14.8	18.5
MW-22B	Dissolved Uranium (U)	µg/L	6/2018 - 11/2020	9	44%	0.11	0.26	<0.10	<0.10	<0.10	0.26	0.13	0.050	Not Normal	Normal (KM) **	0.283	0.339
MW-22B	Total Uranium (U)	µg/L	6/2019 - 11/2020	5	40%	0.11	0.21	<0.10	<0.10	<0.10	0.21	0.13	0.042	Not Normal	Normal (KM) **	0.304	0.368
MW-22B	Dissolved Vanadium (V)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-22B	Total Vanadium (V)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-22B	Dissolved Zinc (Zn)	µg/L	6/2018 - 11/2020	9	33%	5.2	20	<5.0	<5.0	<5.0	20	10.6	6.28	Not Normal	Normal (KM) **	29.6	36.6
MW-22B	Total Zinc (Zn)	µg/L	6/2019 - 11/2020	5	80%	14	14	<5.0	<5.0	<5.0	14	--	--	Not tested	Maximum	14.0	14.0
MW-22B	Dissolved Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
MW-22B	Total Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
	Calculated Parameters																
MW-22C	Anion Sum	me/L	6/2018 - 11/2020	9	0%	1.8	2.24	--	--	1.8	2.24	2.11	0.117	Not Normal	Normal **	2.46	2.59
MW-22C	Bicarb. Alkalinity (calc. as CaCO3	mg/L	6/2018 - 11/2020	9	0%	75	95	--	--	75	95	91.9	6.03	Not Normal	Normal **	110	117
MW-22C	Calculated TDS	mg/L	6/2018 - 11/2020	9	0%	89	130	--	--	89	130	115	11.9	Not Normal	Normal **	152	165
MW-22C	Carb. Alkalinity (calc. as CaCO3)	mg/L	6/2018 - 11/2020	9	67%	1	1.3	<1.0	<1.0	1	1.3	1.03	0.094	Not tested	Maximum	1.30	1.30
MW-22C	Cation Sum	me/L	6/2018 - 11/2020	9	0%	0.31	2.02	--	--	0.31	2.02	1.74	0.519	Not Normal	Normal **	3.31	3.89
MW-22C	Hardness (CaCO3)	mg/L	6/2018 - 11/2020	9	0%	4.2	60	--	--	4.2	60	49.9	16.8	Not Normal	Normal **	101	120
MW-22C	Ion Balance (% Difference)	%	6/2018 - 11/2020	9	0%	2.18	75.25	--	--	2.18	75.25	12.4	22.3	Not Normal	Normal **	79.9	105
MW-22C	Langelier Index (@ 20C)	N/A	6/2018 - 11/2020	9	0%	-1.525	0.059	--	--	-1.525	0.059	-0.35	0.472	Not Normal	Normal **	1.09	1.61
MW-22C	Langelier Index (@ 4C)	N/A	6/2018 - 11/2020	9	0%	-1.775	-0.192	--	--	-1.775	-0.192	-0.60	0.472	Not Normal	Normal **	0.833	1.36
MW-22C	Nitrate (N)	mg/L	6/2018 - 11/2020	9	89%	0.11	0.11	<0.050	<0.050	<0.050	0.11	--	--	Not tested	Maximum	0.110	0.110
MW-22C	Saturation pH (@ 20C)	N/A	6/2018 - 11/2020	9	0%	8.11	9.415	--	--	8.11	9.415	8.29	0.404	Not Normal	Normal **	9.51	9.96
MW-22C	Saturation pH (@ 4C)	N/A	6/2018 - 11/2020	9	0%	8.36	9.665	--	--	8.36	9.665	8.54	0.404	Not Normal	Normal **	9.76	10.2
	Inorganics																
MW-22C	Total Alkalinity (Total as CaCO3)	mg/L	6/2018 - 11/2020	9	0%	76	96	--	--	76	96	92.8	5.99	Not Normal	Normal **	111	118
MW-22C	Total Chemical Oxygen Demand	mg/L	11/2020 - 11/2020	1	100%	--	--	<20	<20	<20	<20	--	--	Not tested	Reporting Limit	<20	<20
MW-22C	Dissolved Chloride (Cl-)	mg/L	6/2018 - 11/2020	9	0%	3	4.2	--	--	3	4.2	3.54	0.459	Normal	Normal	4.93	5.44
MW-22C	Colour	TCU	6/2018 - 11/2020	9	100%	--	--	<5.0	<5.0	<5.0	<5.0	--	--	Not tested	Reporting Limit	<5.0	<5.0
MW-22C	Nitrate + Nitrite (N)	mg/L	6/2018 - 11/2020	9	89%	0.11	0.11	<0.050	<0.050	<0.050	0.11	--	--	Not tested	Maximum	0.110	0.110
MW-22C	Nitrite (N)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-22C	Nitrogen (Ammonia Nitrogen)	mg/L	6/2018 - 11/2020	9	89%	0.071	0.071	<0.050	<0.050	<0.050	0.071	--	--	Not tested	Maximum	0.071	0.0710
MW-22C	Dissolved Organic Carbon (C)	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.5	<0.5	<0.5	<0.5	--	--	Not tested	Reporting Limit	<0.5	<0.5
MW-22C	Total Organic Carbon (C)	mg/L	6/2018 - 11/2020	9	11%	0.68	2.7	<0.50	<0.50	<0.50	2.7	1.01	0.172	Gamma	WH Approx. Gamma (KM	3.58	5.10
MW-22C	Orthophosphate (P)	mg/L	6/2018 - 11/2020	9	100%	--	--	<0.010	<0.010	<0.010	<0.010	--	--	Not tested	Reporting Limit	<0.010	<0.010
MW-22C	pH (LTL - UTL)	s.u.	6/2018 - 11/2020	9	0%	7.56	8.17	--	--	7.56	8.17	7.94	0.170	Normal	Normal	7.34 - 8.54	7.17 - 8.72
MW-22C	Dissolved Phosphorous	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-22C	Total Phosphorus	mg/L	11/2020 - 11/2020	1	100%	--	--	<0.020	<0.020	<0.020	<0.020	--	--	Not tested	Reporting Limit	<0.020	<0.020
MW-22C	Reactive Silica (SiO2)	mg/L	6/2018 - 11/2020	9	0%	10	12	--	--	10	12	11.8	0.629	Not Normal	Normal **	13.7	14.4
MW-22C	Total Suspended Solids	mg/L	11/2020 - 11/2020	1	0%	7.8	7.8	--	--	7.8	7.8	--	--	Not tested	Maximum	7.80	7.80
MW-22C	Dissolved Sulphate (SO4)	mg/L	6/2018 - 11/2020	9	0%	5.3	10	--	--	5.3	10	7.27	1.51	Normal	Normal	11.8	13.5
MW-22C	Turbidity	NTU	6/2018 - 11/2020	9	0%	0.46	12	--	--	0.46	12	1.40	0.438	Gamma	WH Approx. Gamma	20.4	33.3
MW-22C	Conductivity	µS/cm	6/2018 - 11/2020	9	0%	160	210	--	--	160	210	192	13.1	Not Normal	Normal **	232	247
	Metals																
MW-22C	Dissolved Aluminum (Al)	µg/L	6/2018 - 11/2020	9	11%	7.1	105	<5.0	<5.0	<5.0	105	19.8	30.2	Not Normal	Normal (KM) **	111	145
MW-22C	Total Aluminum (Al)	µg/L	6/2019 - 11/2020	5	0%	54	670	--	--	54	670	327	213	Normal	Normal	1220	1547
MW-22C	Dissolved Antimony (Sb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-22C	Total Antimony (Sb)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-22C	Dissolved Arsenic (As)	µg/L	6/2018 - 11/2020	9	22%	3.1	5.5	<1.0	<1.0	<1.0	5.5	3.93	1.70	Not Normal	Normal (KM) **	9.08	11.0
MW-22C	Total Arsenic (As)	µg/L	6/2019 - 11/2020	5	20%	3.8	5.1	<1.0	<1.0	<1.0	5.1	4.00	1.58	Not Normal	Normal (KM) **	10.6	13.1
MW-22C	Dissolved Barium (Ba)	µg/L	6/2018 - 11/2020	9	0%	2.7	9.6	--	--	2.7	9.6	5.46	2.22	Normal	Normal	12.2	14.7
MW-22C	Total Barium (Ba)	µg/L	6/2019 - 11/2020	5	0%	4.4	13	--	--	4.4	13	9.44	3.65	Normal	Normal	24.8	30.4
MW-22C	Dissolved Beryllium (Be)	µg/L	6/2018 - 11/2020	9	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-22C	Total Beryllium (Be)	µg/L	6/2019 - 11/2020	5	100%	--	--	<1.0	<1.0	<1.0	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-22C	Dissolved Bismuth (Bi)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-22C	Total Bismuth (Bi)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-22C	Dissolved Boron (B)	µg/L	6/2018 - 11/2020	9	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-22C	Total Boron (B)	µg/L	6/2019 - 11/2020	5	100%	--	--	<50	<50	<50	<50	--	--	Not tested	Reporting Limit	<50	<50
MW-22C	Dissolved Cadmium (Cd)	µg/L	6/2018 - 11/2020	9	89%	0.018	0.018	<0.010	<0.010	<0.010	0.018	--	--	Not tested	Maximum	0.018	0.0180
MW-22C	Total Cadmium (Cd)	µg/L	6/2019 - 11/2020	5	80%	0.023	0.023	<0.010	<0.010	<0.010	0.023	--	--	Not tested	Maximum	0.023	0.0230
MW-22C	Dissolved Calcium (Ca)	µg/L	6/2018 - 11/2020	9	0%	885	19000	--	--	885	19000	15098	5639	Not Normal	Normal **	32190	38459
MW-22C	Total Calcium (Ca)	µg/L	6/2019 - 11/2020	5	0%	12000	19000	--	--	12000	19000	16200	2713	Normal	Normal	27602	31775
MW-22C	Dissolved Chromium (Cr)	µg/L	6/2018 - 11/2020	9	89%	1.55	1.55	<1.0	<1.0	<1.0	1.55	--	--	Not tested	Maximum	1.55	1.55
MW-22C	Total Chromium (Cr)	µg/L	6/2019 - 11/2020	5	80%	1.2	1.2	<1.0	<1.0	<1.0	1.2	--	--	Not tested	Maximum	1.20	1.20
MW-22C	Dissolved Cobalt (Co)	µg/L	6/2018 - 11/2020	9	78%	0.53	1.4	<0.40	<0.40	<0.40	1.4	0.53	0.312	Not tested	Maximum	1.40	1.40
MW-22C	Total Cobalt (Co)	µg/L	6/2019 - 11/2020	5	80%	0.59	0.59	<0.40	<0.40	<0.40	0.59	--	--	Not tested	Maximum	0.590	0.590
MW-22C	Dissolved Copper (Cu)	µg/L	6/2018 - 11/2020	9	89%	9.8	9.8	<0.50	<2.0	<0.50	9.8	--	--	Not tested	Maximum	9.80	9.80
MW-22C	Total Copper (Cu)	µg/L	6/2019 - 11/2020	5	40%	0.85	2.3	<0.50	<0.50	<0.50	2.3	1.02	0.666	Normal	Normal (KM)	3.81	4.84
MW-22C	Dissolved Iron (Fe)	µg/L	6/2018 - 11/2020	9	89%	350	350	<50	<50	<50	350	--	--	Not tested	Maximum	350	350
MW-22C	Total Iron (Fe)	µg/L	6/2019 - 11/2020	5	20%	82	610	<50	<50	<50	610	250	202	Normal	Normal (KM)	1099	1410
MW-22C	Dissolved Lead (Pb)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<0.50	<0.50	<0.50	--	--	Not tested	Reporting Limit	<0.50	<0.50
MW-22C	Total Lead (Pb)	µg/L	6/2019 - 11/2020	5	80%	0.73	0.73	<0.50	<0.50	<0.50	0.73	--	--	Not tested	Maximum	0.730	0.730
MW-22C	Dissolved Magnesium (Mg)	µg/L	6/2018 - 11/2020	9	0%	490	5600	--	--	490	5600	2843	1240	Normal	Normal	6601	7979
MW-22C	Total Magnesium (Mg)	µg/L	6/2019 - 11/2020	5	0%	2400	5700	--	--	2400	5700	8.08	0.294	Lognormal	Lognormal	11165	17560
MW-22C	Dissolved Manganese (Mn)	µg/L	6/2018 - 11/2020	9	0%	15	230	--	--	15	230	3.58	1.06	Gamma	WH Approx. Gamma	312	504
MW-22C	Total Manganese (Mn)	µg/L	6/2019 - 11/2020	5	0%	30	240	--	--	30	240	4.03	1.15	Gamma	WH Approx. Gamma	694	1198

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects Min.	Detects Max.	Non-Detects Min.	Non-Detects Max.	Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs) Method	95/95 UTL	95/99 UTL
MW-22C	Dissolved Molybdenum (Mo)	µg/L	6/2018 - 11/2020	9	11%	2.2	3.3	<2.0	<2.0	<2.0	3.3	2.77	0.424	Normal	Normal (KM)	4.05	4.52
MW-22C	Total Molybdenum (Mo)	µg/L	6/2019 - 11/2020	5	0%	2.5	3.2	--	--	2.5	3.2	2.80	0.245	Normal	Normal	3.83	4.21
MW-22C	Dissolved Nickel (Ni)	µg/L	6/2018 - 11/2020	9	78%	2.2	7.8	<2.0	<2.0	<2.0	7.8	2.67	1.82	Not tested	Maximum	7.80	7.80
MW-22C	Total Nickel (Ni)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-22C	Dissolved Phosphorus (P)	µg/L	6/2018 - 11/2020	9	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-22C	Total Phosphorus (P)	µg/L	6/2019 - 11/2020	5	100%	--	--	<100	<100	<100	<100	--	--	Not tested	Reporting Limit	<100	<100
MW-22C	Dissolved Potassium (K)	µg/L	6/2018 - 11/2020	9	0%	400	1700	--	--	400	1700	988	314	Normal	Normal	1939	2288
MW-22C	Total Potassium (K)	µg/L	6/2019 - 11/2020	5	0%	910	1800	--	--	910	1800	1148	332	Not Normal	Normal **	2543	3054
MW-22C	Dissolved Selenium (Se)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-22C	Total Selenium (Se)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.50	<1.0	<0.50	<1.0	--	--	Not tested	Reporting Limit	<1.0	<1.0
MW-22C	Dissolved Silver (Ag)	µg/L	6/2018 - 11/2020	9	89%	0.22	0.22	<0.10	<0.10	<0.10	0.22	--	--	Not tested	Maximum	0.220	0.220
MW-22C	Total Silver (Ag)	µg/L	6/2019 - 11/2020	5	80%	0.25	0.25	<0.10	<0.10	<0.10	0.25	--	--	Not tested	Maximum	0.250	0.250
MW-22C	Dissolved Sodium (Na)	µg/L	6/2018 - 11/2020	9	0%	4950	21000	--	--	4950	21000	16328	4257	Not Normal	Normal **	29233	33967
MW-22C	Total Sodium (Na)	µg/L	6/2019 - 11/2020	5	0%	16000	18000	--	--	16000	18000	16800	748	Normal	Normal	19945	21096
MW-22C	Dissolved Strontium (Sr)	µg/L	6/2018 - 11/2020	9	0%	11.5	280	--	--	11.5	280	211	92.5	Not Normal	Normal **	491	594
MW-22C	Total Strontium (Sr)	µg/L	6/2019 - 11/2020	5	0%	80	280	--	--	80	280	220	74.0	Normal	Normal	531	645
MW-22C	Dissolved Thallium (Tl)	µg/L	6/2018 - 11/2020	9	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-22C	Total Thallium (Tl)	µg/L	6/2019 - 11/2020	5	100%	--	--	<0.10	<0.10	<0.10	<0.10	--	--	Not tested	Reporting Limit	<0.10	<0.10
MW-22C	Dissolved Tin (Sn)	µg/L	6/2018 - 11/2020	9	78%	2.3	2.6	<2.0	<2.0	<2.0	2.6	2.10	0.200	Not tested	Maximum	2.60	2.60
MW-22C	Total Tin (Sn)	µg/L	6/2019 - 11/2020	5	60%	2	2.5	<2.0	<2.0	<2.0	2.5	2.10	0.200	Not tested	Maximum	2.50	2.50
MW-22C	Dissolved Titanium (Ti)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-22C	Total Titanium (Ti)	µg/L	6/2019 - 11/2020	5	20%	4.2	22	<2.0	<2.0	<2.0	22	11.4	7.54	Normal	Normal (KM)	43.1	54.7
MW-22C	Dissolved Uranium (U)	µg/L	6/2018 - 11/2020	9	22%	0.12	0.85	<0.10	<0.10	<0.10	0.85	0.61	0.156	Gamma	WH Approx. Gamma (KM	1.27	1.98
MW-22C	Total Uranium (U)	µg/L	6/2019 - 11/2020	5	0%	0.1	0.99	--	--	0.1	0.99	0.39	0.311	Normal	Normal	1.69	2.17
MW-22C	Dissolved Vanadium (V)	µg/L	6/2018 - 11/2020	9	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-22C	Total Vanadium (V)	µg/L	6/2019 - 11/2020	5	100%	--	--	<2.0	<2.0	<2.0	<2.0	--	--	Not tested	Reporting Limit	<2.0	<2.0
MW-22C	Dissolved Zinc (Zn)	µg/L	6/2018 - 11/2020	9	89%	13.5	13.5	<5.0	<5.0	<5.0	13.5	--	--	Not tested	Maximum	13.5	13.5
MW-22C	Total Zinc (Zn)	µg/L	6/2019 - 11/2020	5	80%	8.6	8.6	<5.0	<5.0	<5.0	8.6	--	--	Not tested	Maximum	8.60	8.60
MW-22C	Dissolved Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013
MW-22C	Total Mercury (Hg)	µg/L	11/2020 - 11/2020	1	100%	--	--	<0.013	<0.013	<0.013	<0.013	--	--	Not tested	Reporting Limit	<0.013	<0.013

Table 4.3

Calculated Intra-Well Background Values (BTVs) for Groundwater Quality Parameters
Beaver Dam Mine Project
Marinette, Nova Scotia

Well	Analyte	Unit	Date Range	N	%ND	Detects		Non-Detects		Min.	Max.	Mean	SD	Data Distribution	Background Threshold Values (BTVs)		
						Min.	Max.	Min.	Max.						Method	95/95 UTL	95/99 UTL

Notes:

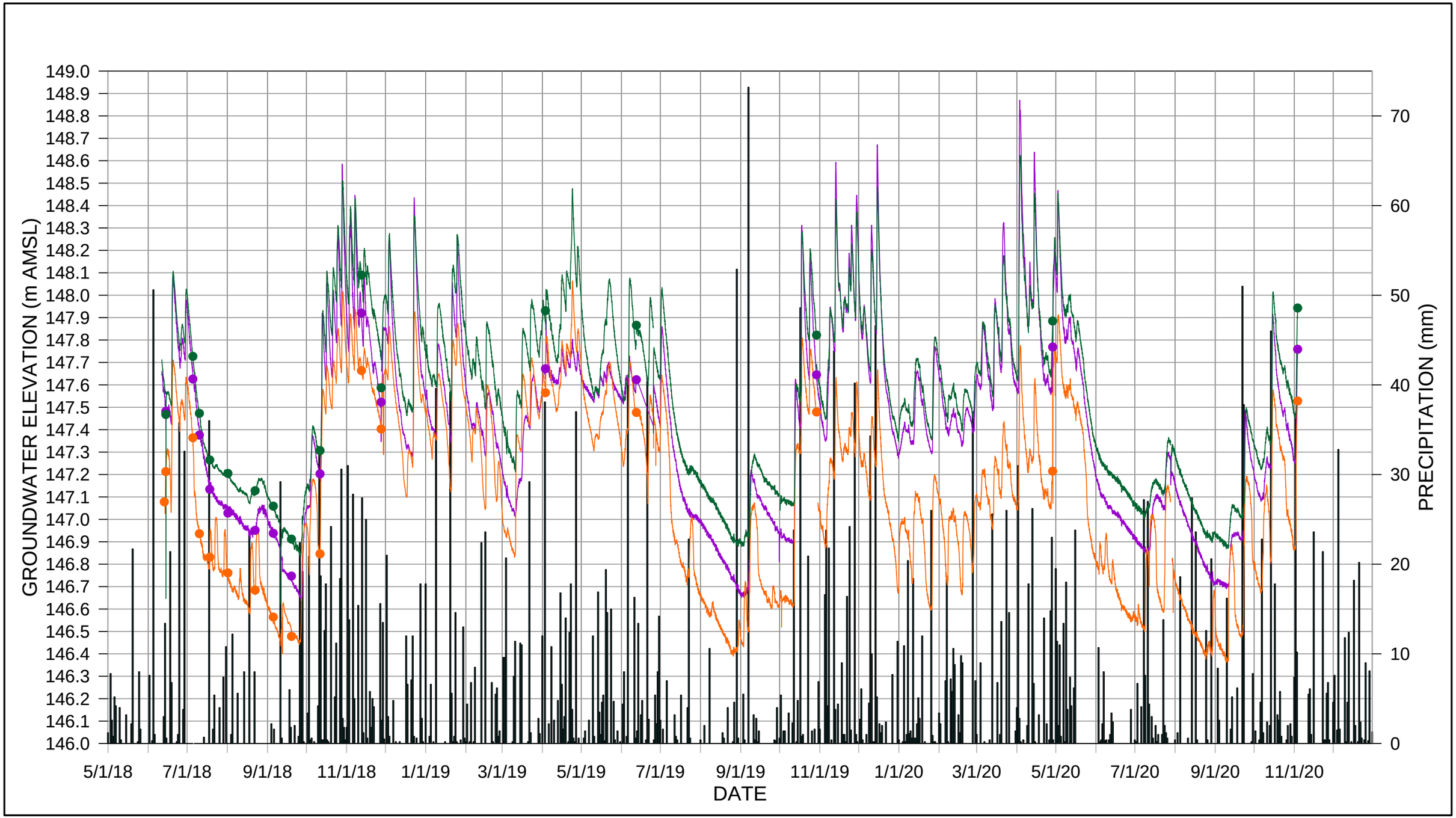
<1.0 - Not detected at the associated reporting limit.
UTLs - Upper Tolerance Limits.
LTLs - Lower Tolerance Limits are also reported for pH.
KM - UTLs were calculated using Kaplan-Meyer estimates for non-detects.
WH - UTLs were calculated using gamma distribution and the Wilson-Hilferty method.
* Elevated detection limit due to turbidity.
** Data distribution was assumed normal for tolerance limit calculations. Future sampling events will determine a better data distribution.

For non-parametric UTLs, the following actual confidence coefficients were achieved for the following number of baseline samples:

n	*at 95 percent coverage*	*at 99 percent coverage*
4	0.19 (19% confidence)	0.040 (4% confidence)
5	0.23 (23% confidence)	0.050 (5% confidence)
7	0.30 (30% confidence)	0.068 (6.8% confidence)
8	0.34 (34% confidence)	0.077 (7.7% confidence)
9	0.37 (37% confidence)	0.087 (8.7% confidence)

Appendix A
Groundwater Level Hydrographs

DRAFT



Legend

MW-01A
MW-01B
MW-01C
PRECIPITATION (mm)
MANUAL MEASUREMENTS

ATLANTIC GOLD CORPORATION
BEAVER DAM MINE PROJECT
MARTINETTE, NOVA SCOTIA

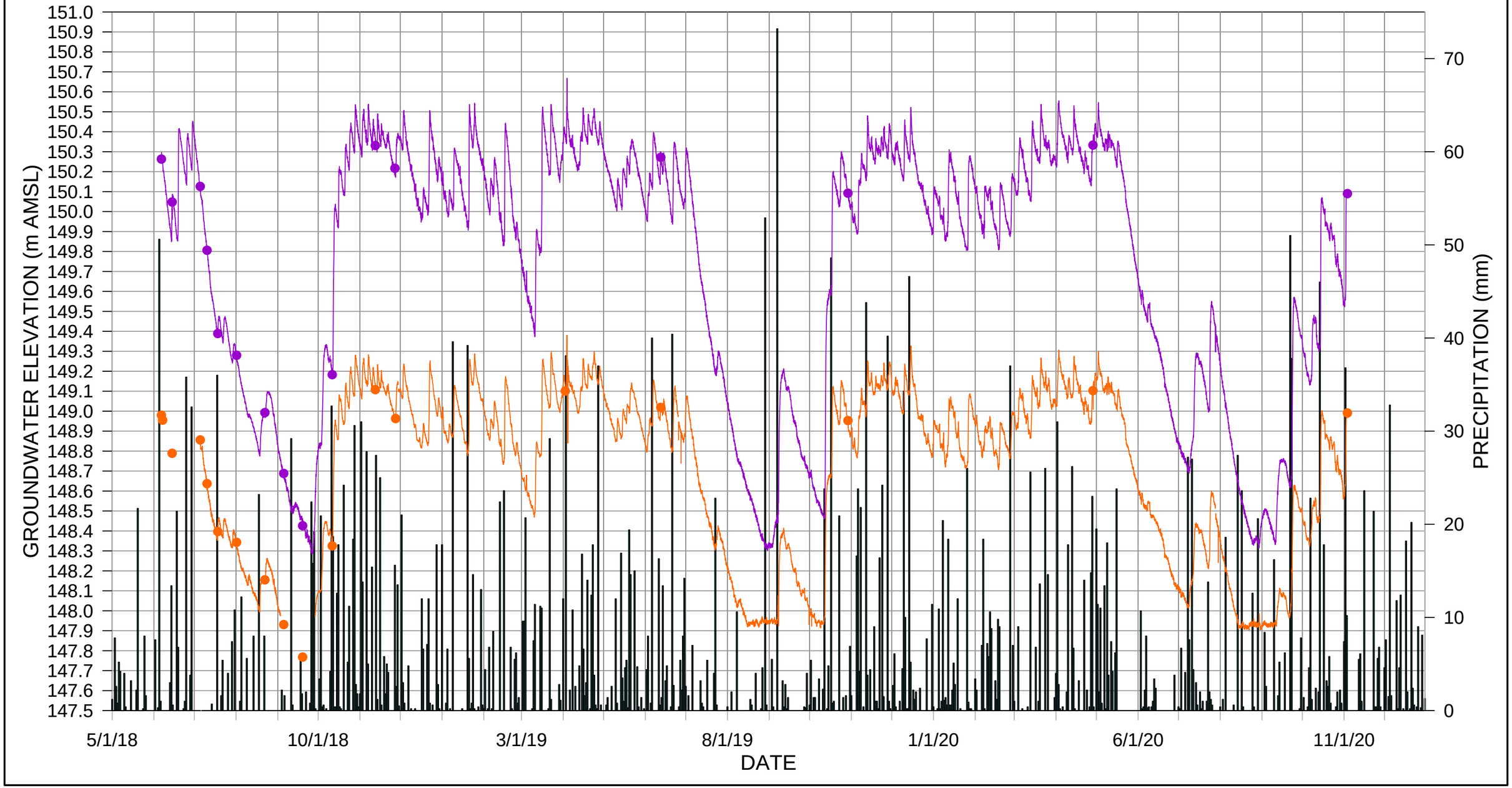
MW-01 WELL NEST
MEASURED GROUNDWATER ELEVATIONS

088664-13
Sept 10, 2019

FIGURE 1

HEG file: Z:\HEG\088664\MONITORING DATA\2nd Data Round\MW-01 HYDROGRAPH.grf

DRAFT



Legend

MW-02A

MW-02B

PRECIPITATION (mm)

MANUAL MEASUREMENTS

ATLANTIC GOLD CORPORATION
BEAVER DAM MINE PROJECT
MARTINETTE, NOVA SCOTIA

MW-02 WELL NEST
MEASURED GROUNDWATER ELEVATIONS

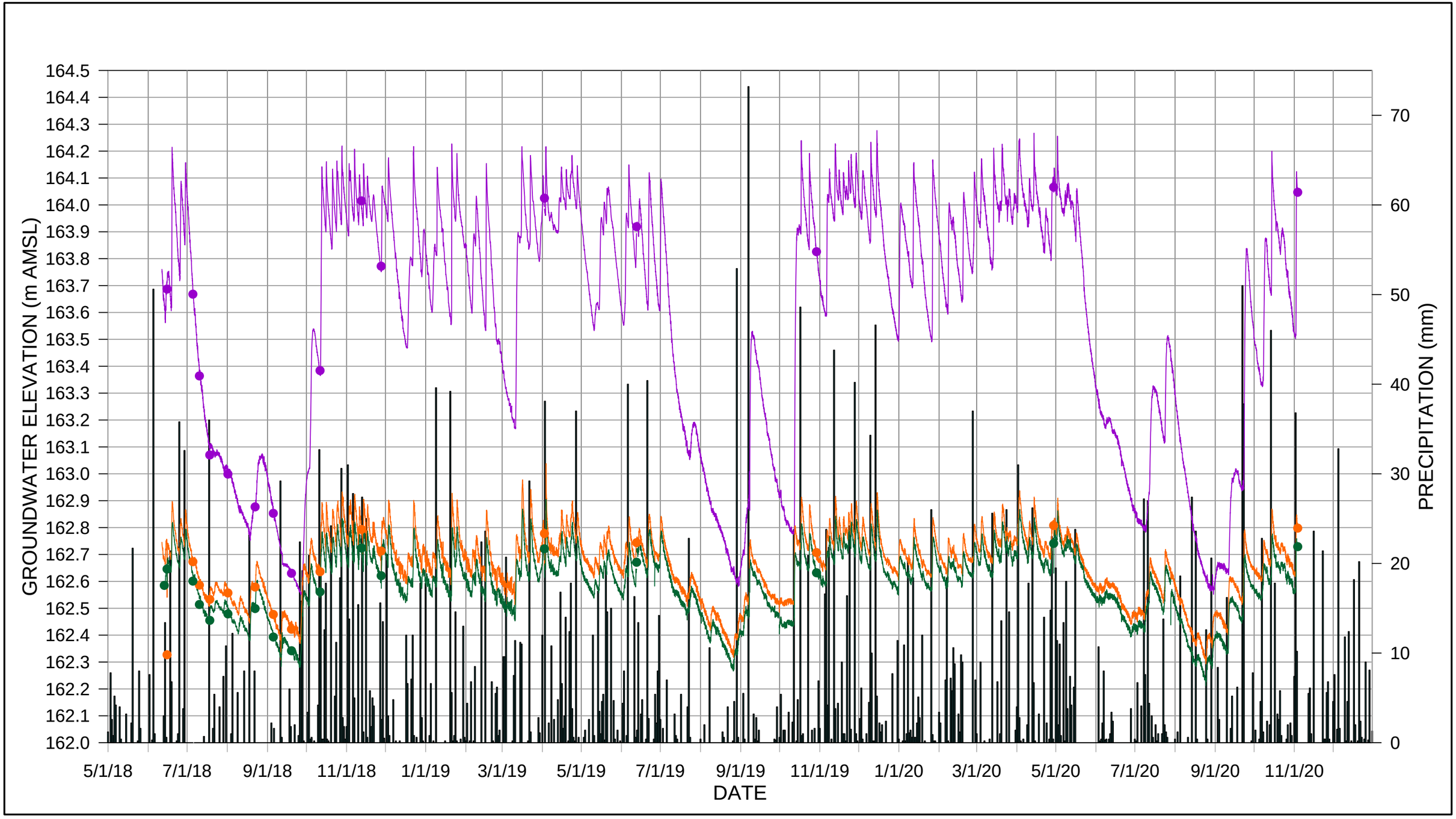
088664-13

Sept 10, 2019

FIGURE 2

HEG file: Z:\HEG\088664\MONITORING DATA\2nd Data Round\MW-02 HYDROGRAPH.grf

DRAFT



Legend

MW-03A
MW-03B
MW-03C
PRECIPITATION (mm)
MANUAL MEASUREMENTS

ATLANTIC GOLD CORPORATION
BEAVER DAM MINE PROJECT
MARTINETTE, NOVA SCOTIA

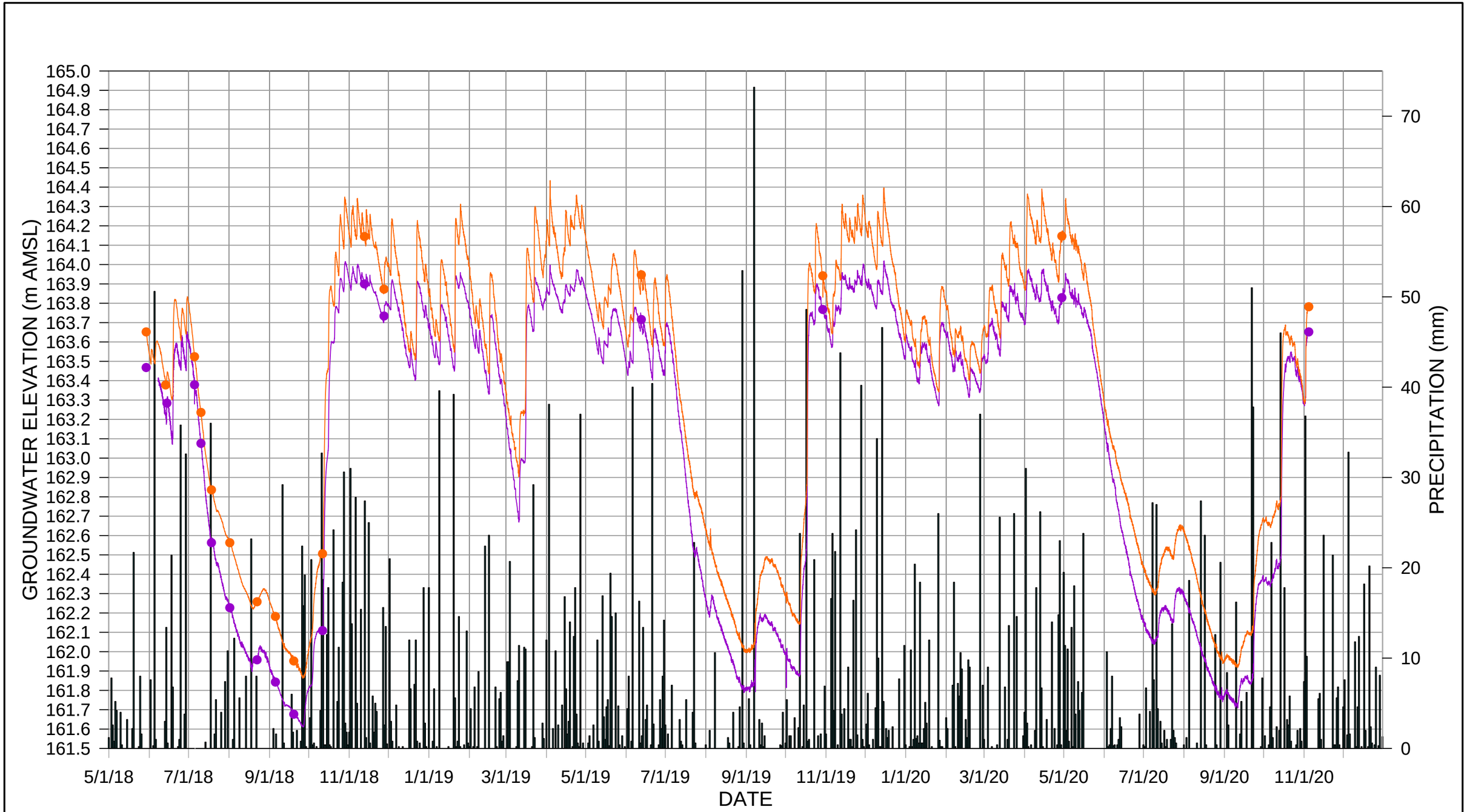
MW-03 WELL NEST
MEASURED GROUNDWATER ELEVATIONS

088664-13
Sept 10, 2019

FIGURE 3

HEG file: Z:\HEG\088664\MONITORING DATA\2nd Data Round\MW-03 HYDROGRAPH.grf

DRAFT



Legend

MW-04A

MW-04B

PRECIPITATION (mm)

MANUAL MEASUREMENTS

GHD

ATLANTIC GOLD CORPORATION
BEAVER DAM MINE PROJECT
MARTINETTE, NOVA SCOTIA

MW-04 WELL NEST
MEASURED GROUNDWATER ELEVATIONS

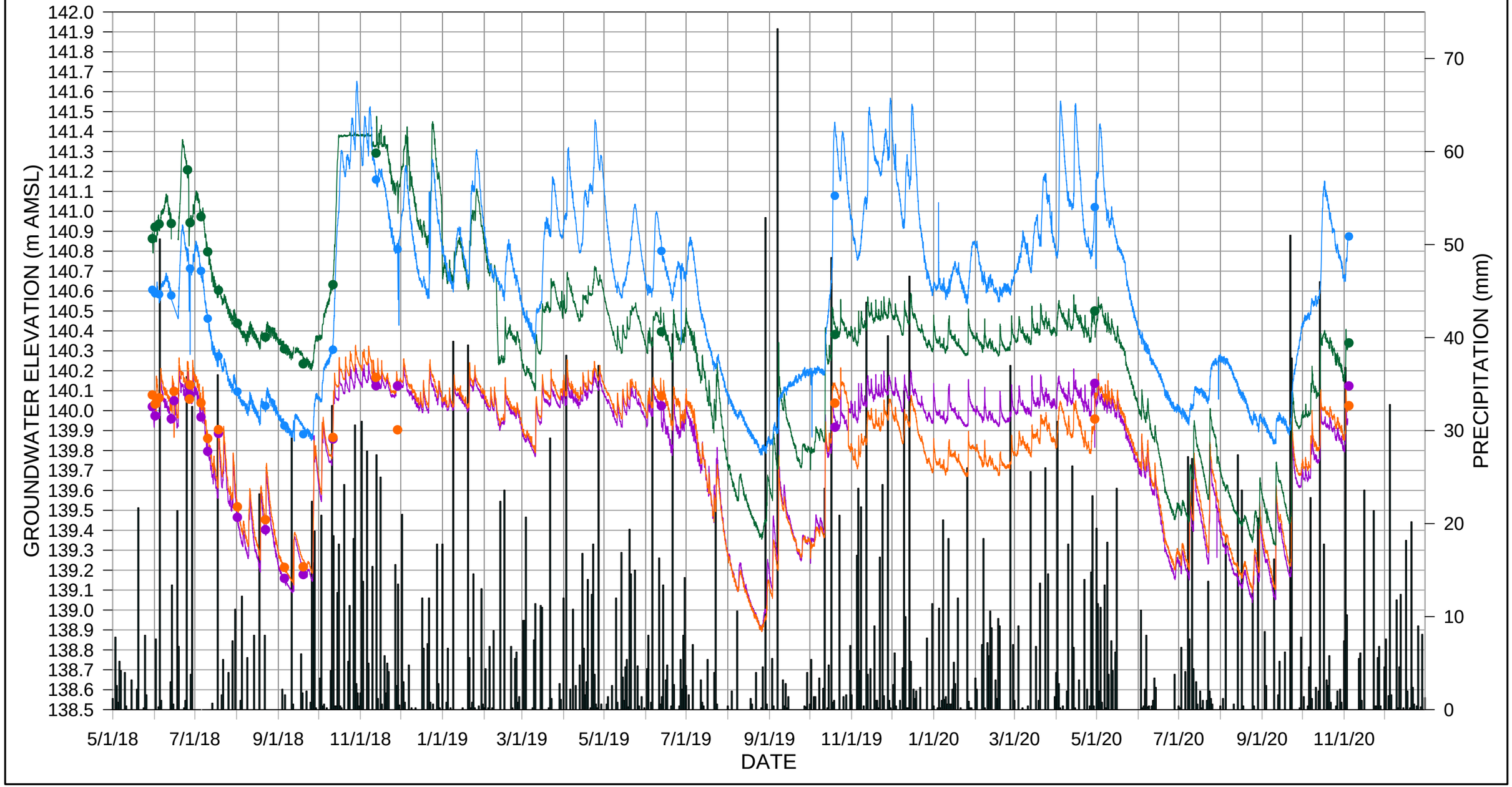
088664-13

Sept 10, 2019

FIGURE 4

HEG file: Z:\HEG\088664\MONITORING DATA\2nd Data Round\MW-04 HYDROGRAPH.grf

DRAFT



Legend

MW-05A
MW-05B
MW-05C
MW-05D
PRECIPITATION (mm)
MANUAL MEASUREMENTS

ATLANTIC GOLD CORPORATION
BEAVER DAM MINE PROJECT
MARTINETTE, NOVA SCOTIA

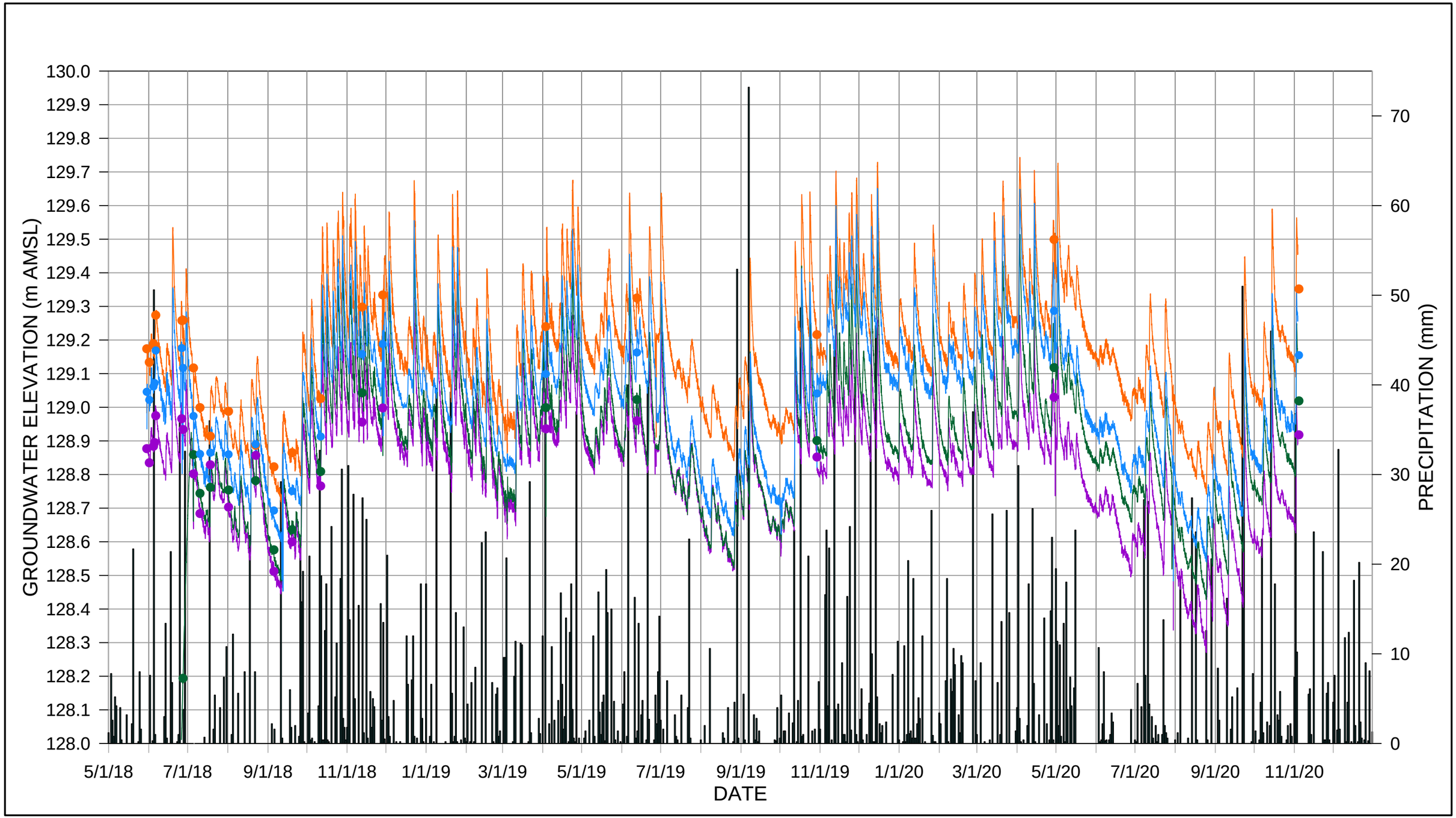
MW-05 WELL NEST
MEASURED GROUNDWATER ELEVATIONS

088664-13
Sept 10, 2019

FIGURE 5

HEG file: Z:\HEG\088664\MONITORING DATA\2nd Data Round\MW-05 HYDROGRAPH.grf

DRAFT



Legend

MW-07A — MW-07C — PRECIPITATION (mm)

MW-07B — MW-07D ● MANUAL MEASUREMENTS

ATLANTIC GOLD CORPORATION
BEAVER DAM MINE PROJECT
MARTINETTE, NOVA SCOTIA

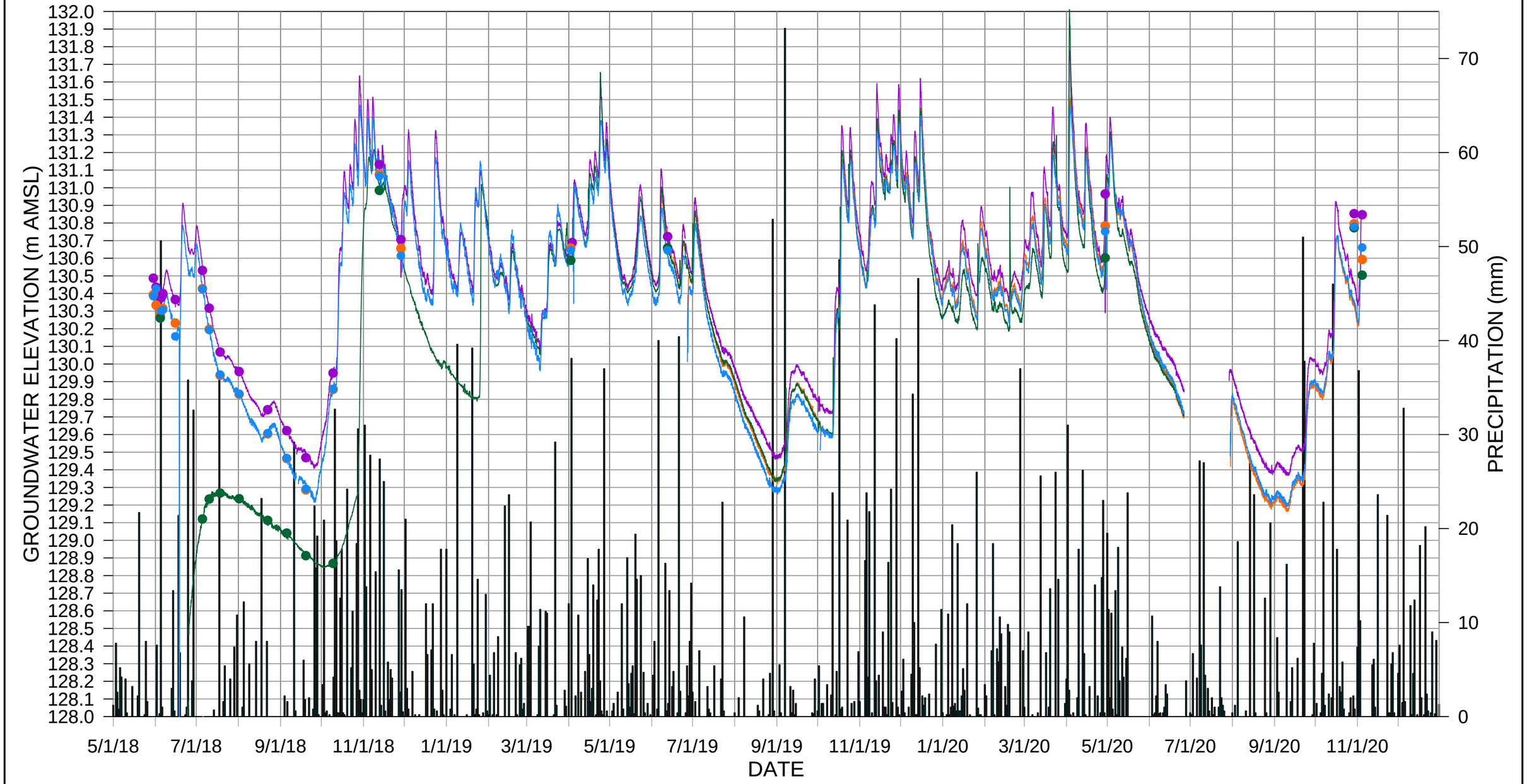
MW-07 WELL NEST
MEASURED GROUNDWATER ELEVATIONS

088664-13
Sept 10, 2019

FIGURE 6

HEG file: Z:\HEG\088664\MONITORING DATA\2nd Data Round\MW-07 HYDROGRAPH.grf

DRAFT



Legend

MW-09A
MW-09B
MW-09C
MW-09D
PRECIPITATION (mm)
MANUAL MEASUREMENTS

ATLANTIC GOLD CORPORATION
BEAVER DAM MINE PROJECT
MARTINETTE, NOVA SCOTIA

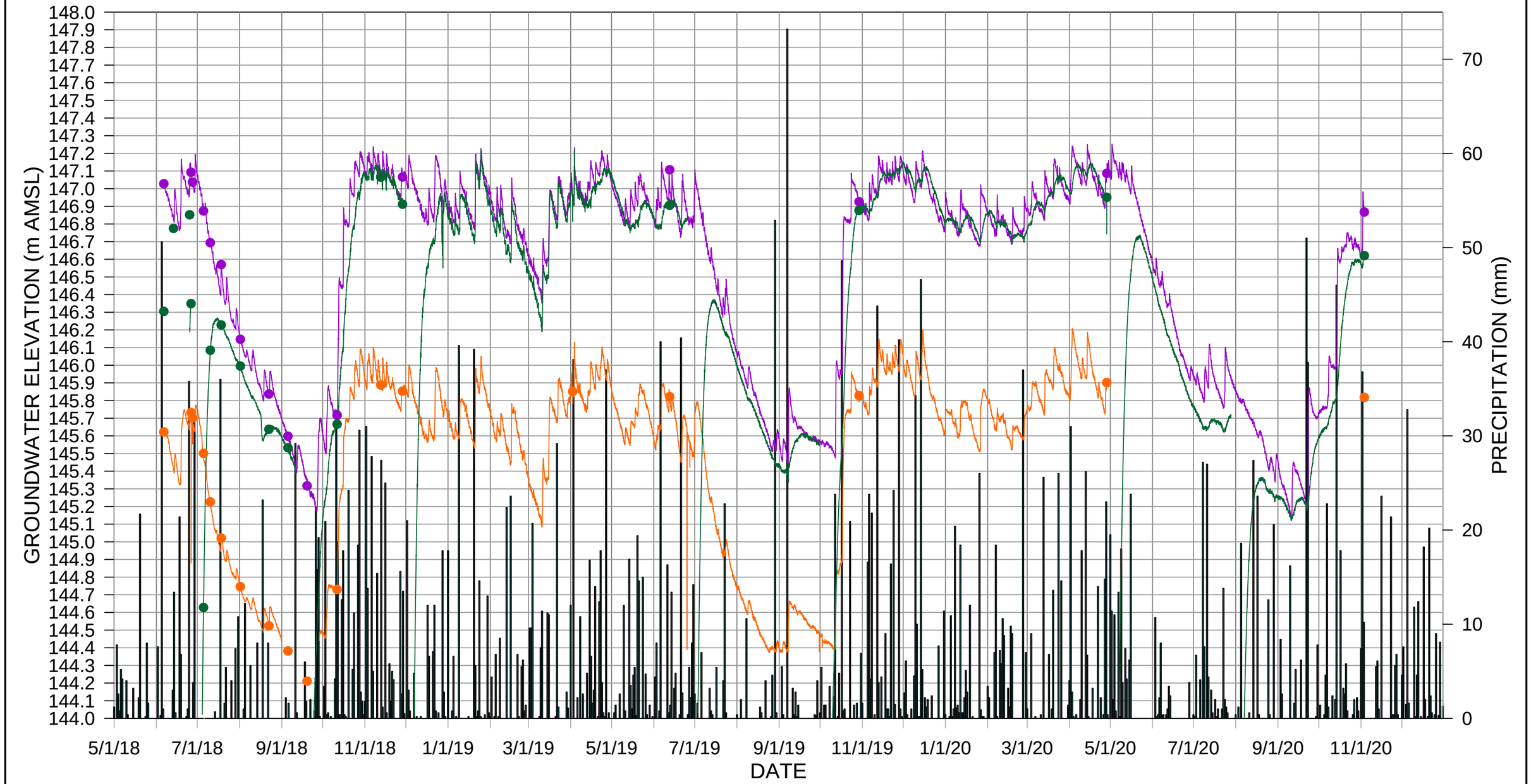
MW-09 WELL NEST
MEASURED GROUNDWATER ELEVATIONS

088664-13
Sept 10, 2019

FIGURE 7

HEG file: Z:\HEG\088664\MONITORING DATA\2nd Data Round\MW-09 HYDROGRAPH.grf

DRAFT



Legend

MW-11A
MW-11B
MW-11C
PRECIPITATION (mm)
MANUAL MEASUREMENTS

ATLANTIC GOLD CORPORATION
BEAVER DAM MINE PROJECT
MARTINETTE, NOVA SCOTIA

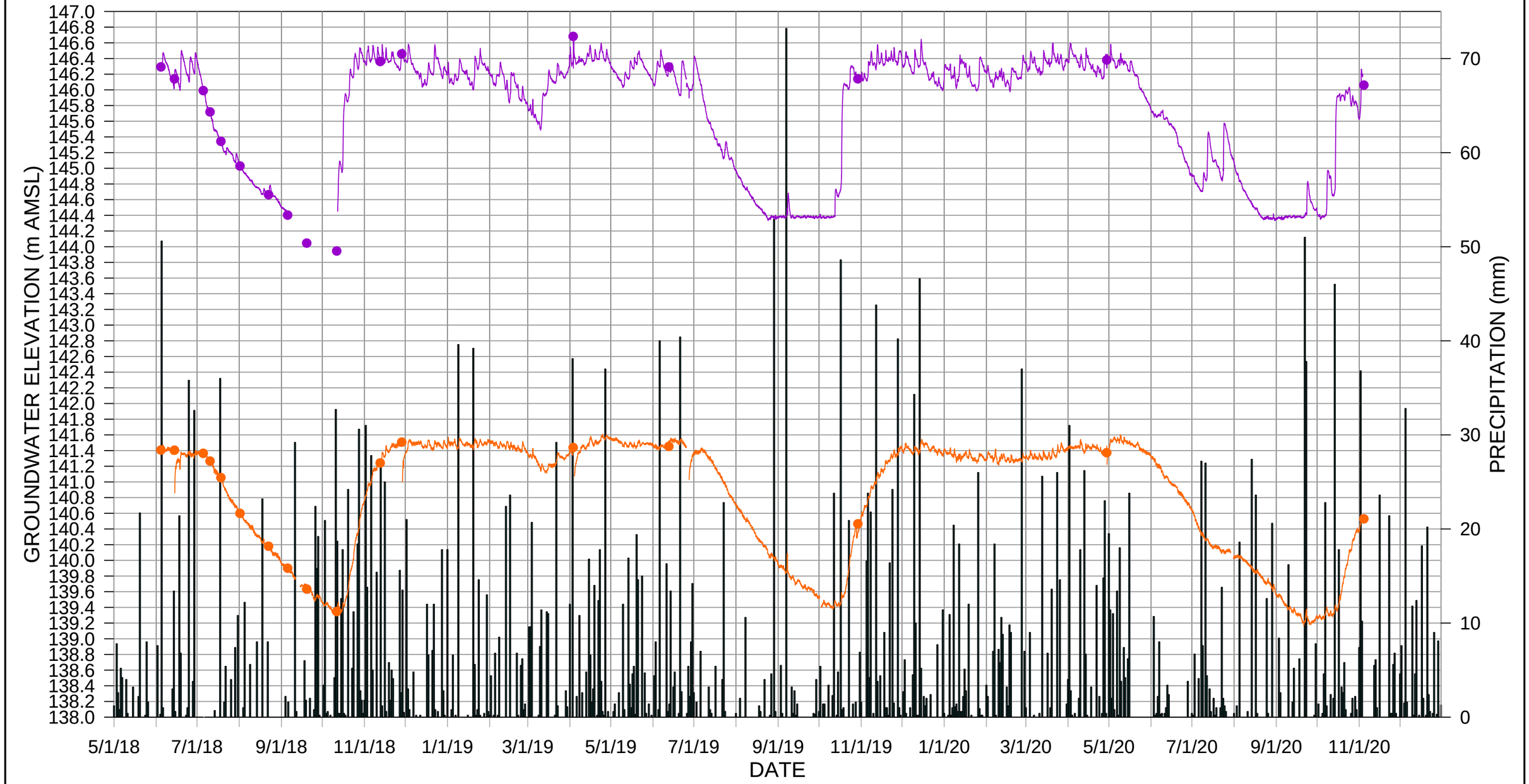
MW-11 WELL NEST
MEASURED GROUNDWATER ELEVATIONS

088664-13
Sept 10, 2019

FIGURE 8

HEG file: Z:\HEG\088664\MONITORING DATA\2nd Data Round\MW-11 HYDROGRAPH.grf

DRAFT



Legend

MW-12A
MW-12B
PRECIPITATION (mm)
MANUAL MEASUREMENTS

ATLANTIC GOLD CORPORATION
BEAVER DAM MINE PROJECT
MARTINETTE, NOVA SCOTIA

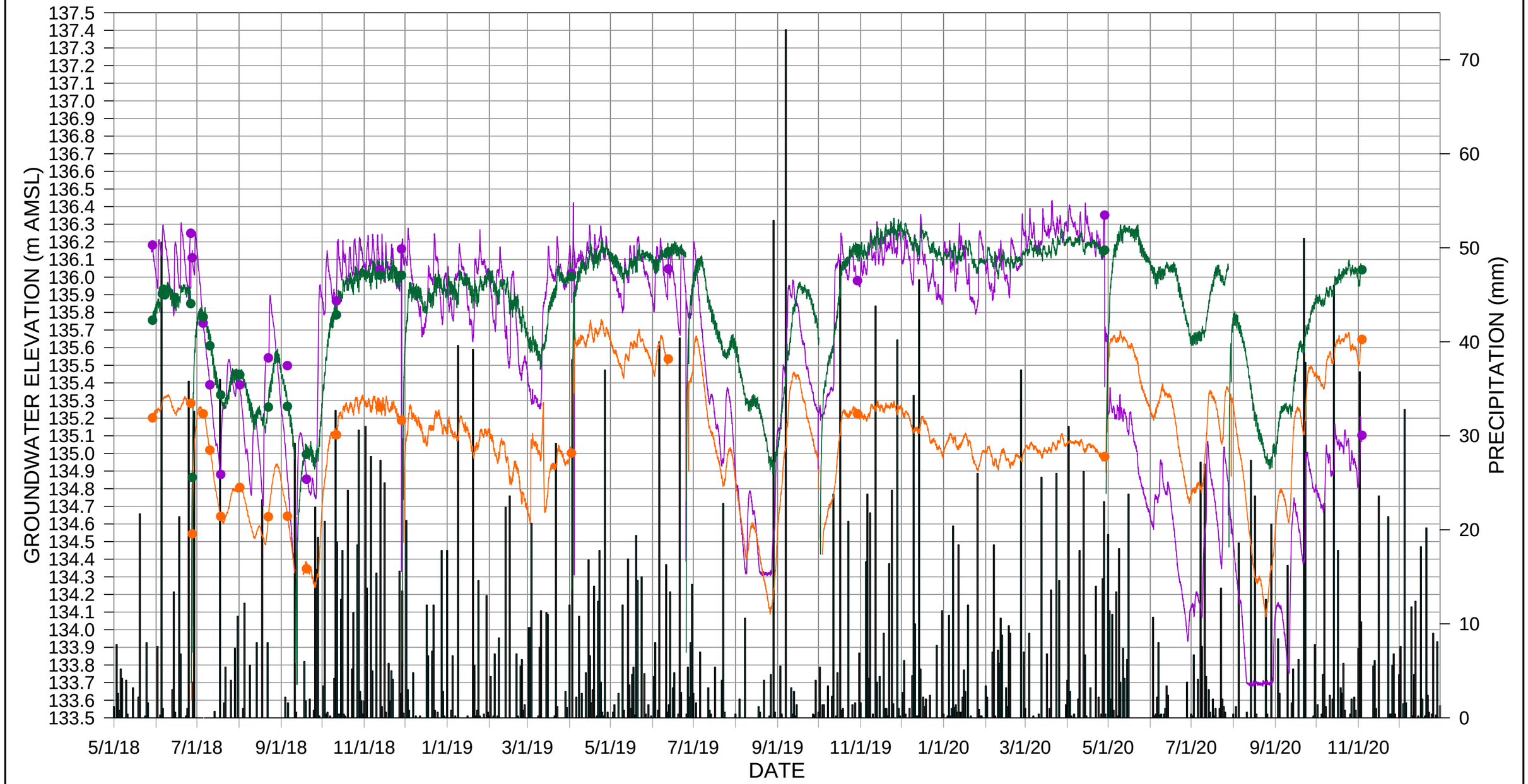
MW-12 WELL NEST
MEASURED GROUNDWATER ELEVATIONS

088664-13
Sept 10, 2019

FIGURE 9

HEG file: Z:\HEG\088664\MONITORING DATA\2nd Data Round\MW-12 HYDROGRAPH.grf

DRAFT



Legend

MW-14A
MW-14B
MW-14C
PRECIPITATION (mm)
MANUAL MEASUREMENTS

ATLANTIC GOLD CORPORATION
BEAVER DAM MINE PROJECT
MARTINETTE, NOVA SCOTIA

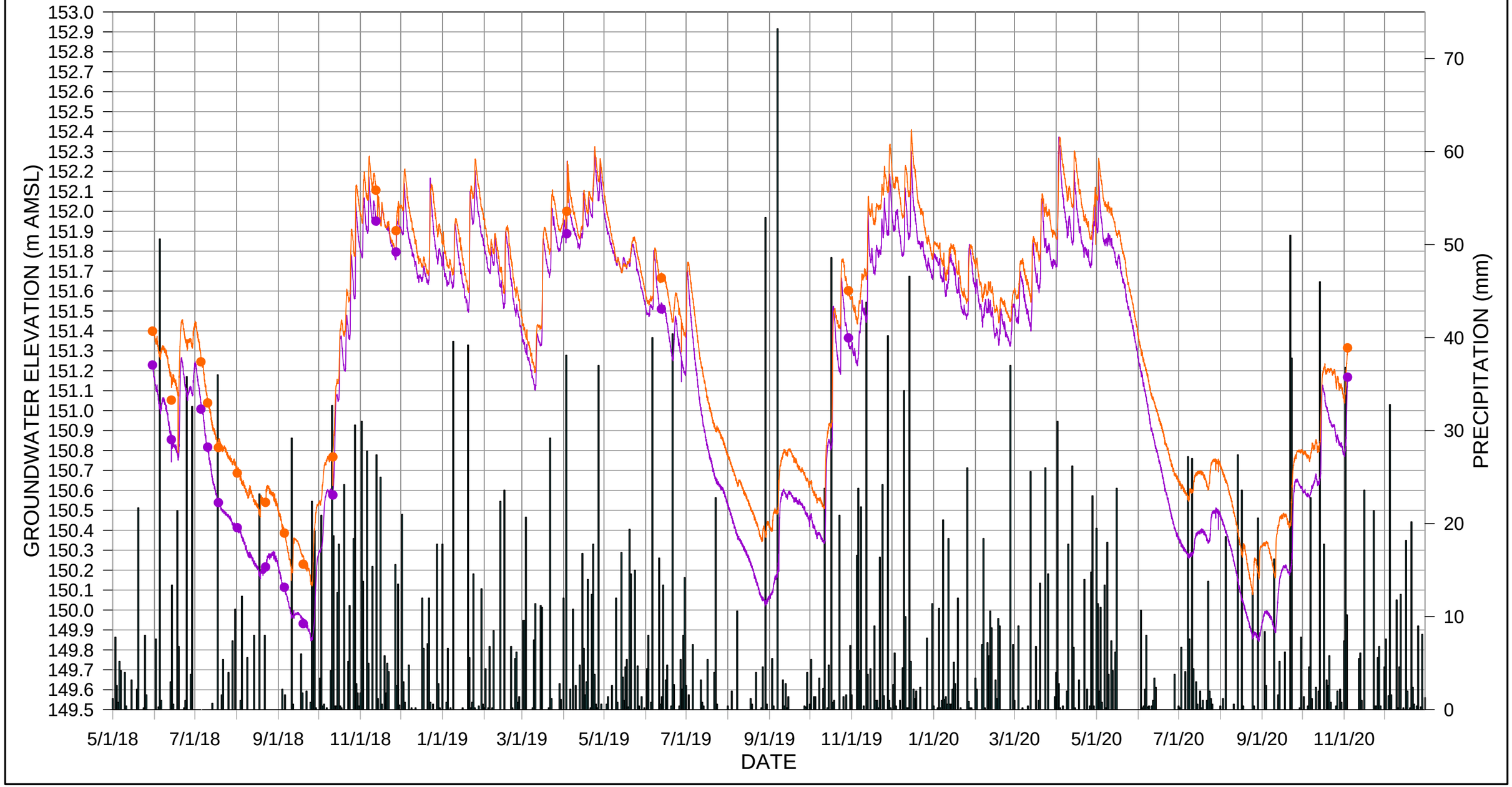
MW-14 WELL NEST
MEASURED GROUNDWATER ELEVATIONS

088664-13
Sept 10, 2019

FIGURE 10

HEG file: Z:\HEG\088664\MONITORING DATA\2nd Data Round\MW-14 HYDROGRAPH.grf

DRAFT



Legend

MW-16A
MW-16B
PRECIPITATION (mm)
MANUAL MEASUREMENTS

ATLANTIC GOLD CORPORATION
BEAVER DAM MINE PROJECT
MARTINETTE, NOVA SCOTIA

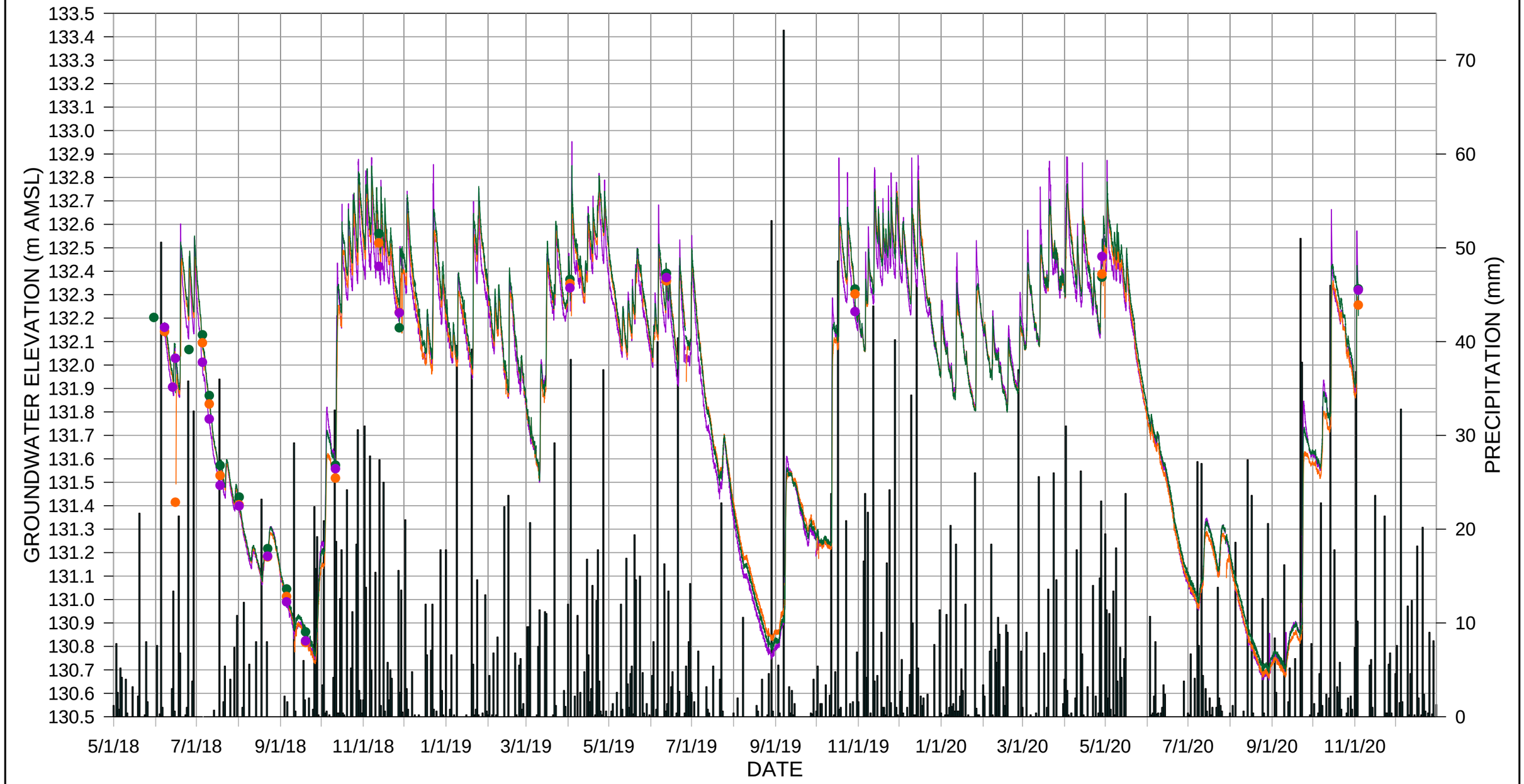
MW-16 WELL NEST
MEASURED GROUNDWATER ELEVATIONS

088664-13
Sept 10, 2019

FIGURE 11

HEG file: Z:\HEG\088664\MONITORING DATA\2nd Data Round\MW-16 HYDROGRAPH.grf

DRAFT



Legend

MW-19A
MW-19B
MW-19C
PRECIPITATION (mm)
MANUAL MEASUREMENTS

ATLANTIC GOLD CORPORATION
BEAVER DAM MINE PROJECT
MARTINETTE, NOVA SCOTIA

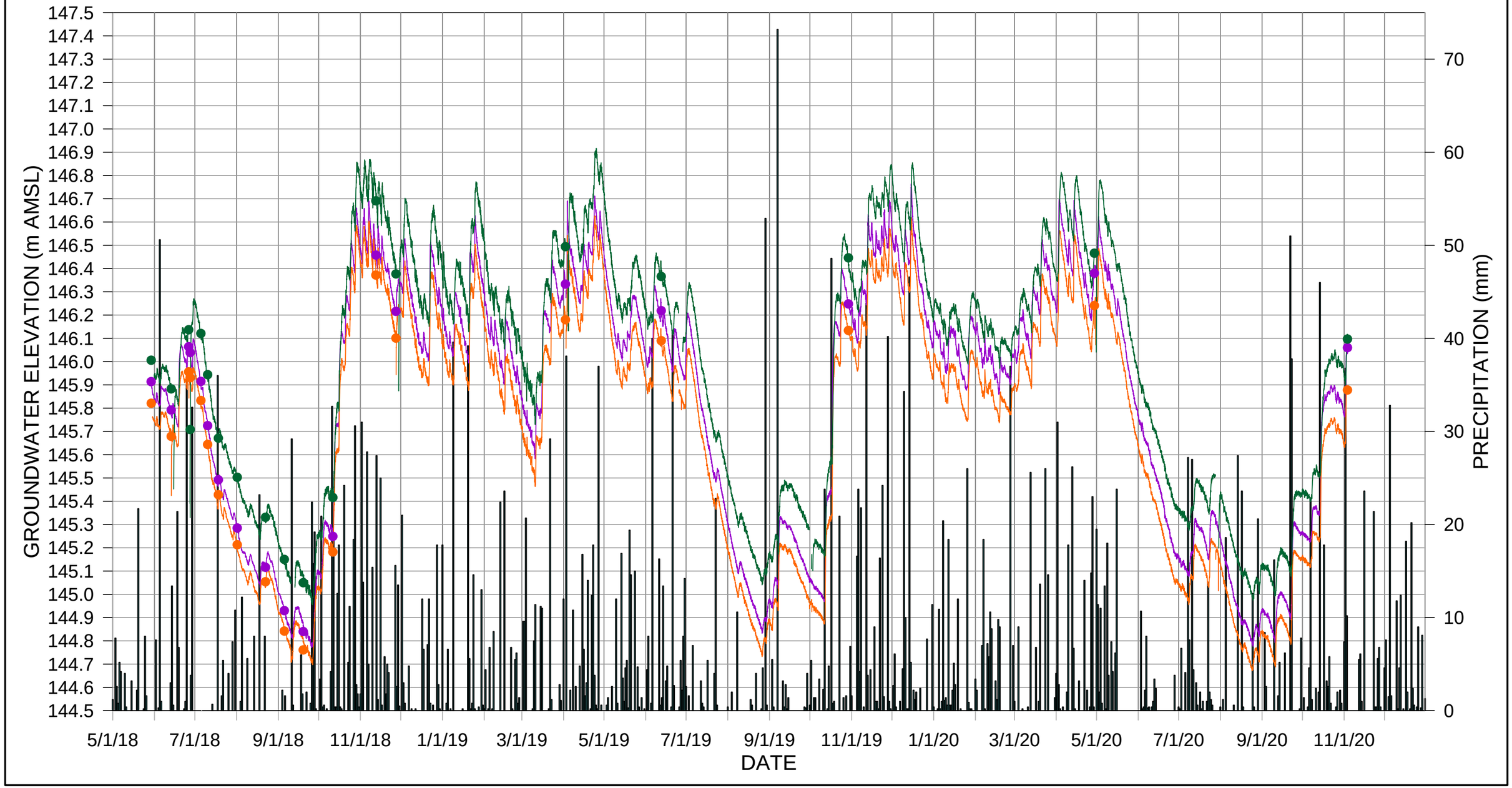
MW-19 WELL NEST
MEASURED GROUNDWATER ELEVATIONS

088664-13
Sept 10, 2019

FIGURE 14

HEG file: Z:\HEG\088664\MONITORING DATA\2nd Data Round\MW-19 HYDROGRAPH.grf

DRAFT



Legend

MW-18A
MW-18B
MW-18C
PRECIPITATION (mm)
MANUAL MEASUREMENTS

ATLANTIC GOLD CORPORATION
BEAVER DAM MINE PROJECT
MARTINETTE, NOVA SCOTIA

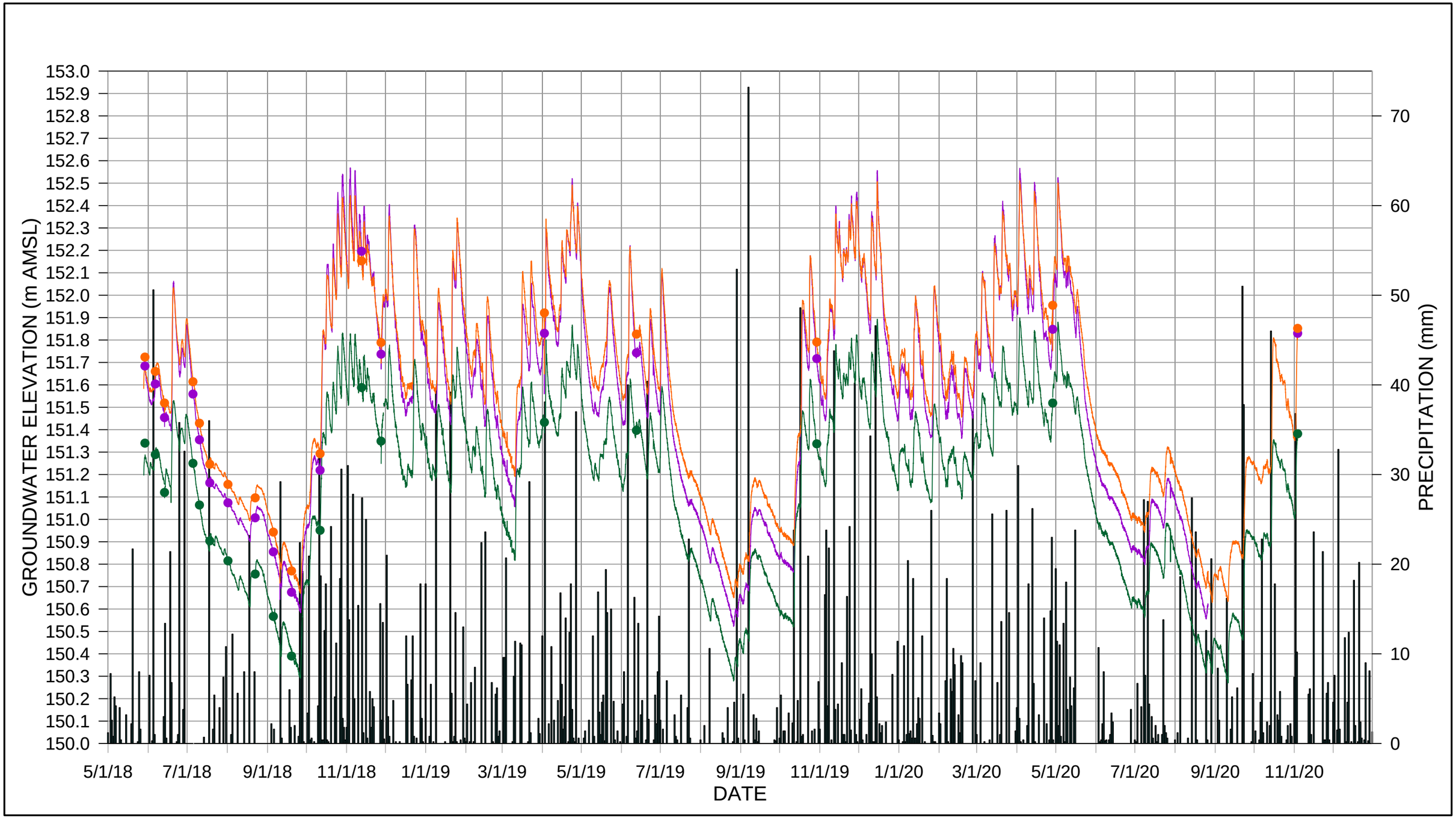
MW-18 WELL NEST
MEASURED GROUNDWATER ELEVATIONS

088664-13
Sept 10, 2019

FIGURE 13

HEG file: Z:\HEG\088664\MONITORING DATA\2nd Data Round\MW-18 HYDROGRAPH.grf

DRAFT



Legend

MW-17A
MW-17B
MW-17C
PRECIPITATION (mm)
MANUAL MEASUREMENTS

ATLANTIC GOLD CORPORATION
BEAVER DAM MINE PROJECT
MARTINETTE, NOVA SCOTIA

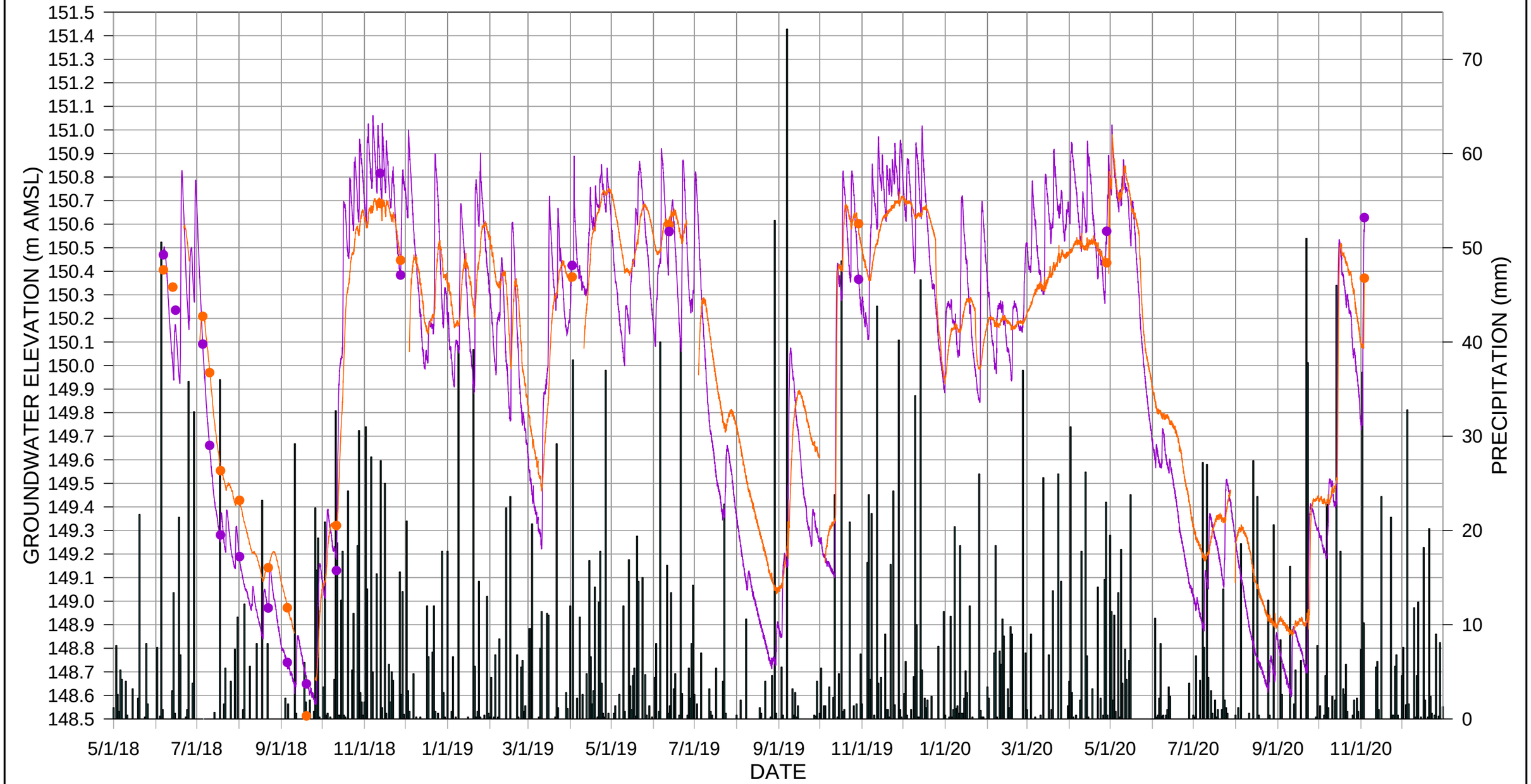
MW-17 WELL NEST
MEASURED GROUNDWATER ELEVATIONS

088664-13
Sept 10, 2019

FIGURE 12

HEG file: Z:\HEG\088664\MONITORING DATA\2nd Data Round\MW-17 HYDROGRAPH.grf

DRAFT



Legend

MW-20A
MW-20B
PRECIPITATION (mm)
MANUAL MEASUREMENTS

ATLANTIC GOLD CORPORATION
BEAVER DAM MINE PROJECT
MARTINETTE, NOVA SCOTIA

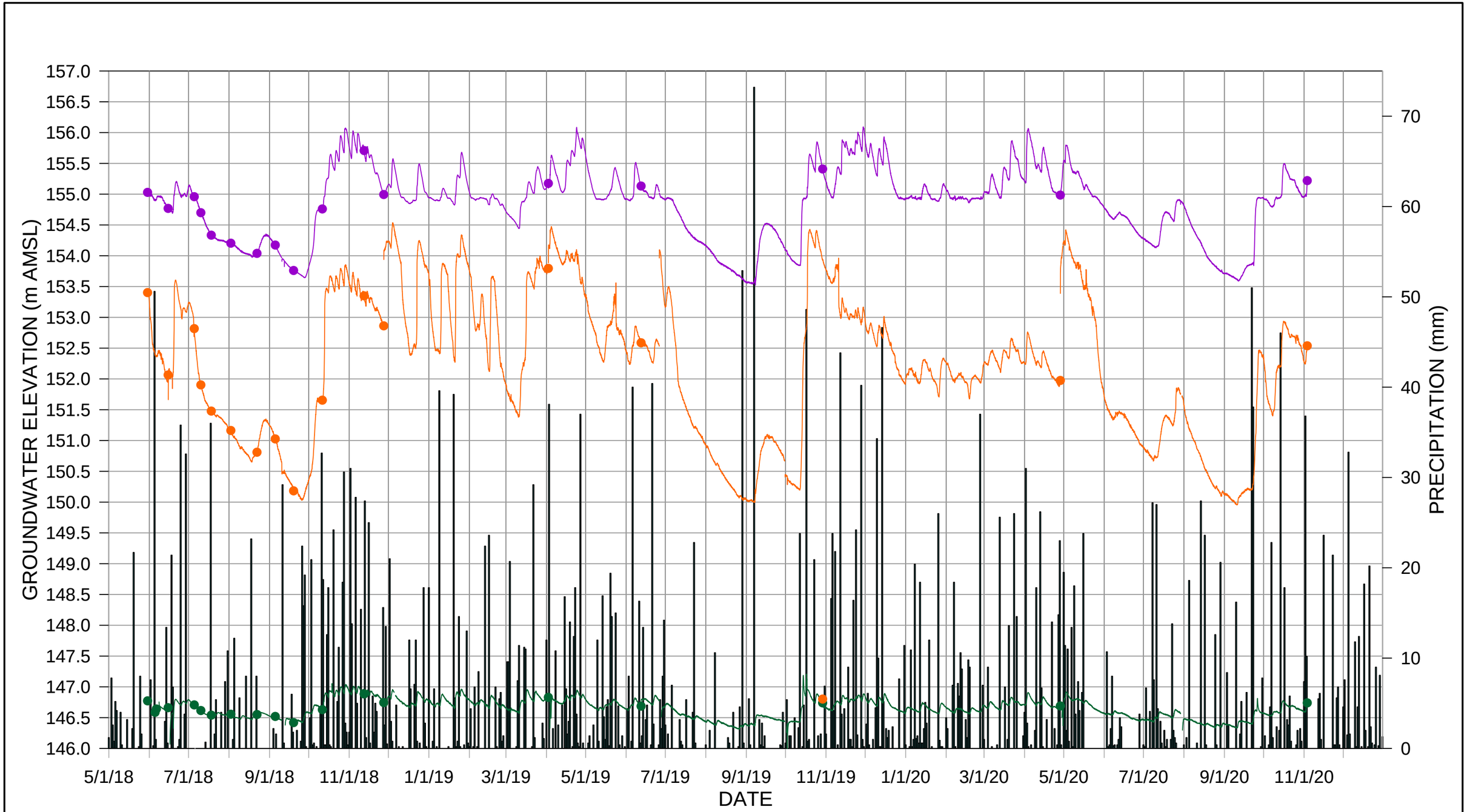
MW-20 WELL NEST
MEASURED GROUNDWATER ELEVATIONS

088664-13
Sept 10, 2019

FIGURE 15

HEG file: Z:\HEG\088664\MONITORING DATA\2nd Data Round\MW-20 HYDROGRAPH.grf

DRAFT



Legend

MW-21A
MW-21B
MW-21C
PRECIPITATION (mm)
MANUAL MEASUREMENTS

ATLANTIC GOLD CORPORATION
BEAVER DAM MINE PROJECT
MARTINETTE, NOVA SCOTIA

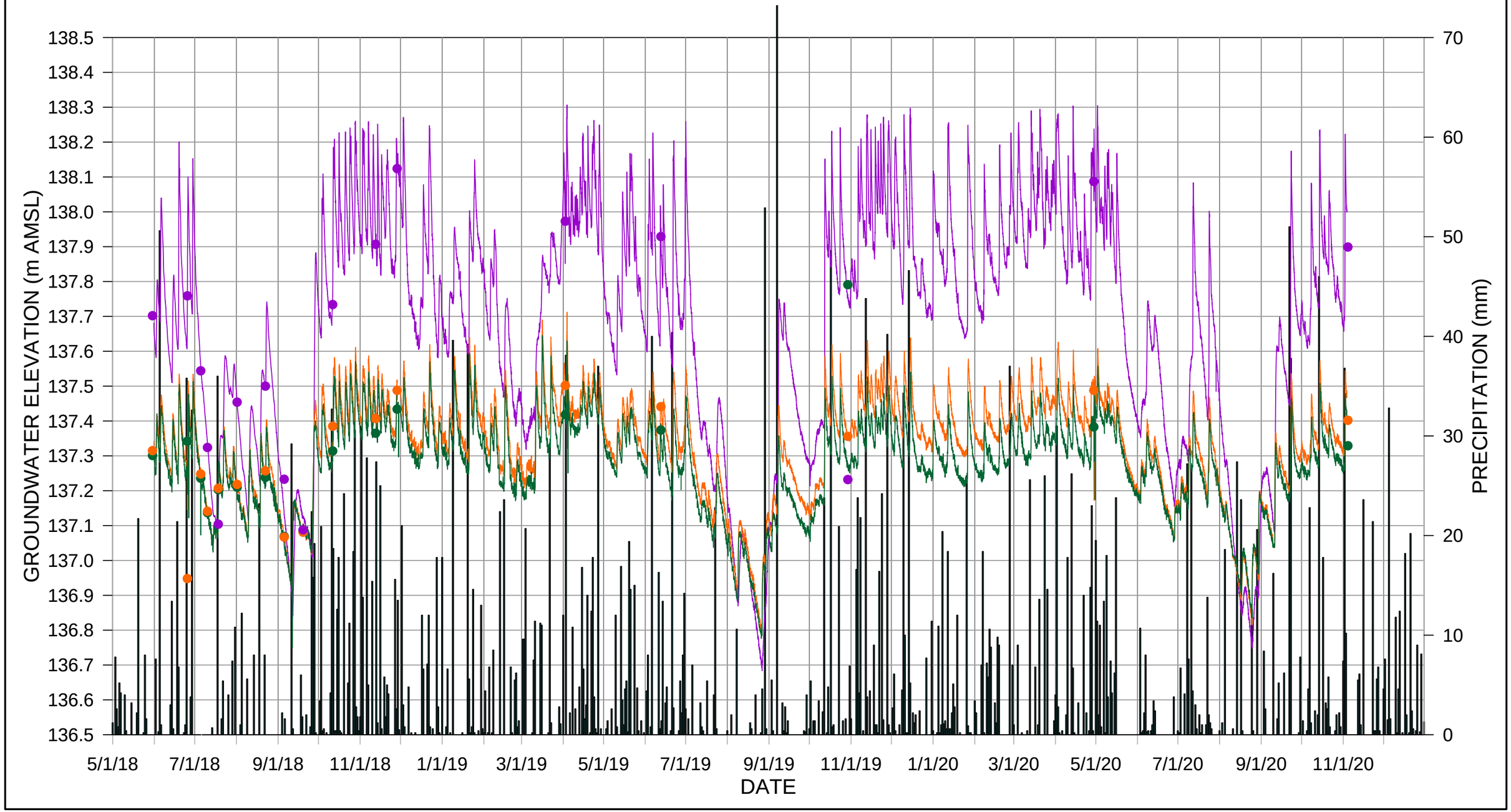
MW-21 WELL NEST
MEASURED GROUNDWATER ELEVATIONS

088664-13
Sept 10, 2019

FIGURE 16

HEG file: Z:\HEG\088664\MONITORING DATA\2nd Data Round\MW-21 HYDROGRAPH.grf

DRAFT



Legend

MW-22A — MW-22C — MANUAL MEASUREMENTS

MW-22B — PRECIPITATION (mm)

ATLANTIC GOLD CORPORATION
BEAVER DAM MINE PROJECT
MARTINETTE, NOVA SCOTIA

MW-22 WELL NEST
MEASURED GROUNDWATER ELEVATIONS

088664-13

Sept 10, 2019

FIGURE 17

HEG file: Z:\HEG\088664\MONITORING DATA\2nd Data Round\MW-22 HYDROGRAPH.grf

Appendix B
Certificate of Analysis

Maxxam
A Bureau Veritas Group Company

Your P.O. #: 73512044
Your Project #: 088664-20
Site Location: BEAVER DAM
Your C.O.C. #: D34771

Attention: Jeff Parks

GHD Limited
45 Akerley Blvd
Dartmouth , NS
CANADA B3B 1J7

Report Date: 2018/06/26
Report #: R5266814
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B8F0978
Received: 2018/06/19, 14:47

Sample Matrix: Water
Samples Received: 17

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Carbonate, Bicarbonate and Hydroxide	17	N/A	2018/06/22	N/A	SM 22 4500-CO2 D
Alkalinity	17	N/A	2018/06/25	ATL SOP 00013	EPA 310.2 R1974 m
Chloride	17	N/A	2018/06/22	ATL SOP 00014	SM 22 4500-Cl- E m
Colour	4	N/A	2018/06/22	ATL SOP 00020	SM 22 2120C m
Colour	13	N/A	2018/06/25	ATL SOP 00020	SM 22 2120C m
Conductance - water	17	N/A	2018/06/22	ATL SOP 00004	SM 23 2510B m
Hardness (calculated as CaCO3)	17	N/A	2018/06/22	ATL SOP 00048	SM 22 2340 B
Metals Water Diss. MS (as rec'd)	17	N/A	2018/06/22	ATL SOP 00058	EPA 6020A R1 m
Ion Balance (% Difference)	17	N/A	2018/06/26	N/A	Auto Calc.
Anion and Cation Sum	17	N/A	2018/06/22	N/A	Auto Calc.
Nitrogen Ammonia - water	17	N/A	2018/06/21	ATL SOP 00015	EPA 350.1 R2 m
Nitrogen - Nitrate + Nitrite	17	N/A	2018/06/25	ATL SOP 00016	USGS I-2547-11m
Nitrogen - Nitrite	17	N/A	2018/06/25	ATL SOP 00017	SM 23 4500-NO2- B m
Nitrogen - Nitrate (as N)	17	N/A	2018/06/26	ATL SOP 00018	ASTM D3867-16
pH (1)	17	N/A	2018/06/22	ATL SOP 00003	SM 23 4500-H+ B m
Phosphorus - ortho	17	N/A	2018/06/22	ATL SOP 00021	SM 23 4500-P E m
Sat. pH and Langelier Index (@ 20C)	17	N/A	2018/06/26	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 4C)	17	N/A	2018/06/26	ATL SOP 00049	Auto Calc.
Reactive Silica	17	N/A	2018/06/25	ATL SOP 00022	EPA 366.0 m
Sulphate	17	N/A	2018/06/22	ATL SOP 00023	ASTM D516-16 m
Total Dissolved Solids (TDS calc)	17	N/A	2018/06/26	N/A	Auto Calc.
Organic carbon - Total (TOC) (2)	16	N/A	2018/06/22	ATL SOP 00203	SM 23 5310B m
Organic carbon - Total (TOC) (2)	1	N/A	2018/06/25	ATL SOP 00203	SM 23 5310B m
Turbidity	17	N/A	2018/06/22	ATL SOP 00011	EPA 180.1 R2 m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All

Maxxam Analytics International Corporation o/a Maxxam Analytics 200 Bluewater Rd, Suite 105, Bedford, Nova Scotia Canada B4B 1G9 Tel: 902-420-0203 Toll-free: 800-565-7227 Fax: 902-420-8612 www.maxxamanalytics.com

Maxxam
A Bureau Veritas Group Company

Your P.O. #: 73512044
Your Project #: 088664-20
Site Location: BEAVER DAM
Your C.O.C. #: D34771

Attention: Jeff Parks

GHD Limited
45 Akerley Blvd
Dartmouth , NS
CANADA B3B 1J7

Report Date: 2018/06/26
Report #: R5266814
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B8F0978
Received: 2018/06/19, 14:47

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.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam 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 Maxxam, unless otherwise agreed in writing.

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.
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) The APHA Standard Method require 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 APHA Standard Method holding time.
(2) TOC / DOC present in the sample should be considered as non-purgeable TOC / DOC.

Encryption Key

Kavya Nair
Project Manager Assistant
26 Jun 2018 13:38:53

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Heather Macumber, Senior Project Manager
Email: HMacumber@maxxam.ca
Phone# (902)420-0203 Ext:226

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Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B8F0978
Report Date: 2018/06/26

GHD Limited
Client Project #: 088664-20
Site Location: BEAVER DAM
Your P.O. #: 73512044
Sampler Initials: DN

RESULTS OF ANALYSES OF WATER

Maxxam ID		GZW431				GZW431				GZW432			
Sampling Date		2018/06/18 11:26				2018/06/18 11:26				2018/06/18 11:37			
COC Number		D34771				D34771				D34771			
	UNITS	MW-12A	RDL	QC Batch	MDL	MW-12A Lab-Dup	RDL	QC Batch	MDL	MW-12B	RDL	QC Batch	MDL
Calculated Parameters													
Anion Sum	me/L	0.830	N/A	5589413	N/A					2.20	N/A	5589413	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	33	1.0	5589410	0.20					80	1.0	5589410	0.20
Calculated TDS	mg/L	64	1.0	5589418	0.20					130	1.0	5589418	0.20
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	1.0	5589410	0.20					<1.0	1.0	5589410	0.20
Cation Sum	me/L	0.940	N/A	5589413	N/A					2.10	N/A	5589413	N/A
Hardness (CaCO3)	mg/L	31	1.0	5589411	1.0					70	1.0	5589411	1.0
Ion Balance (% Difference)	%	6.21	N/A	5589412	N/A					2.33	N/A	5589412	N/A
Langelier Index (@ 20C)	N/A	-2.42		5589415						-0.212		5589415	
Langelier Index (@ 4C)	N/A	-2.67		5589416						-0.462		5589416	
Nitrate (N)	mg/L	0.085	0.050	5590281	N/A					0.062	0.050	5590281	N/A
Saturation pH (@ 20C)	N/A	8.90		5589415						8.08		5589415	
Saturation pH (@ 4C)	N/A	9.15		5589416						8.33		5589416	
Inorganics													
Total Alkalinity (Total as CaCO3)	mg/L	33	5.0	5593768	N/A	33	5.0	5593768	N/A	81	5.0	5589743	N/A
Dissolved Chloride (Cl)	mg/L	2.4	1.0	5593775	N/A	2.4	1.0	5593775	N/A	4.6	1.0	5589752	N/A
Colour	TCU	<5.0	5.0	5593779	N/A	<5.0	5.0	5593779	N/A	<5.0	5.0	5597605	N/A
Nitrate + Nitrite (N)	mg/L	0.085	0.050	5593781	N/A	0.086	0.050	5593781	N/A	0.062	0.050	5589765	N/A
Nitrite (N)	mg/L	<0.010	0.010	5593783	N/A	<0.010	0.010	5593783	N/A	<0.010	0.010	5589767	N/A
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	0.050	5592399	N/A	<0.050	0.050	5592399	N/A	<0.050	0.050	5592399	N/A
Total Organic Carbon (C)	mg/L	<0.50	0.50	5592255	N/A					1.0	0.50	5592255	N/A
Orthophosphate (P)	mg/L	<0.010	0.010	5593780	N/A	<0.010	0.010	5593780	N/A	0.016	0.010	5589762	N/A
pH	pH	6.48	N/A	5593693	N/A	6.45	N/A	5593693	N/A	7.86	N/A	5593691	N/A
Reactive Silica (SiO2)	mg/L	17	0.50	5593778	N/A	17	0.50	5593778	N/A	10	0.50	5589757	N/A
Dissolved Sulphate (SO4)	mg/L	4.0	2.0	5593777	N/A	4.0	2.0	5593777	N/A	21	2.0	5589755	N/A
Turbidity	NTU	41	0.10	5593708	0.10	40	0.10	5593708	0.10	11	0.10	5593709	0.10
Conductivity	uS/cm	80	1.0	5593694	N/A	80	1.0	5593694	N/A	200	1.0	5593692	N/A

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

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Maxxam Job #: B8F0978
Report Date: 2018/06/26

GHD Limited
Client Project #: 088664-20
Site Location: BEAVER DAM
Your P.O. #: 73512044
Sampler Initials: DN

RESULTS OF ANALYSES OF WATER

Maxxam ID		GZW433			GZW434			GZW435			
Sampling Date		2018/06/18 11:58			2018/06/18 12:07			2018/06/18 12:15			
COC Number		D34771			D34771			D34771			
	UNITS	MW-09A	RDL	QC Batch	MW-09B	RDL	QC Batch	MW-09D	RDL	QC Batch	MDL
Calculated Parameters											
Anion Sum	me/L	0.340	N/A	5589413	2.46	N/A	5589413	2.97	N/A	5589413	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	9.2	1.0	5589410	71	1.0	5589410	65	1.0	5589410	0.20
Calculated TDS	mg/L	30	1.0	5589418	150	1.0	5589418	190	1.0	5589418	0.20
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	1.0	5589410	<1.0	1.0	5589410	<1.0	1.0	5589410	0.20
Cation Sum	me/L	0.630	N/A	5589413	2.37	N/A	5589413	2.89	N/A	5589413	N/A
Hardness (CaCO3)	mg/L	25	1.0	5589411	72	1.0	5589411	93	1.0	5589411	1.0
Ion Balance (% Difference)	%	29.9	N/A	5589412	1.86	N/A	5589412	1.37	N/A	5589412	N/A
Langelier Index (@ 20C)	N/A	-3.07		5589415	-0.174		5589415	-0.547		5589415	
Langelier Index (@ 4C)	N/A	-3.32		5589416	-0.424		5589416	-0.798		5589416	
Nitrate (N)	mg/L	<0.050	0.050	5590281	<0.050	0.050	5590281	<0.050	0.050	5590281	N/A
Saturation pH (@ 20C)	N/A	9.37		5589415	8.11		5589415	8.09		5589415	
Saturation pH (@ 4C)	N/A	9.62		5589416	8.36		5589416	8.34		5589416	
Inorganics											
Total Alkalinity (Total as CaCO3)	mg/L	9.2	5.0	5589743	72	5.0	5589743	65	5.0	5589743	N/A
Dissolved Chloride (Cl)	mg/L	3.5	1.0	5589752	5.1	1.0	5589752	8.6	1.0	5589752	N/A
Colour	TCU	<5.0	5.0	5597605	<5.0	5.0	5597605	<5.0	5.0	5597605	N/A
Nitrate + Nitrite (N)	mg/L	<0.050	0.050	5589765	<0.050	0.050	5589765	<0.050	0.050	5589765	N/A
Nitrite (N)	mg/L	<0.010	0.010	5589767	<0.010	0.010	5589767	<0.010	0.010	5589767	N/A
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	0.050	5592399	<0.050	0.050	5592399	<0.050	0.050	5592399	N/A
Total Organic Carbon (C)	mg/L	0.59	0.50	5592255	2.5	0.50	5592255	9.1 (1)	5.0	5593990	N/A
Orthophosphate (P)	mg/L	<0.010	0.010	5589762	0.027	0.010	5589762	0.012	0.010	5589762	N/A
pH	pH	6.30	N/A	5593693	7.94	N/A	5593691	7.54	N/A	5593691	N/A
Reactive Silica (SiO2)	mg/L	5.1	0.50	5589757	9.3	0.50	5589757	12	0.50	5589757	N/A
Dissolved Sulphate (SO4)	mg/L	2.9	2.0	5589755	42 (1)	10	5589755	68 (1)	10	5589755	N/A
Turbidity	NTU	0.29	0.10	5593709	6.1	0.10	5593709	2.4	0.10	5593708	0.10
Conductivity	uS/cm	30	1.0	5593694	230	1.0	5593692	300	1.0	5593692	N/A

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable
(1) Elevated reporting limit due to sample matrix.

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Maxxam Job #: B8F0978
Report Date: 2018/06/26

GHD Limited
Client Project #: 088664-20
Site Location: BEAVER DAM
Your P.O. #: 73512044
Sampler Initials: DN

RESULTS OF ANALYSES OF WATER

Maxxam ID		GZW436	GZW437		GZW438		GZW439			
Sampling Date		2018/06/18 12:50	2018/06/18 12:58		2018/06/18 15:10		2018/06/18 15:16			
COC Number		D34771	D34771		D34771		D34771			
	UNITS	MW-04A	MW-04B	QC Batch	MW-21A	QC Batch	MW-21B	RDL	QC Batch	MDL
Calculated Parameters										
Anion Sum	me/L	0.440	1.16	5590385	0.250	5590385	0.580	N/A	5590385	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	11	41	5590380	6.5	5590380	21	1.0	5590380	0.20
Calculated TDS	mg/L	32	71	5590389	20	5590389	40	1.0	5590389	0.20
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	<1.0	5590380	<1.0	5590380	<1.0	1.0	5590380	0.20
Cation Sum	me/L	0.510	1.08	5590385	0.240	5590385	0.550	N/A	5590385	N/A
Hardness (CaCO3)	mg/L	17	44	5590383	7.0	5590383	18	1.0	5590383	1.0
Ion Balance (% Difference)	%	7.37	3.57	5590384	2.04	5590384	2.65	N/A	5590384	N/A
Langelier Index (@ 20C)	N/A	-3.26	-1.26	5590387	-4.65	5590387	-2.94		5590387	
Langelier Index (@ 4C)	N/A	-3.51	-1.51	5590388	-4.90	5590388	-3.19		5590388	
Nitrate (N)	mg/L	<0.050	<0.050	5590281	0.48	5590281	0.35	0.050	5590281	N/A
Saturation pH (@ 20C)	N/A	9.58	8.54	5590387	10.3	5590387	9.30		5590387	
Saturation pH (@ 4C)	N/A	9.83	8.79	5590388	10.5	5590388	9.56		5590388	
Inorganics										
Total Alkalinity (Total as CaCO3)	mg/L	11	41	5589743	6.5	5589743	21	5.0	5589743	N/A
Dissolved Chloride (Cl)	mg/L	6.4	4.9	5589752	3.1	5589752	3.1	1.0	5589752	N/A
Colour	TCU	<5.0	<5.0	5597605	8.0	5597605	<5.0	5.0	5597605	N/A
Nitrate + Nitrite (N)	mg/L	<0.050	<0.050	5589765	0.48	5589765	0.35	0.050	5589765	N/A
Nitrite (N)	mg/L	<0.010	<0.010	5589767	<0.010	5589767	<0.010	0.010	5589767	N/A
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	<0.050	5592399	<0.050	5592399	<0.050	0.050	5592399	N/A
Total Organic Carbon (C)	mg/L	0.73	1.1	5592255	2.1	5593990	1.0	0.50	5593990	N/A
Orthophosphate (P)	mg/L	<0.010	<0.010	5589762	<0.010	5589762	0.018	0.010	5589762	N/A
pH	pH	6.32	7.28	5593693	5.64	5593693	6.37	N/A	5593697	N/A
Reactive Silica (SiO2)	mg/L	6.4	9.6	5589757	5.6	5589757	8.9	0.50	5589757	N/A
Dissolved Sulphate (SO4)	mg/L	2.3	9.6	5589755	<2.0	5589755	2.2	2.0	5589755	N/A
Turbidity	NTU	0.79	5.9	5593709	1.1	5593709	23	0.10	5593709	0.10
Conductivity	uS/cm	41	110	5593694	33	5593694	61	1.0	5593698	N/A

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B8F0978
Report Date: 2018/06/26

GHD Limited
Client Project #: 088664-20
Site Location: BEAVER DAM
Your P.O. #: 73512044
Sampler Initials: DN

RESULTS OF ANALYSES OF WATER

Maxxam ID		GZW439				GZW440		GZW441			
Sampling Date		2018/06/18 15:16				2018/06/18 15:28		2018/06/18 13:36			
COC Number		D34771				D34771		D34771			
	UNITS	MW-21B Lab-Dup	RDL	QC Batch	MDL	MW-21C	QC Batch	MW-16A	RDL	QC Batch	MDL
Calculated Parameters											
Anion Sum	me/L					1.67	5590385	1.80	N/A	5590385	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L					54	5590380	79	1.0	5590380	0.20
Calculated TDS	mg/L					110	5590389	100	1.0	5590389	0.20
Carb. Alkalinity (calc. as CaCO3)	mg/L					<1.0	5590380	<1.0	1.0	5590380	0.20
Cation Sum	me/L					1.56	5590385	1.72	N/A	5590385	N/A
Hardness (CaCO3)	mg/L					38	5590383	66	1.0	5590383	1.0
Ion Balance (% Difference)	%					3.41	5590384	2.27	N/A	5590384	N/A
Langelier Index (@ 20C)	N/A					-1.93	5590387	-0.291		5590387	
Langelier Index (@ 4C)	N/A					-2.18	5590388	-0.542		5590388	
Nitrate (N)	mg/L					0.14	5590281	0.092	0.050	5590281	N/A
Saturation pH (@ 20C)	N/A					8.63	5590387	8.08		5590387	
Saturation pH (@ 4C)	N/A					8.88	5590388	8.33		5590388	
Inorganics											
Total Alkalinity (Total as CaCO3)	mg/L					54	5589743	79	5.0	5589743	N/A
Dissolved Chloride (Cl)	mg/L					5.2	5589752	4.0	1.0	5589752	N/A
Colour	TCU					<5.0	5597605	<5.0	5.0	5597605	N/A
Nitrate + Nitrite (N)	mg/L					0.14	5589765	0.092	0.050	5589765	N/A
Nitrite (N)	mg/L					<0.010	5589767	<0.010	0.010	5589767	N/A
Nitrogen (Ammonia Nitrogen)	mg/L					<0.050	5592399	<0.050	0.050	5592399	N/A
Total Organic Carbon (C)	mg/L					4.2	5593990	0.60	0.50	5596952	N/A
Orthophosphate (P)	mg/L					<0.010	5589762	<0.010	0.010	5589762	N/A
pH	pH	6.39	N/A	5593697	N/A	6.70	5593693	7.79	N/A	5593695	N/A
Reactive Silica (SiO2)	mg/L					15	5589757	11	0.50	5589757	N/A
Dissolved Sulphate (SO4)	mg/L					21	5589755	4.5	2.0	5589755	N/A
Turbidity	NTU					7.6	5593711	3.0	0.10	5593711	0.10
Conductivity	uS/cm	60	1.0	5593698	N/A	160	5593694	160	1.0	5593696	N/A

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

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Maxxam Job #: B8F0978
Report Date: 2018/06/26

GHD Limited
Client Project #: 088664-20
Site Location: BEAVER DAM
Your P.O. #: 73512044
Sampler Initials: DN

RESULTS OF ANALYSES OF WATER

Maxxam ID		GZW442		GZW443		GZW444		GZW445			
Sampling Date		2018/06/18 13:40		2018/06/18 14:11		2018/06/18 14:19		2018/06/18 14:25			
COC Number		D34771		D34771		D34771		D34771			
	UNITS	MW-16B	QC Batch	MW-17A	QC Batch	MW-17B	QC Batch	MW-17C	RDL	QC Batch	MDL
Calculated Parameters											
Anion Sum	me/L	1.43	5590385	0.510	5590385	0.300	5590385	0.420	N/A	5590385	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	59	5590380	15	5590380	8.3	5590380	14	1.0	5590380	0.20
Calculated TDS	mg/L	84	5590389	34	5590389	25	5590389	32	1.0	5590389	0.20
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	5590380	<1.0	5590380	<1.0	5590380	<1.0	1.0	5590380	0.20
Cation Sum	me/L	1.34	5590385	0.470	5590385	0.260	5590385	0.390	N/A	5590385	N/A
Hardness (CaCO3)	mg/L	55	5590383	15	5590383	6.6	5590383	12	1.0	5590383	1.0
Ion Balance (% Difference)	%	3.25	5590384	4.08	5590384	7.14	5590384	3.70	N/A	5590384	N/A
Langelier Index (@ 20C)	N/A	-0.510	5590387	-3.14	5590387	-4.06	5590387	-3.07		5590387	
Langelier Index (@ 4C)	N/A	-0.761	5590388	-3.40	5590388	-4.31	5590388	-3.33		5590388	
Nitrate (N)	mg/L	0.14	5590281	<0.050	5590281	<0.050	5590281	<0.050	0.050	5590281	N/A
Saturation pH (@ 20C)	N/A	8.27	5590387	9.42	5590387	10.2	5590387	9.59		5590387	
Saturation pH (@ 4C)	N/A	8.52	5590388	9.67	5590388	10.4	5590388	9.84		5590388	
Inorganics											
Total Alkalinity (Total as CaCO3)	mg/L	59	5589743	15	5589743	8.3	5593768	14	5.0	5593768	N/A
Dissolved Chloride (Cl)	mg/L	4.1	5589752	5.2	5589752	2.9	5593775	2.9	1.0	5593775	N/A
Colour	TCU	<5.0	5597605	<5.0	5597605	<5.0	5597513	<5.0	5.0	5593779	N/A
Nitrate + Nitrite (N)	mg/L	0.14	5589765	<0.050	5589765	<0.050	5593781	<0.050	0.050	5593781	N/A
Nitrite (N)	mg/L	<0.010	5589767	<0.010	5589767	<0.010	5593783	<0.010	0.010	5593783	N/A
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	5592399	<0.050	5592399	<0.050	5592399	<0.050	0.050	5592399	N/A
Total Organic Carbon (C)	mg/L	<0.50	5593990	0.59	5593990	0.56	5593990	<0.50	0.50	5593990	N/A
Orthophosphate (P)	mg/L	<0.010	5589762	<0.010	5589762	0.014	5593780	<0.010	0.010	5593780	N/A
pH	pH	7.76	5593693	6.28	5593693	6.10	5593693	6.51	N/A	5593691	N/A
Reactive Silica (SiO2)	mg/L	10	5589757	6.9	5589757	8.6	5593778	10	0.50	5593778	N/A
Dissolved Sulphate (SO4)	mg/L	6.0	5589755	2.6	5589755	2.7	5593777	2.9	2.0	5593777	N/A
Turbidity	NTU	0.68	5593709	1.6	5593711	0.49	5593711	0.74	0.10	5593709	0.10
Conductivity	uS/cm	130	5593694	46	5593694	29	5593694	40	1.0	5593692	N/A

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B8F0978
Report Date: 2018/06/26

GHD Limited
Client Project #: 088664-20
Site Location: BEAVER DAM
Your P.O. #: 73512044
Sampler Initials: DN

RESULTS OF ANALYSES OF WATER

Maxxam ID		GZW446		GZW447				GZW447			
Sampling Date		2018/06/18		2018/06/18				2018/06/18			
COC Number		D34771		D34771				D34771			
	UNITS	MW-DUPA	QC Batch	MW-DUPB	RDL	QC Batch	MDL	MW-DUPB Lab-Dup	RDL	QC Batch	MDL
Calculated Parameters											
Anion Sum	me/L	0.320	5590385	0.300	N/A	5590385	N/A				
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	8.8	5590380	7.4	1.0	5590380	0.20				
Calculated TDS	mg/L	29	5590389	25	1.0	5590389	0.20				
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	5590380	<1.0	1.0	5590380	0.20				
Cation Sum	me/L	0.630	5590385	0.260	N/A	5590385	N/A				
Hardness (CaCO3)	mg/L	25	5590383	6.7	1.0	5590383	1.0				
Ion Balance (% Difference)	%	32.6	5590384	7.14	N/A	5590384	N/A				
Langelier Index (@ 20C)	N/A	-2.95	5590387	-4.08		5590387					
Langelier Index (@ 4C)	N/A	-3.20	5590388	-4.33		5590388					
Nitrate (N)	mg/L	<0.050	5590281	<0.050	0.050	5590281	N/A				
Saturation pH (@ 20C)	N/A	9.39	5590387	10.2		5590387					
Saturation pH (@ 4C)	N/A	9.64	5590388	10.4		5590388					
Inorganics											
Total Alkalinity (Total as CaCO3)	mg/L	8.8	5593768	7.4	5.0	5593768	N/A				
Dissolved Chloride (Cl)	mg/L	2.9	5593775	3.3	1.0	5593775	N/A				
Colour	TCU	<5.0	5593779	5.3	5.0	5593779	N/A				
Nitrate + Nitrite (N)	mg/L	<0.050	5593781	<0.050	0.050	5593781	N/A				
Nitrite (N)	mg/L	0.021	5593783	<0.010	0.010	5593783	N/A				
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	5592399	<0.050	0.050	5592399	N/A				
Total Organic Carbon (C)	mg/L	0.61	5593990	0.51	0.50	5592255	N/A				
Orthophosphate (P)	mg/L	<0.010	5593780	0.017	0.010	5593780	N/A				
pH	pH	6.44	5593691	6.12	N/A	5593693	N/A				
Reactive Silica (SiO2)	mg/L	5.1	5593778	9.1	0.50	5593778	N/A				
Dissolved Sulphate (SO4)	mg/L	2.9	5593777	2.6	2.0	5593777	N/A				
Turbidity	NTU	0.33	5593708	0.90	0.10	5593709	0.10	0.99	0.10	5593709	0.10
Conductivity	uS/cm	31	5593692	29	1.0	5593694	N/A				

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

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Maxxam Job #: B8F0978
Report Date: 2018/06/26

GHD Limited
Client Project #: 088664-20
Site Location: BEAVER DAM
Your P.O. #: 73512044
Sampler Initials: DN

ELEMENTS BY ICP/MS (WATER)

Maxxam ID		GZW431	GZW432	GZW433	GZW434	GZW435		GZW436			
Sampling Date		2018/06/18 11:26	2018/06/18 11:37	2018/06/18 11:58	2018/06/18 12:07	2018/06/18 12:15		2018/06/18 12:50			
COC Number		D34771	D34771	D34771	D34771	D34771		D34771			
	UNITS	MW-12A	MW-12B	MW-09A	MW-09B	MW-09D	QC Batch	MW-04A	RDL	QC Batch	MDL
Metals											
Dissolved Aluminum (Al)	ug/L	5.0	5.5	<5.0	61	8.9	5592239	6.0	5.0	5593914	N/A
Dissolved Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	5592239	<1.0	1.0	5593914	N/A
Dissolved Arsenic (As)	ug/L	<1.0	44	1.0	120	140	5592239	<1.0	1.0	5593914	N/A
Dissolved Barium (Ba)	ug/L	6.7	10	6.1	12	8.9	5592239	4.1	1.0	5593914	N/A
Dissolved Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	5592239	<1.0	1.0	5593914	N/A
Dissolved Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	5592239	<2.0	2.0	5593914	N/A
Dissolved Boron (B)	ug/L	<50	<50	<50	<50	<50	5592239	<50	50	5593914	N/A
Dissolved Cadmium (Cd)	ug/L	0.027	<0.010	0.030	<0.010	<0.010	5592239	0.011	0.010	5593914	N/A
Dissolved Calcium (Ca)	ug/L	7900	24000	9100	25000	30000	5592239	4800	100	5593914	N/A
Dissolved Chromium (Cr)	ug/L	<1.0	2.3	<1.0	<1.0	<1.0	5592239	<1.0	1.0	5593914	N/A
Dissolved Cobalt (Co)	ug/L	2.6	<0.40	1.2	<0.40	<0.40	5592239	0.87	0.40	5593914	N/A
Dissolved Copper (Cu)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	5592239	<2.0	2.0	5593914	N/A
Dissolved Iron (Fe)	ug/L	220	<50	<50	<50	<50	5592239	<50	50	5593914	N/A
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	5592239	<0.50	0.50	5593914	N/A
Dissolved Magnesium (Mg)	ug/L	2700	2500	640	2300	4100	5592239	1200	100	5593914	N/A
Dissolved Manganese (Mn)	ug/L	1300	230	110	11	46	5592239	69	2.0	5593914	N/A
Dissolved Molybdenum (Mo)	ug/L	<2.0	19	<2.0	9.2	10	5592239	<2.0	2.0	5593914	N/A
Dissolved Nickel (Ni)	ug/L	2.5	<2.0	3.3	<2.0	<2.0	5592239	5.4	2.0	5593914	N/A
Dissolved Phosphorus (P)	ug/L	<100	<100	<100	<100	<100	5592239	<100	100	5593914	N/A
Dissolved Potassium (K)	ug/L	2300	1600	720	1700	1200	5592239	1100	100	5593914	N/A
Dissolved Selenium (Se)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	5592239	<1.0	1.0	5593914	N/A
Dissolved Silver (Ag)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	5592239	<0.10	0.10	5593914	N/A
Dissolved Sodium (Na)	ug/L	6000	15000	2400	20000	23000	5592239	3300	100	5593914	N/A
Dissolved Strontium (Sr)	ug/L	53	80	14	340	680	5592239	25	2.0	5593914	N/A
Dissolved Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	5592239	<0.10	0.10	5593914	N/A
Dissolved Tin (Sn)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	5592239	<2.0	2.0	5593914	N/A
Dissolved Titanium (Ti)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	5592239	<2.0	2.0	5593914	N/A
Dissolved Uranium (U)	ug/L	<0.10	2.0	<0.10	6.6	3.7	5592239	<0.10	0.10	5593914	N/A
Dissolved Vanadium (V)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	5592239	<2.0	2.0	5593914	N/A
Dissolved Zinc (Zn)	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0	5592239	<5.0	5.0	5593914	N/A

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Maxxam Job #: B8F0978
Report Date: 2018/06/26

GHD Limited
Client Project #: 088664-20
Site Location: BEAVER DAM
Your P.O. #: 73512044
Sampler Initials: DN

ELEMENTS BY ICP/MS (WATER)

Maxxam ID		GZW436		GZW437		GZW438		GZW439			
Sampling Date		2018/06/18 12:50		2018/06/18 12:58		2018/06/18 15:10		2018/06/18 15:16			
COC Number		D34771		D34771		D34771		D34771			
	UNITS	MW-04A Lab-Dup	QC Batch	MW-04B	QC Batch	MW-21A	QC Batch	MW-21B	RDL	QC Batch	MDL
Metals											
Dissolved Aluminum (Al)	ug/L	5.8	5593914	9.0	5592239	430	5593914	16	5.0	5592239	N/A
Dissolved Antimony (Sb)	ug/L	<1.0	5593914	<1.0	5592239	<1.0	5593914	<1.0	1.0	5592239	N/A
Dissolved Arsenic (As)	ug/L	<1.0	5593914	<1.0	5592239	<1.0	5593914	<1.0	1.0	5592239	N/A
Dissolved Barium (Ba)	ug/L	4.1	5593914	4.0	5592239	15	5593914	3.5	1.0	5592239	N/A
Dissolved Beryllium (Be)	ug/L	<1.0	5593914	<1.0	5592239	<1.0	5593914	<1.0	1.0	5592239	N/A
Dissolved Bismuth (Bi)	ug/L	<2.0	5593914	<2.0	5592239	<2.0	5593914	<2.0	2.0	5592239	N/A
Dissolved Boron (B)	ug/L	<50	5593914	<50	5592239	<50	5593914	<50	50	5592239	N/A
Dissolved Cadmium (Cd)	ug/L	0.010	5593914	<0.010	5592239	0.049	5593914	0.015	0.010	5592239	N/A
Dissolved Calcium (Ca)	ug/L	4800	5593914	15000	5592239	1500	5593914	4700	100	5592239	N/A
Dissolved Chromium (Cr)	ug/L	<1.0	5593914	<1.0	5592239	<1.0	5593914	<1.0	1.0	5592239	N/A
Dissolved Cobalt (Co)	ug/L	0.84	5593914	<0.40	5592239	3.7	5593914	<0.40	0.40	5592239	N/A
Dissolved Copper (Cu)	ug/L	<2.0	5593914	<2.0	5592239	<2.0	5593914	<2.0	2.0	5592239	N/A
Dissolved Iron (Fe)	ug/L	<50	5593914	<50	5592239	65	5593914	<50	50	5592239	N/A
Dissolved Lead (Pb)	ug/L	<0.50	5593914	<0.50	5592239	<0.50	5593914	<0.50	0.50	5592239	N/A
Dissolved Magnesium (Mg)	ug/L	1200	5593914	1600	5592239	780	5593914	1500	100	5592239	N/A
Dissolved Manganese (Mn)	ug/L	70	5593914	55	5592239	650	5593914	110	2.0	5592239	N/A
Dissolved Molybdenum (Mo)	ug/L	<2.0	5593914	<2.0	5592239	<2.0	5593914	<2.0	2.0	5592239	N/A
Dissolved Nickel (Ni)	ug/L	5.4	5593914	<2.0	5592239	2.8	5593914	<2.0	2.0	5592239	N/A
Dissolved Phosphorus (P)	ug/L	<100	5593914	<100	5592239	<100	5593914	<100	100	5592239	N/A
Dissolved Potassium (K)	ug/L	1100	5593914	1300	5592239	850	5593914	1200	100	5592239	N/A
Dissolved Selenium (Se)	ug/L	<1.0	5593914	<1.0	5592239	<1.0	5593914	<1.0	1.0	5592239	N/A
Dissolved Silver (Ag)	ug/L	<0.10	5593914	<0.10	5592239	<0.10	5593914	<0.10	0.10	5592239	N/A
Dissolved Sodium (Na)	ug/L	3200	5593914	4100	5592239	1800	5593914	3700	100	5592239	N/A
Dissolved Strontium (Sr)	ug/L	24	5593914	84	5592239	15	5593914	33	2.0	5592239	N/A
Dissolved Thallium (Tl)	ug/L	<0.10	5593914	<0.10	5592239	<0.10	5593914	<0.10	0.10	5592239	N/A
Dissolved Tin (Sn)	ug/L	<2.0	5593914	<2.0	5592239	<2.0	5593914	<2.0	2.0	5592239	N/A
Dissolved Titanium (Ti)	ug/L	<2.0	5593914	<2.0	5592239	<2.0	5593914	<2.0	2.0	5592239	N/A
Dissolved Uranium (U)	ug/L	<0.10	5593914	<0.10	5592239	0.10	5593914	<0.10	0.10	5592239	N/A
Dissolved Vanadium (V)	ug/L	<2.0	5593914	<2.0	5592239	<2.0	5593914	<2.0	2.0	5592239	N/A
Dissolved Zinc (Zn)	ug/L	<5.0	5593914	<5.0	5592239	<5.0	5593914	<5.0	5.0	5592239	N/A

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Maxxam Job #: B8F0978
Report Date: 2018/06/26

GHD Limited
Client Project #: 088664-20
Site Location: BEAVER DAM
Your P.O. #: 73512044
Sampler Initials: DN

ELEMENTS BY ICP/MS (WATER)

Maxxam ID		GZW440		GZW441		GZW442	GZW443			
Sampling Date		2018/06/18 15:28		2018/06/18 13:36		2018/06/18 13:40	2018/06/18 14:11			
COC Number		D34771		D34771		D34771	D34771			
	UNITS	MW-21C	QC Batch	MW-16A	QC Batch	MW-16B	MW-17A	RDL	QC Batch	MDL
Metals										
Dissolved Aluminum (Al)	ug/L	7.5	5592239	<5.0	5593914	11	6.4	5.0	5592239	N/A
Dissolved Antimony (Sb)	ug/L	<1.0	5592239	<1.0	5593914	<1.0	<1.0	1.0	5592239	N/A
Dissolved Arsenic (As)	ug/L	<1.0	5592239	1.5	5593914	8.6	<1.0	1.0	5592239	N/A
Dissolved Barium (Ba)	ug/L	9.7	5592239	3.5	5593914	4.6	10	1.0	5592239	N/A
Dissolved Beryllium (Be)	ug/L	<1.0	5592239	<1.0	5593914	<1.0	<1.0	1.0	5592239	N/A
Dissolved Bismuth (Bi)	ug/L	<2.0	5592239	<2.0	5593914	<2.0	<2.0	2.0	5592239	N/A
Dissolved Boron (B)	ug/L	<50	5592239	<50	5593914	<50	<50	50	5592239	N/A
Dissolved Cadmium (Cd)	ug/L	0.019	5592239	0.021	5593914	<0.010	0.039	0.010	5592239	N/A
Dissolved Calcium (Ca)	ug/L	9700	5592239	23000	5593914	20000	4900	100	5592239	N/A
Dissolved Chromium (Cr)	ug/L	<1.0	5592239	<1.0	5593914	<1.0	<1.0	1.0	5592239	N/A
Dissolved Cobalt (Co)	ug/L	0.51	5592239	2.1	5593914	<0.40	3.0	0.40	5592239	N/A
Dissolved Copper (Cu)	ug/L	<2.0	5592239	<2.0	5593914	<2.0	3.7	2.0	5592239	N/A
Dissolved Iron (Fe)	ug/L	<50	5592239	<50	5593914	<50	<50	50	5592239	N/A
Dissolved Lead (Pb)	ug/L	<0.50	5592239	<0.50	5593914	<0.50	<0.50	0.50	5592239	N/A
Dissolved Magnesium (Mg)	ug/L	3200	5592239	1900	5593914	1400	790	100	5592239	N/A
Dissolved Manganese (Mn)	ug/L	180	5592239	690	5593914	6.3	240	2.0	5592239	N/A
Dissolved Molybdenum (Mo)	ug/L	2.6	5592239	<2.0	5593914	<2.0	<2.0	2.0	5592239	N/A
Dissolved Nickel (Ni)	ug/L	<2.0	5592239	<2.0	5593914	<2.0	8.5	2.0	5592239	N/A
Dissolved Phosphorus (P)	ug/L	<100	5592239	<100	5593914	<100	<100	100	5592239	N/A
Dissolved Potassium (K)	ug/L	2100	5592239	550	5593914	1700	670	100	5592239	N/A
Dissolved Selenium (Se)	ug/L	<1.0	5592239	<1.0	5593914	<1.0	<1.0	1.0	5592239	N/A
Dissolved Silver (Ag)	ug/L	<0.10	5592239	<0.10	5593914	<0.10	<0.10	0.10	5592239	N/A
Dissolved Sodium (Na)	ug/L	17000	5592239	8700	5593914	4600	3400	100	5592239	N/A
Dissolved Strontium (Sr)	ug/L	85	5592239	77	5593914	74	32	2.0	5592239	N/A
Dissolved Thallium (Tl)	ug/L	<0.10	5592239	<0.10	5593914	<0.10	<0.10	0.10	5592239	N/A
Dissolved Tin (Sn)	ug/L	<2.0	5592239	<2.0	5593914	<2.0	<2.0	2.0	5592239	N/A
Dissolved Titanium (Ti)	ug/L	<2.0	5592239	<2.0	5593914	<2.0	<2.0	2.0	5592239	N/A
Dissolved Uranium (U)	ug/L	0.29	5592239	2.4	5593914	2.6	<0.10	0.10	5592239	N/A
Dissolved Vanadium (V)	ug/L	<2.0	5592239	<2.0	5593914	<2.0	<2.0	2.0	5592239	N/A
Dissolved Zinc (Zn)	ug/L	6.5	5592239	<5.0	5593914	<5.0	12	5.0	5592239	N/A

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Maxxam Job #: B8F0978
Report Date: 2018/06/26

GHD Limited
Client Project #: 088664-20
Site Location: BEAVER DAM
Your P.O. #: 73512044
Sampler Initials: DN

ELEMENTS BY ICP/MS (WATER)

Maxxam ID		GZW444		GZW445		GZW446		GZW447			
Sampling Date		2018/06/18 14:19		2018/06/18 14:25		2018/06/18		2018/06/18			
COC Number		D34771		D34771		D34771		D34771			
	UNITS	MW-17B	QC Batch	MW-17C	QC Batch	MW-DUPA	QC Batch	MW-DUPB	RDL	QC Batch	MDL
Metals											
Dissolved Aluminum (Al)	ug/L	12	5593914	<5.0	5592239	81	5593914	11	5.0	5592240	N/A
Dissolved Antimony (Sb)	ug/L	<1.0	5593914	<1.0	5592239	<1.0	5593914	<1.0	1.0	5592240	N/A
Dissolved Arsenic (As)	ug/L	<1.0	5593914	1.2	5592239	<1.0	5593914	<1.0	1.0	5592240	N/A
Dissolved Barium (Ba)	ug/L	3.0	5593914	2.4	5592239	5.7	5593914	2.9	1.0	5592240	N/A
Dissolved Beryllium (Be)	ug/L	<1.0	5593914	<1.0	5592239	<1.0	5593914	<1.0	1.0	5592240	N/A
Dissolved Bismuth (Bi)	ug/L	<2.0	5593914	<2.0	5592239	<2.0	5593914	<2.0	2.0	5592240	N/A
Dissolved Boron (B)	ug/L	<50	5593914	<50	5592239	<50	5593914	<50	50	5592240	N/A
Dissolved Cadmium (Cd)	ug/L	0.033	5593914	<0.010	5592239	0.026	5593914	0.037	0.010	5592240	N/A
Dissolved Calcium (Ca)	ug/L	1600	5593914	3600	5592239	9000	5593914	1600	100	5592240	N/A
Dissolved Chromium (Cr)	ug/L	<1.0	5593914	<1.0	5592239	<1.0	5593914	<1.0	1.0	5592240	N/A
Dissolved Cobalt (Co)	ug/L	<0.40	5593914	<0.40	5592239	1.3	5593914	<0.40	0.40	5592240	N/A
Dissolved Copper (Cu)	ug/L	<2.0	5593914	<2.0	5592239	<2.0	5593914	<2.0	2.0	5592240	N/A
Dissolved Iron (Fe)	ug/L	<50	5593914	<50	5592239	<50	5593914	<50	50	5592240	N/A
Dissolved Lead (Pb)	ug/L	<0.50	5593914	<0.50	5592239	<0.50	5593914	<0.50	0.50	5592240	N/A
Dissolved Magnesium (Mg)	ug/L	630	5593914	670	5592239	640	5593914	630	100	5592240	N/A
Dissolved Manganese (Mn)	ug/L	200	5593914	20	5592239	110	5593914	200	2.0	5592240	N/A
Dissolved Molybdenum (Mo)	ug/L	<2.0	5593914	<2.0	5592239	<2.0	5593914	<2.0	2.0	5592240	N/A
Dissolved Nickel (Ni)	ug/L	<2.0	5593914	<2.0	5592239	3.6	5593914	<2.0	2.0	5592240	N/A
Dissolved Phosphorus (P)	ug/L	<100	5593914	<100	5592239	<100	5593914	<100	100	5592240	N/A
Dissolved Potassium (K)	ug/L	410	5593914	440	5592239	670	5593914	410	100	5592240	N/A
Dissolved Selenium (Se)	ug/L	<1.0	5593914	<1.0	5592239	<1.0	5593914	<1.0	1.0	5592240	N/A
Dissolved Silver (Ag)	ug/L	<0.10	5593914	<0.10	5592239	<0.10	5593914	<0.10	0.10	5592240	N/A
Dissolved Sodium (Na)	ug/L	2800	5593914	3200	5592239	2500	5593914	2700	100	5592240	N/A
Dissolved Strontium (Sr)	ug/L	19	5593914	18	5592239	14	5593914	18	2.0	5592240	N/A
Dissolved Thallium (Tl)	ug/L	<0.10	5593914	<0.10	5592239	<0.10	5593914	<0.10	0.10	5592240	N/A
Dissolved Tin (Sn)	ug/L	<2.0	5593914	<2.0	5592239	<2.0	5593914	<2.0	2.0	5592240	N/A
Dissolved Titanium (Ti)	ug/L	<2.0	5593914	<2.0	5592239	<2.0	5593914	<2.0	2.0	5592240	N/A
Dissolved Uranium (U)	ug/L	<0.10	5593914	<0.10	5592239	<0.10	5593914	<0.10	0.10	5592240	N/A
Dissolved Vanadium (V)	ug/L	<2.0	5593914	<2.0	5592239	<2.0	5593914	<2.0	2.0	5592240	N/A
Dissolved Zinc (Zn)	ug/L	<5.0	5593914	<5.0	5592239	<5.0	5593914	<5.0	5.0	5592240	N/A

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B8F0978
Report Date: 2018/06/26

GHD Limited
Client Project #: 088664-20
Site Location: BEAVER DAM
Your P.O. #: 73512044
Sampler Initials: DN

TEST SUMMARY

Maxxam ID: GZW431
Sample ID: MW-12A
Matrix: Water

Collected: 2018/06/18
Shipped:
Received: 2018/06/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	5589410	N/A	2018/06/22	Automated Statchk
Alkalinity	KONE	5593768	N/A	2018/06/25	Jacob Henley
Chloride	KONE	5593775	N/A	2018/06/22	Jacob Henley
Colour	KONE	5593779	N/A	2018/06/22	Jacob Henley
Conductance - water	AT	5593694	N/A	2018/06/22	Julia McGovern
Hardness (calculated as CaCO3)		5589411	N/A	2018/06/22	Automated Statchk
Metals Water Diss. MS (as rec'd)	CICP/MS	5592239	N/A	2018/06/22	Bryon Angevine
Ion Balance (% Difference)	CALC	5589412	N/A	2018/06/26	Automated Statchk
Anion and Cation Sum	CALC	5589413	N/A	2018/06/22	Automated Statchk
Nitrogen Ammonia - water	KONE	5592399	N/A	2018/06/21	Jacob Henley
Nitrogen - Nitrate + Nitrite	KONE	5593781	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrite	KONE	5593783	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrate (as N)	CALC	5590281	N/A	2018/06/26	Automated Statchk
pH	AT	5593693	N/A	2018/06/22	Julia McGovern
Phosphorus - ortho	KONE	5593780	N/A	2018/06/22	Jacob Henley
Sat. pH and Langelier Index (@ 20C)	CALC	5589415	N/A	2018/06/26	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	5589416	N/A	2018/06/26	Automated Statchk
Reactive Silica	KONE	5593778	N/A	2018/06/25	Jacob Henley
Sulphate	KONE	5593777	N/A	2018/06/22	Jacob Henley
Total Dissolved Solids (TDS calc)	CALC	5589418	N/A	2018/06/26	Automated Statchk
Organic carbon - Total (TOC)	TOCV/NDIR	5592255	N/A	2018/06/22	Luke MacPherson
Turbidity	TURB	5593708	N/A	2018/06/22	Julia McGovern

Maxxam ID: GZW431 Dup
Sample ID: MW-12A
Matrix: Water

Collected: 2018/06/18
Shipped:
Received: 2018/06/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	KONE	5593768	N/A	2018/06/25	Jacob Henley
Chloride	KONE	5593775	N/A	2018/06/22	Jacob Henley
Colour	KONE	5593779	N/A	2018/06/22	Jacob Henley
Conductance - water	AT	5593694	N/A	2018/06/22	Julia McGovern
Nitrogen Ammonia - water	KONE	5592399	N/A	2018/06/21	Jacob Henley
Nitrogen - Nitrate + Nitrite	KONE	5593781	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrite	KONE	5593783	N/A	2018/06/25	Jacob Henley
pH	AT	5593693	N/A	2018/06/22	Julia McGovern
Phosphorus - ortho	KONE	5593780	N/A	2018/06/22	Jacob Henley
Reactive Silica	KONE	5593778	N/A	2018/06/25	Jacob Henley
Sulphate	KONE	5593777	N/A	2018/06/22	Jacob Henley
Turbidity	TURB	5593708	N/A	2018/06/22	Julia McGovern

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Maxxam Job #: B8F0978
Report Date: 2018/06/26

GHD Limited
Client Project #: 088664-20
Site Location: BEAVER DAM
Your P.O. #: 73512044
Sampler Initials: DN

TEST SUMMARY

Maxxam ID: GZW432
Sample ID: MW-12B
Matrix: Water

Collected: 2018/06/18
Shipped:
Received: 2018/06/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	5589410	N/A	2018/06/22	Automated Statchk
Alkalinity	KONE	5589743	N/A	2018/06/25	Jacob Henley
Chloride	KONE	5589752	N/A	2018/06/22	Jacob Henley
Colour	KONE	5597605	N/A	2018/06/25	Jacob Henley
Conductance - water	AT	5593692	N/A	2018/06/22	Julia McGovern
Hardness (calculated as CaCO3)		5589411	N/A	2018/06/22	Automated Statchk
Metals Water Diss. MS (as rec'd)	CICP/MS	5592239	N/A	2018/06/22	Bryon Angevine
Ion Balance (% Difference)	CALC	5589412	N/A	2018/06/26	Automated Statchk
Anion and Cation Sum	CALC	5589413	N/A	2018/06/22	Automated Statchk
Nitrogen Ammonia - water	KONE	5592399	N/A	2018/06/21	Jacob Henley
Nitrogen - Nitrate + Nitrite	KONE	5589765	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrite	KONE	5589767	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrate (as N)	CALC	5590281	N/A	2018/06/26	Automated Statchk
pH	AT	5593691	N/A	2018/06/22	Julia McGovern
Phosphorus - ortho	KONE	5589762	N/A	2018/06/22	Jacob Henley
Sat. pH and Langelier Index (@ 20C)	CALC	5589415	N/A	2018/06/26	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	5589416	N/A	2018/06/26	Automated Statchk
Reactive Silica	KONE	5589757	N/A	2018/06/25	Jacob Henley
Sulphate	KONE	5589755	N/A	2018/06/22	Jacob Henley
Total Dissolved Solids (TDS calc)	CALC	5589418	N/A	2018/06/26	Automated Statchk
Organic carbon - Total (TOC)	TOCV/NDIR	5592255	N/A	2018/06/22	Luke MacPherson
Turbidity	TURB	5593709	N/A	2018/06/22	Julia McGovern

Maxxam ID: GZW433
Sample ID: MW-09A
Matrix: Water

Collected: 2018/06/18
Shipped:
Received: 2018/06/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	5589410	N/A	2018/06/22	Automated Statchk
Alkalinity	KONE	5589743	N/A	2018/06/25	Jacob Henley
Chloride	KONE	5589752	N/A	2018/06/22	Jacob Henley
Colour	KONE	5597605	N/A	2018/06/25	Jacob Henley
Conductance - water	AT	5593694	N/A	2018/06/22	Julia McGovern
Hardness (calculated as CaCO3)		5589411	N/A	2018/06/22	Automated Statchk
Metals Water Diss. MS (as rec'd)	CICP/MS	5592239	N/A	2018/06/22	Bryon Angevine
Ion Balance (% Difference)	CALC	5589412	N/A	2018/06/26	Automated Statchk
Anion and Cation Sum	CALC	5589413	N/A	2018/06/22	Automated Statchk
Nitrogen Ammonia - water	KONE	5592399	N/A	2018/06/21	Jacob Henley
Nitrogen - Nitrate + Nitrite	KONE	5589765	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrite	KONE	5589767	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrate (as N)	CALC	5590281	N/A	2018/06/26	Automated Statchk
pH	AT	5593693	N/A	2018/06/22	Julia McGovern
Phosphorus - ortho	KONE	5589762	N/A	2018/06/22	Jacob Henley

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Maxxam Job #: B8F0978
Report Date: 2018/06/26

GHD Limited
Client Project #: 088664-20
Site Location: BEAVER DAM
Your P.O. #: 73512044
Sampler Initials: DN

TEST SUMMARY

Maxxam ID: GZW433
Sample ID: MW-09A
Matrix: Water

Collected: 2018/06/18
Shipped:
Received: 2018/06/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Sat. pH and Langelier Index (@ 20C)	CALC	5589415	N/A	2018/06/26	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	5589416	N/A	2018/06/26	Automated Statchk
Reactive Silica	KONE	5589757	N/A	2018/06/25	Jacob Henley
Sulphate	KONE	5589755	N/A	2018/06/22	Jacob Henley
Total Dissolved Solids (TDS calc)	CALC	5589418	N/A	2018/06/26	Automated Statchk
Organic carbon - Total (TOC)	TOCV/NDIR	5592255	N/A	2018/06/22	Luke MacPherson
Turbidity	TURB	5593709	N/A	2018/06/22	Julia McGovern

Maxxam ID: GZW434
Sample ID: MW-09B
Matrix: Water

Collected: 2018/06/18
Shipped:
Received: 2018/06/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	5589410	N/A	2018/06/22	Automated Statchk
Alkalinity	KONE	5589743	N/A	2018/06/25	Jacob Henley
Chloride	KONE	5589752	N/A	2018/06/22	Jacob Henley
Colour	KONE	5597605	N/A	2018/06/25	Jacob Henley
Conductance - water	AT	5593692	N/A	2018/06/22	Julia McGovern
Hardness (calculated as CaCO3)		5589411	N/A	2018/06/22	Automated Statchk
Metals Water Diss. MS (as rec'd)	CICP/MS	5592239	N/A	2018/06/22	Bryon Angevine
Ion Balance (% Difference)	CALC	5589412	N/A	2018/06/26	Automated Statchk
Anion and Cation Sum	CALC	5589413	N/A	2018/06/22	Automated Statchk
Nitrogen Ammonia - water	KONE	5592399	N/A	2018/06/21	Jacob Henley
Nitrogen - Nitrate + Nitrite	KONE	5589765	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrite	KONE	5589767	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrate (as N)	CALC	5590281	N/A	2018/06/26	Automated Statchk
pH	AT	5593691	N/A	2018/06/22	Julia McGovern
Phosphorus - ortho	KONE	5589762	N/A	2018/06/22	Jacob Henley
Sat. pH and Langelier Index (@ 20C)	CALC	5589415	N/A	2018/06/26	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	5589416	N/A	2018/06/26	Automated Statchk
Reactive Silica	KONE	5589757	N/A	2018/06/25	Jacob Henley
Sulphate	KONE	5589755	N/A	2018/06/22	Jacob Henley
Total Dissolved Solids (TDS calc)	CALC	5589418	N/A	2018/06/26	Automated Statchk
Organic carbon - Total (TOC)	TOCV/NDIR	5592255	N/A	2018/06/22	Luke MacPherson
Turbidity	TURB	5593709	N/A	2018/06/22	Julia McGovern

Maxxam ID: GZW435
Sample ID: MW-09D
Matrix: Water

Collected: 2018/06/18
Shipped:
Received: 2018/06/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	5589410	N/A	2018/06/22	Automated Statchk
Alkalinity	KONE	5589743	N/A	2018/06/25	Jacob Henley

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Maxxam Job #: B8F0978
Report Date: 2018/06/26

GHD Limited
Client Project #: 088664-20
Site Location: BEAVER DAM
Your P.O. #: 73512044
Sampler Initials: DN

TEST SUMMARY

Maxxam ID: GZW435
Sample ID: MW-09D
Matrix: Water

Collected: 2018/06/18
Shipped:
Received: 2018/06/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Chloride	KONE	5589752	N/A	2018/06/22	Jacob Henley
Colour	KONE	5597605	N/A	2018/06/25	Jacob Henley
Conductance - water	AT	5593692	N/A	2018/06/22	Julia McGovern
Hardness (calculated as CaCO3)		5589411	N/A	2018/06/22	Automated Statchk
Metals Water Diss. MS (as rec'd)	CICP/MS	5592239	N/A	2018/06/22	Bryon Angevine
Ion Balance (% Difference)	CALC	5589412	N/A	2018/06/26	Automated Statchk
Anion and Cation Sum	CALC	5589413	N/A	2018/06/22	Automated Statchk
Nitrogen Ammonia - water	KONE	5592399	N/A	2018/06/21	Jacob Henley
Nitrogen - Nitrate + Nitrite	KONE	5589765	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrite	KONE	5589767	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrate (as N)	CALC	5590281	N/A	2018/06/26	Automated Statchk
pH	AT	5593691	N/A	2018/06/22	Julia McGovern
Phosphorus - ortho	KONE	5589762	N/A	2018/06/22	Jacob Henley
Sat. pH and Langelier Index (@ 20C)	CALC	5589415	N/A	2018/06/26	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	5589416	N/A	2018/06/26	Automated Statchk
Reactive Silica	KONE	5589757	N/A	2018/06/25	Jacob Henley
Sulphate	KONE	5589755	N/A	2018/06/22	Jacob Henley
Total Dissolved Solids (TDS calc)	CALC	5589418	N/A	2018/06/26	Automated Statchk
Organic carbon - Total (TOC)	TOCV/NDIR	5593990	N/A	2018/06/22	Luke MacPherson
Turbidity	TURB	5593708	N/A	2018/06/22	Julia McGovern

Maxxam ID: GZW436
Sample ID: MW-04A
Matrix: Water

Collected: 2018/06/18
Shipped:
Received: 2018/06/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	5590380	N/A	2018/06/22	Automated Statchk
Alkalinity	KONE	5589743	N/A	2018/06/25	Jacob Henley
Chloride	KONE	5589752	N/A	2018/06/22	Jacob Henley
Colour	KONE	5597605	N/A	2018/06/25	Jacob Henley
Conductance - water	AT	5593694	N/A	2018/06/22	Julia McGovern
Hardness (calculated as CaCO3)		5590383	N/A	2018/06/22	Automated Statchk
Metals Water Diss. MS (as rec'd)	CICP/MS	5593914	N/A	2018/06/22	Bryon Angevine
Ion Balance (% Difference)	CALC	5590384	N/A	2018/06/26	Automated Statchk
Anion and Cation Sum	CALC	5590385	N/A	2018/06/22	Automated Statchk
Nitrogen Ammonia - water	KONE	5592399	N/A	2018/06/21	Jacob Henley
Nitrogen - Nitrate + Nitrite	KONE	5589765	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrite	KONE	5589767	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrate (as N)	CALC	5590281	N/A	2018/06/26	Automated Statchk
pH	AT	5593693	N/A	2018/06/22	Julia McGovern
Phosphorus - ortho	KONE	5589762	N/A	2018/06/22	Jacob Henley
Sat. pH and Langelier Index (@ 20C)	CALC	5590387	N/A	2018/06/26	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	5590388	N/A	2018/06/26	Automated Statchk

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Maxxam Job #: B8F0978
Report Date: 2018/06/26

GHD Limited
Client Project #: 088664-20
Site Location: BEAVER DAM
Your P.O. #: 73512044
Sampler Initials: DN

TEST SUMMARY

Maxxam ID: GZW436
Sample ID: MW-04A
Matrix: Water

Collected: 2018/06/18
Shipped:
Received: 2018/06/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Reactive Silica	KONE	5589757	N/A	2018/06/25	Jacob Henley
Sulphate	KONE	5589755	N/A	2018/06/22	Jacob Henley
Total Dissolved Solids (TDS calc)	CALC	5590389	N/A	2018/06/26	Automated Statchk
Organic carbon - Total (TOC)	TOCV/NDIR	5592255	N/A	2018/06/22	Luke MacPherson
Turbidity	TURB	5593709	N/A	2018/06/22	Julia McGovern

Maxxam ID: GZW436 Dup
Sample ID: MW-04A
Matrix: Water

Collected: 2018/06/18
Shipped:
Received: 2018/06/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Metals Water Diss. MS (as rec'd)	CICP/MS	5593914	N/A	2018/06/22	Bryon Angevine

Maxxam ID: GZW437
Sample ID: MW-04B
Matrix: Water

Collected: 2018/06/18
Shipped:
Received: 2018/06/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	5590380	N/A	2018/06/22	Automated Statchk
Alkalinity	KONE	5589743	N/A	2018/06/25	Jacob Henley
Chloride	KONE	5589752	N/A	2018/06/22	Jacob Henley
Colour	KONE	5597605	N/A	2018/06/25	Jacob Henley
Conductance - water	AT	5593694	N/A	2018/06/22	Julia McGovern
Hardness (calculated as CaCO3)		5590383	N/A	2018/06/22	Automated Statchk
Metals Water Diss. MS (as rec'd)	CICP/MS	5592239	N/A	2018/06/22	Bryon Angevine
Ion Balance (% Difference)	CALC	5590384	N/A	2018/06/26	Automated Statchk
Anion and Cation Sum	CALC	5590385	N/A	2018/06/22	Automated Statchk
Nitrogen Ammonia - water	KONE	5592399	N/A	2018/06/21	Jacob Henley
Nitrogen - Nitrate + Nitrite	KONE	5589765	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrite	KONE	5589767	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrate (as N)	CALC	5590281	N/A	2018/06/26	Automated Statchk
pH	AT	5593693	N/A	2018/06/22	Julia McGovern
Phosphorus - ortho	KONE	5589762	N/A	2018/06/22	Jacob Henley
Sat. pH and Langelier Index (@ 20C)	CALC	5590387	N/A	2018/06/26	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	5590388	N/A	2018/06/26	Automated Statchk
Reactive Silica	KONE	5589757	N/A	2018/06/25	Jacob Henley
Sulphate	KONE	5589755	N/A	2018/06/22	Jacob Henley
Total Dissolved Solids (TDS calc)	CALC	5590389	N/A	2018/06/26	Automated Statchk
Organic carbon - Total (TOC)	TOCV/NDIR	5592255	N/A	2018/06/22	Luke MacPherson
Turbidity	TURB	5593709	N/A	2018/06/22	Julia McGovern

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Maxxam Job #: B8F0978
Report Date: 2018/06/26

GHD Limited
Client Project #: 088664-20
Site Location: BEAVER DAM
Your P.O. #: 73512044
Sampler Initials: DN

TEST SUMMARY

Maxxam ID: GZW438
Sample ID: MW-21A
Matrix: Water

Collected: 2018/06/18
Shipped:
Received: 2018/06/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	5590380	N/A	2018/06/22	Automated Statchk
Alkalinity	KONE	5589743	N/A	2018/06/25	Jacob Henley
Chloride	KONE	5589752	N/A	2018/06/22	Jacob Henley
Colour	KONE	5597605	N/A	2018/06/25	Jacob Henley
Conductance - water	AT	5593694	N/A	2018/06/22	Julia McGovern
Hardness (calculated as CaCO3)		5590383	N/A	2018/06/22	Automated Statchk
Metals Water Diss. MS (as rec'd)	CICP/MS	5593914	N/A	2018/06/22	Bryon Angevine
Ion Balance (% Difference)	CALC	5590384	N/A	2018/06/26	Automated Statchk
Anion and Cation Sum	CALC	5590385	N/A	2018/06/22	Automated Statchk
Nitrogen Ammonia - water	KONE	5592399	N/A	2018/06/21	Jacob Henley
Nitrogen - Nitrate + Nitrite	KONE	5589765	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrite	KONE	5589767	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrate (as N)	CALC	5590281	N/A	2018/06/26	Automated Statchk
pH	AT	5593693	N/A	2018/06/22	Julia McGovern
Phosphorus - ortho	KONE	5589762	N/A	2018/06/22	Jacob Henley
Sat. pH and Langelier Index (@ 20C)	CALC	5590387	N/A	2018/06/26	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	5590388	N/A	2018/06/26	Automated Statchk
Reactive Silica	KONE	5589757	N/A	2018/06/25	Jacob Henley
Sulphate	KONE	5589755	N/A	2018/06/22	Jacob Henley
Total Dissolved Solids (TDS calc)	CALC	5590389	N/A	2018/06/26	Automated Statchk
Organic carbon - Total (TOC)	TOCV/NDIR	5593990	N/A	2018/06/22	Luke MacPherson
Turbidity	TURB	5593709	N/A	2018/06/22	Julia McGovern

Maxxam ID: GZW439
Sample ID: MW-21B
Matrix: Water

Collected: 2018/06/18
Shipped:
Received: 2018/06/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	5590380	N/A	2018/06/22	Automated Statchk
Alkalinity	KONE	5589743	N/A	2018/06/25	Jacob Henley
Chloride	KONE	5589752	N/A	2018/06/22	Jacob Henley
Colour	KONE	5597605	N/A	2018/06/25	Jacob Henley
Conductance - water	AT	5593698	N/A	2018/06/22	Julia McGovern
Hardness (calculated as CaCO3)		5590383	N/A	2018/06/22	Automated Statchk
Metals Water Diss. MS (as rec'd)	CICP/MS	5592239	N/A	2018/06/22	Bryon Angevine
Ion Balance (% Difference)	CALC	5590384	N/A	2018/06/26	Automated Statchk
Anion and Cation Sum	CALC	5590385	N/A	2018/06/22	Automated Statchk
Nitrogen Ammonia - water	KONE	5592399	N/A	2018/06/21	Jacob Henley
Nitrogen - Nitrate + Nitrite	KONE	5589765	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrite	KONE	5589767	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrate (as N)	CALC	5590281	N/A	2018/06/26	Automated Statchk
pH	AT	5593697	N/A	2018/06/22	Julia McGovern
Phosphorus - ortho	KONE	5589762	N/A	2018/06/22	Jacob Henley

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Maxxam Job #: B8F0978
Report Date: 2018/06/26

GHD Limited
Client Project #: 088664-20
Site Location: BEAVER DAM
Your P.O. #: 73512044
Sampler Initials: DN

TEST SUMMARY

Maxxam ID: GZW439
Sample ID: MW-21B
Matrix: Water

Collected: 2018/06/18
Shipped:
Received: 2018/06/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Sat. pH and Langelier Index (@ 20C)	CALC	5590387	N/A	2018/06/26	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	5590388	N/A	2018/06/26	Automated Statchk
Reactive Silica	KONE	5589757	N/A	2018/06/25	Jacob Henley
Sulphate	KONE	5589755	N/A	2018/06/22	Jacob Henley
Total Dissolved Solids (TDS calc)	CALC	5590389	N/A	2018/06/26	Automated Statchk
Organic carbon - Total (TOC)	TOCV/NDIR	5593990	N/A	2018/06/22	Luke MacPherson
Turbidity	TURB	5593709	N/A	2018/06/22	Julia McGovern

Maxxam ID: GZW439 Dup
Sample ID: MW-21B
Matrix: Water

Collected: 2018/06/18
Shipped:
Received: 2018/06/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Conductance - water	AT	5593698	N/A	2018/06/22	Julia McGovern
pH	AT	5593697	N/A	2018/06/22	Julia McGovern

Maxxam ID: GZW440
Sample ID: MW-21C
Matrix: Water

Collected: 2018/06/18
Shipped:
Received: 2018/06/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	5590380	N/A	2018/06/22	Automated Statchk
Alkalinity	KONE	5589743	N/A	2018/06/25	Jacob Henley
Chloride	KONE	5589752	N/A	2018/06/22	Jacob Henley
Colour	KONE	5597605	N/A	2018/06/25	Jacob Henley
Conductance - water	AT	5593694	N/A	2018/06/22	Julia McGovern
Hardness (calculated as CaCO3)		5590383	N/A	2018/06/22	Automated Statchk
Metals Water Diss. MS (as rec'd)	CICP/MS	5592239	N/A	2018/06/22	Bryon Angevine
Ion Balance (% Difference)	CALC	5590384	N/A	2018/06/26	Automated Statchk
Anion and Cation Sum	CALC	5590385	N/A	2018/06/22	Automated Statchk
Nitrogen Ammonia - water	KONE	5592399	N/A	2018/06/21	Jacob Henley
Nitrogen - Nitrate + Nitrite	KONE	5589765	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrite	KONE	5589767	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrate (as N)	CALC	5590281	N/A	2018/06/26	Automated Statchk
pH	AT	5593693	N/A	2018/06/22	Julia McGovern
Phosphorus - ortho	KONE	5589762	N/A	2018/06/22	Jacob Henley
Sat. pH and Langelier Index (@ 20C)	CALC	5590387	N/A	2018/06/26	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	5590388	N/A	2018/06/26	Automated Statchk
Reactive Silica	KONE	5589757	N/A	2018/06/25	Jacob Henley
Sulphate	KONE	5589755	N/A	2018/06/22	Jacob Henley
Total Dissolved Solids (TDS calc)	CALC	5590389	N/A	2018/06/26	Automated Statchk
Organic carbon - Total (TOC)	TOCV/NDIR	5593990	N/A	2018/06/22	Luke MacPherson
Turbidity	TURB	5593711	N/A	2018/06/22	Julia McGovern

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Maxxam Job #: B8F0978
Report Date: 2018/06/26

GHD Limited
Client Project #: 088664-20
Site Location: BEAVER DAM
Your P.O. #: 73512044
Sampler Initials: DN

TEST SUMMARY

Maxxam ID: GZW441
Sample ID: MW-16A
Matrix: Water

Collected: 2018/06/18
Shipped:
Received: 2018/06/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	5590380	N/A	2018/06/22	Automated Statchk
Alkalinity	KONE	5589743	N/A	2018/06/25	Jacob Henley
Chloride	KONE	5589752	N/A	2018/06/22	Jacob Henley
Colour	KONE	5597605	N/A	2018/06/25	Jacob Henley
Conductance - water	AT	5593696	N/A	2018/06/22	Julia McGovern
Hardness (calculated as CaCO3)		5590383	N/A	2018/06/22	Automated Statchk
Metals Water Diss. MS (as rec'd)	CICP/MS	5593914	N/A	2018/06/22	Bryon Angevine
Ion Balance (% Difference)	CALC	5590384	N/A	2018/06/26	Automated Statchk
Anion and Cation Sum	CALC	5590385	N/A	2018/06/22	Automated Statchk
Nitrogen Ammonia - water	KONE	5592399	N/A	2018/06/21	Jacob Henley
Nitrogen - Nitrate + Nitrite	KONE	5589765	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrite	KONE	5589767	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrate (as N)	CALC	5590281	N/A	2018/06/26	Automated Statchk
pH	AT	5593695	N/A	2018/06/22	Julia McGovern
Phosphorus - ortho	KONE	5589762	N/A	2018/06/22	Jacob Henley
Sat. pH and Langelier Index (@ 20C)	CALC	5590387	N/A	2018/06/26	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	5590388	N/A	2018/06/26	Automated Statchk
Reactive Silica	KONE	5589757	N/A	2018/06/25	Jacob Henley
Sulphate	KONE	5589755	N/A	2018/06/22	Jacob Henley
Total Dissolved Solids (TDS calc)	CALC	5590389	N/A	2018/06/26	Automated Statchk
Organic carbon - Total (TOC)	TOCV/NDIR	5596952	N/A	2018/06/25	Luke MacPherson
Turbidity	TURB	5593711	N/A	2018/06/22	Julia McGovern

Maxxam ID: GZW442
Sample ID: MW-16B
Matrix: Water

Collected: 2018/06/18
Shipped:
Received: 2018/06/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	5590380	N/A	2018/06/22	Automated Statchk
Alkalinity	KONE	5589743	N/A	2018/06/25	Jacob Henley
Chloride	KONE	5589752	N/A	2018/06/22	Jacob Henley
Colour	KONE	5597605	N/A	2018/06/25	Jacob Henley
Conductance - water	AT	5593694	N/A	2018/06/22	Julia McGovern
Hardness (calculated as CaCO3)		5590383	N/A	2018/06/22	Automated Statchk
Metals Water Diss. MS (as rec'd)	CICP/MS	5592239	N/A	2018/06/22	Bryon Angevine
Ion Balance (% Difference)	CALC	5590384	N/A	2018/06/26	Automated Statchk
Anion and Cation Sum	CALC	5590385	N/A	2018/06/22	Automated Statchk
Nitrogen Ammonia - water	KONE	5592399	N/A	2018/06/21	Jacob Henley
Nitrogen - Nitrate + Nitrite	KONE	5589765	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrite	KONE	5589767	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrate (as N)	CALC	5590281	N/A	2018/06/26	Automated Statchk
pH	AT	5593693	N/A	2018/06/22	Julia McGovern
Phosphorus - ortho	KONE	5589762	N/A	2018/06/22	Jacob Henley

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Maxxam Job #: B8F0978
Report Date: 2018/06/26

GHD Limited
Client Project #: 088664-20
Site Location: BEAVER DAM
Your P.O. #: 73512044
Sampler Initials: DN

TEST SUMMARY

Maxxam ID: GZW442
Sample ID: MW-16B
Matrix: Water

Collected: 2018/06/18
Shipped:
Received: 2018/06/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Sat. pH and Langelier Index (@ 20C)	CALC	5590387	N/A	2018/06/26	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	5590388	N/A	2018/06/26	Automated Statchk
Reactive Silica	KONE	5589757	N/A	2018/06/25	Jacob Henley
Sulphate	KONE	5589755	N/A	2018/06/22	Jacob Henley
Total Dissolved Solids (TDS calc)	CALC	5590389	N/A	2018/06/26	Automated Statchk
Organic carbon - Total (TOC)	TOCV/NDIR	5593990	N/A	2018/06/22	Luke MacPherson
Turbidity	TURB	5593709	N/A	2018/06/22	Julia McGovern

Maxxam ID: GZW443
Sample ID: MW-17A
Matrix: Water

Collected: 2018/06/18
Shipped:
Received: 2018/06/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	5590380	N/A	2018/06/22	Automated Statchk
Alkalinity	KONE	5589743	N/A	2018/06/25	Jacob Henley
Chloride	KONE	5589752	N/A	2018/06/22	Jacob Henley
Colour	KONE	5597605	N/A	2018/06/25	Jacob Henley
Conductance - water	AT	5593694	N/A	2018/06/22	Julia McGovern
Hardness (calculated as CaCO3)		5590383	N/A	2018/06/22	Automated Statchk
Metals Water Diss. MS (as rec'd)	CICP/MS	5592239	N/A	2018/06/22	Bryon Angevine
Ion Balance (% Difference)	CALC	5590384	N/A	2018/06/26	Automated Statchk
Anion and Cation Sum	CALC	5590385	N/A	2018/06/22	Automated Statchk
Nitrogen Ammonia - water	KONE	5592399	N/A	2018/06/21	Jacob Henley
Nitrogen - Nitrate + Nitrite	KONE	5589765	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrite	KONE	5589767	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrate (as N)	CALC	5590281	N/A	2018/06/26	Automated Statchk
pH	AT	5593693	N/A	2018/06/22	Julia McGovern
Phosphorus - ortho	KONE	5589762	N/A	2018/06/22	Jacob Henley
Sat. pH and Langelier Index (@ 20C)	CALC	5590387	N/A	2018/06/26	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	5590388	N/A	2018/06/26	Automated Statchk
Reactive Silica	KONE	5589757	N/A	2018/06/25	Jacob Henley
Sulphate	KONE	5589755	N/A	2018/06/22	Jacob Henley
Total Dissolved Solids (TDS calc)	CALC	5590389	N/A	2018/06/26	Automated Statchk
Organic carbon - Total (TOC)	TOCV/NDIR	5593990	N/A	2018/06/22	Luke MacPherson
Turbidity	TURB	5593711	N/A	2018/06/22	Julia McGovern

Maxxam ID: GZW444
Sample ID: MW-17B
Matrix: Water

Collected: 2018/06/18
Shipped:
Received: 2018/06/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	5590380	N/A	2018/06/22	Automated Statchk
Alkalinity	KONE	5593768	N/A	2018/06/25	Jacob Henley

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Maxxam Job #: B8F0978
Report Date: 2018/06/26

GHD Limited
Client Project #: 088664-20
Site Location: BEAVER DAM
Your P.O. #: 73512044
Sampler Initials: DN

TEST SUMMARY

Maxxam ID: GZW444
Sample ID: MW-17B
Matrix: Water

Collected: 2018/06/18
Shipped:
Received: 2018/06/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Chloride	KONE	5593775	N/A	2018/06/22	Jacob Henley
Colour	KONE	5597513	N/A	2018/06/25	Jacob Henley
Conductance - water	AT	5593694	N/A	2018/06/22	Julia McGovern
Hardness (calculated as CaCO3)		5590383	N/A	2018/06/22	Automated Statchk
Metals Water Diss. MS (as rec'd)	CICP/MS	5593914	N/A	2018/06/22	Bryon Angevine
Ion Balance (% Difference)	CALC	5590384	N/A	2018/06/26	Automated Statchk
Anion and Cation Sum	CALC	5590385	N/A	2018/06/22	Automated Statchk
Nitrogen Ammonia - water	KONE	5592399	N/A	2018/06/21	Jacob Henley
Nitrogen - Nitrate + Nitrite	KONE	5593781	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrite	KONE	5593783	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrate (as N)	CALC	5590281	N/A	2018/06/26	Automated Statchk
pH	AT	5593693	N/A	2018/06/22	Julia McGovern
Phosphorus - ortho	KONE	5593780	N/A	2018/06/22	Jacob Henley
Sat. pH and Langelier Index (@ 20C)	CALC	5590387	N/A	2018/06/26	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	5590388	N/A	2018/06/26	Automated Statchk
Reactive Silica	KONE	5593778	N/A	2018/06/25	Jacob Henley
Sulphate	KONE	5593777	N/A	2018/06/22	Jacob Henley
Total Dissolved Solids (TDS calc)	CALC	5590389	N/A	2018/06/26	Automated Statchk
Organic carbon - Total (TOC)	TOCV/NDIR	5593990	N/A	2018/06/22	Luke MacPherson
Turbidity	TURB	5593711	N/A	2018/06/22	Julia McGovern

Maxxam ID: GZW445
Sample ID: MW-17C
Matrix: Water

Collected: 2018/06/18
Shipped:
Received: 2018/06/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	5590380	N/A	2018/06/22	Automated Statchk
Alkalinity	KONE	5593768	N/A	2018/06/25	Jacob Henley
Chloride	KONE	5593775	N/A	2018/06/22	Jacob Henley
Colour	KONE	5593779	N/A	2018/06/22	Jacob Henley
Conductance - water	AT	5593692	N/A	2018/06/22	Julia McGovern
Hardness (calculated as CaCO3)		5590383	N/A	2018/06/22	Automated Statchk
Metals Water Diss. MS (as rec'd)	CICP/MS	5592239	N/A	2018/06/22	Bryon Angevine
Ion Balance (% Difference)	CALC	5590384	N/A	2018/06/26	Automated Statchk
Anion and Cation Sum	CALC	5590385	N/A	2018/06/22	Automated Statchk
Nitrogen Ammonia - water	KONE	5592399	N/A	2018/06/21	Jacob Henley
Nitrogen - Nitrate + Nitrite	KONE	5593781	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrite	KONE	5593783	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrate (as N)	CALC	5590281	N/A	2018/06/26	Automated Statchk
pH	AT	5593691	N/A	2018/06/22	Julia McGovern
Phosphorus - ortho	KONE	5593780	N/A	2018/06/22	Jacob Henley
Sat. pH and Langelier Index (@ 20C)	CALC	5590387	N/A	2018/06/26	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	5590388	N/A	2018/06/26	Automated Statchk

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Maxxam Job #: B8F0978
Report Date: 2018/06/26

GHD Limited
Client Project #: 088664-20
Site Location: BEAVER DAM
Your P.O. #: 73512044
Sampler Initials: DN

TEST SUMMARY

Maxxam ID: GZW445
Sample ID: MW-17C
Matrix: Water

Collected: 2018/06/18
Shipped:
Received: 2018/06/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Reactive Silica	KONE	5593778	N/A	2018/06/25	Jacob Henley
Sulphate	KONE	5593777	N/A	2018/06/22	Jacob Henley
Total Dissolved Solids (TDS calc)	CALC	5590389	N/A	2018/06/26	Automated Statchk
Organic carbon - Total (TOC)	TOCV/NDIR	5593990	N/A	2018/06/22	Luke MacPherson
Turbidity	TURB	5593709	N/A	2018/06/22	Julia McGovern

Maxxam ID: GZW446
Sample ID: MW-DUPA
Matrix: Water

Collected: 2018/06/18
Shipped:
Received: 2018/06/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	5590380	N/A	2018/06/22	Automated Statchk
Alkalinity	KONE	5593768	N/A	2018/06/25	Jacob Henley
Chloride	KONE	5593775	N/A	2018/06/22	Jacob Henley
Colour	KONE	5593779	N/A	2018/06/22	Jacob Henley
Conductance - water	AT	5593692	N/A	2018/06/22	Julia McGovern
Hardness (calculated as CaCO3)		5590383	N/A	2018/06/22	Automated Statchk
Metals Water Diss. MS (as rec'd)	CICP/MS	5593914	N/A	2018/06/22	Bryon Angevine
Ion Balance (% Difference)	CALC	5590384	N/A	2018/06/26	Automated Statchk
Anion and Cation Sum	CALC	5590385	N/A	2018/06/22	Automated Statchk
Nitrogen Ammonia - water	KONE	5592399	N/A	2018/06/21	Jacob Henley
Nitrogen - Nitrate + Nitrite	KONE	5593781	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrite	KONE	5593783	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrate (as N)	CALC	5590281	N/A	2018/06/26	Automated Statchk
pH	AT	5593691	N/A	2018/06/22	Julia McGovern
Phosphorus - ortho	KONE	5593780	N/A	2018/06/22	Jacob Henley
Sat. pH and Langelier Index (@ 20C)	CALC	5590387	N/A	2018/06/26	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	5590388	N/A	2018/06/26	Automated Statchk
Reactive Silica	KONE	5593778	N/A	2018/06/25	Jacob Henley
Sulphate	KONE	5593777	N/A	2018/06/22	Jacob Henley
Total Dissolved Solids (TDS calc)	CALC	5590389	N/A	2018/06/26	Automated Statchk
Organic carbon - Total (TOC)	TOCV/NDIR	5593990	N/A	2018/06/22	Luke MacPherson
Turbidity	TURB	5593708	N/A	2018/06/22	Julia McGovern

Maxxam ID: GZW447
Sample ID: MW-DUPB
Matrix: Water

Collected: 2018/06/18
Shipped:
Received: 2018/06/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	5590380	N/A	2018/06/22	Automated Statchk
Alkalinity	KONE	5593768	N/A	2018/06/25	Jacob Henley
Chloride	KONE	5593775	N/A	2018/06/22	Jacob Henley
Colour	KONE	5593779	N/A	2018/06/22	Jacob Henley

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Maxxam Job #: B8F0978
Report Date: 2018/06/26

GHD Limited
Client Project #: 088664-20
Site Location: BEAVER DAM
Your P.O. #: 73512044
Sampler Initials: DN

TEST SUMMARY

Maxxam ID: GZW447
Sample ID: MW-DUPB
Matrix: Water

Collected: 2018/06/18
Shipped:
Received: 2018/06/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Conductance - water	AT	5593694	N/A	2018/06/22	Julia McGovern
Hardness (calculated as CaCO3)		5590383	N/A	2018/06/22	Automated Statchk
Metals Water Diss. MS (as rec'd)	CICP/MS	5592240	N/A	2018/06/22	Cassandra Hartery
Ion Balance (% Difference)	CALC	5590384	N/A	2018/06/26	Automated Statchk
Anion and Cation Sum	CALC	5590385	N/A	2018/06/22	Automated Statchk
Nitrogen Ammonia - water	KONE	5592399	N/A	2018/06/21	Jacob Henley
Nitrogen - Nitrate + Nitrite	KONE	5593781	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrite	KONE	5593783	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrate (as N)	CALC	5590281	N/A	2018/06/26	Automated Statchk
pH	AT	5593693	N/A	2018/06/22	Julia McGovern
Phosphorus - ortho	KONE	5593780	N/A	2018/06/22	Jacob Henley
Sat. pH and Langelier Index (@ 20C)	CALC	5590387	N/A	2018/06/26	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	5590388	N/A	2018/06/26	Automated Statchk
Reactive Silica	KONE	5593778	N/A	2018/06/25	Jacob Henley
Sulphate	KONE	5593777	N/A	2018/06/22	Jacob Henley
Total Dissolved Solids (TDS calc)	CALC	5590389	N/A	2018/06/26	Automated Statchk
Organic carbon - Total (TOC)	TOCV/NDIR	5592255	N/A	2018/06/22	Luke MacPherson
Turbidity	TURB	5593709	N/A	2018/06/22	Julia McGovern

Maxxam ID: GZW447 Dup
Sample ID: MW-DUPB
Matrix: Water

Collected: 2018/06/18
Shipped:
Received: 2018/06/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Turbidity	TURB	5593709	N/A	2018/06/22	Julia McGovern

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Maxxam Job #: B8F0978
Report Date: 2018/06/26

GHD Limited
Client Project #: 088664-20
Site Location: BEAVER DAM
Your P.O. #: 73512044
Sampler Initials: DN

GENERAL COMMENTS

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

Package 1	6.3°C
Package 2	5.3°C

Sample GZW431 [MW-12A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample GZW433 [MW-09A] : RCAp Ion Balance acceptable. Low ionic strength sample.

Sample GZW436 [MW-04A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample GZW444 [MW-17B] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample GZW446 [MW-DUPA] : RCAp Ion Balance acceptable. Low ionic strength sample.

Sample GZW447 [MW-DUPB] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Results relate only to the items tested.

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Maxxam Job #: B8F0978
Report Date: 2018/06/26

QUALITY ASSURANCE REPORT

GHD Limited
Client Project #: 088664-20
Site Location: BEAVER DAM
Your P.O. #: 73512044
Sampler Initials: DN

			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
5589743	Total Alkalinity (Total as CaCO3)	2018/06/25	NC	80 - 120	96	80 - 120	<5.0	mg/L	9.1	25		
5589752	Dissolved Chloride (Cl)	2018/06/22	100	80 - 120	103	80 - 120	<1.0	mg/L	10	25	102	80 - 120
5589755	Dissolved Sulphate (SO4)	2018/06/22	93	80 - 120	95	80 - 120	<2.0	mg/L	0.48	25		
5589757	Reactive Silica (SiO2)	2018/06/25	98	80 - 120	95	80 - 120	<0.50	mg/L	0.84	25		
5589762	Orthophosphate (P)	2018/06/22	87	80 - 120	94	80 - 120	<0.010	mg/L	NC	25		
5589765	Nitrate + Nitrite (N)	2018/06/25	96	80 - 120	98	80 - 120	<0.050	mg/L	NC	25		
5589767	Nitrite (N)	2018/06/25	92	80 - 120	96	80 - 120	<0.010	mg/L	NC	20		
5592239	Dissolved Aluminum (Al)	2018/06/22	100	80 - 120	98	80 - 120	<5.0	ug/L	NC	20		
5592239	Dissolved Antimony (Sb)	2018/06/22	103	80 - 120	98	80 - 120	<1.0	ug/L	NC	20		
5592239	Dissolved Arsenic (As)	2018/06/22	97	80 - 120	95	80 - 120	<1.0	ug/L	NC	20		
5592239	Dissolved Barium (Ba)	2018/06/22	101	80 - 120	101	80 - 120	<1.0	ug/L	0.13	20		
5592239	Dissolved Beryllium (Be)	2018/06/22	101	80 - 120	100	80 - 120	<1.0	ug/L	NC	20		
5592239	Dissolved Bismuth (Bi)	2018/06/22	98	80 - 120	103	80 - 120	<2.0	ug/L	NC	20		
5592239	Dissolved Boron (B)	2018/06/22	99	80 - 120	94	80 - 120	<50	ug/L	NC	20		
5592239	Dissolved Cadmium (Cd)	2018/06/22	102	80 - 120	101	80 - 120	<0.010	ug/L	NC	20		
5592239	Dissolved Calcium (Ca)	2018/06/22	NC	80 - 120	102	80 - 120	<100	ug/L	0.11	20		
5592239	Dissolved Chromium (Cr)	2018/06/22	96	80 - 120	95	80 - 120	<1.0	ug/L	NC	20		
5592239	Dissolved Cobalt (Co)	2018/06/22	94	80 - 120	95	80 - 120	<0.40	ug/L	NC	20		
5592239	Dissolved Copper (Cu)	2018/06/22	90	80 - 120	93	80 - 120	<2.0	ug/L	NC	20		
5592239	Dissolved Iron (Fe)	2018/06/22	99	80 - 120	98	80 - 120	<50	ug/L	NC	20		
5592239	Dissolved Lead (Pb)	2018/06/22	97	80 - 120	98	80 - 120	<0.50	ug/L	NC	20		
5592239	Dissolved Magnesium (Mg)	2018/06/22	NC	80 - 120	101	80 - 120	<100	ug/L	0.36	20		
5592239	Dissolved Manganese (Mn)	2018/06/22	95	80 - 120	96	80 - 120	<2.0	ug/L	NC	20		
5592239	Dissolved Molybdenum (Mo)	2018/06/22	106	80 - 120	102	80 - 120	<2.0	ug/L	NC	20		
5592239	Dissolved Nickel (Ni)	2018/06/22	92	80 - 120	95	80 - 120	<2.0	ug/L	NC	20		
5592239	Dissolved Phosphorus (P)	2018/06/22	104	80 - 120	102	80 - 120	<100	ug/L	NC	20		
5592239	Dissolved Potassium (K)	2018/06/22	102	80 - 120	103	80 - 120	<100	ug/L	1.3	20		
5592239	Dissolved Selenium (Se)	2018/06/22	96	80 - 120	95	80 - 120	<1.0	ug/L	NC	20		
5592239	Dissolved Silver (Ag)	2018/06/22	99	80 - 120	98	80 - 120	<0.10	ug/L	NC	20		
5592239	Dissolved Sodium (Na)	2018/06/22	94	80 - 120	96	80 - 120	<100	ug/L	0.37	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
5592239	Dissolved Strontium (Sr)	2018/06/22	NC	80 - 120	97	80 - 120	<2.0	ug/L	0.60	20		
5592239	Dissolved Thallium (Tl)	2018/06/22	101	80 - 120	101	80 - 120	<0.10	ug/L	NC	20		
5592239	Dissolved Tin (Sn)	2018/06/22	108	80 - 120	107	80 - 120	<2.0	ug/L	NC	20		
5592239	Dissolved Titanium (Ti)	2018/06/22	100	80 - 120	99	80 - 120	<2.0	ug/L	NC	20		
5592239	Dissolved Uranium (U)	2018/06/22	101	80 - 120	99	80 - 120	<0.10	ug/L	0.48	20		
5592239	Dissolved Vanadium (V)	2018/06/22	99	80 - 120	98	80 - 120	<2.0	ug/L	NC	20		
5592239	Dissolved Zinc (Zn)	2018/06/22	97	80 - 120	99	80 - 120	<5.0	ug/L	NC	20		
5592240	Dissolved Aluminum (Al)	2018/06/22	97	80 - 120	98	80 - 120	<5.0	ug/L	1.7	20		
5592240	Dissolved Antimony (Sb)	2018/06/22	103	80 - 120	99	80 - 120	<1.0	ug/L	NC	20		
5592240	Dissolved Arsenic (As)	2018/06/22	96	80 - 120	96	80 - 120	<1.0	ug/L	3.9	20		
5592240	Dissolved Barium (Ba)	2018/06/22	104	80 - 120	105	80 - 120	<1.0	ug/L	0.23	20		
5592240	Dissolved Beryllium (Be)	2018/06/22	99	80 - 120	100	80 - 120	<1.0	ug/L	NC	20		
5592240	Dissolved Bismuth (Bi)	2018/06/22	101	80 - 120	104	80 - 120	<2.0	ug/L	NC	20		
5592240	Dissolved Boron (B)	2018/06/22	96	80 - 120	95	80 - 120	<50	ug/L	NC	20		
5592240	Dissolved Cadmium (Cd)	2018/06/22	103	80 - 120	104	80 - 120	<0.010	ug/L	NC	20		
5592240	Dissolved Calcium (Ca)	2018/06/22	99	80 - 120	105	80 - 120	<100	ug/L	1.0	20		
5592240	Dissolved Chromium (Cr)	2018/06/22	95	80 - 120	97	80 - 120	<1.0	ug/L	NC	20		
5592240	Dissolved Cobalt (Co)	2018/06/22	95	80 - 120	97	80 - 120	<0.40	ug/L	NC	20		
5592240	Dissolved Copper (Cu)	2018/06/22	91	80 - 120	93	80 - 120	<2.0	ug/L	NC	20		
5592240	Dissolved Iron (Fe)	2018/06/22	98	80 - 120	100	80 - 120	<50	ug/L	NC	20		
5592240	Dissolved Lead (Pb)	2018/06/22	98	80 - 120	100	80 - 120	<0.50	ug/L	NC	20		
5592240	Dissolved Magnesium (Mg)	2018/06/22	100	80 - 120	103	80 - 120	<100	ug/L	0.41	20		
5592240	Dissolved Manganese (Mn)	2018/06/22	NC	80 - 120	97	80 - 120	<2.0	ug/L	0.58	20		
5592240	Dissolved Molybdenum (Mo)	2018/06/22	103	80 - 120	103	80 - 120	<2.0	ug/L	3.7	20		
5592240	Dissolved Nickel (Ni)	2018/06/22	92	80 - 120	94	80 - 120	<2.0	ug/L	NC	20		
5592240	Dissolved Phosphorus (P)	2018/06/22	104	80 - 120	103	80 - 120	<100	ug/L	NC	20		
5592240	Dissolved Potassium (K)	2018/06/22	100	80 - 120	105	80 - 120	<100	ug/L	1.3	20		
5592240	Dissolved Selenium (Se)	2018/06/22	96	80 - 120	96	80 - 120	<1.0	ug/L	NC	20		
5592240	Dissolved Silver (Ag)	2018/06/22	92	80 - 120	99	80 - 120	<0.10	ug/L	NC	20		
5592240	Dissolved Sodium (Na)	2018/06/22	94	80 - 120	95	80 - 120	<100	ug/L	0.53	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
5592240	Dissolved Strontium (Sr)	2018/06/22	100	80 - 120	99	80 - 120	<2.0	ug/L	1.0	20		
5592240	Dissolved Thallium (Tl)	2018/06/22	103	80 - 120	104	80 - 120	<0.10	ug/L	NC	20		
5592240	Dissolved Tin (Sn)	2018/06/22	105	80 - 120	108	80 - 120	<2.0	ug/L	NC	20		
5592240	Dissolved Titanium (Ti)	2018/06/22	99	80 - 120	103	80 - 120	<2.0	ug/L	NC	20		
5592240	Dissolved Uranium (U)	2018/06/22	101	80 - 120	102	80 - 120	<0.10	ug/L	2.6	20		
5592240	Dissolved Vanadium (V)	2018/06/22	98	80 - 120	100	80 - 120	<2.0	ug/L	NC	20		
5592240	Dissolved Zinc (Zn)	2018/06/22	100	80 - 120	100	80 - 120	<5.0	ug/L	NC	20		
5592255	Total Organic Carbon (C)	2018/06/22	95	85 - 115	96	80 - 120	<0.50	mg/L	2.1	15		
5592399	Nitrogen (Ammonia Nitrogen)	2018/06/21	101	80 - 120	104	80 - 120	<0.050	mg/L	NC	20		
5593691	pH	2018/06/22							0.74	N/A	101	97 - 103
5593692	Conductivity	2018/06/22			101	80 - 120	1.5, RDL=1.0	uS/cm	0.29	25		
5593693	pH	2018/06/22							0.48	N/A	100	97 - 103
5593694	Conductivity	2018/06/22			100	80 - 120	1.4, RDL=1.0	uS/cm	0.24	25		
5593695	pH	2018/06/22							0.76	N/A	100	97 - 103
5593696	Conductivity	2018/06/22			101	80 - 120	1.7, RDL=1.0	uS/cm	0.15	25		
5593697	pH	2018/06/22							0.39	N/A	101	97 - 103
5593698	Conductivity	2018/06/22			101	80 - 120	1.8, RDL=1.0	uS/cm	1.9	25		
5593708	Turbidity	2018/06/22			94	80 - 120	<0.10	NTU	2.4	20	97	80 - 120
5593709	Turbidity	2018/06/22			94	80 - 120	<0.10	NTU	9.5	20	96	80 - 120
5593711	Turbidity	2018/06/22			92	80 - 120	<0.10	NTU	4.5	20	96	80 - 120
5593768	Total Alkalinity (Total as CaCO3)	2018/06/25	90	80 - 120	95	80 - 120	<5.0	mg/L	2.2	25		
5593775	Dissolved Chloride (Cl)	2018/06/22	101	80 - 120	102	80 - 120	<1.0	mg/L	1.8	25	100	80 - 120
5593777	Dissolved Sulphate (SO4)	2018/06/22	97	80 - 120	93	80 - 120	<2.0	mg/L	0.015	25		
5593778	Reactive Silica (SiO2)	2018/06/25	NC	80 - 120	97	80 - 120	<0.50	mg/L	0.95	25		
5593779	Colour	2018/06/22			99	80 - 120	<5.0	TCU	NC	20		
5593780	Orthophosphate (P)	2018/06/22	92	80 - 120	94	80 - 120	<0.010	mg/L	NC	25		
5593781	Nitrate + Nitrite (N)	2018/06/25	95	80 - 120	97	80 - 120	<0.050	mg/L	0.94	25		
5593783	Nitrite (N)	2018/06/25	98	80 - 120	96	80 - 120	<0.010	mg/L	NC	20		
5593914	Dissolved Aluminum (Al)	2018/06/22	100	80 - 120	99	80 - 120	<5.0	ug/L	3.1	20		
5593914	Dissolved Antimony (Sb)	2018/06/22	94	80 - 120	92	80 - 120	<1.0	ug/L	NC	20		

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Maxxam Job #: B8F0978
Report Date: 2018/06/26

QUALITY ASSURANCE REPORT(CONT'D)

GHD Limited
Client Project #: 088664-20
Site Location: BEAVER DAM
Your P.O. #: 73512044
Sampler Initials: DN

			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
5593914	Dissolved Arsenic (As)	2018/06/22	95	80 - 120	95	80 - 120	<1.0	ug/L	NC	20		
5593914	Dissolved Barium (Ba)	2018/06/22	95	80 - 120	95	80 - 120	<1.0	ug/L	0.55	20		
5593914	Dissolved Beryllium (Be)	2018/06/22	94	80 - 120	96	80 - 120	<1.0	ug/L	NC	20		
5593914	Dissolved Bismuth (Bi)	2018/06/22	101	80 - 120	99	80 - 120	<2.0	ug/L	NC	20		
5593914	Dissolved Boron (B)	2018/06/22	93	80 - 120	93	80 - 120	<50	ug/L	NC	20		
5593914	Dissolved Cadmium (Cd)	2018/06/22	95	80 - 120	98	80 - 120	<0.010	ug/L	0.74	20		
5593914	Dissolved Calcium (Ca)	2018/06/22	98	80 - 120	99	80 - 120	<100	ug/L	0.17	20		
5593914	Dissolved Chromium (Cr)	2018/06/22	92	80 - 120	93	80 - 120	<1.0	ug/L	NC	20		
5593914	Dissolved Cobalt (Co)	2018/06/22	95	80 - 120	96	80 - 120	<0.40	ug/L	3.5	20		
5593914	Dissolved Copper (Cu)	2018/06/22	94	80 - 120	96	80 - 120	<2.0	ug/L	NC	20		
5593914	Dissolved Iron (Fe)	2018/06/22	97	80 - 120	98	80 - 120	<50	ug/L	NC	20		
5593914	Dissolved Lead (Pb)	2018/06/22	97	80 - 120	97	80 - 120	<0.50	ug/L	NC	20		
5593914	Dissolved Magnesium (Mg)	2018/06/22	97	80 - 120	98	80 - 120	<100	ug/L	0.76	20		
5593914	Dissolved Manganese (Mn)	2018/06/22	96	80 - 120	99	80 - 120	<2.0	ug/L	2.1	20		
5593914	Dissolved Molybdenum (Mo)	2018/06/22	100	80 - 120	98	80 - 120	<2.0	ug/L	NC	20		
5593914	Dissolved Nickel (Ni)	2018/06/22	94	80 - 120	96	80 - 120	<2.0	ug/L	0.38	20		
5593914	Dissolved Phosphorus (P)	2018/06/22	102	80 - 120	103	80 - 120	<100	ug/L	NC	20		
5593914	Dissolved Potassium (K)	2018/06/22	100	80 - 120	101	80 - 120	<100	ug/L	0.065	20		
5593914	Dissolved Selenium (Se)	2018/06/22	95	80 - 120	95	80 - 120	<1.0	ug/L	NC	20		
5593914	Dissolved Silver (Ag)	2018/06/22	95	80 - 120	95	80 - 120	<0.10	ug/L	NC	20		
5593914	Dissolved Sodium (Na)	2018/06/22	93	80 - 120	95	80 - 120	<100	ug/L	0.99	20		
5593914	Dissolved Strontium (Sr)	2018/06/22	97	80 - 120	97	80 - 120	<2.0	ug/L	0.61	20		
5593914	Dissolved Thallium (Tl)	2018/06/22	101	80 - 120	100	80 - 120	<0.10	ug/L	NC	20		
5593914	Dissolved Tin (Sn)	2018/06/22	103	80 - 120	98	80 - 120	<2.0	ug/L	NC	20		
5593914	Dissolved Titanium (Ti)	2018/06/22	101	80 - 120	98	80 - 120	<2.0	ug/L	NC	20		
5593914	Dissolved Uranium (U)	2018/06/22	100	80 - 120	99	80 - 120	<0.10	ug/L	NC	20		
5593914	Dissolved Vanadium (V)	2018/06/22	94	80 - 120	96	80 - 120	<2.0	ug/L	NC	20		
5593914	Dissolved Zinc (Zn)	2018/06/22	100	80 - 120	101	80 - 120	<5.0	ug/L	NC	20		
5593990	Total Organic Carbon (C)	2018/06/22	92	85 - 115	94	80 - 120	<0.50	mg/L	1.5	15		
5596952	Total Organic Carbon (C)	2018/06/25	105	85 - 115	106	80 - 120	<0.50	mg/L	5.4	15		

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Maxxam Job #: B8F0978
Report Date: 2018/06/26

QUALITY ASSURANCE REPORT(CONT'D)

GHD Limited
Client Project #: 088664-20
Site Location: BEAVER DAM
Your P.O. #: 73512044
Sampler Initials: DN

			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
5597513	Colour	2018/06/25			98	80 - 120	<5.0	TCU	NC	20		
5597605	Colour	2018/06/25			96	80 - 120	<5.0	TCU	NC	20		

N/A = Not Applicable

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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Maxxam Job #: B8F0978
Report Date: 2018/06/26

GHD Limited
Client Project #: 088664-20
Site Location: BEAVER DAM
Your P.O. #: 73512044
Sampler Initials: DN

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Eric Dearman, Scientific Specialist

Mike MacGillivray, Scientific Specialist (Inorganics)

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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A Bureau Veritas Group Company

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ATL FCD 00149 / 22

CHAIN OF CUSTODY RECORD

COC #: D34771 Page 1 of 2

Invoice Information	Report Information (if differs from invoice)	Project Information (where applicable)	Turnaround Time (TAT) Required
Company Name: GHD LTD	Company Name:	Quotation #: STANDING OFFER	☒ Regular TAT (5 business days) Most analyses
Contact Name: JEFFREY, TRINA	Contact Name: JEFF PARKS	P.O. #: 73512044	PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS
Address: 45 AKERLEY BLVD DARTMOUTH	Address:	Project #: 088664	IF RUSH please specify date (Surcharges will be applied)
Postal Code: B3B 1J7	Postal Code:	Site Location: BEAVER DAM	DATE REQUIRED:
Phone: 902-468-1248 Fax:	Phone: Fax:	Site #:	
Email: trina.jeffrey@ghd.com	Email: jeffrey.parks@ghd.com	Sampled By: D.N./J.R./R.H.	

Laboratory Use Only

CUSTODY SEAL Present	CUSTODY SEAL Intact	COOLER TEMPERATURES	COOLER TEMPERATURES
		6	4
		6	5
		7	7

COOLING MEDIA PRESENT Y / N

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

Analysis Requested

	SAMPLE IDENTIFICATION	DATE SAMPLED (YYYY/MM/DD)	TIME SAMPLED (HH:MM)	MATRIX	# OF CONTAINERS SUBMITTED	FIELD FILTERED & PRESERVED	LAB FILTRATION REQUIRED	RCAP-MS (Total Metals) Well / Surface water	RCAP-MS (Dissolved Metals) Ground waters	Metals (Water): Total Digest (Default Method) for well water & surface water	Metals (Water): Dissolved for ground water	Metals (Water): Mercury (CIRCLE) TOTAL / DISSOLVED	Metals (Soil): Metals & Mercury Default: Acid Extractable (Available) Digest	Metals (Soil): Metals Total Digest -for Ocean sediments (HNO3/HF/HClO4)	Metals (Soil): Mercury-Low level by Cold Vapour AA	Metals (Soil): Hot Water Soluble Boron (required for CCME Agricultural/ Landfill)	RBCA Hydrocarbons (BTEX, C6-C32)	Hydrocarbons Soil (Potable), NS Fuel Oil Spill Policy Low Level BTEX, C6-C32	CCME Hydrocarbons (CWS-PHC F1/BTEX, F2-F4)	NB Potable Water BTEX, VPH, Low level T.E.H	PAHs (Default: for water/soil)	PAHs (FWAL /CCME Sediment)	PCBs	VOCs	Total Coliform/E.coli (Presence/Absence)	Total Coliform/E.Coli (Count)		HOLD- DO NOT ANALYZE	Regulatory Requirements (Specify) / COMMENTS
1	MW-12A	18/06/18	11:26	GW	4	X			X																			
2	MW-12B	18/06/18	11:37	GW	4	X			X																			
3	MW-09A	18/06/18	11:58	GW	4	X			X																			
4	MW-09B	18/06/18	12:07	GW	4	X			X																			
5	MW-09D	18/06/18	12:15	GW	4	X			X																			
6	MW-04A	18/06/18	12:50	GW	4	X			X																			
7	MW-04B	18/06/18	12:58	GW	4	X			X																			
8	MW-21A	18/06/18	15:10	GW	4	X			X																			
9	MW-21B	18/06/18	15:16	GW	4	X			X																			
10	MW-21C	18/06/18	15:28	GW	4	X			X																			

2018 JUN 19 15:24

RELINQUISHED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	RECEIVED BY:(Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	MAXXAM JOB #
Jessica Rand	2018/06/19	2:46	JRD			B8F0978
Jessica Rand						

Unless otherwise agreed to in writing, work submitted on this Chain of Custody is subject to Maxxam'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.maxxam.ca/terms.

'18 JUN 19 14:47

White: Maxxam Pink: Client

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49-55 Elizabeth Avenue, St John's, NL A1A 1W9 Tel: 709-754-0203 Fax: 709-754-8612 Toll Free: 1-888-492-7227
465 George Street,Unit G,Sydney, NS B1P 1K5 Tel: 902-567-1255 Fax: 902-539-6504 Toll Free: 1-888-535-7770
www.maxxam.ca E-mail: Customerservicebedford@maxxam.ca

ATL FCD 00149 / 22

CHAIN OF CUSTODY RECORD

COC #: D34773 Page 2 of 2

Invoice Information	Report Information (if differs from invoice)	Project Information (where applicable)	Turnaround Time (TAT) Required
Company Name: GHD LTD	Company Name:	Quotation #: STANDING OFFER	[X] Regular TAT (5 business days) Most analyses
Contact Name: TRINA JEFFREY	Contact Name: JEFFREY PARKS	P.O. #: 7351204	PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS
Address: 45 AKERLEY BLVD	Address:	Project #: 088664	IF RUSH please specify date (Surcharges will be applied)
DARTMOUTH Postal Code: B3B 1J7	Postal Code:	Site Location: BEAVER DAM	DATE REQUIRED:
Phone: 902-468-1248 Fax: 902-468-2207	Phone: Fax:	Site #:	
Email: trina.jeffrey@ghd.com	Email: jeffrey.parks@ghd.com	Sampled By: DN/JR/RH	

Laboratory Use Only

CUSTODY SEAL Present	CUSTODY SEAL Intact	COOLER TEMPERATURES	COOLER TEMPERATURES
		6	4
		6	5
		4	7

COOLING MEDIA PRESENT Y / N

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

Analysis Requested

	SAMPLE IDENTIFICATION	DATE SAMPLED (YYYY/MM/DD)	TIME SAMPLED (HH:MM)	MATRIX	# OF CONTAINERS SUBMITTED	FIELD FILTERED &PRESERVED	LAB FILTRATION REQUIRED	RCAP-MS [Total Metals] Well / Surface water	RCAP-MS [Dissolved Metals] Ground waters	Metals (Water): Total Digest (Default Method) for well water & surface water	Metals (Water): Dissolved for ground water	Metals (Water): Mercury (CIRCLE) TOTAL / DISSOLVED	Metals (Soil): Metals & Mercury Default Acid Extractable (Available) Digest	Metals (Soil): Metals Total Digest - for Ocean sediments (HNO3/HF/HClO4)	Metals (Soil): Mercury Low level by Cold Vapour AA	Metals (Soil): Hot Water Soluble Boron (required for CCME Agricultural/ Landfill)	RBCA Hydrocarbons (BTEX, C6-C32)	Hydrocarbons Soil (Potable), NS Fuel Oil Spill Policy Low Level BTEX ,C6-C32	CCME Hydrocarbons (CWS-PHC F1/BTEX, F2-F4)	NB Potable Water BTEX, VPH, Low level T.E.H	PAHs (Default for water/soil)	PAHs (FWAL / CCME Sediment)	PCBs	VOCs	Total Coliform/E.coli (Presence/Absence)	Total Coliform/E.Coli (Count)		HOLD - DO NOT ANALYZE	Regulatory Requirements (Specify) / COMMENTS
1	MW-16A	18/06/18	13:36	GW	4	X			X																			
2	MW-16B	18/06/18	13:40	GW	4	X			X																			
3	MW-17A	18/06/18	14:11	GW	4	X			X																			
4	MW-17B	18/06/18	14:19	GW	4	X			X																			
5	MW-17C	18/06/18	14:25	GW	4	X			X																			2018 JUN 19 15:24
6	MW-DUPA	18/06/18	—	GW	4	X			X																			
7	MW-DUPB	18/06/18	—	GW	4	X			X																			
8																												
9																												
10																												

RELINQUISHED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	RECEIVED BY:(Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	MAXXAM JOB #
Adrian Romo	2018/06/19	2:46	JRD Jae Dg/k			B8F0978
Jessica Romo						B8F0978 KD

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'18 JUN 19 14:47

White: Maxxam Pink: Client

Maxxam
A Bureau Veritas Group Company

Your P.O. #: 73512044
Your Project #: 088664-20
Site Location: BEAVER DAM
Your C.O.C. #: D34770

Attention: Jeff Parks

GHD Limited
45 Akerley Blvd
Dartmouth , NS
CANADA B3B 1J7

Report Date: 2018/06/26
Report #: R5266818
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B8F1147
Received: 2018/06/19, 14:47

Sample Matrix: Water
Samples Received: 12

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Carbonate, Bicarbonate and Hydroxide	12	N/A	2018/06/22	N/A	SM 22 4500-CO2 D
Alkalinity	12	N/A	2018/06/25	ATL SOP 00013	EPA 310.2 R1974 m
Chloride	12	N/A	2018/06/22	ATL SOP 00014	SM 22 4500-Cl- E m
Colour	11	N/A	2018/06/22	ATL SOP 00020	SM 22 2120C m
Colour	1	N/A	2018/06/25	ATL SOP 00020	SM 22 2120C m
Conductance - water	12	N/A	2018/06/22	ATL SOP 00004	SM 23 2510B m
Hardness (calculated as CaCO3)	12	N/A	2018/06/22	ATL SOP 00048	SM 22 2340 B
Metals Water Diss. MS (as rec'd)	12	N/A	2018/06/22	ATL SOP 00058	EPA 6020A R1 m
Ion Balance (% Difference)	12	N/A	2018/06/26	N/A	Auto Calc.
Anion and Cation Sum	12	N/A	2018/06/22	N/A	Auto Calc.
Nitrogen Ammonia - water	12	N/A	2018/06/21	ATL SOP 00015	EPA 350.1 R2 m
Nitrogen - Nitrate + Nitrite	12	N/A	2018/06/25	ATL SOP 00016	USGS I-2547-11m
Nitrogen - Nitrite	12	N/A	2018/06/25	ATL SOP 00017	SM 23 4500-NO2- B m
Nitrogen - Nitrate (as N)	12	N/A	2018/06/26	ATL SOP 00018	ASTM D3867-16
pH (1)	12	N/A	2018/06/22	ATL SOP 00003	SM 23 4500-H+ B m
Phosphorus - ortho	12	N/A	2018/06/22	ATL SOP 00021	SM 23 4500-P E m
Sat. pH and Langelier Index (@ 20C)	12	N/A	2018/06/26	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 4C)	12	N/A	2018/06/26	ATL SOP 00049	Auto Calc.
Reactive Silica	12	N/A	2018/06/25	ATL SOP 00022	EPA 366.0 m
Sulphate	12	N/A	2018/06/22	ATL SOP 00023	ASTM D516-16 m
Total Dissolved Solids (TDS calc)	12	N/A	2018/06/26	N/A	Auto Calc.
Organic carbon - Total (TOC) (2)	12	N/A	2018/06/22	ATL SOP 00203	SM 23 5310B m
Turbidity	12	N/A	2018/06/22	ATL SOP 00011	EPA 180.1 R2 m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam 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

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Maxxam
A Bureau Veritas Group Company

Your P.O. #: 73512044
Your Project #: 088664-20
Site Location: BEAVER DAM
Your C.O.C. #: D34770

Attention: Jeff Parks

GHD Limited
45 Akerley Blvd
Dartmouth , NS
CANADA B3B 1J7

Report Date: 2018/06/26
Report #: R5266818
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B8F1147
Received: 2018/06/19, 14:47

indicated otherwise, associated sample data are not blank corrected.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam 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 Maxxam, unless otherwise agreed in writing.

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.
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) The APHA Standard Method require 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 APHA Standard Method holding time.
(2) TOC / DOC present in the sample should be considered as non-purgeable TOC / DOC.

Encryption Key

Kavya Nair
Project Manager Assistant
26 Jun 2018 13:41:37

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Heather Macumber, Senior Project Manager
Email: HMacumber@maxxam.ca
Phone# (902)420-0203 Ext:226

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Maxxam Job #: B8F1147
Report Date: 2018/06/26

GHD Limited
Client Project #: 088664-20
Site Location: BEAVER DAM
Your P.O. #: 73512044
Sampler Initials: DN

RESULTS OF ANALYSES OF WATER

Maxxam ID		GZX294	GZX295	GZX296		GZX297			
Sampling Date		2018/06/19 10:29	2018/06/19 10:20	2018/06/19 10:16		2018/06/19 11:12			
COC Number		D34770	D34770	D34770		D34770			
	UNITS	MW-01A	MW-01B	MW-01C	QC Batch	MW-02A	RDL	QC Batch	MDL
Calculated Parameters									
Anion Sum	me/L	0.560	1.56	1.35	5590385	0.330	N/A	5590385	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	18	60	52	5590380	6.0	1.0	5590380	0.20
Calculated TDS	mg/L	37	91	79	5590389	21	1.0	5590389	0.20
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	<1.0	<1.0	5590380	<1.0	1.0	5590380	0.20
Cation Sum	me/L	0.510	1.47	1.26	5590385	0.260	N/A	5590385	N/A
Hardness (CaCO3)	mg/L	2.2	54	40	5590383	4.9	1.0	5590383	1.0
Ion Balance (% Difference)	%	4.67	2.97	3.45	5590384	11.9	N/A	5590384	N/A
Langelier Index (@ 20C)	N/A	-3.54	-0.512	-1.03	5590387	-4.58		5590387	
Langelier Index (@ 4C)	N/A	-3.79	-0.763	-1.28	5590388	-4.83		5590388	
Nitrate (N)	mg/L	<0.050	<0.050	<0.050	5590281	<0.050	0.050	5590281	N/A
Saturation pH (@ 20C)	N/A	10.3	8.29	8.50	5590387	10.4		5590387	
Saturation pH (@ 4C)	N/A	10.5	8.55	8.75	5590388	10.7		5590388	
Inorganics									
Total Alkalinity (Total as CaCO3)	mg/L	18	61	52	5593768	6.0	5.0	5593768	N/A
Dissolved Chloride (Cl)	mg/L	4.8	4.4	4.7	5593775	5.4	1.0	5593775	N/A
Colour	TCU	<5.0	<5.0	6.5	5593779	<5.0	5.0	5593779	N/A
Nitrate + Nitrite (N)	mg/L	<0.050	<0.050	<0.050	5593781	<0.050	0.050	5593781	N/A
Nitrite (N)	mg/L	<0.010	<0.010	<0.010	5593783	<0.010	0.010	5593783	N/A
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	<0.050	<0.050	5592399	<0.050	0.050	5592423	N/A
Total Organic Carbon (C)	mg/L	1.3	2.6	1.9	5592255	1.2	0.50	5592255	N/A
Orthophosphate (P)	mg/L	<0.010	<0.010	<0.010	5593780	<0.010	0.010	5593780	N/A
pH	pH	6.75	7.78	7.47	5593693	5.83	N/A	5593691	N/A
Reactive Silica (SiO2)	mg/L	6.3	9.4	7.5	5593778	3.2	0.50	5593778	N/A
Dissolved Sulphate (SO4)	mg/L	3.0	11	8.7	5593777	2.6	2.0	5593777	N/A
Turbidity	NTU	29	7.1	17	5593709	22	0.10	5593708	0.10
Conductivity	uS/cm	54	140	120	5593694	34	1.0	5593692	N/A

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B8F1147
Report Date: 2018/06/26

GHD Limited
Client Project #: 088664-20
Site Location: BEAVER DAM
Your P.O. #: 73512044
Sampler Initials: DN

RESULTS OF ANALYSES OF WATER

Maxxam ID		GZX298		GZX299				GZX299			
Sampling Date		2018/06/19 11:09		2018/06/19 09:47				2018/06/19 09:47			
COC Number		D34770		D34770				D34770			
	UNITS	MW-02B	QC Batch	MW-03A	RDL	QC Batch	MDL	MW-03A Lab-Dup	RDL	QC Batch	MDL
Calculated Parameters											
Anion Sum	me/L	0.480	5590385	0.280	N/A	5590385	N/A				
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	17	5590380	6.2	1.0	5590380	0.20				
Calculated TDS	mg/L	40	5590389	20	1.0	5590389	0.20				
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	5590380	<1.0	1.0	5590380	0.20				
Cation Sum	me/L	0.440	5590385	0.260	N/A	5590385	N/A				
Hardness (CaCO3)	mg/L	10	5590383	5.9	1.0	5590383	1.0				
Ion Balance (% Difference)	%	4.35	5590384	3.70	N/A	5590384	N/A				
Langelier Index (@ 20C)	N/A	-3.20	5590387	-4.37		5590387					
Langelier Index (@ 4C)	N/A	-3.45	5590388	-4.63		5590388					
Nitrate (N)	mg/L	<0.050	5590281	0.31	0.050	5590281	N/A				
Saturation pH (@ 20C)	N/A	9.64	5590387	10.3		5590387					
Saturation pH (@ 4C)	N/A	9.89	5590388	10.6		5590388					
Inorganics											
Total Alkalinity (Total as CaCO3)	mg/L	17	5593768	6.2	5.0	5593768	N/A				
Dissolved Chloride (Cl)	mg/L	2.7	5593775	4.7	1.0	5593775	N/A				
Colour	TCU	<5.0	5593779	8.6	5.0	5593779	N/A				
Nitrate + Nitrite (N)	mg/L	<0.050	5593781	0.31	0.050	5593781	N/A				
Nitrite (N)	mg/L	<0.010	5593783	<0.010	0.010	5593783	N/A				
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	5592423	<0.050	0.050	5592423	N/A	<0.050	0.050	5592423	N/A
Total Organic Carbon (C)	mg/L	1.9	5593990	3.6	0.50	5592255	N/A	3.5	0.50	5592255	N/A
Orthophosphate (P)	mg/L	0.058	5593780	<0.010	0.010	5593780	N/A				
pH	pH	6.44	5593691	5.93	N/A	5593691	N/A				
Reactive Silica (SiO2)	mg/L	15	5593778	4.1	0.50	5593778	N/A				
Dissolved Sulphate (SO4)	mg/L	2.7	5593777	<2.0	2.0	5593777	N/A				
Turbidity	NTU	4.6	5593708	0.39	0.10	5593708	0.10				
Conductivity	uS/cm	46	5593692	32	1.0	5593692	N/A				

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

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Maxxam Job #: B8F1147
Report Date: 2018/06/26

GHD Limited
Client Project #: 088664-20
Site Location: BEAVER DAM
Your P.O. #: 73512044
Sampler Initials: DN

RESULTS OF ANALYSES OF WATER

Maxxam ID		GZX300		GZX301	GZX302	GZX303			
Sampling Date		2018/06/19 09:52		2018/06/19 10:00	2018/06/19 10:42	2018/06/19 10:46			
COC Number		D34770		D34770	D34770	D34770			
	UNITS	MW-03B	QC Batch	MW-03C	MW-19A	MW-19B	RDL	QC Batch	MDL
Calculated Parameters									
Anion Sum	me/L	0.980	5590385	1.87	0.210	1.49	N/A	5590385	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	37	5590380	83	<1.0	60	1.0	5590380	0.20
Calculated TDS	mg/L	62	5590389	110	21	88	1.0	5590389	0.20
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	5590380	<1.0	<1.0	<1.0	1.0	5590380	0.20
Cation Sum	me/L	0.930	5590385	1.79	0.280	1.45	N/A	5590385	N/A
Hardness (CaCO3)	mg/L	35	5590383	67	5.4	59	1.0	5590383	1.0
Ion Balance (% Difference)	%	2.62	5590384	2.19	14.3	1.36	N/A	5590384	N/A
Langelier Index (@ 20C)	N/A	-2.01	5590387	-0.247	NC	-0.330		5590387	
Langelier Index (@ 4C)	N/A	-2.26	5590388	-0.498	NC	-0.581		5590388	
Nitrate (N)	mg/L	0.10	5590281	<0.050	0.25	0.066	0.050	5590281	N/A
Saturation pH (@ 20C)	N/A	8.67	5590387	8.06	NC	8.23		5590387	
Saturation pH (@ 4C)	N/A	8.93	5590388	8.31	NC	8.48		5590388	
Inorganics									
Total Alkalinity (Total as CaCO3)	mg/L	37	5593768	84	<5.0	61	5.0	5593768	N/A
Dissolved Chloride (Cl)	mg/L	5.5	5593775	4.3	4.1	2.4	1.0	5593775	N/A
Colour	TCU	5.4	5593779	5.3	<5.0	<5.0	5.0	5593779	N/A
Nitrate + Nitrite (N)	mg/L	0.10	5593781	<0.050	0.25	0.066	0.050	5593781	N/A
Nitrite (N)	mg/L	<0.010	5593783	<0.010	<0.010	<0.010	0.010	5593783	N/A
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	5592423	<0.050	<0.050	<0.050	0.050	5592423	N/A
Total Organic Carbon (C)	mg/L	1.1	5593990	4.2	2.4	0.95	0.50	5592255	N/A
Orthophosphate (P)	mg/L	<0.010	5593780	<0.010	<0.010	<0.010	0.010	5593780	N/A
pH	pH	6.66	5593691	7.81	5.85	7.90	N/A	5593691	N/A
Reactive Silica (SiO2)	mg/L	10	5593778	9.6	5.9	8.9	0.50	5593778	N/A
Dissolved Sulphate (SO4)	mg/L	3.8	5593777	3.7	3.5	9.8	2.0	5593777	N/A
Turbidity	NTU	0.26	5593708	1.7	1.3	2.7	0.10	5593708	0.10
Conductivity	uS/cm	94	5593692	170	34	140	1.0	5593692	N/A

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QC Batch = Quality Control Batch
N/A = Not Applicable

Maxxam Analytics International Corporation o/a Maxxam Analytics 200 Bluewater Rd, Suite 105, Bedford, Nova Scotia Canada B4B 1G9 Tel: 902-420-0203 Toll-free: 800-565-7227 Fax: 902-420-8612 www.maxxamanalytics.com

Maxxam Job #: B8F1147
Report Date: 2018/06/26

GHD Limited
Client Project #: 088664-20
Site Location: BEAVER DAM
Your P.O. #: 73512044
Sampler Initials: DN

RESULTS OF ANALYSES OF WATER

Maxxam ID		GZX304				GZX304				GZX305			
Sampling Date		2018/06/19 10:53				2018/06/19 10:53				2018/06/19			
COC Number		D34770				D34770				D34770			
	UNITS	MW-19C	RDL	QC Batch	MDL	MW-19C Lab-Dup	RDL	QC Batch	MDL	MW-DUPC	RDL	QC Batch	MDL
Calculated Parameters													
Anion Sum	me/L	1.24	N/A	5590385	N/A					1.77	N/A	5590385	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	37	1.0	5590380	0.20					77	1.0	5590380	0.20
Calculated TDS	mg/L	80	1.0	5590389	0.20					100	1.0	5590389	0.20
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	1.0	5590380	0.20					<1.0	1.0	5590380	0.20
Cation Sum	me/L	1.21	N/A	5590385	N/A					1.76	N/A	5590385	N/A
Hardness (CaCO3)	mg/L	36	1.0	5590383	1.0					66	1.0	5590383	1.0
Ion Balance (% Difference)	%	1.22	N/A	5590384	N/A					0.280	N/A	5590384	N/A
Langelier Index (@ 20C)	N/A	-1.53		5590387						-0.304		5590387	
Langelier Index (@ 4C)	N/A	-1.78		5590388						-0.556		5590388	
Nitrate (N)	mg/L	0.11	0.050	5590281	N/A					<0.050	0.050	5590281	N/A
Saturation pH (@ 20C)	N/A	8.68		5590387						8.10		5590387	
Saturation pH (@ 4C)	N/A	8.93		5590388						8.36		5590388	
Inorganics													
Total Alkalinity (Total as CaCO3)	mg/L	37	5.0	5593768	N/A					77	5.0	5589743	N/A
Dissolved Chloride (Cl)	mg/L	3.8	1.0	5593775	N/A					5.2	1.0	5589752	N/A
Colour	TCU	<5.0	5.0	5593779	N/A					<5.0	5.0	5597605	N/A
Nitrate + Nitrite (N)	mg/L	0.15	0.050	5593781	N/A					<0.050	0.050	5589765	N/A
Nitrite (N)	mg/L	0.041	0.010	5593783	N/A					<0.010	0.010	5589767	N/A
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	0.050	5592423	N/A					<0.050	0.050	5592423	N/A
Total Organic Carbon (C)	mg/L	2.1	0.50	5593990	N/A					4.3	0.50	5592255	N/A
Orthophosphate (P)	mg/L	<0.010	0.010	5593780	N/A					<0.010	0.010	5589762	N/A
pH	pH	7.15	N/A	5593695	N/A	7.20	N/A	5593695	N/A	7.80	N/A	5593691	N/A
Reactive Silica (SiO2)	mg/L	8.8	0.50	5593778	N/A					9.4	0.50	5589757	N/A
Dissolved Sulphate (SO4)	mg/L	18	2.0	5593777	N/A					3.9	2.0	5589755	N/A
Turbidity	NTU	7.0	0.10	5593709	0.10					1.5	0.10	5593709	0.10
Conductivity	uS/cm	130	1.0	5593696	N/A	130	1.0	5593696	N/A	170	1.0	5593692	N/A

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Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

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Maxxam Job #: B8F1147
Report Date: 2018/06/26

GHD Limited
Client Project #: 088664-20
Site Location: BEAVER DAM
Your P.O. #: 73512044
Sampler Initials: DN

RESULTS OF ANALYSES OF WATER

Maxxam ID		GZX305			
Sampling Date		2018/06/19			
COC Number		D34770			
	UNITS	MW-DUPC Lab-Dup	RDL	QC Batch	MDL
Inorganics					
Total Alkalinity (Total as CaCO3)	mg/L	84	5.0	5589743	N/A
Dissolved Chloride (Cl)	mg/L	5.8	1.0	5589752	N/A
Colour	TCU	<5.0	5.0	5597605	N/A
Nitrate + Nitrite (N)	mg/L	<0.050	0.050	5589765	N/A
Nitrite (N)	mg/L	<0.010	0.010	5589767	N/A
Orthophosphate (P)	mg/L	<0.010	0.010	5589762	N/A
Reactive Silica (SiO2)	mg/L	9.5	0.50	5589757	N/A
Dissolved Sulphate (SO4)	mg/L	3.9	2.0	5589755	N/A

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Maxxam Job #: B8F1147
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GHD Limited
Client Project #: 088664-20
Site Location: BEAVER DAM
Your P.O. #: 73512044
Sampler Initials: DN

ELEMENTS BY ICP/MS (WATER)

Maxxam ID		GZX294	GZX295	GZX296	GZX297	GZX298	GZX299			
Sampling Date		2018/06/19 10:29	2018/06/19 10:20	2018/06/19 10:16	2018/06/19 11:12	2018/06/19 11:09	2018/06/19 09:47			
COC Number		D34770	D34770	D34770	D34770	D34770	D34770			
	UNITS	MW-01A	MW-01B	MW-01C	MW-02A	MW-02B	MW-03A	RDL	QC Batch	MDL
Metals										
Dissolved Aluminum (Al)	ug/L	69	20	19	160	9.2	190	5.0	5592240	N/A
Dissolved Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	5592240	N/A
Dissolved Arsenic (As)	ug/L	<1.0	5.7	1.5	<1.0	2.1	<1.0	1.0	5592240	N/A
Dissolved Barium (Ba)	ug/L	1.3	4.0	7.3	9.3	4.2	7.2	1.0	5592240	N/A
Dissolved Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	5592240	N/A
Dissolved Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0	5592240	N/A
Dissolved Boron (B)	ug/L	<50	<50	<50	<50	<50	<50	50	5592240	N/A
Dissolved Cadmium (Cd)	ug/L	<0.010	<0.010	<0.010	0.025	0.60	0.030	0.010	5592240	N/A
Dissolved Calcium (Ca)	ug/L	560	18000	13000	1200	2700	1500	100	5592240	N/A
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	5592240	N/A
Dissolved Cobalt (Co)	ug/L	<0.40	<0.40	<0.40	1.8	<0.40	0.46	0.40	5592240	N/A
Dissolved Copper (Cu)	ug/L	<2.0	<2.0	<2.0	8.7	<2.0	<2.0	2.0	5592240	N/A
Dissolved Iron (Fe)	ug/L	<50	<50	<50	250	<50	<50	50	5592240	N/A
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	5592240	N/A
Dissolved Magnesium (Mg)	ug/L	190	2200	1800	460	800	510	100	5592240	N/A
Dissolved Manganese (Mn)	ug/L	37	<2.0	140	150	22	50	2.0	5592240	N/A
Dissolved Molybdenum (Mo)	ug/L	<2.0	<2.0	2.1	<2.0	<2.0	<2.0	2.0	5592240	N/A
Dissolved Nickel (Ni)	ug/L	<2.0	<2.0	<2.0	7.8	2.1	3.5	2.0	5592240	N/A
Dissolved Phosphorus (P)	ug/L	<100	<100	<100	<100	<100	<100	100	5592240	N/A
Dissolved Potassium (K)	ug/L	1300	3100	3100	250	640	880	100	5592240	N/A
Dissolved Selenium (Se)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	5592240	N/A
Dissolved Silver (Ag)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	5592240	N/A
Dissolved Sodium (Na)	ug/L	9900	7100	8900	3400	5100	2700	100	5592240	N/A
Dissolved Strontium (Sr)	ug/L	6.0	69	77	6.0	20	11	2.0	5592240	N/A
Dissolved Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	5592240	N/A
Dissolved Tin (Sn)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0	5592240	N/A
Dissolved Titanium (Ti)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0	5592240	N/A
Dissolved Uranium (U)	ug/L	<0.10	0.90	0.63	<0.10	0.56	<0.10	0.10	5592240	N/A
Dissolved Vanadium (V)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0	5592240	N/A
Dissolved Zinc (Zn)	ug/L	<5.0	<5.0	<5.0	12	91	<5.0	5.0	5592240	N/A

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Maxxam Job #: B8F1147
Report Date: 2018/06/26

GHD Limited
Client Project #: 088664-20
Site Location: BEAVER DAM
Your P.O. #: 73512044
Sampler Initials: DN

ELEMENTS BY ICP/MS (WATER)

Maxxam ID		GZX300	GZX301	GZX301	GZX302	GZX303	GZX304			
Sampling Date		2018/06/19 09:52	2018/06/19 10:00	2018/06/19 10:00	2018/06/19 10:42	2018/06/19 10:46	2018/06/19 10:53			
COC Number		D34770	D34770	D34770	D34770	D34770	D34770			
	UNITS	MW-03B	MW-03C	MW-03C Lab-Dup	MW-19A	MW-19B	MW-19C	RDL	QC Batch	MDL
Metals										
Dissolved Aluminum (Al)	ug/L	<5.0	26	26	110	15	37	5.0	5592240	N/A
Dissolved Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	5592240	N/A
Dissolved Arsenic (As)	ug/L	<1.0	1.5	1.5	<1.0	8.5	3.0	1.0	5592240	N/A
Dissolved Barium (Ba)	ug/L	3.9	8.6	8.6	7.4	10	7.3	1.0	5592240	N/A
Dissolved Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	5592240	N/A
Dissolved Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0	5592240	N/A
Dissolved Boron (B)	ug/L	<50	<50	<50	<50	<50	<50	50	5592240	N/A
Dissolved Cadmium (Cd)	ug/L	0.038	<0.010	<0.010	0.084	<0.010	0.010	0.010	5592240	N/A
Dissolved Calcium (Ca)	ug/L	12000	23000	23000	1200	21000	12000	100	5592240	N/A
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	5592240	N/A
Dissolved Cobalt (Co)	ug/L	<0.40	<0.40	<0.40	1.2	<0.40	0.94	0.40	5592240	N/A
Dissolved Copper (Cu)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0	5592240	N/A
Dissolved Iron (Fe)	ug/L	<50	<50	<50	<50	<50	<50	50	5592240	N/A
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	5592240	N/A
Dissolved Magnesium (Mg)	ug/L	1100	2300	2300	600	1500	1200	100	5592240	N/A
Dissolved Manganese (Mn)	ug/L	32	120	120	83	7.9	110	2.0	5592240	N/A
Dissolved Molybdenum (Mo)	ug/L	<2.0	6.6	6.8	<2.0	15	18	2.0	5592240	N/A
Dissolved Nickel (Ni)	ug/L	<2.0	<2.0	<2.0	2.4	<2.0	4.0	2.0	5592240	N/A
Dissolved Phosphorus (P)	ug/L	<100	<100	<100	<100	<100	<100	100	5592240	N/A
Dissolved Potassium (K)	ug/L	1700	4300	4400	800	1900	2100	100	5592240	N/A
Dissolved Selenium (Se)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	5592240	N/A
Dissolved Silver (Ag)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	5592240	N/A
Dissolved Sodium (Na)	ug/L	4600	7700	7700	3400	5200	10000	100	5592240	N/A
Dissolved Strontium (Sr)	ug/L	24	56	57	8.6	120	71	2.0	5592240	N/A
Dissolved Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	5592240	N/A
Dissolved Tin (Sn)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0	5592240	N/A
Dissolved Titanium (Ti)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0	5592240	N/A
Dissolved Uranium (U)	ug/L	0.25	1.6	1.6	<0.10	2.9	<0.10	0.10	5592240	N/A
Dissolved Vanadium (V)	ug/L	<2.0	<2.0	<2.0	<2.0	3.1	<2.0	2.0	5592240	N/A
Dissolved Zinc (Zn)	ug/L	<5.0	<5.0	<5.0	9.9	<5.0	7.6	5.0	5592240	N/A

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Maxxam Job #: B8F1147
Report Date: 2018/06/26

GHD Limited
Client Project #: 088664-20
Site Location: BEAVER DAM
Your P.O. #: 73512044
Sampler Initials: DN

ELEMENTS BY ICP/MS (WATER)

Maxxam ID		GZX305			
Sampling Date		2018/06/19			
COC Number		D34770			
	UNITS	MW-DUPC	RDL	QC Batch	MDL
Metals					
Dissolved Aluminum (Al)	ug/L	30	5.0	5592240	N/A
Dissolved Antimony (Sb)	ug/L	<1.0	1.0	5592240	N/A
Dissolved Arsenic (As)	ug/L	1.7	1.0	5592240	N/A
Dissolved Barium (Ba)	ug/L	9.1	1.0	5592240	N/A
Dissolved Beryllium (Be)	ug/L	<1.0	1.0	5592240	N/A
Dissolved Bismuth (Bi)	ug/L	<2.0	2.0	5592240	N/A
Dissolved Boron (B)	ug/L	<50	50	5592240	N/A
Dissolved Cadmium (Cd)	ug/L	<0.010	0.010	5592240	N/A
Dissolved Calcium (Ca)	ug/L	23000	100	5592240	N/A
Dissolved Chromium (Cr)	ug/L	<1.0	1.0	5592240	N/A
Dissolved Cobalt (Co)	ug/L	<0.40	0.40	5592240	N/A
Dissolved Copper (Cu)	ug/L	<2.0	2.0	5592240	N/A
Dissolved Iron (Fe)	ug/L	<50	50	5592240	N/A
Dissolved Lead (Pb)	ug/L	<0.50	0.50	5592240	N/A
Dissolved Magnesium (Mg)	ug/L	2300	100	5592240	N/A
Dissolved Manganese (Mn)	ug/L	120	2.0	5592240	N/A
Dissolved Molybdenum (Mo)	ug/L	6.4	2.0	5592240	N/A
Dissolved Nickel (Ni)	ug/L	<2.0	2.0	5592240	N/A
Dissolved Phosphorus (P)	ug/L	<100	100	5592240	N/A
Dissolved Potassium (K)	ug/L	4300	100	5592240	N/A
Dissolved Selenium (Se)	ug/L	<1.0	1.0	5592240	N/A
Dissolved Silver (Ag)	ug/L	<0.10	0.10	5592240	N/A
Dissolved Sodium (Na)	ug/L	7700	100	5592240	N/A
Dissolved Strontium (Sr)	ug/L	56	2.0	5592240	N/A
Dissolved Thallium (Tl)	ug/L	<0.10	0.10	5592240	N/A
Dissolved Tin (Sn)	ug/L	3.8	2.0	5592240	N/A
Dissolved Titanium (Ti)	ug/L	<2.0	2.0	5592240	N/A
Dissolved Uranium (U)	ug/L	1.6	0.10	5592240	N/A
Dissolved Vanadium (V)	ug/L	<2.0	2.0	5592240	N/A
Dissolved Zinc (Zn)	ug/L	<5.0	5.0	5592240	N/A

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GHD Limited
Client Project #: 088664-20
Site Location: BEAVER DAM
Your P.O. #: 73512044
Sampler Initials: DN

TEST SUMMARY

Maxxam ID: GZX294
Sample ID: MW-01A
Matrix: Water

Collected: 2018/06/19
Shipped:
Received: 2018/06/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	5590380	N/A	2018/06/22	Automated Statchk
Alkalinity	KONE	5593768	N/A	2018/06/25	Jacob Henley
Chloride	KONE	5593775	N/A	2018/06/22	Jacob Henley
Colour	KONE	5593779	N/A	2018/06/22	Jacob Henley
Conductance - water	AT	5593694	N/A	2018/06/22	Julia McGovern
Hardness (calculated as CaCO3)		5590383	N/A	2018/06/22	Automated Statchk
Metals Water Diss. MS (as rec'd)	CICP/MS	5592240	N/A	2018/06/22	Cassandra Hartery
Ion Balance (% Difference)	CALC	5590384	N/A	2018/06/26	Automated Statchk
Anion and Cation Sum	CALC	5590385	N/A	2018/06/22	Automated Statchk
Nitrogen Ammonia - water	KONE	5592399	N/A	2018/06/21	Jacob Henley
Nitrogen - Nitrate + Nitrite	KONE	5593781	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrite	KONE	5593783	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrate (as N)	CALC	5590281	N/A	2018/06/26	Automated Statchk
pH	AT	5593693	N/A	2018/06/22	Julia McGovern
Phosphorus - ortho	KONE	5593780	N/A	2018/06/22	Jacob Henley
Sat. pH and Langelier Index (@ 20C)	CALC	5590387	N/A	2018/06/26	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	5590388	N/A	2018/06/26	Automated Statchk
Reactive Silica	KONE	5593778	N/A	2018/06/25	Jacob Henley
Sulphate	KONE	5593777	N/A	2018/06/22	Jacob Henley
Total Dissolved Solids (TDS calc)	CALC	5590389	N/A	2018/06/26	Automated Statchk
Organic carbon - Total (TOC)	TOCV/NDIR	5592255	N/A	2018/06/22	Luke MacPherson
Turbidity	TURB	5593709	N/A	2018/06/22	Julia McGovern

Maxxam ID: GZX295
Sample ID: MW-01B
Matrix: Water

Collected: 2018/06/19
Shipped:
Received: 2018/06/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	5590380	N/A	2018/06/22	Automated Statchk
Alkalinity	KONE	5593768	N/A	2018/06/25	Jacob Henley
Chloride	KONE	5593775	N/A	2018/06/22	Jacob Henley
Colour	KONE	5593779	N/A	2018/06/22	Jacob Henley
Conductance - water	AT	5593694	N/A	2018/06/22	Julia McGovern
Hardness (calculated as CaCO3)		5590383	N/A	2018/06/22	Automated Statchk
Metals Water Diss. MS (as rec'd)	CICP/MS	5592240	N/A	2018/06/22	Cassandra Hartery
Ion Balance (% Difference)	CALC	5590384	N/A	2018/06/26	Automated Statchk
Anion and Cation Sum	CALC	5590385	N/A	2018/06/22	Automated Statchk
Nitrogen Ammonia - water	KONE	5592399	N/A	2018/06/21	Jacob Henley
Nitrogen - Nitrate + Nitrite	KONE	5593781	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrite	KONE	5593783	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrate (as N)	CALC	5590281	N/A	2018/06/26	Automated Statchk
pH	AT	5593693	N/A	2018/06/22	Julia McGovern
Phosphorus - ortho	KONE	5593780	N/A	2018/06/22	Jacob Henley

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Maxxam Job #: B8F1147
Report Date: 2018/06/26

GHD Limited
Client Project #: 088664-20
Site Location: BEAVER DAM
Your P.O. #: 73512044
Sampler Initials: DN

TEST SUMMARY

Maxxam ID: GZX295
Sample ID: MW-01B
Matrix: Water

Collected: 2018/06/19
Shipped:
Received: 2018/06/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Sat. pH and Langelier Index (@ 20C)	CALC	5590387	N/A	2018/06/26	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	5590388	N/A	2018/06/26	Automated Statchk
Reactive Silica	KONE	5593778	N/A	2018/06/25	Jacob Henley
Sulphate	KONE	5593777	N/A	2018/06/22	Jacob Henley
Total Dissolved Solids (TDS calc)	CALC	5590389	N/A	2018/06/26	Automated Statchk
Organic carbon - Total (TOC)	TOCV/NDIR	5592255	N/A	2018/06/22	Luke MacPherson
Turbidity	TURB	5593709	N/A	2018/06/22	Julia McGovern

Maxxam ID: GZX296
Sample ID: MW-01C
Matrix: Water

Collected: 2018/06/19
Shipped:
Received: 2018/06/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	5590380	N/A	2018/06/22	Automated Statchk
Alkalinity	KONE	5593768	N/A	2018/06/25	Jacob Henley
Chloride	KONE	5593775	N/A	2018/06/22	Jacob Henley
Colour	KONE	5593779	N/A	2018/06/22	Jacob Henley
Conductance - water	AT	5593694	N/A	2018/06/22	Julia McGovern
Hardness (calculated as CaCO3)		5590383	N/A	2018/06/22	Automated Statchk
Metals Water Diss. MS (as rec'd)	CICP/MS	5592240	N/A	2018/06/22	Cassandra Hartery
Ion Balance (% Difference)	CALC	5590384	N/A	2018/06/26	Automated Statchk
Anion and Cation Sum	CALC	5590385	N/A	2018/06/22	Automated Statchk
Nitrogen Ammonia - water	KONE	5592399	N/A	2018/06/21	Jacob Henley
Nitrogen - Nitrate + Nitrite	KONE	5593781	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrite	KONE	5593783	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrate (as N)	CALC	5590281	N/A	2018/06/26	Automated Statchk
pH	AT	5593693	N/A	2018/06/22	Julia McGovern
Phosphorus - ortho	KONE	5593780	N/A	2018/06/22	Jacob Henley
Sat. pH and Langelier Index (@ 20C)	CALC	5590387	N/A	2018/06/26	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	5590388	N/A	2018/06/26	Automated Statchk
Reactive Silica	KONE	5593778	N/A	2018/06/25	Jacob Henley
Sulphate	KONE	5593777	N/A	2018/06/22	Jacob Henley
Total Dissolved Solids (TDS calc)	CALC	5590389	N/A	2018/06/26	Automated Statchk
Organic carbon - Total (TOC)	TOCV/NDIR	5592255	N/A	2018/06/22	Luke MacPherson
Turbidity	TURB	5593709	N/A	2018/06/22	Julia McGovern

Maxxam ID: GZX297
Sample ID: MW-02A
Matrix: Water

Collected: 2018/06/19
Shipped:
Received: 2018/06/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	5590380	N/A	2018/06/22	Automated Statchk
Alkalinity	KONE	5593768	N/A	2018/06/25	Jacob Henley

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Maxxam Job #: B8F1147
Report Date: 2018/06/26

GHD Limited
Client Project #: 088664-20
Site Location: BEAVER DAM
Your P.O. #: 73512044
Sampler Initials: DN

TEST SUMMARY

Maxxam ID: GZX297
Sample ID: MW-02A
Matrix: Water

Collected: 2018/06/19
Shipped:
Received: 2018/06/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Chloride	KONE	5593775	N/A	2018/06/22	Jacob Henley
Colour	KONE	5593779	N/A	2018/06/22	Jacob Henley
Conductance - water	AT	5593692	N/A	2018/06/22	Julia McGovern
Hardness (calculated as CaCO3)		5590383	N/A	2018/06/22	Automated Statchk
Metals Water Diss. MS (as rec'd)	CICP/MS	5592240	N/A	2018/06/22	Cassandra Hartery
Ion Balance (% Difference)	CALC	5590384	N/A	2018/06/26	Automated Statchk
Anion and Cation Sum	CALC	5590385	N/A	2018/06/22	Automated Statchk
Nitrogen Ammonia - water	KONE	5592423	N/A	2018/06/21	Jacob Henley
Nitrogen - Nitrate + Nitrite	KONE	5593781	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrite	KONE	5593783	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrate (as N)	CALC	5590281	N/A	2018/06/26	Automated Statchk
pH	AT	5593691	N/A	2018/06/22	Julia McGovern
Phosphorus - ortho	KONE	5593780	N/A	2018/06/22	Jacob Henley
Sat. pH and Langelier Index (@ 20C)	CALC	5590387	N/A	2018/06/26	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	5590388	N/A	2018/06/26	Automated Statchk
Reactive Silica	KONE	5593778	N/A	2018/06/25	Jacob Henley
Sulphate	KONE	5593777	N/A	2018/06/22	Jacob Henley
Total Dissolved Solids (TDS calc)	CALC	5590389	N/A	2018/06/26	Automated Statchk
Organic carbon - Total (TOC)	TOCV/NDIR	5592255	N/A	2018/06/22	Luke MacPherson
Turbidity	TURB	5593708	N/A	2018/06/22	Julia McGovern

Maxxam ID: GZX298
Sample ID: MW-02B
Matrix: Water

Collected: 2018/06/19
Shipped:
Received: 2018/06/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	5590380	N/A	2018/06/22	Automated Statchk
Alkalinity	KONE	5593768	N/A	2018/06/25	Jacob Henley
Chloride	KONE	5593775	N/A	2018/06/22	Jacob Henley
Colour	KONE	5593779	N/A	2018/06/22	Jacob Henley
Conductance - water	AT	5593692	N/A	2018/06/22	Julia McGovern
Hardness (calculated as CaCO3)		5590383	N/A	2018/06/22	Automated Statchk
Metals Water Diss. MS (as rec'd)	CICP/MS	5592240	N/A	2018/06/22	Cassandra Hartery
Ion Balance (% Difference)	CALC	5590384	N/A	2018/06/26	Automated Statchk
Anion and Cation Sum	CALC	5590385	N/A	2018/06/22	Automated Statchk
Nitrogen Ammonia - water	KONE	5592423	N/A	2018/06/21	Jacob Henley
Nitrogen - Nitrate + Nitrite	KONE	5593781	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrite	KONE	5593783	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrate (as N)	CALC	5590281	N/A	2018/06/26	Automated Statchk
pH	AT	5593691	N/A	2018/06/22	Julia McGovern
Phosphorus - ortho	KONE	5593780	N/A	2018/06/22	Jacob Henley
Sat. pH and Langelier Index (@ 20C)	CALC	5590387	N/A	2018/06/26	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	5590388	N/A	2018/06/26	Automated Statchk

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Maxxam Job #: B8F1147
Report Date: 2018/06/26

GHD Limited
Client Project #: 088664-20
Site Location: BEAVER DAM
Your P.O. #: 73512044
Sampler Initials: DN

TEST SUMMARY

Maxxam ID: GZX298
Sample ID: MW-02B
Matrix: Water

Collected: 2018/06/19
Shipped:
Received: 2018/06/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Reactive Silica	KONE	5593778	N/A	2018/06/25	Jacob Henley
Sulphate	KONE	5593777	N/A	2018/06/22	Jacob Henley
Total Dissolved Solids (TDS calc)	CALC	5590389	N/A	2018/06/26	Automated Statchk
Organic carbon - Total (TOC)	TOCV/NDIR	5593990	N/A	2018/06/22	Luke MacPherson
Turbidity	TURB	5593708	N/A	2018/06/22	Julia McGovern

Maxxam ID: GZX299
Sample ID: MW-03A
Matrix: Water

Collected: 2018/06/19
Shipped:
Received: 2018/06/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	5590380	N/A	2018/06/22	Automated Statchk
Alkalinity	KONE	5593768	N/A	2018/06/25	Jacob Henley
Chloride	KONE	5593775	N/A	2018/06/22	Jacob Henley
Colour	KONE	5593779	N/A	2018/06/22	Jacob Henley
Conductance - water	AT	5593692	N/A	2018/06/22	Julia McGovern
Hardness (calculated as CaCO3)		5590383	N/A	2018/06/22	Automated Statchk
Metals Water Diss. MS (as rec'd)	CICP/MS	5592240	N/A	2018/06/22	Cassandra Hartery
Ion Balance (% Difference)	CALC	5590384	N/A	2018/06/26	Automated Statchk
Anion and Cation Sum	CALC	5590385	N/A	2018/06/22	Automated Statchk
Nitrogen Ammonia - water	KONE	5592423	N/A	2018/06/21	Jacob Henley
Nitrogen - Nitrate + Nitrite	KONE	5593781	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrite	KONE	5593783	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrate (as N)	CALC	5590281	N/A	2018/06/26	Automated Statchk
pH	AT	5593691	N/A	2018/06/22	Julia McGovern
Phosphorus - ortho	KONE	5593780	N/A	2018/06/22	Jacob Henley
Sat. pH and Langelier Index (@ 20C)	CALC	5590387	N/A	2018/06/26	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	5590388	N/A	2018/06/26	Automated Statchk
Reactive Silica	KONE	5593778	N/A	2018/06/25	Jacob Henley
Sulphate	KONE	5593777	N/A	2018/06/22	Jacob Henley
Total Dissolved Solids (TDS calc)	CALC	5590389	N/A	2018/06/26	Automated Statchk
Organic carbon - Total (TOC)	TOCV/NDIR	5592255	N/A	2018/06/22	Luke MacPherson
Turbidity	TURB	5593708	N/A	2018/06/22	Julia McGovern

Maxxam ID: GZX299 Dup
Sample ID: MW-03A
Matrix: Water

Collected: 2018/06/19
Shipped:
Received: 2018/06/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Nitrogen Ammonia - water	KONE	5592423	N/A	2018/06/21	Jacob Henley
Organic carbon - Total (TOC)	TOCV/NDIR	5592255	N/A	2018/06/22	Luke MacPherson

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Maxxam Job #: B8F1147
Report Date: 2018/06/26

GHD Limited
Client Project #: 088664-20
Site Location: BEAVER DAM
Your P.O. #: 73512044
Sampler Initials: DN

TEST SUMMARY

Maxxam ID: GZX300
Sample ID: MW-03B
Matrix: Water

Collected: 2018/06/19
Shipped:
Received: 2018/06/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	5590380	N/A	2018/06/22	Automated Statchk
Alkalinity	KONE	5593768	N/A	2018/06/25	Jacob Henley
Chloride	KONE	5593775	N/A	2018/06/22	Jacob Henley
Colour	KONE	5593779	N/A	2018/06/22	Jacob Henley
Conductance - water	AT	5593692	N/A	2018/06/22	Julia McGovern
Hardness (calculated as CaCO3)		5590383	N/A	2018/06/22	Automated Statchk
Metals Water Diss. MS (as rec'd)	CICP/MS	5592240	N/A	2018/06/22	Cassandra Hartery
Ion Balance (% Difference)	CALC	5590384	N/A	2018/06/26	Automated Statchk
Anion and Cation Sum	CALC	5590385	N/A	2018/06/22	Automated Statchk
Nitrogen Ammonia - water	KONE	5592423	N/A	2018/06/21	Jacob Henley
Nitrogen - Nitrate + Nitrite	KONE	5593781	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrite	KONE	5593783	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrate (as N)	CALC	5590281	N/A	2018/06/26	Automated Statchk
pH	AT	5593691	N/A	2018/06/22	Julia McGovern
Phosphorus - ortho	KONE	5593780	N/A	2018/06/22	Jacob Henley
Sat. pH and Langelier Index (@ 20C)	CALC	5590387	N/A	2018/06/26	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	5590388	N/A	2018/06/26	Automated Statchk
Reactive Silica	KONE	5593778	N/A	2018/06/25	Jacob Henley
Sulphate	KONE	5593777	N/A	2018/06/22	Jacob Henley
Total Dissolved Solids (TDS calc)	CALC	5590389	N/A	2018/06/26	Automated Statchk
Organic carbon - Total (TOC)	TOCV/NDIR	5593990	N/A	2018/06/22	Luke MacPherson
Turbidity	TURB	5593708	N/A	2018/06/22	Julia McGovern

Maxxam ID: GZX301
Sample ID: MW-03C
Matrix: Water

Collected: 2018/06/19
Shipped:
Received: 2018/06/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	5590380	N/A	2018/06/22	Automated Statchk
Alkalinity	KONE	5593768	N/A	2018/06/25	Jacob Henley
Chloride	KONE	5593775	N/A	2018/06/22	Jacob Henley
Colour	KONE	5593779	N/A	2018/06/22	Jacob Henley
Conductance - water	AT	5593692	N/A	2018/06/22	Julia McGovern
Hardness (calculated as CaCO3)		5590383	N/A	2018/06/22	Automated Statchk
Metals Water Diss. MS (as rec'd)	CICP/MS	5592240	N/A	2018/06/22	Cassandra Hartery
Ion Balance (% Difference)	CALC	5590384	N/A	2018/06/26	Automated Statchk
Anion and Cation Sum	CALC	5590385	N/A	2018/06/22	Automated Statchk
Nitrogen Ammonia - water	KONE	5592423	N/A	2018/06/21	Jacob Henley
Nitrogen - Nitrate + Nitrite	KONE	5593781	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrite	KONE	5593783	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrate (as N)	CALC	5590281	N/A	2018/06/26	Automated Statchk
pH	AT	5593691	N/A	2018/06/22	Julia McGovern
Phosphorus - ortho	KONE	5593780	N/A	2018/06/22	Jacob Henley

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Maxxam Job #: B8F1147
Report Date: 2018/06/26

GHD Limited
Client Project #: 088664-20
Site Location: BEAVER DAM
Your P.O. #: 73512044
Sampler Initials: DN

TEST SUMMARY

Maxxam ID: GZX301
Sample ID: MW-03C
Matrix: Water

Collected: 2018/06/19
Shipped:
Received: 2018/06/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Sat. pH and Langelier Index (@ 20C)	CALC	5590387	N/A	2018/06/26	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	5590388	N/A	2018/06/26	Automated Statchk
Reactive Silica	KONE	5593778	N/A	2018/06/25	Jacob Henley
Sulphate	KONE	5593777	N/A	2018/06/22	Jacob Henley
Total Dissolved Solids (TDS calc)	CALC	5590389	N/A	2018/06/26	Automated Statchk
Organic carbon - Total (TOC)	TOCV/NDIR	5592255	N/A	2018/06/22	Luke MacPherson
Turbidity	TURB	5593708	N/A	2018/06/22	Julia McGovern

Maxxam ID: GZX301 Dup
Sample ID: MW-03C
Matrix: Water

Collected: 2018/06/19
Shipped:
Received: 2018/06/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Metals Water Diss. MS (as rec'd)	CICP/MS	5592240	N/A	2018/06/22	Cassandra Hartery

Maxxam ID: GZX302
Sample ID: MW-19A
Matrix: Water

Collected: 2018/06/19
Shipped:
Received: 2018/06/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	5590380	N/A	2018/06/22	Automated Statchk
Alkalinity	KONE	5593768	N/A	2018/06/25	Jacob Henley
Chloride	KONE	5593775	N/A	2018/06/22	Jacob Henley
Colour	KONE	5593779	N/A	2018/06/22	Jacob Henley
Conductance - water	AT	5593692	N/A	2018/06/22	Julia McGovern
Hardness (calculated as CaCO3)		5590383	N/A	2018/06/22	Automated Statchk
Metals Water Diss. MS (as rec'd)	CICP/MS	5592240	N/A	2018/06/22	Cassandra Hartery
Ion Balance (% Difference)	CALC	5590384	N/A	2018/06/26	Automated Statchk
Anion and Cation Sum	CALC	5590385	N/A	2018/06/22	Automated Statchk
Nitrogen Ammonia - water	KONE	5592423	N/A	2018/06/21	Jacob Henley
Nitrogen - Nitrate + Nitrite	KONE	5593781	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrite	KONE	5593783	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrate (as N)	CALC	5590281	N/A	2018/06/26	Automated Statchk
pH	AT	5593691	N/A	2018/06/22	Julia McGovern
Phosphorus - ortho	KONE	5593780	N/A	2018/06/22	Jacob Henley
Sat. pH and Langelier Index (@ 20C)	CALC	5590387	N/A	2018/06/26	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	5590388	N/A	2018/06/26	Automated Statchk
Reactive Silica	KONE	5593778	N/A	2018/06/25	Jacob Henley
Sulphate	KONE	5593777	N/A	2018/06/22	Jacob Henley
Total Dissolved Solids (TDS calc)	CALC	5590389	N/A	2018/06/26	Automated Statchk
Organic carbon - Total (TOC)	TOCV/NDIR	5592255	N/A	2018/06/22	Luke MacPherson
Turbidity	TURB	5593708	N/A	2018/06/22	Julia McGovern

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Maxxam Job #: B8F1147
Report Date: 2018/06/26

GHD Limited
Client Project #: 088664-20
Site Location: BEAVER DAM
Your P.O. #: 73512044
Sampler Initials: DN

TEST SUMMARY

Maxxam ID: GZX303
Sample ID: MW-19B
Matrix: Water

Collected: 2018/06/19
Shipped:
Received: 2018/06/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	5590380	N/A	2018/06/22	Automated Statchk
Alkalinity	KONE	5593768	N/A	2018/06/25	Jacob Henley
Chloride	KONE	5593775	N/A	2018/06/22	Jacob Henley
Colour	KONE	5593779	N/A	2018/06/22	Jacob Henley
Conductance - water	AT	5593692	N/A	2018/06/22	Julia McGovern
Hardness (calculated as CaCO3)		5590383	N/A	2018/06/22	Automated Statchk
Metals Water Diss. MS (as rec'd)	CICP/MS	5592240	N/A	2018/06/22	Cassandra Hartery
Ion Balance (% Difference)	CALC	5590384	N/A	2018/06/26	Automated Statchk
Anion and Cation Sum	CALC	5590385	N/A	2018/06/22	Automated Statchk
Nitrogen Ammonia - water	KONE	5592423	N/A	2018/06/21	Jacob Henley
Nitrogen - Nitrate + Nitrite	KONE	5593781	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrite	KONE	5593783	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrate (as N)	CALC	5590281	N/A	2018/06/26	Automated Statchk
pH	AT	5593691	N/A	2018/06/22	Julia McGovern
Phosphorus - ortho	KONE	5593780	N/A	2018/06/22	Jacob Henley
Sat. pH and Langelier Index (@ 20C)	CALC	5590387	N/A	2018/06/26	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	5590388	N/A	2018/06/26	Automated Statchk
Reactive Silica	KONE	5593778	N/A	2018/06/25	Jacob Henley
Sulphate	KONE	5593777	N/A	2018/06/22	Jacob Henley
Total Dissolved Solids (TDS calc)	CALC	5590389	N/A	2018/06/26	Automated Statchk
Organic carbon - Total (TOC)	TOCV/NDIR	5592255	N/A	2018/06/22	Luke MacPherson
Turbidity	TURB	5593708	N/A	2018/06/22	Julia McGovern

Maxxam ID: GZX304
Sample ID: MW-19C
Matrix: Water

Collected: 2018/06/19
Shipped:
Received: 2018/06/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	5590380	N/A	2018/06/22	Automated Statchk
Alkalinity	KONE	5593768	N/A	2018/06/25	Jacob Henley
Chloride	KONE	5593775	N/A	2018/06/22	Jacob Henley
Colour	KONE	5593779	N/A	2018/06/22	Jacob Henley
Conductance - water	AT	5593696	N/A	2018/06/22	Julia McGovern
Hardness (calculated as CaCO3)		5590383	N/A	2018/06/22	Automated Statchk
Metals Water Diss. MS (as rec'd)	CICP/MS	5592240	N/A	2018/06/22	Cassandra Hartery
Ion Balance (% Difference)	CALC	5590384	N/A	2018/06/26	Automated Statchk
Anion and Cation Sum	CALC	5590385	N/A	2018/06/22	Automated Statchk
Nitrogen Ammonia - water	KONE	5592423	N/A	2018/06/21	Jacob Henley
Nitrogen - Nitrate + Nitrite	KONE	5593781	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrite	KONE	5593783	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrate (as N)	CALC	5590281	N/A	2018/06/26	Automated Statchk
pH	AT	5593695	N/A	2018/06/22	Julia McGovern
Phosphorus - ortho	KONE	5593780	N/A	2018/06/22	Jacob Henley

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Maxxam Job #: B8F1147
Report Date: 2018/06/26

GHD Limited
Client Project #: 088664-20
Site Location: BEAVER DAM
Your P.O. #: 73512044
Sampler Initials: DN

TEST SUMMARY

Maxxam ID: GZX304
Sample ID: MW-19C
Matrix: Water

Collected: 2018/06/19
Shipped:
Received: 2018/06/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Sat. pH and Langelier Index (@ 20C)	CALC	5590387	N/A	2018/06/26	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	5590388	N/A	2018/06/26	Automated Statchk
Reactive Silica	KONE	5593778	N/A	2018/06/25	Jacob Henley
Sulphate	KONE	5593777	N/A	2018/06/22	Jacob Henley
Total Dissolved Solids (TDS calc)	CALC	5590389	N/A	2018/06/26	Automated Statchk
Organic carbon - Total (TOC)	TOCV/NDIR	5593990	N/A	2018/06/22	Luke MacPherson
Turbidity	TURB	5593709	N/A	2018/06/22	Julia McGovern

Maxxam ID: GZX304 Dup
Sample ID: MW-19C
Matrix: Water

Collected: 2018/06/19
Shipped:
Received: 2018/06/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Conductance - water	AT	5593696	N/A	2018/06/22	Julia McGovern
pH	AT	5593695	N/A	2018/06/22	Julia McGovern

Maxxam ID: GZX305
Sample ID: MW-DUPC
Matrix: Water

Collected: 2018/06/19
Shipped:
Received: 2018/06/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	5590380	N/A	2018/06/22	Automated Statchk
Alkalinity	KONE	5589743	N/A	2018/06/25	Jacob Henley
Chloride	KONE	5589752	N/A	2018/06/22	Jacob Henley
Colour	KONE	5597605	N/A	2018/06/25	Jacob Henley
Conductance - water	AT	5593692	N/A	2018/06/22	Julia McGovern
Hardness (calculated as CaCO3)		5590383	N/A	2018/06/22	Automated Statchk
Metals Water Diss. MS (as rec'd)	CICP/MS	5592240	N/A	2018/06/22	Cassandra Hartery
Ion Balance (% Difference)	CALC	5590384	N/A	2018/06/26	Automated Statchk
Anion and Cation Sum	CALC	5590385	N/A	2018/06/22	Automated Statchk
Nitrogen Ammonia - water	KONE	5592423	N/A	2018/06/21	Jacob Henley
Nitrogen - Nitrate + Nitrite	KONE	5589765	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrite	KONE	5589767	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrate (as N)	CALC	5590281	N/A	2018/06/26	Automated Statchk
pH	AT	5593691	N/A	2018/06/22	Julia McGovern
Phosphorus - ortho	KONE	5589762	N/A	2018/06/22	Jacob Henley
Sat. pH and Langelier Index (@ 20C)	CALC	5590387	N/A	2018/06/26	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	5590388	N/A	2018/06/26	Automated Statchk
Reactive Silica	KONE	5589757	N/A	2018/06/25	Jacob Henley
Sulphate	KONE	5589755	N/A	2018/06/22	Jacob Henley
Total Dissolved Solids (TDS calc)	CALC	5590389	N/A	2018/06/26	Automated Statchk
Organic carbon - Total (TOC)	TOCV/NDIR	5592255	N/A	2018/06/22	Luke MacPherson
Turbidity	TURB	5593709	N/A	2018/06/22	Julia McGovern

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Maxxam Job #: B8F1147
Report Date: 2018/06/26

GHD Limited
Client Project #: 088664-20
Site Location: BEAVER DAM
Your P.O. #: 73512044
Sampler Initials: DN

TEST SUMMARY

Maxxam ID: GZX305 Dup
Sample ID: MW-DUPC
Matrix: Water

Collected: 2018/06/19
Shipped:
Received: 2018/06/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	KONE	5589743	N/A	2018/06/25	Jacob Henley
Chloride	KONE	5589752	N/A	2018/06/22	Jacob Henley
Colour	KONE	5597605	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrate + Nitrite	KONE	5589765	N/A	2018/06/25	Jacob Henley
Nitrogen - Nitrite	KONE	5589767	N/A	2018/06/25	Jacob Henley
Phosphorus - ortho	KONE	5589762	N/A	2018/06/22	Jacob Henley
Reactive Silica	KONE	5589757	N/A	2018/06/25	Jacob Henley
Sulphate	KONE	5589755	N/A	2018/06/22	Jacob Henley

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Maxxam Job #: B8F1147
Report Date: 2018/06/26

GHD Limited
Client Project #: 088664-20
Site Location: BEAVER DAM
Your P.O. #: 73512044
Sampler Initials: DN

GENERAL COMMENTS

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

Package 1	6.3°C

Sample GZX297 [MW-02A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample GZX302 [MW-19A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Results relate only to the items tested.

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Maxxam Job #: B8F1147
Report Date: 2018/06/26

QUALITY ASSURANCE REPORT

GHD Limited
Client Project #: 088664-20
Site Location: BEAVER DAM
Your P.O. #: 73512044
Sampler Initials: DN

			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
5589743	Total Alkalinity (Total as CaCO3)	2018/06/25	NC	80 - 120	96	80 - 120	<5.0	mg/L	9.1	25		
5589752	Dissolved Chloride (Cl)	2018/06/22	100	80 - 120	103	80 - 120	<1.0	mg/L	10	25	102	80 - 120
5589755	Dissolved Sulphate (SO4)	2018/06/22	93	80 - 120	95	80 - 120	<2.0	mg/L	0.48	25		
5589757	Reactive Silica (SiO2)	2018/06/25	98	80 - 120	95	80 - 120	<0.50	mg/L	0.84	25		
5589762	Orthophosphate (P)	2018/06/22	87	80 - 120	94	80 - 120	<0.010	mg/L	NC	25		
5589765	Nitrate + Nitrite (N)	2018/06/25	96	80 - 120	98	80 - 120	<0.050	mg/L	NC	25		
5589767	Nitrite (N)	2018/06/25	92	80 - 120	96	80 - 120	<0.010	mg/L	NC	20		
5592240	Dissolved Aluminum (Al)	2018/06/22	97	80 - 120	98	80 - 120	<5.0	ug/L	1.7	20		
5592240	Dissolved Antimony (Sb)	2018/06/22	103	80 - 120	99	80 - 120	<1.0	ug/L	NC	20		
5592240	Dissolved Arsenic (As)	2018/06/22	96	80 - 120	96	80 - 120	<1.0	ug/L	3.9	20		
5592240	Dissolved Barium (Ba)	2018/06/22	104	80 - 120	105	80 - 120	<1.0	ug/L	0.23	20		
5592240	Dissolved Beryllium (Be)	2018/06/22	99	80 - 120	100	80 - 120	<1.0	ug/L	NC	20		
5592240	Dissolved Bismuth (Bi)	2018/06/22	101	80 - 120	104	80 - 120	<2.0	ug/L	NC	20		
5592240	Dissolved Boron (B)	2018/06/22	96	80 - 120	95	80 - 120	<50	ug/L	NC	20		
5592240	Dissolved Cadmium (Cd)	2018/06/22	103	80 - 120	104	80 - 120	<0.010	ug/L	NC	20		
5592240	Dissolved Calcium (Ca)	2018/06/22	99	80 - 120	105	80 - 120	<100	ug/L	1.0	20		
5592240	Dissolved Chromium (Cr)	2018/06/22	95	80 - 120	97	80 - 120	<1.0	ug/L	NC	20		
5592240	Dissolved Cobalt (Co)	2018/06/22	95	80 - 120	97	80 - 120	<0.40	ug/L	NC	20		
5592240	Dissolved Copper (Cu)	2018/06/22	91	80 - 120	93	80 - 120	<2.0	ug/L	NC	20		
5592240	Dissolved Iron (Fe)	2018/06/22	98	80 - 120	100	80 - 120	<50	ug/L	NC	20		
5592240	Dissolved Lead (Pb)	2018/06/22	98	80 - 120	100	80 - 120	<0.50	ug/L	NC	20		
5592240	Dissolved Magnesium (Mg)	2018/06/22	100	80 - 120	103	80 - 120	<100	ug/L	0.41	20		
5592240	Dissolved Manganese (Mn)	2018/06/22	NC	80 - 120	97	80 - 120	<2.0	ug/L	0.58	20		
5592240	Dissolved Molybdenum (Mo)	2018/06/22	103	80 - 120	103	80 - 120	<2.0	ug/L	3.7	20		
5592240	Dissolved Nickel (Ni)	2018/06/22	92	80 - 120	94	80 - 120	<2.0	ug/L	NC	20		
5592240	Dissolved Phosphorus (P)	2018/06/22	104	80 - 120	103	80 - 120	<100	ug/L	NC	20		
5592240	Dissolved Potassium (K)	2018/06/22	100	80 - 120	105	80 - 120	<100	ug/L	1.3	20		
5592240	Dissolved Selenium (Se)	2018/06/22	96	80 - 120	96	80 - 120	<1.0	ug/L	NC	20		
5592240	Dissolved Silver (Ag)	2018/06/22	92	80 - 120	99	80 - 120	<0.10	ug/L	NC	20		
5592240	Dissolved Sodium (Na)	2018/06/22	94	80 - 120	95	80 - 120	<100	ug/L	0.53	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
5592240	Dissolved Strontium (Sr)	2018/06/22	100	80 - 120	99	80 - 120	<2.0	ug/L	1.0	20		
5592240	Dissolved Thallium (Tl)	2018/06/22	103	80 - 120	104	80 - 120	<0.10	ug/L	NC	20		
5592240	Dissolved Tin (Sn)	2018/06/22	105	80 - 120	108	80 - 120	<2.0	ug/L	NC	20		
5592240	Dissolved Titanium (Ti)	2018/06/22	99	80 - 120	103	80 - 120	<2.0	ug/L	NC	20		
5592240	Dissolved Uranium (U)	2018/06/22	101	80 - 120	102	80 - 120	<0.10	ug/L	2.6	20		
5592240	Dissolved Vanadium (V)	2018/06/22	98	80 - 120	100	80 - 120	<2.0	ug/L	NC	20		
5592240	Dissolved Zinc (Zn)	2018/06/22	100	80 - 120	100	80 - 120	<5.0	ug/L	NC	20		
5592255	Total Organic Carbon (C)	2018/06/22	95	85 - 115	96	80 - 120	<0.50	mg/L	2.1	15		
5592399	Nitrogen (Ammonia Nitrogen)	2018/06/21	101	80 - 120	104	80 - 120	<0.050	mg/L	NC	20		
5592423	Nitrogen (Ammonia Nitrogen)	2018/06/21	103	80 - 120	100	80 - 120	<0.050	mg/L	NC	20		
5593691	pH	2018/06/22							0.74	N/A	101	97 - 103
5593692	Conductivity	2018/06/22			101	80 - 120	1.5, RDL=1.0	uS/cm	0.29	25		
5593693	pH	2018/06/22							0.48	N/A	100	97 - 103
5593694	Conductivity	2018/06/22			100	80 - 120	1.4, RDL=1.0	uS/cm	0.24	25		
5593695	pH	2018/06/22							0.76	N/A	100	97 - 103
5593696	Conductivity	2018/06/22			101	80 - 120	1.7, RDL=1.0	uS/cm	0.15	25		
5593708	Turbidity	2018/06/22			94	80 - 120	<0.10	NTU	2.4	20	97	80 - 120
5593709	Turbidity	2018/06/22			94	80 - 120	<0.10	NTU	9.5	20	96	80 - 120
5593768	Total Alkalinity (Total as CaCO3)	2018/06/25	90	80 - 120	95	80 - 120	<5.0	mg/L	2.2	25		
5593775	Dissolved Chloride (Cl)	2018/06/22	101	80 - 120	102	80 - 120	<1.0	mg/L	1.8	25	100	80 - 120
5593777	Dissolved Sulphate (SO4)	2018/06/22	97	80 - 120	93	80 - 120	<2.0	mg/L	0.015	25		
5593778	Reactive Silica (SiO2)	2018/06/25	NC	80 - 120	97	80 - 120	<0.50	mg/L	0.95	25		
5593779	Colour	2018/06/22			99	80 - 120	<5.0	TCU	NC	20		
5593780	Orthophosphate (P)	2018/06/22	92	80 - 120	94	80 - 120	<0.010	mg/L	NC	25		
5593781	Nitrate + Nitrite (N)	2018/06/25	95	80 - 120	97	80 - 120	<0.050	mg/L	0.94	25		
5593783	Nitrite (N)	2018/06/25	98	80 - 120	96	80 - 120	<0.010	mg/L	NC	20		
5593990	Total Organic Carbon (C)	2018/06/22	92	85 - 115	94	80 - 120	<0.50	mg/L	1.5	15		

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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
5597605	Colour	2018/06/25			96	80 - 120	<5.0	TCU	NC	20		

N/A = Not Applicable

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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Maxxam Job #: B8F1147
Report Date: 2018/06/26

GHD Limited
Client Project #: 088664-20
Site Location: BEAVER DAM
Your P.O. #: 73512044
Sampler Initials: DN

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Mike MacGillivray, Scientific Specialist (Inorganics)

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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CHAIN OF CUSTODY RECORD

COC #: D34770 Page 1 of 2

Invoice Information	Report Information (if differs from invoice)	Project Information (where applicable)	Turnaround Time (TAT) Required
Company Name: GHD Ltd.	Company Name: Jeff Parks → GHD	Quotation #: STANDING OFFER	X Regular TAT (5 business days) Most analyses
Contact Name: Trina Jeffrey	Contact Name:	P.O. #: 73512044	PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS
Address: 45 Akerley Blvd. Dartmouth Postal Code: B3B 1J7	Address: 45 Akerley Blvd. Dartmouth Postal Code: B3B 1J7	Project #: 088664	IF RUSH please specify date (Surcharges will be applied)
Phone: 902-468-1248 Fax:	Phone: 902-468-1248 Fax:	Site Location: Beaver Dam	DATE REQUIRED:
Email: trina.jeffery@ghd.com	Email: jeffrey.parks@ghd.com	Site #:	
		Sampled By: D.N. / J.R. / R.H.	

Laboratory Use Only

CUSTODY SEAL Present	CUSTODY SEAL Intact	COOLER TEMPERATURES	COOLER TEMPERATURES
		6	
		8	
		5	

COOLING MEDIA PRESENT Y / N

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

Analysis Requested

	SAMPLE IDENTIFICATION	DATE SAMPLED (YYYY/MM/DD)	TIME SAMPLED (HH:MM)	MATRIX	# OF CONTAINERS SUBMITTED	FIELD FILTERED &PRESERVED	LAB FILTRATION REQUIRED	RCAP-MS [Total Metals] Well / Surface water	RCAP-MS [Dissolved Metals] Ground waters	Metals (Water): Total Digest (Default Method) for well water & surface water	Metals (Water): Dissolved for ground water	Metals (Water): Mercury (CIRCLE) TOTAL / DISSOLVED	Metals (Soil): Metals & Mercury Default: Acid Extractable (Available) Digest	Metals (Soil): Metals Total Digest -for Ocean sediments (HNO3/HF/HClO4)	Metals (Soil): Mercury Low level by Cold Vapour AA	Metals (Soil): Hot Water Soluble Boron (required for CCME Agricultural/ Landfill)	RBCA Hydrocarbons (BTEX, C6-C32)	Hydrocarbons Soil (Potable), NS Fuel Oil Spill Policy Low Level BTEX ,C6-C32	CCME Hydrocarbons (CWS-PHC F1/BTEX, F2-F4)	NB Potable Water BTEX, VPH; Low level T.E.H	PAHs (Default for water/soil)	PAHs (FWAL /CCME Sediment)	PCBs	VOCs	Total Coliform/E.coli (Presence/Absence)	Total Coliform/E.Coli (Count)		HOLD- DO NOT ANALYZE	Regulatory Requirements (Specify) / COMMENTS
1	MW-01A	2018/06/19	10:29	H_2O	3	X			X																				
2	MW-01B	2018/06/19	10:20	H_2O	3	X			X																				
3	MW-01C	2018/06/19	10:16	H_2O	3	X			X																				
4	MW-02A	2018/06/19	11:12	H_2O	3	X			X																				
5	MW-02B	2018/06/19	11:09	H_2O	3	X			X																				2018 JUN 19 15:24
6	MW-03A	2018/06/19	9:47	H_2O	3	X			X																				
7	MW-03B	2018/06/19	9:52	H_2O	3	X			X																				
8	MW-03C	2018/06/19	10:00	H_2O	3	X			X																				
9	MW-19A	2018/06/19	10:42	H_2O	3	X			X																				
10	MW-19B	2018/06/19	10:46	H_2O	3	X			X																				

RELINQUISHED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	RECEIVED BY:(Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	MAXXAM JOB #
Jessica Rono	2018/06/19	2:47	JRD Jae Dagle			B8F1147
Jessica Rono						

Unless otherwise agreed to in writing, work submitted on this Chain of Custody is subject to Maxxam'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.maxxam.ca/terms.

'18 JUN 19 14:47

White: Maxxam Pink: Client

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200 Bluewater Road, Suite 105, Bedford, Nova Scotia B4B 1G9 Tel: 902-420-0203 Fax: 902-420-8612 Toll Free: 1-800-565-7227
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465 George Street,Unit G,Sydney, NS B1P 1K5 Tel: 902-567-1255 Fax: 902-539-6504 Toll Free: 1-888-535-7770
www.maxxam.ca E-mail: Customerservicebedford@maxxam.ca

CHAIN OF CUSTODY RECORD

COC #: D34772 Page 2 of 2

Invoice Information	Report Information (if differs from invoice)	Project Information (where applicable)	Turnaround Time (TAT) Required
Company Name: GHD Ltd.	Company Name: GHD Ltd.	Quotation #: STANDING OFFER	☒ Regular TAT (5 business days) Most analyses
Contact Name: Trina Jeffrey	Contact Name: Jeff Parks	P.O. #: 7351/2044	PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS
Address: 45 Akerley Blvd. Dartmouth Postal Code: B3B 1J7	Address: 45 Akerley Blvd. Dartmouth Postal Code: B3B 1J7	Project #: 088664	IF RUSH please specify date (Surcharges will be applied)
Phone: 902-468-1248 Fax:	Phone: 902-468-1248 Fax:	Site Location: Beaver Dam	DATE REQUIRED:
Email: trina.jeffery@ghd.com	Email: Jeffay.Parks@ghd.com	Site #:	
		Sampled By: E D.N. / J.R. / R.H.	

Laboratory Use Only

CUSTODY SEAL Present	CUSTODY SEAL Intact	COOLER TEMPERATURES	COOLER TEMPERATURES
		6	
		8	
		5	

COOLING MEDIA PRESENT Y / N

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

Analysis Requested

	SAMPLE IDENTIFICATION	DATE SAMPLED (YYYY/MM/DD)	TIME SAMPLED (HH:MM)	MATRIX	# OF CONTAINERS SUBMITTED	FIELD FILTERED &PRESERVED	LAB FILTRATION REQUIRED	RCAP-MS [Total Metals] Well / Surface water	RCAP-MS [Dissolved Metals] Ground waters	Metals (Water): Total Digest (Default Method) for well water & surface water	Metals (Water): Dissolved for ground water	Metals (Water): Mercury (CIRCLE) TOTAL / DISSOLVED	Metals (Soil): Metals & Mercury Default Acid Extractable (Available) Digest	Metals (Soil): Metals Total Digest -for Ocean sediments (HNO3/HF/HClO4)	Metals (Soil): Mercury Low level by Cold Vapour AA	Metals (Soil): Hot Water Soluble Boron (required for CCME Agricultural/ Landfill)	RBCA Hydrocarbons (BTEX, C6-C32)	Hydrocarbons Soil (Potable), NS Fuel Oil Spill Policy Low Level BTEX ,C6-C32	CCME Hydrocarbons (CCWS-PHC F1/BTEX, F2-F4)	NB Potable Water BTEX, VPH, Low level T.E.H	PAHs (Default for water/soil)	PAHs (FWAL /CCME Sediment)	PCBs	VOCs	Total Coliform/E.coli (Presence/Absence)	Total Coliform/E.Coli (Count)		HOLD- DO NOT ANALYZE	Regulatory Requirements (Specify) / COMMENTS
1	MW-19C	2018/06/19	10:53	H_2O	3	X			X																				
2	MW-DupC	2018/06/19	—	H_2O	3	X			X																				
3																													
4																													
5																													
6																													
7																													
8																													2018 JUN 19 15:24
9																													
10																													

RELINQUISHED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	RECEIVED BY:(Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	MAXXAM JOB #
Jessica Romo	2018/06/19	2:47	JRD			B8F1147
Jessica Romo						

Unless otherwise agreed to in writing, work submitted on this Chain of Custody is subject to Maxxam'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.maxxam.ca/terms.

'18 JUN 19 14:47

White: Maxxam Pink: Client

Maxxam
A Bureau Veritas Group Company

Your P.O. #: 3151
Your Project #: 088664-20
Site Location: BEAVER DAM
Your C.O.C. #: D34774

Attention: James Millard

Atlantic Mining NS Corp
6749 Moose River Rd
Middle Musquodoboit, NS
CANADA B0N 1X0

Report Date: 2018/07/09
Report #: R5286935
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B8G1148
Received: 2018/06/28, 10:31

Sample Matrix: Water
Samples Received: 22

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Carbonate, Bicarbonate and Hydroxide	22	N/A	2018/07/04	N/A	SM 22 4500-CO2 D
Alkalinity	1	N/A	2018/07/04	ATL SOP 00013	EPA 310.2 R1974 m
Alkalinity	8	N/A	2018/07/05	ATL SOP 00013	EPA 310.2 R1974 m
Alkalinity	13	N/A	2018/07/06	ATL SOP 00013	EPA 310.2 R1974 m
Chloride	1	N/A	2018/07/05	ATL SOP 00014	SM 23 4500-Cl- E m
Chloride	21	N/A	2018/07/06	ATL SOP 00014	SM 23 4500-Cl- E m
Colour	1	N/A	2018/07/06	ATL SOP 00020	SM 22 2120C m
Colour	21	N/A	2018/07/09	ATL SOP 00020	SM 22 2120C m
Conductance - water	22	N/A	2018/07/04	ATL SOP 00004	SM 23 2510B m
Hardness (calculated as CaCO3)	8	N/A	2018/07/05	ATL SOP 00048	SM 22 2340 B
Hardness (calculated as CaCO3)	14	N/A	2018/07/06	ATL SOP 00048	SM 22 2340 B
Metals Water Diss. MS (as rec'd)	8	N/A	2018/07/05	ATL SOP 00058	EPA 6020A R1 m
Metals Water Diss. MS (as rec'd)	14	N/A	2018/07/06	ATL SOP 00058	EPA 6020A R1 m
Ion Balance (% Difference)	1	N/A	2018/07/06	N/A	Auto Calc.
Ion Balance (% Difference)	21	N/A	2018/07/09	N/A	Auto Calc.
Anion and Cation Sum	8	N/A	2018/07/05	N/A	Auto Calc.
Anion and Cation Sum	14	N/A	2018/07/06	N/A	Auto Calc.
Nitrogen Ammonia - water	21	N/A	2018/07/05	ATL SOP 00015	EPA 350.1 R2 m
Nitrogen Ammonia - water	1	N/A	2018/07/06	ATL SOP 00015	EPA 350.1 R2 m
Nitrogen - Nitrate + Nitrite	1	N/A	2018/07/05	ATL SOP 00016	USGS I-2547-11m
Nitrogen - Nitrate + Nitrite	21	N/A	2018/07/09	ATL SOP 00016	USGS I-2547-11m
Nitrogen - Nitrite	22	N/A	2018/07/05	ATL SOP 00017	SM 23 4500-NO2- B m
Nitrogen - Nitrate (as N)	1	N/A	2018/07/06	ATL SOP 00018	ASTM D3867-16
Nitrogen - Nitrate (as N)	21	N/A	2018/07/09	ATL SOP 00018	ASTM D3867-16
pH (1)	22	N/A	2018/07/04	ATL SOP 00003	SM 23 4500-H+ B m
Phosphorus - ortho	1	N/A	2018/07/05	ATL SOP 00021	SM 23 4500-P E m
Phosphorus - ortho	21	N/A	2018/07/06	ATL SOP 00021	SM 23 4500-P E m
Sat. pH and Langelier Index (@ 20C)	1	N/A	2018/07/06	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 20C)	21	N/A	2018/07/09	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 4C)	1	N/A	2018/07/06	ATL SOP 00049	Auto Calc.

Maxxam Analytics International Corporation o/a Maxxam Analytics 200 Bluewater Rd, Suite 105, Bedford, Nova Scotia Canada B4B 1G9 Tel: 902-420-0203 Toll-free: 800-565-7227 Fax: 902-420-8612 www.maxxamanalytics.com

Maxxam
A Bureau Veritas Group Company

Your P.O. #: 3151
Your Project #: 088664-20
Site Location: BEAVER DAM
Your C.O.C. #: D34774

Attention: James Millard

Atlantic Mining NS Corp
6749 Moose River Rd
Middle Musquodoboit, NS
CANADA B0N 1X0

Report Date: 2018/07/09
Report #: R5286935
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B8G1148
Received: 2018/06/28, 10:31

Sample Matrix: Water
Samples Received: 22

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Sat. pH and Langelier Index (@ 4C)	21	N/A	2018/07/09	ATL SOP 00049	Auto Calc.
Reactive Silica	14	N/A	2018/07/05	ATL SOP 00022	EPA 366.0 m
Reactive Silica	8	N/A	2018/07/06	ATL SOP 00022	EPA 366.0 m
Sulphate	1	N/A	2018/07/04	ATL SOP 00023	ASTM D516-16 m
Sulphate	21	N/A	2018/07/06	ATL SOP 00023	ASTM D516-16 m
Total Dissolved Solids (TDS calc)	1	N/A	2018/07/06	N/A	Auto Calc.
Total Dissolved Solids (TDS calc)	21	N/A	2018/07/09	N/A	Auto Calc.
Organic carbon - Total (TOC) (2)	8	N/A	2018/07/04	ATL SOP 00203	SM 23 5310B m
Organic carbon - Total (TOC) (2)	14	N/A	2018/07/05	ATL SOP 00203	SM 23 5310B m
Turbidity	22	N/A	2018/07/05	ATL SOP 00011	EPA 180.1 R2 m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam 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.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam 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 Maxxam, unless otherwise agreed in writing.

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.
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) The APHA Standard Method require 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 APHA Standard Method holding time.
(2) TOC / DOC present in the sample should be considered as non-purgeable TOC / DOC.

Maxxam Analytics International Corporation o/a Maxxam Analytics 200 Bluewater Rd, Suite 105, Bedford, Nova Scotia Canada B4B 1G9 Tel: 902-420-0203 Toll-free: 800-565-7227 Fax: 902-420-8612 www.maxxamanalytics.com

Your P.O. #: 3151
Your Project #: 088664-20
Site Location: BEAVER DAM
Your C.O.C. #: D34774

Attention: James Millard

Atlantic Mining NS Corp
6749 Moose River Rd
Middle Musquodoboit, NS
CANADA B0N 1X0

Report Date: 2018/07/09
Report #: R5286935
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B8G1148
Received: 2018/06/28, 10:31

Encryption Key

Maxxam
09 Jul 2018 17:20:08

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Maryann Comeau, Project Manager
Email: MComeau@maxxam.ca
Phone# (902) 420-0203
==========
This report has been generated and distributed using a secure automated process.
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Maxxam Job #: B8G1148
Report Date: 2018/07/09

Atlantic Mining NS Corp
Client Project #: 088664-20
Site Location: BEAVER DAM
Your P.O. #: 3151
Sampler Initials: RH

RESULTS OF ANALYSES OF WATER

Maxxam ID		HCC205	HCC206	HCC207		HCC207		HCC208		HCC209	
Sampling Date		2018/06/27 10:49	2018/06/27 10:57	2018/06/27 11:03		2018/06/27 11:03		2018/06/27 11:19		2018/06/27 11:23	
COC Number		D34774	D34774	D34774		D34774		D34774		D34774	
	UNITS	MW-05A	MW-05B	MW-05D	RDL	MW-05D Lab-Dup	RDL	MW-07A	RDL	MW-07B	RDL
Calculated Parameters											
Anion Sum	me/L	0.410	0.990	1.73	N/A			2.47	N/A	7.02	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	11	37	66	1.0			100	1.0	320	1.0
Calculated TDS	mg/L	27	60	100	1.0			150	1.0	380	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	ND	ND	1.0			ND	1.0	2.2	1.0
Cation Sum	me/L	0.370	0.900	1.61	N/A			2.53	N/A	6.68	N/A
Hardness (CaCO3)	mg/L	10	27	56	1.0			93	1.0	290	1.0
Ion Balance (% Difference)	%	5.13	4.76	3.59	N/A			1.20	N/A	2.48	N/A
Langelier Index (@ 20C)	N/A	-3.37	-1.33	-0.134				-0.988		0.935	
Langelier Index (@ 4C)	N/A	-3.62	-1.58	-0.385				-1.24		0.686	
Nitrate (N)	mg/L	0.051	0.061	ND	0.050			ND	0.050	ND	0.050
Saturation pH (@ 20C)	N/A	9.80	8.80	8.26				7.93		6.93	
Saturation pH (@ 4C)	N/A	10.1	9.05	8.51				8.18		7.18	
Inorganics											
Total Alkalinity (Total as CaCO3)	mg/L	11	37	66	5.0			100	10	320	25
Dissolved Chloride (Cl-)	mg/L	4.5	4.0	4.7	1.0			4.4	1.0	6.7	1.0
Colour	TCU	ND	ND	ND	5.0			8.0	5.0	ND	5.0
Nitrate + Nitrite (N)	mg/L	0.051	0.061	ND	0.050			ND	0.050	ND	0.050
Nitrite (N)	mg/L	ND	ND	ND	0.010			ND	0.010	ND	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	ND	ND	ND	0.050	ND	0.050	ND	0.050	0.060	0.050
Total Organic Carbon (C)	mg/L	1.5	2.0	1.3	0.50			1.1	0.50	3.2	0.50
Orthophosphate (P)	mg/L	ND	ND	ND	0.010			ND	0.010	0.013	0.010
pH	pH	6.43	7.47	8.13	N/A			6.94	N/A	7.86	N/A
Reactive Silica (SiO2)	mg/L	5.1	8.2	12	0.50			21	0.50	24	0.50
Dissolved Sulphate (SO4)	mg/L	3.0	6.6	13	2.0			13	2.0	19	2.0
Turbidity	NTU	1.5	11	2.2	0.10			30	0.10	4.6	0.10
Conductivity	uS/cm	44	100	170	1.0			240	1.0	620	1.0

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

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Maxxam Job #: B8G1148
Report Date: 2018/07/09

Atlantic Mining NS Corp
Client Project #: 088664-20
Site Location: BEAVER DAM
Your P.O. #: 3151
Sampler Initials: RH

RESULTS OF ANALYSES OF WATER

Maxxam ID		HCC210		HCC211	HCC212	HCC213	HCC214		HCC215	
Sampling Date		2018/06/27 11:28		2018/06/27 11:49	2018/06/27 11:54	2018/06/27 11:45	2018/06/27 12:42		2018/06/27 12:51	
COC Number		D34774		D34774	D34774	D34774	D34774		D34774	
	UNITS	MW-07D	RDL	MW-11A	MW-11B	MW-11C	MW-14A	RDL	MW-14B	RDL
Calculated Parameters										
Anion Sum	me/L	2.59	N/A	0.300	1.87	2.02	0.740	N/A	5.07	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	110	1.0	5.5	78	68	27	1.0	91	1.0
Calculated TDS	mg/L	150	1.0	21	100	120	53	1.0	320	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	1.1	1.0	ND	ND	ND	ND	1.0	1.3	1.0
Cation Sum	me/L	2.75	N/A	0.280	1.71	1.91	0.670	N/A	4.58	N/A
Hardness (CaCO3)	mg/L	120	1.0	8.0	71	76	18	1.0	46	1.0
Ion Balance (% Difference)	%	3.00	N/A	3.45	4.47	2.80	4.96	N/A	5.08	N/A
Langelier Index (@ 20C)	N/A	0.288		-4.04	0.0690	-0.283	-2.64		-0.123	
Langelier Index (@ 4C)	N/A	0.0380		-4.29	-0.182	-0.534	-2.89		-0.371	
Nitrate (N)	mg/L	ND	0.050	0.059	0.19	0.066	0.11	0.050	ND	0.050
Saturation pH (@ 20C)	N/A	7.77		10.2	8.05	8.10	9.19		8.29	
Saturation pH (@ 4C)	N/A	8.02		10.4	8.30	8.35	9.44		8.54	
Inorganics										
Total Alkalinity (Total as CaCO3)	mg/L	110 (1)	25	5.5	79	69	27	5.0	92	5.0
Dissolved Chloride (Cl-)	mg/L	6.9	1.0	4.8	3.5	4.4	3.6	1.0	13	1.0
Colour	TCU	ND	5.0	ND	ND	ND	ND	5.0	ND	5.0
Nitrate + Nitrite (N)	mg/L	ND	0.050	0.059	0.19	0.066	0.11	0.050	ND	0.050
Nitrite (N)	mg/L	ND	0.010	ND	ND	ND	ND	0.010	ND	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	ND	0.050	ND	ND	ND	ND	0.050	ND	0.050
Total Organic Carbon (C)	mg/L	2.2	0.50	1.3	0.65	1.7	0.62	0.50	14	0.50
Orthophosphate (P)	mg/L	0.035	0.010	ND	0.018	0.021	0.012	0.010	ND	0.010
pH	pH	8.05	N/A	6.12	8.11	7.82	6.56	N/A	8.17	N/A
Reactive Silica (SiO2)	mg/L	15	0.50	3.8	8.7	8.8	14	0.50	8.9	0.50
Dissolved Sulphate (SO4)	mg/L	12	2.0	2.6	8.2	25	4.3	2.0	140	10
Turbidity	NTU	9.5	0.10	0.80	10	6.8	61	0.10	37	0.10
Conductivity	uS/cm	280	1.0	35	170	200	74	1.0	540	1.0

RDL = Reportable Detection Limit
N/A = Not Applicable
ND = Not detected
(1) Elevated reporting limit due to sample matrix.

Maxxam Analytics International Corporation o/a Maxxam Analytics 200 Bluewater Rd, Suite 105, Bedford, Nova Scotia Canada B4B 1G9 Tel: 902-420-0203 Toll-free: 800-565-7227 Fax: 902-420-8612 www.maxxamanalytics.com

Maxxam Job #: B8G1148
Report Date: 2018/07/09

Atlantic Mining NS Corp
Client Project #: 088664-20
Site Location: BEAVER DAM
Your P.O. #: 3151
Sampler Initials: RH

RESULTS OF ANALYSES OF WATER

Maxxam ID		HCC216	HCC217	HCC218		HCC218		HCC219	HCC220	
Sampling Date		2018/06/27 13:01	2018/06/27 12:18	2018/06/27 12:22		2018/06/27 12:22		2018/06/27 12:27	2018/06/26 13:28	
COC Number		D34774	D34774	D34774		D34774		D34774	D34774	
	UNITS	MW-14C	MW-18A	MW-18B	RDL	MW-18B Lab-Dup	RDL	MW-18C	MW-20A	RDL
Calculated Parameters										
Anion Sum	me/L	1.80	0.310	1.34	N/A			2.02	0.360	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	72	5.5	45	1.0			52	7.9	1.0
Calculated TDS	mg/L	100	23	84	1.0			130	26	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	1.3	ND	ND	1.0			ND	ND	1.0
Cation Sum	me/L	1.60	0.270	1.23	N/A			1.89	0.310	N/A
Hardness (CaCO3)	mg/L	29	6.8	41	1.0			45	7.6	1.0
Ion Balance (% Difference)	%	5.88	6.90	4.28	N/A			3.32	7.46	N/A
Langelier Index (@ 20C)	N/A	-0.227	-4.17	-0.820				-0.636	-4.03	
Langelier Index (@ 4C)	N/A	-0.478	-4.42	-1.07				-0.886	-4.28	
Nitrate (N)	mg/L	0.052	0.062	ND	0.050			ND	0.21	0.050
Saturation pH (@ 20C)	N/A	8.52	10.3	8.52				8.44	10.1	
Saturation pH (@ 4C)	N/A	8.77	10.6	8.77				8.69	10.4	
Inorganics										
Total Alkalinity (Total as CaCO3)	mg/L	74	5.5	45	5.0	46	5.0	52	7.9	5.0
Dissolved Chloride (Cl-)	mg/L	3.9	3.8	3.5	1.0	3.3	1.0	5.3	4.8	1.0
Colour	TCU	ND	ND	ND	5.0	ND	5.0	ND	5.5	5.0
Nitrate + Nitrite (N)	mg/L	0.052	0.062	ND	0.050	0.050	0.050	ND	0.21	0.050
Nitrite (N)	mg/L	ND	ND	ND	0.010	ND	0.010	ND	ND	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	ND	ND	ND	0.050			ND	ND	0.050
Total Organic Carbon (C)	mg/L	1.5	1.7	1.4	0.50			5.8	1.3	0.50
Orthophosphate (P)	mg/L	ND	ND	0.054	0.010	0.051	0.010	ND	ND	0.010
pH	pH	8.29	6.18	7.70	N/A	7.83	N/A	7.81	6.08	N/A
Reactive Silica (SiO2)	mg/L	10	5.3	11	0.50	11	0.50	11	6.7	0.50
Dissolved Sulphate (SO4)	mg/L	11	4.3	17	2.0	16	2.0	40	2.3	2.0
Turbidity	NTU	33	1.1	20	0.10	19	0.10	18	4.9	0.10
Conductivity	uS/cm	170	35	130	1.0	130	1.0	210	38	1.0

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

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Maxxam Job #: B8G1148
Report Date: 2018/07/09

Atlantic Mining NS Corp
Client Project #: 088664-20
Site Location: BEAVER DAM
Your P.O. #: 3151
Sampler Initials: RH

RESULTS OF ANALYSES OF WATER

Maxxam ID		HCC221	HCC222	HCC223	HCC224	HCC225		HCC226	
Sampling Date		2018/06/26 13:36	2018/06/26 12:58	2018/06/26 13:03	2018/06/26 13:09	2018/06/27 13:20		2018/06/27 13:25	
COC Number		D34774	D34774	D34774	D34774	D34774		D34774	
	UNITS	MW-20B	MW-22A	MW-22B	MW-22C	DUP4	RDL	DUP5	RDL
Calculated Parameters									
Anion Sum	me/L	2.12	0.300	1.56	2.24	0.420	N/A	5.04	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	90	5.8	59	94	11	1.0	94	1.0
Calculated TDS	mg/L	120	23	94	130	28	1.0	310	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	ND	ND	1.0	ND	1.0	1.5	1.0
Cation Sum	me/L	1.95	0.260	1.38	2.00	0.380	N/A	4.50	N/A
Hardness (CaCO3)	mg/L	72	5.5	48	52	10	1.0	45	1.0
Ion Balance (% Difference)	%	4.18	7.14	6.12	5.66	5.00	N/A	5.66	N/A
Langelier Index (@ 20C)	N/A	-0.0410	-4.11	-0.786	-0.0890	-3.46		-0.0470	
Langelier Index (@ 4C)	N/A	-0.291	-4.36	-1.04	-0.340	-3.71		-0.297	
Nitrate (N)	mg/L	ND	0.093	ND	ND	ND	0.050	ND	0.050
Saturation pH (@ 20C)	N/A	8.07	10.5	8.41	8.16	9.79		8.29	
Saturation pH (@ 4C)	N/A	8.32	10.7	8.66	8.41	10.0		8.54	
Inorganics									
Total Alkalinity (Total as CaCO3)	mg/L	91	5.8	60	95	11	5.0	95	5.0
Dissolved Chloride (Cl-)	mg/L	3.6	4.0	4.2	4.2	4.8	1.0	13	1.0
Colour	TCU	ND	ND	ND	ND	ND	5.0	5.7	5.0
Nitrate + Nitrite (N)	mg/L	ND	0.093	ND	ND	ND	0.050	ND	0.050
Nitrite (N)	mg/L	ND	ND	ND	ND	ND	0.010	ND	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	0.054	ND	ND	ND	ND	0.050	ND	0.050
Total Organic Carbon (C)	mg/L	0.84	1.0	1.8	1.6	1.5	0.50	14	0.50
Orthophosphate (P)	mg/L	ND	ND	ND	ND	ND	0.010	ND	0.010
pH	pH	8.02	6.38	7.63	8.07	6.33	N/A	8.24	N/A
Reactive Silica (SiO2)	mg/L	12	6.5	14	12	5.2	0.50	9.0	0.50
Dissolved Sulphate (SO4)	mg/L	9.8	3.3	12	10	3.0	2.0	130	10
Turbidity	NTU	4.7	2.2	1.8	6.8	0.77	0.10	37	0.10
Conductivity	uS/cm	200	33	150	210	43	1.0	540	1.0

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Maxxam Job #: B8G1148
Report Date: 2018/07/09

Atlantic Mining NS Corp
Client Project #: 088664-20
Site Location: BEAVER DAM
Your P.O. #: 3151
Sampler Initials: RH

ELEMENTS BY ICP/MS (WATER)

Maxxam ID		HCC205	HCC206	HCC206	HCC207	HCC208	HCC209	HCC210	HCC211	
Sampling Date		2018/06/27 10:49	2018/06/27 10:57	2018/06/27 10:57	2018/06/27 11:03	2018/06/27 11:19	2018/06/27 11:23	2018/06/27 11:28	2018/06/27 11:49	
COC Number		D34774	D34774	D34774	D34774	D34774	D34774	D34774	D34774	
	UNITS	MW-05A	MW-05B	MW-05B Lab-Dup	MW-05D	MW-07A	MW-07B	MW-07D	MW-11A	RDL
Metals										
Dissolved Aluminum (Al)	ug/L	8.3	10	9.9	29	ND	5.7	10	31	5.0
Dissolved Antimony (Sb)	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	1.0
Dissolved Arsenic (As)	ug/L	ND	1.0	1.0	ND	12	39	170	ND	1.0
Dissolved Barium (Ba)	ug/L	5.9	5.8	5.9	3.4	11	13	5.5	6.9	1.0
Dissolved Beryllium (Be)	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	1.0
Dissolved Bismuth (Bi)	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	2.0
Dissolved Boron (B)	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	50
Dissolved Cadmium (Cd)	ug/L	0.031	0.018	0.014	ND	ND	ND	ND	0.024	0.010
Dissolved Calcium (Ca)	ug/L	2900	9000	8900	18000	27000	100000	38000	2400	100
Dissolved Chromium (Cr)	ug/L	ND	ND	ND	ND	6.2	ND	ND	ND	1.0
Dissolved Cobalt (Co)	ug/L	2.2	1.3	1.4	ND	0.55	ND	ND	1.0	0.40
Dissolved Copper (Cu)	ug/L	4.7	4.8	4.7	ND	ND	ND	ND	ND	2.0
Dissolved Iron (Fe)	ug/L	ND	100	91	ND	5100	ND	ND	ND	50
Dissolved Lead (Pb)	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	0.50
Dissolved Magnesium (Mg)	ug/L	770	1200	1100	2400	6400	8600	5400	470	100
Dissolved Manganese (Mn)	ug/L	110	130	130	20	530	970	44	76	2.0
Dissolved Molybdenum (Mo)	ug/L	ND	4.2	4.2	ND	ND	ND	ND	ND	2.0
Dissolved Nickel (Ni)	ug/L	8.8	3.9	3.8	ND	2.4	ND	ND	2.8	2.0
Dissolved Phosphorus (P)	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	100
Dissolved Potassium (K)	ug/L	990	1400	1400	980	1800	3600	1200	590	100
Dissolved Selenium (Se)	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	1.0
Dissolved Silver (Ag)	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	0.10
Dissolved Sodium (Na)	ug/L	3300	7200	7200	11000	10000	18000	9200	2400	100
Dissolved Strontium (Sr)	ug/L	14	34	33	160	140	340	310	17	2.0
Dissolved Thallium (Tl)	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	0.10
Dissolved Tin (Sn)	ug/L	3.5	ND	ND	ND	ND	ND	ND	ND	2.0
Dissolved Titanium (Ti)	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	2.0
Dissolved Uranium (U)	ug/L	ND	0.14	0.14	0.35	0.11	2.3	0.73	ND	0.10
Dissolved Vanadium (V)	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	2.0
Dissolved Zinc (Zn)	ug/L	30	8.7	9.7	ND	9.5	ND	ND	12	5.0

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
ND = Not detected

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Maxxam Job #: B8G1148
Report Date: 2018/07/09

Atlantic Mining NS Corp
Client Project #: 088664-20
Site Location: BEAVER DAM
Your P.O. #: 3151
Sampler Initials: RH

ELEMENTS BY ICP/MS (WATER)

Maxxam ID		HCC212	HCC213	HCC214	HCC215	HCC216	HCC217	HCC218	HCC219	
Sampling Date		2018/06/27 11:54	2018/06/27 11:45	2018/06/27 12:42	2018/06/27 12:51	2018/06/27 13:01	2018/06/27 12:18	2018/06/27 12:22	2018/06/27 12:27	
COC Number		D34774	D34774	D34774	D34774	D34774	D34774	D34774	D34774	
	UNITS	**MW-11B**	**MW-11C**	**MW-14A**	**MW-14B**	**MW-14C**	**MW-18A**	**MW-18B**	**MW-18C**	**RDL**
Metals										
Dissolved Aluminum (Al)	ug/L	14	18	ND	ND	6.5	23	13	16	5.0
Dissolved Antimony (Sb)	ug/L	ND	ND	ND	1.6	ND	ND	ND	ND	1.0
Dissolved Arsenic (As)	ug/L	60	78	4.9	7.7	1.6	40	230	57	1.0
Dissolved Barium (Ba)	ug/L	7.8	11	3.2	5.9	13	5.7	4.1	6.4	1.0
Dissolved Beryllium (Be)	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	1.0
Dissolved Bismuth (Bi)	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	2.0
Dissolved Boron (B)	ug/L	ND	ND	ND	84	120	ND	ND	ND	50
Dissolved Cadmium (Cd)	ug/L	ND	ND	0.014	ND	ND	0.028	ND	ND	0.010
Dissolved Calcium (Ca)	ug/L	25000	26000	4900	15000	9300	1600	15000	16000	100
Dissolved Chromium (Cr)	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	1.0
Dissolved Cobalt (Co)	ug/L	ND	0.44	1.6	ND	ND	2.2	ND	ND	0.40
Dissolved Copper (Cu)	ug/L	ND	ND	ND	ND	ND	5.1	ND	ND	2.0
Dissolved Iron (Fe)	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	50
Dissolved Lead (Pb)	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	0.50
Dissolved Magnesium (Mg)	ug/L	1800	2400	1300	2200	1400	710	1200	1400	100
Dissolved Manganese (Mn)	ug/L	35	56	190	11	ND	53	3.1	13	2.0
Dissolved Molybdenum (Mo)	ug/L	ND	2.6	ND	15	ND	ND	4.9	4.1	2.0
Dissolved Nickel (Ni)	ug/L	ND	ND	4.2	ND	ND	6.3	ND	ND	2.0
Dissolved Phosphorus (P)	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	100
Dissolved Potassium (K)	ug/L	1600	1100	1300	1400	660	790	1500	1600	100
Dissolved Selenium (Se)	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	1.0
Dissolved Silver (Ag)	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	0.10
Dissolved Sodium (Na)	ug/L	5800	8500	6700	83000	23000	2500	8400	22000	100
Dissolved Strontium (Sr)	ug/L	86	190	38	330	270	13	85	180	2.0
Dissolved Thallium (Tl)	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	0.10
Dissolved Tin (Sn)	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	2.0
Dissolved Titanium (Ti)	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	2.0
Dissolved Uranium (U)	ug/L	0.91	3.3	ND	4.7	0.53	ND	1.1	1.8	0.10
Dissolved Vanadium (V)	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	2.0
Dissolved Zinc (Zn)	ug/L	ND	10	8.1	ND	ND	19	ND	ND	5.0

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ND = Not detected

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Maxxam Job #: B8G1148
Report Date: 2018/07/09

Atlantic Mining NS Corp
Client Project #: 088664-20
Site Location: BEAVER DAM
Your P.O. #: 3151
Sampler Initials: RH

ELEMENTS BY ICP/MS (WATER)

Maxxam ID		HCC220	HCC221	HCC222	HCC223	HCC224	HCC225	HCC226	
Sampling Date		2018/06/26 13:28	2018/06/26 13:36	2018/06/26 12:58	2018/06/26 13:03	2018/06/26 13:09	2018/06/27 13:20	2018/06/27 13:25	
COC Number		D34774	D34774	D34774	D34774	D34774	D34774	D34774	
	UNITS	MW-20A	MW-20B	MW-22A	MW-22B	MW-22C	DUP4	DUP5	RDL
Metals									
Dissolved Aluminum (Al)	ug/L	38	62	22	23	12	8.8	ND	5.0
Dissolved Antimony (Sb)	ug/L	ND	ND	ND	ND	ND	ND	1.6	1.0
Dissolved Arsenic (As)	ug/L	ND	7.0	ND	1.5	5.4	ND	7.6	1.0
Dissolved Barium (Ba)	ug/L	4.8	11	5.0	3.6	4.7	5.7	5.7	1.0
Dissolved Beryllium (Be)	ug/L	ND	ND	ND	ND	ND	ND	ND	1.0
Dissolved Bismuth (Bi)	ug/L	ND	ND	ND	ND	ND	ND	ND	2.0
Dissolved Boron (B)	ug/L	ND	ND	ND	ND	ND	ND	78	50
Dissolved Cadmium (Cd)	ug/L	0.035	0.011	0.016	ND	ND	0.031	ND	0.010
Dissolved Calcium (Ca)	ug/L	1900	22000	1000	14000	17000	2900	15000	100
Dissolved Chromium (Cr)	ug/L	ND	ND	ND	ND	ND	ND	ND	1.0
Dissolved Cobalt (Co)	ug/L	2.8	ND	1.8	0.43	ND	2.1	ND	0.40
Dissolved Copper (Cu)	ug/L	3.0	ND	9.4	ND	ND	5.0	ND	2.0
Dissolved Iron (Fe)	ug/L	ND	ND	ND	ND	ND	ND	ND	50
Dissolved Lead (Pb)	ug/L	ND	ND	ND	ND	ND	ND	ND	0.50
Dissolved Magnesium (Mg)	ug/L	680	4500	700	3000	2500	760	2100	100
Dissolved Manganese (Mn)	ug/L	150	100	160	190	15	110	11	2.0
Dissolved Molybdenum (Mo)	ug/L	ND	7.0	ND	ND	3.3	ND	15	2.0
Dissolved Nickel (Ni)	ug/L	6.8	ND	8.1	ND	ND	8.4	ND	2.0
Dissolved Phosphorus (P)	ug/L	ND	ND	ND	ND	ND	ND	ND	100
Dissolved Potassium (K)	ug/L	610	1600	810	1600	1100	1000	1400	100
Dissolved Selenium (Se)	ug/L	ND	ND	ND	ND	ND	ND	ND	1.0
Dissolved Silver (Ag)	ug/L	ND	ND	ND	ND	ND	ND	ND	0.10
Dissolved Sodium (Na)	ug/L	3200	10000	3000	8900	21000	3300	82000	100
Dissolved Strontium (Sr)	ug/L	19	270	15	81	280	15	330	2.0
Dissolved Thallium (Tl)	ug/L	ND	ND	ND	ND	ND	ND	ND	0.10
Dissolved Tin (Sn)	ug/L	ND	2.1	ND	ND	ND	2.5	ND	2.0
Dissolved Titanium (Ti)	ug/L	ND	ND	ND	ND	ND	ND	ND	2.0
Dissolved Uranium (U)	ug/L	ND	0.86	ND	0.26	0.52	ND	4.7	0.10
Dissolved Vanadium (V)	ug/L	ND	ND	ND	ND	ND	ND	ND	2.0
Dissolved Zinc (Zn)	ug/L	10	ND	16	5.2	ND	35	ND	5.0

RDL = Reportable Detection Limit
ND = Not detected

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Maxxam Job #: B8G1148
Report Date: 2018/07/09

Atlantic Mining NS Corp
Client Project #: 088664-20
Site Location: BEAVER DAM
Your P.O. #: 3151
Sampler Initials: RH

GENERAL COMMENTS

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

Package 1	4.3°C
Package 2	3.0°C

Sample HCC205 [MW-05A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample HCC215 [MW-14B] : Poor RCAp Ion Balance due to sample matrix.

Sample HCC216 [MW-14C] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample HCC217 [MW-18A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample HCC220 [MW-20A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample HCC222 [MW-22A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample HCC223 [MW-22B] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample HCC224 [MW-22C] : Poor RCAp Ion Balance due to sample matrix.

Sample HCC226 [DUP5] : Poor RCAp Ion Balance due to sample matrix.

Results relate only to the items tested.

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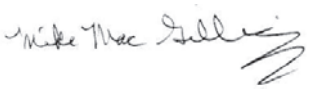
Atlantic Mining NS Corp
Client Project #: 088664-20
Site Location: BEAVER DAM
Your P.O. #: 3151
Sampler Initials: RH

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Mike MacGillivray, Scientific Specialist (Inorganics)

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Your P.O. #: 5114
Your Project #: 088664-25
Site#: Beaver Dam Monitoring

Attention: Rick Hollett

GHD Limited
45 Akerley Blvd
Dartmouth , NS
CANADA B3B 1J7

Your C.O.C. #: 681967-01-01, 681967-02-01, 681967-03-01, 681967-04-01, 681967-05-01

Report Date: 2018/09/20
Report #: R5408002
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B8N9805
Received: 2018/09/13, 10:17

Sample Matrix: Water
Samples Received: 49

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Carbonate, Bicarbonate and Hydroxide	49	N/A	2018/09/18	N/A	SM 22 4500-CO2 D
Alkalinity	49	N/A	2018/09/18	ATL SOP 00013	EPA 310.2 R1974 m
Chloride	10	N/A	2018/09/17	ATL SOP 00014	SM 23 4500-Cl- E m
Chloride	39	N/A	2018/09/18	ATL SOP 00014	SM 23 4500-Cl- E m
Colour	10	N/A	2018/09/18	ATL SOP 00020	SM 23 2120C m
Colour	39	N/A	2018/09/19	ATL SOP 00020	SM 23 2120C m
Conductance - water	49	N/A	2018/09/18	ATL SOP 00004	SM 23 2510B m
Hardness (calculated as CaCO3)	11	N/A	2018/09/18	ATL SOP 00048	Auto Calc
Hardness (calculated as CaCO3)	24	N/A	2018/09/19	ATL SOP 00048	Auto Calc
Hardness (calculated as CaCO3)	14	N/A	2018/09/20	ATL SOP 00048	Auto Calc
Metals Water Diss. MS (as rec'd)	11	N/A	2018/09/17	ATL SOP 00058	EPA 6020A R1 m
Metals Water Diss. MS (as rec'd)	19	N/A	2018/09/18	ATL SOP 00058	EPA 6020A R1 m
Metals Water Diss. MS (as rec'd)	17	N/A	2018/09/19	ATL SOP 00058	EPA 6020A R1 m
Metals Water Diss. MS (as rec'd)	2	N/A	2018/09/20	ATL SOP 00058	EPA 6020A R1 m
Ion Balance (% Difference)	30	N/A	2018/09/19	N/A	Auto Calc.
Ion Balance (% Difference)	19	N/A	2018/09/20	N/A	Auto Calc.
Anion and Cation Sum	33	N/A	2018/09/19	N/A	Auto Calc.
Anion and Cation Sum	16	N/A	2018/09/20	N/A	Auto Calc.
Nitrogen Ammonia - water	9	N/A	2018/09/18	ATL SOP 00015	EPA 350.1 R2 m
Nitrogen Ammonia - water	38	N/A	2018/09/19	ATL SOP 00015	EPA 350.1 R2 m
Nitrogen Ammonia - water	2	N/A	2018/09/20	ATL SOP 00015	EPA 350.1 R2 m
Nitrogen - Nitrate + Nitrite	10	N/A	2018/09/18	ATL SOP 00016	USGS I-2547-11m
Nitrogen - Nitrate + Nitrite	39	N/A	2018/09/19	ATL SOP 00016	USGS I-2547-11m
Nitrogen - Nitrite	10	N/A	2018/09/17	ATL SOP 00017	SM 23 4500-NO2- B m
Nitrogen - Nitrite	39	N/A	2018/09/18	ATL SOP 00017	SM 23 4500-NO2- B m
Nitrogen - Nitrate (as N)	10	N/A	2018/09/18	ATL SOP 00018	ASTM D3867-16
Nitrogen - Nitrate (as N)	39	N/A	2018/09/19	ATL SOP 00018	ASTM D3867-16

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Your P.O. #: 5114
Your Project #: 088664-25
Site#: Beaver Dam Monitoring

Attention: Rick Hollett

GHD Limited
45 Akerley Blvd
Dartmouth , NS
CANADA B3B 1J7

Your C.O.C. #: 681967-01-01, 681967-02-01, 681967-03-01, 681967-04-01, 681967-05-01

Report Date: 2018/09/20
Report #: R5408002
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B8N9805
Received: 2018/09/13, 10:17

Sample Matrix: Water
Samples Received: 49

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
pH (1)	49	N/A	2018/09/18	ATL SOP 00003	SM 23 4500-H+ B m
Phosphorus - ortho	10	N/A	2018/09/17	ATL SOP 00021	SM 23 4500-P E m
Phosphorus - ortho	39	N/A	2018/09/19	ATL SOP 00021	SM 23 4500-P E m
Sat. pH and Langelier Index (@ 20C)	30	N/A	2018/09/19	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 20C)	19	N/A	2018/09/20	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 4C)	30	N/A	2018/09/19	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 4C)	19	N/A	2018/09/20	ATL SOP 00049	Auto Calc.
Reactive Silica	10	N/A	2018/09/18	ATL SOP 00022	EPA 366.0 m
Reactive Silica	39	N/A	2018/09/19	ATL SOP 00022	EPA 366.0 m
Sulphate	10	N/A	2018/09/18	ATL SOP 00023	ASTM D516-16 m
Sulphate	39	N/A	2018/09/19	ATL SOP 00023	ASTM D516-16 m
Total Dissolved Solids (TDS calc)	30	N/A	2018/09/19	N/A	Auto Calc.
Total Dissolved Solids (TDS calc)	19	N/A	2018/09/20	N/A	Auto Calc.
Organic carbon - Total (TOC) (2)	36	N/A	2018/09/19	ATL SOP 00203	SM 23 5310B m
Organic carbon - Total (TOC) (2)	13	N/A	2018/09/20	ATL SOP 00203	SM 23 5310B m
Turbidity	46	N/A	2018/09/18	ATL SOP 00011	EPA 180.1 R2 m
Turbidity	3	N/A	2018/09/19	ATL SOP 00011	EPA 180.1 R2 m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam 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.

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Your P.O. #: 5114
Your Project #: 088664-25
Site#: Beaver Dam Monitoring

Attention: Rick Hollett

GHD Limited
45 Akerley Blvd
Dartmouth , NS
CANADA B3B 1J7

Your C.O.C. #: 681967-01-01, 681967-02-01, 681967-03-01, 681967-04-01, 681967-05-01

Report Date: 2018/09/20
Report #: R5408002
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B8N9805
Received: 2018/09/13, 10:17

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam 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 Maxxam, unless otherwise agreed in writing. Maxxam 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 Maxxam, 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) The APHA Standard Method require 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 APHA Standard Method holding time.
(2) TOC / DOC present in the sample should be considered as non-purgeable TOC / DOC.

Encryption Key

Maxxam
20 Sep 2018 17:59:32

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Maryann Comeau, Project Manager
Email: MComeau@maxxam.ca
Phone# (902) 420-0203

==========

This report has been generated and distributed using a secure automated process.
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B8N9805
Report Date: 2018/09/20

GHD Limited
Client Project #: 088664-25
Your P.O. #: 5114
Sampler Initials: JR

RESULTS OF ANALYSES OF WATER

Maxxam ID		HTD526		HTD527		HTD527		HTD528	HTD529	
Sampling Date		2018/09/12 12:45		2018/09/12 12:45		2018/09/12 12:45		2018/09/12 12:45	2018/09/12 11:40	
COC Number		681967-01-01		681967-01-01		681967-01-01		681967-01-01	681967-01-01	
	UNITS	MW-01A	RDL	MW-01B	RDL	MW-01B Lab-Dup	RDL	MW-01C	MW-02A	RDL
Calculated Parameters										
Anion Sum	me/L	0.460	N/A	1.50	N/A			0.930	0.280	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	14	1.0	58	1.0			34	6.2	1.0
Calculated TDS	mg/L	34	1.0	89	1.0			57	25	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	1.0	ND	1.0			ND	ND	1.0
Cation Sum	me/L	0.440	N/A	1.46	N/A			0.940	0.270	N/A
Hardness (CaCO3)	mg/L	7.4	1.0	58	1.0			33	5.6	1.0
Ion Balance (% Difference)	%	2.22	N/A	1.35	N/A			0.530	1.82	N/A
Langelier Index (@ 20C)	N/A	-3.14		-0.286				-1.41	-4.24	
Langelier Index (@ 4C)	N/A	-3.39		-0.537				-1.66	-4.50	
Nitrate (N)	mg/L	0.065	0.050	ND	0.050			ND	ND	0.050
Saturation pH (@ 20C)	N/A	9.88		8.28				8.75	10.4	
Saturation pH (@ 4C)	N/A	10.1		8.53				9.00	10.6	
Inorganics										
Total Alkalinity (Total as CaCO3)	mg/L	14	5.0	59	5.0			34	6.2	5.0
Dissolved Chloride (Cl-)	mg/L	4.0	1.0	4.1	1.0			5.1	3.3	1.0
Colour	TCU	ND	5.0	ND	5.0			ND	ND	5.0
Nitrate + Nitrite (N)	mg/L	0.065	0.050	ND	0.050			ND	ND	0.050
Nitrite (N)	mg/L	ND	0.010	ND	0.010			ND	ND	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	ND	0.050	ND	0.050	ND	0.050	ND	ND	0.050
Total Organic Carbon (C)	mg/L	ND (1)	5.0	ND	0.50	ND	0.50	2.9	ND	0.50
Orthophosphate (P)	mg/L	ND	0.010	ND	0.010			ND	0.011	0.010
pH	pH	6.74	N/A	8.00	N/A			7.34	6.12	N/A
Reactive Silica (SiO2)	mg/L	8.4	0.50	10	0.50			7.1	9.2	0.50
Dissolved Sulphate (SO4)	mg/L	3.2	2.0	10	2.0			5.1	2.8	2.0
Turbidity	NTU	75	0.10	13	0.10			10	1.7	0.10
Conductivity	uS/cm	47	1.0	150	1.0			100	32	1.0

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable
ND = Not detected
(1) Elevated reporting limit due to turbidity.

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Maxxam Job #: B8N9805
Report Date: 2018/09/20

GHD Limited
Client Project #: 088664-25
Your P.O. #: 5114
Sampler Initials: JR

RESULTS OF ANALYSES OF WATER

Maxxam ID		HTD529		HTD530	HTD531	HTD532	HTD533	
Sampling Date		2018/09/12 11:40		2018/09/12 11:40	2018/09/12 13:10	2018/09/12 13:10	2018/09/12 13:10	
COC Number		681967-01-01		681967-01-01	681967-01-01	681967-01-01	681967-01-01	
	UNITS	MW-02A Lab-Dup	RDL	MW-02B	MW-03A	MW-03B	MW-03C	RDL
Calculated Parameters								
Anion Sum	me/L			0.480	0.420	1.05	1.97	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L			16	9.9	39	86	1.0
Calculated TDS	mg/L			41	31	65	110	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L			ND	ND	ND	ND	1.0
Cation Sum	me/L			0.450	0.390	0.970	1.91	N/A
Hardness (CaCO3)	mg/L			9.6	9.5	36	75	1.0
Ion Balance (% Difference)	%			3.23	3.70	3.96	1.55	N/A
Langelier Index (@ 20C)	N/A			-2.94	-3.65	-1.67	-0.0900	
Langelier Index (@ 4C)	N/A			-3.19	-3.91	-1.92	-0.341	
Nitrate (N)	mg/L			0.052	0.44	0.11	0.074	0.050
Saturation pH (@ 20C)	N/A			9.70	9.87	8.63	8.00	
Saturation pH (@ 4C)	N/A			9.95	10.1	8.89	8.25	
Inorganics								
Total Alkalinity (Total as CaCO3)	mg/L			16	9.9	39	87	5.0
Dissolved Chloride (Cl-)	mg/L			3.3	4.9	6.3	5.1	1.0
Colour	TCU			ND	ND	ND	ND	5.0
Nitrate + Nitrite (N)	mg/L			0.052	0.44	0.11	0.074	0.050
Nitrite (N)	mg/L			ND	ND	ND	ND	0.010
Nitrogen (Ammonia Nitrogen)	mg/L			ND	ND	ND	ND	0.050
Total Organic Carbon (C)	mg/L			ND	2.3	0.88	1.7	0.50
Orthophosphate (P)	mg/L			0.068	ND	ND	ND	0.010
pH	pH	6.10	N/A	6.76	6.21	6.97	7.91	N/A
Reactive Silica (SiO2)	mg/L			15	7.4	11	11	0.50
Dissolved Sulphate (SO4)	mg/L			3.2	2.5	3.6	4.1	2.0
Turbidity	NTU	1.9	0.10	4.6	15	1.7	2.3	0.10
Conductivity	uS/cm	32	1.0	49	43	100	190	1.0

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Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable
ND = Not detected

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Maxxam Job #: B8N9805
Report Date: 2018/09/20

GHD Limited
Client Project #: 088664-25
Your P.O. #: 5114
Sampler Initials: JR

RESULTS OF ANALYSES OF WATER

Maxxam ID		HTD534		HTD535	HTD541		HTD542		HTD543	
Sampling Date		2018/09/12 13:35		2018/09/12 13:35	2018/09/12 16:30		2018/09/12 16:37		2018/09/12 16:44	
COC Number		681967-01-01		681967-01-01	681967-02-01		681967-02-01		681967-02-01	
	UNITS	**MW-04A**	**RDL**	**MW-04B**	**MW-05A**	**RDL**	**MW-05B**	**RDL**	**MW-05D**	**RDL**
Calculated Parameters										
Anion Sum	me/L	0.420	N/A	1.03	0.450	N/A	1.84	N/A	1.70	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	9.8	1.0	36	15	1.0	73	1.0	66	1.0
Calculated TDS	mg/L	31	1.0	67	30	1.0	100	1.0	100	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	1.0	ND	ND	1.0	ND	1.0	ND	1.0
Cation Sum	me/L	0.390	N/A	1.06	0.390	N/A	1.03	N/A	1.58	N/A
Hardness (CaCO3)	mg/L	11	1.0	41	11	1.0	34	1.0	56	1.0
Ion Balance (% Difference)	%	3.70	N/A	1.44	7.14	N/A	28.2	N/A	3.66	N/A
Langelier Index (@ 20C)	N/A	-3.27		-1.22	-3.35		-0.614		-0.184	
Langelier Index (@ 4C)	N/A	-3.53		-1.47	-3.60		-0.865		-0.435	
Nitrate (N)	mg/L	0.060	0.050	0.054	ND	0.050	ND	0.050	ND	0.050
Saturation pH (@ 20C)	N/A	9.80		8.62	9.64		8.42		8.26	
Saturation pH (@ 4C)	N/A	10.1		8.88	9.89		8.68		8.51	
Inorganics										
Total Alkalinity (Total as CaCO3)	mg/L	9.9	5.0	36	15	5.0	74	5.0	66	5.0
Dissolved Chloride (Cl-)	mg/L	5.0	1.0	4.5	3.1	1.0	3.9	1.0	4.6	1.0
Colour	TCU	ND	5.0	ND	ND	5.0	ND	5.0	ND	5.0
Nitrate + Nitrite (N)	mg/L	0.060	0.050	0.054	ND	0.050	ND	0.050	ND	0.050
Nitrite (N)	mg/L	ND	0.010	ND	ND	0.010	ND	0.010	ND	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	ND	0.050	ND	ND	0.050	ND	0.050	ND	0.050
Total Organic Carbon (C)	mg/L	ND	0.50	1.6	0.61	0.50	7.6	0.50	ND	0.50
Orthophosphate (P)	mg/L	ND	0.010	ND	ND	0.010	ND	0.010	ND	0.010
pH	pH	6.53	N/A	7.41	6.29	N/A	7.81	N/A	8.08	N/A
Reactive Silica (SiO2)	mg/L	8.4	0.50	10	6.4	0.50	21	1.0	12	0.50
Dissolved Sulphate (SO4)	mg/L	3.5	2.0	8.9	3.1	2.0	12	2.0	12	2.0
Turbidity	NTU	130	1.0	2.0	1.8	0.10	20	0.10	0.40	0.10
Conductivity	uS/cm	45	1.0	110	47	1.0	170	1.0	160	1.0

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N/A = Not Applicable
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Maxxam Job #: B8N9805
Report Date: 2018/09/20

GHD Limited
Client Project #: 088664-25
Your P.O. #: 5114
Sampler Initials: JR

RESULTS OF ANALYSES OF WATER

Maxxam ID		HTD544		HTD545		HTD545		HTD546	
Sampling Date		2018/09/12 13:55		2018/09/12 13:55		2018/09/12 13:55		2018/09/12 13:55	
COC Number		681967-02-01		681967-02-01		681967-02-01		681967-02-01	
	UNITS	MW-07A	RDL	MW-07B	RDL	MW-07B Lab-Dup	RDL	MW-07D	RDL
Calculated Parameters									
Anion Sum	me/L	2.46	N/A	6.93	N/A			2.91	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	100	1.0	310	1.0			120	1.0
Calculated TDS	mg/L	150	1.0	370	1.0			170	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	1.0	2.0	1.0			1.3	1.0
Cation Sum	me/L	2.70	N/A	6.50	N/A			2.86	N/A
Hardness (CaCO3)	mg/L	100	1.0	280	1.0			110	1.0
Ion Balance (% Difference)	%	4.65	N/A	3.20	N/A			0.870	N/A
Langelier Index (@ 20C)	N/A	-0.642		0.874				0.346	
Langelier Index (@ 4C)	N/A	-0.892		0.625				0.0960	
Nitrate (N)	mg/L	ND	0.050	ND	0.050			ND	0.050
Saturation pH (@ 20C)	N/A	7.90		6.96				7.73	
Saturation pH (@ 4C)	N/A	8.15		7.21				7.98	
Inorganics									
Total Alkalinity (Total as CaCO3)	mg/L	100 (1)	25	310	25	310	25	120 (1)	25
Dissolved Chloride (Cl-)	mg/L	4.5	1.0	6.2	1.0	6.3	1.0	6.5	1.0
Colour	TCU	70 (1)	25	ND	5.0	ND	5.0	ND	5.0
Nitrate + Nitrite (N)	mg/L	ND	0.050	ND	0.050	ND	0.050	ND	0.050
Nitrite (N)	mg/L	ND	0.010	ND	0.010	ND	0.010	ND	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	ND	0.050	ND	0.050			ND	0.050
Total Organic Carbon (C)	mg/L	0.72	0.50	3.4	0.50			3.3	0.50
Orthophosphate (P)	mg/L	ND	0.010	0.013	0.010	0.012	0.010	0.038	0.010
pH	pH	7.26	N/A	7.83	N/A	7.88	N/A	8.08	N/A
Reactive Silica (SiO2)	mg/L	22	1.0	24	1.0	24	1.0	15	0.50
Dissolved Sulphate (SO4)	mg/L	12	2.0	22	2.0	22	2.0	16	2.0
Turbidity	NTU	31	0.10	8.7	0.10	8.7	0.10	5.1	0.10
Conductivity	uS/cm	250	1.0	620	1.0	620	1.0	290	1.0

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable
ND = Not detected
(1) Elevated reporting limit due to sample matrix.

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Maxxam Job #: B8N9805
Report Date: 2018/09/20

GHD Limited
Client Project #: 088664-25
Your P.O. #: 5114
Sampler Initials: JR

RESULTS OF ANALYSES OF WATER

Maxxam ID		HTD547	HTD548		HTD548		HTD549		HTD550	
Sampling Date		2018/09/12 16:20	2018/09/12 16:20		2018/09/12 16:20		2018/09/12 16:20		2018/09/12 16:04	
COC Number		681967-02-01	681967-02-01		681967-02-01		681967-02-01		681967-02-01	
	UNITS	**MW-09A**	**MW-09B**	**RDL**	**MW-09B Lab-Dup**	**RDL**	**MW-09D**	**RDL**	**MW-11A**	**RDL**
Calculated Parameters										
Anion Sum	me/L	0.930	2.75	N/A			4.21	N/A	0.340	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	37	74	1.0			79	1.0	8.3	1.0
Calculated TDS	mg/L	56	170	1.0			260	1.0	23	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	ND	1.0			ND	1.0	ND	1.0
Cation Sum	me/L	0.870	2.53	N/A			4.01	N/A	0.290	N/A
Hardness (CaCO3)	mg/L	36	66	1.0			120	1.0	7.8	1.0
Ion Balance (% Difference)	%	3.33	4.17	N/A			2.43	N/A	7.94	N/A
Langelier Index (@ 20C)	N/A	-1.79	-0.0840				-0.0610		-3.63	
Langelier Index (@ 4C)	N/A	-2.04	-0.335				-0.311		-3.88	
Nitrate (N)	mg/L	0.051	ND	0.050			ND	0.050	ND	0.050
Saturation pH (@ 20C)	N/A	8.64	8.13				7.90		10.0	
Saturation pH (@ 4C)	N/A	8.89	8.38				8.15		10.3	
Inorganics										
Total Alkalinity (Total as CaCO3)	mg/L	37	75	5.0			80	5.0	8.3	5.0
Dissolved Chloride (Cl-)	mg/L	3.3	4.6	1.0			11	1.0	3.9	1.0
Colour	TCU	ND	ND	5.0			ND	5.0	ND	5.0
Nitrate + Nitrite (N)	mg/L	0.051	ND	0.050			ND	0.050	ND	0.050
Nitrite (N)	mg/L	ND	ND	0.010			ND	0.010	ND	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	ND	ND	0.050	ND	0.050	ND	0.050	ND	0.050
Total Organic Carbon (C)	mg/L	ND	5.4	0.50	5.6	0.50	17	0.50	0.60	0.50
Orthophosphate (P)	mg/L	ND	0.016	0.010			0.013	0.010	ND	0.010
pH	pH	6.85	8.05	N/A			7.84	N/A	6.37	N/A
Reactive Silica (SiO2)	mg/L	8.6	9.0	0.50			11	0.50	5.2	0.50
Dissolved Sulphate (SO4)	mg/L	4.6	53	2.0			110	10	3.1	2.0
Turbidity	NTU	2.9	36	0.10			14	0.10	0.68	0.10
Conductivity	uS/cm	93	270	1.0			430	1.0	35	1.0

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable
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Maxxam Job #: B8N9805
Report Date: 2018/09/20

GHD Limited
Client Project #: 088664-25
Your P.O. #: 5114
Sampler Initials: JR

RESULTS OF ANALYSES OF WATER

Maxxam ID		HTD564	HTD565	HTD566	HTD567	HTD568	HTD569	
Sampling Date		2018/09/12 16:10	2018/09/12 14:15	2018/09/12 14:15	2018/09/12 14:26	2018/09/12 14:34	2018/09/12 14:45	
COC Number		681967-03-01	681967-03-01	681967-03-01	681967-03-01	681967-03-01	681967-03-01	
	UNITS	MW-11B	MW-12A	MW-12B	MW-14A	MW-14B	MW-14C	RDL
Calculated Parameters								
Anion Sum	me/L	1.06	0.880	2.21	0.670	4.00	1.73	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	47	36	83	25	94	71	1.0
Calculated TDS	mg/L	63	62	130	52	240	100	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	ND	ND	ND	1.1	ND	1.0
Cation Sum	me/L	1.15	0.770	2.06	0.620	3.58	1.57	N/A
Hardness (CaCO3)	mg/L	24	24	70	14	54	32	1.0
Ion Balance (% Difference)	%	4.07	6.67	3.51	3.88	5.54	4.85	N/A
Langelier Index (@ 20C)	N/A	-1.41	-2.50	-0.155	-2.58	-0.106	-0.406	
Langelier Index (@ 4C)	N/A	-1.66	-2.75	-0.405	-2.83	-0.356	-0.657	
Nitrate (N)	mg/L	ND	0.17	ND	0.084	ND	ND	0.050
Saturation pH (@ 20C)	N/A	8.75	8.95	8.07	9.31	8.20	8.48	
Saturation pH (@ 4C)	N/A	9.00	9.21	8.32	9.57	8.45	8.73	
Inorganics								
Total Alkalinity (Total as CaCO3)	mg/L	47	36	83	25	95	72	5.0
Dissolved Chloride (Cl-)	mg/L	4.1	2.8	3.3	3.2	8.5	3.0	1.0
Colour	TCU	ND	ND	ND	ND	ND	ND	5.0
Nitrate + Nitrite (N)	mg/L	ND	0.17	ND	0.084	ND	ND	0.050
Nitrite (N)	mg/L	ND	ND	ND	ND	ND	ND	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	ND	ND	0.055	ND	ND	ND	0.050
Total Organic Carbon (C)	mg/L	9.0	ND	ND	ND	6.6	0.53	0.50
Orthophosphate (P)	mg/L	ND	ND	0.013	0.018	ND	ND	0.010
pH	pH	7.34	6.46	7.91	6.74	8.09	8.08	N/A
Reactive Silica (SiO2)	mg/L	4.6	17	11	17	9.5	11	0.50
Dissolved Sulphate (SO4)	mg/L	ND	3.0	22	4.0	90	10	2.0
Turbidity	NTU	21	2.6	1.2	1.4	24	11	0.10
Conductivity	uS/cm	120	86	210	68	400	160	1.0

RDL = Reportable Detection Limit
N/A = Not Applicable
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Maxxam Job #: B8N9805
Report Date: 2018/09/20

GHD Limited
Client Project #: 088664-25
Your P.O. #: 5114
Sampler Initials: JR

RESULTS OF ANALYSES OF WATER

Maxxam ID		HTD570	HTD571		HTD571		HTD572	HTD573	
Sampling Date		2018/09/12 13:35	2018/09/12 13:25		2018/09/12 13:25		2018/09/12 13:55	2018/09/12 13:01	
COC Number		681967-03-01	681967-03-01		681967-03-01		681967-03-01	681967-04-01	
	UNITS	MW-16A	MW-16B	RDL	MW-16B Lab-Dup	RDL	MW-17A	MW-17B	RDL
Calculated Parameters									
Anion Sum	me/L	1.38	1.41	N/A			0.640	0.330	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	60	59	1.0			23	9.3	1.0
Calculated TDS	mg/L	78	82	1.0			42	26	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	ND	1.0			ND	ND	1.0
Cation Sum	me/L	1.25	1.30	N/A			0.540	0.250	N/A
Hardness (CaCO3)	mg/L	46	54	1.0			18	6.1	1.0
Ion Balance (% Difference)	%	4.94	4.06	N/A			8.47	13.8	N/A
Langelier Index (@ 20C)	N/A	-1.07	-0.249				-2.47	-3.80	
Langelier Index (@ 4C)	N/A	-1.33	-0.501				-2.72	-4.06	
Nitrate (N)	mg/L	ND	0.13	0.050			ND	ND	0.050
Saturation pH (@ 20C)	N/A	8.34	8.27				9.17	10.1	
Saturation pH (@ 4C)	N/A	8.59	8.52				9.42	10.4	
Inorganics									
Total Alkalinity (Total as CaCO3)	mg/L	60	60	5.0			23	9.3	5.0
Dissolved Chloride (Cl-)	mg/L	3.2	3.3	1.0			4.3	2.9	1.0
Colour	TCU	ND	ND	5.0			ND	ND	5.0
Nitrate + Nitrite (N)	mg/L	ND	0.13	0.050			ND	ND	0.050
Nitrite (N)	mg/L	ND	ND	0.010			ND	ND	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	ND	ND	0.050			ND	ND	0.050
Total Organic Carbon (C)	mg/L	1.5	ND	0.50	ND	0.50	ND	ND	0.50
Orthophosphate (P)	mg/L	ND	ND	0.010			ND	0.019	0.010
pH	pH	7.27	8.02	N/A			6.70	6.34	N/A
Reactive Silica (SiO2)	mg/L	9.1	10	0.50			9.7	9.5	0.50
Dissolved Sulphate (SO4)	mg/L	3.8	5.4	2.0			2.9	2.8	2.0
Turbidity	NTU	14	0.35	0.10			3.3	2.1	0.10
Conductivity	uS/cm	130	130	1.0			64	31	1.0

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Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable
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RESULTS OF ANALYSES OF WATER

Maxxam ID		HTD574	HTD575	HTD576	HTD577		HTD577	
Sampling Date		2018/09/12 13:08	2018/09/12 12:54	2018/09/12 13:01	2018/09/12 13:08		2018/09/12 13:08	
COC Number		681967-04-01	681967-04-01	681967-04-01	681967-04-01		681967-04-01	
	UNITS	MW-17C	MW-18A	MW-18B	MW-18C	RDL	MW-18C Lab-Dup	RDL
Calculated Parameters								
Anion Sum	me/L	0.450	0.320	1.39	2.52	N/A		
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	15	6.8	50	56	1.0		
Calculated TDS	mg/L	35	24	86	160	1.0		
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	ND	ND	ND	1.0		
Cation Sum	me/L	0.400	0.290	1.25	2.33	N/A		
Hardness (CaCO3)	mg/L	12	7.6	30	58	1.0		
Ion Balance (% Difference)	%	5.88	4.92	5.30	3.92	N/A		
Langelier Index (@ 20C)	N/A	-2.93	-3.82	-0.564	-0.465			
Langelier Index (@ 4C)	N/A	-3.18	-4.07	-0.815	-0.715			
Nitrate (N)	mg/L	ND	ND	ND	ND	0.050		
Saturation pH (@ 20C)	N/A	9.57	10.2	8.61	8.32			
Saturation pH (@ 4C)	N/A	9.82	10.4	8.86	8.57			
Inorganics								
Total Alkalinity (Total as CaCO3)	mg/L	15	6.8	50	56	5.0		
Dissolved Chloride (Cl-)	mg/L	2.7	3.5	2.7	5.7	1.0		
Colour	TCU	ND	ND	ND	ND	5.0		
Nitrate + Nitrite (N)	mg/L	ND	ND	ND	ND	0.050		
Nitrite (N)	mg/L	ND	ND	ND	ND	0.010		
Nitrogen (Ammonia Nitrogen)	mg/L	ND	ND	ND	ND	0.050	ND	0.050
Total Organic Carbon (C)	mg/L	ND	ND	1.6	7.7	0.50	7.8	0.50
Orthophosphate (P)	mg/L	0.016	ND	0.046	ND	0.010		
pH	pH	6.64	6.34	8.04	7.86	N/A		
Reactive Silica (SiO2)	mg/L	11	6.5	11	11	0.50		
Dissolved Sulphate (SO4)	mg/L	3.2	3.9	15	59	2.0		
Turbidity	NTU	1.0	0.23	43	9.3	0.10		
Conductivity	uS/cm	45	36	140	260	1.0		

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RESULTS OF ANALYSES OF WATER

Maxxam ID		HTD578	HTD579	HTD580	HTD581	HTD582	HTD583	
Sampling Date		2018/09/12 12:05	2018/09/12 12:05	2018/09/12 12:05	2018/09/12 11:00	2018/09/12 12:05	2018/09/12 10:15	
COC Number		681967-04-01	681967-04-01	681967-04-01	681967-04-01	681967-04-01	681967-05-01	
	UNITS	MW-19A	MW-19B	MW-19C	MW-20A	MW-20B	MW-21A	RDL
Calculated Parameters								
Anion Sum	me/L	0.240	1.65	1.30	0.410	2.23	0.420	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	5.3	67	39	12	96	13	1.0
Calculated TDS	mg/L	18	94	83	31	120	31	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	ND	ND	ND	ND	ND	1.0
Cation Sum	me/L	0.180	1.49	1.22	0.330	1.96	0.370	N/A
Hardness (CaCO3)	mg/L	4.1	60	36	8.1	74	7.5	1.0
Ion Balance (% Difference)	%	14.3	5.10	3.17	10.8	6.44	6.33	N/A
Langelier Index (@ 20C)	N/A	-4.53	-0.255	-1.39	-3.63	-0.0810	-4.08	
Langelier Index (@ 4C)	N/A	-4.78	-0.506	-1.64	-3.88	-0.332	-4.34	
Nitrate (N)	mg/L	0.15	ND	0.052	0.27	ND	0.67	0.050
Saturation pH (@ 20C)	N/A	10.6	8.18	8.64	9.93	8.03	9.94	
Saturation pH (@ 4C)	N/A	10.8	8.43	8.89	10.2	8.28	10.2	
Inorganics								
Total Alkalinity (Total as CaCO3)	mg/L	5.3	68	39	12	97	13	5.0
Dissolved Chloride (Cl-)	mg/L	2.9	2.6	3.3	3.6	3.1	2.6	1.0
Colour	TCU	ND	ND	ND	ND	ND	5.6	5.0
Nitrate + Nitrite (N)	mg/L	0.15	ND	0.063	0.27	ND	0.67	0.050
Nitrite (N)	mg/L	ND	ND	0.010	ND	ND	ND	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	ND	ND	ND	ND	ND	ND	0.050
Total Organic Carbon (C)	mg/L	0.85	1.2	2.0	ND	ND	2.0	0.50
Orthophosphate (P)	mg/L	ND	ND	ND	0.011	0.014	ND	0.010
pH	pH	6.06	7.93	7.26	6.30	7.95	5.86	N/A
Reactive Silica (SiO2)	mg/L	5.1	9.0	9.3	9.2	12	6.8	0.50
Dissolved Sulphate (SO4)	mg/L	2.2	11	20	2.7	9.8	2.3	2.0
Turbidity	NTU	14	8.9	10	7.9	2.5	1.7	0.10
Conductivity	uS/cm	26	160	140	41	200	48	1.0

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RESULTS OF ANALYSES OF WATER

Maxxam ID		HTD584	HTD585	HTD586	HTD587	HTD588	HTD589	
Sampling Date		2018/09/12 12:05	2018/09/12 12:05	2018/09/12 15:07	2018/09/12 15:13	2018/09/12 15:20	2018/09/12 12:05	
COC Number		681967-05-01	681967-05-01	681967-05-01	681967-05-01	681967-05-01	681967-05-01	
	UNITS	MW-21B	MW-21C	MW-22A	MW-22B	MW-22C	DUP1	RDL
Calculated Parameters								
Anion Sum	me/L	0.690	1.69	0.390	0.850	2.13	0.330	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	26	61	11	31	95	7.3	1.0
Calculated TDS	mg/L	46	110	31	59	120	24	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	ND	ND	ND	ND	ND	1.0
Cation Sum	me/L	0.620	1.52	0.330	0.790	1.90	0.270	N/A
Hardness (CaCO3)	mg/L	20	43	7.4	14	56	7.3	1.0
Ion Balance (% Difference)	%	5.34	5.30	8.33	3.66	5.71	10.0	N/A
Langelier Index (@ 20C)	N/A	-2.91	-1.55	-3.83	-2.36	-0.106	-3.86	
Langelier Index (@ 4C)	N/A	-3.16	-1.81	-4.08	-2.62	-0.357	-4.11	
Nitrate (N)	mg/L	0.53	0.17	0.059	ND	ND	ND	0.050
Saturation pH (@ 20C)	N/A	9.13	8.56	10.0	9.23	8.13	10.1	
Saturation pH (@ 4C)	N/A	9.38	8.81	10.3	9.48	8.38	10.4	
Inorganics								
Total Alkalinity (Total as CaCO3)	mg/L	26	61	11	31	96	7.3	5.0
Dissolved Chloride (Cl-)	mg/L	2.6	4.5	3.5	3.7	3.2	3.7	1.0
Colour	TCU	ND	ND	ND	ND	ND	ND	5.0
Nitrate + Nitrite (N)	mg/L	0.53	0.18	0.059	ND	ND	ND	0.050
Nitrite (N)	mg/L	ND	0.010	ND	ND	ND	ND	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	ND	ND	ND	ND	ND	ND	0.050
Total Organic Carbon (C)	mg/L	1.3	2.5	0.93	2.6	0.93	ND	0.50
Orthophosphate (P)	mg/L	0.020	ND	ND	ND	ND	0.011	0.010
pH	pH	6.22	7.01	6.20	6.86	8.02	6.28	N/A
Reactive Silica (SiO2)	mg/L	10	19	10	13	12	6.6	0.50
Dissolved Sulphate (SO4)	mg/L	2.7	16	3.3	5.6	6.1	3.8	2.0
Turbidity	NTU	17	1.8	2.7	2.3	1.0	0.45	0.10
Conductivity	uS/cm	71	170	41	89	200	36	1.0

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RESULTS OF ANALYSES OF WATER

Maxxam ID		HTD590		HTD591	HTD592	
Sampling Date		2018/09/12 12:05		2018/09/12 12:05	2018/09/12 12:05	
COC Number		681967-05-01		681967-05-01	681967-05-01	
	UNITS	DUP2	RDL	DUP3	DUP4	RDL
Calculated Parameters						
Anion Sum	me/L	1.78	N/A	0.390	1.11	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	72	1.0	11	41	1.0
Calculated TDS	mg/L	100	1.0	30	68	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	1.0	ND	ND	1.0
Cation Sum	me/L	1.04	N/A	0.330	1.01	N/A
Hardness (CaCO3)	mg/L	35	1.0	8.0	40	1.0
Ion Balance (% Difference)	%	26.2	N/A	8.33	4.72	N/A
Langelier Index (@ 20C)	N/A	-0.780		-3.78	-1.40	
Langelier Index (@ 4C)	N/A	-1.03		-4.03	-1.66	
Nitrate (N)	mg/L	ND	0.050	0.28	ND	0.050
Saturation pH (@ 20C)	N/A	8.42		9.97	8.57	
Saturation pH (@ 4C)	N/A	8.67		10.2	8.83	
Inorganics						
Total Alkalinity (Total as CaCO3)	mg/L	72	5.0	11	41	5.0
Dissolved Chloride (Cl-)	mg/L	3.5	1.0	3.7	3.7	1.0
Colour	TCU	ND	5.0	ND	ND	5.0
Nitrate + Nitrite (N)	mg/L	ND	0.050	0.28	ND	0.050
Nitrite (N)	mg/L	ND	0.010	ND	ND	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	ND	0.050	ND	ND	0.050
Total Organic Carbon (C)	mg/L	8.0	0.50	ND	1.6	0.50
Orthophosphate (P)	mg/L	ND	0.010	0.010	ND	0.010
pH	pH	7.64	N/A	6.19	7.17	N/A
Reactive Silica (SiO2)	mg/L	20	1.0	9.3	10	0.50
Dissolved Sulphate (SO4)	mg/L	11	2.0	2.5	8.9	2.0
Turbidity	NTU	24	0.10	15	1.0	0.10
Conductivity	uS/cm	170	1.0	42	110	1.0

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ELEMENTS BY ICP/MS (WATER)

Maxxam ID		HTD526	HTD527	HTD528	HTD529	HTD530	HTD531	HTD532	
Sampling Date		2018/09/12 12:45	2018/09/12 12:45	2018/09/12 12:45	2018/09/12 11:40	2018/09/12 11:40	2018/09/12 13:10	2018/09/12 13:10	
COC Number		681967-01-01	681967-01-01	681967-01-01	681967-01-01	681967-01-01	681967-01-01	681967-01-01	
	UNITS	MW-01A	MW-01B	MW-01C	MW-02A	MW-02B	MW-03A	MW-03B	RDL
Metals									
Dissolved Aluminum (Al)	ug/L	40	14	8.2	34	8.7	96	ND	5.0
Dissolved Antimony (Sb)	ug/L	ND	ND	ND	ND	ND	ND	ND	1.0
Dissolved Arsenic (As)	ug/L	ND	5.0	ND	ND	2.4	ND	ND	1.0
Dissolved Barium (Ba)	ug/L	3.2	5.6	6.7	5.8	3.4	11	4.4	1.0
Dissolved Beryllium (Be)	ug/L	ND	ND	ND	ND	ND	ND	ND	1.0
Dissolved Bismuth (Bi)	ug/L	ND	ND	ND	ND	ND	ND	ND	2.0
Dissolved Boron (B)	ug/L	ND	ND	ND	ND	ND	ND	ND	50
Dissolved Cadmium (Cd)	ug/L	0.011	ND	0.010	0.020	0.65	0.031	0.039	0.010
Dissolved Calcium (Ca)	ug/L	1900	20000	11000	1300	2600	2700	12000	100
Dissolved Chromium (Cr)	ug/L	ND	ND	ND	ND	ND	ND	ND	1.0
Dissolved Cobalt (Co)	ug/L	0.49	ND	1.0	ND	ND	0.53	ND	0.40
Dissolved Copper (Cu)	ug/L	ND	ND	7.0	ND	ND	2.2	ND	2.0
Dissolved Iron (Fe)	ug/L	ND	ND	ND	ND	ND	ND	ND	50
Dissolved Lead (Pb)	ug/L	ND	ND	ND	ND	ND	ND	ND	0.50
Dissolved Magnesium (Mg)	ug/L	650	2200	1400	530	770	690	1200	100
Dissolved Manganese (Mn)	ug/L	110	8.0	140	45	11	110	26	2.0
Dissolved Molybdenum (Mo)	ug/L	ND	ND	ND	ND	ND	ND	ND	2.0
Dissolved Nickel (Ni)	ug/L	ND	ND	5.3	ND	ND	4.7	ND	2.0
Dissolved Phosphorus (P)	ug/L	ND	ND	ND	ND	120	ND	ND	100
Dissolved Potassium (K)	ug/L	1200	2100	2100	320	560	1200	1500	100
Dissolved Selenium (Se)	ug/L	ND	ND	ND	ND	ND	ND	ND	1.0
Dissolved Silver (Ag)	ug/L	ND	ND	ND	0.20	ND	ND	ND	0.10
Dissolved Sodium (Na)	ug/L	6100	5800	5300	3400	5700	3900	4900	100
Dissolved Strontium (Sr)	ug/L	12	66	56	14	18	22	25	2.0
Dissolved Thallium (Tl)	ug/L	ND	ND	ND	ND	ND	ND	ND	0.10
Dissolved Tin (Sn)	ug/L	ND	ND	ND	ND	ND	ND	ND	2.0
Dissolved Titanium (Ti)	ug/L	ND	ND	ND	ND	ND	ND	ND	2.0
Dissolved Uranium (U)	ug/L	ND	0.78	0.16	ND	0.82	0.10	0.22	0.10
Dissolved Vanadium (V)	ug/L	ND	ND	ND	ND	ND	ND	ND	2.0
Dissolved Zinc (Zn)	ug/L	ND	ND	9.7	ND	88	5.2	7.6	5.0

RDL = Reportable Detection Limit
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Maxxam Job #: B8N9805
Report Date: 2018/09/20

GHD Limited
Client Project #: 088664-25
Your P.O. #: 5114
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

Maxxam ID		HTD533	HTD534	HTD535	HTD541	HTD542	HTD543	HTD544	
Sampling Date		2018/09/12 13:10	2018/09/12 13:35	2018/09/12 13:35	2018/09/12 16:30	2018/09/12 16:37	2018/09/12 16:44	2018/09/12 13:55	
COC Number		681967-01-01	681967-01-01	681967-01-01	681967-02-01	681967-02-01	681967-02-01	681967-02-01	
	UNITS	MW-03C	MW-04A	MW-04B	MW-05A	MW-05B	MW-05D	MW-07A	RDL
Metals									
Dissolved Aluminum (Al)	ug/L	16	13	7.0	14	11	7.4	ND	5.0
Dissolved Antimony (Sb)	ug/L	ND	ND	ND	ND	ND	ND	ND	1.0
Dissolved Arsenic (As)	ug/L	2.0	ND	ND	ND	1.4	ND	14	1.0
Dissolved Barium (Ba)	ug/L	6.5	3.3	4.5	9.9	6.6	2.2	9.9	1.0
Dissolved Beryllium (Be)	ug/L	ND	ND	ND	ND	ND	ND	ND	1.0
Dissolved Bismuth (Bi)	ug/L	ND	ND	ND	ND	ND	ND	ND	2.0
Dissolved Boron (B)	ug/L	ND	ND	ND	ND	ND	ND	ND	50
Dissolved Cadmium (Cd)	ug/L	ND	0.013	0.012	0.035	0.014	ND	ND	0.010
Dissolved Calcium (Ca)	ug/L	26000	3200	14000	3000	11000	18000	28000	100
Dissolved Chromium (Cr)	ug/L	ND	ND	ND	ND	ND	ND	ND	1.0
Dissolved Cobalt (Co)	ug/L	ND	0.92	ND	3.7	1.9	ND	0.44	0.40
Dissolved Copper (Cu)	ug/L	ND	ND	2.1	10	ND	ND	ND	2.0
Dissolved Iron (Fe)	ug/L	ND	ND	ND	310	340	ND	3900	50
Dissolved Lead (Pb)	ug/L	ND	ND	ND	ND	ND	ND	ND	0.50
Dissolved Magnesium (Mg)	ug/L	2600	780	1600	780	1400	2400	7500	100
Dissolved Manganese (Mn)	ug/L	170	41	18	290	250	17	530	2.0
Dissolved Molybdenum (Mo)	ug/L	5.5	ND	ND	ND	2.8	ND	ND	2.0
Dissolved Nickel (Ni)	ug/L	ND	4.2	ND	8.3	3.4	ND	ND	2.0
Dissolved Phosphorus (P)	ug/L	ND	ND	ND	ND	ND	ND	ND	100
Dissolved Potassium (K)	ug/L	3400	630	1400	960	1300	1000	2000	100
Dissolved Selenium (Se)	ug/L	ND	ND	ND	ND	ND	ND	ND	1.0
Dissolved Silver (Ag)	ug/L	ND	ND	ND	ND	ND	ND	ND	0.10
Dissolved Sodium (Na)	ug/L	7600	3500	4600	3300	7000	10000	11000	100
Dissolved Strontium (Sr)	ug/L	58	21	79	15	47	160	140	2.0
Dissolved Thallium (Tl)	ug/L	ND	ND	ND	ND	ND	ND	ND	0.10
Dissolved Tin (Sn)	ug/L	ND	ND	ND	ND	ND	ND	ND	2.0
Dissolved Titanium (Ti)	ug/L	ND	ND	ND	ND	ND	ND	ND	2.0
Dissolved Uranium (U)	ug/L	2.0	ND	ND	ND	0.19	0.21	0.11	0.10
Dissolved Vanadium (V)	ug/L	ND	ND	ND	ND	ND	ND	ND	2.0
Dissolved Zinc (Zn)	ug/L	6.0	ND	15	16	8.2	ND	5.7	5.0

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GHD Limited
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Your P.O. #: 5114
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

Maxxam ID		HTD544	HTD545	HTD546	HTD547	HTD548	HTD549	HTD550	
Sampling Date		2018/09/12 13:55	2018/09/12 13:55	2018/09/12 13:55	2018/09/12 16:20	2018/09/12 16:20	2018/09/12 16:20	2018/09/12 16:04	
COC Number		681967-02-01	681967-02-01	681967-02-01	681967-02-01	681967-02-01	681967-02-01	681967-02-01	
	UNITS	MW-07A Lab-Dup	MW-07B	MW-07D	MW-09A	MW-09B	MW-09D	MW-11A	RDL
Metals									
Dissolved Aluminum (Al)	ug/L	ND	7.2	14	36	11	ND	78	5.0
Dissolved Antimony (Sb)	ug/L	ND	ND	ND	ND	ND	ND	ND	1.0
Dissolved Arsenic (As)	ug/L	14	36	170	5.5	120	110	ND	1.0
Dissolved Barium (Ba)	ug/L	11	15	8.2	3.8	14	16	7.7	1.0
Dissolved Beryllium (Be)	ug/L	ND	ND	ND	ND	ND	ND	ND	1.0
Dissolved Bismuth (Bi)	ug/L	ND	ND	ND	ND	ND	ND	ND	2.0
Dissolved Boron (B)	ug/L	ND	ND	ND	ND	ND	ND	ND	50
Dissolved Cadmium (Cd)	ug/L	0.011	ND	ND	0.039	ND	ND	0.016	0.010
Dissolved Calcium (Ca)	ug/L	28000	97000	37000	13000	23000	41000	2300	100
Dissolved Chromium (Cr)	ug/L	ND	ND	ND	ND	ND	ND	ND	1.0
Dissolved Cobalt (Co)	ug/L	0.47	0.43	ND	0.42	ND	ND	0.70	0.40
Dissolved Copper (Cu)	ug/L	ND	ND	ND	ND	ND	ND	ND	2.0
Dissolved Iron (Fe)	ug/L	3900	ND	ND	ND	ND	ND	ND	50
Dissolved Lead (Pb)	ug/L	ND	ND	ND	ND	ND	ND	ND	0.50
Dissolved Magnesium (Mg)	ug/L	7400	8100	5300	900	1800	5400	500	100
Dissolved Manganese (Mn)	ug/L	540	1000	38	35	69	160	72	2.0
Dissolved Molybdenum (Mo)	ug/L	ND	4.1	ND	ND	8.6	15	ND	2.0
Dissolved Nickel (Ni)	ug/L	ND	3.3	ND	2.8	ND	ND	2.2	2.0
Dissolved Phosphorus (P)	ug/L	ND	ND	ND	ND	ND	ND	ND	100
Dissolved Potassium (K)	ug/L	2100	3300	1300	710	1500	1400	620	100
Dissolved Selenium (Se)	ug/L	ND	ND	ND	ND	ND	ND	ND	1.0
Dissolved Silver (Ag)	ug/L	ND	ND	ND	ND	ND	ND	ND	0.10
Dissolved Sodium (Na)	ug/L	11000	21000	12000	3200	27000	34000	2600	100
Dissolved Strontium (Sr)	ug/L	140	320	320	20	310	890	15	2.0
Dissolved Thallium (Tl)	ug/L	ND	ND	ND	ND	ND	ND	ND	0.10
Dissolved Tin (Sn)	ug/L	ND	ND	ND	ND	ND	ND	ND	2.0
Dissolved Titanium (Ti)	ug/L	ND	ND	ND	ND	ND	ND	ND	2.0
Dissolved Uranium (U)	ug/L	ND	2.5	0.86	0.30	8.7	3.8	ND	0.10
Dissolved Vanadium (V)	ug/L	ND	ND	ND	ND	ND	ND	ND	2.0
Dissolved Zinc (Zn)	ug/L	7.9	ND	5.8	7.2	ND	ND	6.5	5.0

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ELEMENTS BY ICP/MS (WATER)

Maxxam ID		HTD564	HTD565	HTD566	HTD567	HTD568	HTD569	HTD570	
Sampling Date		2018/09/12 16:10	2018/09/12 14:15	2018/09/12 14:15	2018/09/12 14:26	2018/09/12 14:34	2018/09/12 14:45	2018/09/12 13:35	
COC Number		681967-03-01	681967-03-01	681967-03-01	681967-03-01	681967-03-01	681967-03-01	681967-03-01	
	UNITS	MW-11B	MW-12A	MW-12B	MW-14A	MW-14B	MW-14C	MW-16A	RDL
Metals									
Dissolved Aluminum (Al)	ug/L	5.6	5.0	ND	ND	7.4	ND	5.2	5.0
Dissolved Antimony (Sb)	ug/L	ND	ND	ND	ND	1.3	ND	ND	1.0
Dissolved Arsenic (As)	ug/L	4.7	ND	36	5.4	11	1.5	1.1	1.0
Dissolved Barium (Ba)	ug/L	4.1	8.1	8.1	3.5	5.7	8.9	5.2	1.0
Dissolved Beryllium (Be)	ug/L	ND	ND	ND	ND	ND	ND	ND	1.0
Dissolved Bismuth (Bi)	ug/L	ND	ND	ND	ND	ND	ND	ND	2.0
Dissolved Boron (B)	ug/L	ND	ND	ND	ND	78	120	ND	50
Dissolved Cadmium (Cd)	ug/L	ND	0.032	ND	0.010	ND	ND	0.026	0.010
Dissolved Calcium (Ca)	ug/L	7900	6400	24000	4000	17000	10000	16000	100
Dissolved Chromium (Cr)	ug/L	ND	ND	ND	ND	ND	ND	ND	1.0
Dissolved Cobalt (Co)	ug/L	ND	2.3	ND	0.82	ND	ND	1.3	0.40
Dissolved Copper (Cu)	ug/L	ND	ND	ND	2.1	ND	ND	ND	2.0
Dissolved Iron (Fe)	ug/L	3800	ND	ND	ND	ND	ND	ND	50
Dissolved Lead (Pb)	ug/L	ND	ND	ND	ND	ND	ND	ND	0.50
Dissolved Magnesium (Mg)	ug/L	1100	2000	2500	1000	2700	1700	1300	100
Dissolved Manganese (Mn)	ug/L	650	520	250	130	24	16	450	2.0
Dissolved Molybdenum (Mo)	ug/L	4.6	ND	17	ND	12	ND	ND	2.0
Dissolved Nickel (Ni)	ug/L	ND	3.2	ND	4.8	ND	ND	ND	2.0
Dissolved Phosphorus (P)	ug/L	ND	ND	ND	ND	ND	ND	ND	100
Dissolved Potassium (K)	ug/L	1100	1600	1500	1300	1300	630	1200	100
Dissolved Selenium (Se)	ug/L	ND	ND	ND	ND	ND	ND	ND	1.0
Dissolved Silver (Ag)	ug/L	ND	ND	ND	ND	ND	ND	ND	0.10
Dissolved Sodium (Na)	ug/L	12000	5600	14000	6900	57000	21000	7000	100
Dissolved Strontium (Sr)	ug/L	28	49	79	30	350	260	61	2.0
Dissolved Thallium (Tl)	ug/L	ND	ND	ND	ND	ND	ND	ND	0.10
Dissolved Tin (Sn)	ug/L	ND	ND	ND	ND	ND	ND	ND	2.0
Dissolved Titanium (Ti)	ug/L	ND	ND	ND	ND	ND	ND	ND	2.0
Dissolved Uranium (U)	ug/L	ND	ND	1.5	ND	3.4	0.26	0.55	0.10
Dissolved Vanadium (V)	ug/L	ND	ND	ND	ND	ND	ND	ND	2.0
Dissolved Zinc (Zn)	ug/L	5.6	5.2	ND	9.3	ND	ND	5.5	5.0

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ELEMENTS BY ICP/MS (WATER)

Maxxam ID		HTD571	HTD572	HTD573	HTD574	HTD575	HTD575	HTD576	
Sampling Date		2018/09/12 13:25	2018/09/12 13:55	2018/09/12 13:01	2018/09/12 13:08	2018/09/12 12:54	2018/09/12 12:54	2018/09/12 13:01	
COC Number		681967-03-01	681967-03-01	681967-04-01	681967-04-01	681967-04-01	681967-04-01	681967-04-01	
	UNITS	MW-16B	MW-17A	MW-17B	MW-17C	MW-18A	MW-18A Lab-Dup	MW-18B	RDL
Metals									
Dissolved Aluminum (Al)	ug/L	8.8	ND	8.7	ND	27	26	20	5.0
Dissolved Antimony (Sb)	ug/L	ND	ND	ND	ND	ND	ND	ND	1.0
Dissolved Arsenic (As)	ug/L	9.6	ND	ND	2.6	26	25	230	1.0
Dissolved Barium (Ba)	ug/L	2.2	12	3.4	1.2	11	11	8.4	1.0
Dissolved Beryllium (Be)	ug/L	ND	ND	ND	ND	ND	ND	ND	1.0
Dissolved Bismuth (Bi)	ug/L	ND	ND	ND	ND	ND	ND	ND	2.0
Dissolved Boron (B)	ug/L	ND	ND	ND	ND	ND	ND	ND	50
Dissolved Cadmium (Cd)	ug/L	ND	0.046	0.018	0.012	0.023	0.023	ND	0.010
Dissolved Calcium (Ca)	ug/L	19000	5900	1500	3500	1900	2000	11000	100
Dissolved Chromium (Cr)	ug/L	ND	ND	ND	ND	ND	ND	ND	1.0
Dissolved Cobalt (Co)	ug/L	ND	4.3	ND	ND	1.0	1.0	ND	0.40
Dissolved Copper (Cu)	ug/L	ND	3.5	ND	ND	3.6	3.7	ND	2.0
Dissolved Iron (Fe)	ug/L	ND	ND	ND	ND	ND	ND	ND	50
Dissolved Lead (Pb)	ug/L	ND	ND	ND	ND	ND	ND	ND	0.50
Dissolved Magnesium (Mg)	ug/L	1300	860	570	690	660	680	880	100
Dissolved Manganese (Mn)	ug/L	2.0	340	7.2	11	48	47	ND	2.0
Dissolved Molybdenum (Mo)	ug/L	ND	ND	ND	ND	ND	ND	5.0	2.0
Dissolved Nickel (Ni)	ug/L	ND	11	ND	ND	4.0	3.2	ND	2.0
Dissolved Phosphorus (P)	ug/L	ND	ND	ND	ND	ND	ND	ND	100
Dissolved Potassium (K)	ug/L	1300	740	430	410	690	680	1400	100
Dissolved Selenium (Se)	ug/L	ND	ND	ND	ND	ND	ND	ND	1.0
Dissolved Silver (Ag)	ug/L	ND	ND	0.19	ND	ND	ND	ND	0.10
Dissolved Sodium (Na)	ug/L	4300	3700	2800	3600	2700	2700	14000	100
Dissolved Strontium (Sr)	ug/L	71	29	19	21	12	13	150	2.0
Dissolved Thallium (Tl)	ug/L	ND	ND	ND	ND	ND	ND	ND	0.10
Dissolved Tin (Sn)	ug/L	ND	2.6	ND	ND	ND	ND	ND	2.0
Dissolved Titanium (Ti)	ug/L	ND	ND	ND	ND	ND	ND	ND	2.0
Dissolved Uranium (U)	ug/L	2.3	ND	ND	ND	ND	ND	1.7	0.10
Dissolved Vanadium (V)	ug/L	ND	ND	ND	ND	ND	ND	ND	2.0
Dissolved Zinc (Zn)	ug/L	ND	18	ND	ND	8.4	7.9	9.8	5.0

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ELEMENTS BY ICP/MS (WATER)

Maxxam ID		HTD577	HTD578	HTD579	HTD580	HTD581	HTD582	HTD583	
Sampling Date		2018/09/12 13:08	2018/09/12 12:05	2018/09/12 12:05	2018/09/12 12:05	2018/09/12 11:00	2018/09/12 11:00	2018/09/12 10:15	
COC Number		681967-04-01	681967-04-01	681967-04-01	681967-04-01	681967-04-01	681967-04-01	681967-05-01	
	UNITS	MW-18C	MW-19A	MW-19B	MW-19C	MW-20A	MW-20B	MW-21A	RDL
Metals									
Dissolved Aluminum (Al)	ug/L	11	50	15	ND	18	10	390	5.0
Dissolved Antimony (Sb)	ug/L	ND	ND	ND	ND	ND	ND	ND	1.0
Dissolved Arsenic (As)	ug/L	79	ND	6.4	3.2	ND	10	ND	1.0
Dissolved Barium (Ba)	ug/L	9.6	12	13	7.3	4.4	12	19	1.0
Dissolved Beryllium (Be)	ug/L	ND	ND	ND	ND	ND	ND	ND	1.0
Dissolved Bismuth (Bi)	ug/L	ND	ND	ND	ND	ND	ND	ND	2.0
Dissolved Boron (B)	ug/L	ND	ND	ND	ND	ND	ND	ND	50
Dissolved Cadmium (Cd)	ug/L	ND	0.026	ND	ND	0.036	ND	0.066	0.010
Dissolved Calcium (Ca)	ug/L	20000	930	21000	12000	2000	22000	1800	100
Dissolved Chromium (Cr)	ug/L	ND	ND	ND	ND	ND	ND	ND	1.0
Dissolved Cobalt (Co)	ug/L	ND	1.1	ND	1.2	ND	ND	4.2	0.40
Dissolved Copper (Cu)	ug/L	ND	7.9	ND	2.1	2.1	ND	ND	2.0
Dissolved Iron (Fe)	ug/L	ND	ND	ND	ND	ND	ND	ND	50
Dissolved Lead (Pb)	ug/L	ND	ND	ND	ND	ND	ND	ND	0.50
Dissolved Magnesium (Mg)	ug/L	1900	430	1500	1200	770	4600	750	100
Dissolved Manganese (Mn)	ug/L	72	53	21	170	60	110	540	2.0
Dissolved Molybdenum (Mo)	ug/L	5.7	ND	18	15	2.3	6.7	ND	2.0
Dissolved Nickel (Ni)	ug/L	ND	3.6	ND	4.0	2.8	ND	2.4	2.0
Dissolved Phosphorus (P)	ug/L	ND	ND	ND	ND	ND	ND	ND	100
Dissolved Potassium (K)	ug/L	1800	800	2300	2000	670	1800	970	100
Dissolved Selenium (Se)	ug/L	ND	ND	ND	ND	ND	ND	ND	1.0
Dissolved Silver (Ag)	ug/L	ND	0.71	ND	ND	ND	ND	ND	0.10
Dissolved Sodium (Na)	ug/L	26000	1700	5500	10000	3600	10000	4400	100
Dissolved Strontium (Sr)	ug/L	240	10	120	77	18	270	18	2.0
Dissolved Thallium (Tl)	ug/L	ND	ND	ND	ND	ND	ND	ND	0.10
Dissolved Tin (Sn)	ug/L	ND	ND	ND	ND	ND	ND	ND	2.0
Dissolved Titanium (Ti)	ug/L	ND	ND	ND	ND	ND	ND	ND	2.0
Dissolved Uranium (U)	ug/L	1.5	ND	3.1	ND	ND	0.85	ND	0.10
Dissolved Vanadium (V)	ug/L	ND	ND	2.4	ND	ND	ND	ND	2.0
Dissolved Zinc (Zn)	ug/L	5.7	5.2	ND	12	6.3	ND	ND	5.0

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ELEMENTS BY ICP/MS (WATER)

Maxxam ID		HTD584	HTD585	HTD586	HTD587	HTD588	HTD589	HTD590	
Sampling Date		2018/09/12 10:15	2018/09/12 10:15	2018/09/12 15:07	2018/09/12 15:13	2018/09/12 15:20	2018/09/12 15:20	2018/09/12 15:20	
COC Number		681967-05-01	681967-05-01	681967-05-01	681967-05-01	681967-05-01	681967-05-01	681967-05-01	
	UNITS	MW-21B	MW-21C	MW-22A	MW-22B	MW-22C	DUP1	DUP2	RDL
Metals									
Dissolved Aluminum (Al)	ug/L	26	ND	19	8.6	7.6	23	6.5	5.0
Dissolved Antimony (Sb)	ug/L	ND	ND	ND	ND	ND	ND	ND	1.0
Dissolved Arsenic (As)	ug/L	ND	ND	ND	1.2	5.0	24	1.3	1.0
Dissolved Barium (Ba)	ug/L	5.8	8.2	5.3	3.9	2.9	6.1	6.3	1.0
Dissolved Beryllium (Be)	ug/L	ND	ND	ND	ND	ND	ND	ND	1.0
Dissolved Bismuth (Bi)	ug/L	ND	ND	ND	ND	ND	ND	ND	2.0
Dissolved Boron (B)	ug/L	ND	ND	ND	ND	ND	ND	ND	50
Dissolved Cadmium (Cd)	ug/L	0.025	ND	0.015	ND	ND	0.022	0.011	0.010
Dissolved Calcium (Ca)	ug/L	5800	10000	1700	3900	18000	1900	12000	100
Dissolved Chromium (Cr)	ug/L	ND	ND	ND	ND	ND	ND	ND	1.0
Dissolved Cobalt (Co)	ug/L	0.46	0.65	1.2	1.1	ND	1.1	1.6	0.40
Dissolved Copper (Cu)	ug/L	ND	ND	6.6	ND	ND	3.6	ND	2.0
Dissolved Iron (Fe)	ug/L	ND	ND	ND	ND	ND	ND	270	50
Dissolved Lead (Pb)	ug/L	ND	ND	ND	ND	ND	ND	ND	0.50
Dissolved Magnesium (Mg)	ug/L	1400	4300	800	1000	2800	620	1400	100
Dissolved Manganese (Mn)	ug/L	200	240	160	200	21	44	240	2.0
Dissolved Molybdenum (Mo)	ug/L	ND	ND	ND	ND	3.1	ND	3.0	2.0
Dissolved Nickel (Ni)	ug/L	ND	3.7	6.9	4.0	ND	3.1	2.4	2.0
Dissolved Phosphorus (P)	ug/L	ND	ND	ND	ND	ND	ND	ND	100
Dissolved Potassium (K)	ug/L	1100	1800	870	1500	990	670	1300	100
Dissolved Selenium (Se)	ug/L	ND	ND	ND	ND	ND	ND	ND	1.0
Dissolved Silver (Ag)	ug/L	ND	ND	ND	ND	ND	ND	ND	0.10
Dissolved Sodium (Na)	ug/L	4300	14000	3700	11000	18000	2500	7000	100
Dissolved Strontium (Sr)	ug/L	43	86	19	44	260	12	48	2.0
Dissolved Thallium (Tl)	ug/L	ND	ND	ND	ND	ND	ND	ND	0.10
Dissolved Tin (Sn)	ug/L	ND	ND	ND	ND	ND	ND	ND	2.0
Dissolved Titanium (Ti)	ug/L	ND	ND	ND	ND	ND	ND	ND	2.0
Dissolved Uranium (U)	ug/L	ND	0.32	ND	0.12	0.12	ND	0.19	0.10
Dissolved Vanadium (V)	ug/L	ND	ND	ND	ND	ND	ND	ND	2.0
Dissolved Zinc (Zn)	ug/L	6.2	7.7	13	15	ND	8.7	5.2	5.0

RDL = Reportable Detection Limit
ND = Not detected

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Maxxam Job #: B8N9805
Report Date: 2018/09/20

GHD Limited
Client Project #: 088664-25
Your P.O. #: 5114
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

Maxxam ID		HTD591		HTD591		HTD592	
Sampling Date		2018/09/12 15:20		2018/09/12 15:20		2018/09/12 15:20	
COC Number		681967-05-01		681967-05-01		681967-05-01	
	UNITS	DUP3	RDL	DUP3 Lab-Dup	RDL	DUP4	RDL
Metals							
Dissolved Aluminum (Al)	ug/L	17	5.0	17	5.0	5.7	5.0
Dissolved Antimony (Sb)	ug/L	ND	1.0	ND	1.0	ND	1.0
Dissolved Arsenic (As)	ug/L	ND	1.0	ND	1.0	ND	1.0
Dissolved Barium (Ba)	ug/L	4.4	1.0	4.5	1.0	4.4	1.0
Dissolved Beryllium (Be)	ug/L	ND	1.0	ND	1.0	ND	1.0
Dissolved Bismuth (Bi)	ug/L	ND	2.0	ND	2.0	ND	2.0
Dissolved Boron (B)	ug/L	ND	50	ND	50	ND	50
Dissolved Cadmium (Cd)	ug/L	0.031	0.010	0.040	0.010	0.018	0.010
Dissolved Calcium (Ca)	ug/L	1900	100	2000	100	14000	100
Dissolved Chromium (Cr)	ug/L	ND	1.0	ND	1.0	ND	1.0
Dissolved Cobalt (Co)	ug/L	ND	0.40	ND	0.40	ND	0.40
Dissolved Copper (Cu)	ug/L	2.1	2.0	2.1	2.0	2.0	2.0
Dissolved Iron (Fe)	ug/L	ND	50	ND	50	ND	50
Dissolved Lead (Pb)	ug/L	ND	0.50	ND	0.50	ND	0.50
Dissolved Magnesium (Mg)	ug/L	760	100	770	100	1500	100
Dissolved Manganese (Mn)	ug/L	60	2.0	60	2.0	17	2.0
Dissolved Molybdenum (Mo)	ug/L	2.0	2.0	2.2	2.0	ND	2.0
Dissolved Nickel (Ni)	ug/L	2.7	2.0	3.1	2.0	ND	2.0
Dissolved Phosphorus (P)	ug/L	ND	100	ND	100	ND	100
Dissolved Potassium (K)	ug/L	670	100	670	100	1300	100
Dissolved Selenium (Se)	ug/L	ND	1.0	ND	1.0	ND	1.0
Dissolved Silver (Ag)	ug/L	ND	0.10	ND	0.10	ND	0.10
Dissolved Sodium (Na)	ug/L	3600	100	3700	100	4000	100
Dissolved Strontium (Sr)	ug/L	18	2.0	18	2.0	78	2.0
Dissolved Thallium (Tl)	ug/L	ND	0.10	ND	0.10	ND	0.10
Dissolved Tin (Sn)	ug/L	2.8	2.0			2.3	2.0
Dissolved Titanium (Ti)	ug/L	ND	2.0	ND	2.0	ND	2.0
Dissolved Uranium (U)	ug/L	ND	0.10	ND	0.10	ND	0.10
Dissolved Vanadium (V)	ug/L	ND	2.0	ND	2.0	ND	2.0
Dissolved Zinc (Zn)	ug/L	7.1	5.0	7.5	5.0	16	5.0

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
ND = Not detected

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Maxxam Job #: B8N9805
Report Date: 2018/09/20

GHD Limited
Client Project #: 088664-25
Your P.O. #: 5114
Sampler Initials: JR

GENERAL COMMENTS

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

Package 1	1.0°C
Package 2	2.3°C
Package 3	2.7°C

Sample HTD541 [MW-05A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample HTD542 [MW-05B] : Poor RCAp Ion Balance due to sample matrix.

Sample HTD550 [MW-11A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample HTD565 [MW-12A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample HTD568 [MW-14B] : Poor RCAp Ion Balance due to sample matrix.

Sample HTD572 [MW-17A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample HTD573 [MW-17B] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample HTD574 [MW-17C] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample HTD576 [MW-18B] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample HTD578 [MW-19A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample HTD579 [MW-19B] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample HTD581 [MW-20A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample HTD582 [MW-20B] : Poor RCAp Ion Balance due to sample matrix.

Sample HTD583 [MW-21A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample HTD584 [MW-21B] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample HTD585 [MW-21C] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample HTD586 [MW-22A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample HTD588 [MW-22C] : Poor RCAp Ion Balance due to sample matrix.

Sample HTD589 [DUP1] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample HTD590 [DUP2] : Poor RCAp Ion Balance due to sample matrix.

Sample HTD591 [DUP3] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample HTD591, Metals Water Diss. MS (as rec'd): Test repeated.
Sample HTD592, Metals Water Diss. MS (as rec'd): Test repeated.

Results relate only to the items tested.

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Maxxam Job #: B8N9805
Report Date: 2018/09/20

GHD Limited
Client Project #: 088664-25
Your P.O. #: 5114
Sampler Initials: JR

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Eric Dearman, Scientific Specialist

Mike MacGillivray, Scientific Specialist (Inorganics)

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Maxxam
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Your P.O. #: 5114
Your Project #: 088664-25
Site Location: BEAVER DAM, GW MONITORING
Your C.O.C. #: D 11262

Attention: Jeff Parks

GHD Limited
45 Akerley Blvd
Dartmouth , NS
CANADA B3B 1J7

Report Date: 2018/10/01
Report #: R5421838
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B8O9145
Received: 2018/09/21, 15:36

Sample Matrix: Water
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Carbonate, Bicarbonate and Hydroxide	2	N/A	2018/09/27	N/A	SM 22 4500-CO2 D
Alkalinity	2	N/A	2018/09/26	ATL SOP 00013	EPA 310.2 R1974 m
Chloride	2	N/A	2018/09/26	ATL SOP 00014	SM 23 4500-Cl- E m
Colour	2	N/A	2018/09/27	ATL SOP 00020	SM 23 2120C m
Conductance - water	2	N/A	2018/09/26	ATL SOP 00004	SM 23 2510B m
Hardness (calculated as CaCO3)	2	N/A	2018/09/27	ATL SOP 00048	Auto Calc
Metals Water Diss. MS (as rec'd)	2	N/A	2018/09/26	ATL SOP 00058	EPA 6020A R1 m
Ion Balance (% Difference)	2	N/A	2018/09/27	N/A	Auto Calc.
Anion and Cation Sum	2	N/A	2018/09/27	N/A	Auto Calc.
Nitrogen Ammonia - water	2	N/A	2018/09/27	ATL SOP 00015	EPA 350.1 R2 m
Nitrogen - Nitrate + Nitrite	2	N/A	2018/09/26	ATL SOP 00016	USGS I-2547-11m
Nitrogen - Nitrite	2	N/A	2018/09/27	ATL SOP 00017	SM 23 4500-NO2- B m
Nitrogen - Nitrate (as N)	2	N/A	2018/09/27	ATL SOP 00018	ASTM D3867-16
pH (1)	2	N/A	2018/09/26	ATL SOP 00003	SM 23 4500-H+ B m
Phosphorus - ortho	2	N/A	2018/09/27	ATL SOP 00021	SM 23 4500-P E m
Sat. pH and Langelier Index (@ 20C)	2	N/A	2018/09/27	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 4C)	2	N/A	2018/09/27	ATL SOP 00049	Auto Calc.
Reactive Silica	2	N/A	2018/09/26	ATL SOP 00022	EPA 366.0 m
Sulphate	2	N/A	2018/09/26	ATL SOP 00023	ASTM D516-16 m
Total Dissolved Solids (TDS calc)	2	N/A	2018/09/27	N/A	Auto Calc.
Organic carbon - Total (TOC) (2)	2	N/A	2018/09/29	ATL SOP 00203	SM 23 5310B m
Turbidity	2	N/A	2018/09/27	ATL SOP 00011	EPA 180.1 R2 m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam 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.

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Maxxam
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Your P.O. #: 5114
Your Project #: 088664-25
Site Location: BEAVER DAM, GW MONITORING
Your C.O.C. #: D 11262

Attention: Jeff Parks

GHD Limited
45 Akerley Blvd
Dartmouth , NS
CANADA B3B 1J7

Report Date: 2018/10/01
Report #: R5421838
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B8O9145
Received: 2018/09/21, 15:36

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam 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 Maxxam, unless otherwise agreed in writing. Maxxam 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 Maxxam, 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) The APHA Standard Method require 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 APHA Standard Method holding time.
(2) TOC / DOC present in the sample should be considered as non-purgeable TOC / DOC.

Encryption Key

Maxxam
01 Oct 2018 11:00:50

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Maryann Comeau, Project Manager
Email: MComeau@maxxam.ca
Phone# (902) 420-0203

==========

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Maxxam Job #: B8O9145
Report Date: 2018/10/01

GHD Limited
Client Project #: 088664-25
Site Location: BEAVER DAM, GW MONITORING
Your P.O. #: 5114
Sampler Initials: AF

RESULTS OF ANALYSES OF WATER

Maxxam ID		HVF965	HVF966	
Sampling Date		2018/09/21 12:53	2018/09/21	
COC Number		D 11262	D 11262	
	UNITS	MW-11C	DUP5	RDL
Calculated Parameters				
Anion Sum	me/L	2.02	2.12	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	71	76	1.0
Calculated TDS	mg/L	120	120	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	<1.0	1.0
Cation Sum	me/L	1.89	1.88	N/A
Hardness (CaCO3)	mg/L	71	71	1.0
Ion Balance (% Difference)	%	3.32	6.00	N/A
Langelier Index (@ 20C)	N/A	-0.250	-0.307	
Langelier Index (@ 4C)	N/A	-0.501	-0.557	
Nitrate (N)	mg/L	0.089	0.077	0.050
Saturation pH (@ 20C)	N/A	8.10	8.08	
Saturation pH (@ 4C)	N/A	8.35	8.33	
Inorganics				
Total Alkalinity (Total as CaCO3)	mg/L	72	77	5.0
Dissolved Chloride (Cl-)	mg/L	3.7	3.8	1.0
Colour	TCU	<5.0	<5.0	5.0
Nitrate + Nitrite (N)	mg/L	0.089	0.077	0.050
Nitrite (N)	mg/L	<0.010	<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	<0.050	0.050
Total Organic Carbon (C)	mg/L	0.91	0.95	0.50
Orthophosphate (P)	mg/L	0.019	0.018	0.010
pH	pH	7.85	7.77	N/A
Reactive Silica (SiO2)	mg/L	9.0	8.9	0.50
Dissolved Sulphate (SO4)	mg/L	23	23	2.0
Turbidity	NTU	1.4	1.0	0.10
Conductivity	uS/cm	190	200	1.0

RDL = Reportable Detection Limit
N/A = Not Applicable

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Maxxam Job #: B8O9145
Report Date: 2018/10/01

GHD Limited
Client Project #: 088664-25
Site Location: BEAVER DAM, GW MONITORING
Your P.O. #: 5114
Sampler Initials: AF

ELEMENTS BY ICP/MS (WATER)

Maxxam ID		HVF965	HVF966	
Sampling Date		2018/09/21 12:53	2018/09/21	
COC Number		D 11262	D 11262	
	UNITS	MW-11C	DUP5	RDL
Metals				
Dissolved Aluminum (Al)	ug/L	6.2	7.6	5.0
Dissolved Antimony (Sb)	ug/L	<1.0	<1.0	1.0
Dissolved Arsenic (As)	ug/L	74	76	1.0
Dissolved Barium (Ba)	ug/L	11	11	1.0
Dissolved Beryllium (Be)	ug/L	<1.0	<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	<2.0	<2.0	2.0
Dissolved Boron (B)	ug/L	<50	<50	50
Dissolved Cadmium (Cd)	ug/L	<0.010	<0.010	0.010
Dissolved Calcium (Ca)	ug/L	25000	25000	100
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	1.0
Dissolved Cobalt (Co)	ug/L	<0.40	<0.40	0.40
Dissolved Copper (Cu)	ug/L	<2.0	<2.0	2.0
Dissolved Iron (Fe)	ug/L	<50	<50	50
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	0.50
Dissolved Magnesium (Mg)	ug/L	2200	2200	100
Dissolved Manganese (Mn)	ug/L	22	22	2.0
Dissolved Molybdenum (Mo)	ug/L	2.9	2.8	2.0
Dissolved Nickel (Ni)	ug/L	<2.0	<2.0	2.0
Dissolved Phosphorus (P)	ug/L	<100	<100	100
Dissolved Potassium (K)	ug/L	1100	1100	100
Dissolved Selenium (Se)	ug/L	<1.0	<1.0	1.0
Dissolved Silver (Ag)	ug/L	<0.10	<0.10	0.10
Dissolved Sodium (Na)	ug/L	10000	10000	100
Dissolved Strontium (Sr)	ug/L	230	230	2.0
Dissolved Thallium (Tl)	ug/L	<0.10	<0.10	0.10
Dissolved Tin (Sn)	ug/L	<2.0	<2.0	2.0
Dissolved Titanium (Ti)	ug/L	<2.0	<2.0	2.0
Dissolved Uranium (U)	ug/L	3.6	3.7	0.10
Dissolved Vanadium (V)	ug/L	<2.0	<2.0	2.0
Dissolved Zinc (Zn)	ug/L	5.5	5.9	5.0
RDL = Reportable Detection Limit				

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Maxxam Job #: B8O9145
Report Date: 2018/10/01

GHD Limited
Client Project #: 088664-25
Site Location: BEAVER DAM, GW MONITORING
Your P.O. #: 5114
Sampler Initials: AF

GENERAL COMMENTS

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

Package 1	4.7°C

Sample HVF966 [DUP5] : Poor RCAp Ion Balance due to sample matrix.

Results relate only to the items tested.

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Maxxam Job #: B8O9145
Report Date: 2018/10/01

GHD Limited
Client Project #: 088664-25
Site Location: BEAVER DAM, GW MONITORING
Your P.O. #: 5114
Sampler Initials: AF

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Eric Dearman, Scientific Specialist

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Your P.O. #: 5114
Your Project #: 088664-25
Site#: Beaver Dam GW Monitoring

Attention: Amanda Facey

GHD Limited
45 Akerley Blvd
Dartmouth , NS
CANADA B3B 1J7

Your C.O.C. #: 693556-01-01, 693556-02-01, 693556-03-01, 693556-04-01, 693556-05-01, 693556-06-01

Report Date: 2018/12/07
Report #: R5516053
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B8W0746
Received: 2018/11/30, 10:05

Sample Matrix: Water
Samples Received: 50

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Carbonate, Bicarbonate and Hydroxide	26	N/A	2018/12/04	N/A	SM 23 4500-CO2 D
Carbonate, Bicarbonate and Hydroxide	24	N/A	2018/12/05	N/A	SM 23 4500-CO2 D
Alkalinity	3	N/A	2018/12/04	ATL SOP 00013	EPA 310.2 R1974 m
Alkalinity	45	N/A	2018/12/05	ATL SOP 00013	EPA 310.2 R1974 m
Alkalinity	1	N/A	2018/12/06	ATL SOP 00013	EPA 310.2 R1974 m
Alkalinity	1	N/A	2018/12/07	ATL SOP 00013	EPA 310.2 R1974 m
Chloride	2	N/A	2018/12/04	ATL SOP 00014	SM 23 4500-Cl- E m
Chloride	47	N/A	2018/12/05	ATL SOP 00014	SM 23 4500-Cl- E m
Chloride	1	N/A	2018/12/06	ATL SOP 00014	SM 23 4500-Cl- E m
Colour	3	N/A	2018/12/04	ATL SOP 00020	SM 23 2120C m
Colour	46	N/A	2018/12/05	ATL SOP 00020	SM 23 2120C m
Colour	1	N/A	2018/12/06	ATL SOP 00020	SM 23 2120C m
Conductance - water	26	N/A	2018/12/04	ATL SOP 00004	SM 23 2510B m
Conductance - water	24	N/A	2018/12/05	ATL SOP 00004	SM 23 2510B m
Hardness (calculated as CaCO3)	6	N/A	2018/12/05	ATL SOP 00048	Auto Calc
Hardness (calculated as CaCO3)	44	N/A	2018/12/06	ATL SOP 00048	Auto Calc
Metals Water Diss. MS (as rec'd)	50	N/A	2018/12/05	ATL SOP 00058	EPA 6020A R1 m
Ion Balance (% Difference)	2	N/A	2018/12/05	N/A	Auto Calc.
Ion Balance (% Difference)	47	N/A	2018/12/06	N/A	Auto Calc.
Ion Balance (% Difference)	1	N/A	2018/12/07	N/A	Auto Calc.
Anion and Cation Sum	3	N/A	2018/12/05	N/A	Auto Calc.
Anion and Cation Sum	47	N/A	2018/12/06	N/A	Auto Calc.
Nitrogen Ammonia - water	42	N/A	2018/12/04	ATL SOP 00015	EPA 350.1 R2 m
Nitrogen Ammonia - water	8	N/A	2018/12/05	ATL SOP 00015	EPA 350.1 R2 m
Nitrogen - Nitrate + Nitrite	3	N/A	2018/12/04	ATL SOP 00016	USGS I-2547-11m
Nitrogen - Nitrate + Nitrite	46	N/A	2018/12/05	ATL SOP 00016	USGS I-2547-11m
Nitrogen - Nitrate + Nitrite	1	N/A	2018/12/06	ATL SOP 00016	USGS I-2547-11m

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Maxxam
A Bureau Veritas Group Company

Your P.O. #: 5114
Your Project #: 088664-25
Site#: Beaver Dam GW Monitoring

Attention: Amanda Facey

GHD Limited
45 Akerley Blvd
Dartmouth , NS
CANADA B3B 1J7

Your C.O.C. #: 693556-01-01, 693556-02-01, 693556-03-01, 693556-04-01, 693556-05-01, 693556-06-01

Report Date: 2018/12/07
Report #: R5516053
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B8W0746
Received: 2018/11/30, 10:05

Sample Matrix: Water
Samples Received: 50

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Nitrogen - Nitrite	3	N/A	2018/12/04	ATL SOP 00017	SM 23 4500-NO2- B m
Nitrogen - Nitrite	46	N/A	2018/12/05	ATL SOP 00017	SM 23 4500-NO2- B m
Nitrogen - Nitrite	1	N/A	2018/12/06	ATL SOP 00017	SM 23 4500-NO2- B m
Nitrogen - Nitrate (as N)	49	N/A	2018/12/05	ATL SOP 00018	ASTM D3867-16
Nitrogen - Nitrate (as N)	1	N/A	2018/12/07	ATL SOP 00018	ASTM D3867-16
pH (1)	26	N/A	2018/12/04	ATL SOP 00003	SM 23 4500-H+ B m
pH (1)	24	N/A	2018/12/05	ATL SOP 00003	SM 23 4500-H+ B m
Phosphorus - ortho	3	N/A	2018/12/04	ATL SOP 00021	SM 23 4500-P E m
Phosphorus - ortho	46	N/A	2018/12/05	ATL SOP 00021	SM 23 4500-P E m
Phosphorus - ortho	1	N/A	2018/12/06	ATL SOP 00021	SM 23 4500-P E m
Sat. pH and Langelier Index (@ 20C)	2	N/A	2018/12/05	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 20C)	47	N/A	2018/12/06	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 20C)	1	N/A	2018/12/07	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 4C)	2	N/A	2018/12/05	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 4C)	47	N/A	2018/12/06	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 4C)	1	N/A	2018/12/07	ATL SOP 00049	Auto Calc.
Reactive Silica	3	N/A	2018/12/04	ATL SOP 00022	EPA 366.0 m
Reactive Silica	38	N/A	2018/12/05	ATL SOP 00022	EPA 366.0 m
Reactive Silica	9	N/A	2018/12/06	ATL SOP 00022	EPA 366.0 m
Sulphate	3	N/A	2018/12/04	ATL SOP 00023	ASTM D516-16 m
Sulphate	46	N/A	2018/12/05	ATL SOP 00023	ASTM D516-16 m
Sulphate	1	N/A	2018/12/06	ATL SOP 00023	ASTM D516-16 m
Total Dissolved Solids (TDS calc)	2	N/A	2018/12/05	N/A	Auto Calc.
Total Dissolved Solids (TDS calc)	47	N/A	2018/12/06	N/A	Auto Calc.
Total Dissolved Solids (TDS calc)	1	N/A	2018/12/07	N/A	Auto Calc.
Organic carbon - Total (TOC) (2)	1	N/A	2018/12/04	ATL SOP 00203	SM 23 5310B m
Organic carbon - Total (TOC) (2)	22	N/A	2018/12/05	ATL SOP 00203	SM 23 5310B m

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Your P.O. #: 5114
Your Project #: 088664-25
Site#: Beaver Dam GW Monitoring

Attention: Amanda Facey

GHD Limited
45 Akerley Blvd
Dartmouth , NS
CANADA B3B 1J7

Your C.O.C. #: 693556-01-01, 693556-02-01, 693556-03-01, 693556-04-01, 693556-05-01, 693556-06-01

Report Date: 2018/12/07
Report #: R5516053
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B8W0746
Received: 2018/11/30, 10:05

Sample Matrix: Water
Samples Received: 50

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Organic carbon - Total (TOC) (2)	27	N/A	2018/12/06	ATL SOP 00203	SM 23 5310B m
Turbidity	4	N/A	2018/12/04	ATL SOP 00011	EPA 180.1 R2 m
Turbidity	7	N/A	2018/12/05	ATL SOP 00011	EPA 180.1 R2 m
Turbidity	39	N/A	2018/12/06	ATL SOP 00011	EPA 180.1 R2 m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam 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.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam 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 Maxxam, unless otherwise agreed in writing. Maxxam 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 Maxxam, 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) The APHA Standard Method require 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 APHA Standard Method holding time.
(2) TOC / DOC present in the sample should be considered as non-purgeable TOC / DOC.

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Your C.O.C. #: 693556-01-01, 693556-02-01, 693556-03-01, 693556-04-01, 693556-05-01, 693556-06-01

Report Date: 2018/12/07
Report #: R5516053
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B8W0746
Received: 2018/11/30, 10:05

Encryption Key

Maxxam
07 Dec 2018 14:06:49

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Maryann Comeau, Project Manager
Email: MComeau@maxxam.ca
Phone# (902) 420-0203
==========
This report has been generated and distributed using a secure automated process.
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Maxxam Job #: B8W0746
Report Date: 2018/12/07

GHD Limited
Client Project #: 088664-25
Your P.O. #: 5114
Sampler Initials: AF

RESULTS OF ANALYSES OF WATER

Maxxam ID		IKY607	IKY608	IKY609	IKY610	IKY611	IKY612	
Sampling Date		2018/11/29 11:55	2018/11/29 12:00	2018/11/29 12:05	2018/11/29 11:00	2018/11/29 11:20	2018/11/29 12:15	
COC Number		693556-01-01	693556-01-01	693556-01-01	693556-01-01	693556-01-01	693556-01-01	
	UNITS	MW-01A	MW-01B	MW-01C	MW-02A	MW-02B	MW-03A	RDL
Calculated Parameters								
Anion Sum	me/L	0.500	1.58	0.950	0.360	0.520	0.370	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	15	61	33	7.0	18	11	1.0
Calculated TDS	mg/L	33	92	58	23	48	27	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Cation Sum	me/L	0.440	1.48	0.880	0.310	0.730	0.350	N/A
Hardness (CaCO3)	mg/L	11	60	27	6.6	13	4.9	1.0
Ion Balance (% Difference)	%	6.38	3.27	3.83	7.46	16.8	2.78	N/A
Langelier Index (@ 20C)	N/A	-3.07	-0.411	-1.93	-3.86	-2.77	-3.92	
Langelier Index (@ 4C)	N/A	-3.32	-0.663	-2.18	-4.11	-3.03	-4.18	
Nitrate (N)	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	0.68	0.050
Saturation pH (@ 20C)	N/A	9.66	8.24	8.84	10.2	9.47	10.2	
Saturation pH (@ 4C)	N/A	9.92	8.49	9.09	10.4	9.72	10.4	
Inorganics								
Total Alkalinity (Total as CaCO3)	mg/L	15	62	33	7.0	18	11	5.0
Dissolved Chloride (Cl-)	mg/L	5.3	4.3	5.1	5.8	3.1	3.7	1.0
Colour	TCU	<5.0	<5.0	<5.0	<5.0	<5.0	6.0	5.0
Nitrate + Nitrite (N)	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	0.68	0.050
Nitrite (N)	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.050
Total Organic Carbon (C)	mg/L	<0.50	<0.50	1.3	0.72	0.56	2.6	0.50
Orthophosphate (P)	mg/L	<0.010	<0.010	<0.010	<0.010	0.065	<0.010	0.010
pH	pH	6.60	7.83	6.91	6.31	6.69	6.23	N/A
Reactive Silica (SiO2)	mg/L	6.3	10	6.8	4.1	15	5.6	0.50
Dissolved Sulphate (SO4)	mg/L	2.8	11	7.0	2.8	3.1	<2.0	2.0
Turbidity	NTU	0.24	6.2	3.5	2.1	22	4.4	0.10
Conductivity	uS/cm	50	150	92	38	51	40	1.0

RDL = Reportable Detection Limit
N/A = Not Applicable

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Maxxam Job #: B8W0746
Report Date: 2018/12/07

GHD Limited
Client Project #: 088664-25
Your P.O. #: 5114
Sampler Initials: AF

RESULTS OF ANALYSES OF WATER

Maxxam ID		IKY613	IKY614	IKY615		IKY615		IKY616	
Sampling Date		2018/11/29 12:20	2018/11/29 12:25	2018/11/29 13:50		2018/11/29 13:50		2018/11/29 13:55	
COC Number		693556-01-01	693556-01-01	693556-01-01		693556-01-01		693556-01-01	
	UNITS	MW-03B	MW-03C	MW-04A	RDL	MW-04A Lab-Dup	RDL	MW-04B	RDL
Calculated Parameters									
Anion Sum	me/L	1.03	2.09	0.340	N/A			1.01	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	40	93	6.4	1.0			36	1.0
Calculated TDS	mg/L	63	120	24	1.0			63	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	<1.0	<1.0	1.0			<1.0	1.0
Cation Sum	me/L	0.960	1.93	0.300	N/A			0.940	N/A
Hardness (CaCO3)	mg/L	37	80	7.2	1.0			37	1.0
Ion Balance (% Difference)	%	3.52	3.98	6.25	N/A			3.59	N/A
Langelier Index (@ 20C)	N/A	-1.93	-0.133	-4.15				-1.41	
Langelier Index (@ 4C)	N/A	-2.18	-0.384	-4.40				-1.66	
Nitrate (N)	mg/L	0.091	0.052	<0.050	0.050			0.065	0.050
Saturation pH (@ 20C)	N/A	8.61	7.94	10.2				8.67	
Saturation pH (@ 4C)	N/A	8.86	8.19	10.4				8.92	
Inorganics									
Total Alkalinity (Total as CaCO3)	mg/L	40	93	6.4	5.0			36	5.0
Dissolved Chloride (Cl-)	mg/L	5.4	4.6	5.8	1.0			4.2	1.0
Colour	TCU	<5.0	<5.0	<5.0	5.0			<5.0	5.0
Nitrate + Nitrite (N)	mg/L	0.091	0.052	<0.050	0.050			0.065	0.050
Nitrite (N)	mg/L	<0.010	<0.010	<0.010	0.010			<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	<0.050	<0.050	0.050			<0.050	0.050
Total Organic Carbon (C)	mg/L	<0.50	0.78	<0.50	0.50			0.82	0.50
Orthophosphate (P)	mg/L	<0.010	<0.010	<0.010	0.010			<0.010	0.010
pH	pH	6.68	7.81	6.03	N/A	6.03	N/A	7.26	N/A
Reactive Silica (SiO2)	mg/L	10	12	6.0	0.50			10	0.50
Dissolved Sulphate (SO4)	mg/L	3.4	4.3	2.2	2.0			8.4	2.0
Turbidity	NTU	0.39	1.9	0.22	0.10	0.16	0.10	3.6	0.10
Conductivity	uS/cm	89	190	35	1.0	35	1.0	97	1.0

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

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Maxxam Job #: B8W0746
Report Date: 2018/12/07

GHD Limited
Client Project #: 088664-25
Your P.O. #: 5114
Sampler Initials: AF

RESULTS OF ANALYSES OF WATER

Maxxam ID		IKY626	IKY627	IKY628		IKY629	IKY630	
Sampling Date		2018/11/29 13:52	2018/11/29 13:57	2018/11/29 14:06		2018/11/29 13:20	2018/11/29 13:25	
COC Number		693556-02-01	693556-02-01	693556-02-01		693556-02-01	693556-02-01	
	UNITS	MW-05A	MW-05B	MW-05D	RDL	MW-07A	MW-07B	RDL
Calculated Parameters								
Anion Sum	me/L	0.350	1.29	1.75	N/A	2.50	6.81	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	8.8	50	66	1.0	110	310	1.0
Calculated TDS	mg/L	24	80	100	1.0	150	360	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	<1.0	<1.0	1.0	<1.0	2.4	1.0
Cation Sum	me/L	0.290	1.20	1.61	N/A	2.58	6.32	N/A
Hardness (CaCO3)	mg/L	8.2	40	56	1.0	99	270	1.0
Ion Balance (% Difference)	%	9.38	3.61	4.17	N/A	1.57	3.73	N/A
Langelier Index (@ 20C)	N/A	-3.86	-1.08	-0.292		-0.919	0.947	
Langelier Index (@ 4C)	N/A	-4.12	-1.34	-0.543		-1.17	0.698	
Nitrate (N)	mg/L	<0.050	<0.050	<0.050	0.050	<0.050	<0.050	0.050
Saturation pH (@ 20C)	N/A	9.98	8.50	8.26		7.89	6.96	
Saturation pH (@ 4C)	N/A	10.2	8.75	8.51		8.14	7.21	
Inorganics								
Total Alkalinity (Total as CaCO3)	mg/L	8.8	50	66	5.0	110	310	25
Dissolved Chloride (Cl-)	mg/L	4.0	3.8	5.0	1.0	4.0	6.2	1.0
Colour	TCU	<5.0	<5.0	<5.0	5.0	49	<5.0	5.0
Nitrate + Nitrite (N)	mg/L	<0.050	<0.050	<0.050	0.050	<0.050	<0.050	0.050
Nitrite (N)	mg/L	<0.010	<0.010	<0.010	0.010	0.022	<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	<0.050	<0.050	0.050	<0.050	<0.050	0.050
Total Organic Carbon (C)	mg/L	0.64	2.0	0.78	0.50	0.75	2.4	0.50
Orthophosphate (P)	mg/L	<0.010	<0.010	<0.010	0.010	<0.010	0.012	0.010
pH	pH	6.12	7.41	7.97	N/A	6.97	7.91	N/A
Reactive Silica (SiO2)	mg/L	5.3	13	12	0.50	22	24	1.0
Dissolved Sulphate (SO4)	mg/L	3.0	8.4	14	2.0	13	17	2.0
Turbidity	NTU	1.0	20	17	0.10	41	7.5	0.10
Conductivity	uS/cm	36	120	160	1.0	240	580	1.0

RDL = Reportable Detection Limit
N/A = Not Applicable

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GHD Limited
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Sampler Initials: AF

RESULTS OF ANALYSES OF WATER

Maxxam ID		IKY631		IKY632	IKY633	IKY634	IKY635	
Sampling Date		2018/11/29 13:30		2018/11/29 13:00	2018/11/29 13:05	2018/11/29 13:10	2018/11/29 13:21	
COC Number		693556-02-01		693556-02-01	693556-02-01	693556-02-01	693556-02-01	
	UNITS	MW-07D	RDL	MW-09A	MW-09B	MW-09D	MW-11A	RDL
Calculated Parameters								
Anion Sum	me/L	3.03	N/A	0.420	2.46	3.31	0.320	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	120	1.0	12	76	70	6.9	1.0
Calculated TDS	mg/L	180	1.0	28	140	200	22	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	1.2	1.0	<1.0	<1.0	<1.0	<1.0	1.0
Cation Sum	me/L	2.93	N/A	0.360	2.24	3.02	0.290	N/A
Hardness (CaCO3)	mg/L	120	1.0	12	78	110	8.2	1.0
Ion Balance (% Difference)	%	1.68	N/A	7.69	4.68	4.58	4.92	N/A
Langelier Index (@ 20C)	N/A	0.292		-3.15	-0.296	-0.186	-3.81	
Langelier Index (@ 4C)	N/A	0.0420		-3.40	-0.546	-0.436	-4.07	
Nitrate (N)	mg/L	<0.050	0.050	0.059	<0.050	<0.050	<0.050	0.050
Saturation pH (@ 20C)	N/A	7.72		9.60	8.04	8.00	10.0	
Saturation pH (@ 4C)	N/A	7.97		9.85	8.29	8.25	10.3	
Inorganics								
Total Alkalinity (Total as CaCO3)	mg/L	120	25	12	77	70	6.9	5.0
Dissolved Chloride (Cl-)	mg/L	7.5	1.0	3.9	4.2	8.9	4.6	1.0
Colour	TCU	<5.0	5.0	<5.0	<5.0	<5.0	<5.0	5.0
Nitrate + Nitrite (N)	mg/L	<0.050	0.050	0.059	<0.050	<0.050	<0.050	0.050
Nitrite (N)	mg/L	<0.010	0.010	<0.010	<0.010	<0.010	<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	0.050	<0.050	<0.050	<0.050	<0.050	0.050
Total Organic Carbon (C)	mg/L	3.6	0.50	<0.50	2.9	10	0.71	0.50
Orthophosphate (P)	mg/L	0.043	0.010	<0.010	0.022	0.015	<0.010	0.010
pH	pH	8.01	N/A	6.45	7.75	7.82	6.23	N/A
Reactive Silica (SiO2)	mg/L	20	0.50	6.1	9.3	12	4.5	0.50
Dissolved Sulphate (SO4)	mg/L	17	2.0	2.9	39	80	2.6	2.0
Turbidity	NTU	15	0.10	0.40	6.3	3.2	0.84	0.10
Conductivity	uS/cm	280	1.0	42	230	310	36	1.0

RDL = Reportable Detection Limit
N/A = Not Applicable

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Maxxam Job #: B8W0746
Report Date: 2018/12/07

GHD Limited
Client Project #: 088664-25
Your P.O. #: 5114
Sampler Initials: AF

RESULTS OF ANALYSES OF WATER

Maxxam ID		IKY640		IKY641		IKY641		IKY642	
Sampling Date		2018/11/29 13:30		2018/11/29 12:45		2018/11/29 12:45		2018/11/29 12:50	
COC Number		693556-03-01		693556-03-01		693556-03-01		693556-03-01	
	UNITS	MW-11B	RDL	MW-12A	RDL	MW-12A Lab-Dup	RDL	MW-12B	RDL
Calculated Parameters									
Anion Sum	me/L	1.76	N/A	1.05	N/A			2.28	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	75	1.0	42	1.0			85	1.0
Calculated TDS	mg/L	97	1.0	72	1.0			130	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	1.0	<1.0	1.0			<1.0	1.0
Cation Sum	me/L	1.61	N/A	0.940	N/A			2.11	N/A
Hardness (CaCO3)	mg/L	65	1.0	31	1.0			71	1.0
Ion Balance (% Difference)	%	4.45	N/A	5.53	N/A			3.87	N/A
Langelier Index (@ 20C)	N/A	-0.198		-2.16				-0.220	
Langelier Index (@ 4C)	N/A	-0.449		-2.41				-0.471	
Nitrate (N)	mg/L	0.079	0.050	0.16	0.050			<0.050	0.050
Saturation pH (@ 20C)	N/A	8.10		8.78				8.05	
Saturation pH (@ 4C)	N/A	8.35		9.03				8.30	
Inorganics									
Total Alkalinity (Total as CaCO3)	mg/L	75	5.0	42	5.0	42	5.0	85	5.0
Dissolved Chloride (Cl-)	mg/L	3.9	1.0	3.4	1.0	3.2	1.0	3.8	1.0
Colour	TCU	<5.0	5.0	<5.0	5.0	<5.0	5.0	<5.0	5.0
Nitrate + Nitrite (N)	mg/L	0.079	0.050	0.16	0.050	0.16	0.050	<0.050	0.050
Nitrite (N)	mg/L	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	0.050	<0.050	0.050			0.073	0.050
Total Organic Carbon (C)	mg/L	<5.0 (1)	5.0	<0.50	0.50			<0.50	0.50
Orthophosphate (P)	mg/L	<0.010	0.010	<0.010	0.010	<0.010	0.010	0.013	0.010
pH	pH	7.91	N/A	6.61	N/A			7.83	N/A
Reactive Silica (SiO2)	mg/L	8.5	0.50	18	0.50	18	0.50	11	0.50
Dissolved Sulphate (SO4)	mg/L	6.8	2.0	4.6	2.0	4.6	2.0	22	2.0
Turbidity	NTU	11	0.10	15	0.10	15	0.10	0.60	0.10
Conductivity	uS/cm	160	1.0	100	1.0			210	1.0

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(1) Elevated reporting limit due to turbidity.

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Maxxam Job #: B8W0746
Report Date: 2018/12/07

GHD Limited
Client Project #: 088664-25
Your P.O. #: 5114
Sampler Initials: AF

RESULTS OF ANALYSES OF WATER

Maxxam ID		IKY643		IKY644	IKY645	IKY646	IKY647	IKY648	
Sampling Date		2018/11/29 11:53		2018/11/29 12:02	2018/11/29 12:19	2018/11/29 10:46	2018/11/29 10:52	2018/11/29 11:17	
COC Number		693556-03-01		693556-03-01	693556-03-01	693556-03-01	693556-03-01	693556-03-01	
	UNITS	MW-14A	RDL	MW-14B	MW-14C	MW-16A	MW-16B	MW-17A	RDL
Calculated Parameters									
Anion Sum	me/L	0.820	N/A	2.43	1.78	1.02	1.44	0.400	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	31	1.0	84	72	43	59	11	1.0
Calculated TDS	mg/L	58	1.0	140	100	62	84	28	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	1.0	1.0	<1.0	<1.0	<1.0	<1.0	1.0
Cation Sum	me/L	0.750	N/A	2.24	1.60	1.00	1.34	0.350	N/A
Hardness (CaCO3)	mg/L	16	1.0	53	33	21	55	10	1.0
Ion Balance (% Difference)	%	4.46	N/A	4.07	5.33	0.990	3.60	6.67	N/A
Langelier Index (@ 20C)	N/A	-2.47		-0.112	-0.579	-1.89	-0.488	-3.58	
Langelier Index (@ 4C)	N/A	-2.73		-0.363	-0.830	-2.14	-0.740	-3.83	
Nitrate (N)	mg/L	0.10	0.050	<0.050	<0.050	0.075	0.16	<0.050	0.050
Saturation pH (@ 20C)	N/A	9.17		8.22	8.47	8.83	8.26	9.76	
Saturation pH (@ 4C)	N/A	9.42		8.47	8.72	9.08	8.52	10.0	
Inorganics									
Total Alkalinity (Total as CaCO3)	mg/L	31	5.0	85	73	43	60	11	5.0
Dissolved Chloride (Cl-)	mg/L	3.7	1.0	5.0	3.9	3.4	4.0	4.6	1.0
Colour	TCU	<5.0	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.0
Nitrate + Nitrite (N)	mg/L	0.10	0.050	<0.050	<0.050	0.075	0.16	<0.050	0.050
Nitrite (N)	mg/L	<0.010	0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	0.050	<0.050	<0.050	0.075	<0.050	<0.050	0.050
Total Organic Carbon (C)	mg/L	<5.0 (1)	5.0	1.3	0.61	2.3	<0.50	0.55	0.50
Orthophosphate (P)	mg/L	0.014	0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010
pH	pH	6.70	N/A	8.11	7.89	6.94	7.77	6.18	N/A
Reactive Silica (SiO2)	mg/L	15	0.50	11	11	7.9	10	6.2	0.50
Dissolved Sulphate (SO4)	mg/L	4.4	2.0	28	10	3.1	5.8	2.8	2.0
Turbidity	NTU	140	1.0	0.88	8.9	70	2.7	5.7	0.10
Conductivity	uS/cm	78	1.0	220	160	96	130	41	1.0

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RESULTS OF ANALYSES OF WATER

Maxxam ID		IKY651	IKY652		IKY652		IKY653		IKY653	
Sampling Date		2018/11/29 11:24	2018/11/29 11:32		2018/11/29 11:32		2018/11/29 10:06		2018/11/29 10:06	
COC Number		693556-04-01	693556-04-01		693556-04-01		693556-04-01		693556-04-01	
	UNITS	MW-17B	MW-17C	RDL	MW-17C Lab-Dup	RDL	MW-18A	RDL	MW-18A Lab-Dup	RDL
Calculated Parameters										
Anion Sum	me/L	0.340	0.450	N/A			0.290	N/A		
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	8.3	14	1.0			5.0	1.0		
Calculated TDS	mg/L	28	34	1.0			21	1.0		
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	<1.0	1.0			<1.0	1.0		
Cation Sum	me/L	0.290	0.410	N/A			0.230	N/A		
Hardness (CaCO3)	mg/L	7.1	12	1.0			5.6	1.0		
Ion Balance (% Difference)	%	7.94	4.65	N/A			11.5	N/A		
Langelier Index (@ 20C)	N/A	-3.88	-3.13				-4.42			
Langelier Index (@ 4C)	N/A	-4.14	-3.38				-4.68			
Nitrate (N)	mg/L	<0.050	<0.050	0.050			0.076	0.050		
Saturation pH (@ 20C)	N/A	10.1	9.60				10.4			
Saturation pH (@ 4C)	N/A	10.4	9.85				10.7			
Inorganics										
Total Alkalinity (Total as CaCO3)	mg/L	8.3	14	5.0			5.0	5.0		
Dissolved Chloride (Cl-)	mg/L	4.4	4.0	1.0			4.3	1.0		
Colour	TCU	<5.0	<5.0	5.0			<5.0	5.0		
Nitrate + Nitrite (N)	mg/L	<0.050	<0.050	0.050			0.076	0.050		
Nitrite (N)	mg/L	<0.010	<0.010	0.010			<0.010	0.010		
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	<0.050	0.050	<0.050	0.050	<0.050	0.050		
Total Organic Carbon (C)	mg/L	0.63	1.2	0.50			0.55	0.50	<0.50	0.50
Orthophosphate (P)	mg/L	0.016	<0.010	0.010			<0.010	0.010		
pH	pH	6.24	6.47	N/A			6.01	N/A		
Reactive Silica (SiO2)	mg/L	10	11	0.50			5.8	0.50		
Dissolved Sulphate (SO4)	mg/L	2.5	2.8	2.0			3.1	2.0		
Turbidity	NTU	1.4	1.9	0.10			0.28	0.10		
Conductivity	uS/cm	34	45	1.0			29	1.0		

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RESULTS OF ANALYSES OF WATER

Maxxam ID		IKY654		IKY654		IKY655	IKY656	IKY657	
Sampling Date		2018/11/29 10:16		2018/11/29 10:16		2018/11/29 10:24	2018/11/29 11:35	2018/11/29 11:40	
COC Number		693556-04-01		693556-04-01		693556-04-01	693556-04-01	693556-04-01	
	UNITS	MW-18B	RDL	MW-18B Lab-Dup	RDL	MW-18C	MW-19A	MW-19B	RDL
Calculated Parameters									
Anion Sum	me/L	1.33	N/A			2.19	0.280	1.61	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	49	1.0			57	6.0	65	1.0
Calculated TDS	mg/L	82	1.0			140	21	93	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	1.0			<1.0	<1.0	<1.0	1.0
Cation Sum	me/L	1.26	N/A			2.00	0.240	1.50	N/A
Hardness (CaCO3)	mg/L	42	1.0			56	4.9	63	1.0
Ion Balance (% Difference)	%	2.70	N/A			4.53	7.69	3.54	N/A
Langelier Index (@ 20C)	N/A	-0.618				-0.497	-4.47	-0.439	
Langelier Index (@ 4C)	N/A	-0.869				-0.748	-4.72	-0.690	
Nitrate (N)	mg/L	<0.050	0.050			<0.050	0.16	<0.050	0.050
Saturation pH (@ 20C)	N/A	8.47				8.32	10.4	8.17	
Saturation pH (@ 4C)	N/A	8.72				8.57	10.7	8.43	
Inorganics									
Total Alkalinity (Total as CaCO3)	mg/L	49	5.0			57	6.0	65	5.0
Dissolved Chloride (Cl-)	mg/L	2.9	1.0			5.2	3.4	2.9	1.0
Colour	TCU	<5.0	5.0			<5.0	<5.0	<5.0	5.0
Nitrate + Nitrite (N)	mg/L	<0.050	0.050			<0.050	0.16	<0.050	0.050
Nitrite (N)	mg/L	<0.010	0.010			<0.010	<0.010	<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	0.050	<0.050	0.050	<0.050	<0.050	<0.050	0.050
Total Organic Carbon (C)	mg/L	0.96	0.50			4.8	1.2	<0.50	0.50
Orthophosphate (P)	mg/L	0.059	0.010			0.026	<0.010	<0.010	0.010
pH	pH	7.85	N/A			7.82	5.94	7.74	N/A
Reactive Silica (SiO2)	mg/L	11	0.50			12	4.8	9.4	0.50
Dissolved Sulphate (SO4)	mg/L	13	2.0			43	2.8	11	2.0
Turbidity	NTU	14	0.10			1.6	5.5	1.2	0.10
Conductivity	uS/cm	130	1.0			210	31	150	1.0

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RESULTS OF ANALYSES OF WATER

Maxxam ID		IKY658		IKY658		IKY659	IKY660	IKY675	
Sampling Date		2018/11/29 11:45		2018/11/29 11:45		2018/11/29 10:40	2018/11/29 10:45	2018/11/29 10:00	
COC Number		693556-04-01		693556-04-01		693556-04-01	693556-04-01	693556-05-01	
	UNITS	MW-19C	RDL	MW-19C Lab-Dup	RDL	MW-20A	MW-20B	MW-21A	RDL
Calculated Parameters									
Anion Sum	me/L	1.30	N/A			0.270	2.04	0.490	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	46	1.0			5.3	87	17	1.0
Calculated TDS	mg/L	79	1.0			19	100	33	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	1.0			<1.0	<1.0	<1.0	1.0
Cation Sum	me/L	1.17	N/A			0.220	1.33	0.400	N/A
Hardness (CaCO3)	mg/L	41	1.0			3.4	48	10	1.0
Ion Balance (% Difference)	%	5.26	N/A			10.2	21.1	10.1	N/A
Langelier Index (@ 20C)	N/A	-1.19				-4.76	-0.315	-3.72	
Langelier Index (@ 4C)	N/A	-1.44				-5.01	-0.566	-3.97	
Nitrate (N)	mg/L	0.090	0.050			0.25	0.052	0.37	0.050
Saturation pH (@ 20C)	N/A	8.51				10.6	8.26	9.66	
Saturation pH (@ 4C)	N/A	8.76				10.9	8.51	9.91	
Inorganics									
Total Alkalinity (Total as CaCO3)	mg/L	46	5.0			5.3	87	17	5.0
Dissolved Chloride (Cl-)	mg/L	3.5	1.0			3.4	3.2	3.0	1.0
Colour	TCU	<5.0	5.0			<5.0	<5.0	<5.0	5.0
Nitrate + Nitrite (N)	mg/L	0.090	0.050			0.25	0.052	0.37	0.050
Nitrite (N)	mg/L	<0.010	0.010			<0.010	<0.010	<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	0.050			<0.050	<0.050	<0.050	0.050
Total Organic Carbon (C)	mg/L	0.79	0.50			1.8	0.77	2.4	0.50
Orthophosphate (P)	mg/L	<0.010	0.010			0.010	0.010	<0.010	0.010
pH	pH	7.32	N/A	7.43	N/A	5.89	7.94	5.94	N/A
Reactive Silica (SiO2)	mg/L	10	0.50			3.9	12	7.0	0.50
Dissolved Sulphate (SO4)	mg/L	13	2.0			2.3	9.6	2.1	2.0
Turbidity	NTU	6.9	0.10			7.8	3.1	9.9	0.10
Conductivity	uS/cm	120	1.0	120	1.0	29	180	49	1.0

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RESULTS OF ANALYSES OF WATER

Maxxam ID		IKY675		IKY676		IKY676		IKY677	IKY678	
Sampling Date		2018/11/29 10:00		2018/11/29 10:05		2018/11/29 10:05		2018/11/29 10:10	2018/11/29 12:37	
COC Number		693556-05-01		693556-05-01		693556-05-01		693556-05-01	693556-05-01	
	UNITS	MW-21A Lab-Dup	RDL	MW-21B	RDL	MW-21B Lab-Dup	RDL	MW-21C	MW-22A	RDL
Calculated Parameters										
Anion Sum	me/L			0.490	N/A			1.61	0.400	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L			17	1.0			58	6.2	1.0
Calculated TDS	mg/L			34	1.0			100	28	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L			<1.0	1.0			<1.0	<1.0	1.0
Cation Sum	me/L			0.450	N/A			1.48	0.340	N/A
Hardness (CaCO3)	mg/L			15	1.0			45	4.2	1.0
Ion Balance (% Difference)	%			4.26	N/A			4.21	8.11	N/A
Langelier Index (@ 20C)	N/A			-3.30				-1.59	-4.71	
Langelier Index (@ 4C)	N/A			-3.56				-1.84	-4.96	
Nitrate (N)	mg/L			0.28	0.050			0.26	<0.050	0.050
Saturation pH (@ 20C)	N/A			9.50				8.58	10.6	
Saturation pH (@ 4C)	N/A			9.75				8.83	10.9	
Inorganics										
Total Alkalinity (Total as CaCO3)	mg/L			17	5.0	17	5.0	58	6.2	5.0
Dissolved Chloride (Cl-)	mg/L			2.9	1.0	3.0	1.0	4.7	6.1	1.0
Colour	TCU			<5.0	5.0	<5.0	5.0	<5.0	<5.0	5.0
Nitrate + Nitrite (N)	mg/L			0.28	0.050	0.27	0.050	0.28	<0.050	0.050
Nitrite (N)	mg/L			<0.010	0.010	<0.010	0.010	0.019	<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L			<0.050	0.050			<0.050	<0.050	0.050
Total Organic Carbon (C)	mg/L			2.1	0.50			2.3	1.4	0.50
Orthophosphate (P)	mg/L			0.017	0.010	0.017	0.010	<0.010	<0.010	0.010
pH	pH	5.96	N/A	6.19	N/A			7.00	5.92	N/A
Reactive Silica (SiO2)	mg/L			7.9	0.50	7.9	0.50	19	5.7	0.50
Dissolved Sulphate (SO4)	mg/L			2.1	2.0	2.1	2.0	14	5.0	2.0
Turbidity	NTU			17	0.10			3.0	2.6	0.10
Conductivity	uS/cm	48	1.0	50	1.0			150	45	1.0

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RESULTS OF ANALYSES OF WATER

Maxxam ID		IKY679	IKY680		IKY681		IKY682	IKY683	
Sampling Date		2018/11/29 12:42	2018/11/29 12:50		2018/11/29		2018/11/29	2018/11/29	
COC Number		693556-05-01	693556-05-01		693556-05-01		693556-05-01	693556-05-01	
	UNITS	MW-22B	MW-22C	RDL	DUP1	RDL	DUP2	DUP3	RDL
Calculated Parameters									
Anion Sum	me/L	1.00	2.14	N/A	1.03	N/A	1.76	0.430	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	35	94	1.0	42	1.0	72	15	1.0
Calculated TDS	mg/L	65	120	1.0	64	1.0	100	31	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	1.3	1.0	<1.0	1.0	<1.0	<1.0	1.0
Cation Sum	me/L	0.920	1.99	N/A	1.08	N/A	1.63	0.400	N/A
Hardness (CaCO3)	mg/L	21	59	1.0	23	1.0	34	9.8	1.0
Ion Balance (% Difference)	%	4.17	3.63	N/A	2.37	N/A	3.83	3.61	N/A
Langelier Index (@ 20C)	N/A	-2.15	0.0590		-1.92		-0.465	-3.78	
Langelier Index (@ 4C)	N/A	-2.40	-0.192		-2.17		-0.716	-4.03	
Nitrate (N)	mg/L	0.050	<0.050	0.050	0.054	0.050	<0.050	0.38	0.050
Saturation pH (@ 20C)	N/A	9.00	8.11		8.79		8.46	9.72	
Saturation pH (@ 4C)	N/A	9.25	8.36		9.05		8.72	9.97	
Inorganics									
Total Alkalinity (Total as CaCO3)	mg/L	35	95	5.0	42	5.0	72	15	5.0
Dissolved Chloride (Cl-)	mg/L	5.5	3.9	1.0	3.9	1.0	3.6	2.3	1.0
Colour	TCU	<5.0	<5.0	5.0	<5.0	5.0	<5.0	<5.0	5.0
Nitrate + Nitrite (N)	mg/L	0.050	<0.050	0.050	0.054	0.050	<0.050	0.38	0.050
Nitrite (N)	mg/L	<0.010	<0.010	0.010	<0.010	0.010	<0.010	<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	<0.050	0.050	0.065	0.050	<0.050	<0.050	0.050
Total Organic Carbon (C)	mg/L	2.8	0.86	0.50	<5.0 (1)	5.0	<0.50	2.3	0.50
Orthophosphate (P)	mg/L	<0.010	<0.010	0.010	<0.010	0.010	<0.010	<0.010	0.010
pH	pH	6.85	8.17	N/A	6.88	N/A	8.00	5.94	N/A
Reactive Silica (SiO2)	mg/L	11	12	0.50	8.0	0.50	11	7.0	0.50
Dissolved Sulphate (SO4)	mg/L	7.2	6.3	2.0	3.1	2.0	10	2.2	2.0
Turbidity	NTU	17	1.9	0.10	69	0.10	10	32	0.10
Conductivity	uS/cm	98	200	1.0	95	1.0	160	48	1.0

RDL = Reportable Detection Limit
N/A = Not Applicable
(1) Elevated reporting limit due to turbidity.

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Maxxam Job #: B8W0746
Report Date: 2018/12/07

GHD Limited
Client Project #: 088664-25
Your P.O. #: 5114
Sampler Initials: AF

RESULTS OF ANALYSES OF WATER

Maxxam ID		IKY684	IKY692	
Sampling Date		2018/11/29	2018/11/29	
COC Number		693556-05-01	693556-06-01	
	UNITS	DUP4	DUP5	RDL
Calculated Parameters				
Anion Sum	me/L	0.520	3.20	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	18	69	1.0
Calculated TDS	mg/L	46	200	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	<1.0	1.0
Cation Sum	me/L	0.620	3.04	N/A
Hardness (CaCO3)	mg/L	12	110	1.0
Ion Balance (% Difference)	%	8.77	2.56	N/A
Langelier Index (@ 20C)	N/A	-2.81	-0.240	
Langelier Index (@ 4C)	N/A	-3.06	-0.490	
Nitrate (N)	mg/L	<0.050	<0.050	0.050
Saturation pH (@ 20C)	N/A	9.49	8.01	
Saturation pH (@ 4C)	N/A	9.75	8.26	
Inorganics				
Total Alkalinity (Total as CaCO3)	mg/L	18	69	5.0
Dissolved Chloride (Cl-)	mg/L	3.0	8.9	1.0
Colour	TCU	<5.0	<5.0	5.0
Nitrate + Nitrite (N)	mg/L	<0.050	<0.050	0.050
Nitrite (N)	mg/L	<0.010	<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	<0.050	0.050
Total Organic Carbon (C)	mg/L	0.57	10	0.50
Orthophosphate (P)	mg/L	0.066	0.015	0.010
pH	pH	6.69	7.77	N/A
Reactive Silica (SiO2)	mg/L	15	12	0.50
Dissolved Sulphate (SO4)	mg/L	3.4	75	2.0
Turbidity	NTU	33	4.1	0.10
Conductivity	uS/cm	52	310	1.0

RDL = Reportable Detection Limit
N/A = Not Applicable

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ELEMENTS BY ICP/MS (WATER)

Maxxam ID		IKY607	IKY608	IKY609	IKY610	IKY611	IKY611	IKY612	
Sampling Date		2018/11/29 11:55	2018/11/29 12:00	2018/11/29 12:05	2018/11/29 11:00	2018/11/29 11:20	2018/11/29 11:20	2018/11/29 12:15	
COC Number		693556-01-01	693556-01-01	693556-01-01	693556-01-01	693556-01-01	693556-01-01	693556-01-01	
	UNITS	MW-01A	MW-01B	MW-01C	MW-02A	MW-02B	MW-02B Lab-Dup	MW-03A	RDL
Metals									
Dissolved Aluminum (Al)	ug/L	<5.0	13	7.0	67	9.0	10	140	5.0
Dissolved Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Arsenic (As)	ug/L	<1.0	4.9	<1.0	<1.0	2.4	2.3	<1.0	1.0
Dissolved Barium (Ba)	ug/L	6.7	5.8	7.9	8.4	5.8	5.7	7.0	1.0
Dissolved Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Boron (B)	ug/L	<50	<50	<50	<50	<50	<50	<50	50
Dissolved Cadmium (Cd)	ug/L	0.033	<0.010	0.034	0.036	0.58	0.61	0.025	0.010
Dissolved Calcium (Ca)	ug/L	2900	20000	9000	1800	3900	3800	1300	100
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Cobalt (Co)	ug/L	1.8	<0.40	1.5	1.9	<0.40	<0.40	<0.40	0.40
Dissolved Copper (Cu)	ug/L	<2.0	<2.0	<2.0	5.8	7.5	7.4	2.7	2.0
Dissolved Iron (Fe)	ug/L	<50	<50	<50	<50	<50	<50	<50	50
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Dissolved Magnesium (Mg)	ug/L	840	2200	1200	500	800	790	440	100
Dissolved Manganese (Mn)	ug/L	520	2.8	270	140	29	29	60	2.0
Dissolved Molybdenum (Mo)	ug/L	<2.0	<2.0	<2.0	<2.0	2.7	2.8	<2.0	2.0
Dissolved Nickel (Ni)	ug/L	4.2	<2.0	5.2	8.2	<2.0	<2.0	4.0	2.0
Dissolved Phosphorus (P)	ug/L	<100	<100	<100	<100	100	<100	<100	100
Dissolved Potassium (K)	ug/L	1400	1900	1800	260	840	810	830	100
Dissolved Selenium (Se)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Silver (Ag)	ug/L	<0.10	<0.10	<0.10	0.16	<0.10	<0.10	<0.10	0.10
Dissolved Sodium (Na)	ug/L	4300	5200	6700	3800	10000	10000	5300	100
Dissolved Strontium (Sr)	ug/L	19	66	51	7.8	31	30	14	2.0
Dissolved Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Dissolved Tin (Sn)	ug/L	<2.0	4.4	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Titanium (Ti)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Uranium (U)	ug/L	<0.10	0.85	0.12	<0.10	1.3	1.4	0.17	0.10
Dissolved Vanadium (V)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Zinc (Zn)	ug/L	<5.0	<5.0	12	13	69	67	6.5	5.0

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate

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Sampler Initials: AF

ELEMENTS BY ICP/MS (WATER)

Maxxam ID		IKY613	IKY614	IKY615	IKY616	IKY626	IKY627	IKY628	
Sampling Date		2018/11/29 12:20	2018/11/29 12:25	2018/11/29 13:50	2018/11/29 13:55	2018/11/29 13:52	2018/11/29 13:57	2018/11/29 14:06	
COC Number		693556-01-01	693556-01-01	693556-01-01	693556-01-01	693556-02-01	693556-02-01	693556-02-01	
	UNITS	MW-03B	MW-03C	MW-04A	MW-04B	MW-05A	MW-05B	MW-05D	RDL
Metals									
Dissolved Aluminum (Al)	ug/L	<5.0	11	31	6.0	23	6.6	16	5.0
Dissolved Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Arsenic (As)	ug/L	<1.0	2.1	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Barium (Ba)	ug/L	3.3	5.3	4.2	4.2	8.7	6.0	3.4	1.0
Dissolved Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Boron (B)	ug/L	<50	<50	<50	<50	<50	<50	<50	50
Dissolved Cadmium (Cd)	ug/L	0.030	<0.010	0.015	0.013	0.025	<0.010	<0.010	0.010
Dissolved Calcium (Ca)	ug/L	13000	28000	2000	13000	2300	14000	18000	100
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Cobalt (Co)	ug/L	<0.40	<0.40	0.45	<0.40	3.6	<0.40	<0.40	0.40
Dissolved Copper (Cu)	ug/L	27	<2.0	3.5	30	17	<2.0	<2.0	2.0
Dissolved Iron (Fe)	ug/L	<50	<50	<50	<50	<50	<50	<50	50
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Dissolved Magnesium (Mg)	ug/L	1200	2600	550	1400	610	1500	2500	100
Dissolved Manganese (Mn)	ug/L	10	84	13	10	140	31	19	2.0
Dissolved Molybdenum (Mo)	ug/L	<2.0	4.0	<2.0	<2.0	<2.0	3.8	<2.0	2.0
Dissolved Nickel (Ni)	ug/L	<2.0	<2.0	2.3	<2.0	10	<2.0	<2.0	2.0
Dissolved Phosphorus (P)	ug/L	<100	<100	<100	<100	<100	<100	<100	100
Dissolved Potassium (K)	ug/L	1100	2800	430	980	630	1200	1000	100
Dissolved Selenium (Se)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Silver (Ag)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Dissolved Sodium (Na)	ug/L	4500	6100	3200	3900	2600	8400	11000	100
Dissolved Strontium (Sr)	ug/L	26	66	18	75	12	61	160	2.0
Dissolved Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Dissolved Tin (Sn)	ug/L	<2.0	2.7	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Titanium (Ti)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Uranium (U)	ug/L	0.29	2.2	<0.10	<0.10	<0.10	0.15	0.42	0.10
Dissolved Vanadium (V)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Zinc (Zn)	ug/L	6.6	<5.0	<5.0	22	8.4	<5.0	<5.0	5.0

RDL = Reportable Detection Limit

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ELEMENTS BY ICP/MS (WATER)

Maxxam ID		IKY629	IKY630	IKY631	IKY632	IKY633	IKY634	IKY635	
Sampling Date		2018/11/29 13:20	2018/11/29 13:25	2018/11/29 13:30	2018/11/29 13:00	2018/11/29 13:05	2018/11/29 13:10	2018/11/29 13:21	
COC Number		693556-02-01	693556-02-01	693556-02-01	693556-02-01	693556-02-01	693556-02-01	693556-02-01	
	UNITS	MW-07A	MW-07B	MW-07D	MW-09A	MW-09B	MW-09D	MW-11A	RDL
Metals									
Dissolved Aluminum (Al)	ug/L	<5.0	5.3	19	21	8.2	6.2	55	5.0
Dissolved Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Arsenic (As)	ug/L	2.1	29	170	1.8	100	130	<1.0	1.0
Dissolved Barium (Ba)	ug/L	8.2	15	7.7	11	14	8.4	8.0	1.0
Dissolved Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Boron (B)	ug/L	<50	<50	<50	<50	<50	<50	<50	50
Dissolved Cadmium (Cd)	ug/L	<0.010	<0.010	<0.010	0.060	<0.010	<0.010	0.024	0.010
Dissolved Calcium (Ca)	ug/L	28000	95000	37000	4100	27000	35000	2500	100
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Cobalt (Co)	ug/L	<0.40	<0.40	<0.40	0.96	<0.40	<0.40	0.96	0.40
Dissolved Copper (Cu)	ug/L	<2.0	<2.0	<2.0	5.1	<2.0	<2.0	<2.0	2.0
Dissolved Iron (Fe)	ug/L	3300	<50	<50	<50	<50	<50	<50	50
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Dissolved Magnesium (Mg)	ug/L	6800	8400	5700	480	2300	4700	450	100
Dissolved Manganese (Mn)	ug/L	520	400	41	65	44	75	91	2.0
Dissolved Molybdenum (Mo)	ug/L	<2.0	3.4	<2.0	<2.0	9.1	7.3	<2.0	2.0
Dissolved Nickel (Ni)	ug/L	<2.0	<2.0	<2.0	4.6	<2.0	<2.0	2.2	2.0
Dissolved Phosphorus (P)	ug/L	<100	<100	<100	<100	<100	<100	<100	100
Dissolved Potassium (K)	ug/L	2000	3400	1100	610	1500	1200	540	100
Dissolved Selenium (Se)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Silver (Ag)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Dissolved Sodium (Na)	ug/L	10000	18000	13000	2400	15000	20000	2500	100
Dissolved Strontium (Sr)	ug/L	140	320	310	14	360	750	16	2.0
Dissolved Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Dissolved Tin (Sn)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Titanium (Ti)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Uranium (U)	ug/L	<0.10	2.2	0.77	0.10	6.1	3.0	<0.10	0.10
Dissolved Vanadium (V)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Zinc (Zn)	ug/L	<5.0	6.2	<5.0	8.7	<5.0	<5.0	<5.0	5.0

RDL = Reportable Detection Limit

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ELEMENTS BY ICP/MS (WATER)

Maxxam ID		IKY640	IKY641	IKY642	IKY643	IKY644	IKY645	IKY646	
Sampling Date		2018/11/29 13:30	2018/11/29 12:45	2018/11/29 12:50	2018/11/29 11:53	2018/11/29 12:02	2018/11/29 12:19	2018/11/29 10:46	
COC Number		693556-03-01	693556-03-01	693556-03-01	693556-03-01	693556-03-01	693556-03-01	693556-03-01	
	UNITS	MW-11B	MW-12A	MW-12B	MW-14A	MW-14B	MW-14C	MW-16A	RDL
Metals									
Dissolved Aluminum (Al)	ug/L	13	6.0	<5.0	<5.0	5.6	5.6	9.2	5.0
Dissolved Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Arsenic (As)	ug/L	32	<1.0	38	4.8	9.0	1.4	<1.0	1.0
Dissolved Barium (Ba)	ug/L	8.9	9.5	8.0	3.0	4.1	4.6	2.8	1.0
Dissolved Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Boron (B)	ug/L	<50	<50	<50	<50	77	120	<50	50
Dissolved Cadmium (Cd)	ug/L	<0.010	0.040	<0.010	0.013	<0.010	<0.010	0.031	0.010
Dissolved Calcium (Ca)	ug/L	23000	8300	24000	4500	16000	10000	7200	100
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Cobalt (Co)	ug/L	<0.40	1.8	<0.40	0.71	<0.40	<0.40	0.91	0.40
Dissolved Copper (Cu)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Iron (Fe)	ug/L	<50	<50	<50	<50	<50	<50	<50	50
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Dissolved Magnesium (Mg)	ug/L	1600	2400	2600	1100	2900	1700	720	100
Dissolved Manganese (Mn)	ug/L	77	660	260	200	18	9.8	330	2.0
Dissolved Molybdenum (Mo)	ug/L	<2.0	<2.0	18	<2.0	8.9	<2.0	<2.0	2.0
Dissolved Nickel (Ni)	ug/L	<2.0	3.7	<2.0	3.5	<2.0	<2.0	3.7	2.0
Dissolved Phosphorus (P)	ug/L	<100	<100	<100	<100	<100	<100	<100	100
Dissolved Potassium (K)	ug/L	1400	1900	1500	1200	920	560	600	100
Dissolved Selenium (Se)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Silver (Ag)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Dissolved Sodium (Na)	ug/L	6500	6600	15000	9300	27000	21000	13000	100
Dissolved Strontium (Sr)	ug/L	63	59	82	33	350	250	33	2.0
Dissolved Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Dissolved Tin (Sn)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Titanium (Ti)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Uranium (U)	ug/L	0.80	<0.10	1.5	<0.10	2.0	0.23	0.23	0.10
Dissolved Vanadium (V)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Zinc (Zn)	ug/L	<5.0	6.7	<5.0	6.9	<5.0	<5.0	5.9	5.0

RDL = Reportable Detection Limit

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Maxxam Job #: B8W0746
Report Date: 2018/12/07

GHD Limited
Client Project #: 088664-25
Your P.O. #: 5114
Sampler Initials: AF

ELEMENTS BY ICP/MS (WATER)

Maxxam ID		IKY647	IKY648	IKY651	IKY652	IKY653	IKY654	IKY655	
Sampling Date		2018/11/29 10:52	2018/11/29 11:17	2018/11/29 11:24	2018/11/29 11:32	2018/11/29 10:06	2018/11/29 10:16	2018/11/29 10:24	
COC Number		693556-03-01	693556-03-01	693556-04-01	693556-04-01	693556-04-01	693556-04-01	693556-04-01	
	UNITS	MW-16B	MW-17A	MW-17B	MW-17C	MW-18A	MW-18B	MW-18C	RDL
Metals									
Dissolved Aluminum (Al)	ug/L	10	48	9.6	6.7	46	6.5	9.1	5.0
Dissolved Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Arsenic (As)	ug/L	9.7	<1.0	1.0	2.3	8.1	250	110	1.0
Dissolved Barium (Ba)	ug/L	3.5	19	4.1	1.9	5.9	9.0	9.7	1.0
Dissolved Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Boron (B)	ug/L	<50	<50	<50	<50	<50	<50	<50	50
Dissolved Cadmium (Cd)	ug/L	<0.010	0.062	0.021	0.014	0.016	<0.010	<0.010	0.010
Dissolved Calcium (Ca)	ug/L	20000	3100	1800	3600	1400	15000	19000	100
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Cobalt (Co)	ug/L	<0.40	2.2	<0.40	<0.40	0.97	<0.40	<0.40	0.40
Dissolved Copper (Cu)	ug/L	<2.0	12	<2.0	<2.0	11	<2.0	<2.0	2.0
Dissolved Iron (Fe)	ug/L	<50	<50	<50	<50	<50	<50	<50	50
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Dissolved Magnesium (Mg)	ug/L	1300	580	650	710	500	1200	1900	100
Dissolved Manganese (Mn)	ug/L	3.5	210	6.6	9.6	20	5.0	80	2.0
Dissolved Molybdenum (Mo)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	10	5.3	2.0
Dissolved Nickel (Ni)	ug/L	<2.0	15	<2.0	<2.0	4.1	<2.0	<2.0	2.0
Dissolved Phosphorus (P)	ug/L	<100	<100	<100	<100	<100	<100	<100	100
Dissolved Potassium (K)	ug/L	1400	540	430	440	540	1600	1400	100
Dissolved Selenium (Se)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Silver (Ag)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Dissolved Sodium (Na)	ug/L	4800	3100	3200	3600	2400	8500	20000	100
Dissolved Strontium (Sr)	ug/L	71	26	21	20	12	120	220	2.0
Dissolved Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Dissolved Tin (Sn)	ug/L	<2.0	2.4	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Titanium (Ti)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Uranium (U)	ug/L	2.4	<0.10	<0.10	<0.10	<0.10	1.4	1.2	0.10
Dissolved Vanadium (V)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Zinc (Zn)	ug/L	<5.0	24	7.9	9.8	12	<5.0	<5.0	5.0

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Maxxam Job #: B8W0746
Report Date: 2018/12/07

GHD Limited
Client Project #: 088664-25
Your P.O. #: 5114
Sampler Initials: AF

ELEMENTS BY ICP/MS (WATER)

Maxxam ID		IKY656	IKY656	IKY657	IKY658	IKY659	IKY660	IKY675	
Sampling Date		2018/11/29 11:35	2018/11/29 11:35	2018/11/29 11:40	2018/11/29 11:45	2018/11/29 10:40	2018/11/29 10:45	2018/11/29 10:00	
COC Number		693556-04-01	693556-04-01	693556-04-01	693556-04-01	693556-04-01	693556-04-01	693556-05-01	
	UNITS	MW-19A	MW-19A Lab-Dup	MW-19B	MW-19C	MW-20A	MW-20B	MW-21A	RDL
Metals									
Dissolved Aluminum (Al)	ug/L	110	110	17	<5.0	110	10	160	5.0
Dissolved Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Arsenic (As)	ug/L	<1.0	<1.0	7.3	4.0	<1.0	8.0	<1.0	1.0
Dissolved Barium (Ba)	ug/L	9.6	9.6	11	6.5	6.3	9.1	14	1.0
Dissolved Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Boron (B)	ug/L	<50	<50	<50	<50	<50	<50	<50	50
Dissolved Cadmium (Cd)	ug/L	0.039	0.032	<0.010	<0.010	0.032	0.010	0.041	0.010
Dissolved Calcium (Ca)	ug/L	1200	1200	23000	14000	800	14000	2600	100
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Cobalt (Co)	ug/L	0.87	0.97	<0.40	<0.40	4.7	<0.40	2.4	0.40
Dissolved Copper (Cu)	ug/L	<2.0	<2.0	<2.0	<2.0	25	2.7	<2.0	2.0
Dissolved Iron (Fe)	ug/L	<50	<50	<50	<50	<50	<50	<50	50
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Dissolved Magnesium (Mg)	ug/L	440	440	1500	1300	350	3100	860	100
Dissolved Manganese (Mn)	ug/L	58	59	<2.0	86	52	51	610	2.0
Dissolved Molybdenum (Mo)	ug/L	<2.0	<2.0	5.9	12	<2.0	5.5	<2.0	2.0
Dissolved Nickel (Ni)	ug/L	<2.0	<2.0	<2.0	2.3	13	<2.0	3.3	2.0
Dissolved Phosphorus (P)	ug/L	<100	<100	<100	<100	<100	<100	<100	100
Dissolved Potassium (K)	ug/L	700	710	1600	1600	300	1300	880	100
Dissolved Selenium (Se)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Silver (Ag)	ug/L	0.16	0.17	<0.10	<0.10	0.17	<0.10	<0.10	0.10
Dissolved Sodium (Na)	ug/L	2900	3000	4800	7300	3200	7700	4000	100
Dissolved Strontium (Sr)	ug/L	8.3	8.8	130	110	10	180	18	2.0
Dissolved Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Dissolved Tin (Sn)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	2.1	<2.0	2.0
Dissolved Titanium (Ti)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Uranium (U)	ug/L	<0.10	<0.10	2.4	0.12	<0.10	0.45	<0.10	0.10
Dissolved Vanadium (V)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Zinc (Zn)	ug/L	<5.0	<5.0	<5.0	<5.0	22	17	<5.0	5.0

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Maxxam Job #: B8W0746
Report Date: 2018/12/07

GHD Limited
Client Project #: 088664-25
Your P.O. #: 5114
Sampler Initials: AF

ELEMENTS BY ICP/MS (WATER)

Maxxam ID		IKY676	IKY676	IKY677	IKY678	IKY679	IKY680	IKY681	
Sampling Date		2018/11/29 10:05	2018/11/29 10:05	2018/11/29 10:10	2018/11/29 12:37	2018/11/29 12:42	2018/11/29 12:50	2018/11/29	
COC Number		693556-05-01	693556-05-01	693556-05-01	693556-05-01	693556-05-01	693556-05-01	693556-05-01	
	UNITS	MW-21B	MW-21B Lab-Dup	MW-21C	MW-22A	MW-22B	MW-22C	DUP1	RDL
Metals									
Dissolved Aluminum (Al)	ug/L	49	46	<5.0	170	13	13	7.6	5.0
Dissolved Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Arsenic (As)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	4.8	<1.0	1.0
Dissolved Barium (Ba)	ug/L	3.4	3.6	8.1	10	7.6	2.7	3.1	1.0
Dissolved Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Boron (B)	ug/L	<50	<50	<50	<50	<50	<50	<50	50
Dissolved Cadmium (Cd)	ug/L	0.016	0.020	0.019	0.022	0.018	<0.010	0.034	0.010
Dissolved Calcium (Ca)	ug/L	3700	3600	9900	740	6000	19000	7900	100
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Cobalt (Co)	ug/L	<0.40	0.43	<0.40	1.5	<0.40	<0.40	1.0	0.40
Dissolved Copper (Cu)	ug/L	19	20	<2.0	20	<2.0	<2.0	<2.0	2.0
Dissolved Iron (Fe)	ug/L	<50	<50	<50	<50	<50	<50	<50	50
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Dissolved Magnesium (Mg)	ug/L	1400	1300	4900	570	1400	3000	760	100
Dissolved Manganese (Mn)	ug/L	130	130	160	110	89	30	340	2.0
Dissolved Molybdenum (Mo)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	3.0	<2.0	2.0
Dissolved Nickel (Ni)	ug/L	<2.0	<2.0	<2.0	11	3.9	<2.0	3.7	2.0
Dissolved Phosphorus (P)	ug/L	<100	<100	<100	<100	<100	<100	<100	100
Dissolved Potassium (K)	ug/L	1100	1100	1800	550	1400	960	640	100
Dissolved Selenium (Se)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Silver (Ag)	ug/L	<0.10	<0.10	<0.10	1.0	<0.10	<0.10	<0.10	0.10
Dissolved Sodium (Na)	ug/L	3000	3000	12000	5700	11000	18000	14000	100
Dissolved Strontium (Sr)	ug/L	29	28	68	9.9	64	260	35	2.0
Dissolved Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Dissolved Tin (Sn)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	2.3	<2.0	2.0
Dissolved Titanium (Ti)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Uranium (U)	ug/L	<0.10	<0.10	0.33	<0.10	<0.10	0.14	0.23	0.10
Dissolved Vanadium (V)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Zinc (Zn)	ug/L	13	12	15	20	20	<5.0	5.2	5.0

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Maxxam Job #: B8W0746
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Sampler Initials: AF

ELEMENTS BY ICP/MS (WATER)

Maxxam ID		IKY682	IKY683	IKY684	IKY692	
Sampling Date		2018/11/29	2018/11/29	2018/11/29	2018/11/29	
COC Number		693556-05-01	693556-05-01	693556-05-01	693556-06-01	
	UNITS	DUP2	DUP3	DUP4	DUP5	RDL
Metals						
Dissolved Aluminum (Al)	ug/L	12	180	19	6.9	5.0
Dissolved Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Arsenic (As)	ug/L	1.4	<1.0	2.5	130	1.0
Dissolved Barium (Ba)	ug/L	4.8	14	5.4	8.2	1.0
Dissolved Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Boron (B)	ug/L	130	<50	<50	<50	50
Dissolved Cadmium (Cd)	ug/L	<0.010	0.043	0.66	<0.010	0.010
Dissolved Calcium (Ca)	ug/L	11000	2500	3600	35000	100
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Cobalt (Co)	ug/L	<0.40	2.4	<0.40	<0.40	0.40
Dissolved Copper (Cu)	ug/L	<2.0	<2.0	10	<2.0	2.0
Dissolved Iron (Fe)	ug/L	<50	<50	<50	<50	50
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	0.50
Dissolved Magnesium (Mg)	ug/L	1800	860	790	4600	100
Dissolved Manganese (Mn)	ug/L	9.9	590	25	74	2.0
Dissolved Molybdenum (Mo)	ug/L	4.9	<2.0	<2.0	7.7	2.0
Dissolved Nickel (Ni)	ug/L	<2.0	3.1	<2.0	<2.0	2.0
Dissolved Phosphorus (P)	ug/L	<100	<100	<100	<100	100
Dissolved Potassium (K)	ug/L	570	870	710	1100	100
Dissolved Selenium (Se)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Silver (Ag)	ug/L	<0.10	<0.10	<0.10	<0.10	0.10
Dissolved Sodium (Na)	ug/L	22000	4100	8200	20000	100
Dissolved Strontium (Sr)	ug/L	240	18	26	730	2.0
Dissolved Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	0.10
Dissolved Tin (Sn)	ug/L	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Titanium (Ti)	ug/L	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Uranium (U)	ug/L	0.23	<0.10	0.99	2.7	0.10
Dissolved Vanadium (V)	ug/L	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Zinc (Zn)	ug/L	<5.0	<5.0	78	<5.0	5.0

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GENERAL COMMENTS

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

Package 1	0.0°C
Package 2	0.3°C

Sample IKY607 [MW-01A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample IKY610 [MW-02A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample IKY611 [MW-02B] : RCAp Ion Balance acceptable. Low ionic strength sample.

Sample IKY615 [MW-04A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample IKY626 [MW-05A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample IKY632 [MW-09A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample IKY641 [MW-12A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample IKY645 [MW-14C] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample IKY648 [MW-17A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample IKY651 [MW-17B] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample IKY653 [MW-18A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample IKY656 [MW-19A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample IKY658 [MW-19C] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample IKY659 [MW-20A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample IKY660 [MW-20B] : Poor RCAp Ion Balance due to sample matrix. Re-analysis of metals, alkalinity and chloride confirmed original results.

Sample IKY675 [MW-21A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample IKY678 [MW-22A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample IKY684 [DUP4] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Results relate only to the items tested.

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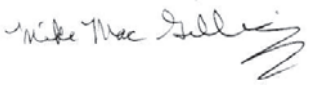
Maxxam Job #: B8W0746
Report Date: 2018/12/07

GHD Limited
Client Project #: 088664-25
Your P.O. #: 5114
Sampler Initials: AF

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Mike MacGillivray, Scientific Specialist (Inorganics)

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Maxxam
A Bureau Veritas Group Company

Your P.O. #: 5114
Your Project #: 088664-25
Site#: BEAVER DAM GW MONITORING
Site Location: MARINETTE, NS
Your C.O.C. #: N/A

Attention: Jessica Romo

GHD Limited
45 Akerley Blvd
Dartmouth , NS
CANADA B3B 1J7

Report Date: 2018/12/13
Report #: R5523967
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B8W6543
Received: 2018/12/06, 09:47

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Carbonate, Bicarbonate and Hydroxide	1	N/A	2018/12/11	N/A	SM 23 4500-CO2 D
Alkalinity	1	N/A	2018/12/11	ATL SOP 00013	EPA 310.2 R1974 m
Chloride	1	N/A	2018/12/11	ATL SOP 00014	SM 23 4500-Cl- E m
Colour	1	N/A	2018/12/11	ATL SOP 00020	SM 23 2120C m
Conductance - water	1	N/A	2018/12/11	ATL SOP 00004	SM 23 2510B m
Hardness (calculated as CaCO3)	1	N/A	2018/12/11	ATL SOP 00048	Auto Calc
Metals Water Diss. MS (as rec'd)	1	N/A	2018/12/11	ATL SOP 00058	EPA 6020A R1 m
Ion Balance (% Difference)	1	N/A	2018/12/12	N/A	Auto Calc.
Anion and Cation Sum	1	N/A	2018/12/11	N/A	Auto Calc.
Nitrogen Ammonia - water	1	N/A	2018/12/10	ATL SOP 00015	EPA 350.1 R2 m
Nitrogen - Nitrate + Nitrite	1	N/A	2018/12/12	ATL SOP 00016	USGS I-2547-11m
Nitrogen - Nitrite	1	N/A	2018/12/12	ATL SOP 00017	SM 23 4500-NO2- B m
Nitrogen - Nitrate (as N)	1	N/A	2018/12/12	ATL SOP 00018	ASTM D3867-16
pH (1)	1	N/A	2018/12/11	ATL SOP 00003	SM 23 4500-H+ B m
Phosphorus - ortho	1	N/A	2018/12/11	ATL SOP 00021	SM 23 4500-P E m
Sat. pH and Langelier Index (@ 20C)	1	N/A	2018/12/12	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 4C)	1	N/A	2018/12/12	ATL SOP 00049	Auto Calc.
Reactive Silica	1	N/A	2018/12/11	ATL SOP 00022	EPA 366.0 m
Sulphate	1	N/A	2018/12/12	ATL SOP 00023	ASTM D516-16 m
Total Dissolved Solids (TDS calc)	1	N/A	2018/12/12	N/A	Auto Calc.
Organic carbon - Total (TOC) (2)	1	N/A	2018/12/13	ATL SOP 00203	SM 23 5310B m
Turbidity	1	N/A	2018/12/12	ATL SOP 00011	EPA 180.1 R2 m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam 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.

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A Bureau Veritas Group Company

Your P.O. #: 5114
Your Project #: 088664-25
Site#: BEAVER DAM GW MONITORING
Site Location: MARINETTE, NS
Your C.O.C. #: N/A

Attention: Jessica Romo

GHD Limited
45 Akerley Blvd
Dartmouth , NS
CANADA B3B 1J7

Report Date: 2018/12/13
Report #: R5523967
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B8W6543
Received: 2018/12/06, 09:47

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam 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 Maxxam, unless otherwise agreed in writing. Maxxam 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 Maxxam, 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) The APHA Standard Method require 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 APHA Standard Method holding time.
(2) TOC / DOC present in the sample should be considered as non-purgeable TOC / DOC.

Encryption Key

Maxxam
13 Dec 2018 13:50:57

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Maryann Comeau, Project Manager
Email: MComeau@maxxam.ca
Phone# (902) 420-0203

==========

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Maxxam Job #: B8W6543
Report Date: 2018/12/13

GHD Limited
Client Project #: 088664-25
Site Location: MARINETTE, NS
Your P.O. #: 5114
Sampler Initials: JR

RESULTS OF ANALYSES OF WATER

Maxxam ID		IME691	
Sampling Date		2018/12/05 14:50	
COC Number		N/A	
	UNITS	MW-11C	RDL
Calculated Parameters			
Anion Sum	me/L	2.02	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	70	1.0
Calculated TDS	mg/L	120	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	1.0
Cation Sum	me/L	1.82	N/A
Hardness (CaCO3)	mg/L	73	1.0
Ion Balance (% Difference)	%	5.21	N/A
Langelier Index (@ 20C)	N/A	-0.211	
Langelier Index (@ 4C)	N/A	-0.461	
Nitrate (N)	mg/L	0.053	0.050
Saturation pH (@ 20C)	N/A	8.10	
Saturation pH (@ 4C)	N/A	8.35	
Inorganics			
Total Alkalinity (Total as CaCO3)	mg/L	71	5.0
Dissolved Chloride (Cl-)	mg/L	4.2	1.0
Colour	TCU	<5.0	5.0
Nitrate + Nitrite (N)	mg/L	0.053	0.050
Nitrite (N)	mg/L	<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	0.050
Total Organic Carbon (C)	mg/L	0.99	0.50
Orthophosphate (P)	mg/L	0.018	0.010
pH	pH	7.89	N/A
Reactive Silica (SiO2)	mg/L	9.1	0.50
Dissolved Sulphate (SO4)	mg/L	23	2.0
Turbidity	NTU	0.82	0.10
Conductivity	uS/cm	190	1.0

RDL = Reportable Detection Limit
N/A = Not Applicable

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Maxxam Job #: B8W6543
Report Date: 2018/12/13

GHD Limited
Client Project #: 088664-25
Site Location: MARINETTE, NS
Your P.O. #: 5114
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

Maxxam ID		IME691	
Sampling Date		2018/12/05 14:50	
COC Number		N/A	
	UNITS	MW-11C	RDL
Metals			
Dissolved Aluminum (Al)	ug/L	7.0	5.0
Dissolved Antimony (Sb)	ug/L	<1.0	1.0
Dissolved Arsenic (As)	ug/L	76	1.0
Dissolved Barium (Ba)	ug/L	11	1.0
Dissolved Beryllium (Be)	ug/L	<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	<2.0	2.0
Dissolved Boron (B)	ug/L	<50	50
Dissolved Cadmium (Cd)	ug/L	<0.010	0.010
Dissolved Calcium (Ca)	ug/L	25000	100
Dissolved Chromium (Cr)	ug/L	<1.0	1.0
Dissolved Cobalt (Co)	ug/L	<0.40	0.40
Dissolved Copper (Cu)	ug/L	<2.0	2.0
Dissolved Iron (Fe)	ug/L	<50	50
Dissolved Lead (Pb)	ug/L	<0.50	0.50
Dissolved Magnesium (Mg)	ug/L	2200	100
Dissolved Manganese (Mn)	ug/L	8.3	2.0
Dissolved Molybdenum (Mo)	ug/L	6.4	2.0
Dissolved Nickel (Ni)	ug/L	<2.0	2.0
Dissolved Phosphorus (P)	ug/L	<100	100
Dissolved Potassium (K)	ug/L	1000	100
Dissolved Selenium (Se)	ug/L	<1.0	1.0
Dissolved Silver (Ag)	ug/L	<0.10	0.10
Dissolved Sodium (Na)	ug/L	7900	100
Dissolved Strontium (Sr)	ug/L	190	2.0
Dissolved Thallium (Tl)	ug/L	<0.10	0.10
Dissolved Tin (Sn)	ug/L	<2.0	2.0
Dissolved Titanium (Ti)	ug/L	<2.0	2.0
Dissolved Uranium (U)	ug/L	3.3	0.10
Dissolved Vanadium (V)	ug/L	<2.0	2.0
Dissolved Zinc (Zn)	ug/L	5.9	5.0
RDL = Reportable Detection Limit			

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Maxxam Job #: B8W6543
Report Date: 2018/12/13

GHD Limited
Client Project #: 088664-25
Site Location: MARINETTE, NS
Your P.O. #: 5114
Sampler Initials: JR

GENERAL COMMENTS

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

Package 1	3.3°C

Sample IME691 [MW-11C] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Results relate only to the items tested.

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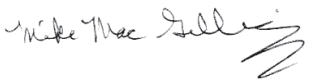
Maxxam Job #: B8W6543
Report Date: 2018/12/13

GHD Limited
Client Project #: 088664-25
Site Location: MARINETTE, NS
Your P.O. #: 5114
Sampler Initials: JR

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Mike MacGillivray, Scientific Specialist (Inorganics)

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Maxxam
A Bureau Veritas Group Company

Your P.O. #: 7216
Your Project #: 088664-25
Site#: Beaver Dam GW Monitoring

Attention: Jeff Parks

GHD Limited
45 Akerley Blvd
Dartmouth , NS
CANADA B3B 1J7

Your C.O.C. #: 709517-06-01, 709517-01-01, 709517-02-01, 709517-03-01, 709517-04-01, 709517-05-01

Report Date: 2019/04/12
Report #: R5668461
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B989269
Received: 2019/04/05, 10:57

Sample Matrix: Water
Samples Received: 43

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Carbonate, Bicarbonate and Hydroxide	43	N/A	2019/04/09	N/A	SM 23 4500-CO2 D
Alkalinity	43	N/A	2019/04/08	ATL SOP 00013	EPA 310.2 R1974 m
Chloride	43	N/A	2019/04/09	ATL SOP 00014	SM 23 4500-Cl- E m
Colour	43	N/A	2019/04/09	ATL SOP 00020	SM 23 2120C m
Conductance - water	43	N/A	2019/04/09	ATL SOP 00004	SM 23 2510B m
Hardness (calculated as CaCO3)	41	N/A	2019/04/10	ATL SOP 00048	Auto Calc
Hardness (calculated as CaCO3)	2	N/A	2019/04/11	ATL SOP 00048	Auto Calc
Metals Water Diss. MS (as rec'd)	40	N/A	2019/04/09	ATL SOP 00058	EPA 6020B R2 m
Metals Water Diss. MS (as rec'd)	3	N/A	2019/04/10	ATL SOP 00058	EPA 6020B R2 m
Ion Balance (% Difference)	41	N/A	2019/04/10	N/A	Auto Calc.
Ion Balance (% Difference)	2	N/A	2019/04/11	N/A	Auto Calc.
Anion and Cation Sum	41	N/A	2019/04/10	N/A	Auto Calc.
Anion and Cation Sum	2	N/A	2019/04/11	N/A	Auto Calc.
Nitrogen Ammonia - water	43	N/A	2019/04/09	ATL SOP 00015	EPA 350.1 R2 m
Nitrogen - Nitrate + Nitrite	43	N/A	2019/04/10	ATL SOP 00016	USGS I-2547-11m
Nitrogen - Nitrite	43	N/A	2019/04/09	ATL SOP 00017	SM 23 4500-NO2- B m
Nitrogen - Nitrate (as N)	43	N/A	2019/04/10	ATL SOP 00018	ASTM D3867-16
pH (1)	43	N/A	2019/04/09	ATL SOP 00003	SM 23 4500-H+ B m
Phosphorus - ortho	43	N/A	2019/04/09	ATL SOP 00021	SM 23 4500-P E m
Sat. pH and Langelier Index (@ 20C)	41	N/A	2019/04/10	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 20C)	2	N/A	2019/04/11	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 4C)	41	N/A	2019/04/10	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 4C)	2	N/A	2019/04/11	ATL SOP 00049	Auto Calc.
Reactive Silica	43	N/A	2019/04/09	ATL SOP 00022	EPA 366.0 m
Sulphate	43	N/A	2019/04/08	ATL SOP 00023	ASTM D516-16 m
Total Dissolved Solids (TDS calc)	41	N/A	2019/04/10	N/A	Auto Calc.
Total Dissolved Solids (TDS calc)	2	N/A	2019/04/11	N/A	Auto Calc.
Organic carbon - Total (TOC) (2)	41	N/A	2019/04/08	ATL SOP 00203	SM 23 5310B m

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Your P.O. #: 7216
Your Project #: 088664-25
Site#: Beaver Dam GW Monitoring

Attention: Jeff Parks

GHD Limited
45 Akerley Blvd
Dartmouth , NS
CANADA B3B 1J7

Your C.O.C. #: 709517-06-01, 709517-01-01, 709517-02-01, 709517-03-01, 709517-04-01, 709517-05-01

Report Date: 2019/04/12
Report #: R5668461
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B989269
Received: 2019/04/05, 10:57

Sample Matrix: Water
Samples Received: 43

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Organic carbon - Total (TOC) (2)	2	N/A	2019/04/09	ATL SOP 00203	SM 23 5310B m
Turbidity	43	N/A	2019/04/09	ATL SOP 00011	EPA 180.1 R2 m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

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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 Maxxam, results relate to the supplied samples tested.

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) The APHA Standard Method require 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 APHA Standard Method holding time.
(2) TOC / DOC present in the sample should be considered as non-purgeable TOC / DOC.

Your P.O. #: 7216
Your Project #: 088664-25
Site#: Beaver Dam GW Monitoring

Attention: Jeff Parks

GHD Limited
45 Akerley Blvd
Dartmouth , NS
CANADA B3B 1J7

Your C.O.C. #: 709517-06-01, 709517-01-01, 709517-02-01, 709517-03-01, 709517-04-01, 709517-05-01

Report Date: 2019/04/12
Report #: R5668461
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B989269
Received: 2019/04/05, 10:57

Encryption Key

Maxxam
12 Apr 2019 15:07:10

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Maryann Comeau, Project Manager
Email: MComeau@maxxam.ca
Phone# (902) 420-0203
==========
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Maxxam Analytics International Corporation o/a Maxxam Analytics 200 Bluewater Rd, Suite 105, Bedford, Nova Scotia Canada B4B 1G9 Tel: 902-420-0203 Toll-free: 800-565-7227 Fax: 902-420-8612 www.maxxamanalytics.com

Maxxam Job #: B989269
Report Date: 2019/04/12

GHD Limited
Client Project #: 088664-25
Your P.O. #: 7216
Sampler Initials: AF

RESULTS OF ANALYSES OF WATER

Maxxam ID		JJL507		JJL507		JJL508	JJL509	JJL510	
Sampling Date		2019/04/04 12:30		2019/04/04 12:30		2019/04/04 12:36	2019/04/04 12:47	2019/04/04 11:15	
COC Number		709517-01-01		709517-01-01		709517-01-01	709517-01-01	709517-01-01	
	UNITS	**MW-01A**	**RDL**	**MW-01A Lab-Dup**	**RDL**	**MW-01B**	**MW-01C**	**MW-02B**	**RDL**
Calculated Parameters									
Anion Sum	me/L	0.310	N/A			1.55	0.510	0.530	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	8.8	1.0			60	15	18	1.0
Calculated TDS	mg/L	20	1.0			90	31	42	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	1.0			<1.0	<1.0	<1.0	1.0
Cation Sum	me/L	0.290	N/A			1.44	0.460	0.440	N/A
Hardness (CaCO3)	mg/L	6.8	1.0			59	14	10	1.0
Ion Balance (% Difference)	%	3.33	N/A			3.68	5.15	9.28	N/A
Langelier Index (@ 20C)	N/A	-3.80				-0.569	-2.93	-3.05	
Langelier Index (@ 4C)	N/A	-4.06				-0.820	-3.18	-3.31	
Nitrate (N)	mg/L	<0.050	0.050			<0.050	<0.050	0.051	0.050
Saturation pH (@ 20C)	N/A	10.1				8.26	9.45	9.58	
Saturation pH (@ 4C)	N/A	10.3				8.51	9.70	9.84	
Inorganics									
Total Alkalinity (Total as CaCO3)	mg/L	8.8	5.0	8.8	5.0	60	15	18	5.0
Dissolved Chloride (Cl-)	mg/L	4.7	1.0	5.1	1.0	4.4	5.5	3.4	1.0
Colour	TCU	<5.0	5.0	<5.0	5.0	<5.0	<5.0	<5.0	5.0
Nitrate + Nitrite (N)	mg/L	<0.050	0.050	<0.050	0.050	<0.050	<0.050	0.051	0.050
Nitrite (N)	mg/L	<0.010	0.010	<0.010	0.010	<0.010	<0.010	<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	0.050			<0.050	<0.050	0.052	0.050
Total Organic Carbon (C)	mg/L	0.53	0.50			<0.50	1.2	<0.50	0.50
Orthophosphate (P)	mg/L	<0.010	0.010	<0.010	0.010	<0.010	<0.010	0.071	0.010
pH	pH	6.28	N/A	6.35	N/A	7.69	6.53	6.53	N/A
Reactive Silica (SiO2)	mg/L	3.9	0.50	4.0	0.50	10	4.7	15	0.50
Dissolved Sulphate (SO4)	mg/L	<2.0	2.0	<2.0	2.0	11	2.4	3.0	2.0
Turbidity	NTU	1.3	0.10	1.1	0.10	2.8	3.8	4.6	0.10
Conductivity	uS/cm	36	1.0	35	1.0	140	49	48	1.0

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Maxxam Job #: B989269
Report Date: 2019/04/12

GHD Limited
Client Project #: 088664-25
Your P.O. #: 7216
Sampler Initials: AF

RESULTS OF ANALYSES OF WATER

Maxxam ID		JJL511	JJL512	JJL513		JJL514		JJL515	
Sampling Date		2019/04/04 13:15	2019/04/04 13:21	2019/04/04 13:28		2019/04/04 14:10		2019/04/04 14:15	
COC Number		709517-01-01	709517-01-01	709517-01-01		709517-02-01		709517-02-01	
	UNITS	**MW-03A**	**MW-03B**	**MW-03C**	**RDL**	**MW-07A**	**RDL**	**MW-07B**	**RDL**
Calculated Parameters									
Anion Sum	me/L	0.230	0.980	2.02	N/A	2.67	N/A	6.65	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	6.0	37	89	1.0	110	1.0	300	1.0
Calculated TDS	mg/L	15	61	110	1.0	160	1.0	360	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	<1.0	<1.0	1.0	<1.0	1.0	2.3	1.0
Cation Sum	me/L	0.200	0.920	1.88	N/A	2.73	N/A	6.36	N/A
Hardness (CaCO3)	mg/L	4.1	35	79	1.0	110	1.0	270	1.0
Ion Balance (% Difference)	%	6.98	3.16	3.59	N/A	1.11	N/A	2.23	N/A
Langelier Index (@ 20C)	N/A	-4.66	-1.93	-0.222		-0.746		0.922	
Langelier Index (@ 4C)	N/A	-4.92	-2.18	-0.473		-0.996		0.674	
Nitrate (N)	mg/L	0.26	0.11	0.11	0.050	<0.050	0.050	<0.050	0.050
Saturation pH (@ 20C)	N/A	10.5	8.66	7.96		7.84		6.98	
Saturation pH (@ 4C)	N/A	10.7	8.91	8.21		8.09		7.23	
Inorganics									
Total Alkalinity (Total as CaCO3)	mg/L	6.0	37	90	5.0	110	25	300	25
Dissolved Chloride (Cl-)	mg/L	3.2	5.6	4.2	1.0	4.8	1.0	6.3	1.0
Colour	TCU	12	<5.0	<5.0	5.0	110	25	<5.0	5.0
Nitrate + Nitrite (N)	mg/L	0.26	0.11	0.11	0.050	<0.050	0.050	<0.050	0.050
Nitrite (N)	mg/L	<0.010	<0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	<0.050	<0.050	0.050	<0.050	0.050	0.059	0.050
Total Organic Carbon (C)	mg/L	3.3	0.51	0.58	0.50	1.1	0.50	3.4	0.50
Orthophosphate (P)	mg/L	<0.010	<0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010
pH	pH	5.83	6.74	7.74	N/A	7.09	N/A	7.90	N/A
Reactive Silica (SiO2)	mg/L	3.1	10	13	0.50	20	1.0	23	1.0
Dissolved Sulphate (SO4)	mg/L	<2.0	3.5	4.7	2.0	12	2.0	21	2.0
Turbidity	NTU	1.9	0.53	1.2	0.10	50	0.10	4.2	0.10
Conductivity	uS/cm	25	93	180	1.0	250	1.0	580	1.0

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RESULTS OF ANALYSES OF WATER

Maxxam ID		JJL516		JJL517	JJL518	JJL519	JJL520	
Sampling Date		2019/04/04 14:05		2019/04/04 13:48	2019/04/04 13:54	2019/04/04 14:03	2019/04/04 13:39	
COC Number		709517-02-01		709517-02-01	709517-02-01	709517-02-01	709517-03-01	
	UNITS	MW-07D	RDL	MW-09A	MW-09B	MW-09D	MW-11-B	RDL
Calculated Parameters								
Anion Sum	me/L	3.35	N/A	0.550	2.23	3.19	1.84	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	130	1.0	18	75	75	76	1.0
Calculated TDS	mg/L	190	1.0	35	130	200	100	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	1.3	1.0	<1.0	<1.0	<1.0	<1.0	1.0
Cation Sum	me/L	3.25	N/A	0.470	2.05	2.97	1.67	N/A
Hardness (CaCO3)	mg/L	120	1.0	18	79	100	68	1.0
Ion Balance (% Difference)	%	1.52	N/A	7.84	4.21	3.57	4.84	N/A
Langelier Index (@ 20C)	N/A	0.354		-2.95	-0.146	-0.238	-0.218	
Langelier Index (@ 4C)	N/A	0.104		-3.20	-0.396	-0.488	-0.469	
Nitrate (N)	mg/L	<0.050	0.050	0.14	<0.050	0.067	0.16	0.050
Saturation pH (@ 20C)	N/A	7.67		9.25	8.04	7.98	8.07	
Saturation pH (@ 4C)	N/A	7.92		9.51	8.29	8.23	8.32	
Inorganics								
Total Alkalinity (Total as CaCO3)	mg/L	140	25	18	76	75	77	5.0
Dissolved Chloride (Cl-)	mg/L	7.3	1.0	4.0	4.0	8.2	4.3	1.0
Colour	TCU	<5.0	5.0	<5.0	<5.0	<5.0	<5.0	5.0
Nitrate + Nitrite (N)	mg/L	<0.050	0.050	0.14	<0.050	0.067	0.16	0.050
Nitrite (N)	mg/L	<0.010	0.010	<0.010	<0.010	<0.010	<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	0.15	0.050	<0.050	<0.050	0.050	<0.050	0.050
Total Organic Carbon (C)	mg/L	3.1	0.50	0.76	1.7	8.6	0.86	0.50
Orthophosphate (P)	mg/L	0.030	0.010	<0.010	0.015	0.014	0.010	0.010
pH	pH	8.03	N/A	6.30	7.89	7.74	7.85	N/A
Reactive Silica (SiO2)	mg/L	19	0.50	6.2	9.7	12	9.2	0.50
Dissolved Sulphate (SO4)	mg/L	21	2.0	3.3	29	70	8.1	2.0
Turbidity	NTU	17	0.10	<0.10	7.9	4.5	5.0	0.10
Conductivity	uS/cm	310	1.0	51	200	300	160	1.0

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RESULTS OF ANALYSES OF WATER

Maxxam ID		JJL521		JJL522		JJL522		JJL523	
Sampling Date		2019/04/04 14:18		2019/04/04 14:25		2019/04/04 14:25		2019/04/04 11:05	
COC Number		709517-03-01		709517-03-01		709517-03-01		709517-03-01	
	UNITS	MW-12A	RDL	MW-12B	RDL	MW-12B Lab-Dup	RDL	MW-14A	RDL
Calculated Parameters									
Anion Sum	me/L	0.860	N/A	2.31	N/A			0.620	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	32	1.0	87	1.0			22	1.0
Calculated TDS	mg/L	55	1.0	130	1.0			46	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	1.0	<1.0	1.0			<1.0	1.0
Cation Sum	me/L	0.760	N/A	2.12	N/A			0.530	N/A
Hardness (CaCO3)	mg/L	12	1.0	67	1.0			13	1.0
Ion Balance (% Difference)	%	6.17	N/A	4.29	N/A			7.83	N/A
Langelier Index (@ 20C)	N/A	-2.78		-0.362				-3.03	
Langelier Index (@ 4C)	N/A	-3.03		-0.613				-3.29	
Nitrate (N)	mg/L	0.10	0.050	<0.050	0.050			0.13	0.050
Saturation pH (@ 20C)	N/A	9.31		8.06				9.38	
Saturation pH (@ 4C)	N/A	9.56		8.31				9.64	
Inorganics									
Total Alkalinity (Total as CaCO3)	mg/L	32	5.0	88	5.0			22	5.0
Dissolved Chloride (Cl-)	mg/L	3.0	1.0	3.6	1.0			3.8	1.0
Colour	TCU	11	5.0	<5.0	5.0			<5.0	5.0
Nitrate + Nitrite (N)	mg/L	0.10	0.050	<0.050	0.050			0.13	0.050
Nitrite (N)	mg/L	<0.010	0.010	<0.010	0.010			<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	0.050	0.075	0.050	0.060	0.050	<0.050	0.050
Total Organic Carbon (C)	mg/L	6.0 (1)	5.0	0.91	0.50			<0.50	0.50
Orthophosphate (P)	mg/L	<0.010	0.010	0.013	0.010			<0.010	0.010
pH	pH	6.53	N/A	7.69	N/A			6.35	N/A
Reactive Silica (SiO2)	mg/L	9.0	0.50	11	0.50			14	0.50
Dissolved Sulphate (SO4)	mg/L	5.6	2.0	22	2.0			2.9	2.0
Turbidity	NTU	360	1.0	9.3	0.10			4.9	0.10
Conductivity	uS/cm	81	1.0	210	1.0			56	1.0

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RESULTS OF ANALYSES OF WATER

Maxxam ID		JJL524		JJL525		JJL526		JJL527	
Sampling Date		2019/04/04 11:00		2019/04/04 10:50		2019/04/04 11:35		2019/04/04 11:40	
COC Number		709517-03-01		709517-03-01		709517-03-01		709517-03-01	
	UNITS	MW-14B	RDL	MW-14C	RDL	MW-16A	RDL	MW-16B	RDL
Calculated Parameters									
Anion Sum	me/L	2.09	N/A	1.77	N/A	1.46	N/A	1.42	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	89	1.0	73	1.0	64	1.0	59	1.0
Calculated TDS	mg/L	120	1.0	100	1.0	83	1.0	83	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	1.0	<1.0	1.0	<1.0	1.0	<1.0	1.0
Cation Sum	me/L	1.93	N/A	1.62	N/A	1.28	N/A	1.31	N/A
Hardness (CaCO3)	mg/L	44	1.0	34	1.0	3.0	1.0	54	1.0
Ion Balance (% Difference)	%	3.98	N/A	4.42	N/A	6.57	N/A	4.03	N/A
Langelier Index (@ 20C)	N/A	-0.419		-0.592		-2.59		-0.595	
Langelier Index (@ 4C)	N/A	-0.669		-0.843		-2.84		-0.846	
Nitrate (N)	mg/L	<0.050	0.050	<0.050	0.050	0.094	0.050	0.20	0.050
Saturation pH (@ 20C)	N/A	8.25		8.46		9.52		8.27	
Saturation pH (@ 4C)	N/A	8.50		8.71		9.77		8.52	
Inorganics									
Total Alkalinity (Total as CaCO3)	mg/L	90	5.0	73	5.0	64	5.0	59	5.0
Dissolved Chloride (Cl-)	mg/L	4.0	1.0	3.9	1.0	3.6	1.0	4.0	1.0
Colour	TCU	<5.0	5.0	<5.0	5.0	<5.0	5.0	<5.0	5.0
Nitrate + Nitrite (N)	mg/L	<0.050	0.050	<0.050	0.050	0.094	0.050	0.20	0.050
Nitrite (N)	mg/L	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	0.050	<0.050	0.050	0.11	0.050	<0.050	0.050
Total Organic Carbon (C)	mg/L	<5.0 (1)	5.0	2.1	0.50	<5.0 (1)	5.0	0.65	0.50
Orthophosphate (P)	mg/L	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010
pH	pH	7.83	N/A	7.87	N/A	6.92	N/A	7.68	N/A
Reactive Silica (SiO2)	mg/L	9.9	0.50	10	0.50	7.9	0.50	10	0.50
Dissolved Sulphate (SO4)	mg/L	8.6	2.0	9.5	2.0	3.4	2.0	5.3	2.0
Turbidity	NTU	540	1.0	8.8	0.10	220	1.0	1.4	0.10
Conductivity	uS/cm	180	1.0	160	1.0	130	1.0	130	1.0

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RESULTS OF ANALYSES OF WATER

Maxxam ID		JJL527		JJL528	JJL529	JJL530		JJL530	
Sampling Date		2019/04/04 11:40		2019/04/04 12:15	2019/04/04 12:20	2019/04/04 12:30		2019/04/04 12:30	
COC Number		709517-03-01		709517-03-01	709517-04-01	709517-04-01		709517-04-01	
	UNITS	MW-16B Lab-Dup	RDL	MW-17A	MW-17B	MW-17C	RDL	MW-17C Lab-Dup	RDL
Calculated Parameters									
Anion Sum	me/L			0.290	0.370	0.420	N/A		
Bicarb. Alkalinity (calc. as CaCO3)	mg/L			6.0	8.1	11	1.0		
Calculated TDS	mg/L			19	28	32	1.0		
Carb. Alkalinity (calc. as CaCO3)	mg/L			<1.0	<1.0	<1.0	1.0		
Cation Sum	me/L			0.210	0.290	0.360	N/A		
Hardness (CaCO3)	mg/L			3.6	7.2	10	1.0		
Ion Balance (% Difference)	%			16.0	12.1	7.69	N/A		
Langelier Index (@ 20C)	N/A			-5.14	-4.05	-3.57			
Langelier Index (@ 4C)	N/A			-5.40	-4.30	-3.82			
Nitrate (N)	mg/L			<0.050	0.059	<0.050	0.050		
Saturation pH (@ 20C)	N/A			10.6	10.1	9.77			
Saturation pH (@ 4C)	N/A			10.9	10.4	10.0			
Inorganics									
Total Alkalinity (Total as CaCO3)	mg/L			6.0	8.1	11	5.0	11	5.0
Dissolved Chloride (Cl-)	mg/L			3.7	5.2	5.1	1.0	4.6	1.0
Colour	TCU			<5.0	<5.0	<5.0	5.0	<5.0	5.0
Nitrate + Nitrite (N)	mg/L			<0.050	0.059	<0.050	0.050	0.050	0.050
Nitrite (N)	mg/L			<0.010	<0.010	<0.010	0.010	<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	0.050	0.060	<0.050	<0.050	0.050		
Total Organic Carbon (C)	mg/L			1.0	<0.50	0.56	0.50		
Orthophosphate (P)	mg/L			<0.010	0.019	0.017	0.010	0.017	0.010
pH	pH			5.48	6.09	6.20	N/A	6.26	N/A
Reactive Silica (SiO2)	mg/L			3.8	9.3	10	0.50	10	0.50
Dissolved Sulphate (SO4)	mg/L			3.3	2.6	2.1	2.0	2.1	2.0
Turbidity	NTU			13	5.2	3.5	0.10	3.4	0.10
Conductivity	uS/cm			29	34	42	1.0	41	1.0

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RESULTS OF ANALYSES OF WATER

Maxxam ID		JJL531		JJL531		JJL532	JJL533	JJL534	
Sampling Date		2019/04/04 13:05		2019/04/04 13:05		2019/04/04 13:25	2019/04/04 13:10	2019/04/04 11:36	
COC Number		709517-04-01		709517-04-01		709517-04-01	709517-04-01	709517-04-01	
	UNITS	MW-18A	RDL	MW-18A Lab-Dup	RDL	MW-18B	MW-18C	MW-19A	RDL
Calculated Parameters									
Anion Sum	me/L	0.310	N/A			1.24	2.04	0.400	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	5.7	1.0			45	59	7.9	1.0
Calculated TDS	mg/L	22	1.0			77	130	29	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	1.0			<1.0	<1.0	<1.0	1.0
Cation Sum	me/L	0.240	N/A			1.16	1.96	0.370	N/A
Hardness (CaCO3)	mg/L	6.3	1.0			41	55	3.3	1.0
Ion Balance (% Difference)	%	12.7	N/A			3.33	2.00	3.90	N/A
Langelier Index (@ 20C)	N/A	-4.41				-0.775	-0.709	-4.73	
Langelier Index (@ 4C)	N/A	-4.66				-1.03	-0.959	-4.99	
Nitrate (N)	mg/L	0.054	0.050			<0.050	<0.050	0.16	0.050
Saturation pH (@ 20C)	N/A	10.3				8.51	8.31	10.5	
Saturation pH (@ 4C)	N/A	10.6				8.76	8.56	10.8	
Inorganics									
Total Alkalinity (Total as CaCO3)	mg/L	5.7	5.0	5.8	5.0	45	59	7.9	5.0
Dissolved Chloride (Cl-)	mg/L	4.3	1.0	3.5	1.0	3.1	4.6	4.0	1.0
Colour	TCU	<5.0	5.0	<5.0	5.0	<5.0	<5.0	9.8	5.0
Nitrate + Nitrite (N)	mg/L	0.054	0.050	0.061	0.050	<0.050	<0.050	0.16	0.050
Nitrite (N)	mg/L	<0.010	0.010	<0.010	0.010	<0.010	<0.010	<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	0.050			<0.050	<0.050	0.11	0.050
Total Organic Carbon (C)	mg/L	0.75	0.50			<0.50	5.6	7.9	0.50
Orthophosphate (P)	mg/L	<0.010	0.010	<0.010	0.010	0.048	<0.010	<0.010	0.010
pH	pH	5.89	N/A	5.88	N/A	7.74	7.60	5.81	N/A
Reactive Silica (SiO2)	mg/L	5.3	0.50	5.3	0.50	11	12	5.5	0.50
Dissolved Sulphate (SO4)	mg/L	3.6	2.0	3.7	2.0	11	35	5.7	2.0
Turbidity	NTU	0.63	0.10			18	9.0	9.9	0.10
Conductivity	uS/cm	31	1.0	30	1.0	120	200	38	1.0

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Maxxam Job #: B989269
Report Date: 2019/04/12

GHD Limited
Client Project #: 088664-25
Your P.O. #: 7216
Sampler Initials: AF

RESULTS OF ANALYSES OF WATER

Maxxam ID		JJL534		JJL535	JJL536	JJL537	JJL538	JJL539	
Sampling Date		2019/04/04 11:36		2019/04/04 11:41	2019/04/04 11:48	2019/04/04 10:52	2019/04/04 10:59	2019/04/04 10:07	
COC Number		709517-04-01		709517-04-01	709517-04-01	709517-04-01	709517-04-01	709517-05-01	
	UNITS	MW-19A Lab-Dup	RDL	MW-19B	MW-19C	MW-20A	MW-20B	MW-21A	RDL
Calculated Parameters									
Anion Sum	me/L			1.56	1.13	0.300	2.17	0.280	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L			62	41	7.1	92	7.8	1.0
Calculated TDS	mg/L			90	69	21	120	19	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L			<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Cation Sum	me/L			1.43	1.03	0.230	2.01	0.220	N/A
Hardness (CaCO3)	mg/L			60	35	4.8	74	5.4	1.0
Ion Balance (% Difference)	%			4.35	4.63	13.2	3.83	12.0	N/A
Langelier Index (@ 20C)	N/A			-0.446	-1.45	-4.55	-0.170	-4.52	
Langelier Index (@ 4C)	N/A			-0.697	-1.70	-4.80	-0.421	-4.77	
Nitrate (N)	mg/L			0.076	0.15	0.42	0.068	0.17	0.050
Saturation pH (@ 20C)	N/A			8.21	8.63	10.4	8.05	10.3	
Saturation pH (@ 4C)	N/A			8.46	8.88	10.6	8.30	10.5	
Inorganics									
Total Alkalinity (Total as CaCO3)	mg/L			62	41	7.1	93	7.8	5.0
Dissolved Chloride (Cl-)	mg/L			3.5	3.9	2.8	3.3	2.4	1.0
Colour	TCU			<5.0	<5.0	<5.0	<5.0	<5.0	5.0
Nitrate + Nitrite (N)	mg/L			0.076	0.15	0.42	0.068	0.17	0.050
Nitrite (N)	mg/L			<0.010	<0.010	<0.010	<0.010	<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L			<0.050	<0.050	<0.050	<0.050	<0.050	0.050
Total Organic Carbon (C)	mg/L	7.9	0.50	<0.50	0.95	1.1	<0.50	2.8	0.50
Orthophosphate (P)	mg/L			<0.010	<0.010	<0.010	<0.010	<0.010	0.010
pH	pH			7.77	7.18	5.82	7.88	5.75	N/A
Reactive Silica (SiO2)	mg/L			9.4	9.5	4.6	13	4.5	0.50
Dissolved Sulphate (SO4)	mg/L			10	9.1	2.5	10	2.4	2.0
Turbidity	NTU			2.0	7.1	4.5	4.3	23	0.10
Conductivity	uS/cm			140	100	29	190	26	1.0

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Sampler Initials: AF

RESULTS OF ANALYSES OF WATER

Maxxam ID		JJL540	JJL541	JJL542	JJL543	JJL544		JJL544	
Sampling Date		2019/04/04 10:15	2019/04/04 10:19	2019/04/04 09:55	2019/04/04 09:45	2019/04/04 09:35		2019/04/04 09:35	
COC Number		709517-05-01	709517-05-01	709517-05-01	709517-05-01	709517-05-01		709517-05-01	
	UNITS	MW-21B	MW-21C	MW-22A	MW-22B	MW-22C	RDL	MW-22C Lab-Dup	RDL
Calculated Parameters									
Anion Sum	me/L	0.320	1.74	0.390	0.830	2.19	N/A		
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	10	59	7.5	28	94	1.0		
Calculated TDS	mg/L	22	110	61	52	89	1.0		
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	1.0		
Cation Sum	me/L	0.260	1.57	2.01	0.740	0.310	N/A		
Hardness (CaCO3)	mg/L	8.1	47	58	21	4.2	1.0		
Ion Balance (% Difference)	%	10.3	5.14	67.5	5.73	75.2	N/A		
Langelier Index (@ 20C)	N/A	-3.99	-1.80	-3.29	-2.52	-1.50			
Langelier Index (@ 4C)	N/A	-4.24	-2.05	-3.54	-2.77	-1.75			
Nitrate (N)	mg/L	0.15	0.19	0.089	0.056	0.11	0.050		
Saturation pH (@ 20C)	N/A	9.99	8.56	9.18	9.08	9.42			
Saturation pH (@ 4C)	N/A	10.2	8.81	9.43	9.34	9.67			
Inorganics									
Total Alkalinity (Total as CaCO3)	mg/L	10	59	7.5	28	94	5.0		
Dissolved Chloride (Cl-)	mg/L	2.4	4.8	4.7	4.9	4.0	1.0		
Colour	TCU	<5.0	<5.0	<5.0	<5.0	<5.0	5.0		
Nitrate + Nitrite (N)	mg/L	0.15	0.23	0.089	0.056	0.11	0.050		
Nitrite (N)	mg/L	<0.010	0.041	<0.010	<0.010	<0.010	0.010		
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	0.050		
Total Organic Carbon (C)	mg/L	2.0	2.8	1.5	1.2	1.3	0.50	1.3	0.50
Orthophosphate (P)	mg/L	0.023	<0.010	<0.010	<0.010	<0.010	0.010		
pH	pH	6.01	6.76	5.89	6.56	7.92	N/A		
Reactive Silica (SiO2)	mg/L	5.1	19	5.4	8.5	12	0.50		
Dissolved Sulphate (SO4)	mg/L	2.1	20	4.7	6.5	8.5	2.0		
Turbidity	NTU	1.8	3.7	7.2	4.2	2.4	0.10		
Conductivity	uS/cm	30	160	37	79	190	1.0		

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RESULTS OF ANALYSES OF WATER

Maxxam ID		JJL545	JJL546	JJL547		JJL547		JJL548	
Sampling Date		2019/04/04	2019/04/04	2019/04/04		2019/04/04		2019/04/04	
COC Number		709517-05-01	709517-05-01	709517-05-01		709517-05-01		709517-05-01	
	UNITS	DUP1	DUP2	DUP3	RDL	DUP3 Lab-Dup	RDL	DUP4	RDL
Calculated Parameters									
Anion Sum	me/L	0.280	1.56	3.21	N/A			2.20	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	7.9	60	74	1.0			95	1.0
Calculated TDS	mg/L	19	90	200	1.0			89	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	<1.0	<1.0	1.0			<1.0	1.0
Cation Sum	me/L	0.210	1.44	2.95	N/A			0.310	N/A
Hardness (CaCO3)	mg/L	5.2	59	100	1.0			4.2	1.0
Ion Balance (% Difference)	%	14.3	4.00	4.22	N/A			75.3	N/A
Langelier Index (@ 20C)	N/A	-4.50	-0.411	-0.312				-1.55	
Langelier Index (@ 4C)	N/A	-4.75	-0.662	-0.562				-1.80	
Nitrate (N)	mg/L	0.16	<0.050	0.062	0.050			<0.050	0.050
Saturation pH (@ 20C)	N/A	10.3	8.25	7.99				9.41	
Saturation pH (@ 4C)	N/A	10.5	8.50	8.24				9.66	
Inorganics									
Total Alkalinity (Total as CaCO3)	mg/L	7.9	61	75	5.0			95	5.0
Dissolved Chloride (Cl-)	mg/L	2.3	4.3	8.0	1.0			4.3	1.0
Colour	TCU	<5.0	<5.0	<5.0	5.0			<5.0	5.0
Nitrate + Nitrite (N)	mg/L	0.16	<0.050	0.062	0.050			<0.050	0.050
Nitrite (N)	mg/L	<0.010	<0.010	<0.010	0.010			<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	<0.050	<0.050	0.050			<0.050	0.050
Total Organic Carbon (C)	mg/L	2.7	<0.50	8.7	0.50	8.5	0.50	1.3	0.50
Orthophosphate (P)	mg/L	<0.010	<0.010	0.014	0.010			<0.010	0.010
pH	pH	5.78	7.84	7.68	N/A			7.86	N/A
Reactive Silica (SiO2)	mg/L	4.4	10	12	0.50			12	0.50
Dissolved Sulphate (SO4)	mg/L	2.1	11	71	2.0			8.6	2.0
Turbidity	NTU	8.8	5.3	7.4	0.10			3.7	0.10
Conductivity	uS/cm	26	140	300	1.0			190	1.0

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Sampler Initials: AF

RESULTS OF ANALYSES OF WATER

Maxxam ID		JJL549	
Sampling Date		2019/04/04	
COC Number		709517-06-01	
	UNITS	DUP5	RDL
Calculated Parameters			
Anion Sum	me/L	0.320	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	6.2	1.0
Calculated TDS	mg/L	22	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	1.0
Cation Sum	me/L	0.240	N/A
Hardness (CaCO3)	mg/L	6.2	1.0
Ion Balance (% Difference)	%	14.3	N/A
Langelier Index (@ 20C)	N/A	-4.27	
Langelier Index (@ 4C)	N/A	-4.52	
Nitrate (N)	mg/L	0.051	0.050
Saturation pH (@ 20C)	N/A	10.3	
Saturation pH (@ 4C)	N/A	10.5	
Inorganics			
Total Alkalinity (Total as CaCO3)	mg/L	6.2	5.0
Dissolved Chloride (Cl-)	mg/L	4.2	1.0
Colour	TCU	<5.0	5.0
Nitrate + Nitrite (N)	mg/L	0.051	0.050
Nitrite (N)	mg/L	<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	0.050
Total Organic Carbon (C)	mg/L	0.69	0.50
Orthophosphate (P)	mg/L	<0.010	0.010
pH	pH	6.00	N/A
Reactive Silica (SiO2)	mg/L	5.3	0.50
Dissolved Sulphate (SO4)	mg/L	3.4	2.0
Turbidity	NTU	0.64	0.10
Conductivity	uS/cm	30	1.0

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Sampler Initials: AF

ELEMENTS BY ICP/MS (WATER)

Maxxam ID		JJL507	JJL508	JJL509	JJL510	JJL511	JJL512	JJL513	
Sampling Date		2019/04/04 12:30	2019/04/04 12:36	2019/04/04 12:47	2019/04/04 11:15	2019/04/04 13:15	2019/04/04 13:21	2019/04/04 13:28	
COC Number		709517-01-01	709517-01-01	709517-01-01	709517-01-01	709517-01-01	709517-01-01	709517-01-01	
	UNITS	MW-01A	MW-01B	MW-01C	MW-02B	MW-03A	MW-03B	MW-03C	RDL
Metals									
Dissolved Aluminum (Al)	ug/L	12	11	5.6	16	200	<5.0	7.0	5.0
Dissolved Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Arsenic (As)	ug/L	<1.0	3.6	<1.0	2.4	<1.0	<1.0	2.2	1.0
Dissolved Barium (Ba)	ug/L	5.4	7.6	3.4	3.6	6.2	2.9	3.9	1.0
Dissolved Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Boron (B)	ug/L	<50	<50	<50	<50	<50	<50	<50	50
Dissolved Cadmium (Cd)	ug/L	0.032	0.012	<0.010	0.44	0.024	0.025	0.011	0.010
Dissolved Calcium (Ca)	ug/L	1800	20000	4600	2900	1000	12000	27000	100
Dissolved Chromium (Cr)	ug/L	<1.0	1.2	<1.0	<1.0	1.2	<1.0	<1.0	1.0
Dissolved Cobalt (Co)	ug/L	0.55	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	0.40
Dissolved Copper (Cu)	ug/L	1.4	1.2	<0.50	2.2	2.4	1.5	1.6	0.50
Dissolved Iron (Fe)	ug/L	<50	<50	<50	<50	<50	<50	<50	50
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Dissolved Magnesium (Mg)	ug/L	580	2100	560	730	400	1200	2600	100
Dissolved Manganese (Mn)	ug/L	140	4.9	<2.0	11	42	5.0	28	2.0
Dissolved Molybdenum (Mo)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.1	2.0
Dissolved Nickel (Ni)	ug/L	<2.0	<2.0	<2.0	<2.0	2.7	<2.0	<2.0	2.0
Dissolved Phosphorus (P)	ug/L	<100	<100	<100	<100	<100	<100	<100	100
Dissolved Potassium (K)	ug/L	710	1600	790	520	390	880	2300	100
Dissolved Selenium (Se)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Silver (Ag)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Dissolved Sodium (Na)	ug/L	3100	5100	3700	5000	2300	4400	5800	100
Dissolved Strontium (Sr)	ug/L	13	58	24	20	13	25	73	2.0
Dissolved Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Dissolved Tin (Sn)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Titanium (Ti)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Uranium (U)	ug/L	<0.10	0.80	0.12	0.85	<0.10	0.27	1.6	0.10
Dissolved Vanadium (V)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Zinc (Zn)	ug/L	<5.0	<5.0	<5.0	80	<5.0	<5.0	6.6	5.0

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ELEMENTS BY ICP/MS (WATER)

Maxxam ID		JJL514	JJL515	JJL516	JJL517	JJL518	JJL519	JJL520	
Sampling Date		2019/04/04 14:10	2019/04/04 14:15	2019/04/04 14:05	2019/04/04 13:48	2019/04/04 13:54	2019/04/04 14:03	2019/04/04 13:39	
COC Number		709517-02-01	709517-02-01	709517-02-01	709517-02-01	709517-02-01	709517-02-01	709517-03-01	
	UNITS	MW-07A	MW-07B	MW-07D	MW-09A	MW-09B	MW-09D	MW-11-B	RDL
Metals									
Dissolved Aluminum (Al)	ug/L	<5.0	5.2	8.6	16	8.1	13	8.6	5.0
Dissolved Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Arsenic (As)	ug/L	6.1	38	150	3.1	100	110	26	1.0
Dissolved Barium (Ba)	ug/L	7.9	15	10	8.9	14	11	9.7	1.0
Dissolved Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Boron (B)	ug/L	<50	<50	<50	<50	<50	<50	<50	50
Dissolved Cadmium (Cd)	ug/L	0.013	<0.010	<0.010	0.063	<0.010	<0.010	<0.010	0.010
Dissolved Calcium (Ca)	ug/L	30000	95000	38000	6200	28000	34000	24000	100
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Cobalt (Co)	ug/L	<0.40	<0.40	<0.40	0.48	<0.40	<0.40	<0.40	0.40
Dissolved Copper (Cu)	ug/L	<0.50	<0.50	<0.50	2.2	<0.50	<0.50	<0.50	0.50
Dissolved Iron (Fe)	ug/L	4500	<50	<50	<50	<50	<50	<50	50
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Dissolved Magnesium (Mg)	ug/L	7300	7600	5400	610	2400	4500	1600	100
Dissolved Manganese (Mn)	ug/L	540	1200	56	29	61	88	48	2.0
Dissolved Molybdenum (Mo)	ug/L	<2.0	2.7	<2.0	<2.0	6.8	6.6	<2.0	2.0
Dissolved Nickel (Ni)	ug/L	<2.0	<2.0	<2.0	2.8	<2.0	<2.0	<2.0	2.0
Dissolved Phosphorus (P)	ug/L	<100	<100	<100	<100	<100	<100	<100	100
Dissolved Potassium (K)	ug/L	1800	3100	1100	510	1200	1200	1100	100
Dissolved Selenium (Se)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Silver (Ag)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Dissolved Sodium (Na)	ug/L	9600	20000	20000	2400	10000	20000	6800	100
Dissolved Strontium (Sr)	ug/L	160	320	310	17	370	740	70	2.0
Dissolved Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Dissolved Tin (Sn)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Titanium (Ti)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Uranium (U)	ug/L	<0.10	3.4	1.2	0.11	6.6	2.6	0.92	0.10
Dissolved Vanadium (V)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Zinc (Zn)	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.0

RDL = Reportable Detection Limit

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Maxxam Job #: B989269
Report Date: 2019/04/12

GHD Limited
Client Project #: 088664-25
Your P.O. #: 7216
Sampler Initials: AF

ELEMENTS BY ICP/MS (WATER)

Maxxam ID		JJL521	JJL522	JJL523	JJL524	JJL525	JJL525	JJL526	
Sampling Date		2019/04/04 14:18	2019/04/04 14:25	2019/04/04 11:05	2019/04/04 11:00	2019/04/04 10:50	2019/04/04 10:50	2019/04/04 11:35	
COC Number		709517-03-01	709517-03-01	709517-03-01	709517-03-01	709517-03-01	709517-03-01	709517-03-01	
	UNITS	MW-12A	MW-12B	MW-14A	MW-14B	MW-14C	MW-14C Lab-Dup	MW-16A	RDL
Metals									
Dissolved Aluminum (Al)	ug/L	18	<5.0	<5.0	6.3	27	23	61	5.0
Dissolved Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Arsenic (As)	ug/L	<1.0	43	1.3	4.7	1.4	1.4	<1.0	1.0
Dissolved Barium (Ba)	ug/L	5.5	8.2	2.7	7.2	5.0	4.9	1.2	1.0
Dissolved Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Boron (B)	ug/L	<50	<50	<50	<50	110	110	<50	50
Dissolved Cadmium (Cd)	ug/L	0.030	<0.010	0.011	<0.010	<0.010	<0.010	0.015	0.010
Dissolved Calcium (Ca)	ug/L	3100	23000	3700	14000	11000	11000	1000	100
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0	1.1	<1.0	<1.0	1.0
Dissolved Cobalt (Co)	ug/L	1.4	<0.40	1.0	<0.40	<0.40	<0.40	<0.40	0.40
Dissolved Copper (Cu)	ug/L	0.61	<0.50	1.7	<0.50	0.86	<0.50	1.6	0.50
Dissolved Iron (Fe)	ug/L	<50	<50	<50	<50	<50	<50	52	50
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Dissolved Magnesium (Mg)	ug/L	1000	2400	900	2000	1700	1700	110	100
Dissolved Manganese (Mn)	ug/L	410	220	180	160	20	20	84	2.0
Dissolved Molybdenum (Mo)	ug/L	<2.0	17	<2.0	8.4	<2.0	<2.0	2.3	2.0
Dissolved Nickel (Ni)	ug/L	<2.0	<2.0	3.5	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Phosphorus (P)	ug/L	<100	<100	<100	<100	<100	<100	<100	100
Dissolved Potassium (K)	ug/L	1200	1500	880	1400	630	580	580	100
Dissolved Selenium (Se)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Silver (Ag)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Dissolved Sodium (Na)	ug/L	11000	17000	5700	23000	21000	21000	27000	100
Dissolved Strontium (Sr)	ug/L	26	130	29	100	240	240	5.7	2.0
Dissolved Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Dissolved Tin (Sn)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Titanium (Ti)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Uranium (U)	ug/L	<0.10	2.0	<0.10	0.75	0.26	0.26	0.33	0.10
Dissolved Vanadium (V)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Zinc (Zn)	ug/L	<5.0	<5.0	6.9	<5.0	<5.0	<5.0	<5.0	5.0

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Report Date: 2019/04/12

GHD Limited
Client Project #: 088664-25
Your P.O. #: 7216
Sampler Initials: AF

ELEMENTS BY ICP/MS (WATER)

Maxxam ID		JJL527	JJL528	JJL529	JJL530	JJL531	JJL532	JJL533	
Sampling Date		2019/04/04 11:40	2019/04/04 12:15	2019/04/04 12:20	2019/04/04 12:30	2019/04/04 13:05	2019/04/04 13:25	2019/04/04 13:10	
COC Number		709517-03-01	709517-03-01	709517-04-01	709517-04-01	709517-04-01	709517-04-01	709517-04-01	
	UNITS	MW-16B	MW-17A	MW-17B	MW-17C	MW-18A	MW-18B	MW-18C	RDL
Metals									
Dissolved Aluminum (Al)	ug/L	11	320	11	6.2	35	9.5	11	5.0
Dissolved Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Arsenic (As)	ug/L	9.6	<1.0	<1.0	2.0	7.5	230	110	1.0
Dissolved Barium (Ba)	ug/L	2.9	20	3.7	1.3	5.5	5.2	11	1.0
Dissolved Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Boron (B)	ug/L	<50	<50	<50	<50	<50	<50	<50	50
Dissolved Cadmium (Cd)	ug/L	0.013	0.046	0.020	0.017	0.017	<0.010	<0.010	0.010
Dissolved Calcium (Ca)	ug/L	19000	760	1700	2900	1700	15000	19000	100
Dissolved Chromium (Cr)	ug/L	1.4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Cobalt (Co)	ug/L	<0.40	1.3	<0.40	<0.40	0.96	<0.40	<0.40	0.40
Dissolved Copper (Cu)	ug/L	0.72	15	<0.50	<0.50	5.6	<0.50	<0.50	0.50
Dissolved Iron (Fe)	ug/L	<50	<50	<50	<50	<50	<50	<50	50
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Dissolved Magnesium (Mg)	ug/L	1300	410	700	680	520	1200	1900	100
Dissolved Manganese (Mn)	ug/L	2.2	99	4.0	5.5	21	2.8	94	2.0
Dissolved Molybdenum (Mo)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	5.5	5.2	2.0
Dissolved Nickel (Ni)	ug/L	<2.0	9.0	<2.0	<2.0	3.0	<2.0	<2.0	2.0
Dissolved Phosphorus (P)	ug/L	<100	<100	<100	<100	<100	<100	<100	100
Dissolved Potassium (K)	ug/L	1300	350	380	400	510	1300	1400	100
Dissolved Selenium (Se)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Silver (Ag)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Dissolved Sodium (Na)	ug/L	4700	2800	3000	3400	2300	6800	19000	100
Dissolved Strontium (Sr)	ug/L	71	15	23	19	13	89	200	2.0
Dissolved Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Dissolved Tin (Sn)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Titanium (Ti)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Uranium (U)	ug/L	2.4	<0.10	<0.10	<0.10	<0.10	1.1	1.1	0.10
Dissolved Vanadium (V)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Zinc (Zn)	ug/L	<5.0	16	<5.0	<5.0	8.7	<5.0	<5.0	5.0

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Report Date: 2019/04/12

GHD Limited
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Your P.O. #: 7216
Sampler Initials: AF

ELEMENTS BY ICP/MS (WATER)

Maxxam ID		JJL534	JJL535	JJL536	JJL537	JJL537	JJL538	JJL539	
Sampling Date		2019/04/04 11:36	2019/04/04 11:41	2019/04/04 11:48	2019/04/04 10:52	2019/04/04 10:52	2019/04/04 10:59	2019/04/04 10:07	
COC Number		709517-04-01	709517-04-01	709517-04-01	709517-04-01	709517-04-01	709517-04-01	709517-05-01	
	UNITS	MW-19A	MW-19B	MW-19C	MW-20A	MW-20A Lab-Dup	MW-20B	MW-21A	RDL
Metals									
Dissolved Aluminum (Al)	ug/L	190	12	21	83	84	8.7	210	5.0
Dissolved Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Arsenic (As)	ug/L	<1.0	7.3	2.8	<1.0	<1.0	8.8	<1.0	1.0
Dissolved Barium (Ba)	ug/L	7.7	11	6.2	5.0	5.0	11	9.2	1.0
Dissolved Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Boron (B)	ug/L	<50	<50	<50	<50	<50	<50	<50	50
Dissolved Cadmium (Cd)	ug/L	0.030	<0.010	0.014	0.031	0.034	0.014	0.032	0.010
Dissolved Calcium (Ca)	ug/L	700	22000	12000	1200	1200	22000	1300	100
Dissolved Chromium (Cr)	ug/L	1.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Cobalt (Co)	ug/L	0.46	<0.40	<0.40	7.3	7.7	<0.40	1.7	0.40
Dissolved Copper (Cu)	ug/L	3.6	<0.50	0.69	16	16	1.6	4.5	0.50
Dissolved Iron (Fe)	ug/L	60	<50	<50	<50	<50	<50	69	50
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Dissolved Magnesium (Mg)	ug/L	390	1500	1100	470	460	4700	510	100
Dissolved Manganese (Mn)	ug/L	38	<2.0	38	57	57	42	190	2.0
Dissolved Molybdenum (Mo)	ug/L	<2.0	4.4	12	<2.0	<2.0	6.7	<2.0	2.0
Dissolved Nickel (Ni)	ug/L	3.6	<2.0	2.8	26	27	<2.0	2.0	2.0
Dissolved Phosphorus (P)	ug/L	<100	<100	<100	<100	<100	<100	<100	100
Dissolved Potassium (K)	ug/L	1100	1300	1400	280	290	1800	560	100
Dissolved Selenium (Se)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Silver (Ag)	ug/L	<0.10	<0.10	<0.10	0.12	0.12	<0.10	<0.10	0.10
Dissolved Sodium (Na)	ug/L	6100	4600	6800	2900	2800	11000	2100	100
Dissolved Strontium (Sr)	ug/L	6.3	120	90	13	13	280	12	2.0
Dissolved Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Dissolved Tin (Sn)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Titanium (Ti)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Uranium (U)	ug/L	<0.10	2.4	0.13	<0.10	<0.10	0.87	<0.10	0.10
Dissolved Vanadium (V)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Zinc (Zn)	ug/L	<5.0	<5.0	5.7	42	41	<5.0	<5.0	5.0

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ELEMENTS BY ICP/MS (WATER)

Maxxam ID		JJL540	JJL541	JJL542	JJL543	JJL544	JJL545	JJL546	
Sampling Date		2019/04/04 10:15	2019/04/04 10:19	2019/04/04 09:55	2019/04/04 09:45	2019/04/04 09:35	2019/04/04	2019/04/04	
COC Number		709517-05-01	709517-05-01	709517-05-01	709517-05-01	709517-05-01	709517-05-01	709517-05-01	
	UNITS	MW-21B	MW-21C	MW-22A	MW-22B	MW-22C	DUP1	DUP2	RDL
Metals									
Dissolved Aluminum (Al)	ug/L	75	<5.0	11	26	110	210	10	5.0
Dissolved Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Arsenic (As)	ug/L	<1.0	<1.0	5.4	<1.0	<1.0	<1.0	3.7	1.0
Dissolved Barium (Ba)	ug/L	1.8	7.5	4.0	8.7	7.0	9.4	6.9	1.0
Dissolved Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Boron (B)	ug/L	<50	<50	<50	<50	<50	<50	<50	50
Dissolved Cadmium (Cd)	ug/L	0.026	<0.010	<0.010	0.045	0.017	0.034	<0.010	0.010
Dissolved Calcium (Ca)	ug/L	1900	10000	18000	6000	880	1300	20000	100
Dissolved Chromium (Cr)	ug/L	1.1	<1.0	<1.0	1.1	1.7	1.1	1.0	1.0
Dissolved Cobalt (Co)	ug/L	0.68	0.41	<0.40	0.41	1.5	1.5	<0.40	0.40
Dissolved Copper (Cu)	ug/L	3.4	<0.50	<0.50	4.1	9.8	4.3	0.90	0.50
Dissolved Iron (Fe)	ug/L	<50	52	<50	<50	<50	60	<50	50
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Dissolved Magnesium (Mg)	ug/L	790	5100	3000	1300	500	510	2000	100
Dissolved Manganese (Mn)	ug/L	150	210	38	230	82	190	2.7	2.0
Dissolved Molybdenum (Mo)	ug/L	<2.0	<2.0	3.3	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Nickel (Ni)	ug/L	<2.0	<2.0	<2.0	6.4	7.6	<2.0	<2.0	2.0
Dissolved Phosphorus (P)	ug/L	<100	<100	<100	<100	<100	<100	<100	100
Dissolved Potassium (K)	ug/L	730	1600	970	900	390	570	1500	100
Dissolved Selenium (Se)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Silver (Ag)	ug/L	<0.10	<0.10	<0.10	<0.10	0.22	<0.10	<0.10	0.10
Dissolved Sodium (Na)	ug/L	1800	13000	19000	7000	4900	2100	5000	100
Dissolved Strontium (Sr)	ug/L	18	71	270	55	12	11	59	2.0
Dissolved Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Dissolved Tin (Sn)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Titanium (Ti)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Uranium (U)	ug/L	<0.10	0.52	0.72	0.11	<0.10	<0.10	0.74	0.10
Dissolved Vanadium (V)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Zinc (Zn)	ug/L	13	12	<5.0	17	14	8.5	<5.0	5.0

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ELEMENTS BY ICP/MS (WATER)

Maxxam ID		JJL547	JJL547	JJL548	JJL549	
Sampling Date		2019/04/04	2019/04/04	2019/04/04	2019/04/04	
COC Number		709517-05-01	709517-05-01	709517-05-01	709517-06-01	
	UNITS	DUP3	DUP3 Lab-Dup	DUP4	DUP5	RDL
Metals						
Dissolved Aluminum (Al)	ug/L	5.4	<5.0	100	35	5.0
Dissolved Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Arsenic (As)	ug/L	110	110	<1.0	7.6	1.0
Dissolved Barium (Ba)	ug/L	11	11	7.0	5.5	1.0
Dissolved Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Boron (B)	ug/L	<50	<50	<50	<50	50
Dissolved Cadmium (Cd)	ug/L	<0.010	<0.010	0.019	0.023	0.010
Dissolved Calcium (Ca)	ug/L	33000	34000	890	1600	100
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	1.4	<1.0	1.0
Dissolved Cobalt (Co)	ug/L	<0.40	<0.40	1.3	1.1	0.40
Dissolved Copper (Cu)	ug/L	<0.50	<0.50	9.8	5.6	0.50
Dissolved Iron (Fe)	ug/L	<50	<50	<50	<50	50
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	0.50
Dissolved Magnesium (Mg)	ug/L	4500	4500	480	520	100
Dissolved Manganese (Mn)	ug/L	88	89	81	20	2.0
Dissolved Molybdenum (Mo)	ug/L	7.2	7.2	<2.0	<2.0	2.0
Dissolved Nickel (Ni)	ug/L	<2.0	<2.0	8.0	3.1	2.0
Dissolved Phosphorus (P)	ug/L	<100	<100	<100	<100	100
Dissolved Potassium (K)	ug/L	1200	1100	410	520	100
Dissolved Selenium (Se)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Silver (Ag)	ug/L	<0.10	<0.10	0.22	<0.10	0.10
Dissolved Sodium (Na)	ug/L	20000	20000	5000	2300	100
Dissolved Strontium (Sr)	ug/L	730	730	11	13	2.0
Dissolved Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	0.10
Dissolved Tin (Sn)	ug/L	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Titanium (Ti)	ug/L	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Uranium (U)	ug/L	2.6	2.6	<0.10	<0.10	0.10
Dissolved Vanadium (V)	ug/L	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Zinc (Zn)	ug/L	<5.0	<5.0	13	7.8	5.0

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate

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Maxxam Job #: B989269
Report Date: 2019/04/12

GHD Limited
Client Project #: 088664-25
Your P.O. #: 7216
Sampler Initials: AF

GENERAL COMMENTS

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

Package 1	4.3°C
Package 2	6.0°C
Package 3	6.3°C
Package 4	6.3°C

Sample JJL509 [MW-01C] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample JJL510 [MW-02B] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample JJL511 [MW-03A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample JJL517 [MW-09A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample JJL521 [MW-12A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample JJL523 [MW-14A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample JJL526 [MW-16A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample JJL528 [MW-17A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample JJL529 [MW-17B] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample JJL530 [MW-17C] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample JJL531 [MW-18A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample JJL537 [MW-20A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample JJL539 [MW-21A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample JJL540 [MW-21B] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample JJL541 [MW-21C] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample JJL542 [MW-22A] : Poor RCAp Ion Balance due to sample matrix. Re-analysis of metals, alkalinity and chloride confirmed original results.

Sample JJL543 [MW-22B] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample JJL544 [MW-22C] : Poor RCAp Ion Balance due to sample matrix. Re-analysis of metals, alkalinity and chloride confirmed original results.

Sample JJL545 [DUP1] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample JJL548 [DUP4] : Poor RCAp Ion Balance due to sample matrix. Re-analysis of metals, alkalinity and chloride confirmed original results.

Sample JJL549 [DUP5] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Results relate only to the items tested.

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Maxxam Job #: B989269
Report Date: 2019/04/12

GHD Limited
Client Project #: 088664-25
Your P.O. #: 7216
Sampler Initials: AF

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Report Date: 2019/04/12

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VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Mike MacGillivray, Scientific Specialist (Inorganics)

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Your P.O. #: 7216
Your Project #: 088664-29
Site#: Beaver Dam GW Monitoring

Attention: Jeff Parks

GHD Limited
45 Akerley Blvd
Dartmouth , NS
CANADA B3B 1J7

Your C.O.C. #: 722830-01-01, 722830-02-01, 722830-03-01, 722830-04-01, 722830-05-01, 722830-06-01

Report Date: 2019/07/09
Report #: R5789406
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: B9H9531
Received: 2019/06/27, 16:47

Sample Matrix: Water
Samples Received: 51

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Carbonate, Bicarbonate and Hydroxide	4	N/A	2019/07/04	N/A	SM 23 4500-CO2 D
Carbonate, Bicarbonate and Hydroxide	47	N/A	2019/07/05	N/A	SM 23 4500-CO2 D
Alkalinity	33	N/A	2019/07/04	ATL SOP 00013	EPA 310.2 R1974 m
Alkalinity	18	N/A	2019/07/05	ATL SOP 00013	EPA 310.2 R1974 m
Chloride	51	N/A	2019/07/05	ATL SOP 00014	SM 23 4500-Cl- E m
Colour	51	N/A	2019/07/05	ATL SOP 00020	SM 23 2120C m
Conductance - water	4	N/A	2019/07/04	ATL SOP 00004	SM 23 2510B m
Conductance - water	47	N/A	2019/07/05	ATL SOP 00004	SM 23 2510B m
Hardness (calculated as CaCO3)	42	N/A	2019/07/04	ATL SOP 00048	Auto Calc
Hardness (calculated as CaCO3)	9	N/A	2019/07/05	ATL SOP 00048	Auto Calc
Metals Water Diss. MS (as rec'd)	6	N/A	2019/07/03	ATL SOP 00058	EPA 6020B R2 m
Metals Water Diss. MS (as rec'd)	21	N/A	2019/07/04	ATL SOP 00058	EPA 6020B R2 m
Metals Water Diss. MS (as rec'd)	23	N/A	2019/07/05	ATL SOP 00058	EPA 6020B R2 m
Metals Water Diss. MS (as rec'd)	1	N/A	2019/07/08	ATL SOP 00058	EPA 6020B R2 m
Metals Water Total MS	8	2019/07/03	2019/07/03	ATL SOP 00058	EPA 6020B R2 m
Metals Water Total MS	43	2019/07/03	2019/07/04	ATL SOP 00058	EPA 6020B R2 m
Ion Balance (% Difference)	50	N/A	2019/07/06	N/A	Auto Calc.
Ion Balance (% Difference)	1	N/A	2019/07/07	N/A	Auto Calc.
Anion and Cation Sum	51	N/A	2019/07/05	N/A	Auto Calc.
Nitrogen Ammonia - water	50	N/A	2019/07/04	ATL SOP 00015	EPA 350.1 R2 m
Nitrogen Ammonia - water	1	N/A	2019/07/05	ATL SOP 00015	EPA 350.1 R2 m
Nitrogen - Nitrate + Nitrite	51	N/A	2019/07/06	ATL SOP 00016	USGS I-2547-11m
Nitrogen - Nitrite	51	N/A	2019/07/04	ATL SOP 00017	SM 23 4500-NO2- B m
Nitrogen - Nitrate (as N)	31	N/A	2019/07/06	ATL SOP 00018	ASTM D3867-16
Nitrogen - Nitrate (as N)	20	N/A	2019/07/07	ATL SOP 00018	ASTM D3867-16
pH (1)	4	N/A	2019/07/04	ATL SOP 00003	SM 23 4500-H+ B m
pH (1)	47	N/A	2019/07/05	ATL SOP 00003	SM 23 4500-H+ B m
Phosphorus - ortho	51	N/A	2019/07/05	ATL SOP 00021	SM 23 4500-P E m

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Your P.O. #: 7216
Your Project #: 088664-29
Site#: Beaver Dam GW Monitoring

Attention: Jeff Parks

GHD Limited
45 Akerley Blvd
Dartmouth , NS
CANADA B3B 1J7

Your C.O.C. #: 722830-01-01, 722830-02-01, 722830-03-01, 722830-04-01, 722830-05-01, 722830-06-01

Report Date: 2019/07/09
Report #: R5789406
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: B9H9531
Received: 2019/06/27, 16:47

Sample Matrix: Water
Samples Received: 51

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Sat. pH and Langelier Index (@ 20C)	46	N/A	2019/07/06	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 20C)	1	N/A	2019/07/07	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 20C)	4	N/A	2019/07/08	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 4C)	46	N/A	2019/07/06	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 4C)	1	N/A	2019/07/07	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 4C)	4	N/A	2019/07/08	ATL SOP 00049	Auto Calc.
Reactive Silica	51	N/A	2019/07/05	ATL SOP 00022	EPA 366.0 m
Sulphate	51	N/A	2019/07/05	ATL SOP 00023	ASTM D516-16 m
Total Dissolved Solids (TDS calc)	50	N/A	2019/07/06	N/A	Auto Calc.
Total Dissolved Solids (TDS calc)	1	N/A	2019/07/07	N/A	Auto Calc.
Organic carbon - Total (TOC) (2)	3	N/A	2019/07/05	ATL SOP 00203	SM 23 5310B m
Organic carbon - Total (TOC) (2)	38	N/A	2019/07/07	ATL SOP 00203	SM 23 5310B m
Organic carbon - Total (TOC) (2)	10	N/A	2019/07/08	ATL SOP 00203	SM 23 5310B m
Turbidity	13	N/A	2019/07/04	ATL SOP 00011	EPA 180.1 R2 m
Turbidity	38	N/A	2019/07/05	ATL SOP 00011	EPA 180.1 R2 m

Remarks:

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

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs 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.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs 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 BV Labs, unless otherwise agreed in writing. BV Labs is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Your P.O. #: 7216
Your Project #: 088664-29
Site#: Beaver Dam GW Monitoring

Attention: Jeff Parks

GHD Limited
45 Akerley Blvd
Dartmouth , NS
CANADA B3B 1J7

Your C.O.C. #: 722830-01-01, 722830-02-01, 722830-03-01, 722830-04-01, 722830-05-01, 722830-06-01

Report Date: 2019/07/09
Report #: R5789406
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: B9H9531
Received: 2019/06/27, 16:47

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 BV Labs, 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) The APHA Standard Method require 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 APHA Standard Method holding time.
(2) TOC / DOC present in the sample should be considered as non-purgeable TOC / DOC.

Encryption Key

Bureau Veritas Laboratories
09 Jul 2019 13:52:26

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Maryann Comeau, Project Manager
Email: Maryann.COMEAU@bvlabs.com
Phone# (902)420-0203 Ext:298

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BV Labs Job #: B9H9531
Report Date: 2019/07/09

GHD Limited
Client Project #: 088664-29
Your P.O. #: 7216
Sampler Initials: DN

RESULTS OF ANALYSES OF WATER

BV Labs ID		KDO187	KDO188	KDO189		KDO190		KDO191	
Sampling Date		2019/06/27 11:34	2019/06/27 11:37	2019/06/27 11:42		2019/06/27 10:32		2019/06/27 10:42	
COC Number		722830-01-01	722830-01-01	722830-01-01		722830-01-01		722830-01-01	
	UNITS	**MW-01A**	**MW-01B**	**MW-01C**	**RDL**	**MW-02A**	**RDL**	**MW-02B**	**RDL**
Calculated Parameters									
Anion Sum	me/L	0.350	1.52	0.400	N/A	0.200	N/A	0.490	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	7.6	59	9.7	1.0	<1.0	1.0	14	1.0
Calculated TDS	mg/L	23	88	25	1.0	15	1.0	40	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	<1.0	<1.0	1.0	<1.0	1.0	<1.0	1.0
Cation Sum	me/L	0.290	1.42	0.360	N/A	0.210	N/A	0.420	N/A
Hardness (CaCO3)	mg/L	6.6	59	9.2	1.0	3.4	1.0	10	1.0
Ion Balance (% Difference)	%	9.38	3.40	5.26	N/A	2.44	N/A	7.69	N/A
Langelier Index (@ 20C)	N/A	-3.58	-0.475	-3.02		NC		-2.90	
Langelier Index (@ 4C)	N/A	-3.83	-0.726	-3.27		NC		-3.15	
Nitrate (N)	mg/L	<0.050	<0.050	<0.050	0.050	<0.050	0.050	<0.050	0.050
Saturation pH (@ 20C)	N/A	10.2	8.26	9.83		NC		9.72	
Saturation pH (@ 4C)	N/A	10.4	8.52	10.1		NC		9.97	
Inorganics									
Total Alkalinity (Total as CaCO3)	mg/L	7.6	60	9.7	5.0	<5.0	5.0	14	5.0
Dissolved Chloride (Cl-)	mg/L	4.2	3.7	5.0	1.0	4.4	1.0	4.7	1.0
Colour	TCU	<5.0	<5.0	<5.0	5.0	<5.0	5.0	<5.0	5.0
Nitrate + Nitrite (N)	mg/L	<0.050	<0.050	<0.050	0.050	<0.050	0.050	<0.050	0.050
Nitrite (N)	mg/L	<0.010	<0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	<0.050	<0.050	0.050	<0.050	0.050	<0.050	0.050
Total Organic Carbon (C)	mg/L	<0.50	<0.50	1.1	0.50	0.68	0.50	<0.50	0.50
Orthophosphate (P)	mg/L	<0.010	<0.010	<0.010	0.010	<0.010	0.010	0.075	0.010
pH	pH	6.59	7.79	6.81	N/A	6.03	N/A	6.82	N/A
Reactive Silica (SiO2)	mg/L	4.3	9.6	3.7	0.50	3.2	0.50	14	0.50
Dissolved Sulphate (SO4)	mg/L	3.9	11	3.0	2.0	3.4	2.0	3.5	2.0
Turbidity	NTU	4.3	2.9	1.6	0.10	180	1.0	2.9	0.10
Conductivity	uS/cm	32	140	39	1.0	27	1.0	44	1.0

RDL = Reportable Detection Limit
N/A = Not Applicable

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BV Labs Job #: B9H9531
Report Date: 2019/07/09

GHD Limited
Client Project #: 088664-29
Your P.O. #: 7216
Sampler Initials: DN

RESULTS OF ANALYSES OF WATER

BV Labs ID		KDO192	KDO193		KDO193		KDO194	KDO195	
Sampling Date		2019/06/27 12:08	2019/06/27 12:14		2019/06/27 12:14		2019/06/27 12:19	2019/06/27 10:32	
COC Number		722830-01-01	722830-01-01		722830-01-01		722830-01-01	722830-01-01	
	UNITS	**MW-03A**	**MW-03B**	**RDL**	**MW-03B Lab-Dup**	**RDL**	**MW-03C**	**MW-04A**	**RDL**
Calculated Parameters									
Anion Sum	me/L	0.160	0.950	N/A			2.07	0.230	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	37	1.0			92	5.3	1.0
Calculated TDS	mg/L	17	59	1.0			120	17	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	<1.0	1.0			<1.0	<1.0	1.0
Cation Sum	me/L	0.220	0.930	N/A			1.91	0.240	N/A
Hardness (CaCO3)	mg/L	5.1	36	1.0			80	5.9	1.0
Ion Balance (% Difference)	%	15.8	1.06	N/A			4.02	2.13	N/A
Langelier Index (@ 20C)	N/A	NC	-1.48				-0.0730	-3.83	
Langelier Index (@ 4C)	N/A	NC	-1.73				-0.324	-4.09	
Nitrate (N)	mg/L	0.72	<0.050	0.050			<0.050	<0.050	0.050
Saturation pH (@ 20C)	N/A	NC	8.66				7.94	10.3	
Saturation pH (@ 4C)	N/A	NC	8.91				8.20	10.6	
Inorganics									
Total Alkalinity (Total as CaCO3)	mg/L	<5.0	37	5.0			93	5.3	5.0
Dissolved Chloride (Cl-)	mg/L	2.2	4.7	1.0			3.7	2.5	1.0
Colour	TCU	<5.0	<5.0	5.0			<5.0	<5.0	5.0
Nitrate + Nitrite (N)	mg/L	0.72	<0.050	0.050			<0.050	<0.050	0.050
Nitrite (N)	mg/L	<0.010	<0.010	0.010			<0.010	<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	0.089	0.050			<0.050	<0.050	0.050
Total Organic Carbon (C)	mg/L	1.2	<0.50	0.50			0.90	<0.50	0.50
Orthophosphate (P)	mg/L	<0.010	<0.010	0.010			<0.010	<0.010	0.010
pH	pH	6.28	7.18	N/A			7.87	6.50	N/A
Reactive Silica (SiO2)	mg/L	4.3	9.7	0.50			13	3.8	0.50
Dissolved Sulphate (SO4)	mg/L	2.5	3.9	2.0			4.9	2.3	2.0
Turbidity	NTU	4.9	0.84	0.10	0.83	0.10	3.7	1.6	0.10
Conductivity	uS/cm	27	92	1.0			170	26	1.0

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

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BV Labs Job #: B9H9531
Report Date: 2019/07/09

GHD Limited
Client Project #: 088664-29
Your P.O. #: 7216
Sampler Initials: DN

RESULTS OF ANALYSES OF WATER

BV Labs ID		KDO196	KDO197	KDO198	KDO199		KDO200	
Sampling Date		2019/06/27 10:45	2019/06/27 09:42	2019/06/27 09:58	2019/06/27 10:07		2019/06/27 13:19	
COC Number		722830-01-01	722830-02-01	722830-02-01	722830-02-01		722830-02-01	
	UNITS	MW-04B	MW-05A	MW-05B	MW-05D	RDL	MW-07A	RDL
Calculated Parameters								
Anion Sum	me/L	0.860	0.340	1.46	1.90	N/A	2.55	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	29	6.2	57	71	1.0	110	1.0
Calculated TDS	mg/L	56	23	87	110	1.0	150	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	<1.0	<1.0	<1.0	1.0	<1.0	1.0
Cation Sum	me/L	0.840	0.270	1.41	1.75	N/A	2.66	N/A
Hardness (CaCO3)	mg/L	33	6.3	53	54	1.0	100	1.0
Ion Balance (% Difference)	%	1.18	11.5	1.74	4.11	N/A	2.11	N/A
Langelier Index (@ 20C)	N/A	-1.53	-3.97	-0.709	-0.210		-0.757	
Langelier Index (@ 4C)	N/A	-1.78	-4.22	-0.960	-0.461		-1.01	
Nitrate (N)	mg/L	<0.050	<0.050	<0.050	0.066	0.050	<0.050	0.050
Saturation pH (@ 20C)	N/A	8.80	10.2	8.32	8.24		7.87	
Saturation pH (@ 4C)	N/A	9.05	10.5	8.57	8.50		8.12	
Inorganics								
Total Alkalinity (Total as CaCO3)	mg/L	29	6.2	58	72	5.0	110	25
Dissolved Chloride (Cl-)	mg/L	3.9	4.3	4.7	5.1	1.0	4.5	1.0
Colour	TCU	<5.0	<5.0	<5.0	<5.0	5.0	52	25
Nitrate + Nitrite (N)	mg/L	<0.050	<0.050	<0.050	0.066	0.050	<0.050	0.050
Nitrite (N)	mg/L	<0.010	<0.010	<0.010	<0.010	0.010	<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	0.074	<0.050	<0.050	0.050	<0.050	0.050
Total Organic Carbon (C)	mg/L	<0.50	0.62	0.95	1.1	0.50	<0.50	0.50
Orthophosphate (P)	mg/L	<0.010	<0.010	<0.010	<0.010	0.010	<0.010	0.010
pH	pH	7.27	6.27	7.61	8.03	N/A	7.12	N/A
Reactive Silica (SiO2)	mg/L	9.4	4.5	11	12	0.50	20	1.0
Dissolved Sulphate (SO4)	mg/L	8.0	4.5	8.3	15	2.0	12	2.0
Turbidity	NTU	0.85	3.8	12	16	0.10	55	0.10
Conductivity	uS/cm	83	28	140	160	1.0	240	1.0

RDL = Reportable Detection Limit
N/A = Not Applicable

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Report Date: 2019/07/09

GHD Limited
Client Project #: 088664-29
Your P.O. #: 7216
Sampler Initials: DN

RESULTS OF ANALYSES OF WATER

BV Labs ID		KDO200		KDO201		KDO201		KDO202		KDO203	
Sampling Date		2019/06/27 13:19		2019/06/27 13:23		2019/06/27 13:23		2019/06/27 13:28		2019/06/27 12:36	
COC Number		722830-02-01		722830-02-01		722830-02-01		722830-02-01		722830-02-01	
	UNITS	**MW-07A Lab-Dup**	**RDL**	**MW-07B**	**RDL**	**MW-07B Lab-Dup**	**RDL**	**MW-07D**	**RDL**	**MW-09A**	**RDL**
Calculated Parameters											
Anion Sum	me/L			6.47	N/A			4.14	N/A	0.440	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L			290	1.0			160	1.0	15	1.0
Calculated TDS	mg/L			350	1.0			240	1.0	30	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L			3.0	1.0			1.9	1.0	<1.0	1.0
Cation Sum	me/L			6.28	N/A			3.91	N/A	0.450	N/A
Hardness (CaCO3)	mg/L			270	1.0			130	1.0	14	1.0
Ion Balance (% Difference)	%			1.49	N/A			2.86	N/A	1.12	N/A
Langelier Index (@ 20C)	N/A			1.04				0.523		-2.88	
Langelier Index (@ 4C)	N/A			0.788				0.273		-3.13	
Nitrate (N)	mg/L			<0.050	0.050			0.17	0.050	0.080	0.050
Saturation pH (@ 20C)	N/A			7.00				7.59		9.43	
Saturation pH (@ 4C)	N/A			7.25				7.84		9.69	
Inorganics											
Total Alkalinity (Total as CaCO3)	mg/L			300	25			160	25	15	5.0
Dissolved Chloride (Cl-)	mg/L			5.5	1.0			9.2	1.0	2.2	1.0
Colour	TCU			<5.0	5.0			<5.0	5.0	<5.0	5.0
Nitrate + Nitrite (N)	mg/L			<0.050	0.050			0.17	0.050	0.080	0.050
Nitrite (N)	mg/L			<0.010	0.010			<0.010	0.010	<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L			<0.050	0.050	<0.050	0.050	0.087	0.050	<0.050	0.050
Total Organic Carbon (C)	mg/L			3.3	0.50	3.2	0.50	4.8	0.50	<0.50	0.50
Orthophosphate (P)	mg/L			0.012	0.010			0.034	0.010	<0.010	0.010
pH	pH	7.21	N/A	8.04	N/A			8.11	N/A	6.55	N/A
Reactive Silica (SiO2)	mg/L			24	1.0			20	1.0	5.8	0.50
Dissolved Sulphate (SO4)	mg/L			20	2.0			33	2.0	3.4	2.0
Turbidity	NTU			7.8	0.10			5.4	0.10	3.0	0.10
Conductivity	uS/cm	240	1.0	550	1.0			360	1.0	47	1.0

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RESULTS OF ANALYSES OF WATER

BV Labs ID		KDO203		KDO204		KDO204		KDO205	KDO206	
Sampling Date		2019/06/27 12:36		2019/06/27 12:41		2019/06/27 12:41		2019/06/27 12:45	2019/06/27 11:03	
COC Number		722830-02-01		722830-02-01		722830-02-01		722830-02-01	722830-02-01	
	UNITS	MW-09A Lab-Dup	RDL	MW-09B	RDL	MW-09B Lab-Dup	RDL	MW-09D	MW-11A	RDL
Calculated Parameters										
Anion Sum	me/L			2.20	N/A			2.86	0.270	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L			77	1.0			74	6.0	1.0
Calculated TDS	mg/L			130	1.0			170	17	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L			<1.0	1.0			<1.0	<1.0	1.0
Cation Sum	me/L			2.04	N/A			2.70	0.220	N/A
Hardness (CaCO3)	mg/L			71	1.0			98	6.1	1.0
Ion Balance (% Difference)	%			3.77	N/A			2.88	10.2	N/A
Langelier Index (@ 20C)	N/A			-0.134				-0.147	-3.71	
Langelier Index (@ 4C)	N/A			-0.385				-0.397	-3.96	
Nitrate (N)	mg/L			<0.050	0.050			<0.050	<0.050	0.050
Saturation pH (@ 20C)	N/A			8.07				8.00	10.2	
Saturation pH (@ 4C)	N/A			8.32				8.25	10.5	
Inorganics										
Total Alkalinity (Total as CaCO3)	mg/L	15	5.0	78	5.0	78	5.0	74	6.0	5.0
Dissolved Chloride (Cl-)	mg/L	2.1	1.0	3.4	1.0	2.5	1.0	6.6	3.0	1.0
Colour	TCU	<5.0	5.0	<5.0	5.0	<5.0	5.0	<5.0	<5.0	5.0
Nitrate + Nitrite (N)	mg/L	0.076	0.050	<0.050	0.050	<0.050	0.050	<0.050	<0.050	0.050
Nitrite (N)	mg/L	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L			<0.050	0.050			<0.050	<0.050	0.050
Total Organic Carbon (C)	mg/L			1.4	0.50			8.7	0.57	0.50
Orthophosphate (P)	mg/L	<0.010	0.010	0.025	0.010	0.025	0.010	0.015	<0.010	0.010
pH	pH	6.58	N/A	7.94	N/A			7.86	6.51	N/A
Reactive Silica (SiO2)	mg/L	5.8	0.50	9.2	0.50	9.4	0.50	11	3.0	0.50
Dissolved Sulphate (SO4)	mg/L	3.8	2.0	26	2.0	26	2.0	57	3.1	2.0
Turbidity	NTU			5.7	0.10			10	0.55	0.10
Conductivity	uS/cm	46	1.0	200	1.0			260	24	1.0

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RESULTS OF ANALYSES OF WATER

BV Labs ID		KDO207	KDO208	KDO209		KDO209		KDO210	
Sampling Date		2019/06/27 11:13	2019/06/27 11:23	2019/06/27 13:07		2019/06/27 13:07		2019/06/27 13:01	
COC Number		722830-03-01	722830-03-01	722830-03-01		722830-03-01		722830-03-01	
	UNITS	MW-11-B	MW-11C	MW-12A	RDL	MW-12A Lab-Dup	RDL	MW-12B	RDL
Calculated Parameters									
Anion Sum	me/L	0.530	2.17	0.640	N/A			2.25	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	18	70	23	1.0			85	1.0
Calculated TDS	mg/L	33	130	49	1.0			130	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	<1.0	<1.0	1.0			<1.0	1.0
Cation Sum	me/L	0.500	1.96	0.590	N/A			2.14	N/A
Hardness (CaCO3)	mg/L	13	70	17	1.0			68	1.0
Ion Balance (% Difference)	%	2.91	5.08	4.07	N/A			2.51	N/A
Langelier Index (@ 20C)	N/A	-2.50	-0.567	-2.67				-0.331	
Langelier Index (@ 4C)	N/A	-2.75	-0.819	-2.92				-0.582	
Nitrate (N)	mg/L	<0.050	0.13	0.14	0.050			<0.050	0.050
Saturation pH (@ 20C)	N/A	9.39	8.12	9.31				8.06	
Saturation pH (@ 4C)	N/A	9.64	8.37	9.56				8.31	
Inorganics									
Total Alkalinity (Total as CaCO3)	mg/L	18	70	23	5.0			85	5.0
Dissolved Chloride (Cl-)	mg/L	3.3	5.3	2.8	1.0			3.3	1.0
Colour	TCU	13	<5.0	<5.0	5.0			<5.0	5.0
Nitrate + Nitrite (N)	mg/L	<0.050	0.13	0.14	0.050			<0.050	0.050
Nitrite (N)	mg/L	<0.010	<0.010	<0.010	0.010			<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	<0.050	<0.050	0.050			0.093	0.050
Total Organic Carbon (C)	mg/L	0.75	2.3	<0.50	0.50			1.3	0.50
Orthophosphate (P)	mg/L	<0.010	0.017	0.015	0.010			0.014	0.010
pH	pH	6.89	7.55	6.64	N/A			7.73	N/A
Reactive Silica (SiO2)	mg/L	4.5	8.3	15	0.50			11	0.50
Dissolved Sulphate (SO4)	mg/L	3.7	29	4.4	2.0			21	2.0
Turbidity	NTU	18	11	31	0.10	31	0.10	35	0.10
Conductivity	uS/cm	48	200	64	1.0			220	1.0

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RESULTS OF ANALYSES OF WATER

BV Labs ID		KDO211	KDO212	KDO213		KDO214		KDO215	
Sampling Date		2019/06/27 14:03	2019/06/27 14:09	2019/06/27 14:16		2019/06/27 12:54		2019/06/27 13:11	
COC Number		722830-03-01	722830-03-01	722830-03-01		722830-03-01		722830-03-01	
	UNITS	**MW-14A**	**MW-14B**	**MW-14C**	**RDL**	**MW-16A**	**RDL**	**MW-16B**	**RDL**
Calculated Parameters									
Anion Sum	me/L	0.700	2.19	1.71	N/A	2.18	N/A	1.38	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	24	93	70	1.0	62	1.0	59	1.0
Calculated TDS	mg/L	51	120	100	1.0	120	1.0	80	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	<1.0	1.1	1.0	<1.0	1.0	<1.0	1.0
Cation Sum	me/L	0.620	2.01	1.58	N/A	1.50	N/A	1.30	N/A
Hardness (CaCO3)	mg/L	14	44	31	1.0	38	1.0	54	1.0
Ion Balance (% Difference)	%	6.06	4.29	3.95	N/A	18.5	N/A	2.99	N/A
Langelier Index (@ 20C)	N/A	-2.60	-0.402	-0.271		-1.01		-0.465	
Langelier Index (@ 4C)	N/A	-2.85	-0.653	-0.522		-1.26		-0.717	
Nitrate (N)	mg/L	<0.050	<0.050	<0.050	0.050	<0.050	0.050	0.12	0.050
Saturation pH (@ 20C)	N/A	9.33	8.22	8.49		8.44		8.27	
Saturation pH (@ 4C)	N/A	9.58	8.47	8.74		8.70		8.53	
Inorganics									
Total Alkalinity (Total as CaCO3)	mg/L	24	94	71	5.0	63	5.0	59	5.0
Dissolved Chloride (Cl-)	mg/L	3.7	2.7	2.6	1.0	6.5	1.0	2.6	1.0
Colour	TCU	<5.0	<5.0	<5.0	5.0	250	50	<5.0	5.0
Nitrate + Nitrite (N)	mg/L	<0.050	<0.050	<0.050	0.050	<0.050	0.050	0.12	0.050
Nitrite (N)	mg/L	<0.010	<0.010	<0.010	0.010	0.034	0.010	<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	<0.050	<0.050	0.050	0.10	0.050	<0.050	0.050
Total Organic Carbon (C)	mg/L	<0.50	1.3	<0.50	0.50	1.2	0.50	<0.50	0.50
Orthophosphate (P)	mg/L	0.013	0.014	<0.010	0.010	0.033	0.010	<0.010	0.010
pH	pH	6.73	7.82	8.22	N/A	7.43	N/A	7.81	N/A
Reactive Silica (SiO2)	mg/L	14	8.7	11	0.50	10	0.50	10	0.50
Dissolved Sulphate (SO4)	mg/L	5.7	11	9.8	2.0	36	2.0	5.4	2.0
Turbidity	NTU	28	70	14	0.10	190	1.0	0.93	0.10
Conductivity	uS/cm	65	200	150	1.0	140	1.0	120	1.0

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RESULTS OF ANALYSES OF WATER

BV Labs ID		KDO216	KDO272	KDO273	KDO274		KDO274	
Sampling Date		2019/06/27 13:32	2019/06/27 13:38	2019/06/27 13:45	2019/06/27 11:50		2019/06/27 11:50	
COC Number		722830-03-01	722830-04-01	722830-04-01	722830-04-01		722830-04-01	
	UNITS	MW-17A	MW-17B	MW-17C	MW-18A	RDL	MW-18A Lab-Dup	RDL
Calculated Parameters								
Anion Sum	me/L	0.260	0.310	0.340	0.170	N/A		
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	7.6	6.6	9.4	<1.0	1.0		
Calculated TDS	mg/L	21	26	29	17	1.0		
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	<1.0	<1.0	<1.0	1.0		
Cation Sum	me/L	0.290	0.290	0.350	0.220	N/A		
Hardness (CaCO3)	mg/L	9.0	7.3	9.8	5.4	1.0		
Ion Balance (% Difference)	%	5.45	3.33	1.45	12.8	N/A		
Langelier Index (@ 20C)	N/A	-3.57	-3.78	-3.24	NC			
Langelier Index (@ 4C)	N/A	-3.82	-4.04	-3.49	NC			
Nitrate (N)	mg/L	0.12	<0.050	<0.050	0.10	0.050		
Saturation pH (@ 20C)	N/A	10.0	10.2	9.87	NC			
Saturation pH (@ 4C)	N/A	10.3	10.5	10.1	NC			
Inorganics								
Total Alkalinity (Total as CaCO3)	mg/L	7.7	6.6	9.4	<5.0	5.0		
Dissolved Chloride (Cl-)	mg/L	3.4	3.6	3.4	2.5	1.0		
Colour	TCU	<5.0	<5.0	<5.0	<5.0	5.0		
Nitrate + Nitrite (N)	mg/L	0.12	<0.050	<0.050	0.10	0.050		
Nitrite (N)	mg/L	<0.010	<0.010	<0.010	<0.010	0.010		
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	<0.050	<0.050	<0.050	0.050		
Total Organic Carbon (C)	mg/L	<0.50	<0.50	<0.50	<0.50	0.50		
Orthophosphate (P)	mg/L	<0.010	0.021	0.020	<0.010	0.010		
pH	pH	6.43	6.45	6.64	6.43	N/A	6.38	N/A
Reactive Silica (SiO2)	mg/L	6.1	8.7	9.6	5.0	0.50		
Dissolved Sulphate (SO4)	mg/L	<2.0	3.8	2.8	4.6	2.0		
Turbidity	NTU	42	6.4	1.7	0.38	0.10		
Conductivity	uS/cm	33	33	38	27	1.0	27	1.0

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RESULTS OF ANALYSES OF WATER

BV Labs ID		KDO275	KDO276		KDO276		KDO277		KDO277	
Sampling Date		2019/06/27 12:01	2019/06/27 12:15		2019/06/27 12:15		2019/06/27 11:02		2019/06/27 11:02	
COC Number		722830-04-01	722830-04-01		722830-04-01		722830-04-01		722830-04-01	
	UNITS	MW-18B	MW-18C	RDL	MW-18C Lab-Dup	RDL	MW-19A	RDL	MW-19A Lab-Dup	RDL
Calculated Parameters										
Anion Sum	me/L	1.21	1.95	N/A			0.160	N/A		
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	46	58	1.0			<1.0	1.0		
Calculated TDS	mg/L	75	120	1.0			17	1.0		
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	<1.0	1.0			<1.0	1.0		
Cation Sum	me/L	1.16	1.92	N/A			0.230	N/A		
Hardness (CaCO3)	mg/L	44	55	1.0			4.3	1.0		
Ion Balance (% Difference)	%	2.11	0.780	N/A			18.0	N/A		
Langelier Index (@ 20C)	N/A	-0.905	-0.784				NC			
Langelier Index (@ 4C)	N/A	-1.16	-1.04				NC			
Nitrate (N)	mg/L	<0.050	<0.050	0.050			0.16	0.050		
Saturation pH (@ 20C)	N/A	8.47	8.32				NC			
Saturation pH (@ 4C)	N/A	8.73	8.57				NC			
Inorganics										
Total Alkalinity (Total as CaCO3)	mg/L	47	58	5.0	55	5.0	<5.0	5.0		
Dissolved Chloride (Cl-)	mg/L	1.8	4.8	1.0	5.7	1.0	1.7	1.0		
Colour	TCU	<5.0	<5.0	5.0	<5.0	5.0	<5.0	5.0		
Nitrate + Nitrite (N)	mg/L	<0.050	<0.050	0.050	<0.050	0.050	0.16	0.050		
Nitrite (N)	mg/L	<0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010		
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	<0.050	0.050			<0.050	0.050		
Total Organic Carbon (C)	mg/L	<0.50	4.3	0.50	4.3	0.50	0.75	0.50	0.78	0.50
Orthophosphate (P)	mg/L	0.058	0.027	0.010	0.020	0.010	<0.010	0.010		
pH	pH	7.57	7.54	N/A			6.07	N/A		
Reactive Silica (SiO2)	mg/L	11	12	0.50	12	0.50	5.1	0.50		
Dissolved Sulphate (SO4)	mg/L	11	32	2.0	31	2.0	4.7	2.0		
Turbidity	NTU	19	2.8	0.10			3.4	0.10	3.2	0.10
Conductivity	uS/cm	120	190	1.0			27	1.0		

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

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Report Date: 2019/07/09

GHD Limited
Client Project #: 088664-29
Your P.O. #: 7216
Sampler Initials: DN

RESULTS OF ANALYSES OF WATER

BV Labs ID		KDO278	KDO279	KDO280	KDO281		KDO281	
Sampling Date		2019/06/27 11:08	2019/06/27 11:14	2019/06/27 10:08	2019/06/27 10:18		2019/06/27 10:18	
COC Number		722830-04-01	722830-04-01	722830-04-01	722830-04-01		722830-04-01	
	UNITS	MW-19B	MW-19C	MW-20A	MW-20B	RDL	MW-20B Lab-Dup	RDL
Calculated Parameters								
Anion Sum	me/L	1.46	0.980	0.190	2.02	N/A		
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	56	38	<1.0	88	1.0		
Calculated TDS	mg/L	86	62	18	120	1.0		
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	<1.0	<1.0	<1.0	1.0		
Cation Sum	me/L	1.40	0.970	0.210	1.99	N/A		
Hardness (CaCO3)	mg/L	58	34	4.6	70	1.0		
Ion Balance (% Difference)	%	2.10	0.510	5.00	0.750	N/A		
Langelier Index (@ 20C)	N/A	-0.387	-1.34	NC	-0.305			
Langelier Index (@ 4C)	N/A	-0.638	-1.59	NC	-0.556			
Nitrate (N)	mg/L	<0.050	0.23	0.85	0.090	0.050		
Saturation pH (@ 20C)	N/A	8.27	8.67	NC	8.09			
Saturation pH (@ 4C)	N/A	8.52	8.92	NC	8.35			
Inorganics								
Total Alkalinity (Total as CaCO3)	mg/L	56	38	<5.0	88	5.0		
Dissolved Chloride (Cl-)	mg/L	4.2	2.0	1.3	2.1	1.0		
Colour	TCU	<5.0	<5.0	<5.0	<5.0	5.0		
Nitrate + Nitrite (N)	mg/L	<0.050	0.23	0.85	0.090	0.050		
Nitrite (N)	mg/L	<0.010	<0.010	<0.010	<0.010	0.010		
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	<0.050	<0.050	<0.050	0.050	<0.050	0.050
Total Organic Carbon (C)	mg/L	<0.50	0.51	1.3	<0.50	0.50		
Orthophosphate (P)	mg/L	<0.010	<0.010	<0.010	0.015	0.010		
pH	pH	7.88	7.34	5.78	7.79	N/A		
Reactive Silica (SiO2)	mg/L	9.3	9.2	4.0	12	0.50		
Dissolved Sulphate (SO4)	mg/L	10	7.2	4.6	9.1	2.0		
Turbidity	NTU	2.4	5.3	4.4	11	0.10		
Conductivity	uS/cm	130	93	26	190	1.0		

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Sampler Initials: DN

RESULTS OF ANALYSES OF WATER

BV Labs ID		KDO288	KDO289		KDO289		KDO290	KDO291	
Sampling Date		2019/06/27 09:21	2019/06/27 09:28		2019/06/27 09:28		2019/06/27 09:35	2019/06/27 14:10	
COC Number		722830-05-01	722830-05-01		722830-05-01		722830-05-01	722830-05-01	
	UNITS	MW-21A	MW-21B	RDL	MW-21B Lab-Dup	RDL	MW-21C	MW-22A	RDL
Calculated Parameters									
Anion Sum	me/L	0.180	0.380	N/A			1.81	0.180	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	5.3	10	1.0			65	<1.0	1.0
Calculated TDS	mg/L	17	27	1.0			120	20	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	<1.0	1.0			<1.0	<1.0	1.0
Cation Sum	me/L	0.230	0.340	N/A			1.75	0.280	N/A
Hardness (CaCO3)	mg/L	5.6	10	1.0			51	4.0	1.0
Ion Balance (% Difference)	%	12.2	5.56	N/A			1.69	21.7	N/A
Langelier Index (@ 20C)	N/A	-4.11	-3.40				-1.39	NC	
Langelier Index (@ 4C)	N/A	-4.37	-3.66				-1.64	NC	
Nitrate (N)	mg/L	0.29	0.20	0.050			0.15	<0.050	0.050
Saturation pH (@ 20C)	N/A	10.4	9.92				8.49	NC	
Saturation pH (@ 4C)	N/A	10.7	10.2				8.74	NC	
Inorganics									
Total Alkalinity (Total as CaCO3)	mg/L	5.3	10	5.0	9.8	5.0	65	<5.0	5.0
Dissolved Chloride (Cl-)	mg/L	<1.0	3.5	1.0	3.1	1.0	3.4	3.2	1.0
Colour	TCU	5.9	<5.0	5.0	<5.0	5.0	<5.0	<5.0	5.0
Nitrate + Nitrite (N)	mg/L	0.29	0.20	0.050	0.24	0.050	0.17	<0.050	0.050
Nitrite (N)	mg/L	<0.010	<0.010	0.010	<0.010	0.010	0.022	<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	<0.050	0.050			<0.050	<0.050	0.050
Total Organic Carbon (C)	mg/L	2.1	1.8	0.50			3.7	0.83	0.50
Orthophosphate (P)	mg/L	<0.010	0.022	0.010	0.023	0.010	<0.010	<0.010	0.010
pH	pH	6.31	6.51	N/A			7.10	6.11	N/A
Reactive Silica (SiO2)	mg/L	5.5	6.2	0.50	6.1	0.50	18	5.9	0.50
Dissolved Sulphate (SO4)	mg/L	2.4	3.1	2.0	3.9	2.0	20	4.2	2.0
Turbidity	NTU	14	3.9	0.10			4.2	22	0.10
Conductivity	uS/cm	27	35	1.0			170	34	1.0

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Sampler Initials: DN

RESULTS OF ANALYSES OF WATER

BV Labs ID		KDO292	KDO293		KDO293		KDO294	KDO295	
Sampling Date		2019/06/27 14:19	2019/06/27 14:26		2019/06/27 14:26		2019/06/27	2019/06/27	
COC Number		722830-05-01	722830-05-01		722830-05-01		722830-05-01	722830-05-01	
	UNITS	MW-22B	MW-22C	RDL	MW-22C Lab-Dup	RDL	DUP1	DUP2	RDL
Calculated Parameters									
Anion Sum	me/L	1.36	2.12	N/A			0.190	0.430	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	54	95	1.0			<1.0	13	1.0
Calculated TDS	mg/L	84	120	1.0			18	38	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	<1.0	1.0			<1.0	<1.0	1.0
Cation Sum	me/L	1.35	1.94	N/A			0.210	0.410	N/A
Hardness (CaCO3)	mg/L	49	58	1.0			4.5	9.9	1.0
Ion Balance (% Difference)	%	0.370	4.43	N/A			5.00	2.38	N/A
Langelier Index (@ 20C)	N/A	-1.15	-0.137				NC	-2.99	
Langelier Index (@ 4C)	N/A	-1.40	-0.388				NC	-3.24	
Nitrate (N)	mg/L	<0.050	<0.050	0.050			0.93	<0.050	0.050
Saturation pH (@ 20C)	N/A	8.44	8.11				NC	9.76	
Saturation pH (@ 4C)	N/A	8.69	8.36				NC	10.0	
Inorganics									
Total Alkalinity (Total as CaCO3)	mg/L	54	96	5.0			<5.0	13	5.0
Dissolved Chloride (Cl-)	mg/L	4.0	3.0	1.0			1.6	3.4	1.0
Colour	TCU	<5.0	<5.0	5.0			<5.0	<5.0	5.0
Nitrate + Nitrite (N)	mg/L	<0.050	<0.050	0.050			0.93	<0.050	0.050
Nitrite (N)	mg/L	<0.010	<0.010	0.010			<0.010	<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	<0.050	0.050			<0.050	<0.050	0.050
Total Organic Carbon (C)	mg/L	0.57	<0.50	0.50			1.3	<0.50	0.50
Orthophosphate (P)	mg/L	<0.010	<0.010	0.010			<0.010	0.074	0.010
pH	pH	7.29	7.98	N/A	8.04	N/A	5.76	6.77	N/A
Reactive Silica (SiO2)	mg/L	13	12	0.50			4.2	15	0.50
Dissolved Sulphate (SO4)	mg/L	8.0	5.3	2.0			3.8	3.6	2.0
Turbidity	NTU	4.0	0.46	0.10			5.6	2.9	0.10
Conductivity	uS/cm	130	190	1.0	180	1.0	26	43	1.0

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RESULTS OF ANALYSES OF WATER

BV Labs ID		KDO296	KDO297	KDO298		KDO298	
Sampling Date		2019/06/27	2019/06/27	2019/06/27		2019/06/27	
COC Number		722830-05-01	722830-05-01	722830-06-01		722830-06-01	
	UNITS	DUP3	DUP4	DUP5	RDL	DUP5 Lab-Dup	RDL
Calculated Parameters							
Anion Sum	me/L	0.390	0.130	1.99	N/A		
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	8.1	<1.0	60	1.0		
Calculated TDS	mg/L	26	14	120	1.0		
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	<1.0	<1.0	1.0		
Cation Sum	me/L	0.350	0.230	1.84	N/A		
Hardness (CaCO3)	mg/L	9.0	5.8	53	1.0		
Ion Balance (% Difference)	%	5.41	27.8	3.92	N/A		
Langelier Index (@ 20C)	N/A	-3.23	NC	-0.551			
Langelier Index (@ 4C)	N/A	-3.48	NC	-0.802			
Nitrate (N)	mg/L	<0.050	<0.050	<0.050	0.050		
Saturation pH (@ 20C)	N/A	9.92	NC	8.31			
Saturation pH (@ 4C)	N/A	10.2	NC	8.56			
Inorganics							
Total Alkalinity (Total as CaCO3)	mg/L	8.1	<5.0	61	5.0		
Dissolved Chloride (Cl-)	mg/L	4.6	2.8	4.6	1.0		
Colour	TCU	<5.0	<5.0	<5.0	5.0		
Nitrate + Nitrite (N)	mg/L	<0.050	<0.050	<0.050	0.050		
Nitrite (N)	mg/L	<0.010	<0.010	<0.010	0.010		
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	<0.050	<0.050	0.050	<0.050	0.050
Total Organic Carbon (C)	mg/L	1.2	<0.50	4.0	0.50		
Orthophosphate (P)	mg/L	<0.010	<0.010	0.022	0.010		
pH	pH	6.69	6.48	7.76	N/A		
Reactive Silica (SiO2)	mg/L	4.1	3.7	12	0.50		
Dissolved Sulphate (SO4)	mg/L	4.7	2.4	31	2.0		
Turbidity	NTU	2.9	1.2	2.6	0.10		
Conductivity	uS/cm	39	24	190	1.0		

RDL = Reportable Detection Limit
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Report Date: 2019/07/09

GHD Limited
Client Project #: 088664-29
Your P.O. #: 7216
Sampler Initials: DN

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		KDO187	KDO188	KDO189	KDO190	KDO191	KDO192	KDO193	
Sampling Date		2019/06/27 11:34	2019/06/27 11:37	2019/06/27 11:42	2019/06/27 10:32	2019/06/27 10:42	2019/06/27 12:08	2019/06/27 12:14	
COC Number		722830-01-01	722830-01-01	722830-01-01	722830-01-01	722830-01-01	722830-01-01	722830-01-01	
	UNITS	MW-01A	MW-01B	MW-01C	MW-02A	MW-02B	MW-03A	MW-03B	RDL
Metals									
Dissolved Aluminum (Al)	ug/L	10	12	6.3	230	5.7	130	<5.0	5.0
Total Aluminum (Al)	ug/L	520	190	160	2100	210	1000	110	5.0
Dissolved Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Arsenic (As)	ug/L	<1.0	3.5	<1.0	<1.0	2.4	<1.0	<1.0	1.0
Total Arsenic (As)	ug/L	<1.0	3.8	<1.0	2.1	2.6	<1.0	<1.0	1.0
Dissolved Barium (Ba)	ug/L	7.4	5.7	3.9	6.6	2.5	10	2.8	1.0
Total Barium (Ba)	ug/L	12	7.0	5.3	18	3.6	24	3.3	1.0
Dissolved Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Boron (B)	ug/L	<50	<50	<50	<50	<50	<50	<50	50
Total Boron (B)	ug/L	<50	<50	<50	<50	<50	<50	<50	50
Dissolved Cadmium (Cd)	ug/L	0.037	0.012	0.014	0.027	0.45	0.031	0.021	0.010
Total Cadmium (Cd)	ug/L	0.031	0.012	0.011	0.029	0.51	0.043	0.019	0.010
Dissolved Calcium (Ca)	ug/L	1700	20000	2900	720	2800	1200	12000	100
Total Calcium (Ca)	ug/L	1900	21000	3000	1100	3000	1600	13000	100
Dissolved Chromium (Cr)	ug/L	1.4	1.7	1.2	1.1	1.4	1.2	1.5	1.0
Total Chromium (Cr)	ug/L	1.7	1.0	1.6	3.0	<1.0	1.4	<1.0	1.0
Dissolved Cobalt (Co)	ug/L	0.48	<0.40	<0.40	<0.40	<0.40	0.50	<0.40	0.40
Total Cobalt (Co)	ug/L	3.3	<0.40	0.49	1.7	<0.40	0.77	<0.40	0.40
Dissolved Copper (Cu)	ug/L	1.1	0.76	0.79	1.4	1.1	1.9	<0.50	0.50
Total Copper (Cu)	ug/L	3.2	1.3	1.4	7.2	1.4	3.7	0.80	0.50
Dissolved Iron (Fe)	ug/L	<50	<50	<50	<50	<50	<50	<50	50
Total Iron (Fe)	ug/L	900	200	210	2700	96	1300	170	50
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Total Lead (Pb)	ug/L	<0.50	<0.50	<0.50	1.4	<0.50	3.2	<0.50	0.50
Dissolved Magnesium (Mg)	ug/L	570	2200	470	400	800	530	1200	100
Total Magnesium (Mg)	ug/L	820	2200	510	990	880	730	1200	100
Dissolved Manganese (Mn)	ug/L	150	3.2	6.5	43	9.1	51	3.3	2.0
Total Manganese (Mn)	ug/L	380	5.8	36	120	11	140	7.4	2.0
Dissolved Molybdenum (Mo)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Molybdenum (Mo)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Nickel (Ni)	ug/L	2.6	<2.0	2.7	<2.0	<2.0	3.6	<2.0	2.0

RDL = Reportable Detection Limit

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ELEMENTS BY ICP/MS (WATER)

BV Labs ID		KDO187	KDO188	KDO189	KDO190	KDO191	KDO192	KDO193	
Sampling Date		2019/06/27 11:34	2019/06/27 11:37	2019/06/27 11:42	2019/06/27 10:32	2019/06/27 10:42	2019/06/27 12:08	2019/06/27 12:14	
COC Number		722830-01-01	722830-01-01	722830-01-01	722830-01-01	722830-01-01	722830-01-01	722830-01-01	
	UNITS	MW-01A	MW-01B	MW-01C	MW-02A	MW-02B	MW-03A	MW-03B	RDL
Total Nickel (Ni)	ug/L	2.9	<2.0	2.6	3.8	<2.0	4.1	<2.0	2.0
Dissolved Phosphorus (P)	ug/L	<100	<100	<100	<100	110	<100	<100	100
Total Phosphorus (P)	ug/L	<100	<100	<100	110	110	<100	<100	100
Dissolved Potassium (K)	ug/L	810	1500	630	120	560	640	890	100
Total Potassium (K)	ug/L	990	1500	670	490	550	900	920	100
Dissolved Selenium (Se)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Selenium (Se)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Silver (Ag)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Total Silver (Ag)	ug/L	<0.10	<0.10	<0.10	0.40	<0.10	0.20	<0.10	0.10
Dissolved Sodium (Na)	ug/L	3200	4900	3700	3200	4700	2400	4400	100
Total Sodium (Na)	ug/L	3300	5000	3700	3500	4900	2400	4500	100
Dissolved Strontium (Sr)	ug/L	12	59	18	5.3	18	15	26	2.0
Total Strontium (Sr)	ug/L	14	60	19	6.2	20	19	26	2.0
Dissolved Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Total Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Dissolved Tin (Sn)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Tin (Sn)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Titanium (Ti)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Titanium (Ti)	ug/L	30	6.2	8.2	69	3.2	26	7.4	2.0
Dissolved Uranium (U)	ug/L	<0.10	0.74	<0.10	<0.10	0.67	<0.10	0.25	0.10
Total Uranium (U)	ug/L	<0.10	0.75	0.18	0.14	0.94	0.98	0.30	0.10
Dissolved Vanadium (V)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Vanadium (V)	ug/L	<2.0	<2.0	<2.0	2.1	<2.0	<2.0	<2.0	2.0
Dissolved Zinc (Zn)	ug/L	<5.0	<5.0	7.1	<5.0	94	5.9	<5.0	5.0
Total Zinc (Zn)	ug/L	<5.0	<5.0	6.2	9.3	99	9.6	<5.0	5.0

RDL = Reportable Detection Limit

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GHD Limited
Client Project #: 088664-29
Your P.O. #: 7216
Sampler Initials: DN

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		KDO194	KDO195	KDO196		KDO196		KDO197	
Sampling Date		2019/06/27 12:19	2019/06/27 10:32	2019/06/27 10:45		2019/06/27 10:45		2019/06/27 09:42	
COC Number		722830-01-01	722830-01-01	722830-01-01		722830-01-01		722830-02-01	
	UNITS	MW-03C	MW-04A	MW-04B	RDL	MW-04B Lab-Dup	RDL	MW-05A	RDL
Metals									
Dissolved Aluminum (Al)	ug/L	8.1	42	<5.0	5.0			21	5.0
Total Aluminum (Al)	ug/L	200	160	64	5.0	62	5.0	260	5.0
Dissolved Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	1.0			<1.0	1.0
Total Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	1.0	<1.0	1.0	<1.0	1.0
Dissolved Arsenic (As)	ug/L	2.0	<1.0	<1.0	1.0			<1.0	1.0
Total Arsenic (As)	ug/L	2.3	<1.0	1.0	1.0	<1.0	1.0	<1.0	1.0
Dissolved Barium (Ba)	ug/L	5.4	3.7	2.0	1.0			7.6	1.0
Total Barium (Ba)	ug/L	7.3	4.4	2.4	1.0	2.4	1.0	9.4	1.0
Dissolved Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	1.0			<1.0	1.0
Total Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	1.0	<1.0	1.0	<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	2.0			<2.0	2.0
Total Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	2.0	<2.0	2.0	<2.0	2.0
Dissolved Boron (B)	ug/L	<50	<50	<50	50			<50	50
Total Boron (B)	ug/L	<50	<50	<50	50	<50	50	<50	50
Dissolved Cadmium (Cd)	ug/L	0.014	0.014	<0.010	0.010			0.027	0.010
Total Cadmium (Cd)	ug/L	0.021	0.017	0.011	0.010	0.013	0.010	0.021	0.010
Dissolved Calcium (Ca)	ug/L	28000	1600	11000	100			1800	100
Total Calcium (Ca)	ug/L	28000	1600	11000	100	11000	100	1800	100
Dissolved Chromium (Cr)	ug/L	1.1	1.6	1.2	1.0			1.5	1.0
Total Chromium (Cr)	ug/L	1.2	1.2	1.1	1.0	1.0	1.0	1.1	1.0
Dissolved Cobalt (Co)	ug/L	<0.40	<0.40	<0.40	0.40			1.8	0.40
Total Cobalt (Co)	ug/L	<0.40	<0.40	<0.40	0.40	<0.40	0.40	1.9	0.40
Dissolved Copper (Cu)	ug/L	1.0	1.9	3.8	0.50			12	0.50
Total Copper (Cu)	ug/L	6.8	3.7	6.4	0.50	6.5	0.50	16	0.50
Dissolved Iron (Fe)	ug/L	<50	<50	<50	50			<50	50
Total Iron (Fe)	ug/L	340	170	130	50	130	50	450	50
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	<0.50	0.50			<0.50	0.50
Total Lead (Pb)	ug/L	0.70	<0.50	<0.50	0.50	<0.50	0.50	<0.50	0.50
Dissolved Magnesium (Mg)	ug/L	2700	430	1200	100			430	100
Total Magnesium (Mg)	ug/L	2700	400	1200	100	1200	100	480	100
Dissolved Manganese (Mn)	ug/L	38	11	11	2.0			34	2.0
Total Manganese (Mn)	ug/L	81	11	16	2.0	16	2.0	39	2.0
Dissolved Molybdenum (Mo)	ug/L	<2.0	<2.0	<2.0	2.0			<2.0	2.0
Total Molybdenum (Mo)	ug/L	2.1	<2.0	<2.0	2.0	<2.0	2.0	<2.0	2.0

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate

GHD Limited
Client Project #: 088664-29
Your P.O. #: 7216
Sampler Initials: DN

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		KDO194	KDO195	KDO196		KDO196		KDO197	
Sampling Date		2019/06/27 12:19	2019/06/27 10:32	2019/06/27 10:45		2019/06/27 10:45		2019/06/27 09:42	
COC Number		722830-01-01	722830-01-01	722830-01-01		722830-01-01		722830-02-01	
	UNITS	MW-03C	MW-04A	MW-04B	RDL	MW-04B Lab-Dup	RDL	MW-05A	RDL
Dissolved Nickel (Ni)	ug/L	<2.0	2.2	<2.0	2.0			7.0	2.0
Total Nickel (Ni)	ug/L	2.2	<2.0	<2.0	2.0	<2.0	2.0	7.1	2.0
Dissolved Phosphorus (P)	ug/L	<100	<100	<100	100			<100	100
Total Phosphorus (P)	ug/L	<100	<100	<100	100	<100	100	<100	100
Dissolved Potassium (K)	ug/L	2300	330	600	100			530	100
Total Potassium (K)	ug/L	2400	390	610	100	610	100	550	100
Dissolved Selenium (Se)	ug/L	<1.0	<1.0	<1.0	1.0			<1.0	1.0
Total Selenium (Se)	ug/L	<1.0	<1.0	<1.0	1.0	<1.0	1.0	<1.0	1.0
Dissolved Silver (Ag)	ug/L	<0.10	<0.10	<0.10	0.10			<0.10	0.10
Total Silver (Ag)	ug/L	1.0	0.25	<0.10	0.10	<0.10	0.10	0.13	0.10
Dissolved Sodium (Na)	ug/L	5900	2500	3800	100			2900	100
Total Sodium (Na)	ug/L	5800	2200	3700	100	3700	100	2700	100
Dissolved Strontium (Sr)	ug/L	74	15	69	2.0			10	2.0
Total Strontium (Sr)	ug/L	75	13	67	2.0	69	2.0	11	2.0
Dissolved Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	0.10			<0.10	0.10
Total Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	0.10	<0.10	0.10	<0.10	0.10
Dissolved Tin (Sn)	ug/L	<2.0	<2.0	<2.0	2.0			<2.0	2.0
Total Tin (Sn)	ug/L	<2.0	<2.0	<2.0	2.0	<2.0	2.0	<2.0	2.0
Dissolved Titanium (Ti)	ug/L	<2.0	<2.0	<2.0	2.0			<2.0	2.0
Total Titanium (Ti)	ug/L	13	5.1	2.8	2.0	2.8	2.0	9.6	2.0
Dissolved Uranium (U)	ug/L	1.5	<0.10	<0.10	0.10			<0.10	0.10
Total Uranium (U)	ug/L	1.6	<0.10	<0.10	0.10	<0.10	0.10	<0.10	0.10
Dissolved Vanadium (V)	ug/L	<2.0	<2.0	<2.0	2.0			<2.0	2.0
Total Vanadium (V)	ug/L	<2.0	<2.0	<2.0	2.0	<2.0	2.0	<2.0	2.0
Dissolved Zinc (Zn)	ug/L	8.8	<5.0	8.7	5.0			23	5.0
Total Zinc (Zn)	ug/L	13	<5.0	7.4	5.0	7.2	5.0	18	5.0

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate

BV Labs Job #: B9H9531
Report Date: 2019/07/09

GHD Limited
Client Project #: 088664-29
Your P.O. #: 7216
Sampler Initials: DN

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		KDO198		KDO198		KDO199	KDO200		KDO200	
Sampling Date		2019/06/27 09:58		2019/06/27 09:58		2019/06/27 10:07	2019/06/27 13:19		2019/06/27 13:19	
COC Number		722830-02-01		722830-02-01		722830-02-01	722830-02-01		722830-02-01	
	UNITS	MW-05B	RDL	MW-05B Lab-Dup	RDL	MW-05D	MW-07A	RDL	MW-07A Lab-Dup	RDL
Metals										
Dissolved Aluminum (Al)	ug/L	10	5.0			27	<5.0	5.0	<5.0	5.0
Total Aluminum (Al)	ug/L	700	5.0	720	5.0	1600	87	5.0		
Dissolved Antimony (Sb)	ug/L	<1.0	1.0			<1.0	<1.0	1.0	<1.0	1.0
Total Antimony (Sb)	ug/L	<1.0	1.0	<1.0	1.0	<1.0	<1.0	1.0		
Dissolved Arsenic (As)	ug/L	2.8	1.0			1.4	6.1	1.0	6.4	1.0
Total Arsenic (As)	ug/L	3.9	1.0	4.0	1.0	1.6	22	1.0		
Dissolved Barium (Ba)	ug/L	5.5	1.0			7.6	5.7	1.0	5.9	1.0
Total Barium (Ba)	ug/L	8.4	1.0	8.2	1.0	13	7.5	1.0		
Dissolved Beryllium (Be)	ug/L	<1.0	1.0			<1.0	<1.0	1.0	<1.0	1.0
Total Beryllium (Be)	ug/L	<1.0	1.0	<1.0	1.0	<1.0	<1.0	1.0		
Dissolved Bismuth (Bi)	ug/L	<2.0	2.0			<2.0	<2.0	2.0	<2.0	2.0
Total Bismuth (Bi)	ug/L	<2.0	2.0	<2.0	2.0	<2.0	<2.0	2.0		
Dissolved Boron (B)	ug/L	<50	50			<50	<50	50	<50	50
Total Boron (B)	ug/L	<50	50	<50	50	<50	<50	50		
Dissolved Cadmium (Cd)	ug/L	<0.010	0.010			<0.010	<0.010	0.010	<0.010	0.010
Total Cadmium (Cd)	ug/L	0.021	0.010	0.014	0.010	<0.010	0.012	0.010		
Dissolved Calcium (Ca)	ug/L	18000	100			18000	29000	100	29000	100
Total Calcium (Ca)	ug/L	18000	100	19000	100	19000	30000	100		
Dissolved Chromium (Cr)	ug/L	1.3	1.0			1.1	1.2	1.0	1.2	1.0
Total Chromium (Cr)	ug/L	1.5	1.0	1.2	1.0	1.7	1.1	1.0		
Dissolved Cobalt (Co)	ug/L	<0.40	0.40			<0.40	<0.40	0.40	<0.40	0.40
Total Cobalt (Co)	ug/L	<0.40	0.40	<0.40	0.40	<0.40	<0.40	0.40		
Dissolved Copper (Cu)	ug/L	<0.50	0.50			0.67	<0.50	0.50	<0.50	0.50
Total Copper (Cu)	ug/L	2.0	0.50	1.9	0.50	1.1	0.51	0.50		
Dissolved Iron (Fe)	ug/L	<50	50			<50	3800	50	3800	50
Total Iron (Fe)	ug/L	530	50	500	50	640	5200	50		
Dissolved Lead (Pb)	ug/L	<0.50	0.50			<0.50	<0.50	0.50	<0.50	0.50
Total Lead (Pb)	ug/L	0.57	0.50	0.64	0.50	0.78	<0.50	0.50		
Dissolved Magnesium (Mg)	ug/L	1900	100			2400	7500	100	7500	100
Total Magnesium (Mg)	ug/L	2000	100	2000	100	2700	7400	100		
Dissolved Manganese (Mn)	ug/L	2.3	2.0			26	540	2.0	540	2.0
Total Manganese (Mn)	ug/L	43	2.0	42	2.0	34	550	2.0		
Dissolved Molybdenum (Mo)	ug/L	5.1	2.0			<2.0	<2.0	2.0	<2.0	2.0
Total Molybdenum (Mo)	ug/L	5.5	2.0	5.5	2.0	<2.0	<2.0	2.0		

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate

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BV Labs Job #: B9H9531
Report Date: 2019/07/09

GHD Limited
Client Project #: 088664-29
Your P.O. #: 7216
Sampler Initials: DN

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		KDO198		KDO198		KDO199	KDO200		KDO200	
Sampling Date		2019/06/27 09:58		2019/06/27 09:58		2019/06/27 10:07	2019/06/27 13:19		2019/06/27 13:19	
COC Number		722830-02-01		722830-02-01		722830-02-01	722830-02-01		722830-02-01	
	UNITS	MW-05B	RDL	MW-05B Lab-Dup	RDL	MW-05D	MW-07A	RDL	MW-07A Lab-Dup	RDL
Dissolved Nickel (Ni)	ug/L	<2.0	2.0			2.0	<2.0	2.0	2.7	2.0
Total Nickel (Ni)	ug/L	<2.0	2.0	<2.0	2.0	<2.0	<2.0	2.0		
Dissolved Phosphorus (P)	ug/L	<100	100			<100	<100	100	<100	100
Total Phosphorus (P)	ug/L	<100	100	<100	100	<100	<100	100		
Dissolved Potassium (K)	ug/L	1300	100			1100	1800	100	1800	100
Total Potassium (K)	ug/L	1400	100	1400	100	1300	1800	100		
Dissolved Selenium (Se)	ug/L	<1.0	1.0			<1.0	<1.0	1.0	<1.0	1.0
Total Selenium (Se)	ug/L	<1.0	1.0	<1.0	1.0	<1.0	<1.0	1.0		
Dissolved Silver (Ag)	ug/L	<0.10	0.10			<0.10	<0.10	0.10	<0.10	0.10
Total Silver (Ag)	ug/L	<0.10	0.10	<0.10	0.10	<0.10	<0.10	0.10		
Dissolved Sodium (Na)	ug/L	7200	100			15000	9500	100	9600	100
Total Sodium (Na)	ug/L	6900	100	7100	100	15000	9600	100		
Dissolved Strontium (Sr)	ug/L	79	2.0			180	150	2.0	150	2.0
Total Strontium (Sr)	ug/L	80	2.0	81	2.0	190	160	2.0		
Dissolved Thallium (Tl)	ug/L	<0.10	0.10			<0.10	<0.10	0.10	<0.10	0.10
Total Thallium (Tl)	ug/L	<0.10	0.10	<0.10	0.10	<0.10	<0.10	0.10		
Dissolved Tin (Sn)	ug/L	<2.0	2.0			<2.0	<2.0	2.0	<2.0	2.0
Total Tin (Sn)	ug/L	<2.0	2.0	<2.0	2.0	<2.0	<2.0	2.0		
Dissolved Titanium (Ti)	ug/L	<2.0	2.0			<2.0	<2.0	2.0	<2.0	2.0
Total Titanium (Ti)	ug/L	<20 (1)	20	<20 (1)	20	30	2.7	2.0		
Dissolved Uranium (U)	ug/L	0.48	0.10			0.51	<0.10	0.10	<0.10	0.10
Total Uranium (U)	ug/L	0.54	0.10	0.56	0.10	0.69	0.12	0.10		
Dissolved Vanadium (V)	ug/L	<2.0	2.0			<2.0	<2.0	2.0	<2.0	2.0
Total Vanadium (V)	ug/L	<2.0	2.0	<2.0	2.0	<2.0	<2.0	2.0		
Dissolved Zinc (Zn)	ug/L	<5.0	5.0			8.5	<5.0	5.0	<5.0	5.0
Total Zinc (Zn)	ug/L	5.3	5.0	5.2	5.0	6.2	<5.0	5.0		

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
(1) Elevated reporting limit due to sample matrix.

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BV Labs Job #: B9H9531
Report Date: 2019/07/09

GHD Limited
Client Project #: 088664-29
Your P.O. #: 7216
Sampler Initials: DN

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		KDO201	KDO202	KDO203	KDO204	KDO205	KDO206	KDO207	
Sampling Date		2019/06/27 13:23	2019/06/27 13:28	2019/06/27 12:36	2019/06/27 12:41	2019/06/27 12:45	2019/06/27 11:03	2019/06/27 11:13	
COC Number		722830-02-01	722830-02-01	722830-02-01	722830-02-01	722830-02-01	722830-02-01	722830-03-01	
	UNITS	MW-07B	MW-07D	MW-09A	MW-09B	MW-09D	MW-11A	MW-11-B	RDL
Metals									
Dissolved Aluminum (Al)	ug/L	5.9	<5.0	15	5.6	5.6	17	<5.0	5.0
Total Aluminum (Al)	ug/L	240	320	290	1000	200	71	220	5.0
Dissolved Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Arsenic (As)	ug/L	30	160	3.0	120	130	<1.0	<1.0	1.0
Total Arsenic (As)	ug/L	36	170	5.5	130	140	<1.0	3.5	1.0
Dissolved Barium (Ba)	ug/L	15	8.9	11	14	10	4.6	6.1	1.0
Total Barium (Ba)	ug/L	16	10	13	15	10	5.0	8.6	1.0
Dissolved Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Boron (B)	ug/L	<50	<50	<50	<50	<50	<50	<50	50
Total Boron (B)	ug/L	<50	<50	<50	<50	<50	<50	<50	50
Dissolved Cadmium (Cd)	ug/L	<0.010	<0.010	0.069	<0.010	<0.010	0.023	0.017	0.010
Total Cadmium (Cd)	ug/L	0.010	<0.010	0.081	<0.010	<0.010	0.022	0.015	0.010
Dissolved Calcium (Ca)	ug/L	93000	41000	4800	25000	32000	1900	4400	100
Total Calcium (Ca)	ug/L	98000	42000	5100	26000	33000	1900	4800	100
Dissolved Chromium (Cr)	ug/L	1.4	1.2	1.2	1.3	1.3	1.3	<1.0	1.0
Total Chromium (Cr)	ug/L	1.3	1.1	2.2	1.1	<1.0	<1.0	2.0	1.0
Dissolved Cobalt (Co)	ug/L	<0.40	<0.40	0.77	<0.40	<0.40	<0.40	1.4	0.40
Total Cobalt (Co)	ug/L	<0.40	<0.40	1.0	<0.40	<0.40	0.44	1.6	0.40
Dissolved Copper (Cu)	ug/L	<0.50	<0.50	3.3	<0.50	<0.50	3.5	<0.50	0.50
Total Copper (Cu)	ug/L	0.65	0.60	5.1	<0.50	0.90	3.6	2.1	0.50
Dissolved Iron (Fe)	ug/L	<50	<50	<50	<50	<50	<50	1000	50
Total Iron (Fe)	ug/L	350	480	210	230	200	52	1700	50
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Total Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Dissolved Magnesium (Mg)	ug/L	7900	6300	530	2300	4400	330	520	100
Total Magnesium (Mg)	ug/L	8000	5900	600	2400	4300	330	580	100
Dissolved Manganese (Mn)	ug/L	1100	160	45	45	54	27	170	2.0
Total Manganese (Mn)	ug/L	1100	170	59	49	55	28	180	2.0
Dissolved Molybdenum (Mo)	ug/L	<2.0	<2.0	<2.0	6.0	6.7	<2.0	<2.0	2.0
Total Molybdenum (Mo)	ug/L	<2.0	<2.0	<2.0	6.3	7.5	<2.0	<2.0	2.0
Dissolved Nickel (Ni)	ug/L	<2.0	<2.0	4.8	<2.0	<2.0	2.7	8.5	2.0

RDL = Reportable Detection Limit

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BV Labs Job #: B9H9531
Report Date: 2019/07/09

GHD Limited
Client Project #: 088664-29
Your P.O. #: 7216
Sampler Initials: DN

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		KDO201	KDO202	KDO203	KDO204	KDO205	KDO206	KDO207	
Sampling Date		2019/06/27 13:23	2019/06/27 13:28	2019/06/27 12:36	2019/06/27 12:41	2019/06/27 12:45	2019/06/27 11:03	2019/06/27 11:13	
COC Number		722830-02-01	722830-02-01	722830-02-01	722830-02-01	722830-02-01	722830-02-01	722830-03-01	
	UNITS	MW-07B	MW-07D	MW-09A	MW-09B	MW-09D	MW-11A	MW-11-B	RDL
Total Nickel (Ni)	ug/L	<2.0	<2.0	5.1	<2.0	<2.0	<2.0	9.3	2.0
Dissolved Phosphorus (P)	ug/L	<100	<100	<100	<100	<100	<100	<100	100
Total Phosphorus (P)	ug/L	<100	<100	<100	<100	<100	<100	<100	100
Dissolved Potassium (K)	ug/L	3100	1500	540	1200	1200	430	620	100
Total Potassium (K)	ug/L	3300	1500	590	1300	1100	390	660	100
Dissolved Selenium (Se)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Selenium (Se)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Silver (Ag)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Total Silver (Ag)	ug/L	<0.10	<0.10	0.67	<0.10	0.15	<0.10	0.14	0.10
Dissolved Sodium (Na)	ug/L	21000	29000	3400	13000	16000	2000	4100	100
Total Sodium (Na)	ug/L	21000	29000	3400	13000	16000	2000	4300	100
Dissolved Strontium (Sr)	ug/L	310	380	16	420	710	11	19	2.0
Total Strontium (Sr)	ug/L	320	390	16	440	720	11	20	2.0
Dissolved Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Total Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Dissolved Tin (Sn)	ug/L	<2.0	<2.0	<2.0	<2.0	2.6	<2.0	<2.0	2.0
Total Tin (Sn)	ug/L	<2.0	<2.0	<2.0	<2.0	2.0	<2.0	<2.0	2.0
Dissolved Titanium (Ti)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Titanium (Ti)	ug/L	7.8	9.0	4.0	13	6.0	<2.0	8.7	2.0
Dissolved Uranium (U)	ug/L	3.1	2.9	0.15	6.7	3.4	<0.10	<0.10	0.10
Total Uranium (U)	ug/L	3.2	2.9	0.16	7.1	3.4	<0.10	0.17	0.10
Dissolved Vanadium (V)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Vanadium (V)	ug/L	<2.0	<2.0	<2.0	2.2	<2.0	<2.0	<2.0	2.0
Dissolved Zinc (Zn)	ug/L	<5.0	<5.0	6.6	<5.0	<5.0	7.2	17	5.0
Total Zinc (Zn)	ug/L	<5.0	<5.0	6.5	<5.0	<5.0	8.1	17	5.0

RDL = Reportable Detection Limit

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BV Labs Job #: B9H9531
Report Date: 2019/07/09

GHD Limited
Client Project #: 088664-29
Your P.O. #: 7216
Sampler Initials: DN

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		KDO208	KDO209	KDO210	KDO211	KDO212	KDO213	KDO214	
Sampling Date		2019/06/27 11:23	2019/06/27 13:07	2019/06/27 13:01	2019/06/27 14:03	2019/06/27 14:09	2019/06/27 14:16	2019/06/27 12:54	
COC Number		722830-03-01	722830-03-01	722830-03-01	722830-03-01	722830-03-01	722830-03-01	722830-03-01	
	UNITS	MW-11C	MW-12A	MW-12B	MW-14A	MW-14B	MW-14C	MW-16A	RDL
Metals									
Dissolved Aluminum (Al)	ug/L	<5.0	7.3	<5.0	<5.0	5.3	5.4	830	5.0
Total Aluminum (Al)	ug/L	450	3800	2300	3200	4000	2000	20000	5.0
Dissolved Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Arsenic (As)	ug/L	62	<1.0	42	2.4	5.8	1.4	<1.0	1.0
Total Arsenic (As)	ug/L	68	2.5	49	52	10	1.7	3.1	1.0
Dissolved Barium (Ba)	ug/L	12	5.7	13	3.2	6.7	39	5.1	1.0
Total Barium (Ba)	ug/L	15	33	19	26	33	44	92	1.0
Dissolved Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.5	1.0
Dissolved Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Boron (B)	ug/L	<50	<50	<50	<50	<50	120	<50	50
Total Boron (B)	ug/L	<50	<50	<50	<50	<50	120	51	50
Dissolved Cadmium (Cd)	ug/L	<0.010	0.026	<0.010	0.012	<0.010	<0.010	0.049	0.010
Total Cadmium (Cd)	ug/L	0.016	0.039	0.021	0.018	<0.010	<0.010	0.15	0.010
Dissolved Calcium (Ca)	ug/L	25000	4400	23000	4000	15000	10000	13000	100
Total Calcium (Ca)	ug/L	26000	4800	25000	4400	16000	11000	26000	100
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Chromium (Cr)	ug/L	1.7	6.3	2.1	5.3	5.0	1.4	2.8	1.0
Dissolved Cobalt (Co)	ug/L	<0.40	0.80	<0.40	0.79	<0.40	<0.40	2.4	0.40
Total Cobalt (Co)	ug/L	<0.40	3.7	0.46	2.7	1.5	<0.40	6.8	0.40
Dissolved Copper (Cu)	ug/L	<0.50	<0.50	<0.50	1.3	<0.50	<0.50	0.98	0.50
Total Copper (Cu)	ug/L	2.6	7.8	2.9	11	4.8	0.62	19	0.50
Dissolved Iron (Fe)	ug/L	<50	<50	<50	<50	<50	<50	270	50
Total Iron (Fe)	ug/L	510	5700	1000	5600	3500	630	9900	50
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Total Lead (Pb)	ug/L	<0.50	2.4	1.5	3.7	2.1	0.94	12	0.50
Dissolved Magnesium (Mg)	ug/L	2100	1500	2400	990	1700	1500	1200	100
Total Magnesium (Mg)	ug/L	2400	2800	3000	2200	2700	2000	5800	100
Dissolved Manganese (Mn)	ug/L	17	140	270	110	200	13	760	2.0
Total Manganese (Mn)	ug/L	36	340	320	200	300	19	1600	2.0
Dissolved Molybdenum (Mo)	ug/L	3.2	<2.0	18	<2.0	13	<2.0	<2.0	2.0
Total Molybdenum (Mo)	ug/L	3.4	<2.0	19	<2.0	15	<2.0	<2.0	2.0
Dissolved Nickel (Ni)	ug/L	<2.0	2.2	2.5	4.4	<2.0	<2.0	3.5	2.0

RDL = Reportable Detection Limit

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BV Labs Job #: B9H9531
Report Date: 2019/07/09

GHD Limited
Client Project #: 088664-29
Your P.O. #: 7216
Sampler Initials: DN

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		KDO208	KDO209	KDO210	KDO211	KDO212	KDO213	KDO214	
Sampling Date		2019/06/27 11:23	2019/06/27 13:07	2019/06/27 13:01	2019/06/27 14:03	2019/06/27 14:09	2019/06/27 14:16	2019/06/27 12:54	
COC Number		722830-03-01	722830-03-01	722830-03-01	722830-03-01	722830-03-01	722830-03-01	722830-03-01	
	UNITS	MW-11C	MW-12A	MW-12B	MW-14A	MW-14B	MW-14C	MW-16A	RDL
Total Nickel (Ni)	ug/L	2.3	8.4	<2.0	9.0	3.6	<2.0	9.9	2.0
Dissolved Phosphorus (P)	ug/L	<100	<100	<100	<100	<100	<100	<100	100
Total Phosphorus (P)	ug/L	<100	150	<100	140	<100	<100	160	100
Dissolved Potassium (K)	ug/L	1100	930	1500	980	1400	610	730	100
Total Potassium (K)	ug/L	1200	1900	1900	1800	2400	820	1800	100
Dissolved Selenium (Se)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Selenium (Se)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Silver (Ag)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Total Silver (Ag)	ug/L	<0.10	<0.10	0.33	0.11	<0.10	<0.10	1.0	0.10
Dissolved Sodium (Na)	ug/L	12000	5100	17000	7100	25000	22000	16000	100
Total Sodium (Na)	ug/L	13000	5400	18000	7400	27000	22000	18000	100
Dissolved Strontium (Sr)	ug/L	190	40	150	32	78	350	55	2.0
Total Strontium (Sr)	ug/L	200	48	170	38	90	370	140	2.0
Dissolved Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Total Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.11	0.10
Dissolved Tin (Sn)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Tin (Sn)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	4.7	2.0
Dissolved Titanium (Ti)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	8.1	2.0
Total Titanium (Ti)	ug/L	9.6	130	46	130	110	45	260	2.0
Dissolved Uranium (U)	ug/L	3.3	<0.10	1.7	<0.10	0.55	0.43	1.0	0.10
Total Uranium (U)	ug/L	3.5	0.25	2.1	0.32	0.78	0.64	10	0.10
Dissolved Vanadium (V)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Vanadium (V)	ug/L	<2.0	4.8	<2.0	4.6	4.9	<2.0	4.2	2.0
Dissolved Zinc (Zn)	ug/L	9.8	<5.0	<5.0	6.9	<5.0	<5.0	<5.0	5.0
Total Zinc (Zn)	ug/L	18	14	6.6	18	8.9	<5.0	24	5.0

RDL = Reportable Detection Limit

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BV Labs Job #: B9H9531
Report Date: 2019/07/09

GHD Limited
Client Project #: 088664-29
Your P.O. #: 7216
Sampler Initials: DN

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		KDO215	KDO216	KDO272	KDO273		KDO273		KDO274	
Sampling Date		2019/06/27 13:11	2019/06/27 13:32	2019/06/27 13:38	2019/06/27 13:45		2019/06/27 13:45		2019/06/27 11:50	
COC Number		722830-03-01	722830-03-01	722830-04-01	722830-04-01		722830-04-01		722830-04-01	
	UNITS	MW-16B	MW-17A	MW-17B	MW-17C	RDL	MW-17C Lab-Dup	RDL	MW-18A	RDL
Metals										
Dissolved Aluminum (Al)	ug/L	11	62	11	6.2	5.0			49	5.0
Total Aluminum (Al)	ug/L	34	1800	380	84	5.0	79	5.0	94	5.0
Dissolved Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0			<1.0	1.0
Total Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0	<1.0	1.0	<1.0	1.0
Dissolved Arsenic (As)	ug/L	9.9	<1.0	<1.0	2.1	1.0			5.7	1.0
Total Arsenic (As)	ug/L	10	5.3	1.5	2.6	1.0	2.6	1.0	7.8	1.0
Dissolved Barium (Ba)	ug/L	2.5	13	3.7	<1.0	1.0			5.7	1.0
Total Barium (Ba)	ug/L	2.8	23	6.1	1.5	1.0	1.4	1.0	6.6	1.0
Dissolved Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0			<1.0	1.0
Total Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0	<1.0	1.0	<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	2.0			<2.0	2.0
Total Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	2.0	<2.0	2.0	<2.0	2.0
Dissolved Boron (B)	ug/L	<50	<50	<50	<50	50			<50	50
Total Boron (B)	ug/L	<50	<50	<50	<50	50	<50	50	<50	50
Dissolved Cadmium (Cd)	ug/L	<0.010	0.054	0.020	<0.010	0.010			0.021	0.010
Total Cadmium (Cd)	ug/L	<0.010	0.058	0.021	0.013	0.010	<0.010	0.010	0.020	0.010
Dissolved Calcium (Ca)	ug/L	19000	2500	1700	2800	100			1400	100
Total Calcium (Ca)	ug/L	20000	2700	1900	2800	100	2900	100	1300	100
Dissolved Chromium (Cr)	ug/L	1.2	<1.0	<1.0	<1.0	1.0			<1.0	1.0
Total Chromium (Cr)	ug/L	1.2	3.0	1.5	1.2	1.0	1.0	1.0	<1.0	1.0
Dissolved Cobalt (Co)	ug/L	<0.40	0.66	<0.40	<0.40	0.40			0.84	0.40
Total Cobalt (Co)	ug/L	<0.40	1.8	<0.40	<0.40	0.40	<0.40	0.40	0.86	0.40
Dissolved Copper (Cu)	ug/L	<0.50	5.5	<0.50	<0.50	0.50			4.1	0.50
Total Copper (Cu)	ug/L	<0.50	14	1.3	0.63	0.50	0.55	0.50	4.3	0.50
Dissolved Iron (Fe)	ug/L	<50	<50	<50	<50	50			<50	50
Total Iron (Fe)	ug/L	<50	2700	510	110	50	130	50	68	50
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	0.50			<0.50	0.50
Total Lead (Pb)	ug/L	<0.50	1.5	<0.50	<0.50	0.50	<0.50	0.50	<0.50	0.50
Dissolved Magnesium (Mg)	ug/L	1300	670	730	720	100			490	100
Total Magnesium (Mg)	ug/L	1300	1300	850	680	100	720	100	500	100
Dissolved Manganese (Mn)	ug/L	<2.0	64	4.2	5.0	2.0			18	2.0
Total Manganese (Mn)	ug/L	<2.0	120	23	7.7	2.0	8.1	2.0	18	2.0
Dissolved Molybdenum (Mo)	ug/L	<2.0	<2.0	<2.0	<2.0	2.0			<2.0	2.0
Total Molybdenum (Mo)	ug/L	<2.0	<2.0	<2.0	<2.0	2.0	<2.0	2.0	<2.0	2.0

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate

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Report Date: 2019/07/09

GHD Limited
Client Project #: 088664-29
Your P.O. #: 7216
Sampler Initials: DN

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		KDO215	KDO216	KDO272	KDO273		KDO273		KDO274	
Sampling Date		2019/06/27 13:11	2019/06/27 13:32	2019/06/27 13:38	2019/06/27 13:45		2019/06/27 13:45		2019/06/27 11:50	
COC Number		722830-03-01	722830-03-01	722830-04-01	722830-04-01		722830-04-01		722830-04-01	
	UNITS	MW-16B	MW-17A	MW-17B	MW-17C	RDL	MW-17C Lab-Dup	RDL	MW-18A	RDL
Dissolved Nickel (Ni)	ug/L	<2.0	3.4	<2.0	<2.0	2.0			<2.0	2.0
Total Nickel (Ni)	ug/L	<2.0	6.2	<2.0	<2.0	2.0	<2.0	2.0	<2.0	2.0
Dissolved Phosphorus (P)	ug/L	<100	<100	<100	<100	100			<100	100
Total Phosphorus (P)	ug/L	<100	<100	<100	<100	100	<100	100	<100	100
Dissolved Potassium (K)	ug/L	1300	420	390	380	100			520	100
Total Potassium (K)	ug/L	1300	760	470	390	100	390	100	540	100
Dissolved Selenium (Se)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0			<1.0	1.0
Total Selenium (Se)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0	<1.0	1.0	<1.0	1.0
Dissolved Silver (Ag)	ug/L	<0.10	<0.10	<0.10	<0.10	0.10			<0.10	0.10
Total Silver (Ag)	ug/L	<0.10	0.65	0.15	0.13	0.10	0.15	0.10	<0.10	0.10
Dissolved Sodium (Na)	ug/L	4500	2300	3100	3300	100			2300	100
Total Sodium (Na)	ug/L	4500	2300	3100	3200	100	3300	100	2300	100
Dissolved Strontium (Sr)	ug/L	73	30	23	20	2.0			12	2.0
Total Strontium (Sr)	ug/L	73	31	23	20	2.0	20	2.0	12	2.0
Dissolved Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	0.10			<0.10	0.10
Total Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	0.10	<0.10	0.10	<0.10	0.10
Dissolved Tin (Sn)	ug/L	<2.0	2.2	<2.0	<2.0	2.0			<2.0	2.0
Total Tin (Sn)	ug/L	<2.0	<2.0	<2.0	<2.0	2.0	<2.0	2.0	<2.0	2.0
Dissolved Titanium (Ti)	ug/L	<2.0	<2.0	<2.0	<2.0	2.0			<2.0	2.0
Total Titanium (Ti)	ug/L	<2.0	62	20	2.7	2.0	3.5	2.0	<2.0	2.0
Dissolved Uranium (U)	ug/L	2.3	<0.10	<0.10	<0.10	0.10			<0.10	0.10
Total Uranium (U)	ug/L	2.3	0.14	<0.10	<0.10	0.10	<0.10	0.10	<0.10	0.10
Dissolved Vanadium (V)	ug/L	<2.0	<2.0	<2.0	<2.0	2.0			<2.0	2.0
Total Vanadium (V)	ug/L	<2.0	2.5	<2.0	<2.0	2.0	<2.0	2.0	<2.0	2.0
Dissolved Zinc (Zn)	ug/L	<5.0	14	<5.0	<5.0	5.0			6.8	5.0
Total Zinc (Zn)	ug/L	<5.0	21	<5.0	<5.0	5.0	<5.0	5.0	5.8	5.0

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate

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BV Labs Job #: B9H9531
Report Date: 2019/07/09

GHD Limited
Client Project #: 088664-29
Your P.O. #: 7216
Sampler Initials: DN

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		KDO275	KDO276	KDO277	KDO278		KDO278		KDO279	
Sampling Date		2019/06/27 12:01	2019/06/27 12:15	2019/06/27 11:02	2019/06/27 11:08		2019/06/27 11:08		2019/06/27 11:14	
COC Number		722830-04-01	722830-04-01	722830-04-01	722830-04-01		722830-04-01		722830-04-01	
	UNITS	MW-18B	MW-18C	MW-19A	MW-19B	RDL	MW-19B Lab-Dup	RDL	MW-19C	RDL
Metals										
Dissolved Aluminum (Al)	ug/L	11	6.1	64	10	5.0	10	5.0	<5.0	5.0
Total Aluminum (Al)	ug/L	1900	130	200	230	5.0			730	5.0
Dissolved Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0	<1.0	1.0	<1.0	1.0
Total Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0			<1.0	1.0
Dissolved Arsenic (As)	ug/L	220	110	<1.0	7.6	1.0	7.9	1.0	2.7	1.0
Total Arsenic (As)	ug/L	230	120	<1.0	8.0	1.0			3.7	1.0
Dissolved Barium (Ba)	ug/L	3.5	11	9.3	11	1.0	11	1.0	5.4	1.0
Total Barium (Ba)	ug/L	6.8	12	10	12	1.0			8.6	1.0
Dissolved Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0	<1.0	1.0	<1.0	1.0
Total Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0			<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	2.0	<2.0	2.0	<2.0	2.0
Total Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	2.0			<2.0	2.0
Dissolved Boron (B)	ug/L	<50	<50	<50	<50	50	<50	50	<50	50
Total Boron (B)	ug/L	<50	<50	<50	<50	50			<50	50
Dissolved Cadmium (Cd)	ug/L	<0.010	<0.010	0.040	<0.010	0.010	<0.010	0.010	0.013	0.010
Total Cadmium (Cd)	ug/L	<0.010	<0.010	0.035	<0.010	0.010			0.017	0.010
Dissolved Calcium (Ca)	ug/L	15000	19000	1000	21000	100	20000	100	12000	100
Total Calcium (Ca)	ug/L	17000	19000	1300	22000	100			12000	100
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0	<1.0	1.0	<1.0	1.0
Total Chromium (Cr)	ug/L	1.5	<1.0	<1.0	1.0	1.0			1.4	1.0
Dissolved Cobalt (Co)	ug/L	<0.40	<0.40	1.4	<0.40	0.40	<0.40	0.40	<0.40	0.40
Total Cobalt (Co)	ug/L	<0.40	<0.40	1.4	<0.40	0.40			0.47	0.40
Dissolved Copper (Cu)	ug/L	<0.50	<0.50	3.1	<0.50	0.50	<0.50	0.50	0.68	0.50
Total Copper (Cu)	ug/L	1.4	<0.50	3.9	1.2	0.50			2.7	0.50
Dissolved Iron (Fe)	ug/L	<50	<50	<50	<50	50	<50	50	<50	50
Total Iron (Fe)	ug/L	810	130	180	120	50			690	50
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	0.50	<0.50	0.50	<0.50	0.50
Total Lead (Pb)	ug/L	0.95	<0.50	<0.50	<0.50	0.50			<0.50	0.50
Dissolved Magnesium (Mg)	ug/L	1400	1900	420	1400	100	1400	100	1100	100
Total Magnesium (Mg)	ug/L	1800	1900	450	1500	100			1300	100
Dissolved Manganese (Mn)	ug/L	<2.0	92	56	2.2	2.0	2.2	2.0	26	2.0
Total Manganese (Mn)	ug/L	7.8	96	57	4.5	2.0			43	2.0
Dissolved Molybdenum (Mo)	ug/L	5.5	5.1	<2.0	3.8	2.0	4.0	2.0	12	2.0
Total Molybdenum (Mo)	ug/L	5.8	5.3	<2.0	4.0	2.0			12	2.0

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Report Date: 2019/07/09

GHD Limited
Client Project #: 088664-29
Your P.O. #: 7216
Sampler Initials: DN

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		KDO275	KDO276	KDO277	KDO278		KDO278		KDO279	
Sampling Date		2019/06/27 12:01	2019/06/27 12:15	2019/06/27 11:02	2019/06/27 11:08		2019/06/27 11:08		2019/06/27 11:14	
COC Number		722830-04-01	722830-04-01	722830-04-01	722830-04-01		722830-04-01		722830-04-01	
	UNITS	MW-18B	MW-18C	MW-19A	MW-19B	RDL	MW-19B Lab-Dup	RDL	MW-19C	RDL
Dissolved Nickel (Ni)	ug/L	<2.0	<2.0	4.1	<2.0	2.0	<2.0	2.0	2.8	2.0
Total Nickel (Ni)	ug/L	<2.0	<2.0	4.0	<2.0	2.0			3.9	2.0
Dissolved Phosphorus (P)	ug/L	<100	<100	<100	<100	100	<100	100	<100	100
Total Phosphorus (P)	ug/L	<100	<100	<100	<100	100			<100	100
Dissolved Potassium (K)	ug/L	1200	1300	740	1300	100	1400	100	1400	100
Total Potassium (K)	ug/L	1500	1400	740	1400	100			1600	100
Dissolved Selenium (Se)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0	<1.0	1.0	<1.0	1.0
Total Selenium (Se)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0			<1.0	1.0
Dissolved Silver (Ag)	ug/L	<0.10	<0.10	<0.10	<0.10	0.10	<0.10	0.10	<0.10	0.10
Total Silver (Ag)	ug/L	0.15	<0.10	0.40	<0.10	0.10			0.19	0.10
Dissolved Sodium (Na)	ug/L	5700	18000	2800	4800	100	4700	100	5900	100
Total Sodium (Na)	ug/L	5800	18000	2500	4900	100			6000	100
Dissolved Strontium (Sr)	ug/L	57	200	8.7	110	2.0	110	2.0	84	2.0
Total Strontium (Sr)	ug/L	61	200	9.3	110	2.0			88	2.0
Dissolved Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	0.10	<0.10	0.10	<0.10	0.10
Total Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	0.10			<0.10	0.10
Dissolved Tin (Sn)	ug/L	<2.0	<2.0	2.6	<2.0	2.0	<2.0	2.0	<2.0	2.0
Total Tin (Sn)	ug/L	<2.0	<2.0	<2.0	<2.0	2.0			<2.0	2.0
Dissolved Titanium (Ti)	ug/L	<2.0	<2.0	<2.0	<2.0	2.0	<2.0	2.0	<2.0	2.0
Total Titanium (Ti)	ug/L	24	3.6	6.7	8.7	2.0			24	2.0
Dissolved Uranium (U)	ug/L	1.1	0.92	<0.10	2.4	0.10	2.4	0.10	0.11	0.10
Total Uranium (U)	ug/L	1.2	0.98	<0.10	2.5	0.10			0.17	0.10
Dissolved Vanadium (V)	ug/L	<2.0	<2.0	<2.0	2.1	2.0	2.2	2.0	<2.0	2.0
Total Vanadium (V)	ug/L	<2.0	<2.0	<2.0	2.3	2.0			<2.0	2.0
Dissolved Zinc (Zn)	ug/L	<5.0	<5.0	5.1	<5.0	5.0	<5.0	5.0	5.2	5.0
Total Zinc (Zn)	ug/L	<5.0	<5.0	<5.0	<5.0	5.0			5.5	5.0

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate

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BV Labs Job #: B9H9531
Report Date: 2019/07/09

GHD Limited
Client Project #: 088664-29
Your P.O. #: 7216
Sampler Initials: DN

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		KDO280	KDO281	KDO288	KDO289	KDO290	KDO291	KDO292	
Sampling Date		2019/06/27 10:08	2019/06/27 10:18	2019/06/27 09:21	2019/06/27 09:28	2019/06/27 09:35	2019/06/27 14:10	2019/06/27 14:19	
COC Number		722830-04-01	722830-04-01	722830-05-01	722830-05-01	722830-05-01	722830-05-01	722830-05-01	
	UNITS	MW-20A	MW-20B	MW-21A	MW-21B	MW-21C	MW-22A	MW-22B	RDL
Metals									
Dissolved Aluminum (Al)	ug/L	180	7.3	330	77	<5.0	120	7.7	5.0
Total Aluminum (Al)	ug/L	520	1400	1400	340	280	910	280	5.0
Dissolved Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Arsenic (As)	ug/L	<1.0	8.1	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Arsenic (As)	ug/L	<1.0	8.8	<1.0	<1.0	<1.0	4.5	<1.0	1.0
Dissolved Barium (Ba)	ug/L	7.5	9.0	12	2.5	8.2	8.0	7.3	1.0
Total Barium (Ba)	ug/L	9.6	10	21	4.6	11	12	8.5	1.0
Dissolved Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Boron (B)	ug/L	<50	<50	<50	<50	<50	<50	<50	50
Total Boron (B)	ug/L	<50	<50	<50	<50	<50	<50	<50	50
Dissolved Cadmium (Cd)	ug/L	0.037	<0.010	0.041	0.027	<0.010	0.021	0.043	0.010
Total Cadmium (Cd)	ug/L	0.040	<0.010	0.048	0.028	<0.010	0.018	0.056	0.010
Dissolved Calcium (Ca)	ug/L	1000	21000	1300	2300	11000	840	15000	100
Total Calcium (Ca)	ug/L	970	21000	1500	2500	12000	890	16000	100
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Chromium (Cr)	ug/L	1.7	<1.0	3.1	1.3	1.2	1.7	1.1	1.0
Dissolved Cobalt (Co)	ug/L	6.4	<0.40	2.2	0.78	0.53	0.80	<0.40	0.40
Total Cobalt (Co)	ug/L	8.6	<0.40	3.0	0.87	0.59	1.3	<0.40	0.40
Dissolved Copper (Cu)	ug/L	23	0.63	0.95	0.77	<0.50	9.6	2.3	0.50
Total Copper (Cu)	ug/L	28	1.1	3.1	1.4	0.93	15	5.6	0.50
Dissolved Iron (Fe)	ug/L	<50	<50	<50	<50	350	<50	<50	50
Total Iron (Fe)	ug/L	390	430	1400	230	610	1100	190	50
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Total Lead (Pb)	ug/L	0.61	0.63	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Dissolved Magnesium (Mg)	ug/L	490	4500	580	1100	5600	470	3000	100
Total Magnesium (Mg)	ug/L	520	4700	950	1100	5700	720	3200	100
Dissolved Manganese (Mn)	ug/L	60	33	240	160	230	64	330	2.0
Total Manganese (Mn)	ug/L	72	26	270	180	240	82	350	2.0
Dissolved Molybdenum (Mo)	ug/L	<2.0	6.8	<2.0	<2.0	2.2	<2.0	<2.0	2.0
Total Molybdenum (Mo)	ug/L	<2.0	7.1	<2.0	<2.0	2.6	<2.0	<2.0	2.0
Dissolved Nickel (Ni)	ug/L	16	<2.0	<2.0	<2.0	<2.0	4.0	6.9	2.0

RDL = Reportable Detection Limit

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GHD Limited
Client Project #: 088664-29
Your P.O. #: 7216
Sampler Initials: DN

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		KDO280	KDO281	KDO288	KDO289	KDO290	KDO291	KDO292	
Sampling Date		2019/06/27 10:08	2019/06/27 10:18	2019/06/27 09:21	2019/06/27 09:28	2019/06/27 09:35	2019/06/27 14:10	2019/06/27 14:19	
COC Number		722830-04-01	722830-04-01	722830-05-01	722830-05-01	722830-05-01	722830-05-01	722830-05-01	
	UNITS	**MW-20A**	**MW-20B**	**MW-21A**	**MW-21B**	**MW-21C**	**MW-22A**	**MW-22B**	**RDL**
Total Nickel (Ni)	ug/L	20	<2.0	2.8	<2.0	<2.0	5.5	6.5	2.0
Dissolved Phosphorus (P)	ug/L	<100	<100	<100	<100	<100	<100	<100	100
Total Phosphorus (P)	ug/L	<100	<100	<100	<100	<100	<100	<100	100
Dissolved Potassium (K)	ug/L	390	1200	700	850	1700	520	1000	100
Total Potassium (K)	ug/L	450	1100	1100	950	1800	660	1100	100
Dissolved Selenium (Se)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Selenium (Se)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Silver (Ag)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	0.32	<0.10	0.10
Total Silver (Ag)	ug/L	0.42	<0.10	0.12	<0.10	<0.10	1.5	0.41	0.10
Dissolved Sodium (Na)	ug/L	2400	13000	2200	2600	16000	4400	8000	100
Total Sodium (Na)	ug/L	2200	13000	3100	2500	16000	4500	8000	100
Dissolved Strontium (Sr)	ug/L	13	260	12	22	76	12	86	2.0
Total Strontium (Sr)	ug/L	12	260	13	24	80	12	89	2.0
Dissolved Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Total Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Dissolved Tin (Sn)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Tin (Sn)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Titanium (Ti)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Titanium (Ti)	ug/L	10	12	60	9.4	17	32	8.7	2.0
Dissolved Uranium (U)	ug/L	<0.10	0.88	<0.10	<0.10	0.85	<0.10	0.15	0.10
Total Uranium (U)	ug/L	<0.10	1.3	0.18	<0.10	0.99	<0.10	0.19	0.10
Dissolved Vanadium (V)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Vanadium (V)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Zinc (Zn)	ug/L	31	<5.0	<5.0	<5.0	<5.0	10	21	5.0
Total Zinc (Zn)	ug/L	37	<5.0	6.9	<5.0	<5.0	11	17	5.0

RDL = Reportable Detection Limit

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Your P.O. #: 7216
Sampler Initials: DN

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		KDO293	KDO294	KDO295	KDO296	KDO297	KDO298	
Sampling Date		2019/06/27 14:26	2019/06/27	2019/06/27	2019/06/27	2019/06/27	2019/06/27	
COC Number		722830-05-01	722830-05-01	722830-05-01	722830-05-01	722830-05-01	722830-06-01	
	UNITS	MW-22C	DUP1	DUP2	DUP3	DUP4	DUP5	RDL
Metals								
Dissolved Aluminum (Al)	ug/L	9.3	200	6.3	5.7	61	5.8	5.0
Total Aluminum (Al)	ug/L	36	500	270	140	150	99	5.0
Dissolved Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Arsenic (As)	ug/L	5.0	<1.0	2.5	<1.0	<1.0	110	1.0
Total Arsenic (As)	ug/L	5.0	<1.0	2.6	<1.0	<1.0	110	1.0
Dissolved Barium (Ba)	ug/L	3.0	7.8	1.8	3.9	4.3	11	1.0
Total Barium (Ba)	ug/L	3.2	10	3.5	4.6	4.1	11	1.0
Dissolved Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Boron (B)	ug/L	<50	<50	<50	<50	<50	<50	50
Total Boron (B)	ug/L	<50	<50	<50	<50	<50	<50	50
Dissolved Cadmium (Cd)	ug/L	<0.010	0.042	0.46	<0.010	0.015	<0.010	0.010
Total Cadmium (Cd)	ug/L	<0.010	0.042	0.50	0.013	0.015	<0.010	0.010
Dissolved Calcium (Ca)	ug/L	18000	1000	2700	2900	1600	18000	100
Total Calcium (Ca)	ug/L	19000	970	2900	3000	1600	19000	100
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Chromium (Cr)	ug/L	<1.0	1.2	<1.0	1.1	1.9	<1.0	1.0
Dissolved Cobalt (Co)	ug/L	<0.40	7.2	<0.40	<0.40	<0.40	<0.40	0.40
Total Cobalt (Co)	ug/L	<0.40	9.1	<0.40	0.48	<0.40	<0.40	0.40
Dissolved Copper (Cu)	ug/L	<0.50	25	0.79	0.52	2.2	<0.50	0.50
Total Copper (Cu)	ug/L	<0.50	30	1.4	1.3	3.5	<0.50	0.50
Dissolved Iron (Fe)	ug/L	<50	<50	<50	<50	<50	<50	50
Total Iron (Fe)	ug/L	<50	320	100	120	160	110	50
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Total Lead (Pb)	ug/L	<0.50	0.62	<0.50	<0.50	<0.50	<0.50	0.50
Dissolved Magnesium (Mg)	ug/L	3000	480	780	450	420	1800	100
Total Magnesium (Mg)	ug/L	2900	510	870	490	380	1800	100
Dissolved Manganese (Mn)	ug/L	28	63	9.4	6.4	11	90	2.0
Total Manganese (Mn)	ug/L	29	73	10	33	10	91	2.0
Dissolved Molybdenum (Mo)	ug/L	2.9	<2.0	<2.0	<2.0	<2.0	4.9	2.0
Total Molybdenum (Mo)	ug/L	2.9	<2.0	<2.0	<2.0	<2.0	5.1	2.0
Dissolved Nickel (Ni)	ug/L	<2.0	17	<2.0	<2.0	<2.0	<2.0	2.0

RDL = Reportable Detection Limit

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BV Labs Job #: B9H9531
Report Date: 2019/07/09

GHD Limited
Client Project #: 088664-29
Your P.O. #: 7216
Sampler Initials: DN

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		KDO293	KDO294	KDO295	KDO296	KDO297	KDO298	
Sampling Date		2019/06/27 14:26	2019/06/27	2019/06/27	2019/06/27	2019/06/27	2019/06/27	
COC Number		722830-05-01	722830-05-01	722830-05-01	722830-05-01	722830-05-01	722830-06-01	
	UNITS	MW-22C	DUP1	DUP2	DUP3	DUP4	DUP5	RDL
Total Nickel (Ni)	ug/L	<2.0	20	<2.0	2.6	<2.0	<2.0	2.0
Dissolved Phosphorus (P)	ug/L	<100	<100	100	<100	<100	<100	100
Total Phosphorus (P)	ug/L	<100	<100	<100	<100	<100	<100	100
Dissolved Potassium (K)	ug/L	930	410	530	640	370	1300	100
Total Potassium (K)	ug/L	960	470	550	630	380	1300	100
Dissolved Selenium (Se)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Selenium (Se)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Silver (Ag)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Total Silver (Ag)	ug/L	<0.10	0.70	<0.10	<0.10	0.11	<0.10	0.10
Dissolved Sodium (Na)	ug/L	18000	2400	4500	3500	2400	17000	100
Total Sodium (Na)	ug/L	17000	2200	4800	3600	2200	18000	100
Dissolved Strontium (Sr)	ug/L	270	13	18	19	15	190	2.0
Total Strontium (Sr)	ug/L	270	12	20	19	12	190	2.0
Dissolved Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Total Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Dissolved Tin (Sn)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Tin (Sn)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Titanium (Ti)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Titanium (Ti)	ug/L	<2.0	9.4	3.0	8.0	7.4	2.6	2.0
Dissolved Uranium (U)	ug/L	0.16	<0.10	0.64	0.11	<0.10	0.95	0.10
Total Uranium (U)	ug/L	0.18	<0.10	0.89	0.15	<0.10	0.96	0.10
Dissolved Vanadium (V)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Vanadium (V)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Zinc (Zn)	ug/L	<5.0	35	93	7.3	<5.0	<5.0	5.0
Total Zinc (Zn)	ug/L	<5.0	37	97	6.5	<5.0	<5.0	5.0

RDL = Reportable Detection Limit

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GENERAL COMMENTS

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

Package 1	3.7°C
Package 2	0.3°C
Package 3	8.7°C
Package 4	8.7°C

Sample KDO187 [MW-01A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample KDO189 [MW-01C] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample KDO191 [MW-02B] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample KDO192 [MW-03A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample KDO197 [MW-05A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample KDO206 [MW-11A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample KDO208 [MW-11C] : Poor RCAp Ion Balance due to sample matrix.

Sample KDO211 [MW-14A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample KDO214 [MW-16A] : Poor RCAp Ion Balance due to sample matrix. Cation sum does not include contribution from Mn and Al.

Sample KDO216 [MW-17A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample KDO274 [MW-18A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample KDO277 [MW-19A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample KDO288 [MW-21A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample KDO289 [MW-21B] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample KDO291 [MW-22A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample KDO296 [DUP3] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample KDO297 [DUP4] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Results relate only to the items tested.

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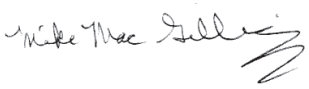
BV Labs Job #: B9H9531
Report Date: 2019/07/09

GHD Limited
Client Project #: 088664-29
Your P.O. #: 7216
Sampler Initials: DN

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Mike MacGillivray, Scientific Specialist (Inorganics)

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Your P.O. #: 8434
Your Project #: 088664-32
Site Location: BEAVER DAM-GW MONITORING

Attention: Jeff Parks

GHD Limited
120 Western Parkway
Bedford, NS
CANADA B4B 0V2

Your C.O.C. #: 738606-06-01, 738606-01-01, 738606-02-01, 738606-03-01, 738606-04-01, 738606-05-01

Report Date: 2019/10/18
Report #: R5926147
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: B9R7943
Received: 2019/10/02, 15:39

Sample Matrix: Water
Samples Received: 51

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Carbonate, Bicarbonate and Hydroxide	27	N/A	2019/10/09	N/A	SM 23 4500-CO2 D
Carbonate, Bicarbonate and Hydroxide	10	N/A	2019/10/10	N/A	SM 23 4500-CO2 D
Carbonate, Bicarbonate and Hydroxide	13	N/A	2019/10/11	N/A	SM 23 4500-CO2 D
Carbonate, Bicarbonate and Hydroxide	1	N/A	2019/10/16	N/A	SM 23 4500-CO2 D
Alkalinity	24	N/A	2019/10/10	ATL SOP 00013	EPA 310.2 R1974 m
Alkalinity	27	N/A	2019/10/11	ATL SOP 00013	EPA 310.2 R1974 m
Chloride	51	N/A	2019/10/15	ATL SOP 00014	SM 23 4500-Cl- E m
Colour	51	N/A	2019/10/10	ATL SOP 00020	SM 23 2120C m
Conductance - water	27	N/A	2019/10/09	ATL SOP 00004	SM 23 2510B m
Conductance - water	10	N/A	2019/10/10	ATL SOP 00004	SM 23 2510B m
Conductance - water	13	N/A	2019/10/11	ATL SOP 00004	SM 23 2510B m
Conductance - water	1	N/A	2019/10/15	ATL SOP 00004	SM 23 2510B m
Hardness (calculated as CaCO3)	50	N/A	2019/10/09	ATL SOP 00048	Auto Calc
Hardness (calculated as CaCO3)	1	N/A	2019/10/10	ATL SOP 00048	Auto Calc
Metals Water Diss. MS (as rec'd)	47	N/A	2019/10/09	ATL SOP 00058	EPA 6020B R2 m
Metals Water Diss. MS (as rec'd)	3	N/A	2019/10/10	ATL SOP 00058	EPA 6020B R2 m
Metals Water Diss. MS (as rec'd)	1	N/A	2019/10/15	ATL SOP 00058	EPA 6020B R2 m
Metals Water Total MS	16	2019/10/04	2019/10/08	ATL SOP 00058	EPA 6020B R2 m
Metals Water Total MS	3	2019/10/04	2019/10/09	ATL SOP 00058	EPA 6020B R2 m
Metals Water Total MS	12	2019/10/07	2019/10/08	ATL SOP 00058	EPA 6020B R2 m
Metals Water Total MS	19	2019/10/07	2019/10/09	ATL SOP 00058	EPA 6020B R2 m
Metals Water Total MS	1	2019/10/08	2019/10/10	ATL SOP 00058	EPA 6020B R2 m
Ion Balance (% Difference)	50	N/A	2019/10/15	N/A	Auto Calc.
Ion Balance (% Difference)	1	N/A	2019/10/16	N/A	Auto Calc.
Anion and Cation Sum	37	N/A	2019/10/10	N/A	Auto Calc.
Anion and Cation Sum	13	N/A	2019/10/11	N/A	Auto Calc.
Anion and Cation Sum	1	N/A	2019/10/16	N/A	Auto Calc.
Nitrogen Ammonia - water	1	N/A	2019/10/06	ATL SOP 00015	EPA 350.1 R2 m

Your P.O. #: 8434
Your Project #: 088664-32
Site Location: BEAVER DAM-GW MONITORING

Attention: Jeff Parks

GHD Limited
120 Western Parkway
Bedford, NS
CANADA B4B 0V2

Your C.O.C. #: 738606-06-01, 738606-01-01, 738606-02-01, 738606-03-01, 738606-04-01, 738606-05-01

Report Date: 2019/10/18
Report #: R5926147
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: B9R7943
Received: 2019/10/02, 15:39

Sample Matrix: Water
Samples Received: 51

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Nitrogen Ammonia - water	50	N/A	2019/10/08	ATL SOP 00015	EPA 350.1 R2 m
Nitrogen - Nitrate + Nitrite	51	N/A	2019/10/11	ATL SOP 00016	USGS I-2547-11m
Nitrogen - Nitrite	51	N/A	2019/10/10	ATL SOP 00017	SM 23 4500-NO2- B m
Nitrogen - Nitrate (as N)	51	N/A	2019/10/11	ATL SOP 00018	ASTM D3867-16
pH (1)	27	N/A	2019/10/09	ATL SOP 00003	SM 23 4500-H+ B m
pH (1)	10	N/A	2019/10/10	ATL SOP 00003	SM 23 4500-H+ B m
pH (1)	13	N/A	2019/10/11	ATL SOP 00003	SM 23 4500-H+ B m
pH (1)	1	N/A	2019/10/15	ATL SOP 00003	SM 23 4500-H+ B m
Phosphorus - ortho	44	N/A	2019/10/10	ATL SOP 00021	SM 23 4500-P E m
Phosphorus - ortho	7	N/A	2019/10/11	ATL SOP 00021	SM 23 4500-P E m
Sat. pH and Langelier Index (@ 20C)	50	N/A	2019/10/15	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 20C)	1	N/A	2019/10/16	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 4C)	50	N/A	2019/10/15	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 4C)	1	N/A	2019/10/16	ATL SOP 00049	Auto Calc.
Reactive Silica	51	N/A	2019/10/10	ATL SOP 00022	EPA 366.0 m
Sulphate	51	N/A	2019/10/10	ATL SOP 00023	ASTM D516-16 m
Total Dissolved Solids (TDS calc)	51	N/A	2019/10/15	N/A	Auto Calc.
Organic carbon - Total (TOC) (2)	1	N/A	2019/10/09	ATL SOP 00203	SM 23 5310B m
Organic carbon - Total (TOC) (2)	1	N/A	2019/10/10	ATL SOP 00203	SM 23 5310B m
Organic carbon - Total (TOC) (2)	1	N/A	2019/10/11	ATL SOP 00203	SM 23 5310B m
Organic carbon - Total (TOC) (2)	2	N/A	2019/10/12	ATL SOP 00203	SM 23 5310B m
Organic carbon - Total (TOC) (2)	22	N/A	2019/10/15	ATL SOP 00203	SM 23 5310B m
Organic carbon - Total (TOC) (2)	20	N/A	2019/10/16	ATL SOP 00203	SM 23 5310B m
Organic carbon - Total (TOC) (2)	4	N/A	2019/10/17	ATL SOP 00203	SM 23 5310B m
Turbidity	16	N/A	2019/10/09	ATL SOP 00011	EPA 180.1 R2 m
Turbidity	29	N/A	2019/10/11	ATL SOP 00011	EPA 180.1 R2 m
Turbidity	6	N/A	2019/10/15	ATL SOP 00011	EPA 180.1 R2 m

Remarks:

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Your P.O. #: 8434
Your Project #: 088664-32
Site Location: BEAVER DAM-GW MONITORING

Attention: Jeff Parks

GHD Limited
120 Western Parkway
Bedford, NS
CANADA B4B 0V2

Your C.O.C. #: 738606-06-01, 738606-01-01, 738606-02-01, 738606-03-01, 738606-04-01, 738606-05-01

Report Date: 2019/10/18
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CERTIFICATE OF ANALYSIS

BV LABS JOB #: B9R7943
Received: 2019/10/02, 15:39

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

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs 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.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs 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 BV Labs, unless otherwise agreed in writing. BV Labs 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 BV Labs, results relate to the supplied samples tested.

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) The APHA Standard Method require 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 APHA Standard Method holding time.
(2) TOC / DOC present in the sample should be considered as non-purgeable TOC / DOC.

Encryption Key

Bureau Veritas Laboratories
18 Oct 2019 11:52:27

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Maryann Comeau, Project Manager
Email: Maryann.COMEAU@bvlabs.com
Phone# (902)420-0203 Ext:298

==========

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BV Labs Job #: B9R7943
Report Date: 2019/10/18

GHD Limited
Client Project #: 088664-32
Site Location: BEAVER DAM-GW MONITORING
Your P.O. #: 8434
Sampler Initials: JR

RESULTS OF ANALYSES OF WATER

BV Labs ID		KYI380	KYI381	KYI382	KYI383	KYI384		KYI384	
Sampling Date		2019/10/02 11:20	2019/10/02 11:25	2019/10/02 11:35	2019/10/02 10:30	2019/10/02 10:35		2019/10/02 10:35	
COC Number		738606-01-01	738606-01-01	738606-01-01	738606-01-01	738606-01-01		738606-01-01	
	UNITS	MW-01A	MW-01B	MW-01C	MW-02A	MW-02B	RDL	MW-02B Lab-Dup	RDL
Calculated Parameters									
Anion Sum	me/L	0.460	1.54	0.500	0.330	0.460	N/A		
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	12	59	14	6.4	14	1.0		
Calculated TDS	mg/L	32	89	31	25	39	1.0		
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	1.0		
Cation Sum	me/L	0.400	1.45	0.430	0.250	0.410	N/A		
Hardness (CaCO3)	mg/L	10	60	13	5.4	9.9	1.0		
Ion Balance (% Difference)	%	6.98	3.01	7.53	13.8	5.75	N/A		
Langelier Index (@ 20C)	N/A	-3.14	-0.493	-2.76	-4.18	-2.92			
Langelier Index (@ 4C)	N/A	-3.39	-0.744	-3.01	-4.44	-3.18			
Nitrate (N)	mg/L	0.081	<0.050	<0.050	<0.050	<0.050	0.050		
Saturation pH (@ 20C)	N/A	9.78	8.25	9.52	10.4	9.71			
Saturation pH (@ 4C)	N/A	10.0	8.50	9.77	10.6	9.97			
Inorganics									
Total Alkalinity (Total as CaCO3)	mg/L	12	60	14	6.4	14	5.0		
Dissolved Chloride (Cl-)	mg/L	4.6	4.0	5.2	4.9	3.4	1.0		
Colour	TCU	<5.0	<5.0	<5.0	<5.0	<5.0	5.0		
Nitrate + Nitrite (N)	mg/L	0.081	<0.050	<0.050	<0.050	<0.050	0.050		
Nitrite (N)	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010		
Nitrogen (Ammonia Nitrogen)	mg/L	0.053	<0.050	<0.050	<0.050	0.052	0.050		
Total Organic Carbon (C)	mg/L	<0.50	<0.50	1.4	<0.50	<0.50	0.50		
Orthophosphate (P)	mg/L	<0.010	<0.010	<0.010	<0.010	0.072	0.010		
pH	pH	6.63	7.76	6.76	6.20	6.79	N/A	6.81	N/A
Reactive Silica (SiO2)	mg/L	7.1	9.5	4.4	8.5	15	0.50		
Dissolved Sulphate (SO4)	mg/L	3.7	11	3.2	2.9	3.3	2.0		
Turbidity	NTU	23	2.1	0.55	13	1.8	0.10		
Conductivity	uS/cm	45	140	48	32	43	1.0	43	1.0

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

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BV Labs Job #: B9R7943
Report Date: 2019/10/18

GHD Limited
Client Project #: 088664-32
Site Location: BEAVER DAM-GW MONITORING
Your P.O. #: 8434
Sampler Initials: JR

RESULTS OF ANALYSES OF WATER

BV Labs ID		KYI385		KYI386	KYI387		KYI387		KYI388	
Sampling Date		2019/10/02 11:45		2019/10/02 11:50	2019/10/02 12:00		2019/10/02 12:00		2019/10/02 13:40	
COC Number		738606-01-01		738606-01-01	738606-01-01		738606-01-01		738606-01-01	
	UNITS	MW-03A	RDL	MW-03B	MW-03C	RDL	MW-03C Lab-Dup	RDL	MW-04A	RDL
Calculated Parameters										
Anion Sum	me/L	0.340	N/A	1.12	2.13	N/A			0.360	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	5.3	1.0	45	95	1.0			8.7	1.0
Calculated TDS	mg/L	26	1.0	67	120	1.0			26	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	1.0	<1.0	<1.0	1.0			<1.0	1.0
Cation Sum	me/L	0.280	N/A	1.02	1.79	N/A			0.330	N/A
Hardness (CaCO3)	mg/L	6.5	1.0	40	75	1.0			8.8	1.0
Ion Balance (% Difference)	%	9.68	N/A	4.67	8.67	N/A			4.35	N/A
Langelier Index (@ 20C)	N/A	-4.09		-1.35	-0.315				-3.35	
Langelier Index (@ 4C)	N/A	-4.34		-1.60	-0.566				-3.61	
Nitrate (N)	mg/L	1.2	0.050	0.12	0.077	0.050			0.061	0.050
Saturation pH (@ 20C)	N/A	10.4		8.53	7.96				9.94	
Saturation pH (@ 4C)	N/A	10.6		8.78	8.21				10.2	
Inorganics										
Total Alkalinity (Total as CaCO3)	mg/L	5.3	5.0	45	95	5.0	97	5.0	8.7	5.0
Dissolved Chloride (Cl-)	mg/L	3.4	1.0	5.0	4.3	1.0	4.2	1.0	4.0	1.0
Colour	TCU	<5.0	5.0	<5.0	<5.0	5.0	<5.0	5.0	<5.0	5.0
Nitrate + Nitrite (N)	mg/L	1.2	0.050	0.12	0.077	0.050	0.083	0.050	0.061	0.050
Nitrite (N)	mg/L	<0.010	0.010	<0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	0.050	<0.050	<0.050	0.050			<0.050	0.050
Total Organic Carbon (C)	mg/L	<5.0 (1)	5.0	<0.50	0.77	0.50			<0.50	0.50
Orthophosphate (P)	mg/L	<0.010	0.010	<0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010
pH	pH	6.27	N/A	7.17	7.64	N/A			6.58	N/A
Reactive Silica (SiO2)	mg/L	5.7	0.50	9.9	12	0.50	12	0.50	6.1	0.50
Dissolved Sulphate (SO4)	mg/L	2.5	2.0	3.9	4.5	2.0	4.5	2.0	3.4	2.0
Turbidity	NTU	99	0.10	1.2	1.5	0.10			1.2	0.10
Conductivity	uS/cm	35	1.0	100	180	1.0			36	1.0

RDL = Reportable Detection Limit
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(1) Elevated reporting limit due to turbidity.

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BV Labs Job #: B9R7943
Report Date: 2019/10/18

GHD Limited
Client Project #: 088664-32
Site Location: BEAVER DAM-GW MONITORING
Your P.O. #: 8434
Sampler Initials: JR

RESULTS OF ANALYSES OF WATER

BV Labs ID		KYI389	KYI390		KYI390		KYI391	KYI392	
Sampling Date		2019/10/02 13:45	2019/10/02 12:25		2019/10/02 12:25		2019/10/02 12:35	2019/10/02 12:40	
COC Number		738606-01-01	738606-02-01		738606-02-01		738606-02-01	738606-02-01	
	UNITS	MW-04B	MW-05A	RDL	MW-05A Lab-Dup	RDL	MW-05B	MW-05D	RDL
Calculated Parameters									
Anion Sum	me/L	0.870	0.390	N/A			1.12	1.76	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	29	9.5	1.0			45	67	1.0
Calculated TDS	mg/L	56	26	1.0			68	100	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	<1.0	1.0			<1.0	<1.0	1.0
Cation Sum	me/L	0.810	0.330	N/A			1.07	1.60	N/A
Hardness (CaCO3)	mg/L	32	8.8	1.0			36	56	1.0
Ion Balance (% Difference)	%	3.57	8.33	N/A			2.28	4.76	N/A
Langelier Index (@ 20C)	N/A	-1.59	-3.46				-1.18	-0.463	
Langelier Index (@ 4C)	N/A	-1.84	-3.71				-1.43	-0.714	
Nitrate (N)	mg/L	<0.050	0.083	0.050			<0.050	<0.050	0.050
Saturation pH (@ 20C)	N/A	8.82	9.88				8.58	8.25	
Saturation pH (@ 4C)	N/A	9.07	10.1				8.83	8.50	
Inorganics									
Total Alkalinity (Total as CaCO3)	mg/L	29	9.5	5.0			45	67	5.0
Dissolved Chloride (Cl-)	mg/L	4.5	3.6	1.0			3.3	5.0	1.0
Colour	TCU	<5.0	<5.0	5.0			<5.0	<5.0	5.0
Nitrate + Nitrite (N)	mg/L	<0.050	0.083	0.050			<0.050	<0.050	0.050
Nitrite (N)	mg/L	<0.010	<0.010	0.010			<0.010	<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	0.057	0.050			<0.050	<0.050	0.050
Total Organic Carbon (C)	mg/L	<0.50	0.81	0.50	0.77	0.50	0.90	0.65	0.50
Orthophosphate (P)	mg/L	<0.010	<0.010	0.010			<0.010	<0.010	0.010
pH	pH	7.22	6.42	N/A			7.40	7.78	N/A
Reactive Silica (SiO2)	mg/L	9.4	4.8	0.50			8.6	12	0.50
Dissolved Sulphate (SO4)	mg/L	7.8	4.4	2.0			6.4	13	2.0
Turbidity	NTU	0.29	1.6	0.10			11	3.7	0.10
Conductivity	uS/cm	85	36	1.0			100	160	1.0

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Report Date: 2019/10/18

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RESULTS OF ANALYSES OF WATER

BV Labs ID		KYI393		KYI393		KYI394		KYI394		KYI395	
Sampling Date		2019/10/02 13:05		2019/10/02 13:05		2019/10/02 12:56		2019/10/02 12:56		2019/10/02 13:13	
COC Number		738606-02-01		738606-02-01		738606-02-01		738606-02-01		738606-02-01	
	UNITS	MW-07A	RDL	MW-07A Lab-Dup	RDL	MW-07B	RDL	MW-07B Lab-Dup	RDL	MW-07D	RDL
Calculated Parameters											
Anion Sum	me/L	2.54	N/A			6.47	N/A			3.47	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	110	1.0			300	1.0			130	1.0
Calculated TDS	mg/L	150	1.0			350	1.0			200	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	1.0			1.4	1.0			1.5	1.0
Cation Sum	me/L	2.63	N/A			6.31	N/A			3.36	N/A
Hardness (CaCO3)	mg/L	100	1.0			270	1.0			120	1.0
Ion Balance (% Difference)	%	1.74	N/A			1.25	N/A			1.61	N/A
Langelier Index (@ 20C)	N/A	-0.718				0.709				0.407	
Langelier Index (@ 4C)	N/A	-0.969				0.460				0.157	
Nitrate (N)	mg/L	<0.050	0.050			<0.050	0.050			<0.050	0.050
Saturation pH (@ 20C)	N/A	7.88				6.98				7.65	
Saturation pH (@ 4C)	N/A	8.13				7.23				7.90	
Inorganics											
Total Alkalinity (Total as CaCO3)	mg/L	110	25			300	25			140	25
Dissolved Chloride (Cl-)	mg/L	4.0	1.0			5.4	1.0			7.9	1.0
Colour	TCU	34	5.0			<5.0	5.0			<5.0	5.0
Nitrate + Nitrite (N)	mg/L	<0.050	0.050			<0.050	0.050			<0.050	0.050
Nitrite (N)	mg/L	<0.010	0.010			<0.010	0.010			<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	0.050	<0.050	0.050	<0.050	0.050			0.071	0.050
Total Organic Carbon (C)	mg/L	0.86	0.50			2.5	0.50	2.6	0.50	5.0	0.50
Orthophosphate (P)	mg/L	<0.010	0.010			0.011	0.010			0.036	0.010
pH	pH	7.16	N/A			7.69	N/A			8.06	N/A
Reactive Silica (SiO2)	mg/L	20	1.0			22	1.0			17	0.50
Dissolved Sulphate (SO4)	mg/L	14	2.0			16	2.0			25	2.0
Turbidity	NTU	35	0.10			3.8	0.10			6.8	0.10
Conductivity	uS/cm	240	1.0			580	1.0			340	1.0

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RESULTS OF ANALYSES OF WATER

BV Labs ID		KYI396	KYI397	KYI398	KYI399		KYI399	
Sampling Date		2019/10/02 13:10	2019/10/02 13:15	2019/10/02 13:20	2019/10/02 13:40		2019/10/02 13:40	
COC Number		738606-02-01	738606-02-01	738606-02-01	738606-02-01		738606-02-01	
	UNITS	MW-09A	MW-09B	MW-09D	MW-11A	RDL	MW-11A Lab-Dup	RDL
Calculated Parameters								
Anion Sum	me/L	0.450	2.31	3.02	0.310	N/A		
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	12	83	78	6.7	1.0		
Calculated TDS	mg/L	31	130	180	21	1.0		
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	<1.0	<1.0	<1.0	1.0		
Cation Sum	me/L	0.370	2.11	2.86	0.240	N/A		
Hardness (CaCO3)	mg/L	13	72	100	6.0	1.0		
Ion Balance (% Difference)	%	9.76	4.52	2.72	12.7	N/A		
Langelier Index (@ 20C)	N/A	-3.02	-0.434	-0.229	-3.80			
Langelier Index (@ 4C)	N/A	-3.27	-0.684	-0.479	-4.06			
Nitrate (N)	mg/L	0.17	<0.050	<0.050	<0.050	0.050		
Saturation pH (@ 20C)	N/A	9.58	8.03	7.97	10.2			
Saturation pH (@ 4C)	N/A	9.83	8.28	8.22	10.5			
Inorganics								
Total Alkalinity (Total as CaCO3)	mg/L	12	83	79	6.7	5.0		
Dissolved Chloride (Cl-)	mg/L	4.0	3.4	7.1	3.5	1.0		
Colour	TCU	<5.0	<5.0	<5.0	<5.0	5.0		
Nitrate + Nitrite (N)	mg/L	0.17	<0.050	<0.050	<0.050	0.050		
Nitrite (N)	mg/L	<0.010	<0.010	<0.010	<0.010	0.010		
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	<0.050	<0.050	<0.050	0.050		
Total Organic Carbon (C)	mg/L	<0.50	2.0	8.1	0.95	0.50		
Orthophosphate (P)	mg/L	<0.010	0.025	0.014	<0.010	0.010		
pH	pH	6.57	7.60	7.74	6.40	N/A		
Reactive Silica (SiO2)	mg/L	7.1	9.3	11	4.4	0.50		
Dissolved Sulphate (SO4)	mg/L	3.5	27	60	3.8	2.0		
Turbidity	NTU	1.2	10	3.0	0.84	0.10	0.89	0.10
Conductivity	uS/cm	42	210	300	27	1.0		

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RESULTS OF ANALYSES OF WATER

BV Labs ID		KYI400	KYI401	KYI402	KYI403	KYI404	KYI405	
Sampling Date		2019/10/02 13:46	2019/10/02 13:30	2019/10/02 12:50	2019/10/02 13:00	2019/10/02 11:40	2019/10/02 11:19	
COC Number		738606-03-01	738606-03-01	738606-03-01	738606-03-01	738606-03-01	738606-03-01	
	UNITS	MW-11B	MW-11C	MW-12A	MW-12B	MW-14A	MW-14B	RDL
Calculated Parameters								
Anion Sum	me/L	1.66	2.29	0.730	2.34	0.680	2.24	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	66	74	27	88	24	90	1.0
Calculated TDS	mg/L	96	130	54	140	52	130	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Cation Sum	me/L	1.66	2.14	0.660	2.20	0.630	2.09	N/A
Hardness (CaCO3)	mg/L	69	74	19	72	13	50	1.0
Ion Balance (% Difference)	%	0.00	3.39	5.04	3.08	3.82	3.46	N/A
Langelier Index (@ 20C)	N/A	-0.504	-0.186	-2.65	-0.296	-2.73	-0.353	
Langelier Index (@ 4C)	N/A	-0.755	-0.437	-2.91	-0.547	-2.98	-0.603	
Nitrate (N)	mg/L	0.067	<0.050	0.36	<0.050	0.12	<0.050	0.050
Saturation pH (@ 20C)	N/A	8.12	8.08	9.18	8.03	9.38	8.20	
Saturation pH (@ 4C)	N/A	8.37	8.33	9.43	8.28	9.63	8.45	
Inorganics								
Total Alkalinity (Total as CaCO3)	mg/L	67	74	27	88	24	90	5.0
Dissolved Chloride (Cl-)	mg/L	4.2	4.5	3.4	3.5	3.7	4.2	1.0
Colour	TCU	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.0
Nitrate + Nitrite (N)	mg/L	0.067	<0.050	0.36	<0.050	0.12	<0.050	0.050
Nitrite (N)	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	<0.050	<0.050	0.089	<0.050	<0.050	0.050
Total Organic Carbon (C)	mg/L	0.75	2.0	<0.50	0.65	<0.50	1.6	0.50
Orthophosphate (P)	mg/L	<0.010	0.018	0.016	0.017	0.015	<0.010	0.010
pH	pH	7.61	7.90	6.53	7.73	6.65	7.85	N/A
Reactive Silica (SiO2)	mg/L	8.4	8.8	16	11	15	9.7	0.50
Dissolved Sulphate (SO4)	mg/L	9.7	32	3.2	23	4.2	15	2.0
Turbidity	NTU	3.1	5.8	38	4.5	5.1	1.8	0.10
Conductivity	uS/cm	150	220	68	220	67	200	1.0

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RESULTS OF ANALYSES OF WATER

BV Labs ID		KYI406	KYI407	KYI408		KYI408		KYI409	
Sampling Date		2019/10/02 11:28	2019/10/02 10:25	2019/10/02 10:08		2019/10/02 10:08		2019/10/02 11:01	
COC Number		738606-03-01	738606-03-01	738606-03-01		738606-03-01		738606-03-01	
	UNITS	MW-14C	MW-16A	MW-16B	RDL	MW-16B Lab-Dup	RDL	MW-17A	RDL
Calculated Parameters									
Anion Sum	me/L	1.74	1.61	1.55	N/A			0.480	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	70	70	66	1.0			12	1.0
Calculated TDS	mg/L	100	91	87	1.0			35	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	1.0	<1.0	<1.0	1.0			<1.0	1.0
Cation Sum	me/L	1.57	1.46	1.33	N/A			0.440	N/A
Hardness (CaCO3)	mg/L	33	50	55	1.0			13	1.0
Ion Balance (% Difference)	%	5.14	4.89	7.64	N/A			4.35	N/A
Langelier Index (@ 20C)	N/A	-0.278	-0.926	-0.317				-2.93	
Langelier Index (@ 4C)	N/A	-0.530	-1.18	-0.568				-3.18	
Nitrate (N)	mg/L	<0.050	0.072	0.16	0.050			0.055	0.050
Saturation pH (@ 20C)	N/A	8.47	8.24	8.22				9.61	
Saturation pH (@ 4C)	N/A	8.72	8.49	8.47				9.87	
Inorganics									
Total Alkalinity (Total as CaCO3)	mg/L	71	70	66	5.0	67	5.0	12	5.0
Dissolved Chloride (Cl-)	mg/L	3.6	3.3	3.5	1.0	3.3	1.0	6.0	1.0
Colour	TCU	<5.0	<5.0	<5.0	5.0	<5.0	5.0	<5.0	5.0
Nitrate + Nitrite (N)	mg/L	<0.050	0.072	0.16	0.050	0.15	0.050	0.055	0.050
Nitrite (N)	mg/L	<0.010	<0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	<0.050	<0.050	0.050			<0.050	0.050
Total Organic Carbon (C)	mg/L	<0.50	1.3	<0.50	0.50			<5.0 (1)	5.0
Orthophosphate (P)	mg/L	<0.010	<0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010
pH	pH	8.19	7.31	7.90	N/A			6.69	N/A
Reactive Silica (SiO2)	mg/L	10	10	9.7	0.50	9.8	0.50	9.2	0.50
Dissolved Sulphate (SO4)	mg/L	10	4.9	5.9	2.0	5.9	2.0	3.3	2.0
Turbidity	NTU	23	14	6.3	0.10			82	0.10
Conductivity	uS/cm	160	140	130	1.0			51	1.0

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RESULTS OF ANALYSES OF WATER

BV Labs ID		KYI410	KYI411	KYI412	KYI413		KYI413	
Sampling Date		2019/10/02 10:57	2019/10/02 10:47	2019/10/02 09:50	2019/10/02 09:40		2019/10/02 09:40	
COC Number		738606-04-01	738606-04-01	738606-04-01	738606-04-01		738606-04-01	
	UNITS	MW-17B	MW-17C	MW-18A	MW-18B	RDL	MW-18B Lab-Dup	RDL
Calculated Parameters								
Anion Sum	me/L	0.330	0.370	0.300	1.30	N/A		
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	7.4	10	5.9	44	1.0		
Calculated TDS	mg/L	27	30	23	79	1.0		
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	<1.0	<1.0	<1.0	1.0		
Cation Sum	me/L	0.290	0.330	0.240	1.14	N/A		
Hardness (CaCO3)	mg/L	7.1	9.5	6.0	44	1.0		
Ion Balance (% Difference)	%	6.45	5.71	11.1	6.56	N/A		
Langelier Index (@ 20C)	N/A	-3.59	-3.28	-4.05	-0.953			
Langelier Index (@ 4C)	N/A	-3.84	-3.53	-4.31	-1.20			
Nitrate (N)	mg/L	0.051	0.051	<0.050	<0.050	0.050		
Saturation pH (@ 20C)	N/A	10.2	9.85	10.3	8.50			
Saturation pH (@ 4C)	N/A	10.4	10.1	10.6	8.75			
Inorganics								
Total Alkalinity (Total as CaCO3)	mg/L	7.4	10	5.9	44	5.0		
Dissolved Chloride (Cl-)	mg/L	3.5	3.5	3.3	6.4	1.0		
Colour	TCU	<5.0	5.7	<5.0	<5.0	5.0		
Nitrate + Nitrite (N)	mg/L	0.051	0.051	<0.050	<0.050	0.050		
Nitrite (N)	mg/L	<0.010	<0.010	<0.010	<0.010	0.010		
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	<0.050	<0.050	<0.050	0.050		
Total Organic Carbon (C)	mg/L	1.1	1.2	2.2	<0.50	0.50		
Orthophosphate (P)	mg/L	0.018	0.015	<0.010	0.065	0.010		
pH	pH	6.58	6.57	6.26	7.55	N/A	7.68	N/A
Reactive Silica (SiO2)	mg/L	9.0	9.6	6.3	11	0.50		
Dissolved Sulphate (SO4)	mg/L	4.0	3.3	4.2	12	2.0		
Turbidity	NTU	2.1	2.1	1.7	2.9	0.10		
Conductivity	uS/cm	32	36	36	110	1.0	110	1.0

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

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BV Labs Job #: B9R7943
Report Date: 2019/10/18

GHD Limited
Client Project #: 088664-32
Site Location: BEAVER DAM-GW MONITORING
Your P.O. #: 8434
Sampler Initials: JR

RESULTS OF ANALYSES OF WATER

BV Labs ID		KYI414		KYI414		KYI415	KYI416	KYI417	
Sampling Date		2019/10/02 09:20		2019/10/02 09:20		2019/10/02 10:55	2019/10/02 11:00	2019/10/02 11:05	
COC Number		738606-04-01		738606-04-01		738606-04-01	738606-04-01	738606-04-01	
	UNITS	MW-18C	RDL	MW-18C Lab-Dup	RDL	MW-19A	MW-19B	MW-19C	RDL
Calculated Parameters									
Anion Sum	me/L	2.08	N/A			0.300	1.48	0.920	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	63	1.0			6.6	59	35	1.0
Calculated TDS	mg/L	130	1.0			22	87	58	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	1.0			<1.0	<1.0	<1.0	1.0
Cation Sum	me/L	1.96	N/A			0.240	1.41	0.870	N/A
Hardness (CaCO3)	mg/L	56	1.0			5.3	60	29	1.0
Ion Balance (% Difference)	%	2.97	N/A			11.1	2.42	2.79	N/A
Langelier Index (@ 20C)	N/A	-0.779				-3.92	-0.522	-1.47	
Langelier Index (@ 4C)	N/A	-1.03				-4.17	-0.774	-1.72	
Nitrate (N)	mg/L	<0.050	0.050			0.15	<0.050	0.13	0.050
Saturation pH (@ 20C)	N/A	8.28				10.3	8.23	8.77	
Saturation pH (@ 4C)	N/A	8.53				10.5	8.48	9.02	
Inorganics									
Total Alkalinity (Total as CaCO3)	mg/L	63	5.0			6.6	59	35	5.0
Dissolved Chloride (Cl-)	mg/L	4.4	1.0			2.7	2.5	2.6	1.0
Colour	TCU	<5.0	5.0			<5.0	<5.0	<5.0	5.0
Nitrate + Nitrite (N)	mg/L	<0.050	0.050			0.15	<0.050	0.13	0.050
Nitrite (N)	mg/L	<0.010	0.010			<0.010	<0.010	<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	0.050	<0.050	0.050	<0.050	<0.050	<0.050	0.050
Total Organic Carbon (C)	mg/L	5.5	0.50	5.7	0.50	1.2	<0.50	1.0	0.50
Orthophosphate (P)	mg/L	0.018	0.010			<0.010	<0.010	<0.010	0.010
pH	pH	7.50	N/A			6.38	7.71	7.30	N/A
Reactive Silica (SiO2)	mg/L	12	0.50			5.6	9.2	9.0	0.50
Dissolved Sulphate (SO4)	mg/L	33	2.0			3.8	11	6.9	2.0
Turbidity	NTU	10	0.10			46	0.54	12	0.10
Conductivity	uS/cm	210	1.0			29	140	89	1.0

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Report Date: 2019/10/18

GHD Limited
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Site Location: BEAVER DAM-GW MONITORING
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Sampler Initials: JR

RESULTS OF ANALYSES OF WATER

BV Labs ID		KYI418		KYI418		KYI419		KYI420		KYI421	
Sampling Date		2019/10/02 10:10		2019/10/02 10:10		2019/10/02 10:16		2019/10/02 09:15		2019/10/02 09:28	
COC Number		738606-04-01		738606-04-01		738606-04-01		738606-05-01		738606-05-01	
	UNITS	MW-20A	RDL	MW-20A Lab-Dup	RDL	MW-20B	RDL	MW-21A	RDL	MW-21B	RDL
Calculated Parameters											
Anion Sum	me/L	0.330	N/A			0.280	N/A	0.330	N/A	0.400	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	7.9	1.0			6.0	1.0	9.3	1.0	13	1.0
Calculated TDS	mg/L	26	1.0			23	1.0	25	1.0	30	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	1.0			<1.0	1.0	<1.0	1.0	<1.0	1.0
Cation Sum	me/L	0.280	N/A			0.230	N/A	0.280	N/A	0.360	N/A
Hardness (CaCO3)	mg/L	6.9	1.0			4.9	1.0	7.4	1.0	11	1.0
Ion Balance (% Difference)	%	8.20	N/A			9.80	N/A	8.20	N/A	5.26	N/A
Langelier Index (@ 20C)	N/A	-3.74				-4.01		-4.26		-3.49	
Langelier Index (@ 4C)	N/A	-4.00				-4.26		-4.51		-3.74	
Nitrate (N)	mg/L	0.46	0.050			0.24	0.050	0.46	0.050	0.39	0.050
Saturation pH (@ 20C)	N/A	10.1				10.5		10.1		9.78	
Saturation pH (@ 4C)	N/A	10.4				10.7		10.3		10.0	
Inorganics											
Total Alkalinity (Total as CaCO3)	mg/L	7.9	5.0			6.0	5.0	9.3	5.0	13	5.0
Dissolved Chloride (Cl-)	mg/L	2.8	1.0			3.0	1.0	1.7	1.0	1.8	1.0
Colour	TCU	<5.0	5.0			<5.0	5.0	<5.0	5.0	<5.0	5.0
Nitrate + Nitrite (N)	mg/L	0.46	0.050			0.24	0.050	0.46	0.050	0.39	0.050
Nitrite (N)	mg/L	<0.010	0.010			<0.010	0.010	<0.010	0.010	<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	0.050			<0.050	0.050	0.059	0.050	<0.050	0.050
Total Organic Carbon (C)	mg/L	1.3	0.50			<0.50	0.50	<5.0 (1)	5.0	1.4	0.50
Orthophosphate (P)	mg/L	<0.010	0.010			<0.010	0.010	<0.010	0.010	0.021	0.010
pH	pH	6.39	N/A	6.43	N/A	6.45	N/A	5.81	N/A	6.29	N/A
Reactive Silica (SiO2)	mg/L	7.3	0.50			7.1	0.50	6.5	0.50	8.4	0.50
Dissolved Sulphate (SO4)	mg/L	3.1	2.0			3.0	2.0	3.0	2.0	3.0	2.0
Turbidity	NTU	6.8	0.10			0.18	0.10	770	1.0	1.7	0.10
Conductivity	uS/cm	35	1.0	35	1.0	28	1.0	34	1.0	39	1.0

RDL = Reportable Detection Limit
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N/A = Not Applicable
(1) Elevated reporting limit due to turbidity.

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GHD Limited
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Sampler Initials: JR

RESULTS OF ANALYSES OF WATER

BV Labs ID		KYI421		KYI422		KYI422		KYI423	KYI424	
Sampling Date		2019/10/02 09:28		2019/10/02 09:40		2019/10/02 09:40		2019/10/02 12:30	2019/10/02 12:22	
COC Number		738606-05-01		738606-05-01		738606-05-01		738606-05-01	738606-05-01	
	UNITS	MW-21B Lab-Dup	RDL	MW-21C	RDL	MW-21C Lab-Dup	RDL	MW-22A	MW-22B	RDL
Calculated Parameters										
Anion Sum	me/L			2.46	N/A			0.350	1.11	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L			81	1.0			7.2	42	1.0
Calculated TDS	mg/L			150	1.0			29	69	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L			<1.0	1.0			<1.0	<1.0	1.0
Cation Sum	me/L			2.39	N/A			0.340	1.04	N/A
Hardness (CaCO3)	mg/L			64	1.0			5.7	31	1.0
Ion Balance (% Difference)	%			1.44	N/A			1.45	3.26	N/A
Langelier Index (@ 20C)	N/A			-1.23				-4.11	-1.74	
Langelier Index (@ 4C)	N/A			-1.48				-4.36	-1.99	
Nitrate (N)	mg/L			<0.050	0.050			0.092	0.064	0.050
Saturation pH (@ 20C)	N/A			8.28				10.3	8.73	
Saturation pH (@ 4C)	N/A			8.53				10.6	8.98	
Inorganics										
Total Alkalinity (Total as CaCO3)	mg/L			81	5.0			7.2	42	5.0
Dissolved Chloride (Cl-)	mg/L			4.6	1.0			3.6	4.2	1.0
Colour	TCU			<5.0	5.0			<5.0	<5.0	5.0
Nitrate + Nitrite (N)	mg/L			<0.050	0.050			0.092	0.064	0.050
Nitrite (N)	mg/L			<0.010	0.010			<0.010	<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	0.050	<0.050	0.050			0.065	<0.050	0.050
Total Organic Carbon (C)	mg/L			8.5	0.50			1.8	1.3	0.50
Orthophosphate (P)	mg/L			<0.010	0.010			<0.010	<0.010	0.010
pH	pH			7.05	N/A	7.12	N/A	6.21	6.99	N/A
Reactive Silica (SiO2)	mg/L			18	0.50			8.6	11	0.50
Dissolved Sulphate (SO4)	mg/L			34	2.0			4.6	6.7	2.0
Turbidity	NTU			20	0.10			2.8	0.80	0.10
Conductivity	uS/cm			240	1.0	230	1.0	39	110	1.0

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RESULTS OF ANALYSES OF WATER

BV Labs ID		KYI425	KYI426	KYI427	KYI428	KYI429	KYI430	
Sampling Date		2019/10/02 12:15	2019/10/02	2019/10/02	2019/10/02	2019/10/02	2019/10/02	
COC Number		738606-05-01	738606-05-01	738606-05-01	738606-05-01	738606-05-01	738606-06-01	
	UNITS	MW-22C	DUP1	DUP2	DUP3	DUP4	DUP5	RDL
Calculated Parameters								
Anion Sum	me/L	2.08	0.370	1.15	0.670	2.07	1.40	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	93	7.9	45	24	62	59	1.0
Calculated TDS	mg/L	120	28	69	51	130	81	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Cation Sum	me/L	1.95	0.280	1.05	0.620	1.93	1.32	N/A
Hardness (CaCO3)	mg/L	58	6.9	36	13	56	54	1.0
Ion Balance (% Difference)	%	3.23	13.9	4.55	3.88	3.50	2.94	N/A
Langelier Index (@ 20C)	N/A	-0.284	-4.05	-1.42	-2.69	-0.626	-0.406	
Langelier Index (@ 4C)	N/A	-0.535	-4.30	-1.67	-2.95	-0.877	-0.658	
Nitrate (N)	mg/L	<0.050	0.44	<0.050	0.11	<0.050	0.14	0.050
Saturation pH (@ 20C)	N/A	8.11	10.1	8.58	9.38	8.28	8.27	
Saturation pH (@ 4C)	N/A	8.36	10.4	8.83	9.63	8.53	8.52	
Inorganics								
Total Alkalinity (Total as CaCO3)	mg/L	94	7.9	45	24	63	59	5.0
Dissolved Chloride (Cl-)	mg/L	3.0	2.7	2.8	3.3	4.3	3.1	1.0
Colour	TCU	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.0
Nitrate + Nitrite (N)	mg/L	<0.050	0.44	<0.050	0.11	<0.050	0.14	0.050
Nitrite (N)	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.050
Total Organic Carbon (C)	mg/L	0.71	1.3	0.90	<0.50	5.5	0.56	0.50
Orthophosphate (P)	mg/L	<0.010	<0.010	<0.010	0.016	0.017	<0.010	0.010
pH	pH	7.83	6.10	7.16	6.68	7.65	7.87	N/A
Reactive Silica (SiO2)	mg/L	12	7.2	8.6	15	12	9.5	0.50
Dissolved Sulphate (SO4)	mg/L	6.0	5.2	8.2	4.5	33	5.9	2.0
Turbidity	NTU	1.3	2.8	17	11	11	7.2	0.10
Conductivity	uS/cm	190	34	100	65	200	130	1.0

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RESULTS OF ANALYSES OF WATER

BV Labs ID		KYI430	
Sampling Date		2019/10/02	
COC Number		738606-06-01	
	UNITS	DUP5 Lab-Dup	RDL
Inorganics			
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	0.050
Turbidity	NTU	7.3	0.10

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ELEMENTS BY ICP/MS (WATER)

BV Labs ID		KYI380	KYI381		KYI381		KYI382	KYI383	KYI384	
Sampling Date		2019/10/02 11:20	2019/10/02 11:25		2019/10/02 11:25		2019/10/02 11:35	2019/10/02 10:30	2019/10/02 10:35	
COC Number		738606-01-01	738606-01-01		738606-01-01		738606-01-01	738606-01-01	738606-01-01	
	UNITS	MW-01A	MW-01B	RDL	MW-01B Lab-Dup	RDL	MW-01C	MW-02A	MW-02B	RDL
Metals										
Dissolved Aluminum (Al)	ug/L	<5.0	8.7	5.0			5.7	45	<5.0	5.0
Total Aluminum (Al)	ug/L	710	160	5.0	170	5.0	120	960	57	5.0
Dissolved Antimony (Sb)	ug/L	<1.0	<1.0	1.0			<1.0	<1.0	<1.0	1.0
Total Antimony (Sb)	ug/L	<1.0	<1.0	1.0	<1.0	1.0	<1.0	<1.0	<1.0	1.0
Dissolved Arsenic (As)	ug/L	<1.0	3.1	1.0			<1.0	<1.0	2.4	1.0
Total Arsenic (As)	ug/L	<1.0	3.1	1.0	3.2	1.0	<1.0	1.1	2.4	1.0
Dissolved Barium (Ba)	ug/L	7.1	5.7	1.0			4.3	6.3	2.6	1.0
Total Barium (Ba)	ug/L	12	6.7	1.0	6.9	1.0	5.2	11	3.3	1.0
Dissolved Beryllium (Be)	ug/L	<1.0	<1.0	1.0			<1.0	<1.0	<1.0	1.0
Total Beryllium (Be)	ug/L	<1.0	<1.0	1.0	<1.0	1.0	<1.0	<1.0	<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	<2.0	<2.0	2.0			<2.0	<2.0	<2.0	2.0
Total Bismuth (Bi)	ug/L	<2.0	<2.0	2.0	<2.0	2.0	<2.0	<2.0	<2.0	2.0
Dissolved Boron (B)	ug/L	<50	<50	50			<50	<50	<50	50
Total Boron (B)	ug/L	<50	<50	50	<50	50	<50	<50	<50	50
Dissolved Cadmium (Cd)	ug/L	0.017	<0.010	0.010			0.012	0.018	0.42	0.010
Total Cadmium (Cd)	ug/L	0.021	0.012	0.010	<0.010	0.010	0.013	0.024	0.43	0.010
Dissolved Calcium (Ca)	ug/L	2700	21000	100			4100	1300	2700	100
Total Calcium (Ca)	ug/L	3000	20000	100	21000	100	4100	1400	2800	100
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	1.0			<1.0	<1.0	<1.0	1.0
Total Chromium (Cr)	ug/L	1.7	<1.0	1.0	<1.0	1.0	<1.0	1.3	<1.0	1.0
Dissolved Cobalt (Co)	ug/L	<0.40	<0.40	0.40			<0.40	<0.40	<0.40	0.40
Total Cobalt (Co)	ug/L	1.8	<0.40	0.40	<0.40	0.40	0.60	0.76	<0.40	0.40
Dissolved Copper (Cu)	ug/L	<0.50	<0.50	0.50			0.76	0.83	0.89	0.50
Total Copper (Cu)	ug/L	3.4	0.93	0.50	1.1	0.50	2.4	5.4	1.1	0.50
Dissolved Iron (Fe)	ug/L	<50	<50	50			<50	<50	<50	50
Total Iron (Fe)	ug/L	1200	160	50	170	50	150	1400	<50	50
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	0.50			<0.50	<0.50	<0.50	0.50
Total Lead (Pb)	ug/L	<0.50	<0.50	0.50	<0.50	0.50	<0.50	0.69	<0.50	0.50
Dissolved Magnesium (Mg)	ug/L	810	2100	100			560	540	780	100
Total Magnesium (Mg)	ug/L	1200	2100	100	2200	100	580	910	830	100
Dissolved Manganese (Mn)	ug/L	100	<2.0	2.0			14	36	4.6	2.0
Total Manganese (Mn)	ug/L	220	4.6	2.0	5.1	2.0	55	68	6.0	2.0
Dissolved Molybdenum (Mo)	ug/L	<2.0	<2.0	2.0			<2.0	<2.0	<2.0	2.0

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GHD Limited
Client Project #: 088664-32
Site Location: BEAVER DAM-GW MONITORING
Your P.O. #: 8434
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		KYI380	KYI381		KYI381		KYI382	KYI383	KYI384	
Sampling Date		2019/10/02 11:20	2019/10/02 11:25		2019/10/02 11:25		2019/10/02 11:35	2019/10/02 10:30	2019/10/02 10:35	
COC Number		738606-01-01	738606-01-01		738606-01-01		738606-01-01	738606-01-01	738606-01-01	
	UNITS	MW-01A	MW-01B	RDL	MW-01B Lab-Dup	RDL	MW-01C	MW-02A	MW-02B	RDL
Total Molybdenum (Mo)	ug/L	<2.0	<2.0	2.0	<2.0	2.0	<2.0	<2.0	<2.0	2.0
Dissolved Nickel (Ni)	ug/L	2.2	<2.0	2.0			2.0	<2.0	<2.0	2.0
Total Nickel (Ni)	ug/L	3.3	<2.0	2.0	<2.0	2.0	3.3	2.1	<2.0	2.0
Dissolved Phosphorus (P)	ug/L	<100	<100	100			<100	<100	120	100
Total Phosphorus (P)	ug/L	<100	<100	100	<100	100	<100	120	150	100
Dissolved Potassium (K)	ug/L	920	1400	100			720	310	510	100
Total Potassium (K)	ug/L	1100	1300	100	1400	100	720	480	530	100
Dissolved Selenium (Se)	ug/L	<0.50	<0.50	0.50			<0.50	<0.50	<0.50	0.50
Total Selenium (Se)	ug/L	<0.50	<0.50	0.50	<0.50	0.50	<0.50	<0.50	<0.50	0.50
Dissolved Silver (Ag)	ug/L	<0.10	<0.10	0.10			<0.10	0.20	<0.10	0.10
Total Silver (Ag)	ug/L	0.16	<0.10	0.10	<0.10	0.10	0.19	0.28	<0.10	0.10
Dissolved Sodium (Na)	ug/L	4000	5000	100			3800	3100	4500	100
Total Sodium (Na)	ug/L	4200	4800	100	5000	100	3700	3400	4600	100
Dissolved Strontium (Sr)	ug/L	16	54	2.0			22	16	18	2.0
Total Strontium (Sr)	ug/L	18	55	2.0	57	2.0	22	16	18	2.0
Dissolved Thallium (Tl)	ug/L	<0.10	<0.10	0.10			<0.10	<0.10	<0.10	0.10
Total Thallium (Tl)	ug/L	<0.10	<0.10	0.10	<0.10	0.10	<0.10	<0.10	<0.10	0.10
Dissolved Tin (Sn)	ug/L	<2.0	<2.0	2.0			<2.0	<2.0	<2.0	2.0
Total Tin (Sn)	ug/L	<2.0	<2.0	2.0	<2.0	2.0	<2.0	<2.0	<2.0	2.0
Dissolved Titanium (Ti)	ug/L	<2.0	<2.0	2.0			<2.0	<2.0	<2.0	2.0
Total Titanium (Ti)	ug/L	40	6.5	2.0	6.6	2.0	5.7	33	<2.0	2.0
Dissolved Uranium (U)	ug/L	<0.10	0.85	0.10			0.12	<0.10	0.88	0.10
Total Uranium (U)	ug/L	<0.10	0.78	0.10	0.86	0.10	0.22	<0.10	1.0	0.10
Dissolved Vanadium (V)	ug/L	<2.0	<2.0	2.0			<2.0	<2.0	<2.0	2.0
Total Vanadium (V)	ug/L	<2.0	<2.0	2.0	<2.0	2.0	<2.0	<2.0	<2.0	2.0
Dissolved Zinc (Zn)	ug/L	<5.0	<5.0	5.0			8.4	<5.0	92	5.0
Total Zinc (Zn)	ug/L	<5.0	<5.0	5.0	<5.0	5.0	7.3	5.6	92	5.0

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate

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BV Labs Job #: B9R7943
Report Date: 2019/10/18

GHD Limited
Client Project #: 088664-32
Site Location: BEAVER DAM-GW MONITORING
Your P.O. #: 8434
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		KYI385	KYI386	KYI387	KYI388	KYI389	KYI390	KYI391	
Sampling Date		2019/10/02 11:45	2019/10/02 11:50	2019/10/02 12:00	2019/10/02 13:40	2019/10/02 13:45	2019/10/02 12:25	2019/10/02 12:35	
COC Number		738606-01-01	738606-01-01	738606-01-01	738606-01-01	738606-01-01	738606-02-01	738606-02-01	
	UNITS	MW-03A	MW-03B	MW-03C	MW-04A	MW-04B	MW-05A	MW-05B	RDL
Metals									
Dissolved Aluminum (Al)	ug/L	160	<5.0	7.0	17	<5.0	18	11	5.0
Total Aluminum (Al)	ug/L	1900	24	120	1600	29	140	560	5.0
Dissolved Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Arsenic (As)	ug/L	<1.0	<1.0	1.7	<1.0	<1.0	<1.0	<1.0	1.0
Total Arsenic (As)	ug/L	1.1	<1.0	2.0	2.4	<1.0	<1.0	<1.0	1.0
Dissolved Barium (Ba)	ug/L	12	3.0	4.2	3.2	1.5	8.0	27	1.0
Total Barium (Ba)	ug/L	35	3.2	5.4	10	1.9	9.1	18	1.0
Dissolved Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Boron (B)	ug/L	<50	<50	<50	<50	<50	<50	<50	50
Total Boron (B)	ug/L	<50	<50	<50	<50	<50	<50	<50	50
Dissolved Cadmium (Cd)	ug/L	0.031	0.014	<0.010	0.014	<0.010	0.023	0.021	0.010
Total Cadmium (Cd)	ug/L	0.056	0.013	0.014	0.015	<0.010	0.023	0.017	0.010
Dissolved Calcium (Ca)	ug/L	1600	14000	26000	2600	11000	2700	12000	100
Total Calcium (Ca)	ug/L	2100	14000	26000	2900	11000	2500	13000	100
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Chromium (Cr)	ug/L	1.9	<1.0	<1.0	2.1	<1.0	<1.0	<1.0	1.0
Dissolved Cobalt (Co)	ug/L	0.60	<0.40	<0.40	0.51	<0.40	1.3	1.8	0.40
Total Cobalt (Co)	ug/L	0.98	<0.40	<0.40	1.6	<0.40	1.6	1.1	0.40
Dissolved Copper (Cu)	ug/L	2.0	<0.50	<0.50	1.5	1.6	5.1	<0.50	0.50
Total Copper (Cu)	ug/L	8.6	0.60	3.0	13	3.4	9.9	1.6	0.50
Dissolved Iron (Fe)	ug/L	<50	<50	<50	<50	<50	<50	58	50
Total Iron (Fe)	ug/L	2200	<50	160	2200	<50	170	430	50
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Total Lead (Pb)	ug/L	4.6	<0.50	<0.50	1.2	<0.50	0.59	0.59	0.50
Dissolved Magnesium (Mg)	ug/L	610	1300	2500	580	1200	490	1200	100
Total Magnesium (Mg)	ug/L	930	1300	2500	1100	1200	510	1400	100
Dissolved Manganese (Mn)	ug/L	53	2.4	53	16	4.6	43	160	2.0
Total Manganese (Mn)	ug/L	160	2.9	68	48	7.6	55	130	2.0
Dissolved Molybdenum (Mo)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Molybdenum (Mo)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.5	2.0

RDL = Reportable Detection Limit

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Report Date: 2019/10/18

GHD Limited
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Site Location: BEAVER DAM-GW MONITORING
Your P.O. #: 8434
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		KYI385	KYI386	KYI387	KYI388	KYI389	KYI390	KYI391	
Sampling Date		2019/10/02 11:45	2019/10/02 11:50	2019/10/02 12:00	2019/10/02 13:40	2019/10/02 13:45	2019/10/02 12:25	2019/10/02 12:35	
COC Number		738606-01-01	738606-01-01	738606-01-01	738606-01-01	738606-01-01	738606-02-01	738606-02-01	
	UNITS	MW-03A	MW-03B	MW-03C	MW-04A	MW-04B	MW-05A	MW-05B	RDL
Dissolved Nickel (Ni)	ug/L	3.1	<2.0	<2.0	2.4	<2.0	4.3	2.4	2.0
Total Nickel (Ni)	ug/L	5.0	<2.0	<2.0	5.7	<2.0	5.1	2.2	2.0
Dissolved Phosphorus (P)	ug/L	<100	<100	<100	<100	<100	<100	<100	100
Total Phosphorus (P)	ug/L	140	<100	<100	110	<100	<100	<100	100
Dissolved Potassium (K)	ug/L	800	940	2000	460	570	620	1200	100
Total Potassium (K)	ug/L	1200	910	2100	800	580	620	1200	100
Dissolved Selenium (Se)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Total Selenium (Se)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Dissolved Silver (Ag)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Total Silver (Ag)	ug/L	0.76	<0.10	0.16	1.5	<0.10	<0.10	<0.10	0.10
Dissolved Sodium (Na)	ug/L	3000	4300	5400	3200	3700	3100	7400	100
Total Sodium (Na)	ug/L	3000	4300	5500	3300	3800	3000	6900	100
Dissolved Strontium (Sr)	ug/L	20	29	70	18	62	13	160	2.0
Total Strontium (Sr)	ug/L	26	27	68	21	65	12	120	2.0
Dissolved Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Total Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Dissolved Tin (Sn)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Tin (Sn)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Titanium (Ti)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Titanium (Ti)	ug/L	45	<2.0	8.4	59	<2.0	4.9	9.5	2.0
Dissolved Uranium (U)	ug/L	<0.10	0.26	1.3	<0.10	<0.10	<0.10	0.23	0.10
Total Uranium (U)	ug/L	1.5	0.27	1.3	<0.10	<0.10	<0.10	0.33	0.10
Dissolved Vanadium (V)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Vanadium (V)	ug/L	2.0	<2.0	<2.0	2.6	<2.0	<2.0	<2.0	2.0
Dissolved Zinc (Zn)	ug/L	<5.0	<5.0	5.8	<5.0	6.3	26	<5.0	5.0
Total Zinc (Zn)	ug/L	10	<5.0	6.8	8.9	5.9	13	6.1	5.0

RDL = Reportable Detection Limit

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ELEMENTS BY ICP/MS (WATER)

BV Labs ID		KYI392	KYI393	KYI394	KYI395	KYI396	KYI397	KYI398	
Sampling Date		2019/10/02 12:40	2019/10/02 13:05	2019/10/02 12:56	2019/10/02 13:13	2019/10/02 13:10	2019/10/02 13:15	2019/10/02 13:20	
COC Number		738606-02-01	738606-02-01	738606-02-01	738606-02-01	738606-02-01	738606-02-01	738606-02-01	
	UNITS	MW-05D	MW-07A	MW-07B	MW-07D	MW-09A	MW-09B	MW-09D	RDL
Metals									
Dissolved Aluminum (Al)	ug/L	10	<5.0	<5.0	5.2	15	<5.0	5.1	5.0
Total Aluminum (Al)	ug/L	140	65	130	420	58	1100	70	5.0
Dissolved Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Arsenic (As)	ug/L	<1.0	20	34	160	2.6	110	120	1.0
Total Arsenic (As)	ug/L	<1.0	29	38	180	3.4	120	130	1.0
Dissolved Barium (Ba)	ug/L	5.7	6.2	15	11	15	17	8.6	1.0
Total Barium (Ba)	ug/L	5.8	6.6	15	12	14	19	8.9	1.0
Dissolved Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Boron (B)	ug/L	<50	<50	<50	<50	<50	<50	<50	50
Total Boron (B)	ug/L	<50	<50	<50	<50	<50	<50	<50	50
Dissolved Cadmium (Cd)	ug/L	<0.010	<0.010	<0.010	<0.010	0.066	<0.010	<0.010	0.010
Total Cadmium (Cd)	ug/L	<0.010	<0.010	<0.010	<0.010	0.065	<0.010	<0.010	0.010
Dissolved Calcium (Ca)	ug/L	19000	29000	95000	40000	4100	26000	33000	100
Total Calcium (Ca)	ug/L	19000	30000	94000	43000	4300	27000	32000	100
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Cobalt (Co)	ug/L	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	0.40
Total Cobalt (Co)	ug/L	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	0.40
Dissolved Copper (Cu)	ug/L	<0.50	<0.50	<0.50	<0.50	3.4	<0.50	0.69	0.50
Total Copper (Cu)	ug/L	<0.50	<0.50	<0.50	0.52	4.2	0.68	<0.50	0.50
Dissolved Iron (Fe)	ug/L	<50	3000	<50	<50	<50	<50	<50	50
Total Iron (Fe)	ug/L	110	3900	200	320	71	260	60	50
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Total Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Dissolved Magnesium (Mg)	ug/L	2400	7400	7600	5700	530	2000	4500	100
Total Magnesium (Mg)	ug/L	2500	7200	8300	6500	560	2400	4500	100
Dissolved Manganese (Mn)	ug/L	28	600	1200	99	23	58	64	2.0
Total Manganese (Mn)	ug/L	31	640	1300	120	25	64	63	2.0
Dissolved Molybdenum (Mo)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	5.6	4.8	2.0
Total Molybdenum (Mo)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	5.7	4.9	2.0

RDL = Reportable Detection Limit

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ELEMENTS BY ICP/MS (WATER)

BV Labs ID		KYI392	KYI393	KYI394	KYI395	KYI396	KYI397	KYI398	
Sampling Date		2019/10/02 12:40	2019/10/02 13:05	2019/10/02 12:56	2019/10/02 13:13	2019/10/02 13:10	2019/10/02 13:15	2019/10/02 13:20	
COC Number		738606-02-01	738606-02-01	738606-02-01	738606-02-01	738606-02-01	738606-02-01	738606-02-01	
	UNITS	MW-05D	MW-07A	MW-07B	MW-07D	MW-09A	MW-09B	MW-09D	RDL
Dissolved Nickel (Ni)	ug/L	<2.0	<2.0	<2.0	<2.0	2.1	<2.0	<2.0	2.0
Total Nickel (Ni)	ug/L	<2.0	<2.0	<2.0	<2.0	2.3	<2.0	<2.0	2.0
Dissolved Phosphorus (P)	ug/L	<100	<100	<100	<100	<100	<100	<100	100
Total Phosphorus (P)	ug/L	<100	<100	<100	<100	<100	<100	<100	100
Dissolved Potassium (K)	ug/L	1000	2000	3200	1400	740	1300	1100	100
Total Potassium (K)	ug/L	1000	2000	3300	1500	720	1400	1100	100
Dissolved Selenium (Se)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Total Selenium (Se)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Dissolved Silver (Ag)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Total Silver (Ag)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Dissolved Sodium (Na)	ug/L	10000	9800	20000	20000	2400	15000	19000	100
Total Sodium (Na)	ug/L	11000	9700	21000	22000	2500	16000	18000	100
Dissolved Strontium (Sr)	ug/L	170	160	360	350	17	410	720	2.0
Total Strontium (Sr)	ug/L	170	160	370	380	18	410	700	2.0
Dissolved Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Total Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Dissolved Tin (Sn)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Tin (Sn)	ug/L	<2.0	2.3	<2.0	5.0	<2.0	<2.0	<2.0	2.0
Dissolved Titanium (Ti)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Titanium (Ti)	ug/L	4.3	2.7	4.5	11	2.1	16	2.6	2.0
Dissolved Uranium (U)	ug/L	0.26	<0.10	2.9	1.4	0.11	7.9	2.7	0.10
Total Uranium (U)	ug/L	0.28	<0.10	3.1	1.6	0.12	7.8	2.6	0.10
Dissolved Vanadium (V)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Vanadium (V)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	2.5	<2.0	2.0
Dissolved Zinc (Zn)	ug/L	<5.0	6.9	6.0	<5.0	6.4	<5.0	<5.0	5.0
Total Zinc (Zn)	ug/L	<5.0	6.3	<5.0	<5.0	5.2	<5.0	<5.0	5.0

RDL = Reportable Detection Limit

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BV Labs Job #: B9R7943
Report Date: 2019/10/18

GHD Limited
Client Project #: 088664-32
Site Location: BEAVER DAM-GW MONITORING
Your P.O. #: 8434
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		KYI399	KYI400	KYI401	KYI402	KYI403	KYI404	KYI405	
Sampling Date		2019/10/02 13:40	2019/10/02 13:46	2019/10/02 13:30	2019/10/02 12:50	2019/10/02 13:00	2019/10/02 11:40	2019/10/02 11:19	
COC Number		738606-02-01	738606-03-01	738606-03-01	738606-03-01	738606-03-01	738606-03-01	738606-03-01	
	UNITS	MW-11A	MW-11B	MW-11C	MW-12A	MW-12B	MW-14A	MW-14B	RDL
Metals									
Dissolved Aluminum (Al)	ug/L	32	6.8	<5.0	8.4	<5.0	<5.0	8.8	5.0
Total Aluminum (Al)	ug/L	130	79	320	930	340	540	170	5.0
Dissolved Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Arsenic (As)	ug/L	<1.0	23	66	<1.0	41	3.7	7.8	1.0
Total Arsenic (As)	ug/L	<1.0	9.2	70	<1.0	45	11	8.2	1.0
Dissolved Barium (Ba)	ug/L	5.6	10	13	7.3	13	2.6	5.4	1.0
Total Barium (Ba)	ug/L	6.7	8.8	14	14	14	6.9	5.5	1.0
Dissolved Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Boron (B)	ug/L	<50	<50	<50	<50	<50	<50	<50	50
Total Boron (B)	ug/L	<50	<50	<50	<50	<50	<50	<50	50
Dissolved Cadmium (Cd)	ug/L	0.022	<0.010	<0.010	0.030	<0.010	<0.010	<0.010	0.010
Total Cadmium (Cd)	ug/L	0.027	<0.010	<0.010	0.034	<0.010	0.013	<0.010	0.010
Dissolved Calcium (Ca)	ug/L	1800	25000	26000	5000	24000	3600	16000	100
Total Calcium (Ca)	ug/L	1900	19000	26000	5300	25000	3600	16000	100
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	1.6	<1.0	<1.0	<1.0	1.0
Dissolved Cobalt (Co)	ug/L	<0.40	<0.40	<0.40	1.1	<0.40	<0.40	<0.40	0.40
Total Cobalt (Co)	ug/L	<0.40	0.44	<0.40	2.2	<0.40	0.78	<0.40	0.40
Dissolved Copper (Cu)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	1.2	<0.50	0.50
Total Copper (Cu)	ug/L	1.2	0.72	<0.50	2.2	<0.50	3.3	<0.50	0.50
Dissolved Iron (Fe)	ug/L	<50	<50	<50	<50	<50	<50	<50	50
Total Iron (Fe)	ug/L	170	870	170	1500	170	960	110	50
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Total Lead (Pb)	ug/L	<0.50	<0.50	<0.50	0.61	<0.50	0.51	<0.50	0.50
Dissolved Magnesium (Mg)	ug/L	390	1600	2300	1700	2600	920	2500	100
Total Magnesium (Mg)	ug/L	410	1300	2400	2000	2700	1100	2600	100
Dissolved Manganese (Mn)	ug/L	18	29	50	140	280	50	78	2.0
Total Manganese (Mn)	ug/L	20	140	55	190	300	80	84	2.0
Dissolved Molybdenum (Mo)	ug/L	<2.0	<2.0	3.5	<2.0	18	<2.0	12	2.0
Total Molybdenum (Mo)	ug/L	<2.0	<2.0	3.3	<2.0	19	<2.0	12	2.0

RDL = Reportable Detection Limit

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BV Labs Job #: B9R7943
Report Date: 2019/10/18

GHD Limited
Client Project #: 088664-32
Site Location: BEAVER DAM-GW MONITORING
Your P.O. #: 8434
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		KYI399	KYI400	KYI401	KYI402	KYI403	KYI404	KYI405	
Sampling Date		2019/10/02 13:40	2019/10/02 13:46	2019/10/02 13:30	2019/10/02 12:50	2019/10/02 13:00	2019/10/02 11:40	2019/10/02 11:19	
COC Number		738606-02-01	738606-03-01	738606-03-01	738606-03-01	738606-03-01	738606-03-01	738606-03-01	
	UNITS	MW-11A	MW-11B	MW-11C	MW-12A	MW-12B	MW-14A	MW-14B	RDL
Dissolved Nickel (Ni)	ug/L	<2.0	<2.0	<2.0	2.9	<2.0	3.6	<2.0	2.0
Total Nickel (Ni)	ug/L	<2.0	2.7	<2.0	4.8	<2.0	4.9	<2.0	2.0
Dissolved Phosphorus (P)	ug/L	<100	<100	<100	<100	<100	<100	<100	100
Total Phosphorus (P)	ug/L	<100	<100	<100	110	<100	<100	<100	100
Dissolved Potassium (K)	ug/L	430	1000	1200	1100	1500	1000	1100	100
Total Potassium (K)	ug/L	480	1000	1200	1300	1600	1100	1200	100
Dissolved Selenium (Se)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Total Selenium (Se)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Dissolved Silver (Ag)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Total Silver (Ag)	ug/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Dissolved Sodium (Na)	ug/L	2500	5800	15000	5600	17000	8000	24000	100
Total Sodium (Na)	ug/L	2800	6200	15000	5700	17000	7800	25000	100
Dissolved Strontium (Sr)	ug/L	13	71	230	46	110	29	230	2.0
Total Strontium (Sr)	ug/L	12	60	240	48	120	29	230	2.0
Dissolved Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Total Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Dissolved Tin (Sn)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Tin (Sn)	ug/L	3.0	<2.0	2.7	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Titanium (Ti)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Titanium (Ti)	ug/L	4.9	4.6	6.3	36	6.3	22	4.8	2.0
Dissolved Uranium (U)	ug/L	<0.10	0.93	3.7	<0.10	1.6	<0.10	1.0	0.10
Total Uranium (U)	ug/L	<0.10	0.49	3.8	<0.10	1.7	<0.10	1.0	0.10
Dissolved Vanadium (V)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Vanadium (V)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Zinc (Zn)	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0	6.3	<5.0	5.0
Total Zinc (Zn)	ug/L	<5.0	<5.0	5.9	<5.0	<5.0	6.9	<5.0	5.0

RDL = Reportable Detection Limit

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BV Labs Job #: B9R7943
Report Date: 2019/10/18

GHD Limited
Client Project #: 088664-32
Site Location: BEAVER DAM-GW MONITORING
Your P.O. #: 8434
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		KYI405		KYI406	KYI407	KYI408	KYI409	KYI410	
Sampling Date		2019/10/02 11:19		2019/10/02 11:28	2019/10/02 10:25	2019/10/02 10:08	2019/10/02 11:01	2019/10/02 10:57	
COC Number		738606-03-01		738606-03-01	738606-03-01	738606-03-01	738606-03-01	738606-04-01	
	UNITS	MW-14B Lab-Dup	RDL	MW-14C	MW-16A	MW-16B	MW-17A	MW-17B	RDL
Metals									
Dissolved Aluminum (Al)	ug/L			10	5.9	20	17	14	5.0
Total Aluminum (Al)	ug/L	170	5.0	1800	600	740	3200	210	5.0
Dissolved Antimony (Sb)	ug/L			<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Antimony (Sb)	ug/L	<1.0	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Arsenic (As)	ug/L			1.4	<1.0	9.0	<1.0	<1.0	1.0
Total Arsenic (As)	ug/L	7.9	1.0	1.6	1.4	10	11	1.3	1.0
Dissolved Barium (Ba)	ug/L			22	3.6	3.3	8.8	3.4	1.0
Total Barium (Ba)	ug/L	5.4	1.0	27	32	7.6	32	4.7	1.0
Dissolved Beryllium (Be)	ug/L			<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Beryllium (Be)	ug/L	<1.0	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Bismuth (Bi)	ug/L			<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Bismuth (Bi)	ug/L	<2.0	2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Boron (B)	ug/L			110	<50	<50	<50	<50	50
Total Boron (B)	ug/L	<50	50	130	<50	<50	<50	<50	50
Dissolved Cadmium (Cd)	ug/L			<0.010	0.020	<0.010	0.038	0.013	0.010
Total Cadmium (Cd)	ug/L	<0.010	0.010	<0.010	0.029	0.016	0.059	0.018	0.010
Dissolved Calcium (Ca)	ug/L			11000	18000	20000	4000	1700	100
Total Calcium (Ca)	ug/L	16000	100	11000	19000	20000	4200	1800	100
Dissolved Chromium (Cr)	ug/L			<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Chromium (Cr)	ug/L	<1.0	1.0	<1.0	<1.0	1.5	3.6	<1.0	1.0
Dissolved Cobalt (Co)	ug/L			<0.40	1.2	<0.40	0.81	<0.40	0.40
Total Cobalt (Co)	ug/L	<0.40	0.40	<0.40	1.4	0.52	2.6	<0.40	0.40
Dissolved Copper (Cu)	ug/L			<0.50	0.95	0.60	2.1	0.70	0.50
Total Copper (Cu)	ug/L	<0.50	0.50	0.89	2.5	3.7	17	1.5	0.50
Dissolved Iron (Fe)	ug/L			<50	<50	<50	<50	<50	50
Total Iron (Fe)	ug/L	110	50	560	730	910	4400	260	50
Dissolved Lead (Pb)	ug/L			<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Total Lead (Pb)	ug/L	<0.50	0.50	1.0	1.4	1.2	2.0	<0.50	0.50
Dissolved Magnesium (Mg)	ug/L			1600	1300	1300	780	660	100
Total Magnesium (Mg)	ug/L	2500	100	2100	1500	1600	1700	700	100
Dissolved Manganese (Mn)	ug/L			13	370	4.1	81	6.9	2.0
Total Manganese (Mn)	ug/L	80	2.0	20	380	28	160	15	2.0
Dissolved Molybdenum (Mo)	ug/L			<2.0	<2.0	<2.0	<2.0	<2.0	2.0

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate

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BV Labs Job #: B9R7943
Report Date: 2019/10/18

GHD Limited
Client Project #: 088664-32
Site Location: BEAVER DAM-GW MONITORING
Your P.O. #: 8434
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		KYI405		KYI406	KYI407	KYI408	KYI409	KYI410	
Sampling Date		2019/10/02 11:19		2019/10/02 11:28	2019/10/02 10:25	2019/10/02 10:08	2019/10/02 11:01	2019/10/02 10:57	
COC Number		738606-03-01		738606-03-01	738606-03-01	738606-03-01	738606-03-01	738606-04-01	
	UNITS	MW-14B Lab-Dup	RDL	MW-14C	MW-16A	MW-16B	MW-17A	MW-17B	RDL
Total Molybdenum (Mo)	ug/L	12	2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Nickel (Ni)	ug/L			<2.0	<2.0	<2.0	5.0	<2.0	2.0
Total Nickel (Ni)	ug/L	<2.0	2.0	<2.0	<2.0	<2.0	11	<2.0	2.0
Dissolved Phosphorus (P)	ug/L			<100	<100	<100	<100	<100	100
Total Phosphorus (P)	ug/L	<100	100	<100	<100	<100	140	<100	100
Dissolved Potassium (K)	ug/L			610	1200	1400	510	460	100
Total Potassium (K)	ug/L	1100	100	800	1600	1500	1000	480	100
Dissolved Selenium (Se)	ug/L			<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Total Selenium (Se)	ug/L	<0.50	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Dissolved Silver (Ag)	ug/L			<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Total Silver (Ag)	ug/L	<0.10	0.10	<0.10	0.18	0.37	0.58	0.19	0.10
Dissolved Sodium (Na)	ug/L			20000	9900	4700	3600	3100	100
Total Sodium (Na)	ug/L	24000	100	21000	9800	5000	3600	3100	100
Dissolved Strontium (Sr)	ug/L			310	61	71	29	21	2.0
Total Strontium (Sr)	ug/L	230	2.0	320	73	77	31	22	2.0
Dissolved Thallium (Tl)	ug/L			<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Total Thallium (Tl)	ug/L	<0.10	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Dissolved Tin (Sn)	ug/L			<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Tin (Sn)	ug/L	<2.0	2.0	3.1	<2.0	<2.0	2.0	<2.0	2.0
Dissolved Titanium (Ti)	ug/L			<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Titanium (Ti)	ug/L	3.8	2.0	36	24	50	110	8.3	2.0
Dissolved Uranium (U)	ug/L			0.26	1.0	2.3	<0.10	<0.10	0.10
Total Uranium (U)	ug/L	0.97	0.10	0.53	1.4	2.4	0.24	<0.10	0.10
Dissolved Vanadium (V)	ug/L			<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Vanadium (V)	ug/L	<2.0	2.0	<2.0	<2.0	3.4	4.2	<2.0	2.0
Dissolved Zinc (Zn)	ug/L			<5.0	<5.0	<5.0	9.6	6.6	5.0
Total Zinc (Zn)	ug/L	7.8	5.0	<5.0	<5.0	6.0	22	7.6	5.0

RDL = Reportable Detection Limit
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Site Location: BEAVER DAM-GW MONITORING
Your P.O. #: 8434
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		KYI411	KYI412		KYI412		KYI413	KYI414	KYI415	
Sampling Date		2019/10/02 10:47	2019/10/02 09:50		2019/10/02 09:50		2019/10/02 09:40	2019/10/02 09:20	2019/10/02 10:55	
COC Number		738606-04-01	738606-04-01		738606-04-01		738606-04-01	738606-04-01	738606-04-01	
	UNITS	MW-17C	MW-18A	RDL	MW-18A Lab-Dup	RDL	MW-18B	MW-18C	MW-19A	RDL
Metals										
Dissolved Aluminum (Al)	ug/L	7.9	41	5.0	42	5.0	10	7.6	100	5.0
Total Aluminum (Al)	ug/L	210	85	5.0			150	250	14000	5.0
Dissolved Antimony (Sb)	ug/L	<1.0	<1.0	1.0	<1.0	1.0	<1.0	<1.0	<1.0	1.0
Total Antimony (Sb)	ug/L	<1.0	<1.0	1.0			<1.0	<1.0	<1.0	1.0
Dissolved Arsenic (As)	ug/L	2.2	9.9	1.0	10	1.0	270	95	<1.0	1.0
Total Arsenic (As)	ug/L	2.7	15	1.0			270	120	9.8	1.0
Dissolved Barium (Ba)	ug/L	1.2	7.0	1.0	7.0	1.0	4.2	11	8.8	1.0
Total Barium (Ba)	ug/L	2.3	7.7	1.0			4.5	11	88	1.0
Dissolved Beryllium (Be)	ug/L	<1.0	<1.0	1.0	<1.0	1.0	<1.0	<1.0	<1.0	1.0
Total Beryllium (Be)	ug/L	<1.0	<1.0	1.0			<1.0	<1.0	<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	<2.0	<2.0	2.0	<2.0	2.0	<2.0	<2.0	<2.0	2.0
Total Bismuth (Bi)	ug/L	<2.0	<2.0	2.0			<2.0	<2.0	<2.0	2.0
Dissolved Boron (B)	ug/L	<50	<50	50	<50	50	<50	<50	<50	50
Total Boron (B)	ug/L	<50	<50	50			<50	<50	<50	50
Dissolved Cadmium (Cd)	ug/L	0.010	0.033	0.010	0.032	0.010	<0.010	<0.010	0.021	0.010
Total Cadmium (Cd)	ug/L	0.014	0.028	0.010			<0.010	<0.010	0.071	0.010
Dissolved Calcium (Ca)	ug/L	2700	1600	100	1600	100	15000	19000	1500	100
Total Calcium (Ca)	ug/L	2700	1600	100			16000	19000	5000	100
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	1.0	<1.0	1.0	<1.0	<1.0	<1.0	1.0
Total Chromium (Cr)	ug/L	<1.0	<1.0	1.0			<1.0	<1.0	20	1.0
Dissolved Cobalt (Co)	ug/L	<0.40	0.74	0.40	0.75	0.40	<0.40	<0.40	1.4	0.40
Total Cobalt (Co)	ug/L	<0.40	0.80	0.40			<0.40	<0.40	11	0.40
Dissolved Copper (Cu)	ug/L	<0.50	1.9	0.50	2.0	0.50	<0.50	<0.50	4.9	0.50
Total Copper (Cu)	ug/L	1.2	2.8	0.50			6.9	0.70	58	0.50
Dissolved Iron (Fe)	ug/L	<50	<50	50	<50	50	<50	51	<50	50
Total Iron (Fe)	ug/L	290	65	50			67	310	20000	50
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	0.50	<0.50	0.50	<0.50	<0.50	<0.50	0.50
Total Lead (Pb)	ug/L	<0.50	<0.50	0.50			<0.50	<0.50	9.3	0.50
Dissolved Magnesium (Mg)	ug/L	640	500	100	500	100	1300	1900	400	100
Total Magnesium (Mg)	ug/L	700	520	100			1400	1900	5100	100
Dissolved Manganese (Mn)	ug/L	8.6	24	2.0	25	2.0	<2.0	95	49	2.0
Total Manganese (Mn)	ug/L	15	26	2.0			<2.0	97	360	2.0
Dissolved Molybdenum (Mo)	ug/L	<2.0	<2.0	2.0	<2.0	2.0	4.4	4.4	2.3	2.0

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BV Labs Job #: B9R7943
Report Date: 2019/10/18

GHD Limited
Client Project #: 088664-32
Site Location: BEAVER DAM-GW MONITORING
Your P.O. #: 8434
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		KYI411	KYI412		KYI412		KYI413	KYI414	KYI415	
Sampling Date		2019/10/02 10:47	2019/10/02 09:50		2019/10/02 09:50		2019/10/02 09:40	2019/10/02 09:20	2019/10/02 10:55	
COC Number		738606-04-01	738606-04-01		738606-04-01		738606-04-01	738606-04-01	738606-04-01	
	UNITS	MW-17C	MW-18A	RDL	MW-18A Lab-Dup	RDL	MW-18B	MW-18C	MW-19A	RDL
Total Molybdenum (Mo)	ug/L	<2.0	<2.0	2.0			4.4	4.8	9.9	2.0
Dissolved Nickel (Ni)	ug/L	<2.0	<2.0	2.0	<2.0	2.0	<2.0	<2.0	4.4	2.0
Total Nickel (Ni)	ug/L	<2.0	<2.0	2.0			<2.0	<2.0	27	2.0
Dissolved Phosphorus (P)	ug/L	<100	<100	100	<100	100	<100	<100	<100	100
Total Phosphorus (P)	ug/L	<100	<100	100			<100	<100	490	100
Dissolved Potassium (K)	ug/L	410	550	100	550	100	1400	1400	770	100
Total Potassium (K)	ug/L	480	560	100			1400	1400	4800	100
Dissolved Selenium (Se)	ug/L	<0.50	<0.50	0.50	<0.50	0.50	<0.50	<0.50	<0.50	0.50
Total Selenium (Se)	ug/L	<0.50	<0.50	0.50			<0.50	<0.50	<0.50	0.50
Dissolved Silver (Ag)	ug/L	<0.10	<0.10	0.10	<0.10	0.10	<0.10	<0.10	0.97	0.10
Total Silver (Ag)	ug/L	0.32	<0.10	0.10			<0.10	<0.10	8.3	0.10
Dissolved Sodium (Na)	ug/L	3100	2500	100	2500	100	5200	19000	2700	100
Total Sodium (Na)	ug/L	3100	2400	100			5300	19000	2800	100
Dissolved Strontium (Sr)	ug/L	19	11	2.0	12	2.0	71	190	11	2.0
Total Strontium (Sr)	ug/L	19	12	2.0			70	190	21	2.0
Dissolved Thallium (Tl)	ug/L	<0.10	<0.10	0.10	<0.10	0.10	<0.10	<0.10	<0.10	0.10
Total Thallium (Tl)	ug/L	<0.10	<0.10	0.10			<0.10	<0.10	0.27	0.10
Dissolved Tin (Sn)	ug/L	<2.0	2.7	2.0	2.7	2.0	3.9	<2.0	<2.0	2.0
Total Tin (Sn)	ug/L	<2.0	<2.0	2.0			<2.0	<2.0	<2.0	2.0
Dissolved Titanium (Ti)	ug/L	<2.0	<2.0	2.0	<2.0	2.0	<2.0	<2.0	<2.0	2.0
Total Titanium (Ti)	ug/L	12	<2.0	2.0			3.6	6.7	580	2.0
Dissolved Uranium (U)	ug/L	<0.10	<0.10	0.10	<0.10	0.10	0.99	0.83	<0.10	0.10
Total Uranium (U)	ug/L	<0.10	<0.10	0.10			0.94	0.90	1.7	0.10
Dissolved Vanadium (V)	ug/L	<2.0	<2.0	2.0	<2.0	2.0	<2.0	<2.0	<2.0	2.0
Total Vanadium (V)	ug/L	<2.0	<2.0	2.0			<2.0	<2.0	24	2.0
Dissolved Zinc (Zn)	ug/L	<5.0	6.3	5.0	6.7	5.0	<5.0	<5.0	<5.0	5.0
Total Zinc (Zn)	ug/L	<5.0	<5.0	5.0			<5.0	5.4	39	5.0

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BV Labs Job #: B9R7943
Report Date: 2019/10/18

GHD Limited
Client Project #: 088664-32
Site Location: BEAVER DAM-GW MONITORING
Your P.O. #: 8434
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		KYI416	KYI417	KYI418	KYI419		KYI419		KYI420	
Sampling Date		2019/10/02 11:00	2019/10/02 11:05	2019/10/02 10:10	2019/10/02 10:16		2019/10/02 10:16		2019/10/02 09:15	
COC Number		738606-04-01	738606-04-01	738606-04-01	738606-04-01		738606-04-01		738606-05-01	
	UNITS	MW-19B	MW-19C	MW-20A	MW-20B	RDL	MW-20B Lab-Dup	RDL	MW-21A	RDL
Metals										
Dissolved Aluminum (Al)	ug/L	11	<5.0	54	27	5.0	25	5.0	240	5.0
Total Aluminum (Al)	ug/L	52	650	240	31	5.0			10000	5.0
Dissolved Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0	<1.0	1.0	<1.0	1.0
Total Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0			<1.0	1.0
Dissolved Arsenic (As)	ug/L	8.1	2.4	<1.0	<1.0	1.0	<1.0	1.0	<1.0	1.0
Total Arsenic (As)	ug/L	8.0	3.7	<1.0	<1.0	1.0			3.0	1.0
Dissolved Barium (Ba)	ug/L	11	4.9	4.8	4.6	1.0	4.3	1.0	9.7	1.0
Total Barium (Ba)	ug/L	11	8.6	5.9	4.5	1.0			88	1.0
Dissolved Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0	<1.0	1.0	<1.0	1.0
Total Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0			<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	2.0	<2.0	2.0	<2.0	2.0
Total Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	2.0			<2.0	2.0
Dissolved Boron (B)	ug/L	<50	<50	<50	<50	50	<50	50	<50	50
Total Boron (B)	ug/L	<50	<50	<50	<50	50			<50	50
Dissolved Cadmium (Cd)	ug/L	<0.010	0.012	0.028	0.019	0.010	0.019	0.010	0.051	0.010
Total Cadmium (Cd)	ug/L	<0.010	0.011	0.029	0.019	0.010			0.076	0.010
Dissolved Calcium (Ca)	ug/L	21000	10000	1800	1100	100	1100	100	1800	100
Total Calcium (Ca)	ug/L	21000	10000	1700	1100	100			3500	100
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0	<1.0	1.0	<1.0	1.0
Total Chromium (Cr)	ug/L	<1.0	1.3	<1.0	<1.0	1.0			26	1.0
Dissolved Cobalt (Co)	ug/L	<0.40	<0.40	7.3	<0.40	0.40	<0.40	0.40	2.6	0.40
Total Cobalt (Co)	ug/L	<0.40	0.60	7.2	<0.40	0.40			8.2	0.40
Dissolved Copper (Cu)	ug/L	<0.50	0.58	13	<0.50	0.50	<0.50	0.50	0.99	0.50
Total Copper (Cu)	ug/L	1.2	3.0	16	<0.50	0.50			23	0.50
Dissolved Iron (Fe)	ug/L	<50	<50	<50	<50	50	<50	50	<50	50
Total Iron (Fe)	ug/L	58	900	210	<50	50			18000	50
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	0.50	<0.50	0.50	<0.50	0.50
Total Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	0.50			4.2	0.50
Dissolved Magnesium (Mg)	ug/L	1400	910	600	520	100	530	100	720	100
Total Magnesium (Mg)	ug/L	1400	1200	630	540	100			4500	100
Dissolved Manganese (Mn)	ug/L	<2.0	26	42	27	2.0	27	2.0	390	2.0
Total Manganese (Mn)	ug/L	2.5	48	49	28	2.0			670	2.0
Dissolved Molybdenum (Mo)	ug/L	3.6	10	<2.0	<2.0	2.0	<2.0	2.0	<2.0	2.0

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Report Date: 2019/10/18

GHD Limited
Client Project #: 088664-32
Site Location: BEAVER DAM-GW MONITORING
Your P.O. #: 8434
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		KYI416	KYI417	KYI418	KYI419		KYI419		KYI420	
Sampling Date		2019/10/02 11:00	2019/10/02 11:05	2019/10/02 10:10	2019/10/02 10:16		2019/10/02 10:16		2019/10/02 09:15	
COC Number		738606-04-01	738606-04-01	738606-04-01	738606-04-01		738606-04-01		738606-05-01	
	UNITS	MW-19B	MW-19C	MW-20A	MW-20B	RDL	MW-20B Lab-Dup	RDL	MW-21A	RDL
Total Molybdenum (Mo)	ug/L	3.4	11	<2.0	<2.0	2.0			5.8	2.0
Dissolved Nickel (Ni)	ug/L	<2.0	2.7	15	<2.0	2.0	<2.0	2.0	<2.0	2.0
Total Nickel (Ni)	ug/L	<2.0	3.9	15	<2.0	2.0			17	2.0
Dissolved Phosphorus (P)	ug/L	<100	<100	<100	<100	100	<100	100	<100	100
Total Phosphorus (P)	ug/L	<100	<100	<100	<100	100			590	100
Dissolved Potassium (K)	ug/L	1300	1400	440	290	100	270	100	790	100
Total Potassium (K)	ug/L	1300	1500	440	290	100			3800	100
Dissolved Selenium (Se)	ug/L	<0.50	<0.50	<0.50	<0.50	0.50	<0.50	0.50	<0.50	0.50
Total Selenium (Se)	ug/L	<0.50	<0.50	<0.50	<0.50	0.50			<0.50	0.50
Dissolved Silver (Ag)	ug/L	<0.10	<0.10	<0.10	<0.10	0.10	<0.10	0.10	<0.10	0.10
Total Silver (Ag)	ug/L	<0.10	0.13	0.26	<0.10	0.10			1.3	0.10
Dissolved Sodium (Na)	ug/L	4300	5800	3100	2900	100	2900	100	2400	100
Total Sodium (Na)	ug/L	4100	5800	3000	3100	100			2800	100
Dissolved Strontium (Sr)	ug/L	110	69	17	14	2.0	14	2.0	17	2.0
Total Strontium (Sr)	ug/L	110	68	15	14	2.0			28	2.0
Dissolved Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	0.10	<0.10	0.10	<0.10	0.10
Total Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	0.10			0.18	0.10
Dissolved Tin (Sn)	ug/L	<2.0	<2.0	<2.0	<2.0	2.0	<2.0	2.0	<2.0	2.0
Total Tin (Sn)	ug/L	<2.0	<2.0	<2.0	<2.0	2.0			3.5	2.0
Dissolved Titanium (Ti)	ug/L	<2.0	<2.0	<2.0	<2.0	2.0	<2.0	2.0	<2.0	2.0
Total Titanium (Ti)	ug/L	2.4	32	6.8	<2.0	2.0			500	2.0
Dissolved Uranium (U)	ug/L	2.8	<0.10	<0.10	<0.10	0.10	<0.10	0.10	<0.10	0.10
Total Uranium (U)	ug/L	2.6	0.11	<0.10	<0.10	0.10			1.4	0.10
Dissolved Vanadium (V)	ug/L	2.5	<2.0	<2.0	<2.0	2.0	<2.0	2.0	<2.0	2.0
Total Vanadium (V)	ug/L	3.1	<2.0	<2.0	<2.0	2.0			16	2.0
Dissolved Zinc (Zn)	ug/L	<5.0	6.3	27	<5.0	5.0	<5.0	5.0	5.3	5.0
Total Zinc (Zn)	ug/L	<5.0	8.6	25	<5.0	5.0			31	5.0

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Report Date: 2019/10/18

GHD Limited
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Site Location: BEAVER DAM-GW MONITORING
Your P.O. #: 8434
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		KYI421	KYI422	KYI423	KYI424	KYI425	KYI426	KYI427	
Sampling Date		2019/10/02 09:28	2019/10/02 09:40	2019/10/02 12:30	2019/10/02 12:22	2019/10/02 12:15	2019/10/02	2019/10/02	
COC Number		738606-05-01	738606-05-01	738606-05-01	738606-05-01	738606-05-01	738606-05-01	738606-05-01	
	UNITS	MW-21B	MW-21C	MW-22A	MW-22B	MW-22C	DUP1	DUP2	RDL
Metals									
Dissolved Aluminum (Al)	ug/L	58	6.9	55	7.3	7.1	54	6.2	5.0
Total Aluminum (Al)	ug/L	180	830	350	82	54	290	610	5.0
Dissolved Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Arsenic (As)	ug/L	<1.0	<1.0	<1.0	<1.0	4.8	<1.0	<1.0	1.0
Total Arsenic (As)	ug/L	<1.0	1.2	1.6	1.1	5.1	<1.0	<1.0	1.0
Dissolved Barium (Ba)	ug/L	3.3	13	7.0	9.0	4.0	5.1	24	1.0
Total Barium (Ba)	ug/L	4.1	18	9.7	10	4.4	6.3	18	1.0
Dissolved Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Boron (B)	ug/L	<50	<50	<50	<50	<50	<50	<50	50
Total Boron (B)	ug/L	<50	<50	<50	<50	<50	<50	<50	50
Dissolved Cadmium (Cd)	ug/L	0.033	<0.010	0.019	0.032	<0.010	0.031	0.010	0.010
Total Cadmium (Cd)	ug/L	0.026	0.014	0.028	0.026	<0.010	0.030	0.015	0.010
Dissolved Calcium (Ca)	ug/L	2500	15000	1300	9200	19000	1800	12000	100
Total Calcium (Ca)	ug/L	2500	15000	1100	9900	18000	1800	13000	100
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Chromium (Cr)	ug/L	<1.0	1.1	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Cobalt (Co)	ug/L	0.69	0.51	0.93	<0.40	<0.40	7.2	1.4	0.40
Total Cobalt (Co)	ug/L	0.71	0.80	0.98	<0.40	<0.40	7.6	1.2	0.40
Dissolved Copper (Cu)	ug/L	0.78	<0.50	8.0	2.7	<0.50	13	<0.50	0.50
Total Copper (Cu)	ug/L	1.0	3.1	12	5.0	<0.50	18	1.2	0.50
Dissolved Iron (Fe)	ug/L	<50	310	<50	<50	<50	<50	50	50
Total Iron (Fe)	ug/L	110	1100	350	100	<50	280	370	50
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Total Lead (Pb)	ug/L	<0.50	1.0	0.53	<0.50	<0.50	<0.50	<0.50	0.50
Dissolved Magnesium (Mg)	ug/L	1100	6300	600	2000	2900	610	1200	100
Total Magnesium (Mg)	ug/L	1100	6100	590	2000	3000	700	1400	100
Dissolved Manganese (Mn)	ug/L	170	360	76	170	28	43	140	2.0
Total Manganese (Mn)	ug/L	170	340	73	220	33	54	140	2.0
Dissolved Molybdenum (Mo)	ug/L	<2.0	2.6	<2.0	<2.0	3.0	<2.0	2.2	2.0
Total Molybdenum (Mo)	ug/L	<2.0	3.1	<2.0	<2.0	3.2	<2.0	2.2	2.0

RDL = Reportable Detection Limit

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Client Project #: 088664-32
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Your P.O. #: 8434
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		KYI421	KYI422	KYI423	KYI424	KYI425	KYI426	KYI427	
Sampling Date		2019/10/02 09:28	2019/10/02 09:40	2019/10/02 12:30	2019/10/02 12:22	2019/10/02 12:15	2019/10/02	2019/10/02	
COC Number		738606-05-01	738606-05-01	738606-05-01	738606-05-01	738606-05-01	738606-05-01	738606-05-01	
	UNITS	MW-21B	MW-21C	MW-22A	MW-22B	MW-22C	DUP1	DUP2	RDL
Dissolved Nickel (Ni)	ug/L	<2.0	<2.0	5.9	4.5	2.2	15	2.0	2.0
Total Nickel (Ni)	ug/L	<2.0	2.1	5.7	4.9	<2.0	16	2.1	2.0
Dissolved Phosphorus (P)	ug/L	<100	<100	<100	<100	<100	<100	<100	100
Total Phosphorus (P)	ug/L	<100	110	<100	<100	<100	<100	<100	100
Dissolved Potassium (K)	ug/L	850	1900	630	1200	1000	440	1200	100
Total Potassium (K)	ug/L	820	2000	690	1200	970	480	1200	100
Dissolved Selenium (Se)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Total Selenium (Se)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Dissolved Silver (Ag)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Total Silver (Ag)	ug/L	<0.10	0.14	1.4	0.14	<0.10	0.33	<0.10	0.10
Dissolved Sodium (Na)	ug/L	2800	24000	4800	8900	17000	3100	7000	100
Total Sodium (Na)	ug/L	2700	22000	4500	8900	17000	3300	6700	100
Dissolved Strontium (Sr)	ug/L	23	99	16	72	260	16	140	2.0
Total Strontium (Sr)	ug/L	23	94	13	77	260	17	120	2.0
Dissolved Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Total Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Dissolved Tin (Sn)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	4.0	<2.0	2.0
Total Tin (Sn)	ug/L	<2.0	<2.0	<2.0	<2.0	2.5	<2.0	<2.0	2.0
Dissolved Titanium (Ti)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Titanium (Ti)	ug/L	4.3	30	12	3.7	<2.0	8.0	11	2.0
Dissolved Uranium (U)	ug/L	<0.10	0.72	<0.10	0.17	<0.10	<0.10	0.26	0.10
Total Uranium (U)	ug/L	<0.10	0.98	<0.10	0.21	0.10	<0.10	0.30	0.10
Dissolved Vanadium (V)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Vanadium (V)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Zinc (Zn)	ug/L	<5.0	<5.0	12	18	<5.0	29	<5.0	5.0
Total Zinc (Zn)	ug/L	<5.0	7.5	14	14	<5.0	28	5.8	5.0

RDL = Reportable Detection Limit

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ELEMENTS BY ICP/MS (WATER)

BV Labs ID		KYI428	KYI429	KYI430	
Sampling Date		2019/10/02	2019/10/02	2019/10/02	
COC Number		738606-05-01	738606-05-01	738606-06-01	
	UNITS	DUP3	DUP4	DUP5	RDL
Metals					
Dissolved Aluminum (Al)	ug/L	<5.0	8.6	22	5.0
Total Aluminum (Al)	ug/L	770	390	600	5.0
Dissolved Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	1.0
Total Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	1.0
Dissolved Arsenic (As)	ug/L	3.7	100	9.3	1.0
Total Arsenic (As)	ug/L	13	130	9.9	1.0
Dissolved Barium (Ba)	ug/L	3.0	11	3.1	1.0
Total Barium (Ba)	ug/L	8.3	12	6.8	1.0
Dissolved Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	1.0
Total Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	2.0
Total Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	2.0
Dissolved Boron (B)	ug/L	<50	<50	<50	50
Total Boron (B)	ug/L	<50	<50	<50	50
Dissolved Cadmium (Cd)	ug/L	0.010	<0.010	<0.010	0.010
Total Cadmium (Cd)	ug/L	0.016	<0.010	0.018	0.010
Dissolved Calcium (Ca)	ug/L	3600	19000	19000	100
Total Calcium (Ca)	ug/L	3800	19000	20000	100
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	1.0
Total Chromium (Cr)	ug/L	1.3	<1.0	1.3	1.0
Dissolved Cobalt (Co)	ug/L	0.41	<0.40	<0.40	0.40
Total Cobalt (Co)	ug/L	1.0	<0.40	<0.40	0.40
Dissolved Copper (Cu)	ug/L	1.3	<0.50	0.59	0.50
Total Copper (Cu)	ug/L	4.4	1.1	3.3	0.50
Dissolved Iron (Fe)	ug/L	<50	51	<50	50
Total Iron (Fe)	ug/L	1200	360	730	50
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	<0.50	0.50
Total Lead (Pb)	ug/L	0.66	<0.50	1.0	0.50
Dissolved Magnesium (Mg)	ug/L	900	1800	1200	100
Total Magnesium (Mg)	ug/L	1200	2100	1500	100
Dissolved Manganese (Mn)	ug/L	50	94	4.2	2.0
Total Manganese (Mn)	ug/L	91	100	25	2.0
Dissolved Molybdenum (Mo)	ug/L	<2.0	4.6	<2.0	2.0
Total Molybdenum (Mo)	ug/L	<2.0	5.1	<2.0	2.0
RDL = Reportable Detection Limit					

GHD Limited
Client Project #: 088664-32
Site Location: BEAVER DAM-GW MONITORING
Your P.O. #: 8434
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		KYI428	KYI429	KYI430	
Sampling Date		2019/10/02	2019/10/02	2019/10/02	
COC Number		738606-05-01	738606-05-01	738606-06-01	
	UNITS	DUP3	DUP4	DUP5	RDL
Dissolved Nickel (Ni)	ug/L	3.9	<2.0	<2.0	2.0
Total Nickel (Ni)	ug/L	5.4	<2.0	<2.0	2.0
Dissolved Phosphorus (P)	ug/L	<100	<100	<100	100
Total Phosphorus (P)	ug/L	<100	<100	<100	100
Dissolved Potassium (K)	ug/L	1100	1400	1300	100
Total Potassium (K)	ug/L	1200	1500	1400	100
Dissolved Selenium (Se)	ug/L	<0.50	<0.50	<0.50	0.50
Total Selenium (Se)	ug/L	<0.50	<0.50	<0.50	0.50
Dissolved Silver (Ag)	ug/L	<0.10	<0.10	<0.10	0.10
Total Silver (Ag)	ug/L	<0.10	<0.10	0.28	0.10
Dissolved Sodium (Na)	ug/L	7800	18000	4700	100
Total Sodium (Na)	ug/L	8000	20000	4700	100
Dissolved Strontium (Sr)	ug/L	29	200	72	2.0
Total Strontium (Sr)	ug/L	30	200	72	2.0
Dissolved Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	0.10
Total Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	0.10
Dissolved Tin (Sn)	ug/L	<2.0	<2.0	<2.0	2.0
Total Tin (Sn)	ug/L	<2.0	<2.0	<2.0	2.0
Dissolved Titanium (Ti)	ug/L	<2.0	<2.0	<2.0	2.0
Total Titanium (Ti)	ug/L	30	11	39	2.0
Dissolved Uranium (U)	ug/L	<0.10	0.90	2.4	0.10
Total Uranium (U)	ug/L	<0.10	0.96	2.3	0.10
Dissolved Vanadium (V)	ug/L	<2.0	<2.0	<2.0	2.0
Total Vanadium (V)	ug/L	<2.0	<2.0	3.3	2.0
Dissolved Zinc (Zn)	ug/L	5.9	<5.0	<5.0	5.0
Total Zinc (Zn)	ug/L	8.9	5.7	6.3	5.0

RDL = Reportable Detection Limit

GENERAL COMMENTS

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

Package 1	3.7°C
Package 2	5.0°C
Package 3	3.7°C
Package 4	3.3°C
Package 5	4.3°C
Package 6	3.3°C

Sample KYI380 [MW-01A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample KYI382 [MW-01C] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample KYI383 [MW-02A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample KYI384 [MW-02B] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample KYI385 [MW-03A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample KYI387 [MW-03C] : Poor RCAp Ion Balance due to sample matrix.

Sample KYI390 [MW-05A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Dissolved versus Total Metals (Zn): Re-analysis of new aliquots from client supplied bottles confirmed original results.

Sample KYI391 [MW-05B] : Dissolved versus Total Metals (Sr, Ba): Re-analysis of new aliquots from client supplied bottles confirmed original results.

Sample KYI396 [MW-09A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample KYI399 [MW-11A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample KYI400 [MW-11B] : Dissolved versus Total Metals (As, U, Ca): Re-analysis of new aliquots from client supplied bottles confirmed original results.

Sample KYI402 [MW-12A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample KYI406 [MW-14C] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample KYI408 [MW-16B] : Poor RCAp Ion Balance due to sample matrix.

Sample KYI410 [MW-17B] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample KYI411 [MW-17C] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample KYI412 [MW-18A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample KYI413 [MW-18B] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample KYI415 [MW-19A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample KYI418 [MW-20A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

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Sample KYI419 [MW-20B] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample KYI420 [MW-21A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample KYI421 [MW-21B] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample KYI426 [DUP1] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample KYI427 [DUP2] : Dissolved versus Total Metals (Ba): Re-analysis of new aliquots from client supplied bottles confirmed original results.
Sample KYI400, Metals Water Diss. MS (as rec'd): Test repeated.
Sample KYI405, Metals Water Diss. MS (as rec'd): Test repeated.

Results relate only to the items tested.

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BV Labs Job #: B9R7943
Report Date: 2019/10/18

GHD Limited
Client Project #: 088664-32
Site Location: BEAVER DAM-GW MONITORING
Your P.O. #: 8434
Sampler Initials: JR

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Mike MacGillivray, Scientific Specialist (Inorganics)

BV Labs 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 Signature Page.

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Your P.O. #: 11230
Your Project #: 088664-37
Site#: Beaver Dam GW Monitoring

Attention: Jessica Romo

GHD Limited
120 Western Parkway
Bedford, NS
CANADA B4B 0V2

Your C.O.C. #: 754427-06-01, 754427-01-01, 754427-02-01, 754427-03-01, 754427-04-01, 754427-05-01

Report Date: 2020/05/08
Report #: R6168459
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C0A6911
Received: 2020/05/01, 09:00

Sample Matrix: Water
Samples Received: 51

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Carbonate, Bicarbonate and Hydroxide	40	N/A	2020/05/04	N/A	SM 23 4500-CO2 D
Carbonate, Bicarbonate and Hydroxide	10	N/A	2020/05/05	N/A	SM 23 4500-CO2 D
Carbonate, Bicarbonate and Hydroxide	1	N/A	2020/05/06	N/A	SM 23 4500-CO2 D
Alkalinity	12	N/A	2020/05/05	ATL SOP 00013	EPA 310.2 R1974 m
Alkalinity	38	N/A	2020/05/06	ATL SOP 00013	EPA 310.2 R1974 m
Alkalinity	1	N/A	2020/05/07	ATL SOP 00013	EPA 310.2 R1974 m
Chloride	12	N/A	2020/05/06	ATL SOP 00014	SM 23 4500-Cl- E m
Chloride	39	N/A	2020/05/07	ATL SOP 00014	SM 23 4500-Cl- E m
Colour	51	N/A	2020/05/06	ATL SOP 00020	SM 23 2120C m
Conductance - water	40	N/A	2020/05/04	ATL SOP 00004	SM 23 2510B m
Conductance - water	10	N/A	2020/05/05	ATL SOP 00004	SM 23 2510B m
Conductance - water	1	N/A	2020/05/06	ATL SOP 00004	SM 23 2510B m
Hardness (calculated as CaCO3)	40	N/A	2020/05/05	ATL SOP 00048	Auto Calc
Hardness (calculated as CaCO3)	11	N/A	2020/05/06	ATL SOP 00048	Auto Calc
Metals Water Diss. MS (as rec'd)	45	N/A	2020/05/05	ATL SOP 00058	EPA 6020B R2 m
Metals Water Diss. MS (as rec'd)	6	N/A	2020/05/06	ATL SOP 00058	EPA 6020B R2 m
Metals Water Total MS	46	2020/05/04	2020/05/05	ATL SOP 00058	EPA 6020B R2 m
Metals Water Total MS	5	2020/05/04	2020/05/06	ATL SOP 00058	EPA 6020B R2 m
Ion Balance (% Difference)	10	N/A	2020/05/06	N/A	Auto Calc.
Ion Balance (% Difference)	41	N/A	2020/05/07	N/A	Auto Calc.
Anion and Cation Sum	30	N/A	2020/05/06	N/A	Auto Calc.
Anion and Cation Sum	21	N/A	2020/05/07	N/A	Auto Calc.
Nitrogen Ammonia - water	30	N/A	2020/05/05	ATL SOP 00015	EPA 350.1 R2 m
Nitrogen Ammonia - water	21	N/A	2020/05/06	ATL SOP 00015	EPA 350.1 R2 m
Nitrogen - Nitrate + Nitrite	12	N/A	2020/05/06	ATL SOP 00016	USGS I-2547-11m
Nitrogen - Nitrate + Nitrite	39	N/A	2020/05/07	ATL SOP 00016	USGS I-2547-11m
Nitrogen - Nitrite	12	N/A	2020/05/05	ATL SOP 00017	SM 23 4500-NO2- B m
Nitrogen - Nitrite	39	N/A	2020/05/06	ATL SOP 00017	SM 23 4500-NO2- B m

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Your P.O. #: 11230
Your Project #: 088664-37
Site#: Beaver Dam GW Monitoring

Attention: Jessica Romo

GHD Limited
120 Western Parkway
Bedford, NS
CANADA B4B 0V2

Your C.O.C. #: 754427-06-01, 754427-01-01, 754427-02-01, 754427-03-01, 754427-04-01, 754427-05-01

Report Date: 2020/05/08
Report #: R6168459
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C0A6911
Received: 2020/05/01, 09:00

Sample Matrix: Water
Samples Received: 51

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Nitrogen - Nitrate (as N)	12	N/A	2020/05/06	ATL SOP 00018	ASTM D3867-16
Nitrogen - Nitrate (as N)	39	N/A	2020/05/07	ATL SOP 00018	ASTM D3867-16
pH (1)	40	N/A	2020/05/04	ATL SOP 00003	SM 23 4500-H+ B m
pH (1)	10	N/A	2020/05/05	ATL SOP 00003	SM 23 4500-H+ B m
pH (1)	1	N/A	2020/05/06	ATL SOP 00003	SM 23 4500-H+ B m
Phosphorus - ortho	12	N/A	2020/05/06	ATL SOP 00021	SM 23 4500-P E m
Phosphorus - ortho	39	N/A	2020/05/07	ATL SOP 00021	SM 23 4500-P E m
Sat. pH and Langelier Index (@ 20C)	10	N/A	2020/05/06	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 20C)	41	N/A	2020/05/07	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 4C)	10	N/A	2020/05/06	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 4C)	41	N/A	2020/05/07	ATL SOP 00049	Auto Calc.
Reactive Silica	12	N/A	2020/05/05	ATL SOP 00022	EPA 366.0 m
Reactive Silica	39	N/A	2020/05/06	ATL SOP 00022	EPA 366.0 m
Sulphate	12	N/A	2020/05/05	ATL SOP 00023	ASTM D516-16 m
Sulphate	39	N/A	2020/05/06	ATL SOP 00023	ASTM D516-16 m
Total Dissolved Solids (TDS calc)	10	N/A	2020/05/06	N/A	Auto Calc.
Total Dissolved Solids (TDS calc)	41	N/A	2020/05/07	N/A	Auto Calc.
Organic carbon - Total (TOC) (2)	51	N/A	2020/05/04	ATL SOP 00203	SM 23 5310B m
Turbidity	51	N/A	2020/05/04	ATL SOP 00011	EPA 180.1 R2 m

Remarks:

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

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs 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.

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Your P.O. #: 11230
Your Project #: 088664-37
Site#: Beaver Dam GW Monitoring

Attention: Jessica Romo

GHD Limited
120 Western Parkway
Bedford, NS
CANADA B4B 0V2

Your C.O.C. #: 754427-06-01, 754427-01-01, 754427-02-01, 754427-03-01, 754427-04-01, 754427-05-01

Report Date: 2020/05/08
Report #: R6168459
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C0A6911
Received: 2020/05/01, 09:00

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 BV Labs, results relate to the supplied samples tested.

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) The APHA Standard Method require 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 APHA Standard Method holding time.
(2) TOC / DOC present in the sample should be considered as non-purgeable TOC / DOC.

Encryption Key

AUTHORIZED REPORT
RAPPORT AUTORISÉ

Bureau Veritas Laboratories
08 May 2020 16:56:38

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Maryann Comeau, Project Manager
Email: Maryann.COMEAU@bvlabs.com
Phone# (902)420-0203 Ext:298

==========

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BV Labs 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 Signature Page.

BV Labs Job #: C0A6911
Report Date: 2020/05/08

GHD Limited
Client Project #: 088664-37
Your P.O. #: 11230
Sampler Initials: JR

RESULTS OF ANALYSES OF WATER

BV Labs ID		MNV563	MNV564	MNV565	MNV566	MNV567		MNV567	
Sampling Date		2020/04/30 14:38	2020/04/30 14:49	2020/04/30 14:55	2020/04/30 13:21	2020/04/30 13:29		2020/04/30 13:29	
COC Number		754427-01-01	754427-01-01	754427-01-01	754427-01-01	754427-01-01		754427-01-01	
	UNITS	MW-01A	MW-01B	MW-01C	MW-02A	MW-02B	RDL	MW-02B Lab-Dup	RDL
Calculated Parameters									
Anion Sum	me/L	0.340	1.57	0.550	0.180	0.540	N/A		
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	8.4	62	17	<1.0	17	1.0		
Calculated TDS	mg/L	21	89	32	14	42	1.0		
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	1.0		
Cation Sum	me/L	0.230	1.37	0.430	0.180	0.410	N/A		
Hardness (CaCO3)	mg/L	4.1	57	12	2.8	9.8	1.0		
Ion Balance (% Difference)	%	19.3	6.80	12.2	0.00	13.7	N/A		
Langelier Index (@ 20C)	N/A	-4.26	-0.434	-2.91	NC	-3.17			
Langelier Index (@ 4C)	N/A	-4.52	-0.685	-3.16	NC	-3.42			
Nitrate (N)	mg/L	<0.050	0.056	0.066	<0.050	<0.050	0.050		
Saturation pH (@ 20C)	N/A	10.3	8.25	9.46	NC	9.65			
Saturation pH (@ 4C)	N/A	10.6	8.50	9.72	NC	9.90			
Inorganics									
Total Alkalinity (Total as CaCO3)	mg/L	8.4	62	17	<5.0	17	5.0		
Dissolved Chloride (Cl-)	mg/L	3.0	3.4	4.2	3.5	3.5	1.0		
Colour	TCU	<5.0	<5.0	<5.0	<5.0	<5.0	5.0		
Nitrate + Nitrite (N)	mg/L	<0.050	0.056	0.066	<0.050	<0.050	0.050		
Nitrite (N)	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010		
Nitrogen (Ammonia Nitrogen)	mg/L	0.29	<0.050	0.12	0.071	0.090	0.050	0.062	0.050
Total Organic Carbon (C)	mg/L	<0.50	<0.50	0.68	0.51	<0.50	0.50		
Orthophosphate (P)	mg/L	<0.010	<0.010	<0.010	<0.010	0.075	0.010		
pH	pH	6.06	7.81	6.55	5.51	6.48	N/A		
Reactive Silica (SiO2)	mg/L	3.5	9.9	4.5	2.9	15	0.50		
Dissolved Sulphate (SO4)	mg/L	4.0	11	4.6	4.0	4.5	2.0		
Turbidity	NTU	9.2	13	5.6	77	0.74	0.10		
Conductivity	uS/cm	27	140	46	26	45	1.0		

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

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BV Labs Job #: C0A6911
Report Date: 2020/05/08

GHD Limited
Client Project #: 088664-37
Your P.O. #: 11230
Sampler Initials: JR

RESULTS OF ANALYSES OF WATER

BV Labs ID		MNV568	MNV569	MNV570		MNV570		MNV571	
Sampling Date		2020/04/30 15:12	2020/04/30 15:22	2020/04/30 15:30		2020/04/30 15:30		2020/04/30 14:30	
COC Number		754427-01-01	754427-01-01	754427-01-01		754427-01-01		754427-01-01	
	UNITS	**MW-03A**	**MW-03B**	**MW-03C**	**RDL**	**MW-03C Lab-Dup**	**RDL**	**MW-04A**	**RDL**
Calculated Parameters									
Anion Sum	me/L	0.280	0.990	1.96	N/A			0.310	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	6.1	38	86	1.0			5.6	1.0
Calculated TDS	mg/L	19	60	110	1.0			21	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	<1.0	<1.0	1.0			<1.0	1.0
Cation Sum	me/L	0.200	0.880	1.69	N/A			0.220	N/A
Hardness (CaCO3)	mg/L	3.4	34	70	1.0			5.2	1.0
Ion Balance (% Difference)	%	16.7	5.88	7.40	N/A			17.0	N/A
Langelier Index (@ 20C)	N/A	-4.65	-1.96	-0.439				-4.31	
Langelier Index (@ 4C)	N/A	-4.90	-2.21	-0.690				-4.56	
Nitrate (N)	mg/L	0.29	0.12	0.11	0.050			0.13	0.050
Saturation pH (@ 20C)	N/A	10.6	8.67	8.03				10.4	
Saturation pH (@ 4C)	N/A	10.8	8.92	8.28				10.6	
Inorganics									
Total Alkalinity (Total as CaCO3)	mg/L	6.1	38	86	5.0			5.6	5.0
Dissolved Chloride (Cl-)	mg/L	1.8	4.5	4.0	1.0			3.7	1.0
Colour	TCU	6.7	<5.0	<5.0	5.0			<5.0	5.0
Nitrate + Nitrite (N)	mg/L	0.29	0.12	0.11	0.050			0.13	0.050
Nitrite (N)	mg/L	<0.010	<0.010	<0.010	0.010			<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	<0.050	0.069	0.050			<0.050	0.050
Total Organic Carbon (C)	mg/L	2.3	0.56	<0.50	0.50			0.53	0.50
Orthophosphate (P)	mg/L	<0.010	<0.010	<0.010	0.010			<0.010	0.010
pH	pH	5.93	6.71	7.59	N/A	7.64	N/A	6.06	N/A
Reactive Silica (SiO2)	mg/L	4.1	9.9	12	0.50			4.4	0.50
Dissolved Sulphate (SO4)	mg/L	4.2	4.3	5.8	2.0			3.8	2.0
Turbidity	NTU	29	3.6	2.3	0.10			1.2	0.10
Conductivity	uS/cm	25	93	160	1.0	170	1.0	26	1.0

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RESULTS OF ANALYSES OF WATER

BV Labs ID		MNV572	MNV573		MNV573		MNV574	MNV575	
Sampling Date		2020/04/30 14:35	2020/04/30 13:00		2020/04/30 13:00		2020/04/30 13:10	2020/04/30 13:15	
COC Number		754427-01-01	754427-02-01		754427-02-01		754427-02-01	754427-02-01	
	UNITS	MW-04B	MW-05A	RDL	MW-05A Lab-Dup	RDL	MW-05B	MW-05D	RDL
Calculated Parameters									
Anion Sum	me/L	0.900	0.320	N/A			1.11	1.75	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	31	7.1	1.0			45	67	1.0
Calculated TDS	mg/L	55	20	1.0			66	100	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	<1.0	1.0			<1.0	<1.0	1.0
Cation Sum	me/L	0.750	0.220	N/A			1.03	1.56	N/A
Hardness (CaCO3)	mg/L	29	5.2	1.0			38	54	1.0
Ion Balance (% Difference)	%	9.09	18.5	N/A			3.74	5.74	N/A
Langelier Index (@ 20C)	N/A	-1.75	-4.30				-1.31	-0.231	
Langelier Index (@ 4C)	N/A	-2.00	-4.55				-1.56	-0.482	
Nitrate (N)	mg/L	0.073	0.065	0.050			<0.050	<0.050	0.050
Saturation pH (@ 20C)	N/A	8.82	10.3				8.54	8.27	
Saturation pH (@ 4C)	N/A	9.08	10.5				8.79	8.52	
Inorganics									
Total Alkalinity (Total as CaCO3)	mg/L	31	7.1	5.0			46	67	5.0
Dissolved Chloride (Cl-)	mg/L	3.7	2.8	1.0			2.3	4.8	1.0
Colour	TCU	5.6	<5.0	5.0			<5.0	<5.0	5.0
Nitrate + Nitrite (N)	mg/L	0.073	0.065	0.050			<0.050	<0.050	0.050
Nitrite (N)	mg/L	<0.010	<0.010	0.010			<0.010	<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	0.070	0.21	0.050			0.20	0.089	0.050
Total Organic Carbon (C)	mg/L	0.75	0.57	0.50	<0.50	0.50	0.75	0.89	0.50
Orthophosphate (P)	mg/L	<0.010	<0.010	0.010			<0.010	<0.010	0.010
pH	pH	7.08	5.97	N/A			7.24	8.04	N/A
Reactive Silica (SiO2)	mg/L	9.0	4.1	0.50			9.0	12	0.50
Dissolved Sulphate (SO4)	mg/L	8.3	4.4	2.0			6.4	13	2.0
Turbidity	NTU	2.6	1.5	0.10			14	8.8	0.10
Conductivity	uS/cm	81	26	1.0			110	160	1.0

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RESULTS OF ANALYSES OF WATER

BV Labs ID		MNV576		MNV577		MNV577		MNV578	
Sampling Date		2020/04/30 10:25		2020/04/30 10:35		2020/04/30 10:35		2020/04/30 12:15	
COC Number		754427-02-01		754427-02-01		754427-02-01		754427-02-01	
	UNITS	MW-07A	RDL	MW-07B	RDL	MW-07B Lab-Dup	RDL	MW-07D	RDL
Calculated Parameters									
Anion Sum	me/L	2.40	N/A	6.20	N/A			2.92	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	100	1.0	290	1.0			120	1.0
Calculated TDS	mg/L	150	1.0	330	1.0			170	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	1.0	2.1	1.0			1.7	1.0
Cation Sum	me/L	2.45	N/A	5.83	N/A			2.89	N/A
Hardness (CaCO3)	mg/L	94	1.0	250	1.0			120	1.0
Ion Balance (% Difference)	%	1.03	N/A	3.08	N/A			0.520	N/A
Langelier Index (@ 20C)	N/A	-0.920		0.868				0.468	
Langelier Index (@ 4C)	N/A	-1.17		0.619				0.218	
Nitrate (N)	mg/L	<0.050	0.050	<0.050	0.050			<0.050	0.050
Saturation pH (@ 20C)	N/A	7.93		7.03				7.70	
Saturation pH (@ 4C)	N/A	8.18		7.28				7.95	
Inorganics									
Total Alkalinity (Total as CaCO3)	mg/L	100	10	290	25			130	25
Dissolved Chloride (Cl-)	mg/L	2.9	1.0	4.7	1.0			6.0	1.0
Colour	TCU	51	25	<5.0	5.0			<5.0	5.0
Nitrate + Nitrite (N)	mg/L	<0.050	0.050	<0.050	0.050			<0.050	0.050
Nitrite (N)	mg/L	<0.010	0.010	<0.010	0.010			<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	0.091	0.050	0.094	0.050	0.095	0.050	0.13	0.050
Total Organic Carbon (C)	mg/L	0.92	0.50	4.2	0.50			1.9	0.50
Orthophosphate (P)	mg/L	<0.010	0.010	<0.010	0.010			<0.010	0.010
pH	pH	7.01	N/A	7.90	N/A			8.16	N/A
Reactive Silica (SiO2)	mg/L	20	1.0	16 (1)	1.0			16	0.50
Dissolved Sulphate (SO4)	mg/L	14	2.0	13	2.0			12	2.0
Turbidity	NTU	54	0.10	19	0.10			24	0.10
Conductivity	uS/cm	230	1.0	550	1.0			280	1.0

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(1) Elevated reporting limit due to sample matrix.

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RESULTS OF ANALYSES OF WATER

BV Labs ID		MNV579	MNV580	MNV581	MNV582	MNV583	MNV584	
Sampling Date		2020/04/30 13:50	2020/04/30 13:55	2020/04/30 14:00	2020/04/30 14:10	2020/04/30 14:15	2020/04/30 14:20	
COC Number		754427-02-01	754427-02-01	754427-02-01	754427-02-01	754427-03-01	754427-03-01	
	UNITS	**MW-09A**	**MW-09B**	**MW-09D**	**MW-11A**	**MW-11-B**	**MW-11C**	**RDL**
Calculated Parameters								
Anion Sum	me/L	0.720	2.17	2.61	0.360	1.37	2.38	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	28	81	78	6.1	58	81	1.0
Calculated TDS	mg/L	43	120	160	22	77	140	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Cation Sum	me/L	0.660	1.95	2.42	0.220	1.27	2.14	N/A
Hardness (CaCO3)	mg/L	23	78	86	5.6	53	71	1.0
Ion Balance (% Difference)	%	4.35	5.34	3.78	24.1	3.79	5.31	N/A
Langelier Index (@ 20C)	N/A	-1.92	0.0230	-0.0490	-4.17	-0.582	-0.0920	
Langelier Index (@ 4C)	N/A	-2.17	-0.227	-0.300	-4.42	-0.833	-0.342	
Nitrate (N)	mg/L	0.079	<0.050	<0.050	<0.050	0.077	<0.050	0.050
Saturation pH (@ 20C)	N/A	8.94	8.01	8.02	10.3	8.28	8.06	
Saturation pH (@ 4C)	N/A	9.19	8.26	8.27	10.5	8.53	8.31	
Inorganics								
Total Alkalinity (Total as CaCO3)	mg/L	28	82	79	6.1	58	81	5.0
Dissolved Chloride (Cl-)	mg/L	1.5	2.5	5.3	5.6	2.8	3.8	1.0
Colour	TCU	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.0
Nitrate + Nitrite (N)	mg/L	0.079	<0.050	<0.050	<0.050	0.077	<0.050	0.050
Nitrite (N)	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	0.12	0.18	0.13	0.16	0.050	0.15	0.050
Total Organic Carbon (C)	mg/L	0.52	0.80	5.1	0.62	<0.50	2.4	0.50
Orthophosphate (P)	mg/L	<0.010	0.014	<0.010	<0.010	<0.010	0.013	0.010
pH	pH	7.02	8.03	7.97	6.09	7.70	7.96	N/A
Reactive Silica (SiO2)	mg/L	5.5	9.5	12	3.7	7.5	8.6	0.50
Dissolved Sulphate (SO4)	mg/L	5.1	22	42	3.8	5.8	31	2.0
Turbidity	NTU	4.4	4.9	5.3	14	4.3	2.5	0.10
Conductivity	uS/cm	68	200	250	28	130	220	1.0

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RESULTS OF ANALYSES OF WATER

BV Labs ID		MNV584		MNV585		MNV585		MNV586	MNV587	
Sampling Date		2020/04/30 14:20		2020/04/30 13:30		2020/04/30 13:30		2020/04/30 13:35	2020/04/30 11:15	
COC Number		754427-03-01		754427-03-01		754427-03-01		754427-03-01	754427-03-01	
	UNITS	**MW-11C Lab-Dup**	**RDL**	**MW-12A**	**RDL**	**MW-12A Lab-Dup**	**RDL**	**MW-12B**	**MW-14A**	**RDL**
Calculated Parameters										
Anion Sum	me/L			0.660	N/A			2.56	0.600	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L			24	1.0			96	20	1.0
Calculated TDS	mg/L			48	1.0			150	45	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L			<1.0	1.0			<1.0	<1.0	1.0
Cation Sum	me/L			0.560	N/A			2.33	0.530	N/A
Hardness (CaCO3)	mg/L			16	1.0			70	13	1.0
Ion Balance (% Difference)	%			8.20	N/A			4.70	6.19	N/A
Langelier Index (@ 20C)	N/A			-3.02				-0.165	-2.99	
Langelier Index (@ 4C)	N/A			-3.27				-0.416	-3.24	
Nitrate (N)	mg/L			0.29	0.050			<0.050	0.10	0.050
Saturation pH (@ 20C)	N/A			9.32				8.01	9.43	
Saturation pH (@ 4C)	N/A			9.57				8.26	9.68	
Inorganics										
Total Alkalinity (Total as CaCO3)	mg/L	80	5.0	24	5.0	24	5.0	97	20	5.0
Dissolved Chloride (Cl-)	mg/L	3.7	1.0	2.5	1.0	1.1	1.0	3.1	3.9	1.0
Colour	TCU	<5.0	5.0	<5.0	5.0	<5.0	5.0	<5.0	<5.0	5.0
Nitrate + Nitrite (N)	mg/L	<0.050	0.050	0.29	0.050	0.27	0.050	<0.050	0.10	0.050
Nitrite (N)	mg/L	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L			0.13	0.050			0.21	<0.050	0.050
Total Organic Carbon (C)	mg/L			<0.50	0.50			1.3	<0.50	0.50
Orthophosphate (P)	mg/L	0.013	0.010	0.017	0.010	0.016	0.010	<0.010	<0.010	0.010
pH	pH	8.05	N/A	6.30	N/A			7.84	6.44	N/A
Reactive Silica (SiO2)	mg/L	8.6	0.50	14	0.50	14	0.50	11	14	0.50
Dissolved Sulphate (SO4)	mg/L	31	2.0	4.1	2.0	4.1	2.0	26	3.7	2.0
Turbidity	NTU			28	0.10			13	15	0.10
Conductivity	uS/cm	220	1.0	62	1.0			240	59	1.0

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RESULTS OF ANALYSES OF WATER

BV Labs ID		MNV588	MNV589	MNV590	MNV591	MNV592		MNV592	
Sampling Date		2020/04/30 11:20	2020/04/30 11:25	2020/04/30 10:10	2020/04/30 10:20	2020/04/30 10:45		2020/04/30 10:45	
COC Number		754427-03-01	754427-03-01	754427-03-01	754427-03-01	754427-03-01		754427-03-01	
	UNITS	MW-14B	MW-14C	MW-16A	MW-16B	MW-17A	RDL	MW-17A Lab-Dup	RDL
Calculated Parameters									
Anion Sum	me/L	2.19	1.74	0.900	1.43	0.280	N/A		
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	92	70	39	60	8.4	1.0		
Calculated TDS	mg/L	120	100	53	82	20	1.0		
Carb. Alkalinity (calc. as CaCO3)	mg/L	1.1	1.4	<1.0	<1.0	<1.0	1.0		
Cation Sum	me/L	1.98	1.55	0.810	1.28	0.220	N/A		
Hardness (CaCO3)	mg/L	47	33	26	52	5.4	1.0		
Ion Balance (% Difference)	%	5.04	5.78	5.26	5.54	12.0	N/A		
Langelier Index (@ 20C)	N/A	-0.0760	-0.174	-2.00	-0.271	-4.25			
Langelier Index (@ 4C)	N/A	-0.327	-0.425	-2.26	-0.522	-4.50			
Nitrate (N)	mg/L	<0.050	<0.050	<0.050	0.15	<0.050	0.050		
Saturation pH (@ 20C)	N/A	8.19	8.49	8.77	8.27	10.2			
Saturation pH (@ 4C)	N/A	8.44	8.74	9.02	8.53	10.4			
Inorganics									
Total Alkalinity (Total as CaCO3)	mg/L	93	72	39	61	8.4	5.0		
Dissolved Chloride (Cl-)	mg/L	3.1	2.9	2.0	2.8	1.5	1.0		
Colour	TCU	<5.0	<5.0	<5.0	<5.0	<5.0	5.0		
Nitrate + Nitrite (N)	mg/L	<0.050	<0.050	<0.050	0.15	<0.050	0.050		
Nitrite (N)	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010		
Nitrogen (Ammonia Nitrogen)	mg/L	0.089	<0.050	<0.050	<0.050	<0.050	0.050		
Total Organic Carbon (C)	mg/L	1.3	<0.50	1.2	<0.50	0.62	0.50	0.57	0.50
Orthophosphate (P)	mg/L	0.014	<0.010	<0.010	<0.010	<0.010	0.010		
pH	pH	8.12	8.31	6.77	8.00	5.94	N/A		
Reactive Silica (SiO2)	mg/L	7.8	11	6.8	9.9	5.4	0.50		
Dissolved Sulphate (SO4)	mg/L	11	11	3.5	5.9	3.5	2.0		
Turbidity	NTU	23	2.6	58	4.3	49	0.10		
Conductivity	uS/cm	200	160	85	130	28	1.0		

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RESULTS OF ANALYSES OF WATER

BV Labs ID		MNV593	MNV594	MNV595	MNV596	MNV597		MNV597	
Sampling Date		2020/04/30 11:00	2020/04/30 11:00	2020/04/30 09:30	2020/04/30 09:40	2020/04/30 09:45		2020/04/30 09:45	
COC Number		754427-04-01	754427-04-01	754427-04-01	754427-04-01	754427-04-01		754427-04-01	
	UNITS	MW-17B	MW-17C	MW-18A	MW-18B	MW-18C	RDL	MW-18C Lab-Dup	RDL
Calculated Parameters									
Anion Sum	me/L	0.330	0.310	0.260	1.21	2.46	N/A		
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	9.6	8.4	6.1	44	81	1.0		
Calculated TDS	mg/L	26	26	19	76	140	1.0		
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	1.0		
Cation Sum	me/L	0.270	0.300	0.230	1.14	2.11	N/A		
Hardness (CaCO3)	mg/L	6.5	8.0	5.2	44	57	1.0		
Ion Balance (% Difference)	%	10.0	1.64	6.12	2.98	7.66	N/A		
Langelier Index (@ 20C)	N/A	-4.00	-3.78	-4.27	-0.762	-0.494			
Langelier Index (@ 4C)	N/A	-4.25	-4.03	-4.53	-1.01	-0.745			
Nitrate (N)	mg/L	<0.050	0.055	<0.050	<0.050	<0.050	0.050		
Saturation pH (@ 20C)	N/A	10.1	10.0	10.4	8.50	8.17			
Saturation pH (@ 4C)	N/A	10.4	10.3	10.6	8.75	8.42			
Inorganics									
Total Alkalinity (Total as CaCO3)	mg/L	9.6	8.4	6.1	44	81	5.0	79	5.0
Dissolved Chloride (Cl-)	mg/L	2.8	2.6	2.2	2.1	5.8	1.0	6.4	1.0
Colour	TCU	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	<5.0	5.0
Nitrate + Nitrite (N)	mg/L	<0.050	0.055	<0.050	<0.050	<0.050	0.050	0.073	0.050
Nitrite (N)	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	<0.050	0.081	0.14	0.089	0.050		
Total Organic Carbon (C)	mg/L	<0.50	<0.50	<0.50	<0.50	4.4	0.50		
Orthophosphate (P)	mg/L	0.021	0.020	<0.010	0.038	0.019	0.010	0.026	0.010
pH	pH	6.11	6.24	6.08	7.74	7.67	N/A		
Reactive Silica (SiO2)	mg/L	8.9	9.5	5.3	11	12	0.50	12	0.50
Dissolved Sulphate (SO4)	mg/L	2.7	2.8	3.5	13	32	2.0	33	2.0
Turbidity	NTU	1.6	1.4	4.3	7.6	5.3	0.10		
Conductivity	uS/cm	32	36	28	120	230	1.0		

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

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Report Date: 2020/05/08

GHD Limited
Client Project #: 088664-37
Your P.O. #: 11230
Sampler Initials: JR

RESULTS OF ANALYSES OF WATER

BV Labs ID		MNV598	MNV599	MNV600	MNV601		MNV601	
Sampling Date		2020/04/30 13:50	2020/04/30 14:02	2020/04/30 14:11	2020/04/30 12:57		2020/04/30 12:57	
COC Number		754427-04-01	754427-04-01	754427-04-01	754427-04-01		754427-04-01	
	UNITS	**MW-19A**	**MW-19B**	**MW-19C**	**MW-20A**	**RDL**	**MW-20A Lab-Dup**	**RDL**
Calculated Parameters								
Anion Sum	me/L	0.290	1.43	0.950	0.0400	N/A		
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	8.7	58	37	<1.0	1.0		
Calculated TDS	mg/L	19	84	59	8.0	1.0		
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	<1.0	<1.0	<1.0	1.0		
Cation Sum	me/L	0.200	1.36	0.880	0.130	N/A		
Hardness (CaCO3)	mg/L	3.0	57	30	3.2	1.0		
Ion Balance (% Difference)	%	18.4	2.51	3.83	52.9	N/A		
Langelier Index (@ 20C)	N/A	-4.47	-0.480	-1.45	NC			
Langelier Index (@ 4C)	N/A	-4.72	-0.732	-1.70	NC			
Nitrate (N)	mg/L	<0.050	<0.050	<0.050	0.56	0.050		
Saturation pH (@ 20C)	N/A	10.5	8.26	8.72	NC			
Saturation pH (@ 4C)	N/A	10.8	8.51	8.97	NC			
Inorganics								
Total Alkalinity (Total as CaCO3)	mg/L	8.7	58	37	<5.0	5.0		
Dissolved Chloride (Cl-)	mg/L	1.0	2.0	2.2	<1.0	1.0		
Colour	TCU	7.1	<5.0	<5.0	<5.0	5.0		
Nitrate + Nitrite (N)	mg/L	<0.050	<0.050	<0.050	0.56	0.050		
Nitrite (N)	mg/L	<0.010	<0.010	<0.010	<0.010	0.010		
Nitrogen (Ammonia Nitrogen)	mg/L	0.097	0.11	0.16	<0.050	0.050		
Total Organic Carbon (C)	mg/L	1.8	<0.50	0.58	1.2	0.50		
Orthophosphate (P)	mg/L	<0.010	<0.010	<0.010	<0.010	0.010		
pH	pH	6.06	7.78	7.27	5.15	N/A		
Reactive Silica (SiO2)	mg/L	4.4	9.6	9.2	3.2	0.50		
Dissolved Sulphate (SO4)	mg/L	4.0	10	7.0	<2.0	2.0		
Turbidity	NTU	19	2.4	6.3	3.0	0.10	3.3	0.10
Conductivity	uS/cm	27	140	94	29	1.0		

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RESULTS OF ANALYSES OF WATER

BV Labs ID		MNV602	MNV603	MNV604	MNV605		MNV605	
Sampling Date		2020/04/30 13:03	2020/04/30 08:55	2020/04/30 09:08	2020/04/30 09:16		2020/04/30 09:16	
COC Number		754427-04-01	754427-05-01	754427-05-01	754427-05-01		754427-05-01	
	UNITS	MW-20B	MW-21A	MW-21B	MW-21C	RDL	MW-21C Lab-Dup	RDL
Calculated Parameters								
Anion Sum	me/L	0.260	0.280	0.300	1.34	N/A		
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	5.8	9.0	9.9	38	1.0		
Calculated TDS	mg/L	19	21	21	85	1.0		
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	<1.0	<1.0	<1.0	1.0		
Cation Sum	me/L	0.220	0.260	0.260	1.20	N/A		
Hardness (CaCO3)	mg/L	5.6	5.9	7.7	25	1.0		
Ion Balance (% Difference)	%	8.33	3.70	7.14	5.51	N/A		
Langelier Index (@ 20C)	N/A	-4.63	-3.93	-4.12	-2.16			
Langelier Index (@ 4C)	N/A	-4.88	-4.19	-4.37	-2.41			
Nitrate (N)	mg/L	0.30	0.066	0.12	<0.050	0.050		
Saturation pH (@ 20C)	N/A	10.4	10.2	10.0	8.95			
Saturation pH (@ 4C)	N/A	10.6	10.4	10.3	9.20			
Inorganics								
Total Alkalinity (Total as CaCO3)	mg/L	5.8	9.0	9.9	38	5.0		
Dissolved Chloride (Cl-)	mg/L	2.0	1.3	1.2	3.4	1.0		
Colour	TCU	<5.0	<5.0	<5.0	5.5	5.0		
Nitrate + Nitrite (N)	mg/L	0.30	0.066	0.12	<0.050	0.050		
Nitrite (N)	mg/L	<0.010	<0.010	<0.010	0.011	0.010		
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	<0.050	<0.050	<0.050	0.050		
Total Organic Carbon (C)	mg/L	<0.50	3.3	1.8	8.6	0.50	8.7	0.50
Orthophosphate (P)	mg/L	<0.010	<0.010	0.020	<0.010	0.010		
pH	pH	5.76	6.22	5.91	6.79	N/A		
Reactive Silica (SiO2)	mg/L	4.9	5.2	5.3	10	0.50		
Dissolved Sulphate (SO4)	mg/L	3.2	3.1	2.9	24	2.0		
Turbidity	NTU	0.16	58	1.9	31	0.10		
Conductivity	uS/cm	29	30	29	130	1.0		

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RESULTS OF ANALYSES OF WATER

BV Labs ID		MNV606	MNV607		MNV607		MNV608	MNV609	
Sampling Date		2020/04/30 12:35	2020/04/30 12:30		2020/04/30 12:30		2020/04/30 12:20	2020/04/30	
COC Number		754427-05-01	754427-05-01		754427-05-01		754427-05-01	754427-05-01	
	UNITS	MW-22A	MW-22B	RDL	MW-22B Lab-Dup	RDL	MW-22C	DUP1	RDL
Calculated Parameters									
Anion Sum	me/L	0.330	0.780	N/A			1.80	0.290	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	6.9	26	1.0			75	8.9	1.0
Calculated TDS	mg/L	23	50	1.0			100	21	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	<1.0	1.0			<1.0	<1.0	1.0
Cation Sum	me/L	0.250	0.700	N/A			1.59	0.250	N/A
Hardness (CaCO3)	mg/L	2.5	20	1.0			44	5.9	1.0
Ion Balance (% Difference)	%	13.8	5.41	N/A			6.19	7.41	N/A
Langelier Index (@ 20C)	N/A	-4.90	-2.33				-0.761	-4.04	
Langelier Index (@ 4C)	N/A	-5.15	-2.59				-1.01	-4.29	
Nitrate (N)	mg/L	<0.050	<0.050	0.050			<0.050	<0.050	0.050
Saturation pH (@ 20C)	N/A	10.8	9.12				8.32	10.2	
Saturation pH (@ 4C)	N/A	11.0	9.37				8.57	10.4	
Inorganics									
Total Alkalinity (Total as CaCO3)	mg/L	6.9	26	5.0			76	8.9	5.0
Dissolved Chloride (Cl-)	mg/L	2.3	2.9	1.0			3.5	1.3	1.0
Colour	TCU	<5.0	<5.0	5.0			<5.0	5.6	5.0
Nitrate + Nitrite (N)	mg/L	<0.050	<0.050	0.050			<0.050	<0.050	0.050
Nitrite (N)	mg/L	<0.010	<0.010	0.010			<0.010	<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	<0.050	0.050	<0.050	0.050	0.071	<0.050	0.050
Total Organic Carbon (C)	mg/L	1.1	1.0	0.50			2.7	3.3	0.50
Orthophosphate (P)	mg/L	<0.010	<0.010	0.010			<0.010	<0.010	0.010
pH	pH	5.85	6.79	N/A			7.56	6.13	N/A
Reactive Silica (SiO2)	mg/L	4.9	8.0	0.50			10	5.1	0.50
Dissolved Sulphate (SO4)	mg/L	5.9	8.9	2.0			9.1	3.8	2.0
Turbidity	NTU	9.4	2.2	0.10			12	58	0.10
Conductivity	uS/cm	33	77	1.0			160	30	1.0

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RESULTS OF ANALYSES OF WATER

BV Labs ID		MNV609		MNV610		MNV611	MNV612	MNV613	
Sampling Date		2020/04/30		2020/04/30		2020/04/30	2020/04/30	2020/04/30	
COC Number		754427-05-01		754427-05-01		754427-05-01	754427-05-01	754427-06-01	
	UNITS	DUP1 Lab-Dup	RDL	DUP2	RDL	DUP3	DUP4	DUP5	RDL
Calculated Parameters									
Anion Sum	me/L			6.26	N/A	0.960	0.280	1.05	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L			290	1.0	37	8.4	42	1.0
Calculated TDS	mg/L			330	1.0	59	20	64	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L			2.0	1.0	<1.0	<1.0	<1.0	1.0
Cation Sum	me/L			5.76	N/A	0.860	0.230	1.01	N/A
Hardness (CaCO3)	mg/L			240	1.0	30	5.3	38	1.0
Ion Balance (% Difference)	%			4.16	N/A	5.49	9.80	1.94	N/A
Langelier Index (@ 20C)	N/A			0.818		-1.33	-4.35	-1.24	
Langelier Index (@ 4C)	N/A			0.569		-1.58	-4.60	-1.49	
Nitrate (N)	mg/L			<0.050	0.050	<0.050	<0.050	<0.050	0.050
Saturation pH (@ 20C)	N/A			7.04		8.72	10.2	8.58	
Saturation pH (@ 4C)	N/A			7.29		8.97	10.4	8.83	
Inorganics									
Total Alkalinity (Total as CaCO3)	mg/L	10	5.0	290	25	37	8.4	42	5.0
Dissolved Chloride (Cl-)	mg/L	1.4	1.0	4.3	1.0	2.3	1.7	2.3	1.0
Colour	TCU	<5.0	5.0	<5.0	5.0	<5.0	<5.0	<5.0	5.0
Nitrate + Nitrite (N)	mg/L	<0.050	0.050	<0.050	0.050	<0.050	<0.050	<0.050	0.050
Nitrite (N)	mg/L	<0.010	0.010	<0.010	0.010	<0.010	<0.010	<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L			0.13	0.050	0.087	0.17	0.18	0.050
Total Organic Carbon (C)	mg/L			4.1	0.50	0.73	<0.50	0.72	0.50
Orthophosphate (P)	mg/L	<0.010	0.010	<0.010	0.010	<0.010	<0.010	<0.010	0.010
pH	pH			7.85	N/A	7.40	5.84	7.34	N/A
Reactive Silica (SiO2)	mg/L	5.2	0.50	24	1.0	9.2	5.5	9.0	0.50
Dissolved Sulphate (SO4)	mg/L	3.0	2.0	15	2.0	7.1	3.3	6.5	2.0
Turbidity	NTU	58	0.10	23	0.10	8.8	4.1	14	0.10
Conductivity	uS/cm			550	1.0	93	27	100	1.0

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RESULTS OF ANALYSES OF WATER

BV Labs ID		MNV613	
Sampling Date		2020/04/30	
COC Number		754427-06-01	
	UNITS	DUP5 Lab-Dup	RDL
Inorganics			
pH	pH	7.40	N/A
Conductivity	uS/cm	110	1.0

RDL = Reportable Detection Limit
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N/A = Not Applicable

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ELEMENTS BY ICP/MS (WATER)

BV Labs ID		MNV563	MNV564	MNV565	MNV566	MNV567	MNV568	MNV569	
Sampling Date		2020/04/30 14:38	2020/04/30 14:49	2020/04/30 14:55	2020/04/30 13:21	2020/04/30 13:29	2020/04/30 15:12	2020/04/30 15:22	
COC Number		754427-01-01	754427-01-01	754427-01-01	754427-01-01	754427-01-01	754427-01-01	754427-01-01	
	UNITS	MW-01A	MW-01B	MW-01C	MW-02A	MW-02B	MW-03A	MW-03B	RDL
Metals									
Dissolved Aluminum (Al)	ug/L	16	7.7	5.8	290	<5.0	130	<5.0	5.0
Total Aluminum (Al)	ug/L	500	550	270	3600	35	1200	86	5.0
Dissolved Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Arsenic (As)	ug/L	<1.0	2.7	<1.0	<1.0	2.4	<1.0	<1.0	1.0
Total Arsenic (As)	ug/L	<1.0	2.7	<1.0	3.5	2.4	<1.0	<1.0	1.0
Dissolved Barium (Ba)	ug/L	5.9	5.9	4.4	5.9	2.6	5.0	2.5	1.0
Total Barium (Ba)	ug/L	9.4	8.9	5.6	23	2.7	9.4	3.6	1.0
Dissolved Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Boron (B)	ug/L	<50	<50	<50	<50	<50	<50	<50	50
Total Boron (B)	ug/L	<50	<50	<50	<50	<50	<50	<50	50
Dissolved Cadmium (Cd)	ug/L	0.017	<0.010	0.018	0.019	0.44	0.020	0.020	0.010
Total Cadmium (Cd)	ug/L	0.021	0.012	0.027	0.026	0.43	0.021	0.026	0.010
Dissolved Calcium (Ca)	ug/L	1100	20000	4100	450	2600	820	12000	100
Total Calcium (Ca)	ug/L	1100	20000	4000	520	2700	900	11000	100
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Chromium (Cr)	ug/L	1.2	<1.0	<1.0	4.1	<1.0	<1.0	<1.0	1.0
Dissolved Cobalt (Co)	ug/L	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	0.40
Total Cobalt (Co)	ug/L	1.4	<0.40	0.49	2.1	<0.40	<0.40	<0.40	0.40
Dissolved Copper (Cu)	ug/L	0.70	<0.50	<0.50	2.1	0.61	2.0	0.54	0.50
Total Copper (Cu)	ug/L	2.2	1.6	1.7	11	0.80	3.0	1.1	0.50
Dissolved Iron (Fe)	ug/L	<50	<50	<50	<50	<50	<50	<50	50
Total Iron (Fe)	ug/L	860	430	180	4600	<50	600	100	50
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Total Lead (Pb)	ug/L	0.95	0.79	0.61	2.7	<0.50	1.2	<0.50	0.50
Dissolved Magnesium (Mg)	ug/L	360	1900	530	400	770	330	1200	100
Total Magnesium (Mg)	ug/L	560	2100	580	1400	810	490	1200	100
Dissolved Manganese (Mn)	ug/L	44	<2.0	15	27	2.8	38	<2.0	2.0
Total Manganese (Mn)	ug/L	110	9.8	39	120	3.7	61	3.9	2.0
Dissolved Molybdenum (Mo)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Molybdenum (Mo)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Nickel (Ni)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	2.6	<2.0	2.0

RDL = Reportable Detection Limit

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BV Labs Job #: C0A6911
Report Date: 2020/05/08

GHD Limited
Client Project #: 088664-37
Your P.O. #: 11230
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		MNV563	MNV564	MNV565	MNV566	MNV567	MNV568	MNV569	
Sampling Date		2020/04/30 14:38	2020/04/30 14:49	2020/04/30 14:55	2020/04/30 13:21	2020/04/30 13:29	2020/04/30 15:12	2020/04/30 15:22	
COC Number		754427-01-01	754427-01-01	754427-01-01	754427-01-01	754427-01-01	754427-01-01	754427-01-01	
	UNITS	**MW-01A**	**MW-01B**	**MW-01C**	**MW-02A**	**MW-02B**	**MW-03A**	**MW-03B**	**RDL**
Total Nickel (Ni)	ug/L	<2.0	<2.0	2.2	4.9	<2.0	3.3	<2.0	2.0
Dissolved Phosphorus (P)	ug/L	<100	<100	<100	<100	<100	<100	<100	100
Total Phosphorus (P)	ug/L	<100	<100	<100	160	<100	<100	<100	100
Dissolved Potassium (K)	ug/L	450	1200	670	110	490	510	830	100
Total Potassium (K)	ug/L	590	1300	670	760	490	570	780	100
Dissolved Selenium (Se)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Total Selenium (Se)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Dissolved Silver (Ag)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Total Silver (Ag)	ug/L	0.10	<0.10	0.11	0.74	0.11	0.27	0.13	0.10
Dissolved Sodium (Na)	ug/L	2700	4500	3500	2600	4500	2600	4300	100
Total Sodium (Na)	ug/L	2900	4700	3400	2600	4600	2500	4200	100
Dissolved Strontium (Sr)	ug/L	9.6	47	23	4.8	17	8.2	24	2.0
Total Strontium (Sr)	ug/L	9.7	49	22	5.9	17	9.3	24	2.0
Dissolved Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Total Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Dissolved Tin (Sn)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Tin (Sn)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Titanium (Ti)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Titanium (Ti)	ug/L	25	17	9.9	120	<2.0	13	5.3	2.0
Dissolved Uranium (U)	ug/L	<0.10	0.66	0.15	<0.10	0.90	<0.10	0.24	0.10
Total Uranium (U)	ug/L	<0.10	0.81	0.22	0.23	0.94	0.31	0.25	0.10
Dissolved Vanadium (V)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Vanadium (V)	ug/L	<2.0	<2.0	<2.0	3.9	<2.0	<2.0	<2.0	2.0
Dissolved Zinc (Zn)	ug/L	<5.0	6.0	10	<5.0	95	<5.0	10	5.0
Total Zinc (Zn)	ug/L	<5.0	<5.0	6.8	11	93	<5.0	<5.0	5.0

RDL = Reportable Detection Limit

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ELEMENTS BY ICP/MS (WATER)

BV Labs ID		MNV570	MNV571	MNV572	MNV573	MNV574	MNV575	MNV576	
Sampling Date		2020/04/30 15:30	2020/04/30 14:30	2020/04/30 14:35	2020/04/30 13:00	2020/04/30 13:10	2020/04/30 13:15	2020/04/30 10:25	
COC Number		754427-01-01	754427-01-01	754427-01-01	754427-02-01	754427-02-01	754427-02-01	754427-02-01	
	UNITS	MW-03C	MW-04A	MW-04B	MW-05A	MW-05B	MW-05D	MW-07A	RDL
Metals									
Dissolved Aluminum (Al)	ug/L	<5.0	36	<5.0	34	<5.0	18	<5.0	5.0
Total Aluminum (Al)	ug/L	48	67	63	94	1100	510	160	5.0
Dissolved Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Arsenic (As)	ug/L	1.6	<1.0	<1.0	<1.0	<1.0	<1.0	5.3	1.0
Total Arsenic (As)	ug/L	1.8	<1.0	<1.0	<1.0	2.0	<1.0	33	1.0
Dissolved Barium (Ba)	ug/L	3.2	3.5	1.6	5.6	7.9	5.0	5.5	1.0
Total Barium (Ba)	ug/L	3.6	3.3	2.0	5.7	11	6.2	5.6	1.0
Dissolved Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Boron (B)	ug/L	<50	<50	<50	<50	<50	<50	<50	50
Total Boron (B)	ug/L	<50	<50	<50	<50	<50	<50	<50	50
Dissolved Cadmium (Cd)	ug/L	0.012	0.014	<0.010	0.019	<0.010	<0.010	<0.010	0.010
Total Cadmium (Cd)	ug/L	<0.010	0.015	<0.010	0.019	<0.010	<0.010	0.012	0.010
Dissolved Calcium (Ca)	ug/L	24000	1500	10000	1400	13000	18000	27000	100
Total Calcium (Ca)	ug/L	24000	1400	10000	1400	13000	18000	26000	100
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Cobalt (Co)	ug/L	<0.40	<0.40	<0.40	1.1	<0.40	<0.40	<0.40	0.40
Total Cobalt (Co)	ug/L	<0.40	<0.40	<0.40	1.2	<0.40	<0.40	<0.40	0.40
Dissolved Copper (Cu)	ug/L	<0.50	1.2	1.7	12	<0.50	<0.50	<0.50	0.50
Total Copper (Cu)	ug/L	0.91	1.5	3.8	12	1.4	<0.50	0.60	0.50
Dissolved Iron (Fe)	ug/L	<50	<50	<50	<50	<50	<50	3900	50
Total Iron (Fe)	ug/L	59	<50	89	61	570	290	6300	50
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Total Lead (Pb)	ug/L	<0.50	<0.50	<0.50	0.96	0.74	0.61	<0.50	0.50
Dissolved Magnesium (Mg)	ug/L	2300	370	1000	380	1300	2300	6600	100
Total Magnesium (Mg)	ug/L	2400	380	1100	390	1500	2400	6600	100
Dissolved Manganese (Mn)	ug/L	3.8	5.7	3.0	27	42	23	490	2.0
Total Manganese (Mn)	ug/L	16	5.6	6.7	28	46	31	510	2.0
Dissolved Molybdenum (Mo)	ug/L	<2.0	<2.0	<2.0	<2.0	2.0	<2.0	<2.0	2.0
Total Molybdenum (Mo)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Nickel (Ni)	ug/L	<2.0	<2.0	<2.0	4.7	<2.0	<2.0	<2.0	2.0

RDL = Reportable Detection Limit

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BV Labs Job #: C0A6911
Report Date: 2020/05/08

GHD Limited
Client Project #: 088664-37
Your P.O. #: 11230
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		MNV570	MNV571	MNV572	MNV573	MNV574	MNV575	MNV576	
Sampling Date		2020/04/30 15:30	2020/04/30 14:30	2020/04/30 14:35	2020/04/30 13:00	2020/04/30 13:10	2020/04/30 13:15	2020/04/30 10:25	
COC Number		754427-01-01	754427-01-01	754427-01-01	754427-02-01	754427-02-01	754427-02-01	754427-02-01	
	UNITS	MW-03C	MW-04A	MW-04B	MW-05A	MW-05B	MW-05D	MW-07A	RDL
Total Nickel (Ni)	ug/L	<2.0	<2.0	<2.0	4.8	<2.0	<2.0	<2.0	2.0
Dissolved Phosphorus (P)	ug/L	<100	<100	<100	<100	<100	<100	<100	100
Total Phosphorus (P)	ug/L	<100	<100	<100	<100	<100	<100	<100	100
Dissolved Potassium (K)	ug/L	1700	290	490	330	950	930	1700	100
Total Potassium (K)	ug/L	1700	280	470	330	980	990	1700	100
Dissolved Selenium (Se)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Total Selenium (Se)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Dissolved Silver (Ag)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Total Silver (Ag)	ug/L	<0.10	0.11	<0.10	0.12	<0.10	<0.10	<0.10	0.10
Dissolved Sodium (Na)	ug/L	5300	2500	3500	2200	5100	10000	8800	100
Total Sodium (Na)	ug/L	5300	2500	3500	2200	5200	11000	8900	100
Dissolved Strontium (Sr)	ug/L	61	13	58	9.0	80	160	140	2.0
Total Strontium (Sr)	ug/L	64	12	58	8.2	79	160	140	2.0
Dissolved Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Total Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Dissolved Tin (Sn)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	2.5	<2.0	2.0
Total Tin (Sn)	ug/L	<2.0	<2.0	<2.0	<2.0	5.7	<2.0	<2.0	2.0
Dissolved Titanium (Ti)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Titanium (Ti)	ug/L	3.5	<2.0	3.1	<2.0	20	11	6.1	2.0
Dissolved Uranium (U)	ug/L	1.2	<0.10	<0.10	<0.10	0.24	0.31	<0.10	0.10
Total Uranium (U)	ug/L	1.3	<0.10	<0.10	<0.10	0.40	0.42	<0.10	0.10
Dissolved Vanadium (V)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Vanadium (V)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Zinc (Zn)	ug/L	14	<5.0	12	11	7.0	<5.0	<5.0	5.0
Total Zinc (Zn)	ug/L	11	<5.0	10	9.1	7.5	<5.0	<5.0	5.0

RDL = Reportable Detection Limit

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BV Labs Job #: C0A6911
Report Date: 2020/05/08

GHD Limited
Client Project #: 088664-37
Your P.O. #: 11230
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		MNV576		MNV577	MNV578	MNV579	MNV580	MNV581	
Sampling Date		2020/04/30 10:25		2020/04/30 10:35	2020/04/30 12:15	2020/04/30 13:50	2020/04/30 13:55	2020/04/30 14:00	
COC Number		754427-02-01		754427-02-01	754427-02-01	754427-02-01	754427-02-01	754427-02-01	
	UNITS	MW-07A Lab-Dup	RDL	MW-07B	MW-07D	MW-09A	MW-09B	MW-09D	RDL
Metals									
Dissolved Aluminum (Al)	ug/L			<5.0	<5.0	6.7	<5.0	<5.0	5.0
Total Aluminum (Al)	ug/L	170	5.0	580	1700	210	280	190	5.0
Dissolved Antimony (Sb)	ug/L			<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Antimony (Sb)	ug/L	<1.0	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Arsenic (As)	ug/L			31	170	2.8	96	110	1.0
Total Arsenic (As)	ug/L	32	1.0	36	180	3.6	99	130	1.0
Dissolved Barium (Ba)	ug/L			17	5.9	4.6	14	9.4	1.0
Total Barium (Ba)	ug/L	5.5	1.0	24	14	6.6	14	9.5	1.0
Dissolved Beryllium (Be)	ug/L			<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Beryllium (Be)	ug/L	<1.0	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Bismuth (Bi)	ug/L			<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Bismuth (Bi)	ug/L	<2.0	2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Boron (B)	ug/L			<50	<50	<50	<50	<50	50
Total Boron (B)	ug/L	<50	50	<50	<50	<50	<50	<50	50
Dissolved Cadmium (Cd)	ug/L			<0.010	<0.010	0.029	<0.010	<0.010	0.010
Total Cadmium (Cd)	ug/L	0.010	0.010	0.025	<0.010	0.029	<0.010	<0.010	0.010
Dissolved Calcium (Ca)	ug/L			87000	39000	8100	27000	28000	100
Total Calcium (Ca)	ug/L	26000	100	85000	40000	7900	28000	28000	100
Dissolved Chromium (Cr)	ug/L			<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Chromium (Cr)	ug/L	<1.0	1.0	<1.0	1.1	<1.0	<1.0	<1.0	1.0
Dissolved Cobalt (Co)	ug/L			<0.40	<0.40	0.71	<0.40	<0.40	0.40
Total Cobalt (Co)	ug/L	<0.40	0.40	0.40	0.69	0.83	<0.40	<0.40	0.40
Dissolved Copper (Cu)	ug/L			<0.50	<0.50	0.96	<0.50	<0.50	0.50
Total Copper (Cu)	ug/L	0.60	0.50	1.5	1.8	2.1	<0.50	0.96	0.50
Dissolved Iron (Fe)	ug/L			<50	<50	<50	<50	<50	50
Total Iron (Fe)	ug/L	6100	50	790	1600	140	110	130	50
Dissolved Lead (Pb)	ug/L			<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Total Lead (Pb)	ug/L	<0.50	0.50	0.90	1.4	<0.50	<0.50	<0.50	0.50
Dissolved Magnesium (Mg)	ug/L			7400	5800	610	2300	3700	100
Total Magnesium (Mg)	ug/L	6500	100	7300	6300	620	2300	3900	100
Dissolved Manganese (Mn)	ug/L			990	52	38	42	53	2.0
Total Manganese (Mn)	ug/L	490	2.0	1000	81	43	45	56	2.0
Dissolved Molybdenum (Mo)	ug/L			<2.0	<2.0	<2.0	4.5	3.5	2.0
Total Molybdenum (Mo)	ug/L	<2.0	2.0	<2.0	<2.0	<2.0	4.5	3.7	2.0

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate

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BV Labs Job #: C0A6911
Report Date: 2020/05/08

GHD Limited
Client Project #: 088664-37
Your P.O. #: 11230
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		MNV576		MNV577	MNV578	MNV579	MNV580	MNV581	
Sampling Date		2020/04/30 10:25		2020/04/30 10:35	2020/04/30 12:15	2020/04/30 13:50	2020/04/30 13:55	2020/04/30 14:00	
COC Number		754427-02-01		754427-02-01	754427-02-01	754427-02-01	754427-02-01	754427-02-01	
	UNITS	MW-07A Lab-Dup	RDL	MW-07B	MW-07D	MW-09A	MW-09B	MW-09D	RDL
Dissolved Nickel (Ni)	ug/L			<2.0	<2.0	3.9	<2.0	<2.0	2.0
Total Nickel (Ni)	ug/L	<2.0	2.0	<2.0	<2.0	4.3	<2.0	<2.0	2.0
Dissolved Phosphorus (P)	ug/L			<100	<100	<100	<100	<100	100
Total Phosphorus (P)	ug/L	<100	100	<100	<100	<100	<100	<100	100
Dissolved Potassium (K)	ug/L			2900	1200	430	1100	1000	100
Total Potassium (K)	ug/L	1600	100	3000	1400	430	1100	1000	100
Dissolved Selenium (Se)	ug/L			<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Total Selenium (Se)	ug/L	<0.50	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Dissolved Silver (Ag)	ug/L			<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Total Silver (Ag)	ug/L	<0.10	0.10	0.21	<0.10	0.42	<0.10	0.11	0.10
Dissolved Sodium (Na)	ug/L			19000	10000	4200	8100	15000	100
Total Sodium (Na)	ug/L	8700	100	19000	10000	4100	8300	15000	100
Dissolved Strontium (Sr)	ug/L			330	330	16	370	610	2.0
Total Strontium (Sr)	ug/L	140	2.0	330	340	16	390	620	2.0
Dissolved Thallium (Tl)	ug/L			<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Total Thallium (Tl)	ug/L	<0.10	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Dissolved Tin (Sn)	ug/L			<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Tin (Sn)	ug/L	<2.0	2.0	2.6	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Titanium (Ti)	ug/L			<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Titanium (Ti)	ug/L	5.6	2.0	19	40	3.6	8.4	4.1	2.0
Dissolved Uranium (U)	ug/L			2.3	0.63	0.20	5.5	1.7	0.10
Total Uranium (U)	ug/L	<0.10	0.10	2.4	0.97	0.23	5.6	1.7	0.10
Dissolved Vanadium (V)	ug/L			<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Vanadium (V)	ug/L	<2.0	2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Zinc (Zn)	ug/L			<5.0	<5.0	6.2	<5.0	<5.0	5.0
Total Zinc (Zn)	ug/L	<5.0	5.0	6.5	5.2	<5.0	<5.0	<5.0	5.0

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate

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BV Labs Job #: C0A6911
Report Date: 2020/05/08

GHD Limited
Client Project #: 088664-37
Your P.O. #: 11230
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		MNV581		MNV582	MNV583	MNV584	MNV585	MNV586	
Sampling Date		2020/04/30 14:00		2020/04/30 14:10	2020/04/30 14:15	2020/04/30 14:20	2020/04/30 13:30	2020/04/30 13:35	
COC Number		754427-02-01		754427-02-01	754427-03-01	754427-03-01	754427-03-01	754427-03-01	
	UNITS	MW-09D Lab-Dup	RDL	MW-11A	MW-11-B	MW-11C	MW-12A	MW-12B	RDL
Metals									
Dissolved Aluminum (Al)	ug/L	<5.0	5.0	58	<5.0	<5.0	6.9	<5.0	5.0
Total Aluminum (Al)	ug/L			560	45	110	1300	420	5.0
Dissolved Antimony (Sb)	ug/L	<1.0	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Antimony (Sb)	ug/L			<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Arsenic (As)	ug/L	110	1.0	<1.0	7.2	74	<1.0	23	1.0
Total Arsenic (As)	ug/L			2.5	30	71	1.0	26	1.0
Dissolved Barium (Ba)	ug/L	9.3	1.0	5.9	4.8	17	6.0	21	1.0
Total Barium (Ba)	ug/L			8.2	5.4	16	14	21	1.0
Dissolved Beryllium (Be)	ug/L	<1.0	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Beryllium (Be)	ug/L			<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	<2.0	2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Bismuth (Bi)	ug/L			<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Boron (B)	ug/L	<50	50	<50	<50	<50	<50	<50	50
Total Boron (B)	ug/L			<50	<50	<50	<50	<50	50
Dissolved Cadmium (Cd)	ug/L	<0.010	0.010	0.022	<0.010	<0.010	0.022	<0.010	0.010
Total Cadmium (Cd)	ug/L			0.028	<0.010	<0.010	0.035	0.011	0.010
Dissolved Calcium (Ca)	ug/L	28000	100	1700	19000	25000	4000	24000	100
Total Calcium (Ca)	ug/L			1900	19000	24000	4100	24000	100
Dissolved Chromium (Cr)	ug/L	<1.0	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Chromium (Cr)	ug/L			<1.0	<1.0	<1.0	2.0	<1.0	1.0
Dissolved Cobalt (Co)	ug/L	<0.40	0.40	1.1	<0.40	<0.40	0.74	<0.40	0.40
Total Cobalt (Co)	ug/L			1.5	0.40	<0.40	2.1	<0.40	0.40
Dissolved Copper (Cu)	ug/L	<0.50	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Total Copper (Cu)	ug/L			1.4	1.1	<0.50	3.0	1.1	0.50
Dissolved Iron (Fe)	ug/L	<50	50	100	98	<50	<50	<50	50
Total Iron (Fe)	ug/L			920	580	100	2100	290	50
Dissolved Lead (Pb)	ug/L	<0.50	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Total Lead (Pb)	ug/L			<0.50	<0.50	<0.50	1.1	<0.50	0.50
Dissolved Magnesium (Mg)	ug/L	3700	100	330	1300	2200	1500	2500	100
Total Magnesium (Mg)	ug/L			530	1400	2200	1900	2600	100
Dissolved Manganese (Mn)	ug/L	53	2.0	49	80	34	120	240	2.0
Total Manganese (Mn)	ug/L			73	91	37	200	260	2.0
Dissolved Molybdenum (Mo)	ug/L	3.5	2.0	<2.0	<2.0	3.0	<2.0	17	2.0
Total Molybdenum (Mo)	ug/L			<2.0	<2.0	2.9	<2.0	18	2.0

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate

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ELEMENTS BY ICP/MS (WATER)

BV Labs ID		MNV581		MNV582	MNV583	MNV584	MNV585	MNV586	
Sampling Date		2020/04/30 14:00		2020/04/30 14:10	2020/04/30 14:15	2020/04/30 14:20	2020/04/30 13:30	2020/04/30 13:35	
COC Number		754427-02-01		754427-02-01	754427-03-01	754427-03-01	754427-03-01	754427-03-01	
	UNITS	MW-09D Lab-Dup	RDL	MW-11A	MW-11-B	MW-11C	MW-12A	MW-12B	RDL
Dissolved Nickel (Ni)	ug/L	<2.0	2.0	<2.0	4.0	<2.0	2.2	<2.0	2.0
Total Nickel (Ni)	ug/L			2.4	4.6	<2.0	4.3	<2.0	2.0
Dissolved Phosphorus (P)	ug/L	<100	100	<100	<100	<100	<100	<100	100
Total Phosphorus (P)	ug/L			<100	<100	<100	<100	<100	100
Dissolved Potassium (K)	ug/L	1000	100	360	850	1100	850	1500	100
Total Potassium (K)	ug/L			490	860	1100	1200	1500	100
Dissolved Selenium (Se)	ug/L	<0.50	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Total Selenium (Se)	ug/L			<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Dissolved Silver (Ag)	ug/L	<0.10	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Total Silver (Ag)	ug/L			<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Dissolved Sodium (Na)	ug/L	15000	100	2000	4100	16000	4800	20000	100
Total Sodium (Na)	ug/L			2200	4300	15000	4700	20000	100
Dissolved Strontium (Sr)	ug/L	600	2.0	12	43	290	39	120	2.0
Total Strontium (Sr)	ug/L			13	44	290	42	120	2.0
Dissolved Thallium (Tl)	ug/L	<0.10	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Total Thallium (Tl)	ug/L			<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Dissolved Tin (Sn)	ug/L	<2.0	2.0	<2.0	<2.0	<2.0	4.4	<2.0	2.0
Total Tin (Sn)	ug/L			<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Titanium (Ti)	ug/L	<2.0	2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Titanium (Ti)	ug/L			20	<2.0	2.2	55	9.3	2.0
Dissolved Uranium (U)	ug/L	1.8	0.10	<0.10	0.56	6.8	<0.10	2.0	0.10
Total Uranium (U)	ug/L			<0.10	0.60	6.5	0.12	2.0	0.10
Dissolved Vanadium (V)	ug/L	<2.0	2.0	<2.0	<2.0	2.5	<2.0	<2.0	2.0
Total Vanadium (V)	ug/L			<2.0	<2.0	2.3	<2.0	<2.0	2.0
Dissolved Zinc (Zn)	ug/L	<5.0	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.0
Total Zinc (Zn)	ug/L			<5.0	<5.0	<5.0	6.0	<5.0	5.0

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate

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BV Labs Job #: C0A6911
Report Date: 2020/05/08

GHD Limited
Client Project #: 088664-37
Your P.O. #: 11230
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		MNV587	MNV588	MNV589	MNV590		MNV591		MNV591	
Sampling Date		2020/04/30 11:15	2020/04/30 11:20	2020/04/30 11:25	2020/04/30 10:10		2020/04/30 10:20		2020/04/30 10:20	
COC Number		754427-03-01	754427-03-01	754427-03-01	754427-03-01		754427-03-01		754427-03-01	
	UNITS	MW-14A	MW-14B	MW-14C	MW-16A	RDL	MW-16B	RDL	MW-16B Lab-Dup	RDL
Metals										
Dissolved Aluminum (Al)	ug/L	<5.0	8.0	11	9.5	5.0	9.7	5.0	10	5.0
Total Aluminum (Al)	ug/L	490	670	200	1300	5.0	170	5.0		
Dissolved Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0	<1.0	1.0	<1.0	1.0
Total Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0	<1.0	1.0		
Dissolved Arsenic (As)	ug/L	2.4	6.9	1.3	<1.0	1.0	9.9	1.0	10	1.0
Total Arsenic (As)	ug/L	7.9	8.0	1.3	1.0	1.0	10	1.0		
Dissolved Barium (Ba)	ug/L	2.8	4.3	2.7	2.4	1.0	2.9	1.0	3.0	1.0
Total Barium (Ba)	ug/L	5.9	8.3	2.7	29	1.0	3.6	1.0		
Dissolved Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0	<1.0	1.0	<1.0	1.0
Total Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0	<1.0	1.0		
Dissolved Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	2.0	<2.0	2.0	<2.0	2.0
Total Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	2.0	<2.0	2.0		
Dissolved Boron (B)	ug/L	<50	<50	120	<50	50	<50	50	<50	50
Total Boron (B)	ug/L	<50	<50	110	<50	50	<50	50		
Dissolved Cadmium (Cd)	ug/L	0.011	<0.010	<0.010	0.041	0.010	<0.010	0.010	<0.010	0.010
Total Cadmium (Cd)	ug/L	0.015	<0.010	0.014	0.058	0.010	<0.010	0.010		
Dissolved Calcium (Ca)	ug/L	3700	16000	10000	9000	100	19000	100	19000	100
Total Calcium (Ca)	ug/L	3700	16000	9900	10000	100	19000	100		
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0	<1.0	1.0	<1.0	1.0
Total Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0	<1.0	1.0		
Dissolved Cobalt (Co)	ug/L	0.95	<0.40	<0.40	2.2	0.40	<0.40	0.40	<0.40	0.40
Total Cobalt (Co)	ug/L	1.3	0.40	<0.40	3.4	0.40	<0.40	0.40		
Dissolved Copper (Cu)	ug/L	1.5	<0.50	<0.50	1.2	0.50	<0.50	0.50	<0.50	0.50
Total Copper (Cu)	ug/L	3.1	1.3	<0.50	4.3	0.50	1.1	0.50		
Dissolved Iron (Fe)	ug/L	<50	<50	<50	<50	50	<50	50	<50	50
Total Iron (Fe)	ug/L	680	970	100	1300	50	130	50		
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	0.50	<0.50	0.50	<0.50	0.50
Total Lead (Pb)	ug/L	<0.50	0.51	<0.50	2.5	0.50	<0.50	0.50		
Dissolved Magnesium (Mg)	ug/L	950	2000	1700	820	100	1200	100	1200	100
Total Magnesium (Mg)	ug/L	1100	2200	1700	1200	100	1300	100		
Dissolved Manganese (Mn)	ug/L	72	150	12	840	2.0	<2.0	2.0	<2.0	2.0
Total Manganese (Mn)	ug/L	87	170	13	1100	2.0	4.3	2.0		
Dissolved Molybdenum (Mo)	ug/L	<2.0	11	<2.0	<2.0	2.0	<2.0	2.0	<2.0	2.0
Total Molybdenum (Mo)	ug/L	<2.0	11	<2.0	<2.0	2.0	<2.0	2.0		

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate

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Report Date: 2020/05/08

GHD Limited
Client Project #: 088664-37
Your P.O. #: 11230
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		MNV587	MNV588	MNV589	MNV590		MNV591		MNV591	
Sampling Date		2020/04/30 11:15	2020/04/30 11:20	2020/04/30 11:25	2020/04/30 10:10		2020/04/30 10:20		2020/04/30 10:20	
COC Number		754427-03-01	754427-03-01	754427-03-01	754427-03-01		754427-03-01		754427-03-01	
	UNITS	MW-14A	MW-14B	MW-14C	MW-16A	RDL	MW-16B	RDL	MW-16B Lab-Dup	RDL
Dissolved Nickel (Ni)	ug/L	5.3	<2.0	<2.0	<2.0	2.0	<2.0	2.0	<2.0	2.0
Total Nickel (Ni)	ug/L	5.9	<2.0	<2.0	2.6	2.0	<2.0	2.0		
Dissolved Phosphorus (P)	ug/L	<100	<100	<100	<100	100	<100	100	<100	100
Total Phosphorus (P)	ug/L	<100	<100	<100	<100	100	<100	100		
Dissolved Potassium (K)	ug/L	770	1300	530	400	100	1200	100	1200	100
Total Potassium (K)	ug/L	920	1400	550	690	100	1200	100		
Dissolved Selenium (Se)	ug/L	<0.50	<0.50	<0.50	<0.50	0.50	<0.50	0.50	<0.50	0.50
Total Selenium (Se)	ug/L	<0.50	<0.50	<0.50	<0.50	0.50	<0.50	0.50		
Dissolved Silver (Ag)	ug/L	<0.10	<0.10	<0.10	<0.10	0.10	<0.10	0.10	<0.10	0.10
Total Silver (Ag)	ug/L	<0.10	<0.10	<0.10	0.24	0.10	<0.10	0.10		
Dissolved Sodium (Na)	ug/L	5600	23000	20000	6500	100	4700	100	4700	100
Total Sodium (Na)	ug/L	5700	23000	20000	6700	100	4600	100		
Dissolved Strontium (Sr)	ug/L	29	130	250	34	2.0	75	2.0	72	2.0
Total Strontium (Sr)	ug/L	31	130	240	47	2.0	74	2.0		
Dissolved Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	0.10	<0.10	0.10	<0.10	0.10
Total Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	0.10	<0.10	0.10		
Dissolved Tin (Sn)	ug/L	<2.0	<2.0	<2.0	<2.0	2.0	<2.0	2.0	<2.0	2.0
Total Tin (Sn)	ug/L	<2.0	<2.0	<2.0	<2.0	2.0	<2.0	2.0		
Dissolved Titanium (Ti)	ug/L	<2.0	<2.0	<2.0	<2.0	2.0	<2.0	2.0	<2.0	2.0
Total Titanium (Ti)	ug/L	17	25	4.0	33	2.0	<20 (1)	20		
Dissolved Uranium (U)	ug/L	<0.10	0.65	0.15	0.24	0.10	2.4	0.10	2.4	0.10
Total Uranium (U)	ug/L	<0.10	0.65	0.17	1.7	0.10	2.4	0.10		
Dissolved Vanadium (V)	ug/L	<2.0	<2.0	<2.0	<2.0	2.0	<2.0	2.0	<2.0	2.0
Total Vanadium (V)	ug/L	<2.0	<2.0	<2.0	<2.0	2.0	<2.0	2.0		
Dissolved Zinc (Zn)	ug/L	9.1	<5.0	<5.0	<5.0	5.0	<5.0	5.0	<5.0	5.0
Total Zinc (Zn)	ug/L	8.4	<5.0	<5.0	5.9	5.0	<5.0	5.0		

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
(1) Elevated reporting limit due to sample matrix.

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Report Date: 2020/05/08

GHD Limited
Client Project #: 088664-37
Your P.O. #: 11230
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		MNV592	MNV593	MNV594	MNV595	MNV596		MNV596	
Sampling Date		2020/04/30 10:45	2020/04/30 11:00	2020/04/30 11:00	2020/04/30 09:30	2020/04/30 09:40		2020/04/30 09:40	
COC Number		754427-03-01	754427-04-01	754427-04-01	754427-04-01	754427-04-01		754427-04-01	
	UNITS	MW-17A	MW-17B	MW-17C	MW-18A	MW-18B	RDL	MW-18B Lab-Dup	RDL
Metals									
Dissolved Aluminum (Al)	ug/L	86	10	<5.0	37	35	5.0		
Total Aluminum (Al)	ug/L	2000	23	31	180	600	5.0		
Dissolved Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	1.0		
Total Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	<1.0	1.0
Dissolved Arsenic (As)	ug/L	<1.0	<1.0	1.9	5.9	230	1.0		
Total Arsenic (As)	ug/L	4.5	<1.0	1.9	16	230	1.0	230	1.0
Dissolved Barium (Ba)	ug/L	11	3.2	1.3	4.0	2.2	1.0		
Total Barium (Ba)	ug/L	24	3.3	1.3	4.4	2.8	1.0	3.2	1.0
Dissolved Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	1.0		
Total Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	2.0		
Total Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	2.0	<2.0	2.0
Dissolved Boron (B)	ug/L	<50	<50	<50	<50	<50	50		
Total Boron (B)	ug/L	<50	<50	<50	<50	<50	50	<50	50
Dissolved Cadmium (Cd)	ug/L	0.041	0.018	0.012	0.013	<0.010	0.010		
Total Cadmium (Cd)	ug/L	0.043	0.012	0.019	0.015	<0.010	0.010	<0.010	0.010
Dissolved Calcium (Ca)	ug/L	1500	1600	2200	1400	15000	100		
Total Calcium (Ca)	ug/L	1700	1600	2100	1400	15000	100	15000	100
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	1.0		
Total Chromium (Cr)	ug/L	2.4	<1.0	<1.0	<1.0	<1.0	1.0	<1.0	1.0
Dissolved Cobalt (Co)	ug/L	0.42	<0.40	<0.40	0.46	<0.40	0.40		
Total Cobalt (Co)	ug/L	1.4	<0.40	<0.40	0.52	<0.40	0.40	<0.40	0.40
Dissolved Copper (Cu)	ug/L	3.4	<0.50	<0.50	2.7	<0.50	0.50		
Total Copper (Cu)	ug/L	11	<0.50	0.59	3.5	0.58	0.50	0.66	0.50
Dissolved Iron (Fe)	ug/L	<50	<50	<50	<50	<50	50		
Total Iron (Fe)	ug/L	2800	<50	<50	210	240	50	240	50
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	0.50		
Total Lead (Pb)	ug/L	1.2	<0.50	<0.50	<0.50	<0.50	0.50	<0.50	0.50
Dissolved Magnesium (Mg)	ug/L	420	640	600	440	1400	100		
Total Magnesium (Mg)	ug/L	1100	660	590	490	1400	100	1400	100
Dissolved Manganese (Mn)	ug/L	46	3.2	3.4	10	<2.0	2.0		
Total Manganese (Mn)	ug/L	97	4.0	4.9	13	4.9	2.0	4.6	2.0
Dissolved Molybdenum (Mo)	ug/L	<2.0	<2.0	<2.0	<2.0	5.2	2.0		
Total Molybdenum (Mo)	ug/L	<2.0	<2.0	<2.0	<2.0	5.2	2.0	5.1	2.0

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate

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BV Labs Job #: C0A6911
Report Date: 2020/05/08

GHD Limited
Client Project #: 088664-37
Your P.O. #: 11230
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		MNV592	MNV593	MNV594	MNV595	MNV596		MNV596	
Sampling Date		2020/04/30 10:45	2020/04/30 11:00	2020/04/30 11:00	2020/04/30 09:30	2020/04/30 09:40		2020/04/30 09:40	
COC Number		754427-03-01	754427-04-01	754427-04-01	754427-04-01	754427-04-01		754427-04-01	
	UNITS	**MW-17A**	**MW-17B**	**MW-17C**	**MW-18A**	**MW-18B**	**RDL**	**MW-18B Lab-Dup**	**RDL**
Dissolved Nickel (Ni)	ug/L	2.6	<2.0	<2.0	<2.0	<2.0	2.0		
Total Nickel (Ni)	ug/L	4.9	<2.0	<2.0	<2.0	<2.0	2.0	<2.0	2.0
Dissolved Phosphorus (P)	ug/L	<100	<100	<100	<100	<100	100		
Total Phosphorus (P)	ug/L	<100	<100	<100	<100	<100	100	<100	100
Dissolved Potassium (K)	ug/L	310	360	360	410	1200	100		
Total Potassium (K)	ug/L	650	350	350	420	1200	100	1200	100
Dissolved Selenium (Se)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	0.50		
Total Selenium (Se)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	<0.50	0.50
Dissolved Silver (Ag)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	0.10		
Total Silver (Ag)	ug/L	0.51	<0.10	<0.10	<0.10	<0.10	0.10	0.10	0.10
Dissolved Sodium (Na)	ug/L	2300	2900	3000	2400	4900	100		
Total Sodium (Na)	ug/L	2300	3000	3000	2300	4800	100	4800	100
Dissolved Strontium (Sr)	ug/L	19	21	18	12	49	2.0		
Total Strontium (Sr)	ug/L	19	22	18	12	46	2.0	46	2.0
Dissolved Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	0.10		
Total Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	<0.10	0.10
Dissolved Tin (Sn)	ug/L	3.7	3.3	<2.0	<2.0	<2.0	2.0		
Total Tin (Sn)	ug/L	<2.0	<2.0	3.4	<2.0	<2.0	2.0	<2.0	2.0
Dissolved Titanium (Ti)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	2.0		
Total Titanium (Ti)	ug/L	62	<2.0	2.1	5.2	10	2.0	8.4	2.0
Dissolved Uranium (U)	ug/L	<0.10	<0.10	<0.10	<0.10	0.92	0.10		
Total Uranium (U)	ug/L	0.15	<0.10	<0.10	<0.10	0.93	0.10	0.96	0.10
Dissolved Vanadium (V)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	2.0		
Total Vanadium (V)	ug/L	2.5	<2.0	<2.0	<2.0	<2.0	2.0	<2.0	2.0
Dissolved Zinc (Zn)	ug/L	7.6	<5.0	<5.0	5.3	<5.0	5.0		
Total Zinc (Zn)	ug/L	13	<5.0	<5.0	<5.0	<5.0	5.0	<5.0	5.0

RDL = Reportable Detection Limit
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Report Date: 2020/05/08

GHD Limited
Client Project #: 088664-37
Your P.O. #: 11230
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		MNV597	MNV598	MNV599	MNV600	MNV601	MNV602	MNV603	
Sampling Date		2020/04/30 09:45	2020/04/30 13:50	2020/04/30 14:02	2020/04/30 14:11	2020/04/30 12:57	2020/04/30 13:03	2020/04/30 08:55	
COC Number		754427-04-01	754427-04-01	754427-04-01	754427-04-01	754427-04-01	754427-04-01	754427-05-01	
	UNITS	MW-18C	MW-19A	MW-19B	MW-19C	MW-20A	MW-20B	MW-21A	RDL
Metals									
Dissolved Aluminum (Al)	ug/L	<5.0	95	8.7	<5.0	660	190	170	5.0
Total Aluminum (Al)	ug/L	180	2600	73	200	810	190	2500	5.0
Dissolved Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Arsenic (As)	ug/L	100	<1.0	6.5	3.2	<1.0	<1.0	<1.0	1.0
Total Arsenic (As)	ug/L	120	<1.0	6.3	3.6	<1.0	<1.0	<1.0	1.0
Dissolved Barium (Ba)	ug/L	10	4.9	10	5.5	13	4.8	7.9	1.0
Total Barium (Ba)	ug/L	11	12	11	6.7	13	4.6	41	1.0
Dissolved Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Boron (B)	ug/L	<50	<50	<50	<50	<50	<50	<50	50
Total Boron (B)	ug/L	<50	<50	<50	<50	<50	<50	<50	50
Dissolved Cadmium (Cd)	ug/L	<0.010	0.021	<0.010	0.015	0.041	0.027	0.037	0.010
Total Cadmium (Cd)	ug/L	<0.010	0.034	<0.010	0.016	0.051	0.026	0.049	0.010
Dissolved Calcium (Ca)	ug/L	19000	660	21000	11000	750	1300	1500	100
Total Calcium (Ca)	ug/L	19000	870	20000	10000	730	1200	1700	100
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Chromium (Cr)	ug/L	<1.0	2.3	<1.0	<1.0	<1.0	<1.0	2.2	1.0
Dissolved Cobalt (Co)	ug/L	<0.40	0.47	<0.40	<0.40	3.0	<0.40	1.7	0.40
Total Cobalt (Co)	ug/L	<0.40	1.2	<0.40	<0.40	2.9	<0.40	2.3	0.40
Dissolved Copper (Cu)	ug/L	<0.50	0.63	<0.50	0.52	13	0.63	1.2	0.50
Total Copper (Cu)	ug/L	<0.50	5.4	0.70	1.5	14	0.81	4.5	0.50
Dissolved Iron (Fe)	ug/L	66	<50	<50	<50	<50	<50	<50	50
Total Iron (Fe)	ug/L	200	2200	65	250	180	<50	1700	50
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Total Lead (Pb)	ug/L	<0.50	0.95	<0.50	<0.50	<0.50	<0.50	1.8	0.50
Dissolved Magnesium (Mg)	ug/L	1900	330	1300	930	320	550	540	100
Total Magnesium (Mg)	ug/L	1900	900	1300	990	370	530	990	100
Dissolved Manganese (Mn)	ug/L	95	16	<2.0	10	56	53	170	2.0
Total Manganese (Mn)	ug/L	92	41	2.8	18	57	51	190	2.0
Dissolved Molybdenum (Mo)	ug/L	2.7	<2.0	2.2	9.1	<2.0	<2.0	<2.0	2.0
Total Molybdenum (Mo)	ug/L	3.4	<2.0	2.4	8.9	<2.0	<2.0	<2.0	2.0
Dissolved Nickel (Ni)	ug/L	<2.0	<2.0	<2.0	2.1	15	<2.0	<2.0	2.0

RDL = Reportable Detection Limit

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Report Date: 2020/05/08

GHD Limited
Client Project #: 088664-37
Your P.O. #: 11230
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		MNV597	MNV598	MNV599	MNV600	MNV601	MNV602	MNV603	
Sampling Date		2020/04/30 09:45	2020/04/30 13:50	2020/04/30 14:02	2020/04/30 14:11	2020/04/30 12:57	2020/04/30 13:03	2020/04/30 08:55	
COC Number		754427-04-01	754427-04-01	754427-04-01	754427-04-01	754427-04-01	754427-04-01	754427-05-01	
	UNITS	MW-18C	MW-19A	MW-19B	MW-19C	MW-20A	MW-20B	MW-21A	RDL
Total Nickel (Ni)	ug/L	<2.0	2.7	<2.0	2.6	14	<2.0	2.8	2.0
Dissolved Phosphorus (P)	ug/L	<100	<100	<100	<100	<100	<100	<100	100
Total Phosphorus (P)	ug/L	<100	<100	<100	<100	<100	<100	<100	100
Dissolved Potassium (K)	ug/L	1400	510	1100	1300	570	200	590	100
Total Potassium (K)	ug/L	1400	890	1100	1300	590	180	980	100
Dissolved Selenium (Se)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Total Selenium (Se)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Dissolved Silver (Ag)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Total Silver (Ag)	ug/L	<0.10	1.4	<0.10	<0.10	0.22	<0.10	0.27	0.10
Dissolved Sodium (Na)	ug/L	22000	2800	4300	5200	1100	2300	2900	100
Total Sodium (Na)	ug/L	21000	2900	4400	5200	1100	2200	3100	100
Dissolved Strontium (Sr)	ug/L	210	5.1	100	71	12	14	12	2.0
Total Strontium (Sr)	ug/L	200	6.5	99	68	11	14	19	2.0
Dissolved Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Total Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Dissolved Tin (Sn)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Tin (Sn)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.1	2.0
Dissolved Titanium (Ti)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Titanium (Ti)	ug/L	5.1	71	3.0	10	5.0	<2.0	62	2.0
Dissolved Uranium (U)	ug/L	0.65	<0.10	1.9	<0.10	<0.10	<0.10	<0.10	0.10
Total Uranium (U)	ug/L	0.73	0.16	1.9	0.11	<0.10	<0.10	0.85	0.10
Dissolved Vanadium (V)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Vanadium (V)	ug/L	<2.0	2.5	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Zinc (Zn)	ug/L	<5.0	<5.0	<5.0	7.5	40	5.2	6.0	5.0
Total Zinc (Zn)	ug/L	<5.0	6.2	<5.0	6.7	36	<5.0	7.3	5.0

RDL = Reportable Detection Limit

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Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		MNV604	MNV605	MNV606	MNV607	MNV608	MNV609	MNV610	
Sampling Date		2020/04/30 09:08	2020/04/30 09:16	2020/04/30 12:35	2020/04/30 12:30	2020/04/30 12:20	2020/04/30	2020/04/30	
COC Number		754427-05-01	754427-05-01	754427-05-01	754427-05-01	754427-05-01	754427-05-01	754427-05-01	
	UNITS	MW-21B	MW-21C	MW-22A	MW-22B	MW-22C	DUP1	DUP2	RDL
Metals									
Dissolved Aluminum (Al)	ug/L	91	40	140	46	8.5	160	5.1	5.0
Total Aluminum (Al)	ug/L	160	490	540	180	670	1600	790	5.0
Dissolved Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Arsenic (As)	ug/L	<1.0	<1.0	<1.0	<1.0	3.1	<1.0	32	1.0
Total Arsenic (As)	ug/L	<1.0	1.1	1.7	<1.0	3.8	<1.0	36	1.0
Dissolved Barium (Ba)	ug/L	2.5	9.9	5.8	5.5	9.6	7.9	18	1.0
Total Barium (Ba)	ug/L	3.0	16	7.1	6.5	13	29	26	1.0
Dissolved Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Boron (B)	ug/L	<50	<50	<50	<50	<50	<50	<50	50
Total Boron (B)	ug/L	<50	<50	<50	<50	<50	<50	<50	50
Dissolved Cadmium (Cd)	ug/L	0.023	<0.010	0.017	0.016	<0.010	0.040	<0.010	0.010
Total Cadmium (Cd)	ug/L	0.022	0.036	0.012	0.015	0.023	0.050	0.025	0.010
Dissolved Calcium (Ca)	ug/L	1800	6400	500	5900	14000	1500	85000	100
Total Calcium (Ca)	ug/L	1800	6400	500	6000	14000	1700	87000	100
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Chromium (Cr)	ug/L	<1.0	1.0	<1.0	<1.0	<1.0	1.5	<1.0	1.0
Dissolved Cobalt (Co)	ug/L	0.65	0.93	0.59	<0.40	<0.40	1.7	<0.40	0.40
Total Cobalt (Co)	ug/L	0.63	1.2	0.74	0.53	<0.40	2.3	0.43	0.40
Dissolved Copper (Cu)	ug/L	0.71	0.74	6.6	1.5	<0.50	1.2	<0.50	0.50
Total Copper (Cu)	ug/L	0.96	6.4	8.1	3.8	2.3	3.8	2.1	0.50
Dissolved Iron (Fe)	ug/L	<50	88	<50	<50	<50	<50	<50	50
Total Iron (Fe)	ug/L	84	660	330	76	310	1000	870	50
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Total Lead (Pb)	ug/L	<0.50	1.2	<0.50	<0.50	0.73	1.1	0.94	0.50
Dissolved Magnesium (Mg)	ug/L	780	2200	310	1300	2200	530	7300	100
Total Magnesium (Mg)	ug/L	790	2300	400	1300	2400	780	7500	100
Dissolved Manganese (Mn)	ug/L	120	260	36	120	66	170	1000	2.0
Total Manganese (Mn)	ug/L	120	260	41	140	70	180	1000	2.0
Dissolved Molybdenum (Mo)	ug/L	<2.0	<2.0	<2.0	<2.0	2.4	<2.0	<2.0	2.0
Total Molybdenum (Mo)	ug/L	<2.0	2.1	<2.0	<2.0	2.5	<2.0	<2.0	2.0
Dissolved Nickel (Ni)	ug/L	<2.0	3.5	4.1	<2.0	<2.0	<2.0	<2.0	2.0

RDL = Reportable Detection Limit

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ELEMENTS BY ICP/MS (WATER)

BV Labs ID		MNV604	MNV605	MNV606	MNV607	MNV608	MNV609	MNV610	
Sampling Date		2020/04/30 09:08	2020/04/30 09:16	2020/04/30 12:35	2020/04/30 12:30	2020/04/30 12:20	2020/04/30	2020/04/30	
COC Number		754427-05-01	754427-05-01	754427-05-01	754427-05-01	754427-05-01	754427-05-01	754427-05-01	
	UNITS	MW-21B	MW-21C	MW-22A	MW-22B	MW-22C	DUP1	DUP2	RDL
Total Nickel (Ni)	ug/L	<2.0	4.4	4.3	<2.0	<2.0	2.5	<2.0	2.0
Dissolved Phosphorus (P)	ug/L	<100	<100	<100	<100	<100	<100	<100	100
Total Phosphorus (P)	ug/L	<100	<100	<100	<100	<100	<100	<100	100
Dissolved Potassium (K)	ug/L	750	1500	340	600	870	600	3000	100
Total Potassium (K)	ug/L	760	1500	370	600	910	770	3100	100
Dissolved Selenium (Se)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Total Selenium (Se)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Dissolved Silver (Ag)	ug/L	<0.10	<0.10	0.15	<0.10	<0.10	<0.10	<0.10	0.10
Total Silver (Ag)	ug/L	<0.10	0.23	0.71	0.23	0.25	0.18	<0.10	0.10
Dissolved Sodium (Na)	ug/L	1900	15000	4400	6400	16000	2600	19000	100
Total Sodium (Na)	ug/L	1800	15000	4600	6600	16000	3400	19000	100
Dissolved Strontium (Sr)	ug/L	18	45	6.9	36	210	12	340	2.0
Total Strontium (Sr)	ug/L	18	44	7.4	36	210	15	330	2.0
Dissolved Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Total Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Dissolved Tin (Sn)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Tin (Sn)	ug/L	<2.0	2.3	<2.0	<2.0	<2.0	3.1	4.8	2.0
Dissolved Titanium (Ti)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Titanium (Ti)	ug/L	3.1	15	11	4.2	22	36	24	2.0
Dissolved Uranium (U)	ug/L	<0.10	0.35	<0.10	<0.10	0.25	<0.10	2.3	0.10
Total Uranium (U)	ug/L	<0.10	0.91	<0.10	<0.10	0.33	0.43	2.4	0.10
Dissolved Vanadium (V)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Vanadium (V)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Zinc (Zn)	ug/L	<5.0	7.9	9.0	5.3	<5.0	5.5	<5.0	5.0
Total Zinc (Zn)	ug/L	<5.0	26	7.3	<5.0	8.6	8.0	7.8	5.0

RDL = Reportable Detection Limit

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GHD Limited
Client Project #: 088664-37
Your P.O. #: 11230
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		MNV611	MNV612	MNV613	
Sampling Date		2020/04/30	2020/04/30	2020/04/30	
COC Number		754427-05-01	754427-05-01	754427-06-01	
	UNITS	DUP3	DUP4	DUP5	RDL
Metals					
Dissolved Aluminum (Al)	ug/L	<5.0	120	<5.0	5.0
Total Aluminum (Al)	ug/L	300	260	1300	5.0
Dissolved Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	1.0
Total Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	1.0
Dissolved Arsenic (As)	ug/L	3.3	<1.0	<1.0	1.0
Total Arsenic (As)	ug/L	3.8	<1.0	2.4	1.0
Dissolved Barium (Ba)	ug/L	5.1	11	8.0	1.0
Total Barium (Ba)	ug/L	7.1	11	12	1.0
Dissolved Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	1.0
Total Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	2.0
Total Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	2.0
Dissolved Boron (B)	ug/L	<50	<50	<50	50
Total Boron (B)	ug/L	<50	<50	<50	50
Dissolved Cadmium (Cd)	ug/L	0.011	0.037	<0.010	0.010
Total Cadmium (Cd)	ug/L	0.013	0.034	0.013	0.010
Dissolved Calcium (Ca)	ug/L	11000	1500	13000	100
Total Calcium (Ca)	ug/L	11000	1500	13000	100
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	1.0
Total Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	1.0
Dissolved Cobalt (Co)	ug/L	<0.40	0.41	<0.40	0.40
Total Cobalt (Co)	ug/L	<0.40	0.54	0.52	0.40
Dissolved Copper (Cu)	ug/L	0.56	3.5	<0.50	0.50
Total Copper (Cu)	ug/L	1.8	3.9	1.7	0.50
Dissolved Iron (Fe)	ug/L	<50	<50	<50	50
Total Iron (Fe)	ug/L	400	230	760	50
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	<0.50	0.50
Total Lead (Pb)	ug/L	<0.50	<0.50	0.81	0.50
Dissolved Magnesium (Mg)	ug/L	900	410	1300	100
Total Magnesium (Mg)	ug/L	1000	480	1500	100
Dissolved Manganese (Mn)	ug/L	10	46	46	2.0
Total Manganese (Mn)	ug/L	20	48	64	2.0
Dissolved Molybdenum (Mo)	ug/L	9.3	<2.0	<2.0	2.0
Total Molybdenum (Mo)	ug/L	8.8	<2.0	<2.0	2.0
Dissolved Nickel (Ni)	ug/L	2.2	2.4	<2.0	2.0

RDL = Reportable Detection Limit

GHD Limited
Client Project #: 088664-37
Your P.O. #: 11230
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		MNV611	MNV612	MNV613	
Sampling Date		2020/04/30	2020/04/30	2020/04/30	
COC Number		754427-05-01	754427-05-01	754427-06-01	
	UNITS	DUP3	DUP4	DUP5	RDL
Total Nickel (Ni)	ug/L	2.9	2.6	<2.0	2.0
Dissolved Phosphorus (P)	ug/L	<100	<100	<100	100
Total Phosphorus (P)	ug/L	<100	<100	<100	100
Dissolved Potassium (K)	ug/L	1300	320	970	100
Total Potassium (K)	ug/L	1300	330	1100	100
Dissolved Selenium (Se)	ug/L	<0.50	<0.50	<0.50	0.50
Total Selenium (Se)	ug/L	<0.50	<0.50	<0.50	0.50
Dissolved Silver (Ag)	ug/L	<0.10	<0.10	<0.10	0.10
Total Silver (Ag)	ug/L	<0.10	<0.10	0.12	0.10
Dissolved Sodium (Na)	ug/L	5200	2300	5100	100
Total Sodium (Na)	ug/L	5100	2100	5200	100
Dissolved Strontium (Sr)	ug/L	71	19	83	2.0
Total Strontium (Sr)	ug/L	70	18	82	2.0
Dissolved Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	0.10
Total Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	0.10
Dissolved Tin (Sn)	ug/L	2.3	<2.0	<2.0	2.0
Total Tin (Sn)	ug/L	<2.0	<2.0	<2.0	2.0
Dissolved Titanium (Ti)	ug/L	<2.0	<2.0	<2.0	2.0
Total Titanium (Ti)	ug/L	14	5.3	24	2.0
Dissolved Uranium (U)	ug/L	<0.10	<0.10	0.26	0.10
Total Uranium (U)	ug/L	0.14	<0.10	0.45	0.10
Dissolved Vanadium (V)	ug/L	<2.0	<2.0	<2.0	2.0
Total Vanadium (V)	ug/L	<2.0	<2.0	<2.0	2.0
Dissolved Zinc (Zn)	ug/L	9.3	7.4	6.0	5.0
Total Zinc (Zn)	ug/L	6.3	5.8	6.8	5.0

RDL = Reportable Detection Limit

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GENERAL COMMENTS

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

Package 1	1.3°C
Package 2	-1.3°C
Package 3	-1.3°C
Package 4	-0.7°C

Sample MNV563 [MW-01A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample MNV564 [MW-01B] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample MNV565 [MW-01C] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample MNV567 [MW-02B] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample MNV568 [MW-03A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample MNV569 [MW-03B] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample MNV570 [MW-03C] : Poor RCAp Ion Balance due to sample matrix.

Sample MNV571 [MW-04A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample MNV572 [MW-04B] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample MNV573 [MW-05A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample MNV575 [MW-05D] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample MNV580 [MW-09B] : Poor RCAp Ion Balance due to sample matrix.

Sample MNV582 [MW-11A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample MNV584 [MW-11C] : Poor RCAp Ion Balance due to sample matrix.

Sample MNV585 [MW-12A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample MNV587 [MW-14A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample MNV588 [MW-14B] : Poor RCAp Ion Balance due to sample matrix.

Sample MNV589 [MW-14C] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample MNV590 [MW-16A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample MNV591 [MW-16B] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample MNV592 [MW-17A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample MNV593 [MW-17B] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample MNV595 [MW-18A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

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Sample MNV597 [MW-18C] : Poor RCAp Ion Balance due to sample matrix.

Sample MNV598 [MW-19A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample MNV601 [MW-20A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample MNV602 [MW-20B] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample MNV604 [MW-21B] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample MNV605 [MW-21C] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample MNV606 [MW-22A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample MNV607 [MW-22B] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample MNV608 [MW-22C] : Poor RCAp Ion Balance due to sample matrix.

Sample MNV609 [DUP1] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample MNV611 [DUP3] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample MNV612 [DUP4] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample MNV596, Metals Water Total MS: Test repeated.
Sample MNV598, Metals Water Total MS: Test repeated.
Sample MNV603, Metals Water Total MS: Test repeated.
Sample MNV605, Metals Water Total MS: Test repeated.
Sample MNV608, Metals Water Total MS: Test repeated.
Sample MNV609, Metals Water Total MS: Test repeated.
Sample MNV610, Metals Water Total MS: Test repeated.
Sample MNV613, Metals Water Total MS: Test repeated.

Results relate only to the items tested.

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BV Labs Job #: C0A6911
Report Date: 2020/05/08

GHD Limited
Client Project #: 088664-37
Your P.O. #: 11230
Sampler Initials: JR

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Eric Dearman, Scientific Specialist

Mike MacGillivray, Scientific Specialist (Inorganics)

BV Labs 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 Signature Page.

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Your P.O. #: 14592
Your Project #: 088664-42
Site#: Beaver Dam

Attention: Jeff Parks

GHD Limited
120 Western Parkway
Bedford, NS
CANADA B4B 0V2

Your C.O.C. #: 782150-01-01, 782150-02-01, 782150-03-01, 782150-04-01, 782150-05-01, 782150-06-01

Report Date: 2020/08/17
Report #: R6295719
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C0J5559
Received: 2020/07/30, 16:29

Sample Matrix: Water
Samples Received: 51

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Carbonate, Bicarbonate and Hydroxide	39	N/A	2020/08/10	N/A	SM 23 4500-CO2 D
Carbonate, Bicarbonate and Hydroxide	5	N/A	2020/08/06	N/A	SM 23 4500-CO2 D
Carbonate, Bicarbonate and Hydroxide	7	N/A	2020/08/07	N/A	SM 23 4500-CO2 D
Alkalinity	19	N/A	2020/08/10	ATL SOP 00013	EPA 310.2 R1974 m
Alkalinity	17	N/A	2020/08/11	ATL SOP 00013	EPA 310.2 R1974 m
Alkalinity	15	N/A	2020/08/12	ATL SOP 00013	EPA 310.2 R1974 m
Chloride	19	N/A	2020/08/11	ATL SOP 00014	SM 23 4500-Cl- E m
Chloride	17	N/A	2020/08/12	ATL SOP 00014	SM 23 4500-Cl- E m
Chloride	15	N/A	2020/08/13	ATL SOP 00014	SM 23 4500-Cl- E m
Colour	19	N/A	2020/08/10	ATL SOP 00020	SM 23 2120C m
Colour	17	N/A	2020/08/11	ATL SOP 00020	SM 23 2120C m
Colour	15	N/A	2020/08/12	ATL SOP 00020	SM 23 2120C m
Conductance - water	39	N/A	2020/08/10	ATL SOP 00004	SM 23 2510B m
Conductance - water	5	N/A	2020/08/06	ATL SOP 00004	SM 23 2510B m
Conductance - water	7	N/A	2020/08/07	ATL SOP 00004	SM 23 2510B m
Hardness (calculated as CaCO3)	1	N/A	2020/08/12	ATL SOP 00048	Auto Calc
Hardness (calculated as CaCO3)	9	N/A	2020/08/06	ATL SOP 00048	Auto Calc
Hardness (calculated as CaCO3)	34	N/A	2020/08/07	ATL SOP 00048	Auto Calc
Hardness (calculated as CaCO3)	7	N/A	2020/08/08	ATL SOP 00048	Auto Calc
Metals Water Diss. MS (as rec'd)	3	N/A	2020/08/10	ATL SOP 00058	EPA 6020B R2 m
Metals Water Diss. MS (as rec'd)	4	N/A	2020/08/11	ATL SOP 00058	EPA 6020B R2 m
Metals Water Diss. MS (as rec'd)	19	N/A	2020/08/06	ATL SOP 00058	EPA 6020B R2 m
Metals Water Diss. MS (as rec'd)	24	N/A	2020/08/07	ATL SOP 00058	EPA 6020B R2 m
Metals Water Diss. MS (as rec'd)	1	N/A	2020/08/08	ATL SOP 00058	EPA 6020B R2 m
Metals Water Total MS	26	2020/08/05	2020/08/06	ATL SOP 00058	EPA 6020B R2 m
Metals Water Total MS	18	2020/08/05	2020/08/07	ATL SOP 00058	EPA 6020B R2 m
Metals Water Total MS	3	2020/08/05	2020/08/08	ATL SOP 00058	EPA 6020B R2 m
Metals Water Total MS	1	2020/08/06	2020/08/10	ATL SOP 00058	EPA 6020B R2 m

Your P.O. #: 14592
Your Project #: 088664-42
Site#: Beaver Dam

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Bedford, NS
CANADA B4B 0V2

Your C.O.C. #: 782150-01-01, 782150-02-01, 782150-03-01, 782150-04-01, 782150-05-01, 782150-06-01

Report Date: 2020/08/17
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Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C0J5559
Received: 2020/07/30, 16:29

Sample Matrix: Water
Samples Received: 51

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Metals Water Total MS	3	2020/08/06	2020/08/07	ATL SOP 00058	EPA 6020B R2 m
Ion Balance (% Difference)	19	N/A	2020/08/11	N/A	Auto Calc.
Ion Balance (% Difference)	17	N/A	2020/08/12	N/A	Auto Calc.
Ion Balance (% Difference)	15	N/A	2020/08/13	N/A	Auto Calc.
Anion and Cation Sum	38	N/A	2020/08/10	N/A	Auto Calc.
Anion and Cation Sum	1	N/A	2020/08/12	N/A	Auto Calc.
Anion and Cation Sum	12	N/A	2020/08/07	N/A	Auto Calc.
Nitrogen Ammonia - water	27	N/A	2020/08/06	ATL SOP 00015	EPA 350.1 R2 m
Nitrogen Ammonia - water	24	N/A	2020/08/07	ATL SOP 00015	EPA 350.1 R2 m
Nitrogen - Nitrate + Nitrite	19	N/A	2020/08/10	ATL SOP 00016	USGS I-2547-11m
Nitrogen - Nitrate + Nitrite	17	N/A	2020/08/11	ATL SOP 00016	USGS I-2547-11m
Nitrogen - Nitrate + Nitrite	15	N/A	2020/08/12	ATL SOP 00016	USGS I-2547-11m
Nitrogen - Nitrite	19	N/A	2020/08/10	ATL SOP 00017	SM 23 4500-NO2- B m
Nitrogen - Nitrite	17	N/A	2020/08/11	ATL SOP 00017	SM 23 4500-NO2- B m
Nitrogen - Nitrite	15	N/A	2020/08/12	ATL SOP 00017	SM 23 4500-NO2- B m
Nitrogen - Nitrate (as N)	19	N/A	2020/08/11	ATL SOP 00018	ASTM D3867-16
Nitrogen - Nitrate (as N)	17	N/A	2020/08/12	ATL SOP 00018	ASTM D3867-16
Nitrogen - Nitrate (as N)	15	N/A	2020/08/13	ATL SOP 00018	ASTM D3867-16
pH (2)	39	N/A	2020/08/10	ATL SOP 00003	SM 23 4500-H+ B m
pH (2)	5	N/A	2020/08/06	ATL SOP 00003	SM 23 4500-H+ B m
pH (2)	7	N/A	2020/08/07	ATL SOP 00003	SM 23 4500-H+ B m
Phosphorus - ortho	19	N/A	2020/08/10	ATL SOP 00021	SM 23 4500-P E m
Phosphorus - ortho	17	N/A	2020/08/11	ATL SOP 00021	SM 23 4500-P E m
Phosphorus - ortho	15	N/A	2020/08/12	ATL SOP 00021	SM 23 4500-P E m
Sat. pH and Langelier Index (@ 20C)	19	N/A	2020/08/11	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 20C)	17	N/A	2020/08/12	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 20C)	15	N/A	2020/08/13	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 4C)	19	N/A	2020/08/11	ATL SOP 00049	Auto Calc.

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Your P.O. #: 14592
Your Project #: 088664-42
Site#: Beaver Dam

Attention: Jeff Parks

GHD Limited
120 Western Parkway
Bedford, NS
CANADA B4B 0V2

Your C.O.C. #: 782150-01-01, 782150-02-01, 782150-03-01, 782150-04-01, 782150-05-01, 782150-06-01

Report Date: 2020/08/17
Report #: R6295719
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C0J5559
Received: 2020/07/30, 16:29

Sample Matrix: Water
Samples Received: 51

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Sat. pH and Langelier Index (@ 4C)	17	N/A	2020/08/12	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 4C)	15	N/A	2020/08/13	ATL SOP 00049	Auto Calc.
Reactive Silica	19	N/A	2020/08/10	ATL SOP 00022	EPA 366.0 m
Reactive Silica	17	N/A	2020/08/11	ATL SOP 00022	EPA 366.0 m
Reactive Silica	15	N/A	2020/08/12	ATL SOP 00022	EPA 366.0 m
Sulphate	19	N/A	2020/08/10	ATL SOP 00023	ASTM D516-16 m
Sulphate	17	N/A	2020/08/11	ATL SOP 00023	ASTM D516-16 m
Sulphate	15	N/A	2020/08/12	ATL SOP 00023	ASTM D516-16 m
Total Dissolved Solids (TDS calc)	19	N/A	2020/08/11	N/A	Auto Calc.
Total Dissolved Solids (TDS calc)	17	N/A	2020/08/12	N/A	Auto Calc.
Total Dissolved Solids (TDS calc)	15	N/A	2020/08/13	N/A	Auto Calc.
Total Organic Carbon (TOC) (1, 3)	6	N/A	2020/08/10	CAM SOP-00446	SM 23 5310B m
Total Organic Carbon (TOC) (1, 3)	6	N/A	2020/08/11	CAM SOP-00446	SM 23 5310B m
Total Organic Carbon (TOC) (1, 3)	20	N/A	2020/08/13	CAM SOP-00446	SM 23 5310B m
Total Organic Carbon (TOC) (1, 3)	19	N/A	2020/08/14	CAM SOP-00446	SM 23 5310B m
Turbidity	1	N/A	2020/08/05	ATL SOP 00011	EPA 180.1 R2 m
Turbidity	50	N/A	2020/08/06	ATL SOP 00011	EPA 180.1 R2 m

Remarks:

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

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs 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.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and

Your P.O. #: 14592
Your Project #: 088664-42
Site#: Beaver Dam

Attention: Jeff Parks

GHD Limited
120 Western Parkway
Bedford, NS
CANADA B4B 0V2

Your C.O.C. #: 782150-01-01, 782150-02-01, 782150-03-01, 782150-04-01, 782150-05-01, 782150-06-01

Report Date: 2020/08/17
Report #: R6295719
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C0J5559
Received: 2020/07/30, 16:29

use of test results are the sole responsibility of the Client and are not within the scope of services provided by BV Labs, unless otherwise agreed in writing. BV Labs 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 BV Labs, 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 Bureau Veritas Laboratories Mississauga
(2) The APHA Standard Method require 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 APHA Standard Method holding time.
(3) Total Organic Carbon (TOC) present in the sample should be considered as non-purgeable TOC.

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AUTHORIZED REPORT
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Bureau Veritas Laboratories
17 Aug 2020 15:22:46

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
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BV Labs Job #: C0J5559
Report Date: 2020/08/17

GHD Limited
Client Project #: 088664-42
Your P.O. #: 14592
Sampler Initials: JR

RESULTS OF ANALYSES OF WATER

BV Labs ID		NGT955	NGT956	NGT957	NGT958	NGT959	NGT960	
Sampling Date		2020/07/30 11:45	2020/07/30 11:50	2020/07/30 11:55	2020/07/30 11:00	2020/07/30 11:05	2020/07/30 12:25	
COC Number		782150-01-01	782150-01-01	782150-01-01	782150-01-01	782150-01-01	782150-01-01	
Sample #		MW-01A	MW-01B	MW-01C	MW-02A	MW-02B	MW-03A	
	UNITS	**MW-01A**	**MW-01B**	**MW-01C**	**MW-02A**	**MW-02B**	**MW-03A**	**RDL**
Calculated Parameters								
Anion Sum	me/L	0.770	1.51	0.540	0.190	0.500	0.200	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	28	57	17	<1.0	15	<1.0	1.0
Calculated TDS	mg/L	43	88	34	18	42	19	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Cation Sum	me/L	0.510	1.41	0.490	0.210	0.430	0.230	N/A
Hardness (CaCO3)	mg/L	17	59	15	3.5	11	5.3	1.0
Ion Balance (% Difference)	%	20.3	3.42	4.85	5.00	7.53	6.98	N/A
Langelier Index (@ 20C)	N/A	-2.13	-0.289	-2.65	NC	-3.10	NC	
Langelier Index (@ 4C)	N/A	-2.38	-0.540	-2.90	NC	-3.35	NC	
Nitrate (N)	mg/L	0.095	<0.050	<0.050	<0.050	0.37	0.89	0.050
Saturation pH (@ 20C)	N/A	9.13	8.27	9.37	NC	9.64	NC	
Saturation pH (@ 4C)	N/A	9.38	8.52	9.62	NC	9.89	NC	
Inorganics								
Total Alkalinity (Total as CaCO3)	mg/L	28	57	17	<5.0	15	<5.0	5.0
Dissolved Chloride (Cl-)	mg/L	3.7	4.5	4.7	4.1	3.6	2.9	1.0
Colour	TCU	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.0
Nitrate + Nitrite (N)	mg/L	0.095	<0.050	<0.050	<0.050	0.37	0.89	0.050
Nitrite (N)	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.050
Total Organic Carbon (TOC)	mg/L	<0.40	<0.40	1.1	0.42	<0.40	1.5	0.40
Orthophosphate (P)	mg/L	<0.010	<0.010	<0.010	<0.010	0.070	<0.010	0.010
pH	pH	7.00	7.98	6.72	5.89	6.55	5.85	
Reactive Silica (SiO2)	mg/L	6.4	9.7	5.0	5.3	15	5.0	0.50
Dissolved Sulphate (SO4)	mg/L	5.0	12	3.9	3.6	3.6	2.5	2.0
Turbidity	NTU	2.3	2.7	0.86	2.6	0.23	0.81	0.10
Conductivity	uS/cm	56	140	54	29	49	30	1.0

RDL = Reportable Detection Limit
N/A = Not Applicable

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BV Labs Job #: C0J5559
Report Date: 2020/08/17

GHD Limited
Client Project #: 088664-42
Your P.O. #: 14592
Sampler Initials: JR

RESULTS OF ANALYSES OF WATER

BV Labs ID		NGT961	NGT962	NGT963	NGT964	NGT965	NGT966	
Sampling Date		2020/07/30 12:30	2020/07/30 12:40	2020/07/30 13:30	2020/07/30 13:35	2020/07/30 13:55	2020/07/30 14:00	
COC Number		782150-01-01	782150-01-01	782150-01-01	782150-01-01	782150-02-01	782150-02-01	
Sample #		MW-03B	MW-03C	MW-04A	MW-04B	MW-05A	MW-05B	
	UNITS	**MW-03B**	**MW-03C**	**MW-04A**	**MW-04B**	**MW-05A**	**MW-05B**	**RDL**
Calculated Parameters								
Anion Sum	me/L	0.960	1.87	0.370	0.910	0.300	1.12	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	34	81	7.8	29	6.6	43	1.0
Calculated TDS	mg/L	59	110	26	58	21	70	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Cation Sum	me/L	0.890	1.73	0.300	0.830	0.250	1.13	N/A
Hardness (CaCO3)	mg/L	34	72	7.6	31	6.2	42	1.0
Ion Balance (% Difference)	%	3.78	3.89	10.5	4.60	9.09	0.440	N/A
Langelier Index (@ 20C)	N/A	-1.99	-0.450	-3.64	-1.69	-3.73	-1.22	
Langelier Index (@ 4C)	N/A	-2.24	-0.701	-3.90	-1.94	-3.98	-1.48	
Nitrate (N)	mg/L	0.16	0.10	0.17	0.079	<0.050	<0.050	0.050
Saturation pH (@ 20C)	N/A	8.72	8.04	10.0	8.83	10.2	8.53	
Saturation pH (@ 4C)	N/A	8.97	8.29	10.3	9.08	10.5	8.79	
Inorganics								
Total Alkalinity (Total as CaCO3)	mg/L	34	81	7.8	29	6.6	44	5.0
Dissolved Chloride (Cl-)	mg/L	6.2	5.0	4.6	5.6	3.1	3.7	1.0
Colour	TCU	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.0
Nitrate + Nitrite (N)	mg/L	0.16	0.10	0.17	0.079	<0.050	<0.050	0.050
Nitrite (N)	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	0.074	0.050
Total Organic Carbon (TOC)	mg/L	1.3	0.75	1.2	1.8	0.86	1.7	0.40
Orthophosphate (P)	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010
pH	pH	6.74	7.59	6.40	7.14	6.48	7.31	
Reactive Silica (SiO2)	mg/L	9.7	13	6.3	9.6	4.7	9.5	0.50
Dissolved Sulphate (SO4)	mg/L	4.1	4.7	3.4	8.1	3.8	7.2	2.0
Turbidity	NTU	1.0	0.49	1.5	1.3	1.1	14	0.10
Conductivity	uS/cm	93	170	35	91	31	110	1.0

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BV Labs Job #: C0J5559
Report Date: 2020/08/17

GHD Limited
Client Project #: 088664-42
Your P.O. #: 14592
Sampler Initials: JR

RESULTS OF ANALYSES OF WATER

BV Labs ID		NGT966		NGT967		NGT968		NGT969	NGT970	
Sampling Date		2020/07/30 14:00		2020/07/30 14:05		2020/07/30 14:10		2020/07/30 14:10	2020/07/30 14:10	
COC Number		782150-02-01		782150-02-01		782150-02-01		782150-02-01	782150-02-01	
Sample #		MW-05B		MW-05D		MW-07A		MW-07B	MW-07D	
	UNITS	**MW-05B Lab-Dup**	**RDL**	**MW-05D**	**RDL**	**MW-07A**	**RDL**	**MW-07B**	**MW-07D**	**RDL**
Calculated Parameters										
Anion Sum	me/L			1.83	N/A	2.52	N/A	3.25	6.39	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L			71	1.0	110	1.0	130	300	1.0
Calculated TDS	mg/L			100	1.0	150	1.0	190	340	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L			<1.0	1.0	<1.0	1.0	1.8	3.5	1.0
Cation Sum	me/L			1.58	N/A	2.46	N/A	3.18	5.95	N/A
Hardness (CaCO3)	mg/L			55	1.0	98	1.0	120	260	1.0
Ion Balance (% Difference)	%			7.33	N/A	1.20	N/A	1.09	3.57	N/A
Langelier Index (@ 20C)	N/A			-0.426		-0.803		0.486	1.09	
Langelier Index (@ 4C)	N/A			-0.676		-1.05		0.236	0.845	
Nitrate (N)	mg/L			<0.050	0.050	<0.050	0.050	<0.050	<0.050	0.050
Saturation pH (@ 20C)	N/A			8.23		7.90		7.68	7.00	
Saturation pH (@ 4C)	N/A			8.49		8.15		7.93	7.25	
Inorganics										
Total Alkalinity (Total as CaCO3)	mg/L			71	5.0	110	10	130	300	25
Dissolved Chloride (Cl-)	mg/L			4.9	1.0	3.7	1.0	8.2	5.2	1.0
Colour	TCU			<5.0	5.0	6.9	5.0	<5.0	<5.0	5.0
Nitrate + Nitrite (N)	mg/L			<0.050	0.050	<0.050	0.050	<0.050	<0.050	0.050
Nitrite (N)	mg/L			<0.010	0.010	<0.010	0.010	<0.010	<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L			<0.050	0.050	<0.050	0.050	<0.050	0.061	0.050
Total Organic Carbon (TOC)	mg/L	1.8	0.40	0.44	0.40	0.73	0.40	2.1	1.8	0.40
Orthophosphate (P)	mg/L			<0.010	0.010	<0.010	0.010	0.026	<0.010	0.010
pH	pH			7.81		7.10		8.17	8.10	
Reactive Silica (SiO2)	mg/L			12	0.50	20 (1)	1.0	20	23	1.0
Dissolved Sulphate (SO4)	mg/L			13	2.0	15	2.0	17	13	2.0
Turbidity	NTU			12	0.10	16	0.10	0.94	2.5	0.10
Conductivity	uS/cm			170	1.0	240	1.0	310	550	1.0

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable
(1) Elevated reporting limit due to sample matrix.

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RESULTS OF ANALYSES OF WATER

BV Labs ID		NGT970		NGT971	NGT972	NGT973	NGT974	NGT976	
Sampling Date		2020/07/30 14:10		2020/07/30 13:10	2020/07/30 13:15	2020/07/30 13:20	2020/07/30 13:35	2020/07/30 14:35	
COC Number		782150-02-01		782150-02-01	782150-02-01	782150-02-01	782150-02-01	782150-03-01	
Sample #		MW-07D		MW-09A	MW-09B	MW-09D	MW-11A	MW-11B	
	UNITS	**MW-07D Lab-Dup**	**RDL**	**MW-09A**	**MW-09B**	**MW-09D**	**MW-11A**	**MW-11B**	**RDL**
Calculated Parameters									
Anion Sum	me/L			0.550	2.08	2.66	0.310	1.50	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L			19	75	80	6.1	60	1.0
Calculated TDS	mg/L			36	120	160	21	85	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L			<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Cation Sum	me/L			0.450	1.93	2.44	0.240	1.39	N/A
Hardness (CaCO3)	mg/L			16	81	84	5.5	56	1.0
Ion Balance (% Difference)	%			10.0	3.74	4.31	12.7	3.81	N/A
Langelier Index (@ 20C)	N/A			-2.40	0.0120	-0.0970	-3.99	-0.521	
Langelier Index (@ 4C)	N/A			-2.65	-0.239	-0.347	-4.24	-0.773	
Nitrate (N)	mg/L			0.14	<0.050	<0.050	<0.050	0.070	0.050
Saturation pH (@ 20C)	N/A			9.27	8.02	8.02	10.3	8.25	
Saturation pH (@ 4C)	N/A			9.52	8.27	8.27	10.5	8.50	
Inorganics									
Total Alkalinity (Total as CaCO3)	mg/L			19	76	81	6.1	61	5.0
Dissolved Chloride (Cl-)	mg/L			2.4	3.1	6.1	3.9	4.0	1.0
Colour	TCU			<5.0	<5.0	<5.0	<5.0	<5.0	5.0
Nitrate + Nitrite (N)	mg/L			0.14	<0.050	<0.050	<0.050	0.070	0.050
Nitrite (N)	mg/L			<0.010	<0.010	<0.010	<0.010	<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	0.050	<0.050	<0.050	<0.050	<0.050	0.060	0.050
Total Organic Carbon (TOC)	mg/L			0.74	0.83	4.5	1.2	0.53	0.40
Orthophosphate (P)	mg/L			0.17	0.014	0.012	<0.010	<0.010	0.010
pH	pH			6.87	8.03	7.93	6.29	7.72	
Reactive Silica (SiO2)	mg/L			7.3	9.8	12	4.1	7.9	0.50
Dissolved Sulphate (SO4)	mg/L			4.1	23	42	3.6	8.1	2.0
Turbidity	NTU			3.0	3.5	0.87	0.56	1.2	0.10
Conductivity	uS/cm			57	200	250	30	150	1.0

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Report Date: 2020/08/17

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RESULTS OF ANALYSES OF WATER

BV Labs ID		NGT977	NGT978	NGT979	NGT980	NGT981	NGT982	
Sampling Date		2020/07/30 14:35	2020/07/30 12:55	2020/07/30 13:00	2020/07/30 11:09	2020/07/30 11:09	2020/07/30 11:09	
COC Number		782150-03-01	782150-03-01	782150-03-01	782150-03-01	782150-03-01	782150-03-01	
Sample #		MW-11C	MW-12A	MW-12B	MW-14A	MW-14B	MW-14C	
	UNITS	**MW-11C**	**MW-12A**	**MW-12B**	**MW-14A**	**MW-14B**	**MW-14C**	**RDL**
Calculated Parameters								
Anion Sum	me/L	2.30	0.650	2.42	0.650	2.24	1.76	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	74	22	89	20	92	70	1.0
Calculated TDS	mg/L	130	49	140	50	130	100	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Cation Sum	me/L	2.09	0.570	2.17	0.560	2.00	1.58	N/A
Hardness (CaCO3)	mg/L	74	16	72	13	50	34	1.0
Ion Balance (% Difference)	%	4.78	6.56	5.45	7.44	5.66	5.39	N/A
Langelier Index (@ 20C)	N/A	-0.285	-3.16	-0.0980	-2.63	-0.325	-0.648	
Langelier Index (@ 4C)	N/A	-0.536	-3.41	-0.348	-2.89	-0.576	-0.899	
Nitrate (N)	mg/L	<0.050	0.32	<0.050	0.10	<0.050	<0.050	0.050
Saturation pH (@ 20C)	N/A	8.08	9.35	8.02	9.45	8.17	8.48	
Saturation pH (@ 4C)	N/A	8.33	9.60	8.27	9.71	8.42	8.73	
Inorganics								
Total Alkalinity (Total as CaCO3)	mg/L	75	22	90	20	92	70	5.0
Dissolved Chloride (Cl-)	mg/L	4.9	3.4	3.8	5.6	3.9	4.0	1.0
Colour	TCU	<5.0	<5.0	<5.0	<5.0	<5.0	5.1	5.0
Nitrate + Nitrite (N)	mg/L	<0.050	0.32	<0.050	0.10	<0.050	<0.050	0.050
Nitrite (N)	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.050
Total Organic Carbon (TOC)	mg/L	2.1	<0.40	0.69	<0.40	0.78	0.48	0.40
Orthophosphate (P)	mg/L	<0.010	0.013	<0.010	0.015	0.013	0.010	0.010
pH	pH	7.79	6.20	7.92	6.82	7.84	7.83	
Reactive Silica (SiO2)	mg/L	8.5	15	11	16	8.9	11	0.50
Dissolved Sulphate (SO4)	mg/L	32	4.1	25	4.2	13	11	2.0
Turbidity	NTU	6.1	13	0.54	77	2.7	0.57	0.10
Conductivity	uS/cm	220	65	220	63	200	160	1.0

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RESULTS OF ANALYSES OF WATER

BV Labs ID		NGT983	NGT984	NGT985	NGT986		NGT986	
Sampling Date		2020/07/30 11:50	2020/07/30 11:50	2020/07/30 13:13	2020/07/30 13:13		2020/07/30 13:13	
COC Number		782150-03-01	782150-03-01	782150-03-01	782150-04-01		782150-04-01	
Sample #		MW-16A	MW-16B	MW-17A	MW-17B		MW-17B	
	UNITS	**MW-16A**	**MW-16B**	**MW-17A**	**MW-17B**	**RDL**	**MW-17B Lab-Dup**	**RDL**
Calculated Parameters								
Anion Sum	me/L	1.30	1.42	0.330	0.320	N/A		
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	54	58	6.1	7.4	1.0		
Calculated TDS	mg/L	75	83	25	26	1.0		
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	<1.0	<1.0	<1.0	1.0		
Cation Sum	me/L	1.18	1.31	0.260	0.260	N/A		
Hardness (CaCO3)	mg/L	43	53	6.5	6.3	1.0		
Ion Balance (% Difference)	%	4.84	4.03	11.9	10.3	N/A		
Langelier Index (@ 20C)	N/A	-1.18	-0.504	-3.93	-3.81			
Langelier Index (@ 4C)	N/A	-1.43	-0.756	-4.18	-4.06			
Nitrate (N)	mg/L	<0.050	0.14	<0.050	<0.050	0.050		
Saturation pH (@ 20C)	N/A	8.41	8.29	10.3	10.2			
Saturation pH (@ 4C)	N/A	8.66	8.54	10.5	10.5			
Inorganics								
Total Alkalinity (Total as CaCO3)	mg/L	54	58	6.1	7.4	5.0		
Dissolved Chloride (Cl-)	mg/L	3.8	4.1	4.4	3.3	1.0		
Colour	TCU	<5.0	<5.0	<5.0	<5.0	5.0		
Nitrate + Nitrite (N)	mg/L	<0.050	0.14	<0.050	<0.050	0.050		
Nitrite (N)	mg/L	<0.010	<0.010	<0.010	<0.010	0.010		
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	<0.050	<0.050	<0.050	0.050		
Total Organic Carbon (TOC)	mg/L	1.3	0.41	0.41	<0.40	0.40		
Orthophosphate (P)	mg/L	<0.010	<0.010	<0.010	0.016	0.010		
pH	pH	7.23	7.79	6.36	6.43		6.40	
Reactive Silica (SiO2)	mg/L	8.9	10	7.9	9.4	0.50		
Dissolved Sulphate (SO4)	mg/L	5.1	6.5	3.8	3.5	2.0		
Turbidity	NTU	14	0.98	17	3.1	0.10		
Conductivity	uS/cm	120	140	33	31	1.0	31	1.0

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

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BV Labs Job #: C0J5559
Report Date: 2020/08/17

GHD Limited
Client Project #: 088664-42
Your P.O. #: 14592
Sampler Initials: JR

RESULTS OF ANALYSES OF WATER

BV Labs ID		NGT987	NGT988		NGT988		NGT989	NGT990	
Sampling Date		2020/07/30 13:13	2020/07/30 12:14		2020/07/30 12:14		2020/07/30 12:14	2020/07/30 12:14	
COC Number		782150-04-01	782150-04-01		782150-04-01		782150-04-01	782150-04-01	
Sample #		MW-17C	MW-18A		MW-18A		MW-18B	MW-18C	
	UNITS	**MW-17C**	**MW-18A**	**RDL**	**MW-18A Lab-Dup**	**RDL**	**MW-18B**	**MW-18C**	**RDL**
Calculated Parameters									
Anion Sum	me/L	0.360	0.310	N/A			1.22	2.35	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	9.8	5.4	1.0			43	75	1.0
Calculated TDS	mg/L	30	22	1.0			77	140	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	<1.0	1.0			<1.0	<1.0	1.0
Cation Sum	me/L	0.310	0.240	N/A			1.14	2.21	N/A
Hardness (CaCO3)	mg/L	8.5	5.6	1.0			45	62	1.0
Ion Balance (% Difference)	%	7.46	12.7	N/A			3.39	3.07	N/A
Langelier Index (@ 20C)	N/A	-3.21	-3.87				-0.869	-0.446	
Langelier Index (@ 4C)	N/A	-3.47	-4.12				-1.12	-0.697	
Nitrate (N)	mg/L	<0.050	<0.050	0.050			<0.050	<0.050	0.050
Saturation pH (@ 20C)	N/A	9.92	10.4				8.51	8.16	
Saturation pH (@ 4C)	N/A	10.2	10.6				8.76	8.42	
Inorganics									
Total Alkalinity (Total as CaCO3)	mg/L	9.8	5.4	5.0	5.1	5.0	43	75	5.0
Dissolved Chloride (Cl-)	mg/L	3.4	4.2	1.0	3.7	1.0	3.4	5.7	1.0
Colour	TCU	<5.0	<5.0	5.0	<5.0	5.0	<5.0	<5.0	5.0
Nitrate + Nitrite (N)	mg/L	<0.050	<0.050	0.050	<0.050	0.050	<0.050	<0.050	0.050
Nitrite (N)	mg/L	<0.010	<0.010	0.010	<0.010	0.010	<0.010	<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	<0.050	0.050			<0.050	<0.050	0.050
Total Organic Carbon (TOC)	mg/L	0.42	0.97	0.40			0.78	4.5	0.40
Orthophosphate (P)	mg/L	0.016	0.016	0.010	0.014	0.010	0.028	0.015	0.010
pH	pH	6.71	6.51				7.64	7.72	
Reactive Silica (SiO2)	mg/L	10	5.2	0.50	5.3	0.50	11	13	0.50
Dissolved Sulphate (SO4)	mg/L	3.5	4.0	2.0	4.2	2.0	13	33	2.0
Turbidity	NTU	13	0.67	0.10	0.58	0.10	4.0	1.1	0.10
Conductivity	uS/cm	36	29	1.0			120	230	1.0

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BV Labs Job #: C0J5559
Report Date: 2020/08/17

GHD Limited
Client Project #: 088664-42
Your P.O. #: 14592
Sampler Initials: JR

RESULTS OF ANALYSES OF WATER

BV Labs ID		NGT991		NGT991		NGT992	NGT993	NGT994	
Sampling Date		2020/07/30 11:20		2020/07/30 11:20		2020/07/30 11:30	2020/07/30 11:35	2020/07/30 10:45	
COC Number		782150-04-01		782150-04-01		782150-04-01	782150-04-01	782150-04-01	
Sample #		MW-19A		MW-19A		MW-19B	MW-19C	MW-20A	
	UNITS	**MW-19A**	**RDL**	**MW-19A Lab-Dup**	**RDL**	**MW-19B**	**MW-19C**	**MW-20A**	**RDL**
Calculated Parameters									
Anion Sum	me/L	0.300	N/A			1.53	0.900	0.340	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	6.8	1.0			59	33	5.1	1.0
Calculated TDS	mg/L	22	1.0			88	57	27	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	1.0			<1.0	<1.0	<1.0	1.0
Cation Sum	me/L	0.240	N/A			1.39	0.840	0.280	N/A
Hardness (CaCO3)	mg/L	5.4	1.0			58	29	6.5	1.0
Ion Balance (% Difference)	%	11.1	N/A			4.79	3.45	9.68	N/A
Langelier Index (@ 20C)	N/A	-3.80				-0.535	-1.47	-3.99	
Langelier Index (@ 4C)	N/A	-4.06				-0.786	-1.72	-4.24	
Nitrate (N)	mg/L	0.091	0.050			0.054	0.15	1.2	0.050
Saturation pH (@ 20C)	N/A	10.3				8.24	8.79	10.4	
Saturation pH (@ 4C)	N/A	10.5				8.49	9.04	10.6	
Inorganics									
Total Alkalinity (Total as CaCO3)	mg/L	6.8	5.0			60	33	5.1	5.0
Dissolved Chloride (Cl-)	mg/L	2.8	1.0			3.3	3.4	3.5	1.0
Colour	TCU	<5.0	5.0			<5.0	<5.0	<5.0	5.0
Nitrate + Nitrite (N)	mg/L	0.091	0.050			0.054	0.15	1.2	0.050
Nitrite (N)	mg/L	<0.010	0.010			<0.010	<0.010	<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	0.050	<0.050	0.050	<0.050	<0.050	<0.050	0.050
Total Organic Carbon (TOC)	mg/L	2.2	0.40			0.87	1.9	0.97	0.40
Orthophosphate (P)	mg/L	<0.010	0.010			<0.010	<0.010	<0.010	0.010
pH	pH	6.46				7.70	7.32	6.38	
Reactive Silica (SiO2)	mg/L	5.9	0.50			9.5	9.1	6.1	0.50
Dissolved Sulphate (SO4)	mg/L	3.6	2.0			11	5.9	2.5	2.0
Turbidity	NTU	21	0.10			0.87	2.6	6.0	0.10
Conductivity	uS/cm	29	1.0			140	90	36	1.0

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Report Date: 2020/08/17

GHD Limited
Client Project #: 088664-42
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Sampler Initials: JR

RESULTS OF ANALYSES OF WATER

BV Labs ID		NGT995	NGT996	NGT997	NGT998	NGT999	NGU000	
Sampling Date		2020/07/30 10:50	2020/07/30 10:10	2020/07/30 10:15	2020/07/30 10:20	2020/07/30 10:16	2020/07/30 10:16	
COC Number		782150-04-01	782150-05-01	782150-05-01	782150-05-01	782150-05-01	782150-05-01	
Sample #		MW-20B	MW-21A	MW-21B	MW-21C	MW-22A	MW-22B	
	UNITS	**MW-20B**	**MW-21A**	**MW-21B**	**MW-21C**	**MW-22A**	**MW-22B**	**RDL**
Calculated Parameters								
Anion Sum	me/L	0.320	0.270	0.330	2.27	0.360	1.20	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	5.5	7.0	9.1	66	6.7	45	1.0
Calculated TDS	mg/L	26	21	26	150	28	73	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Cation Sum	me/L	0.270	0.220	0.290	2.26	0.300	1.05	N/A
Hardness (CaCO3)	mg/L	6.2	5.4	8.5	46	4.5	36	1.0
Ion Balance (% Difference)	%	8.47	10.2	6.45	0.220	9.09	6.67	N/A
Langelier Index (@ 20C)	N/A	-3.76	-3.85	-3.70	-1.41	-3.86	-1.46	
Langelier Index (@ 4C)	N/A	-4.01	-4.11	-3.96	-1.66	-4.12	-1.72	
Nitrate (N)	mg/L	0.92	0.48	0.31	0.073	0.096	0.051	0.050
Saturation pH (@ 20C)	N/A	10.4	10.3	10.0	8.51	10.4	8.64	
Saturation pH (@ 4C)	N/A	10.6	10.6	10.3	8.76	10.7	8.89	
Inorganics								
Total Alkalinity (Total as CaCO3)	mg/L	5.5	7.0	9.1	66	6.7	45	5.0
Dissolved Chloride (Cl-)	mg/L	3.2	1.6	1.8	5.6	3.3	4.0	1.0
Colour	TCU	<5.0	5.6	<5.0	5.3	<5.0	<5.0	5.0
Nitrate + Nitrite (N)	mg/L	0.92	0.48	0.31	0.085	0.096	0.051	0.050
Nitrite (N)	mg/L	<0.010	<0.010	<0.010	0.012	<0.010	<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.050
Total Organic Carbon (TOC)	mg/L	0.45	2.0	1.3	6.5	1.2	0.90	0.40
Orthophosphate (P)	mg/L	<0.010	0.012	0.018	<0.010	<0.010	<0.010	0.010
pH	pH	6.64	6.48	6.32	7.10	6.58	7.18	
Reactive Silica (SiO2)	mg/L	6.9	5.8	7.4	15	7.7	12	0.50
Dissolved Sulphate (SO4)	mg/L	2.7	2.6	3.7	38	5.8	9.2	2.0
Turbidity	NTU	<0.10	5.0	4.0	11	23	0.99	0.10
Conductivity	uS/cm	33	28	36	220	38	110	1.0

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Report Date: 2020/08/17

GHD Limited
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Your P.O. #: 14592
Sampler Initials: JR

RESULTS OF ANALYSES OF WATER

BV Labs ID		NGU001	NGU002	NGU003	NGU004		NGU004	
Sampling Date		2020/07/30 10:16	2020/07/30	2020/07/30	2020/07/30		2020/07/30	
COC Number		782150-05-01	782150-05-01	782150-05-01	782150-05-01		782150-05-01	
Sample #		MW-22C	DUP 1	DUP 2	DUP 3		DUP 3	
	UNITS	**MW-22C**	**Dup 1**	**Dup 2**	**Dup 3**	**RDL**	**Dup 3 Lab-Dup**	**RDL**
Calculated Parameters								
Anion Sum	me/L	2.14	0.270	1.50	1.92	N/A		
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	94	6.5	58	83	1.0		
Calculated TDS	mg/L	120	21	87	110	1.0		
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	<1.0	<1.0	<1.0	1.0		
Cation Sum	me/L	1.94	0.220	1.39	1.71	N/A		
Hardness (CaCO3)	mg/L	58	5.4	58	72	1.0		
Ion Balance (% Difference)	%	4.90	10.2	3.81	5.79	N/A		
Langelier Index (@ 20C)	N/A	-0.241	-4.13	-0.603	-0.285			
Langelier Index (@ 4C)	N/A	-0.492	-4.38	-0.855	-0.536			
Nitrate (N)	mg/L	<0.050	0.48	0.094	0.12	0.050		
Saturation pH (@ 20C)	N/A	8.12	10.4	8.25	8.03			
Saturation pH (@ 4C)	N/A	8.37	10.6	8.50	8.29			
Inorganics								
Total Alkalinity (Total as CaCO3)	mg/L	95	6.5	58	84	5.0	83	5.0
Dissolved Chloride (Cl-)	mg/L	3.8	1.7	3.3	4.9	1.0	4.8	1.0
Colour	TCU	<5.0	<5.0	<5.0	<5.0	5.0	<5.0	5.0
Nitrate + Nitrite (N)	mg/L	<0.050	0.48	0.094	0.12	0.050	0.12	0.050
Nitrite (N)	mg/L	<0.010	<0.010	<0.010	<0.010	0.010	<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	<0.050	<0.050	0.052	0.050		
Total Organic Carbon (TOC)	mg/L	0.68	2.0	0.54	0.84	0.40		
Orthophosphate (P)	mg/L	<0.010	<0.010	<0.010	<0.010	0.010	<0.010	0.010
pH	pH	7.88	6.24	7.65	7.75			
Reactive Silica (SiO2)	mg/L	12	5.7	9.3	12	0.50	12	0.50
Dissolved Sulphate (SO4)	mg/L	6.9	2.8	11	4.7	2.0	4.6	2.0
Turbidity	NTU	2.7	4.4	1.1	0.88	0.10	0.96	0.10
Conductivity	uS/cm	200	30	150	180	1.0		

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RESULTS OF ANALYSES OF WATER

BV Labs ID		NGU005	NGU007		NGU007	
Sampling Date		2020/07/30	2020/07/30		2020/07/30	
COC Number		782150-05-01	782150-06-01		782150-06-01	
Sample #		DUP 4	DUP 5		DUP 5	
	UNITS	**Dup 4**	**Dup 5**	**RDL**	**Dup 5 Lab-Dup**	**RDL**
Calculated Parameters						
Anion Sum	me/L	2.23	0.290	N/A		
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	92	5.3	1.0		
Calculated TDS	mg/L	120	21	1.0		
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	<1.0	1.0		
Cation Sum	me/L	2.02	0.240	N/A		
Hardness (CaCO3)	mg/L	49	5.6	1.0		
Ion Balance (% Difference)	%	4.94	9.43	N/A		
Langelier Index (@ 20C)	N/A	-0.306	-3.83			
Langelier Index (@ 4C)	N/A	-0.557	-4.09			
Nitrate (N)	mg/L	<0.050	0.055	0.050		
Saturation pH (@ 20C)	N/A	8.17	10.4			
Saturation pH (@ 4C)	N/A	8.42	10.6			
Inorganics						
Total Alkalinity (Total as CaCO3)	mg/L	92	5.3	5.0		
Dissolved Chloride (Cl-)	mg/L	3.7	3.5	1.0		
Colour	TCU	<5.0	<5.0	5.0		
Nitrate + Nitrite (N)	mg/L	<0.050	0.055	0.050		
Nitrite (N)	mg/L	<0.010	<0.010	0.010		
Nitrogen (Ammonia Nitrogen)	mg/L	0.21	<0.050	0.050		
Total Organic Carbon (TOC)	mg/L	0.88	0.91	0.40	0.95	0.40
Orthophosphate (P)	mg/L	0.011	0.018	0.010		
pH	pH	7.87	6.55			
Reactive Silica (SiO2)	mg/L	8.5	5.1	0.50		
Dissolved Sulphate (SO4)	mg/L	14	3.7	2.0		
Turbidity	NTU	3.2	1.3	0.10		
Conductivity	uS/cm	210	31	1.0		

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ELEMENTS BY ICP/MS (WATER)

BV Labs ID		NGT955	NGT956	NGT957	NGT958	NGT959	NGT960	NGT961	
Sampling Date		2020/07/30 11:45	2020/07/30 11:50	2020/07/30 11:55	2020/07/30 11:00	2020/07/30 11:05	2020/07/30 12:25	2020/07/30 12:30	
COC Number		782150-01-01	782150-01-01	782150-01-01	782150-01-01	782150-01-01	782150-01-01	782150-01-01	
Sample #		MW-01A	MW-01B	MW-01C	MW-02A	MW-02B	MW-03A	MW-03B	
	UNITS	**MW-01A**	**MW-01B**	**MW-01C**	**MW-02A**	**MW-02B**	**MW-03A**	**MW-03B**	**RDL**
Metals									
Dissolved Aluminum (Al)	ug/L	<5.0	7.8	<5.0	120	<5.0	130	<5.0	5.0
Total Aluminum (Al)	ug/L	120	230	120	560	28	450	120	5.0
Dissolved Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Arsenic (As)	ug/L	<1.0	2.7	<1.0	<1.0	2.4	<1.0	<1.0	1.0
Total Arsenic (As)	ug/L	<1.0	2.9	<1.0	<1.0	2.6	<1.0	1.0	1.0
Dissolved Barium (Ba)	ug/L	8.0	5.8	4.5	7.9	2.7	11	3.5	1.0
Total Barium (Ba)	ug/L	9.0	7.3	5.4	9.6	2.9	15	4.4	1.0
Dissolved Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Boron (B)	ug/L	<50	<50	<50	<50	<50	<50	<50	50
Total Boron (B)	ug/L	<50	<50	<50	<50	<50	<50	<50	50
Dissolved Cadmium (Cd)	ug/L	0.021	<0.010	0.019	0.023	0.41	0.029	0.022	0.010
Total Cadmium (Cd)	ug/L	0.027	0.010	0.021	0.021	0.44	0.033	0.023	0.010
Dissolved Calcium (Ca)	ug/L	5400	21000	5100	770	3100	1300	11000	100
Total Calcium (Ca)	ug/L	5400	22000	5300	920	3300	1300	12000	100
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Cobalt (Co)	ug/L	<0.40	<0.40	<0.40	1.2	<0.40	<0.40	<0.40	0.40
Total Cobalt (Co)	ug/L	0.99	<0.40	<0.40	1.4	<0.40	0.52	<0.40	0.40
Dissolved Copper (Cu)	ug/L	<0.50	0.52	0.94	3.0	0.66	1.2	1.2	0.50
Total Copper (Cu)	ug/L	1.2	1.7	1.9	3.9	1.1	2.0	2.0	0.50
Dissolved Iron (Fe)	ug/L	<50	<50	<50	<50	<50	<50	<50	50
Total Iron (Fe)	ug/L	200	270	110	640	<50	300	180	50
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Total Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	0.75	<0.50	0.50
Dissolved Magnesium (Mg)	ug/L	870	2000	630	370	800	490	1200	100
Total Magnesium (Mg)	ug/L	920	2100	690	560	840	560	1300	100
Dissolved Manganese (Mn)	ug/L	68	<2.0	9.6	48	3.9	36	10	2.0
Total Manganese (Mn)	ug/L	120	9.2	25	62	4.3	50	14	2.0
Dissolved Molybdenum (Mo)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0

RDL = Reportable Detection Limit

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BV Labs Job #: C0J5559
Report Date: 2020/08/17

GHD Limited
Client Project #: 088664-42
Your P.O. #: 14592
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		NGT955	NGT956	NGT957	NGT958	NGT959	NGT960	NGT961	
Sampling Date		2020/07/30 11:45	2020/07/30 11:50	2020/07/30 11:55	2020/07/30 11:00	2020/07/30 11:05	2020/07/30 12:25	2020/07/30 12:30	
COC Number		782150-01-01	782150-01-01	782150-01-01	782150-01-01	782150-01-01	782150-01-01	782150-01-01	
Sample #		MW-01A	MW-01B	MW-01C	MW-02A	MW-02B	MW-03A	MW-03B	
	UNITS	**MW-01A**	**MW-01B**	**MW-01C**	**MW-02A**	**MW-02B**	**MW-03A**	**MW-03B**	**RDL**
Total Molybdenum (Mo)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Nickel (Ni)	ug/L	<2.0	<2.0	2.2	2.6	<2.0	2.0	<2.0	2.0
Total Nickel (Ni)	ug/L	<2.0	<2.0	3.0	3.5	<2.0	2.3	<2.0	2.0
Dissolved Phosphorus (P)	ug/L	<100	<100	<100	<100	110	<100	<100	100
Total Phosphorus (P)	ug/L	<100	<100	<100	<100	140	<100	<100	100
Dissolved Potassium (K)	ug/L	830	1200	860	240	560	640	1000	100
Total Potassium (K)	ug/L	880	1300	890	360	610	710	1100	100
Dissolved Selenium (Se)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Total Selenium (Se)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Dissolved Silver (Ag)	ug/L	<0.10	<0.10	<0.10	0.15	<0.10	<0.10	<0.10	0.10
Total Silver (Ag)	ug/L	<0.10	<0.10	<0.10	0.33	<0.10	0.18	0.25	0.10
Dissolved Sodium (Na)	ug/L	3400	4400	3600	3000	4400	2400	4500	100
Total Sodium (Na)	ug/L	3600	4700	3700	3300	4800	2600	4600	100
Dissolved Strontium (Sr)	ug/L	29	49	27	7.7	20	14	25	2.0
Total Strontium (Sr)	ug/L	28	49	29	10	20	14	25	2.0
Dissolved Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Total Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Dissolved Tin (Sn)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Tin (Sn)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Titanium (Ti)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Titanium (Ti)	ug/L	6.2	11	4.2	16	<2.0	8.3	9.5	2.0
Dissolved Uranium (U)	ug/L	<0.10	0.74	0.17	<0.10	1.1	<0.10	0.17	0.10
Total Uranium (U)	ug/L	0.11	0.80	0.23	<0.10	1.3	0.23	0.31	0.10
Dissolved Vanadium (V)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Vanadium (V)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Zinc (Zn)	ug/L	<5.0	<5.0	10	6.7	88	<5.0	6.4	5.0
Total Zinc (Zn)	ug/L	<5.0	<5.0	9.6	6.4	89	5.1	5.5	5.0

RDL = Reportable Detection Limit

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BV Labs Job #: C0J5559
Report Date: 2020/08/17

GHD Limited
Client Project #: 088664-42
Your P.O. #: 14592
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		NGT962	NGT963	NGT964	NGT965	NGT966	NGT967	NGT968	
Sampling Date		2020/07/30 12:40	2020/07/30 13:30	2020/07/30 13:35	2020/07/30 13:55	2020/07/30 14:00	2020/07/30 14:05	2020/07/30 14:10	
COC Number		782150-01-01	782150-01-01	782150-01-01	782150-02-01	782150-02-01	782150-02-01	782150-02-01	
Sample #		MW-03C	MW-04A	MW-04B	MW-05A	MW-05B	MW-05D	MW-07A	
	UNITS	**MW-03C**	**MW-04A**	**MW-04B**	**MW-05A**	**MW-05B**	**MW-05D**	**MW-07A**	**RDL**
Metals									
Dissolved Aluminum (Al)	ug/L	<5.0	17	5.2	20	38	9.6	<5.0	5.0
Total Aluminum (Al)	ug/L	39	120	92	76	1300	650	69	5.0
Dissolved Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Antimony (Sb)	ug/L	<1.0	<1.0	1.6	<1.0	1.6	<1.0	<1.0	1.0
Dissolved Arsenic (As)	ug/L	1.6	<1.0	<1.0	<1.0	1.0	<1.0	8.7	1.0
Total Arsenic (As)	ug/L	1.8	<1.0	1.1	<1.0	2.3	1.2	21	1.0
Dissolved Barium (Ba)	ug/L	3.3	3.0	1.9	5.9	7.2	7.1	4.5	1.0
Total Barium (Ba)	ug/L	3.3	3.8	2.3	6.1	11	9.3	4.9	1.0
Dissolved Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Boron (B)	ug/L	<50	<50	<50	<50	<50	<50	<50	50
Total Boron (B)	ug/L	<50	<50	<50	<50	<50	<50	<50	50
Dissolved Cadmium (Cd)	ug/L	0.010	0.011	<0.010	0.022	0.011	<0.010	<0.010	0.010
Total Cadmium (Cd)	ug/L	<0.010	0.013	<0.010	0.022	0.015	<0.010	<0.010	0.010
Dissolved Calcium (Ca)	ug/L	25000	2200	11000	1800	14000	18000	28000	100
Total Calcium (Ca)	ug/L	26000	2400	11000	1800	14000	19000	29000	100
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Cobalt (Co)	ug/L	<0.40	<0.40	<0.40	0.91	<0.40	<0.40	<0.40	0.40
Total Cobalt (Co)	ug/L	<0.40	<0.40	<0.40	0.98	0.62	<0.40	<0.40	0.40
Dissolved Copper (Cu)	ug/L	0.71	0.82	3.7	6.9	<0.50	<0.50	<0.50	0.50
Total Copper (Cu)	ug/L	1.2	2.2	5.2	8.6	2.2	0.87	<0.50	0.50
Dissolved Iron (Fe)	ug/L	<50	<50	<50	<50	<50	<50	2000	50
Total Iron (Fe)	ug/L	54	100	130	96	740	550	3500	50
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	1.2	<0.50	<0.50	0.50
Total Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	0.77	0.95	<0.50	0.50
Dissolved Magnesium (Mg)	ug/L	2500	500	1100	420	1500	2400	6900	100
Total Magnesium (Mg)	ug/L	2500	560	1200	440	1700	2600	7300	100
Dissolved Manganese (Mn)	ug/L	7.2	8.4	7.2	28	33	31	630	2.0
Total Manganese (Mn)	ug/L	6.9	12	11	29	70	40	590	2.0
Dissolved Molybdenum (Mo)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0

RDL = Reportable Detection Limit

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BV Labs Job #: C0J5559
Report Date: 2020/08/17

GHD Limited
Client Project #: 088664-42
Your P.O. #: 14592
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		NGT962	NGT963	NGT964	NGT965	NGT966	NGT967	NGT968	
Sampling Date		2020/07/30 12:40	2020/07/30 13:30	2020/07/30 13:35	2020/07/30 13:55	2020/07/30 14:00	2020/07/30 14:05	2020/07/30 14:10	
COC Number		782150-01-01	782150-01-01	782150-01-01	782150-02-01	782150-02-01	782150-02-01	782150-02-01	
Sample #		MW-03C	MW-04A	MW-04B	MW-05A	MW-05B	MW-05D	MW-07A	
	UNITS	**MW-03C**	**MW-04A**	**MW-04B**	**MW-05A**	**MW-05B**	**MW-05D**	**MW-07A**	**RDL**
Total Molybdenum (Mo)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Nickel (Ni)	ug/L	<2.0	<2.0	<2.0	3.3	<2.0	<2.0	<2.0	2.0
Total Nickel (Ni)	ug/L	<2.0	<2.0	<2.0	3.7	<2.0	<2.0	<2.0	2.0
Dissolved Phosphorus (P)	ug/L	<100	<100	<100	<100	<100	<100	<100	100
Total Phosphorus (P)	ug/L	<100	<100	<100	<100	<100	<100	<100	100
Dissolved Potassium (K)	ug/L	1800	510	780	530	1300	1000	1800	100
Total Potassium (K)	ug/L	1800	640	790	540	1400	1200	1900	100
Dissolved Selenium (Se)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Total Selenium (Se)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Dissolved Silver (Ag)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Total Silver (Ag)	ug/L	0.12	0.10	0.11	0.17	0.16	<0.10	<0.10	0.10
Dissolved Sodium (Na)	ug/L	5400	3000	4200	2500	5900	10000	8900	100
Total Sodium (Na)	ug/L	5400	3300	4300	2600	5700	11000	9400	100
Dissolved Strontium (Sr)	ug/L	67	16	61	9.6	78	170	150	2.0
Total Strontium (Sr)	ug/L	67	18	63	9.9	82	170	160	2.0
Dissolved Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Total Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Dissolved Tin (Sn)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Tin (Sn)	ug/L	<2.0	2.7	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Titanium (Ti)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Titanium (Ti)	ug/L	2.9	3.1	6.2	2.8	25	14	2.1	2.0
Dissolved Uranium (U)	ug/L	1.2	<0.10	<0.10	<0.10	0.22	0.49	<0.10	0.10
Total Uranium (U)	ug/L	1.3	<0.10	<0.10	<0.10	0.45	0.56	<0.10	0.10
Dissolved Vanadium (V)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Vanadium (V)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Zinc (Zn)	ug/L	12	5.2	14	9.6	13	<5.0	<5.0	5.0
Total Zinc (Zn)	ug/L	7.5	<5.0	14	8.3	15	<5.0	<5.0	5.0

RDL = Reportable Detection Limit

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BV Labs Job #: C0J5559
Report Date: 2020/08/17

GHD Limited
Client Project #: 088664-42
Your P.O. #: 14592
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		NGT969	NGT970	NGT971	NGT972		NGT972		NGT973	
Sampling Date		2020/07/30 14:10	2020/07/30 14:10	2020/07/30 13:10	2020/07/30 13:15		2020/07/30 13:15		2020/07/30 13:20	
COC Number		782150-02-01	782150-02-01	782150-02-01	782150-02-01		782150-02-01		782150-02-01	
Sample #		MW-07B	MW-07D	MW-09A	MW-09B		MW-09B		MW-09D	
	UNITS	**MW-07B**	**MW-07D**	**MW-09A**	**MW-09B**	**RDL**	**MW-09B Lab-Dup**	**RDL**	**MW-09D**	**RDL**
Metals										
Dissolved Aluminum (Al)	ug/L	<5.0	80	8.3	9.6	5.0	6.4	5.0	5.3	5.0
Total Aluminum (Al)	ug/L	93	9.5	160	290	5.0			27	5.0
Dissolved Antimony (Sb)	ug/L	1.9	<1.0	<1.0	<1.0	1.0	<1.0	1.0	<1.0	1.0
Total Antimony (Sb)	ug/L	1.6	<1.0	<1.0	<1.0	1.0			<1.0	1.0
Dissolved Arsenic (As)	ug/L	170	37	3.5	96	1.0	96	1.0	90	1.0
Total Arsenic (As)	ug/L	180	37	6.0	100	1.0			110	1.0
Dissolved Barium (Ba)	ug/L	7.2	18	6.6	13	1.0	13	1.0	10	1.0
Total Barium (Ba)	ug/L	7.6	18	7.7	13	1.0			10	1.0
Dissolved Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0	<1.0	1.0	<1.0	1.0
Total Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0			<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	2.0	<2.0	2.0	<2.0	2.0
Total Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	2.0			<2.0	2.0
Dissolved Boron (B)	ug/L	<50	<50	<50	<50	50	<50	50	<50	50
Total Boron (B)	ug/L	<50	<50	<50	<50	50			<50	50
Dissolved Cadmium (Cd)	ug/L	<0.010	<0.010	0.042	<0.010	0.010	<0.010	0.010	<0.010	0.010
Total Cadmium (Cd)	ug/L	<0.010	<0.010	0.044	<0.010	0.010			<0.010	0.010
Dissolved Calcium (Ca)	ug/L	38000	91000	5600	28000	100	28000	100	28000	100
Total Calcium (Ca)	ug/L	39000	96000	5800	29000	100			27000	100
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0	<1.0	1.0	<1.0	1.0
Total Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0			<1.0	1.0
Dissolved Cobalt (Co)	ug/L	<0.40	<0.40	<0.40	<0.40	0.40	<0.40	0.40	<0.40	0.40
Total Cobalt (Co)	ug/L	<0.40	<0.40	0.63	<0.40	0.40			<0.40	0.40
Dissolved Copper (Cu)	ug/L	<0.50	<0.50	1.4	<0.50	0.50	<0.50	0.50	<0.50	0.50
Total Copper (Cu)	ug/L	<0.50	<0.50	2.7	1.1	0.50			<0.50	0.50
Dissolved Iron (Fe)	ug/L	<50	140	<50	<50	50	<50	50	<50	50
Total Iron (Fe)	ug/L	110	<50	230	150	50			<50	50
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	0.50	<0.50	0.50	<0.50	0.50
Total Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	0.50			<0.50	0.50
Dissolved Magnesium (Mg)	ug/L	6000	7500	510	2500	100	2400	100	3700	100
Total Magnesium (Mg)	ug/L	6000	8000	570	2600	100			3500	100
Dissolved Manganese (Mn)	ug/L	53	1300	20	41	2.0	41	2.0	51	2.0
Total Manganese (Mn)	ug/L	57	1300	31	45	2.0			49	2.0

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate

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Report Date: 2020/08/17

GHD Limited
Client Project #: 088664-42
Your P.O. #: 14592
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		NGT969	NGT970	NGT971	NGT972		NGT972		NGT973	
Sampling Date		2020/07/30 14:10	2020/07/30 14:10	2020/07/30 13:10	2020/07/30 13:15		2020/07/30 13:15		2020/07/30 13:20	
COC Number		782150-02-01	782150-02-01	782150-02-01	782150-02-01		782150-02-01		782150-02-01	
Sample #		MW-07B	MW-07D	MW-09A	MW-09B		MW-09B		MW-09D	
	UNITS	**MW-07B**	**MW-07D**	**MW-09A**	**MW-09B**	**RDL**	**MW-09B Lab-Dup**	**RDL**	**MW-09D**	**RDL**
Dissolved Molybdenum (Mo)	ug/L	<2.0	<2.0	<2.0	4.7	2.0	4.4	2.0	3.0	2.0
Total Molybdenum (Mo)	ug/L	<2.0	<2.0	<2.0	4.7	2.0			3.2	2.0
Dissolved Nickel (Ni)	ug/L	<2.0	<2.0	<2.0	<2.0	2.0	<2.0	2.0	<2.0	2.0
Total Nickel (Ni)	ug/L	<2.0	<2.0	<2.0	<2.0	2.0			<2.0	2.0
Dissolved Phosphorus (P)	ug/L	<100	<100	<100	<100	100	<100	100	<100	100
Total Phosphorus (P)	ug/L	<100	<100	<100	<100	100			<100	100
Dissolved Potassium (K)	ug/L	1300	3000	630	1200	100	1200	100	1100	100
Total Potassium (K)	ug/L	1300	3100	640	1200	100			1000	100
Dissolved Selenium (Se)	ug/L	<0.50	<0.50	<0.50	<0.50	0.50	<0.50	0.50	<0.50	0.50
Total Selenium (Se)	ug/L	<0.50	<0.50	<0.50	<0.50	0.50			<0.50	0.50
Dissolved Silver (Ag)	ug/L	<0.10	<0.10	<0.10	<0.10	0.10	<0.10	0.10	<0.10	0.10
Total Silver (Ag)	ug/L	<0.10	<0.10	0.32	<0.10	0.10			<0.10	0.10
Dissolved Sodium (Na)	ug/L	17000	16000	2600	6400	100	6400	100	17000	100
Total Sodium (Na)	ug/L	17000	17000	2700	6700	100			16000	100
Dissolved Strontium (Sr)	ug/L	350	350	15	390	2.0	390	2.0	590	2.0
Total Strontium (Sr)	ug/L	350	370	16	400	2.0			580	2.0
Dissolved Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	0.10	<0.10	0.10	<0.10	0.10
Total Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	0.10			<0.10	0.10
Dissolved Tin (Sn)	ug/L	11	<2.0	<2.0	<2.0	2.0	<2.0	2.0	<2.0	2.0
Total Tin (Sn)	ug/L	<2.0	<2.0	<2.0	<2.0	2.0			<2.0	2.0
Dissolved Titanium (Ti)	ug/L	<2.0	2.0	<2.0	<2.0	2.0	<2.0	2.0	<2.0	2.0
Total Titanium (Ti)	ug/L	2.8	<2.0	6.2	7.2	2.0			<2.0	2.0
Dissolved Uranium (U)	ug/L	0.62	1.9	0.13	5.0	0.10	4.9	0.10	1.4	0.10
Total Uranium (U)	ug/L	0.67	1.9	0.16	5.1	0.10			1.4	0.10
Dissolved Vanadium (V)	ug/L	<2.0	<2.0	<2.0	<2.0	2.0	<2.0	2.0	<2.0	2.0
Total Vanadium (V)	ug/L	<2.0	<2.0	<2.0	<2.0	2.0			<2.0	2.0
Dissolved Zinc (Zn)	ug/L	<5.0	<5.0	5.2	<5.0	5.0	<5.0	5.0	<5.0	5.0
Total Zinc (Zn)	ug/L	<5.0	<5.0	5.6	<5.0	5.0			<5.0	5.0

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate

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BV Labs Job #: C0J5559
Report Date: 2020/08/17

GHD Limited
Client Project #: 088664-42
Your P.O. #: 14592
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		NGT973		NGT974	NGT976		NGT977		NGT977	
Sampling Date		2020/07/30 13:20		2020/07/30 13:35	2020/07/30 14:35		2020/07/30 14:35		2020/07/30 14:35	
COC Number		782150-02-01		782150-02-01	782150-03-01		782150-03-01		782150-03-01	
Sample #		MW-09D		MW-11A	MW-11B		MW-11C		MW-11C	
	UNITS	MW-09D Lab-Dup	RDL	MW-11A	MW-11B	RDL	MW-11C	RDL	MW-11C Lab-Dup	RDL
Metals										
Dissolved Aluminum (Al)	ug/L			27	<5.0	5.0	<5.0	5.0	<5.0	5.0
Total Aluminum (Al)	ug/L	26	5.0	65	110	5.0	250	50		
Dissolved Antimony (Sb)	ug/L			<1.0	<1.0	1.0	<1.0	1.0	<1.0	1.0
Total Antimony (Sb)	ug/L	<1.0	1.0	<1.0	<1.0	1.0	<1.0	1.0		
Dissolved Arsenic (As)	ug/L			<1.0	3.2	1.0	75	1.0	77	1.0
Total Arsenic (As)	ug/L	110	1.0	<1.0	16	1.0	76	1.0		
Dissolved Barium (Ba)	ug/L			5.6	3.8	1.0	16	1.0	16	1.0
Total Barium (Ba)	ug/L	10	1.0	5.4	4.0	1.0	17	1.0		
Dissolved Beryllium (Be)	ug/L			<1.0	<1.0	1.0	<1.0	1.0	<1.0	1.0
Total Beryllium (Be)	ug/L	<1.0	1.0	<1.0	<1.0	1.0	<1.0	1.0		
Dissolved Bismuth (Bi)	ug/L			<2.0	<2.0	2.0	<2.0	2.0	<2.0	2.0
Total Bismuth (Bi)	ug/L	<2.0	2.0	<2.0	<2.0	2.0	<2.0	2.0		
Dissolved Boron (B)	ug/L			<50	<50	50	<50	50	<50	50
Total Boron (B)	ug/L	<50	50	<50	<50	50	<50	50		
Dissolved Cadmium (Cd)	ug/L			0.018	<0.010	0.010	<0.010	0.010	<0.010	0.010
Total Cadmium (Cd)	ug/L	<0.010	0.010	0.018	<0.010	0.010	<0.010	0.010		
Dissolved Calcium (Ca)	ug/L			1600	20000	100	26000	100	26000	100
Total Calcium (Ca)	ug/L	28000	100	1600	22000	100	26000	100		
Dissolved Chromium (Cr)	ug/L			<1.0	<1.0	1.0	<1.0	1.0	<1.0	1.0
Total Chromium (Cr)	ug/L	<1.0	1.0	<1.0	<1.0	1.0	<1.0	1.0		
Dissolved Cobalt (Co)	ug/L			<0.40	<0.40	0.40	<0.40	0.40	<0.40	0.40
Total Cobalt (Co)	ug/L	<0.40	0.40	0.47	<0.40	0.40	<0.40	0.40		
Dissolved Copper (Cu)	ug/L			2.2	<0.50	0.50	<0.50	0.50	<0.50	0.50
Total Copper (Cu)	ug/L	<0.50	0.50	2.7	0.96	0.50	0.77	0.50		
Dissolved Iron (Fe)	ug/L			<50	<50	50	<50	50	<50	50
Total Iron (Fe)	ug/L	<50	50	<50	190	50	170	50		
Dissolved Lead (Pb)	ug/L			<0.50	<0.50	0.50	<0.50	0.50	<0.50	0.50
Total Lead (Pb)	ug/L	<0.50	0.50	<0.50	<0.50	0.50	<0.50	0.50		
Dissolved Magnesium (Mg)	ug/L			330	1400	100	2300	100	2300	100
Total Magnesium (Mg)	ug/L	3700	100	340	1500	100	2300	100		
Dissolved Manganese (Mn)	ug/L			17	53	2.0	7.8	2.0	7.5	2.0
Total Manganese (Mn)	ug/L	50	2.0	18	25	2.0	20	2.0		

RDL = Reportable Detection Limit
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BV Labs Job #: C0J5559
Report Date: 2020/08/17

GHD Limited
Client Project #: 088664-42
Your P.O. #: 14592
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		NGT973		NGT974	NGT976		NGT977		NGT977	
Sampling Date		2020/07/30 13:20		2020/07/30 13:35	2020/07/30 14:35		2020/07/30 14:35		2020/07/30 14:35	
COC Number		782150-02-01		782150-02-01	782150-03-01		782150-03-01		782150-03-01	
Sample #		MW-09D		MW-11A	MW-11B		MW-11C		MW-11C	
	UNITS	MW-09D Lab-Dup	RDL	MW-11A	MW-11B	RDL	MW-11C	RDL	MW-11C Lab-Dup	RDL
Dissolved Molybdenum (Mo)	ug/L			<2.0	<2.0	2.0	2.8	2.0	2.9	2.0
Total Molybdenum (Mo)	ug/L	3.2	2.0	<2.0	<2.0	2.0	2.9	2.0		
Dissolved Nickel (Ni)	ug/L			<2.0	<2.0	2.0	<2.0	2.0	<2.0	2.0
Total Nickel (Ni)	ug/L	<2.0	2.0	<2.0	<2.0	2.0	<2.0	2.0		
Dissolved Phosphorus (P)	ug/L			<100	<100	100	<100	100	<100	100
Total Phosphorus (P)	ug/L	<100	100	<100	<100	100	<100	100		
Dissolved Potassium (K)	ug/L			700	990	100	1200	100	1200	100
Total Potassium (K)	ug/L	1100	100	560	890	100	1200	100		
Dissolved Selenium (Se)	ug/L			<0.50	<0.50	0.50	<0.50	0.50	<0.50	0.50
Total Selenium (Se)	ug/L	<0.50	0.50	<0.50	<0.50	0.50	<0.50	0.50		
Dissolved Silver (Ag)	ug/L			<0.10	<0.10	0.10	<0.10	0.10	<0.10	0.10
Total Silver (Ag)	ug/L	<0.10	0.10	<0.10	<0.10	0.10	<0.10	0.10		
Dissolved Sodium (Na)	ug/L			2700	5300	100	13000	100	13000	100
Total Sodium (Na)	ug/L	16000	100	2300	4800	100	13000	100		
Dissolved Strontium (Sr)	ug/L			12	46	2.0	280	2.0	270	2.0
Total Strontium (Sr)	ug/L	600	2.0	12	49	2.0	280	2.0		
Dissolved Thallium (Tl)	ug/L			<0.10	<0.10	0.10	<0.10	0.10	<0.10	0.10
Total Thallium (Tl)	ug/L	<0.10	0.10	<0.10	<0.10	0.10	<0.10	0.10		
Dissolved Tin (Sn)	ug/L			<2.0	<2.0	2.0	<2.0	2.0	<2.0	2.0
Total Tin (Sn)	ug/L	<2.0	2.0	<2.0	<2.0	2.0	<2.0	2.0		
Dissolved Titanium (Ti)	ug/L			<2.0	<2.0	2.0	<2.0	2.0	<2.0	2.0
Total Titanium (Ti)	ug/L	<2.0	2.0	<2.0	2.8	2.0	5.0	2.0		
Dissolved Uranium (U)	ug/L			<0.10	0.53	0.10	5.3	0.10	5.4	0.10
Total Uranium (U)	ug/L	1.5	0.10	<0.10	0.71	0.10	5.4	0.10		
Dissolved Vanadium (V)	ug/L			<2.0	<2.0	2.0	<2.0	2.0	<2.0	2.0
Total Vanadium (V)	ug/L	<2.0	2.0	<2.0	<2.0	2.0	2.1	2.0		
Dissolved Zinc (Zn)	ug/L			8.8	<5.0	5.0	6.4	5.0	6.3	5.0
Total Zinc (Zn)	ug/L	<5.0	5.0	5.2	<5.0	5.0	7.7	5.0		

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate

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BV Labs Job #: C0J5559
Report Date: 2020/08/17

GHD Limited
Client Project #: 088664-42
Your P.O. #: 14592
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		NGT978	NGT979	NGT980	NGT981	NGT982	NGT983	NGT984	
Sampling Date		2020/07/30 12:55	2020/07/30 13:00	2020/07/30 11:09	2020/07/30 11:09	2020/07/30 11:09	2020/07/30 11:50	2020/07/30 11:50	
COC Number		782150-03-01	782150-03-01	782150-03-01	782150-03-01	782150-03-01	782150-03-01	782150-03-01	
Sample #		MW-12A	MW-12B	MW-14A	MW-14B	MW-14C	MW-16A	MW-16B	
	UNITS	**MW-12A**	**MW-12B**	**MW-14A**	**MW-14B**	**MW-14C**	**MW-16A**	**MW-16B**	**RDL**
Metals									
Dissolved Aluminum (Al)	ug/L	7.7	<5.0	<5.0	<5.0	<5.0	8.2	11	5.0
Total Aluminum (Al)	ug/L	640	66	2300	98	19	670	76	5.0
Dissolved Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Arsenic (As)	ug/L	<1.0	33	3.9	5.9	1.4	<1.0	9.6	1.0
Total Arsenic (As)	ug/L	<1.0	36	35	6.3	1.4	1.6	9.1	1.0
Dissolved Barium (Ba)	ug/L	5.4	11	2.8	4.1	1.7	3.5	4.0	1.0
Total Barium (Ba)	ug/L	11	12	18	5.0	1.9	22	4.1	1.0
Dissolved Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Boron (B)	ug/L	<50	<50	<50	<50	110	<50	<50	50
Total Boron (B)	ug/L	<50	<50	<50	<50	110	<50	<50	50
Dissolved Cadmium (Cd)	ug/L	0.033	<0.010	0.013	<0.010	<0.010	0.030	<0.010	0.010
Total Cadmium (Cd)	ug/L	0.035	<0.010	0.017	<0.010	<0.010	0.032	0.010	0.010
Dissolved Calcium (Ca)	ug/L	4100	25000	3600	17000	11000	15000	19000	100
Total Calcium (Ca)	ug/L	4300	25000	3800	17000	11000	16000	18000	100
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Chromium (Cr)	ug/L	1.1	<1.0	3.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Cobalt (Co)	ug/L	0.97	<0.40	0.51	<0.40	<0.40	1.4	<0.40	0.40
Total Cobalt (Co)	ug/L	1.5	<0.40	2.0	<0.40	<0.40	1.9	<0.40	0.40
Dissolved Copper (Cu)	ug/L	<0.50	<0.50	1.3	<0.50	<0.50	1.4	<0.50	0.50
Total Copper (Cu)	ug/L	1.5	0.61	8.5	1.1	<0.50	3.1	1.2	0.50
Dissolved Iron (Fe)	ug/L	<50	<50	<50	<50	<50	<50	<50	50
Total Iron (Fe)	ug/L	880	110	3900	280	70	800	52	50
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Total Lead (Pb)	ug/L	<0.50	<0.50	2.1	<0.50	<0.50	1.2	<0.50	0.50
Dissolved Magnesium (Mg)	ug/L	1500	2600	960	1900	1800	1200	1200	100
Total Magnesium (Mg)	ug/L	1700	2700	1800	1900	1800	1400	1200	100
Dissolved Manganese (Mn)	ug/L	130	250	47	210	15	540	5.8	2.0
Total Manganese (Mn)	ug/L	160	270	120	210	18	580	3.7	2.0
Dissolved Molybdenum (Mo)	ug/L	<2.0	17	<2.0	17	<2.0	<2.0	<2.0	2.0

RDL = Reportable Detection Limit

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BV Labs Job #: C0J5559
Report Date: 2020/08/17

GHD Limited
Client Project #: 088664-42
Your P.O. #: 14592
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		NGT978	NGT979	NGT980	NGT981	NGT982	NGT983	NGT984	
Sampling Date		2020/07/30 12:55	2020/07/30 13:00	2020/07/30 11:09	2020/07/30 11:09	2020/07/30 11:09	2020/07/30 11:50	2020/07/30 11:50	
COC Number		782150-03-01	782150-03-01	782150-03-01	782150-03-01	782150-03-01	782150-03-01	782150-03-01	
Sample #		MW-12A	MW-12B	MW-14A	MW-14B	MW-14C	MW-16A	MW-16B	
	UNITS	**MW-12A**	**MW-12B**	**MW-14A**	**MW-14B**	**MW-14C**	**MW-16A**	**MW-16B**	**RDL**
Total Molybdenum (Mo)	ug/L	<2.0	19	<2.0	17	<2.0	<2.0	<2.0	2.0
Dissolved Nickel (Ni)	ug/L	5.8	<2.0	4.8	3.9	<2.0	<2.0	<2.0	2.0
Total Nickel (Ni)	ug/L	3.6	<2.0	8.5	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Phosphorus (P)	ug/L	<100	<100	<100	<100	<100	<100	<100	100
Total Phosphorus (P)	ug/L	<100	<100	130	<100	<100	<100	<100	100
Dissolved Potassium (K)	ug/L	910	1500	960	1600	580	1100	1300	100
Total Potassium (K)	ug/L	1100	1600	1400	1500	600	1300	1300	100
Dissolved Selenium (Se)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Total Selenium (Se)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Dissolved Silver (Ag)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Total Silver (Ag)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	0.21	<0.10	0.10
Dissolved Sodium (Na)	ug/L	5200	16000	6400	22000	20000	6600	5200	100
Total Sodium (Na)	ug/L	5200	16000	6300	22000	20000	6500	5100	100
Dissolved Strontium (Sr)	ug/L	40	91	30	74	250	54	73	2.0
Total Strontium (Sr)	ug/L	42	96	33	76	250	65	70	2.0
Dissolved Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Total Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Dissolved Tin (Sn)	ug/L	3.2	<2.0	<2.0	<2.0	<2.0	3.0	<2.0	2.0
Total Tin (Sn)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Titanium (Ti)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Titanium (Ti)	ug/L	21	3.0	83	4.8	<2.0	23	3.8	2.0
Dissolved Uranium (U)	ug/L	<0.10	1.6	<0.10	0.60	0.14	0.53	2.4	0.10
Total Uranium (U)	ug/L	<0.10	1.7	0.23	0.66	0.14	1.2	2.4	0.10
Dissolved Vanadium (V)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Vanadium (V)	ug/L	<2.0	<2.0	3.2	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Zinc (Zn)	ug/L	5.2	<5.0	8.5	<5.0	<5.0	5.8	<5.0	5.0
Total Zinc (Zn)	ug/L	<5.0	<5.0	15	<5.0	<5.0	<5.0	<5.0	5.0

RDL = Reportable Detection Limit

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BV Labs Job #: C0J5559
Report Date: 2020/08/17

GHD Limited
Client Project #: 088664-42
Your P.O. #: 14592
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		NGT985	NGT986	NGT987	NGT988	NGT989	NGT990	NGT991	
Sampling Date		2020/07/30 13:13	2020/07/30 13:13	2020/07/30 13:13	2020/07/30 12:14	2020/07/30 12:14	2020/07/30 12:14	2020/07/30 11:20	
COC Number		782150-03-01	782150-04-01	782150-04-01	782150-04-01	782150-04-01	782150-04-01	782150-04-01	
Sample #		MW-17A	MW-17B	MW-17C	MW-18A	MW-18B	MW-18C	MW-19A	
	UNITS	**MW-17A**	**MW-17B**	**MW-17C**	**MW-18A**	**MW-18B**	**MW-18C**	**MW-19A**	**RDL**
Metals									
Dissolved Aluminum (Al)	ug/L	40	10	<5.0	39	14	8.9	51	5.0
Total Aluminum (Al)	ug/L	1300	640	400	72	350	36	6900	5.0
Dissolved Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Arsenic (As)	ug/L	<1.0	1.1	2.5	7.1	230	100	<1.0	1.0
Total Arsenic (As)	ug/L	3.7	2.0	4.5	8.2	230	100	3.4	1.0
Dissolved Barium (Ba)	ug/L	9.2	3.1	<1.0	4.7	2.4	12	8.3	1.0
Total Barium (Ba)	ug/L	16	6.8	3.1	4.8	3.2	12	49	1.0
Dissolved Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Boron (B)	ug/L	<50	<50	<50	<50	<50	<50	<50	50
Total Boron (B)	ug/L	<50	<50	<50	<50	<50	<50	<50	50
Dissolved Cadmium (Cd)	ug/L	0.042	0.017	0.011	0.024	0.010	<0.010	0.028	0.010
Total Cadmium (Cd)	ug/L	0.042	0.015	<0.010	0.020	<0.010	<0.010	0.053	0.010
Dissolved Calcium (Ca)	ug/L	1600	1500	2400	1500	16000	21000	1500	100
Total Calcium (Ca)	ug/L	1900	1600	2500	1400	16000	20000	2300	100
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Chromium (Cr)	ug/L	1.5	1.4	<1.0	<1.0	<1.0	<1.0	11	1.0
Dissolved Cobalt (Co)	ug/L	0.51	<0.40	<0.40	0.45	<0.40	<0.40	1.1	0.40
Total Cobalt (Co)	ug/L	1.2	0.40	<0.40	0.43	<0.40	<0.40	6.0	0.40
Dissolved Copper (Cu)	ug/L	4.5	<0.50	<0.50	4.6	0.61	<0.50	4.2	0.50
Total Copper (Cu)	ug/L	8.7	1.5	1.5	5.3	1.3	<0.50	32	0.50
Dissolved Iron (Fe)	ug/L	<50	<50	<50	<50	<50	<50	<50	50
Total Iron (Fe)	ug/L	1800	850	580	81	290	82	9600	50
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Total Lead (Pb)	ug/L	0.83	<0.50	<0.50	<0.50	<0.50	<0.50	6.4	0.50
Dissolved Magnesium (Mg)	ug/L	610	610	620	470	1400	2200	390	100
Total Magnesium (Mg)	ug/L	1000	860	740	450	1500	2000	2800	100
Dissolved Manganese (Mn)	ug/L	36	3.2	3.4	15	6.5	90	34	2.0
Total Manganese (Mn)	ug/L	78	30	19	14	7.2	84	210	2.0
Dissolved Molybdenum (Mo)	ug/L	<2.0	<2.0	<2.0	3.5	5.1	3.5	<2.0	2.0

RDL = Reportable Detection Limit

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BV Labs Job #: C0J5559
Report Date: 2020/08/17

GHD Limited
Client Project #: 088664-42
Your P.O. #: 14592
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		NGT985	NGT986	NGT987	NGT988	NGT989	NGT990	NGT991	
Sampling Date		2020/07/30 13:13	2020/07/30 13:13	2020/07/30 13:13	2020/07/30 12:14	2020/07/30 12:14	2020/07/30 12:14	2020/07/30 11:20	
COC Number		782150-03-01	782150-04-01	782150-04-01	782150-04-01	782150-04-01	782150-04-01	782150-04-01	
Sample #		MW-17A	MW-17B	MW-17C	MW-18A	MW-18B	MW-18C	MW-19A	
	UNITS	**MW-17A**	**MW-17B**	**MW-17C**	**MW-18A**	**MW-18B**	**MW-18C**	**MW-19A**	**RDL**
Total Molybdenum (Mo)	ug/L	<2.0	<2.0	<2.0	3.2	5.1	3.5	6.8	2.0
Dissolved Nickel (Ni)	ug/L	3.2	<2.0	<2.0	<2.0	<2.0	<2.0	3.6	2.0
Total Nickel (Ni)	ug/L	5.0	<2.0	<2.0	2.0	<2.0	<2.0	13	2.0
Dissolved Phosphorus (P)	ug/L	<100	<100	<100	<100	<100	<100	<100	100
Total Phosphorus (P)	ug/L	<100	120	<100	<100	<100	<100	320	100
Dissolved Potassium (K)	ug/L	350	380	360	710	1400	1500	740	100
Total Potassium (K)	ug/L	600	550	500	610	1500	1400	3300	100
Dissolved Selenium (Se)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Total Selenium (Se)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Dissolved Silver (Ag)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.51	0.10
Total Silver (Ag)	ug/L	0.31	0.31	0.30	<0.10	0.11	<0.10	8.8	0.10
Dissolved Sodium (Na)	ug/L	2700	2800	3100	2400	4900	21000	2600	100
Total Sodium (Na)	ug/L	2900	2800	3000	2200	4800	20000	2700	100
Dissolved Strontium (Sr)	ug/L	22	20	18	11	46	210	9.7	2.0
Total Strontium (Sr)	ug/L	23	21	19	11	48	210	17	2.0
Dissolved Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Total Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.14	0.10
Dissolved Tin (Sn)	ug/L	<2.0	2.4	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Tin (Sn)	ug/L	<2.0	<2.0	2.4	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Titanium (Ti)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Titanium (Ti)	ug/L	37	33	15	<2.0	9.9	<2.0	320	2.0
Dissolved Uranium (U)	ug/L	<0.10	<0.10	<0.10	<0.10	0.91	0.74	<0.10	0.10
Total Uranium (U)	ug/L	<0.10	<0.10	<0.10	<0.10	0.96	0.78	0.94	0.10
Dissolved Vanadium (V)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Vanadium (V)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	12	2.0
Dissolved Zinc (Zn)	ug/L	9.2	<5.0	<5.0	7.6	5.5	7.3	6.8	5.0
Total Zinc (Zn)	ug/L	10	<5.0	<5.0	<5.0	6.1	<5.0	23	5.0

RDL = Reportable Detection Limit

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BV Labs Job #: C0J5559
Report Date: 2020/08/17

GHD Limited
Client Project #: 088664-42
Your P.O. #: 14592
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		NGT992	NGT993	NGT994	NGT995	NGT996	NGT997	NGT998	
Sampling Date		2020/07/30 11:30	2020/07/30 11:35	2020/07/30 10:45	2020/07/30 10:50	2020/07/30 10:10	2020/07/30 10:15	2020/07/30 10:20	
COC Number		782150-04-01	782150-04-01	782150-04-01	782150-04-01	782150-05-01	782150-05-01	782150-05-01	
Sample #		MW-19B	MW-19C	MW-20A	MW-20B	MW-21A	MW-21B	MW-21C	
	UNITS	**MW-19B**	**MW-19C**	**MW-20A**	**MW-20B**	**MW-21A**	**MW-21B**	**MW-21C**	**RDL**
Metals									
Dissolved Aluminum (Al)	ug/L	10	<5.0	140	40	360	81	12	5.0
Total Aluminum (Al)	ug/L	120	260	660	76	580	270	96	5.0
Dissolved Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Arsenic (As)	ug/L	7.5	3.5	<1.0	<1.0	<1.0	<1.0	1.3	1.0
Total Arsenic (As)	ug/L	7.8	3.9	<1.0	<1.0	<1.0	<1.0	1.7	1.0
Dissolved Barium (Ba)	ug/L	10	4.9	8.3	4.4	13	3.3	11	1.0
Total Barium (Ba)	ug/L	12	6.8	12	5.1	17	4.6	12	1.0
Dissolved Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Boron (B)	ug/L	<50	<50	<50	<50	<50	<50	<50	50
Total Boron (B)	ug/L	<50	<50	<50	<50	<50	<50	<50	50
Dissolved Cadmium (Cd)	ug/L	<0.010	0.014	0.043	0.022	0.051	0.032	<0.010	0.010
Total Cadmium (Cd)	ug/L	<0.010	0.018	0.041	0.023	0.050	0.029	<0.010	0.010
Dissolved Calcium (Ca)	ug/L	21000	10000	1600	1400	1300	2000	11000	100
Total Calcium (Ca)	ug/L	22000	10000	1700	1400	1300	2000	12000	100
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Cobalt (Co)	ug/L	<0.40	<0.40	1.1	<0.40	2.6	0.79	0.42	0.40
Total Cobalt (Co)	ug/L	<0.40	0.43	1.4	<0.40	2.8	0.89	0.48	0.40
Dissolved Copper (Cu)	ug/L	0.58	0.81	11	<0.50	0.89	0.62	<0.50	0.50
Total Copper (Cu)	ug/L	1.6	2.5	10	<0.50	1.7	1.0	0.99	0.50
Dissolved Iron (Fe)	ug/L	<50	<50	<50	<50	<50	<50	380	50
Total Iron (Fe)	ug/L	110	340	570	<50	240	150	660	50
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Total Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Dissolved Magnesium (Mg)	ug/L	1400	900	600	650	540	860	4700	100
Total Magnesium (Mg)	ug/L	1500	1000	740	660	610	920	5500	100
Dissolved Manganese (Mn)	ug/L	7.4	23	41	37	300	140	340	2.0
Total Manganese (Mn)	ug/L	11	32	59	39	300	140	350	2.0
Dissolved Molybdenum (Mo)	ug/L	3.1	9.2	<2.0	<2.0	<2.0	<2.0	<2.0	2.0

RDL = Reportable Detection Limit

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BV Labs Job #: C0J5559
Report Date: 2020/08/17

GHD Limited
Client Project #: 088664-42
Your P.O. #: 14592
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		NGT992	NGT993	NGT994	NGT995	NGT996	NGT997	NGT998	
Sampling Date		2020/07/30 11:30	2020/07/30 11:35	2020/07/30 10:45	2020/07/30 10:50	2020/07/30 10:10	2020/07/30 10:15	2020/07/30 10:20	
COC Number		782150-04-01	782150-04-01	782150-04-01	782150-04-01	782150-05-01	782150-05-01	782150-05-01	
Sample #		MW-19B	MW-19C	MW-20A	MW-20B	MW-21A	MW-21B	MW-21C	
	UNITS	**MW-19B**	**MW-19C**	**MW-20A**	**MW-20B**	**MW-21A**	**MW-21B**	**MW-21C**	**RDL**
Total Molybdenum (Mo)	ug/L	3.2	9.4	<2.0	<2.0	<2.0	<2.0	2.5	2.0
Dissolved Nickel (Ni)	ug/L	<2.0	2.4	4.5	<2.0	<2.0	<2.0	<2.0	2.0
Total Nickel (Ni)	ug/L	<2.0	3.3	5.9	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Phosphorus (P)	ug/L	<100	<100	<100	<100	<100	<100	<100	100
Total Phosphorus (P)	ug/L	<100	<100	<100	<100	<100	<100	<100	100
Dissolved Potassium (K)	ug/L	1200	1300	640	280	710	750	1700	100
Total Potassium (K)	ug/L	1300	1400	770	280	780	790	1700	100
Dissolved Selenium (Se)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.58	0.50
Total Selenium (Se)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Dissolved Silver (Ag)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Total Silver (Ag)	ug/L	<0.10	0.40	0.18	<0.10	<0.10	<0.10	<0.10	0.10
Dissolved Sodium (Na)	ug/L	4500	5100	3100	3100	2100	2400	29000	100
Total Sodium (Na)	ug/L	4700	5000	3100	3000	2100	2300	31000	100
Dissolved Strontium (Sr)	ug/L	99	63	16	15	13	19	82	2.0
Total Strontium (Sr)	ug/L	110	66	17	16	14	20	95	2.0
Dissolved Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Total Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Dissolved Tin (Sn)	ug/L	2.9	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Tin (Sn)	ug/L	3.4	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Titanium (Ti)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Titanium (Ti)	ug/L	6.2	12	15	<2.0	11	5.8	4.9	2.0
Dissolved Uranium (U)	ug/L	2.2	<0.10	<0.10	<0.10	<0.10	<0.10	0.60	0.10
Total Uranium (U)	ug/L	2.4	0.12	<0.10	<0.10	<0.10	<0.10	0.83	0.10
Dissolved Vanadium (V)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Vanadium (V)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Zinc (Zn)	ug/L	5.3	9.9	18	<5.0	<5.0	<5.0	<5.0	5.0
Total Zinc (Zn)	ug/L	<5.0	16	19	<5.0	5.5	<5.0	<5.0	5.0

RDL = Reportable Detection Limit

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BV Labs Job #: C0J5559
Report Date: 2020/08/17

GHD Limited
Client Project #: 088664-42
Your P.O. #: 14592
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		NGT999	NGU000		NGU000		NGU001	NGU002	
Sampling Date		2020/07/30 10:16	2020/07/30 10:16		2020/07/30 10:16		2020/07/30 10:16	2020/07/30	
COC Number		782150-05-01	782150-05-01		782150-05-01		782150-05-01	782150-05-01	
Sample #		MW-22A	MW-22B		MW-22B		MW-22C	DUP 1	
	UNITS	**MW-22A**	**MW-22B**	**RDL**	**MW-22B Lab-Dup**	**RDL**	**MW-22C**	**Dup 1**	**RDL**
Metals									
Dissolved Aluminum (Al)	ug/L	45	12	5.0			7.2	350	5.0
Total Aluminum (Al)	ug/L	1000	120	5.0	120	5.0	190	520	5.0
Dissolved Antimony (Sb)	ug/L	<1.0	<1.0	1.0			<1.0	<1.0	1.0
Total Antimony (Sb)	ug/L	<1.0	<1.0	1.0	<1.0	1.0	<1.0	<1.0	1.0
Dissolved Arsenic (As)	ug/L	1.5	1.4	1.0			5.5	<1.0	1.0
Total Arsenic (As)	ug/L	3.7	1.0	1.0	1.1	1.0	5.1	<1.0	1.0
Dissolved Barium (Ba)	ug/L	4.6	3.2	1.0			4.7	13	1.0
Total Barium (Ba)	ug/L	9.8	3.4	1.0	3.5	1.0	5.8	16	1.0
Dissolved Beryllium (Be)	ug/L	<1.0	<1.0	1.0			<1.0	<1.0	1.0
Total Beryllium (Be)	ug/L	<1.0	<1.0	1.0	<1.0	1.0	<1.0	<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	<2.0	<2.0	2.0			<2.0	<2.0	2.0
Total Bismuth (Bi)	ug/L	<2.0	<2.0	2.0	<2.0	2.0	<2.0	<2.0	2.0
Dissolved Boron (B)	ug/L	<50	<50	50			<50	<50	50
Total Boron (B)	ug/L	<50	<50	50	<50	50	<50	<50	50
Dissolved Cadmium (Cd)	ug/L	0.018	0.017	0.010			<0.010	0.050	0.010
Total Cadmium (Cd)	ug/L	0.022	<0.010	0.010	<0.010	0.010	<0.010	0.054	0.010
Dissolved Calcium (Ca)	ug/L	1000	11000	100			18000	1300	100
Total Calcium (Ca)	ug/L	1200	12000	100	12000	100	19000	1300	100
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	1.0			<1.0	<1.0	1.0
Total Chromium (Cr)	ug/L	1.3	<1.0	1.0	<1.0	1.0	<1.0	<1.0	1.0
Dissolved Cobalt (Co)	ug/L	0.56	<0.40	0.40			<0.40	2.5	0.40
Total Cobalt (Co)	ug/L	0.95	<0.40	0.40	<0.40	0.40	<0.40	2.7	0.40
Dissolved Copper (Cu)	ug/L	5.8	1.2	0.50			<0.50	0.87	0.50
Total Copper (Cu)	ug/L	11	2.8	0.50	2.6	0.50	<0.50	1.2	0.50
Dissolved Iron (Fe)	ug/L	<50	<50	50			<50	<50	50
Total Iron (Fe)	ug/L	980	91	50	87	50	82	160	50
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	0.50			<0.50	<0.50	0.50
Total Lead (Pb)	ug/L	<0.50	<0.50	0.50	<0.50	0.50	<0.50	<0.50	0.50
Dissolved Magnesium (Mg)	ug/L	450	2300	100			2900	540	100
Total Magnesium (Mg)	ug/L	730	2400	100	2400	100	2900	580	100
Dissolved Manganese (Mn)	ug/L	54	170	2.0			29	300	2.0
Total Manganese (Mn)	ug/L	72	190	2.0	180	2.0	30	300	2.0

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate

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BV Labs Job #: C0J5559
Report Date: 2020/08/17

GHD Limited
Client Project #: 088664-42
Your P.O. #: 14592
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		NGT999	NGU000		NGU000		NGU001	NGU002	
Sampling Date		2020/07/30 10:16	2020/07/30 10:16		2020/07/30 10:16		2020/07/30 10:16	2020/07/30	
COC Number		782150-05-01	782150-05-01		782150-05-01		782150-05-01	782150-05-01	
Sample #		MW-22A	MW-22B		MW-22B		MW-22C	DUP 1	
	UNITS	**MW-22A**	**MW-22B**	**RDL**	**MW-22B Lab-Dup**	**RDL**	**MW-22C**	**Dup 1**	**RDL**
Dissolved Molybdenum (Mo)	ug/L	<2.0	<2.0	2.0			3.0	<2.0	2.0
Total Molybdenum (Mo)	ug/L	<2.0	<2.0	2.0	<2.0	2.0	2.9	<2.0	2.0
Dissolved Nickel (Ni)	ug/L	4.0	<2.0	2.0			<2.0	<2.0	2.0
Total Nickel (Ni)	ug/L	5.3	<2.0	2.0	<2.0	2.0	<2.0	<2.0	2.0
Dissolved Phosphorus (P)	ug/L	<100	<100	100			<100	<100	100
Total Phosphorus (P)	ug/L	<100	<100	100	<100	100	<100	<100	100
Dissolved Potassium (K)	ug/L	540	950	100			930	720	100
Total Potassium (K)	ug/L	790	900	100	900	100	960	760	100
Dissolved Selenium (Se)	ug/L	<0.50	<0.50	0.50			<0.50	<0.50	0.50
Total Selenium (Se)	ug/L	<0.50	<0.50	0.50	<0.50	0.50	<0.50	<0.50	0.50
Dissolved Silver (Ag)	ug/L	0.29	<0.10	0.10			<0.10	<0.10	0.10
Total Silver (Ag)	ug/L	2.0	0.15	0.10	0.13	0.10	<0.10	<0.10	0.10
Dissolved Sodium (Na)	ug/L	4600	6800	100			18000	2100	100
Total Sodium (Na)	ug/L	4700	6500	100	6500	100	17000	2000	100
Dissolved Strontium (Sr)	ug/L	13	59	2.0			270	13	2.0
Total Strontium (Sr)	ug/L	14	62	2.0	62	2.0	280	13	2.0
Dissolved Thallium (Tl)	ug/L	<0.10	<0.10	0.10			<0.10	<0.10	0.10
Total Thallium (Tl)	ug/L	<0.10	<0.10	0.10	<0.10	0.10	<0.10	<0.10	0.10
Dissolved Tin (Sn)	ug/L	<2.0	<2.0	2.0			2.6	2.2	2.0
Total Tin (Sn)	ug/L	<2.0	<2.0	2.0	<2.0	2.0	<2.0	<2.0	2.0
Dissolved Titanium (Ti)	ug/L	<2.0	<2.0	2.0			<2.0	<2.0	2.0
Total Titanium (Ti)	ug/L	28	2.5	2.0	5.9	2.0	4.2	6.0	2.0
Dissolved Uranium (U)	ug/L	<0.10	<0.10	0.10			0.22	<0.10	0.10
Total Uranium (U)	ug/L	<0.10	0.11	0.10	0.12	0.10	0.24	<0.10	0.10
Dissolved Vanadium (V)	ug/L	<2.0	<2.0	2.0			<2.0	<2.0	2.0
Total Vanadium (V)	ug/L	<2.0	<2.0	2.0	<2.0	2.0	<2.0	<2.0	2.0
Dissolved Zinc (Zn)	ug/L	8.6	<5.0	5.0			<5.0	5.6	5.0
Total Zinc (Zn)	ug/L	10	<5.0	5.0	<5.0	5.0	<5.0	<5.0	5.0

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate

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ELEMENTS BY ICP/MS (WATER)

BV Labs ID		NGU003		NGU003		NGU004	NGU005	NGU007	
Sampling Date		2020/07/30		2020/07/30		2020/07/30	2020/07/30	2020/07/30	
COC Number		782150-05-01		782150-05-01		782150-05-01	782150-05-01	782150-06-01	
Sample #		DUP 2		DUP 2		DUP 3	DUP 4	DUP 5	
	UNITS	**Dup 2**	**RDL**	**Dup 2 Lab-Dup**	**RDL**	**Dup 3**	**Dup 4**	**Dup 5**	**RDL**
Metals									
Dissolved Aluminum (Al)	ug/L	10	5.0			5.1	<5.0	41	5.0
Total Aluminum (Al)	ug/L	88	50	80	50	61	180	70	5.0
Dissolved Antimony (Sb)	ug/L	<1.0	1.0			<1.0	<1.0	<1.0	1.0
Total Antimony (Sb)	ug/L	<1.0	1.0	<1.0	1.0	<1.0	<1.0	<1.0	1.0
Dissolved Arsenic (As)	ug/L	7.2	1.0			1.6	6.0	6.6	1.0
Total Arsenic (As)	ug/L	7.4	1.0	7.4	1.0	1.8	6.4	8.7	1.0
Dissolved Barium (Ba)	ug/L	11	1.0			3.3	4.0	4.9	1.0
Total Barium (Ba)	ug/L	11	1.0	11	1.0	3.8	4.9	5.2	1.0
Dissolved Beryllium (Be)	ug/L	<1.0	1.0			<1.0	<1.0	<1.0	1.0
Total Beryllium (Be)	ug/L	<1.0	1.0	<1.0	1.0	<1.0	<1.0	<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	<2.0	2.0			<2.0	<2.0	<2.0	2.0
Total Bismuth (Bi)	ug/L	<2.0	2.0	<2.0	2.0	<2.0	<2.0	<2.0	2.0
Dissolved Boron (B)	ug/L	<50	50			<50	<50	<50	50
Total Boron (B)	ug/L	<50	50	<50	50	<50	<50	<50	50
Dissolved Cadmium (Cd)	ug/L	<0.010	0.010			<0.010	<0.010	0.025	0.010
Total Cadmium (Cd)	ug/L	<0.010	0.010	<0.010	0.010	0.011	<0.010	0.019	0.010
Dissolved Calcium (Ca)	ug/L	21000	100			25000	17000	1500	100
Total Calcium (Ca)	ug/L	21000	100	21000	100	25000	17000	1500	100
Dissolved Chromium (Cr)	ug/L	<1.0	1.0			<1.0	<1.0	<1.0	1.0
Total Chromium (Cr)	ug/L	<1.0	1.0	<1.0	1.0	<1.0	<1.0	<1.0	1.0
Dissolved Cobalt (Co)	ug/L	<0.40	0.40			<0.40	<0.40	0.44	0.40
Total Cobalt (Co)	ug/L	<0.40	0.40	<0.40	0.40	<0.40	<0.40	0.45	0.40
Dissolved Copper (Cu)	ug/L	0.59	0.50			0.76	<0.50	4.9	0.50
Total Copper (Cu)	ug/L	1.0	0.50	1.1	0.50	1.8	0.57	5.7	0.50
Dissolved Iron (Fe)	ug/L	<50	50			<50	<50	<50	50
Total Iron (Fe)	ug/L	68	50	64	50	95	320	<50	50
Dissolved Lead (Pb)	ug/L	<0.50	0.50			<0.50	<0.50	<0.50	0.50
Total Lead (Pb)	ug/L	<0.50	0.50	<0.50	0.50	<0.50	<0.50	<0.50	0.50
Dissolved Magnesium (Mg)	ug/L	1400	100			2500	1900	480	100
Total Magnesium (Mg)	ug/L	1400	100	1400	100	2500	1900	480	100
Dissolved Manganese (Mn)	ug/L	7.7	2.0			7.2	210	16	2.0
Total Manganese (Mn)	ug/L	8.1	2.0	7.4	2.0	14	220	14	2.0

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate

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BV Labs Job #: C0J5559
Report Date: 2020/08/17

GHD Limited
Client Project #: 088664-42
Your P.O. #: 14592
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		NGU003		NGU003		NGU004	NGU005	NGU007	
Sampling Date		2020/07/30		2020/07/30		2020/07/30	2020/07/30	2020/07/30	
COC Number		782150-05-01		782150-05-01		782150-05-01	782150-05-01	782150-06-01	
Sample #		DUP 2		DUP 2		DUP 3	DUP 4	DUP 5	
	UNITS	**Dup 2**	**RDL**	**Dup 2 Lab-Dup**	**RDL**	**Dup 3**	**Dup 4**	**Dup 5**	**RDL**
Dissolved Molybdenum (Mo)	ug/L	2.8	2.0			<2.0	17	3.6	2.0
Total Molybdenum (Mo)	ug/L	2.8	2.0	2.8	2.0	<2.0	17	3.5	2.0
Dissolved Nickel (Ni)	ug/L	<2.0	2.0			<2.0	<2.0	<2.0	2.0
Total Nickel (Ni)	ug/L	<2.0	2.0	<2.0	2.0	<2.0	<2.0	<2.0	2.0
Dissolved Phosphorus (P)	ug/L	<100	100			<100	<100	<100	100
Total Phosphorus (P)	ug/L	<100	100	<100	100	<100	<100	100	100
Dissolved Potassium (K)	ug/L	1200	100			1700	1500	770	100
Total Potassium (K)	ug/L	1200	100	1200	100	1800	1500	650	100
Dissolved Selenium (Se)	ug/L	<0.50	0.50			<0.50	<0.50	<0.50	0.50
Total Selenium (Se)	ug/L	<0.50	0.50	<0.50	0.50	<0.50	<0.50	<0.50	0.50
Dissolved Silver (Ag)	ug/L	<0.10	0.10			<0.10	<0.10	<0.10	0.10
Total Silver (Ag)	ug/L	<0.10	0.10	<0.10	0.10	0.57	<0.10	<0.10	0.10
Dissolved Sodium (Na)	ug/L	4600	100			5400	23000	2600	100
Total Sodium (Na)	ug/L	4600	100	4600	100	5600	23000	2600	100
Dissolved Strontium (Sr)	ug/L	100	2.0			65	74	11	2.0
Total Strontium (Sr)	ug/L	100	2.0	99	2.0	64	75	11	2.0
Dissolved Thallium (Tl)	ug/L	<0.10	0.10			<0.10	<0.10	<0.10	0.10
Total Thallium (Tl)	ug/L	<0.10	0.10	<0.10	0.10	<0.10	<0.10	<0.10	0.10
Dissolved Tin (Sn)	ug/L	3.1	2.0			<2.0	<2.0	<2.0	2.0
Total Tin (Sn)	ug/L	<2.0	2.0	<2.0	2.0	<2.0	<2.0	<2.0	2.0
Dissolved Titanium (Ti)	ug/L	<2.0	2.0			<2.0	<2.0	<2.0	2.0
Total Titanium (Ti)	ug/L	3.2	2.0	3.7	2.0	5.4	6.0	<2.0	2.0
Dissolved Uranium (U)	ug/L	2.3	0.10			1.2	0.58	<0.10	0.10
Total Uranium (U)	ug/L	2.3	0.10	2.3	0.10	1.2	0.64	<0.10	0.10
Dissolved Vanadium (V)	ug/L	<2.0	2.0			<2.0	<2.0	<2.0	2.0
Total Vanadium (V)	ug/L	<2.0	2.0	<2.0	2.0	<2.0	<2.0	<2.0	2.0
Dissolved Zinc (Zn)	ug/L	5.1	5.0			12	<5.0	9.1	5.0
Total Zinc (Zn)	ug/L	<5.0	5.0	<5.0	5.0	13	<5.0	6.6	5.0

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate

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GENERAL COMMENTS

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

Package 1	4.7°C
Package 2	6.3°C
Package 3	4.3°C
Package 4	2.0°C

Sample NGT955 [MW-01A] : RCAp Ion Balance acceptable. Low ionic strength sample.

Sample NGT959 [MW-02B] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample NGT960 [MW-03A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample NGT963 [MW-04A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample NGT965 [MW-05A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample NGT967 [MW-05D] : Poor RCAp Ion Balance due to sample matrix.

Sample NGT969 [MW-07B] : ortho-Phosphate > Total Phosphorus: Both values fall within the method uncertainty for duplicates and are likely equivalent.

Dissolved versus Total Metals (Sn): Re-analysis of new aliquots from client supplied bottles confirmed original results.

Sample NGT970 [MW-07D] : Dissolved versus Total Metals (Al and Fe): Re-analysis of new aliquots from client supplied bottles confirmed original results.

Sample NGT971 [MW-09A] : ortho-Phosphate > Total Phosphorus: Both values fall within the method uncertainty for duplicates and are likely equivalent. RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample NGT972 [MW-09B] : ortho-Phosphate > Total Phosphorus: Both values fall within the method uncertainty for duplicates and are likely equivalent.

Sample NGT973 [MW-09D] : ortho-Phosphate > Total Phosphorus: Both values fall within the method uncertainty for duplicates and are likely equivalent.

Sample NGT974 [MW-11A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample NGT976 [MW-11B] : Dissolved versus Total Metals (Mn): Re-analysis of new aliquots from client supplied bottles confirmed original results.

Sample NGT978 [MW-12A] : ortho-Phosphate > Total Phosphorus: Both values fall within the method uncertainty for duplicates and are likely equivalent. RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample NGT979 [MW-12B] : Poor RCAp Ion Balance due to sample matrix.

Sample NGT980 [MW-14A] : ortho-Phosphate > Total Phosphorus: Both values fall within the method uncertainty for duplicates and are likely equivalent. RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample NGT981 [MW-14B] : ortho-Phosphate > Total Phosphorus: Both values fall within the method uncertainty for duplicates and are likely equivalent.

Poor RCAp Ion Balance due to sample matrix.

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Sample NGT982 [MW-14C] : ortho-Phosphate > Total Phosphorus: Both values fall within the method uncertainty for duplicates and are likely equivalent. RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample NGT985 [MW-17A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample NGT986 [MW-17B] : ortho-Phosphate > Total Phosphorus: Both values fall within the method uncertainty for duplicates and are likely equivalent. RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample NGT987 [MW-17C] : ortho-Phosphate > Total Phosphorus: Both values fall within the method uncertainty for duplicates and are likely equivalent. RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample NGT988 [MW-18A] : ortho-Phosphate > Total Phosphorus: Both values fall within the method uncertainty for duplicates and are likely equivalent. RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample NGT989 [MW-18B] : ortho-Phosphate > Total Phosphorus: Both values fall within the method uncertainty for duplicates and are likely equivalent.

Sample NGT990 [MW-18C] : ortho-Phosphate > Total Phosphorus: Both values fall within the method uncertainty for duplicates and are likely equivalent.

Sample NGT991 [MW-19A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample NGT994 [MW-20A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample NGT995 [MW-20B] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample NGT996 [MW-21A] : ortho-Phosphate > Total Phosphorus: Both values fall within the method uncertainty for duplicates and are likely equivalent. RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample NGT997 [MW-21B] : ortho-Phosphate > Total Phosphorus: Both values fall within the method uncertainty for duplicates and are likely equivalent. RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample NGT999 [MW-22A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample NGU000 [MW-22B] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample NGU002 [Dup 1] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample NGU004 [Dup 3] : Poor RCAp Ion Balance due to sample matrix.

Sample NGU005 [Dup 4] : ortho-Phosphate > Total Phosphorus: Both values fall within the method uncertainty for duplicates and are likely equivalent.

Sample NGU007 [Dup 5] : ortho-Phosphate > Total Phosphorus: Both values fall within the method uncertainty for duplicates and are likely equivalent. RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Results relate only to the items tested.

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BV Labs Job #: C0J5559
Report Date: 2020/08/17

GHD Limited
Client Project #: 088664-42
Your P.O. #: 14592
Sampler Initials: JR

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Brad Newman, Scientific Service Specialist

Mike MacGillivray, Scientific Specialist (Inorganics)

BV Labs 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 Signature Page.

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Your P.O. #: 00016620
Your Project #: 11220159
Site#: Site #1: Beaver Dam

Attention: Jeff Parks

GHD Limited
120 Western Parkway
Bedford, NS
CANADA B4B 0V2

Your C.O.C. #: 799567-01-01, 799567-02-01, 799567-03-01, 799567-04-01, 799567-05-01, 799567-06-01

Report Date: 2020/11/20
Report #: R6418675
Version: 2 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C0T5709
Received: 2020/11/05, 16:18

Sample Matrix: Water
Samples Received: 51

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Carbonate, Bicarbonate and Hydroxide	25	N/A	2020/11/10	N/A	SM 23 4500-CO2 D
Carbonate, Bicarbonate and Hydroxide	26	N/A	2020/11/12	N/A	SM 23 4500-CO2 D
Alkalinity	16	N/A	2020/11/12	ATL SOP 00013	EPA 310.2 R1974 m
Alkalinity	35	N/A	2020/11/13	ATL SOP 00013	EPA 310.2 R1974 m
Chloride	51	N/A	2020/11/12	ATL SOP 00014	SM 23 4500-Cl- E m
Chemical Oxygen Demand (COD)	15	2020/11/12	2020/11/12	ATL SOP 00042	SM 23 5220D m
Chemical Oxygen Demand (COD)	36	2020/11/09	2020/11/09	ATL SOP 00042	SM 23 5220D m
Colour	16	N/A	2020/11/10	ATL SOP 00020	SM 23 2120C m
Colour	35	N/A	2020/11/13	ATL SOP 00020	SM 23 2120C m
Organic carbon - Diss (DOC) (as rec'd) (2)	51	N/A	2020/11/09	ATL SOP 00203	SM 23 5310B m
Conductance - water	25	N/A	2020/11/10	ATL SOP 00004	SM 23 2510B m
Conductance - water	26	N/A	2020/11/12	ATL SOP 00004	SM 23 2510B m
Hardness (calculated as CaCO3)	19	N/A	2020/11/10	ATL SOP 00048	Auto Calc
Hardness (calculated as CaCO3)	30	N/A	2020/11/12	ATL SOP 00048	Auto Calc
Hardness (calculated as CaCO3)	2	N/A	2020/11/13	ATL SOP 00048	Auto Calc
Mercury - Dissolved (CVAA,LL)	6	2020/11/10	2020/11/12	ATL SOP 00026	EPA 245.1 R3 m
Mercury - Dissolved (CVAA,LL)	40	2020/11/12	2020/11/13	ATL SOP 00026	EPA 245.1 R3 m
Mercury - Dissolved (CVAA,LL)	5	2020/11/13	2020/11/16	ATL SOP 00026	EPA 245.1 R3 m
Mercury - Total (CVAA,LL)	41	2020/11/10	2020/11/12	ATL SOP 00026	EPA 245.1 R3 m
Mercury - Total (CVAA,LL)	10	2020/11/12	2020/11/13	ATL SOP 00026	EPA 245.1 R3 m
Metals Water Diss. MS (as rec'd)	31	N/A	2020/11/10	ATL SOP 00058	EPA 6020B R2 m
Metals Water Diss. MS (as rec'd)	19	N/A	2020/11/12	ATL SOP 00058	EPA 6020B R2 m
Metals Water Diss. MS (as rec'd)	1	N/A	2020/11/13	ATL SOP 00058	EPA 6020B R2 m
Metals Water Total MS	48	2020/11/09	2020/11/10	ATL SOP 00058	EPA 6020B R2 m
Metals Water Total MS	3	2020/11/09	2020/11/12	ATL SOP 00058	EPA 6020B R2 m
Ion Balance (% Difference)	51	N/A	2020/11/13	N/A	Auto Calc.
Anion and Cation Sum	51	N/A	2020/11/13	N/A	Auto Calc.
Nitrogen Ammonia - water	51	N/A	2020/11/12	ATL SOP 00015	EPA 350.1 R2 m

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Your P.O. #: 00016620
Your Project #: 11220159
Site#: Site #1: Beaver Dam

Attention: Jeff Parks

GHD Limited
120 Western Parkway
Bedford, NS
CANADA B4B 0V2

Your C.O.C. #: 799567-01-01, 799567-02-01, 799567-03-01, 799567-04-01, 799567-05-01, 799567-06-01

Report Date: 2020/11/20
Report #: R6418675
Version: 2 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C0T5709
Received: 2020/11/05, 16:18

Sample Matrix: Water
Samples Received: 51

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Nitrogen - Nitrate + Nitrite	16	N/A	2020/11/10	ATL SOP 00016	USGS I-2547-11m
Nitrogen - Nitrate + Nitrite	35	N/A	2020/11/12	ATL SOP 00016	USGS I-2547-11m
Nitrogen - Nitrite	16	N/A	2020/11/10	ATL SOP 00017	SM 23 4500-NO2- B m
Nitrogen - Nitrite	35	N/A	2020/11/12	ATL SOP 00017	SM 23 4500-NO2- B m
Nitrogen - Nitrate (as N)	16	N/A	2020/11/12	ATL SOP 00018	ASTM D3867-16
Nitrogen - Nitrate (as N)	34	N/A	2020/11/13	ATL SOP 00018	ASTM D3867-16
Nitrogen - Nitrate (as N)	1	N/A	2020/11/16	ATL SOP 00018	ASTM D3867-16
pH (3)	25	N/A	2020/11/10	ATL SOP 00003	SM 23 4500-H+ B m
pH (3)	26	N/A	2020/11/12	ATL SOP 00003	SM 23 4500-H+ B m
Phosphorus - ortho	16	N/A	2020/11/10	ATL SOP 00021	SM 23 4500-P E m
Phosphorus - ortho	35	N/A	2020/11/12	ATL SOP 00021	SM 23 4500-P E m
Sat. pH and Langelier Index (@ 20C)	50	N/A	2020/11/13	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 20C)	1	N/A	2020/11/16	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 4C)	50	N/A	2020/11/13	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 4C)	1	N/A	2020/11/16	ATL SOP 00049	Auto Calc.
Reactive Silica	16	N/A	2020/11/10	ATL SOP 00022	EPA 366.0 m
Reactive Silica	35	N/A	2020/11/12	ATL SOP 00022	EPA 366.0 m
Sulphate	16	N/A	2020/11/10	ATL SOP 00023	ASTM D516-16 m
Sulphate	35	N/A	2020/11/12	ATL SOP 00023	ASTM D516-16 m
Total Dissolved Solids (TDS calc)	51	N/A	2020/11/13	N/A	Auto Calc.
Organic carbon - Total (TOC) (4)	50	N/A	2020/11/10	ATL SOP 00203	SM 23 5310B m
Organic carbon - Total (TOC) (4)	1	N/A	2020/11/11	ATL SOP 00203	SM 23 5310B m
Dissolved Phosphorus (1)	11	2020/11/11	2020/11/11	CAM SOP-00407	SM 23 4500 P B H m
Dissolved Phosphorus (1)	15	2020/11/16	2020/11/17	CAM SOP-00407	SM 23 4500 P B H m
Dissolved Phosphorus (1)	24	2020/11/17	2020/11/18	CAM SOP-00407	SM 23 4500 P B H m
Dissolved Phosphorus (1)	1	2020/11/19	2020/11/20	CAM SOP-00407	SM 23 4500 P B H m
Phosphorus Total Colourimetry	35	2020/11/10	2020/11/12	ATL SOP 00057	EPA 365.1 R2 m
Phosphorus Total Colourimetry	16	2020/11/12	2020/11/13	ATL SOP 00057	EPA 365.1 R2 m

Bureau Veritas Laboratories 200 Bluewater Rd, Suite 105, Bedford, Nova Scotia Canada B4B 1G9 Tel: 902-420-0203 Toll-free: 800-565-7227 Fax: 902-420-8612 www.bvlabs.com

Your P.O. #: 00016620
Your Project #: 11220159
Site#: Site #1: Beaver Dam

Attention: Jeff Parks

GHD Limited
120 Western Parkway
Bedford, NS
CANADA B4B 0V2

Your C.O.C. #: 799567-01-01, 799567-02-01, 799567-03-01, 799567-04-01, 799567-05-01, 799567-06-01

Report Date: 2020/11/20
Report #: R6418675
Version: 2 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C0T5709
Received: 2020/11/05, 16:18

Sample Matrix: Water
Samples Received: 51

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Total Suspended Solids	4	2020/11/10	2020/11/12	ATL SOP 00007	SM 23 2540D m
Total Suspended Solids	3	2020/11/10	2020/11/13	ATL SOP 00007	SM 23 2540D m
Total Suspended Solids	7	2020/11/10	2020/11/16	ATL SOP 00007	SM 23 2540D m
Total Suspended Solids	5	2020/11/12	2020/11/13	ATL SOP 00007	SM 23 2540D m
Total Suspended Solids	32	2020/11/12	2020/11/16	ATL SOP 00007	SM 23 2540D m
Turbidity	51	N/A	2020/11/10	ATL SOP 00011	EPA 180.1 R2 m

Remarks:

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

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs 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.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs 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 BV Labs, unless otherwise agreed in writing. BV Labs 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 BV Labs, results relate to the supplied samples tested.

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 Bureau Veritas Laboratories Mississauga
(2) TOC / DOC present in the sample should be considered as non-purgeable TOC / DOC
(3) The APHA Standard Method require 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 APHA Standard Method holding time.

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Your P.O. #: 00016620
Your Project #: 11220159
Site#: Site #1: Beaver Dam

Attention: Jeff Parks

GHD Limited
120 Western Parkway
Bedford, NS
CANADA B4B 0V2

Your C.O.C. #: 799567-01-01, 799567-02-01, 799567-03-01, 799567-04-01, 799567-05-01, 799567-06-01

Report Date: 2020/11/20
Report #: R6418675
Version: 2 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C0T5709
Received: 2020/11/05, 16:18

(4) TOC / DOC present in the sample should be considered as non-purgeable TOC / DOC.

Encryption Key

AUTHORIZED REPORT
RAPPORT AUTORISÉ

Bureau Veritas Laboratories
20 Nov 2020 12:59:57

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Maryann Comeau, Project Manager
Email: Maryann.COMEAU@bvlabs.com
Phone# (902)420-0203 Ext:298

==========

BV Labs 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 Signature Page.

BV Labs Job #: C0T5709
Report Date: 2020/11/20

GHD Limited
Client Project #: 11220159
Your P.O. #: 00016620
Sampler Initials: JR

RESULTS OF ANALYSES OF WATER

BV Labs ID				OCH862		OCH862		OCH863	OCH864	
Sampling Date				2020/11/05 09:35		2020/11/05 09:35		2020/11/05 09:50	2020/11/05 10:05	
COC Number				799567-01-01		799567-01-01		799567-01-01	799567-01-01	
	UNITS	MAC	AO	MW-01A	RDL	MW-01A Lab-Dup	RDL	MW-01B	MW-01C	RDL
Calculated Parameters										
Anion Sum	me/L	-	-	0.250	N/A			1.50	0.540	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	-	8.7	1.0			57	19	1.0
Calculated TDS	mg/L	-	500	20	1.0			87	34	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	<1.0	1.0			<1.0	<1.0	1.0
Cation Sum	me/L	-	-	0.290	N/A			1.40	0.520	N/A
Hardness (CaCO3)	mg/L	-	-	6.2	1.0			58	17	1.0
Ion Balance (% Difference)	%	-	-	7.41	N/A			3.45	1.89	N/A
Langelier Index (@ 20C)	N/A	-	-	-3.84				-0.432	-2.54	
Langelier Index (@ 4C)	N/A	-	-	-4.10				-0.683	-2.79	
Nitrate (N)	mg/L	**10**	-	0.057	0.050			<0.050	0.063	0.050
Saturation pH (@ 20C)	N/A	-	-	10.1				8.28	9.28	
Saturation pH (@ 4C)	N/A	-	-	10.3				8.53	9.54	
Inorganics										
Total Alkalinity (Total as CaCO3)	mg/L	-	-	8.7	5.0			57	19	5.0
Total Chemical Oxygen Demand	mg/L	-	-	<20	20			<20	<20	20
Dissolved Chloride (Cl-)	mg/L	-	250	2.7	1.0			4.0	3.3	1.0
Colour	TCU	-	15	<5.0	5.0			<5.0	<5.0	5.0
Nitrate + Nitrite (N)	mg/L	-	-	0.057	0.050			<0.050	0.063	0.050
Nitrite (N)	mg/L	**1**	-	<0.010	0.010			<0.010	<0.010	0.010

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
MAC,AO: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, September 2020.

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If Screening Levels (SL) for gross alpha or gross beta are exceeded then concentration of the specific radionuclides of the CWQG should be analyzed.

Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.
Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.
N/A = Not Applicable

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BV Labs Job #: C0T5709
Report Date: 2020/11/20

GHD Limited
Client Project #: 11220159
Your P.O. #: 00016620
Sampler Initials: JR

RESULTS OF ANALYSES OF WATER

BV Labs ID				OCH862		OCH862		OCH863	OCH864	
Sampling Date				2020/11/05 09:35		2020/11/05 09:35		2020/11/05 09:50	2020/11/05 10:05	
COC Number				799567-01-01		799567-01-01		799567-01-01	799567-01-01	
	UNITS	MAC	AO	MW-01A	RDL	MW-01A Lab-Dup	RDL	MW-01B	MW-01C	RDL
Nitrogen (Ammonia Nitrogen)	mg/L	-	-	<0.050	0.050			<0.050	<0.050	0.050
Dissolved Organic Carbon (C)	mg/L	-	-	<0.5	0.5	<0.5	0.5	<0.5	0.6	0.5
Total Organic Carbon (C)	mg/L	-	-	<0.50	0.50			<0.50	1.4	0.50
Orthophosphate (P)	mg/L	-	-	<0.010	0.010			<0.010	<0.010	0.010
pH	pH	-	7.0 : 10.5	6.25				7.85	6.74	
Dissolved Phosphorus	mg/L	-	-	<0.020	0.020	<0.020	0.020	<0.020	<0.020	0.020
Total Phosphorus	mg/L	-	-	<0.020	0.020			<0.020	0.022	0.020
Reactive Silica (SiO2)	mg/L	-	-	5.3	0.50			9.5	5.0	0.50
Total Suspended Solids	mg/L	-	-	47	1.0			10	16	1.0
Dissolved Sulphate (SO4)	mg/L	-	500	<2.0	2.0			11	3.4	2.0
Turbidity	NTU	-	0.3	3.8	0.10			2.0	4.6	0.10
Conductivity	uS/cm	-	-	34	1.0			140	56	1.0

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
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BV Labs Job #: C0T5709
Report Date: 2020/11/20

GHD Limited
Client Project #: 11220159
Your P.O. #: 00016620
Sampler Initials: JR

RESULTS OF ANALYSES OF WATER

BV Labs ID				OCH865		OCH865		OCH866		OCH866	
Sampling Date				2020/11/04 15:30		2020/11/04 15:30		2020/11/04 15:42		2020/11/04 15:42	
COC Number				799567-01-01		799567-01-01		799567-01-01		799567-01-01	
	UNITS	MAC	AO	MW-02A	RDL	MW-02A Lab-Dup	RDL	MW-02B	RDL	MW-02B Lab-Dup	RDL
Calculated Parameters											
Anion Sum	me/L	-	-	0.240	N/A			0.470	N/A		
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	-	5.3	1.0			16	1.0		
Calculated TDS	mg/L	-	500	18	1.0			39	1.0		
Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	<1.0	1.0			<1.0	1.0		
Cation Sum	me/L	-	-	0.210	N/A			0.420	N/A		
Hardness (CaCO3)	mg/L	-	-	3.5	1.0			10	1.0		
Ion Balance (% Difference)	%	-	-	6.67	N/A			5.62	N/A		
Langelier Index (@ 20C)	N/A	-	-	-5.00				-3.19			
Langelier Index (@ 4C)	N/A	-	-	-5.25				-3.44			
Nitrate (N)	mg/L	**10**	-	<0.050	0.050			0.051	0.050		
Saturation pH (@ 20C)	N/A	-	-	10.7				9.66			
Saturation pH (@ 4C)	N/A	-	-	10.9				9.92			
Inorganics											
Total Alkalinity (Total as CaCO3)	mg/L	-	-	5.3	5.0			16	5.0		
Total Chemical Oxygen Demand	mg/L	-	-	<20	20	<20	20	<20	20		
Dissolved Chloride (Cl-)	mg/L	-	250	2.3	1.0			3.3	1.0		
Colour	TCU	-	15	<5.0	5.0			<5.0	5.0		
Nitrate + Nitrite (N)	mg/L	-	-	<0.050	0.050			0.051	0.050		
Nitrite (N)	mg/L	**1**	-	<0.010	0.010			<0.010	0.010		

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

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BV Labs Job #: C0T5709
Report Date: 2020/11/20

GHD Limited
Client Project #: 11220159
Your P.O. #: 00016620
Sampler Initials: JR

RESULTS OF ANALYSES OF WATER

BV Labs ID				OCH865		OCH865		OCH866		OCH866	
Sampling Date				2020/11/04 15:30		2020/11/04 15:30		2020/11/04 15:42		2020/11/04 15:42	
COC Number				799567-01-01		799567-01-01		799567-01-01		799567-01-01	
	UNITS	MAC	AO	MW-02A	RDL	MW-02A Lab-Dup	RDL	MW-02B	RDL	MW-02B Lab-Dup	RDL
Nitrogen (Ammonia Nitrogen)	mg/L	-	-	<0.050	0.050			<0.050	0.050		
Dissolved Organic Carbon (C)	mg/L	-	-	<0.5	0.5			<0.5	0.5		
Total Organic Carbon (C)	mg/L	-	-	<5.0 (1)	5.0			<0.50	0.50		
Orthophosphate (P)	mg/L	-	-	<0.010	0.010			0.087	0.010		
pH	pH	-	7.0 : 10.5	5.69				6.47		6.39	
Dissolved Phosphorus	mg/L	-	-	<0.020	0.020			0.061	0.020		
Total Phosphorus	mg/L	-	-	0.19	0.020			0.075	0.020		
Reactive Silica (SiO2)	mg/L	-	-	4.6	0.50			15	0.50		
Total Suspended Solids	mg/L	-	-	210	5.0	220	5.0	3.0	1.0		
Dissolved Sulphate (SO4)	mg/L	-	500	3.2	2.0			3.0	2.0		
Turbidity	NTU	-	0.3	59	0.10			1.5	0.10	1.4	0.10
Conductivity	uS/cm	-	-	26	1.0			47	1.0	46	1.0

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Lab-Dup = Laboratory Initiated Duplicate
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(1) Elevated reporting limit due to turbidity.

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BV Labs Job #: C0T5709
Report Date: 2020/11/20

GHD Limited
Client Project #: 11220159
Your P.O. #: 00016620
Sampler Initials: JR

RESULTS OF ANALYSES OF WATER

BV Labs ID				OCH867		OCH867		OCH868		OCH868	
Sampling Date				2020/11/05 10:30		2020/11/05 10:30		2020/11/05 10:45		2020/11/05 10:45	
COC Number				799567-01-01		799567-01-01		799567-01-01		799567-01-01	
	UNITS	MAC	AO	MW-03A	RDL	MW-03A Lab-Dup	RDL	MW-03B	RDL	MW-03B Lab-Dup	RDL
Calculated Parameters											
Anion Sum	me/L	-	-	0.360	N/A			0.960	N/A		
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	-	6.6	1.0			35	1.0		
Calculated TDS	mg/L	-	500	25	1.0			59	1.0		
Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	<1.0	1.0			<1.0	1.0		
Cation Sum	me/L	-	-	0.270	N/A			0.890	N/A		
Hardness (CaCO3)	mg/L	-	-	5.8	1.0			34	1.0		
Ion Balance (% Difference)	%	-	-	14.3	N/A			3.78	N/A		
Langelier Index (@ 20C)	N/A	-	-	-4.45				-1.90			
Langelier Index (@ 4C)	N/A	-	-	-4.70				-2.15			
Nitrate (N)	mg/L	**10**	-	0.44	0.050			0.097	0.050		
Saturation pH (@ 20C)	N/A	-	-	10.3				8.71			
Saturation pH (@ 4C)	N/A	-	-	10.5				8.97			
Inorganics											
Total Alkalinity (Total as CaCO3)	mg/L	-	-	6.6	5.0			35	5.0		
Total Chemical Oxygen Demand	mg/L	-	-	<20	20			<20	20		
Dissolved Chloride (Cl-)	mg/L	-	250	4.3	1.0			5.7	1.0		
Colour	TCU	-	15	6.9	5.0			<5.0	5.0		
Nitrate + Nitrite (N)	mg/L	-	-	0.44	0.050			0.097	0.050		
Nitrite (N)	mg/L	**1**	-	<0.010	0.010			<0.010	0.010		

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BV Labs Job #: C0T5709
Report Date: 2020/11/20

GHD Limited
Client Project #: 11220159
Your P.O. #: 00016620
Sampler Initials: JR

RESULTS OF ANALYSES OF WATER

BV Labs ID				OCH867		OCH867		OCH868		OCH868	
Sampling Date				2020/11/05 10:30		2020/11/05 10:30		2020/11/05 10:45		2020/11/05 10:45	
COC Number				799567-01-01		799567-01-01		799567-01-01		799567-01-01	
	UNITS	MAC	AO	MW-03A	RDL	MW-03A Lab-Dup	RDL	MW-03B	RDL	MW-03B Lab-Dup	RDL
Nitrogen (Ammonia Nitrogen)	mg/L	-	-	<0.050	0.050			<0.050	0.050		
Dissolved Organic Carbon (C)	mg/L	-	-	2.3	0.5			<0.5	0.5		
Total Organic Carbon (C)	mg/L	-	-	<5.0 (1)	5.0			0.79	0.50		
Orthophosphate (P)	mg/L	-	-	<0.010	0.010			<0.010	0.010		
pH	pH	-	7.0 : 10.5	5.82				6.81			
Dissolved Phosphorus	mg/L	-	-	<0.020	0.020			<0.020	0.020		
Total Phosphorus	mg/L	-	-	0.024	0.020			<0.020	0.020	<0.020	0.020
Reactive Silica (SiO2)	mg/L	-	-	5.7	0.50			9.7	0.50		
Total Suspended Solids	mg/L	-	-	140	2.0	140	2.0	4.6	1.0		
Dissolved Sulphate (SO4)	mg/L	-	500	3.6	2.0			4.5	2.0		
Turbidity	NTU	-	0.3	11	0.10			1.8	0.10		
Conductivity	uS/cm	-	-	32	1.0			92	1.0		

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BV Labs Job #: C0T5709
Report Date: 2020/11/20

GHD Limited
Client Project #: 11220159
Your P.O. #: 00016620
Sampler Initials: JR

RESULTS OF ANALYSES OF WATER

BV Labs ID				OCH869	OCH870	OCH871	OCH872		OCH873	
Sampling Date				2020/11/05 10:55	2020/11/05 12:56	2020/11/05 13:10	2020/11/05 12:56		2020/11/05 12:56	
COC Number				799567-01-01	799567-01-01	799567-01-01	799567-02-01		799567-02-01	
	UNITS	MAC	AO	MW-03C	MW-04A	MW-04B	MW-05A	RDL	MW-05B	RDL
Calculated Parameters										
Anion Sum	me/L	-	-	1.73	0.310	0.920	0.330	N/A	0.990	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	-	76	7.9	29	9.2	1.0	39	1.0
Calculated TDS	mg/L	-	500	100	22	59	23	1.0	60	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	<1.0	<1.0	<1.0	<1.0	1.0	<1.0	1.0
Cation Sum	me/L	-	-	1.69	0.260	0.830	0.270	N/A	0.930	N/A
Hardness (CaCO3)	mg/L	-	-	71	6.0	32	6.9	1.0	34	1.0
Ion Balance (% Difference)	%	-	-	1.17	8.77	5.14	10.0	N/A	3.12	N/A
Langelier Index (@ 20C)	N/A	-	-	-0.457	-4.00	-1.75	-4.04		-1.44	
Langelier Index (@ 4C)	N/A	-	-	-0.708	-4.26	-2.00	-4.29		-1.69	
Nitrate (N)	mg/L	**10**	-	0.10	<0.050	0.43	<0.050	0.050	0.075	0.050
Saturation pH (@ 20C)	N/A	-	-	8.08	10.2	8.82	10.0		8.66	
Saturation pH (@ 4C)	N/A	-	-	8.33	10.4	9.08	10.3		8.91	
Inorganics										
Total Alkalinity (Total as CaCO3)	mg/L	-	-	76	7.9	29	9.2	5.0	39	5.0
Total Chemical Oxygen Demand	mg/L	-	-	<20	<20	<20	<20	20	<20	20
Dissolved Chloride (Cl-)	mg/L	-	250	3.6	3.5	5.1	2.8	1.0	2.9	1.0
Colour	TCU	-	15	<5.0	<5.0	<5.0	<5.0	5.0	<5.0	5.0
Nitrate + Nitrite (N)	mg/L	-	-	0.10	<0.050	0.43	<0.050	0.050	0.075	0.050
Nitrite (N)	mg/L	**1**	-	<0.010	<0.010	<0.010	<0.010	0.010	<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	-	-	<0.050	<0.050	<0.050	<0.050	0.050	<0.050	0.050
Dissolved Organic Carbon (C)	mg/L	-	-	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	0.5

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BV Labs Job #: C0T5709
Report Date: 2020/11/20

GHD Limited
Client Project #: 11220159
Your P.O. #: 00016620
Sampler Initials: JR

RESULTS OF ANALYSES OF WATER

BV Labs ID				OCH869	OCH870	OCH871	OCH872		OCH873	
Sampling Date				2020/11/05 10:55	2020/11/05 12:56	2020/11/05 13:10	2020/11/05 12:56		2020/11/05 12:56	
COC Number				799567-01-01	799567-01-01	799567-01-01	799567-02-01		799567-02-01	
	UNITS	MAC	AO	MW-03C	MW-04A	MW-04B	MW-05A	RDL	MW-05B	RDL
Total Organic Carbon (C)	mg/L	-	-	<0.50	<0.50	0.70	0.91	0.50	<5.0 (1)	5.0
Orthophosphate (P)	mg/L	-	-	<0.010	<0.010	<0.010	<0.010	0.010	<0.010	0.010
pH	pH	-	7.0 : 10.5	7.62	6.16	7.07	5.97		7.22	
Dissolved Phosphorus	mg/L	-	-	<0.020	<0.020	<0.020	<0.020	0.020	<0.020	0.020
Total Phosphorus	mg/L	-	-	<0.020	<0.020	<0.020	<0.020	0.020	<0.020	0.020
Reactive Silica (SiO2)	mg/L	-	-	12	6.1	9.4	5.4	0.50	8.5	0.50
Total Suspended Solids	mg/L	-	-	3.6	5.0	17	6.4	1.0	27	1.0
Dissolved Sulphate (SO4)	mg/L	-	500	4.7	2.3	8.4	3.3	2.0	6.1	2.0
Turbidity	NTU	-	0.3	1.1	1.7	2.5	0.98	0.10	15	0.10
Conductivity	uS/cm	-	-	170	32	87	32	1.0	96	1.0

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Report Date: 2020/11/20

GHD Limited
Client Project #: 11220159
Your P.O. #: 00016620
Sampler Initials: JR

RESULTS OF ANALYSES OF WATER

BV Labs ID				OCH873		OCH874		OCH875		OCH875	
Sampling Date				2020/11/05 12:56		2020/11/05 12:56		2020/11/05 11:55		2020/11/05 11:55	
COC Number				799567-02-01		799567-02-01		799567-02-01		799567-02-01	
	UNITS	MAC	AO	MW-05B Lab-Dup	RDL	MW-05D	RDL	MW-07A	RDL	MW-07A Lab-Dup	RDL
Calculated Parameters											
Anion Sum	me/L	-	-			1.65	N/A	2.41	N/A		
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	-			62	1.0	100	1.0		
Calculated TDS	mg/L	-	500			98	1.0	150	1.0		
Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-			<1.0	1.0	<1.0	1.0		
Cation Sum	me/L	-	-			1.60	N/A	2.59	N/A		
Hardness (CaCO3)	mg/L	-	-			56	1.0	100	1.0		
Ion Balance (% Difference)	%	-	-			1.54	N/A	3.60	N/A		
Langelier Index (@ 20C)	N/A	-	-			-0.297		-0.830			
Langelier Index (@ 4C)	N/A	-	-			-0.548		-1.08			
Nitrate (N)	mg/L	**10**	-			<0.050	0.050	<0.050	0.050		
Saturation pH (@ 20C)	N/A	-	-			8.28		7.91			
Saturation pH (@ 4C)	N/A	-	-			8.54		8.16			
Inorganics											
Total Alkalinity (Total as CaCO3)	mg/L	-	-			63	5.0	100	25		
Total Chemical Oxygen Demand	mg/L	-	-			<20	20	<20	20		
Dissolved Chloride (Cl-)	mg/L	-	250			4.3	1.0	3.6	1.0		
Colour	TCU	-	15			<5.0	5.0	34	5.0		
Nitrate + Nitrite (N)	mg/L	-	-			<0.050	0.050	<0.050	0.050		
Nitrite (N)	mg/L	**1**	-			<0.010	0.010	<0.010	0.010		

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Report Date: 2020/11/20

GHD Limited
Client Project #: 11220159
Your P.O. #: 00016620
Sampler Initials: JR

RESULTS OF ANALYSES OF WATER

BV Labs ID				OCH873		OCH874		OCH875		OCH875	
Sampling Date				2020/11/05 12:56		2020/11/05 12:56		2020/11/05 11:55		2020/11/05 11:55	
COC Number				799567-02-01		799567-02-01		799567-02-01		799567-02-01	
	UNITS	MAC	AO	MW-05B Lab-Dup	RDL	MW-05D	RDL	MW-07A	RDL	MW-07A Lab-Dup	RDL
Nitrogen (Ammonia Nitrogen)	mg/L	-	-			<0.050	0.050	<0.050	0.050		
Dissolved Organic Carbon (C)	mg/L	-	-			<0.5	0.5	0.6	0.5		
Total Organic Carbon (C)	mg/L	-	-	<5.0 (1)	5.0	<0.50	0.50	0.61	0.50		
Orthophosphate (P)	mg/L	-	-			<0.010	0.010	<0.010	0.010		
pH	pH	-	7.0 : 10.5			7.99		7.08			
Dissolved Phosphorus	mg/L	-	-			0.027	0.020	<0.020	0.020		
Total Phosphorus	mg/L	-	-			<0.020	0.020	<0.020	0.020		
Reactive Silica (SiO2)	mg/L	-	-			11	0.50	21	1.0		
Total Suspended Solids	mg/L	-	-			2.6	1.0	18	2.0	19	2.0
Dissolved Sulphate (SO4)	mg/L	-	500			13	2.0	15	2.0		
Turbidity	NTU	-	0.3			2.3	0.10	27	0.10		
Conductivity	uS/cm	-	-			160	1.0	240	1.0		

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BV Labs Job #: C0T5709
Report Date: 2020/11/20

GHD Limited
Client Project #: 11220159
Your P.O. #: 00016620
Sampler Initials: JR

RESULTS OF ANALYSES OF WATER

BV Labs ID				OCH876	OCH877		OCH878	OCH879	OCH880	
Sampling Date				2020/11/05 11:55	2020/11/05 11:55		2020/11/05 11:50	2020/11/05 12:00	2020/11/05 12:15	
COC Number				799567-02-01	799567-02-01		799567-02-01	799567-02-01	799567-02-01	
	UNITS	MAC	AO	MW-07B	MW-07D	RDL	MW-09A	MW-09B	MW-09D	RDL
Calculated Parameters										
Anion Sum	me/L	-	-	5.91	3.46	N/A	0.400	2.17	2.66	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	-	270	140	1.0	13	80	88	1.0
Calculated TDS	mg/L	-	500	320	210	1.0	29	120	160	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	2.0	3.3	1.0	<1.0	<1.0	<1.0	1.0
Cation Sum	me/L	-	-	5.83	3.27	N/A	0.390	2.01	2.48	N/A
Hardness (CaCO3)	mg/L	-	-	250	110	1.0	10	81	84	1.0
Ion Balance (% Difference)	%	-	-	0.680	2.82	N/A	1.27	3.83	3.50	N/A
Langelier Index (@ 20C)	N/A	-	-	0.851	0.686		-3.11	0.00200	-0.0670	
Langelier Index (@ 4C)	N/A	-	-	0.602	0.436		-3.37	-0.249	-0.317	
Nitrate (N)	mg/L	**10**	-	<0.050	<0.050	0.050	0.17	<0.050	<0.050	0.050
Saturation pH (@ 20C)	N/A	-	-	7.05	7.70		9.65	8.00	7.99	
Saturation pH (@ 4C)	N/A	-	-	7.29	7.95		9.90	8.25	8.24	
Inorganics										
Total Alkalinity (Total as CaCO3)	mg/L	-	-	270	150	25	13	81	89	5.0
Total Chemical Oxygen Demand	mg/L	-	-	<20	<20	20	<20	<20	<20	20
Dissolved Chloride (Cl-)	mg/L	-	250	4.5	6.1	1.0	1.6	2.6	4.4	1.0
Colour	TCU	-	15	<5.0	<5.0	5.0	<5.0	<5.0	<5.0	5.0
Nitrate + Nitrite (N)	mg/L	-	-	<0.050	<0.050	0.050	0.17	<0.050	<0.050	0.050
Nitrite (N)	mg/L	**1**	-	<0.010	<0.010	0.010	<0.010	<0.010	<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	-	-	<0.050	0.15	0.050	<0.050	<0.050	<0.050	0.050
Dissolved Organic Carbon (C)	mg/L	-	-	1.5	1.9	0.5	<0.5	0.8	4.1	0.5

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BV Labs Job #: C0T5709
Report Date: 2020/11/20

GHD Limited
Client Project #: 11220159
Your P.O. #: 00016620
Sampler Initials: JR

RESULTS OF ANALYSES OF WATER

BV Labs ID				OCH876	OCH877		OCH878	OCH879	OCH880	
Sampling Date				2020/11/05 11:55	2020/11/05 11:55		2020/11/05 11:50	2020/11/05 12:00	2020/11/05 12:15	
COC Number				799567-02-01	799567-02-01		799567-02-01	799567-02-01	799567-02-01	
	UNITS	MAC	AO	MW-07B	MW-07D	RDL	MW-09A	MW-09B	MW-09D	RDL
Total Organic Carbon (C)	mg/L	-	-	2.4	2.5	0.50	<0.50	0.68	3.9	0.50
Orthophosphate (P)	mg/L	-	-	<0.010	0.030	0.010	<0.010	0.020	0.013	0.010
pH	pH	-	7.0 : 10.5	7.90	8.38		6.53	8.00	7.92	
Dissolved Phosphorus	mg/L	-	-	<0.020	0.033	0.020	<0.020	0.031	<0.020	0.020
Total Phosphorus	mg/L	-	-	<0.020	0.022	0.020	<0.020	<0.020	<0.020	0.020
Reactive Silica (SiO2)	mg/L	-	-	23	32	1.0	6.1	9.1	11	0.50
Total Suspended Solids	mg/L	-	-	12	11	1.0	9.2	8.2	3.6	1.0
Dissolved Sulphate (SO4)	mg/L	-	500	14	16	2.0	4.4	23	37	2.0
Turbidity	NTU	-	0.3	11	3.1	0.10	3.2	7.0	2.5	0.10
Conductivity	uS/cm	-	-	540	300	1.0	42	200	250	1.0

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RESULTS OF ANALYSES OF WATER

BV Labs ID				OCH880		OCH881		OCH881		OCH882	
Sampling Date				2020/11/05 12:15		2020/11/05 13:50		2020/11/05 13:50		2020/11/05 14:05	
COC Number				799567-02-01		799567-02-01		799567-02-01		799567-03-01	
	UNITS	MAC	AO	MW-09D Lab-Dup	RDL	MW-11A	RDL	MW-11A Lab-Dup	RDL	MW-11B	RDL
Calculated Parameters											
Anion Sum	me/L	-	-			0.280	N/A			1.62	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	-			7.1	1.0			69	1.0
Calculated TDS	mg/L	-	500			20	1.0			92	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-			<1.0	1.0			<1.0	1.0
Cation Sum	me/L	-	-			0.250	N/A			1.54	N/A
Hardness (CaCO3)	mg/L	-	-			6.2	1.0			65	1.0
Ion Balance (% Difference)	%	-	-			5.66	N/A			2.53	N/A
Langelier Index (@ 20C)	N/A	-	-			-4.39				-0.387	
Langelier Index (@ 4C)	N/A	-	-			-4.64				-0.638	
Nitrate (N)	mg/L	**10**	-			0.059	0.050			0.082	0.050
Saturation pH (@ 20C)	N/A	-	-			10.2				8.13	
Saturation pH (@ 4C)	N/A	-	-			10.4				8.38	
Inorganics											
Total Alkalinity (Total as CaCO3)	mg/L	-	-			7.1	5.0			69	5.0
Total Chemical Oxygen Demand	mg/L	-	-			<20	20			<20	20
Dissolved Chloride (Cl-)	mg/L	-	250			2.7	1.0			3.0	1.0
Colour	TCU	-	15			<5.0	5.0			<5.0	5.0
Nitrate + Nitrite (N)	mg/L	-	-			0.059	0.050			0.082	0.050
Nitrite (N)	mg/L	**1**	-			<0.010	0.010			<0.010	0.010

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Lab-Dup = Laboratory Initiated Duplicate
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BV Labs Job #: C0T5709
Report Date: 2020/11/20

GHD Limited
Client Project #: 11220159
Your P.O. #: 00016620
Sampler Initials: JR

RESULTS OF ANALYSES OF WATER

BV Labs ID				OCH880		OCH881		OCH881		OCH882	
Sampling Date				2020/11/05 12:15		2020/11/05 13:50		2020/11/05 13:50		2020/11/05 14:05	
COC Number				799567-02-01		799567-02-01		799567-02-01		799567-03-01	
	UNITS	MAC	AO	MW-09D Lab-Dup	RDL	MW-11A	RDL	MW-11A Lab-Dup	RDL	MW-11B	RDL
Nitrogen (Ammonia Nitrogen)	mg/L	-	-	<0.050	0.050	<0.050	0.050			<0.050	0.050
Dissolved Organic Carbon (C)	mg/L	-	-			<0.5	0.5			<0.5	0.5
Total Organic Carbon (C)	mg/L	-	-			<0.50	0.50			<0.50	0.50
Orthophosphate (P)	mg/L	-	-			<0.010	0.010			<0.010	0.010
pH	pH	-	7.0 : 10.5			5.77		5.75		7.74	
Dissolved Phosphorus	mg/L	-	-			<0.020	0.020			<0.020	0.020
Total Phosphorus	mg/L	-	-			<0.020	0.020			<0.020	0.020
Reactive Silica (SiO2)	mg/L	-	-			4.6	0.50			9.4	0.50
Total Suspended Solids	mg/L	-	-			4.8	1.0			8.4	1.0
Dissolved Sulphate (SO4)	mg/L	-	500			3.0	2.0			7.0	2.0
Turbidity	NTU	-	0.3			0.96	0.10			2.5	0.10
Conductivity	uS/cm	-	-			29	1.0	28	1.0	140	1.0

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BV Labs Job #: C0T5709
Report Date: 2020/11/20

GHD Limited
Client Project #: 11220159
Your P.O. #: 00016620
Sampler Initials: JR

RESULTS OF ANALYSES OF WATER

BV Labs ID				OCH883		OCH883		OCH884		OCH885	
Sampling Date				2020/11/05 14:10		2020/11/05 14:10		2020/11/05 11:20		2020/11/05 11:30	
COC Number				799567-03-01		799567-03-01		799567-03-01		799567-03-01	
	UNITS	**MAC**	**AO**	**MW-11C**	**RDL**	**MW-11C Lab-Dup**	**RDL**	**MW-12A**	**RDL**	**MW-12B**	**RDL**
Calculated Parameters											
Anion Sum	me/L	-	-	2.53	N/A			0.730	N/A	2.33	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	-	82	1.0			28	1.0	86	1.0
Calculated TDS	mg/L	-	500	150	1.0			54	1.0	140	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	<1.0	1.0			<1.0	1.0	<1.0	1.0
Cation Sum	me/L	-	-	2.38	N/A			0.690	N/A	2.19	N/A
Hardness (CaCO3)	mg/L	-	-	78	1.0			19	1.0	74	1.0
Ion Balance (% Difference)	%	-	-	3.05	N/A			2.82	N/A	3.10	N/A
Langelier Index (@ 20C)	N/A	-	-	-0.318				-3.06		-0.139	
Langelier Index (@ 4C)	N/A	-	-	-0.569				-3.31		-0.390	
Nitrate (N)	mg/L	**10**	-	<0.050	0.050			0.32	0.050	<0.050	0.050
Saturation pH (@ 20C)	N/A	-	-	8.02				9.20		8.03	
Saturation pH (@ 4C)	N/A	-	-	8.27				9.45		8.28	
Inorganics											
Total Alkalinity (Total as CaCO3)	mg/L	-	-	82	5.0			28	5.0	86	5.0
Total Chemical Oxygen Demand	mg/L	-	-	<20	20			<20	20	<20	20
Dissolved Chloride (Cl-)	mg/L	-	250	4.2	1.0			2.5	1.0	2.9	1.0
Colour	TCU	-	15	<5.0	5.0			<5.0	5.0	<5.0	5.0
Nitrate + Nitrite (N)	mg/L	-	-	<0.050	0.050			0.32	0.050	<0.050	0.050
Nitrite (N)	mg/L	**1**	-	<0.010	0.010			<0.010	0.010	<0.010	0.010

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BV Labs Job #: C0T5709
Report Date: 2020/11/20

GHD Limited
Client Project #: 11220159
Your P.O. #: 00016620
Sampler Initials: JR

RESULTS OF ANALYSES OF WATER

BV Labs ID				OCH883		OCH883		OCH884		OCH885	
Sampling Date				2020/11/05 14:10		2020/11/05 14:10		2020/11/05 11:20		2020/11/05 11:30	
COC Number				799567-03-01		799567-03-01		799567-03-01		799567-03-01	
	UNITS	MAC	AO	MW-11C	RDL	MW-11C Lab-Dup	RDL	MW-12A	RDL	MW-12B	RDL
Nitrogen (Ammonia Nitrogen)	mg/L	-	-	<0.050	0.050			<0.050	0.050	0.050	0.050
Dissolved Organic Carbon (C)	mg/L	-	-	2.3	0.5	2.4	0.5	0.7	0.5	<0.5	0.5
Total Organic Carbon (C)	mg/L	-	-	<5.0 (1)	5.0	<5.0 (1)	5.0	<5.0 (1)	5.0	<0.50	0.50
Orthophosphate (P)	mg/L	-	-	0.014	0.010			0.016	0.010	0.015	0.010
pH	pH	-	7.0 : 10.5	7.70				6.14		7.89	
Dissolved Phosphorus	mg/L	-	-	<0.020	0.020			<0.020	0.020	<0.020	0.020
Total Phosphorus	mg/L	-	-	<0.020	0.020			0.26	0.020	<0.020	0.020
Reactive Silica (SiO2)	mg/L	-	-	8.9	0.50			15	0.50	10	0.50
Total Suspended Solids	mg/L	-	-	15	1.0			180	5.0	2.4	1.0
Dissolved Sulphate (SO4)	mg/L	-	500	37	2.0			4.0	2.0	25	2.0
Turbidity	NTU	-	0.3	9.2	0.10			180	1.0	0.51	0.10
Conductivity	uS/cm	-	-	230	1.0			73	1.0	210	1.0

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BV Labs Job #: C0T5709
Report Date: 2020/11/20

GHD Limited
Client Project #: 11220159
Your P.O. #: 00016620
Sampler Initials: JR

RESULTS OF ANALYSES OF WATER

BV Labs ID				OCH885		OCH886		OCH887		OCH887	
Sampling Date				2020/11/05 11:30		2020/11/05 09:40		2020/11/05 09:40		2020/11/05 09:40	
COC Number				799567-03-01		799567-03-01		799567-03-01		799567-03-01	
	UNITS	MAC	AO	MW-12B Lab-Dup	RDL	MW-14A	RDL	MW-14B	RDL	MW-14B Lab-Dup	RDL
Calculated Parameters											
Anion Sum	me/L	-	-			1.03	N/A	2.07	N/A		
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	-			41	1.0	88	1.0		
Calculated TDS	mg/L	-	500			74	1.0	120	1.0		
Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-			<1.0	1.0	<1.0	1.0		
Cation Sum	me/L	-	-			0.930	N/A	1.89	N/A		
Hardness (CaCO3)	mg/L	-	-			12	1.0	48	1.0		
Ion Balance (% Difference)	%	-	-			5.10	N/A	4.55	N/A		
Langelier Index (@ 20C)	N/A	-	-			-2.30		-0.161			
Langelier Index (@ 4C)	N/A	-	-			-2.56		-0.411			
Nitrate (N)	mg/L	**10**	-			0.16	0.050	<0.050	0.050		
Saturation pH (@ 20C)	N/A	-	-			9.18		8.20			
Saturation pH (@ 4C)	N/A	-	-			9.43		8.45			
Inorganics											
Total Alkalinity (Total as CaCO3)	mg/L	-	-			41	5.0	89	5.0	89	5.0
Total Chemical Oxygen Demand	mg/L	-	-			<20	20	<20	20		
Dissolved Chloride (Cl-)	mg/L	-	250			3.7	1.0	3.5	1.0	2.5	1.0
Colour	TCU	-	15			<5.0	5.0	<5.0	5.0	<5.0	5.0
Nitrate + Nitrite (N)	mg/L	-	-			0.16	0.050	<0.050	0.050	<0.050	0.050
Nitrite (N)	mg/L	**1**	-			<0.010	0.010	<0.010	0.010	<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	-	-			<0.050	0.050	<0.050	0.050		

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GHD Limited
Client Project #: 11220159
Your P.O. #: 00016620
Sampler Initials: JR

RESULTS OF ANALYSES OF WATER

BV Labs ID				OCH885		OCH886		OCH887		OCH887	
Sampling Date				2020/11/05 11:30		2020/11/05 09:40		2020/11/05 09:40		2020/11/05 09:40	
COC Number				799567-03-01		799567-03-01		799567-03-01		799567-03-01	
	UNITS	MAC	AO	MW-12B Lab-Dup	RDL	MW-14A	RDL	MW-14B	RDL	MW-14B Lab-Dup	RDL
Dissolved Organic Carbon (C)	mg/L	-	-			<0.5	0.5	0.7	0.5		
Total Organic Carbon (C)	mg/L	-	-			<5.0 (1)	5.0	<5.0 (1)	5.0		
Orthophosphate (P)	mg/L	-	-			0.027	0.010	<0.010	0.010	<0.010	0.010
pH	pH	-	7.0 : 10.5			6.88		8.04			
Dissolved Phosphorus	mg/L	-	-			<0.020	0.020	<0.020	0.020		
Total Phosphorus	mg/L	-	-	<0.020	0.020	0.088	0.020	0.020	0.020		
Reactive Silica (SiO2)	mg/L	-	-			20	0.50	8.4	0.50	8.7	0.50
Total Suspended Solids	mg/L	-	-			76	5.0	4.4	1.0		
Dissolved Sulphate (SO4)	mg/L	-	500			4.3	2.0	9.4	2.0	9.0	2.0
Turbidity	NTU	-	0.3			120	1.0	7.9	0.10		
Conductivity	uS/cm	-	-			100	1.0	190	1.0		

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Report Date: 2020/11/20

GHD Limited
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Sampler Initials: JR

RESULTS OF ANALYSES OF WATER

BV Labs ID				OCH888		OCH889		OCH890		OCH891	
Sampling Date				2020/11/05 09:40		2020/11/04 16:02		2020/11/04 16:02		2020/11/05 08:43	
COC Number				799567-03-01		799567-03-01		799567-03-01		799567-03-01	
	UNITS	**MAC**	**AO**	**MW-14C**	**RDL**	**MW-16A**	**RDL**	**MW-16B**	**RDL**	**MW-17A**	**RDL**
Calculated Parameters											
Anion Sum	me/L	-	-	1.66	N/A	1.60	N/A	1.44	N/A	0.260	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	-	66	1.0	71	1.0	58	1.0	6.0	1.0
Calculated TDS	mg/L	-	500	98	1.0	91	1.0	84	1.0	21	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	<1.0	1.0	<1.0	1.0	<1.0	1.0	<1.0	1.0
Cation Sum	me/L	-	-	1.56	N/A	1.48	N/A	1.30	N/A	0.220	N/A
Hardness (CaCO3)	mg/L	-	-	34	1.0	60	1.0	54	1.0	4.3	1.0
Ion Balance (% Difference)	%	-	-	3.11	N/A	3.90	N/A	5.11	N/A	8.33	N/A
Langelier Index (@ 20C)	N/A	-	-	-0.414		-0.829		-0.291		-4.51	
Langelier Index (@ 4C)	N/A	-	-	-0.666		-1.08		-0.542		-4.76	
Nitrate (N)	mg/L	**10**	-	<0.050	0.050	0.12	0.050	0.85	0.050	0.070	0.050
Saturation pH (@ 20C)	N/A	-	-	8.50		8.15		8.27		10.4	
Saturation pH (@ 4C)	N/A	-	-	8.75		8.40		8.52		10.7	
Inorganics											
Total Alkalinity (Total as CaCO3)	mg/L	-	-	67	5.0	71	5.0	59	5.0	6.0	5.0
Total Chemical Oxygen Demand	mg/L	-	-	<20	20	<20	20	<20	20	<20	20
Dissolved Chloride (Cl-)	mg/L	-	250	3.1	1.0	3.0	1.0	3.0	1.0	1.8	1.0
Colour	TCU	-	15	<5.0	5.0	<5.0	5.0	<5.0	5.0	<5.0	5.0
Nitrate + Nitrite (N)	mg/L	-	-	<0.050	0.050	0.12	0.050	0.85	0.050	0.070	0.050
Nitrite (N)	mg/L	**1**	-	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	-	-	<0.050	0.050	<0.050	0.050	<0.050	0.050	<0.050	0.050
Dissolved Organic Carbon (C)	mg/L	-	-	<0.5	0.5	2.0	0.5	<0.5	0.5	<0.5	0.5

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GHD Limited
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Sampler Initials: JR

RESULTS OF ANALYSES OF WATER

BV Labs ID				OCH888		OCH889		OCH890		OCH891	
Sampling Date				2020/11/05 09:40		2020/11/04 16:02		2020/11/04 16:02		2020/11/05 08:43	
COC Number				799567-03-01		799567-03-01		799567-03-01		799567-03-01	
	UNITS	MAC	AO	MW-14C	RDL	MW-16A	RDL	MW-16B	RDL	MW-17A	RDL
Total Organic Carbon (C)	mg/L	-	-	<0.50	0.50	<0.50	0.50	<5.0 (1)	5.0	<5.0 (1)	5.0
Orthophosphate (P)	mg/L	-	-	<0.010	0.010	<0.010	0.010	<0.010	0.010	<0.010	0.010
pH	pH	-	7.0 : 10.5	8.08		7.32		7.98		5.92	
Dissolved Phosphorus	mg/L	-	-	<0.020	0.020	0.020	0.020	<0.020	0.020	0.024	0.020
Total Phosphorus	mg/L	-	-	<0.020	0.020	<0.020	0.020	<0.020	0.020	<0.020	0.020
Reactive Silica (SiO2)	mg/L	-	-	11	0.50	10	0.50	9.7	0.50	6.1	0.50
Total Suspended Solids	mg/L	-	-	3.0	1.0	40	2.0	1.8	1.0	70	2.0
Dissolved Sulphate (SO4)	mg/L	-	500	11	2.0	4.5	2.0	5.7	2.0	4.1	2.0
Turbidity	NTU	-	0.3	2.2	0.10	12	0.10	1.2	0.10	25	0.10
Conductivity	uS/cm	-	-	160	1.0	150	1.0	130	1.0	29	1.0

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BV Labs Job #: C0T5709
Report Date: 2020/11/20

GHD Limited
Client Project #: 11220159
Your P.O. #: 00016620
Sampler Initials: JR

RESULTS OF ANALYSES OF WATER

BV Labs ID				OCH892		OCH892		OCH893	OCH894	
Sampling Date				2020/11/05 08:43		2020/11/05 08:43		2020/11/05 08:43	2020/11/04 14:50	
COC Number				799567-04-01		799567-04-01		799567-04-01	799567-04-01	
	UNITS	MAC	AO	MW-17B	RDL	MW-17B Lab-Dup	RDL	MW-17C	MW-18A	RDL
Calculated Parameters										
Anion Sum	me/L	-	-	0.310	N/A			0.350	0.290	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	-	8.6	1.0			10	6.9	1.0
Calculated TDS	mg/L	-	500	26	1.0			29	22	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	<1.0	1.0			<1.0	<1.0	1.0
Cation Sum	me/L	-	-	0.270	N/A			0.330	0.250	N/A
Hardness (CaCO3)	mg/L	-	-	6.2	1.0			8.8	6.0	1.0
Ion Balance (% Difference)	%	-	-	6.90	N/A			2.94	7.41	N/A
Langelier Index (@ 20C)	N/A	-	-	-4.09				-3.67	-4.26	
Langelier Index (@ 4C)	N/A	-	-	-4.34				-3.93	-4.51	
Nitrate (N)	mg/L	**10**	-	<0.050	0.050			0.062	0.10	0.050
Saturation pH (@ 20C)	N/A	-	-	10.2				9.87	10.2	
Saturation pH (@ 4C)	N/A	-	-	10.4				10.1	10.5	
Inorganics										
Total Alkalinity (Total as CaCO3)	mg/L	-	-	8.6	5.0			10	6.9	5.0
Total Chemical Oxygen Demand	mg/L	-	-	<20	20			<20	<20	20
Dissolved Chloride (Cl-)	mg/L	-	250	2.7	1.0			2.7	2.7	1.0
Colour	TCU	-	15	<5.0	5.0			<5.0	<5.0	5.0
Nitrate + Nitrite (N)	mg/L	-	-	<0.050	0.050			0.062	0.10	0.050
Nitrite (N)	mg/L	**1**	-	<0.010	0.010			<0.010	<0.010	0.010

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RESULTS OF ANALYSES OF WATER

BV Labs ID				OCH892		OCH892		OCH893	OCH894	
Sampling Date				2020/11/05 08:43		2020/11/05 08:43		2020/11/05 08:43	2020/11/04 14:50	
COC Number				799567-04-01		799567-04-01		799567-04-01	799567-04-01	
	UNITS	MAC	AO	MW-17B	RDL	MW-17B Lab-Dup	RDL	MW-17C	MW-18A	RDL
Nitrogen (Ammonia Nitrogen)	mg/L	-	-	<0.050	0.050			<0.050	<0.050	0.050
Dissolved Organic Carbon (C)	mg/L	-	-	<0.5	0.5			<0.5	<0.5	0.5
Total Organic Carbon (C)	mg/L	-	-	<5.0 (1)	5.0			0.84	<0.50	0.50
Orthophosphate (P)	mg/L	-	-	0.068	0.010			0.016	<0.010	0.010
pH	pH	-	7.0 : 10.5	6.08				6.20	5.96	
Dissolved Phosphorus	mg/L	-	-	<0.020	0.020			<0.020	<0.020	0.020
Total Phosphorus	mg/L	-	-	0.043	0.020			0.041	<0.020	0.020
Reactive Silica (SiO2)	mg/L	-	-	9.7	0.50			10	5.8	0.50
Total Suspended Solids	mg/L	-	-	24	1.0			8.4	5.0	1.0
Dissolved Sulphate (SO4)	mg/L	-	500	2.7	2.0			2.9	3.4	2.0
Turbidity	NTU	-	0.3	6.3	0.10	6.7	0.10	6.0	0.84	0.10
Conductivity	uS/cm	-	-	33	1.0			35	30	1.0

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Report Date: 2020/11/20

GHD Limited
Client Project #: 11220159
Your P.O. #: 00016620
Sampler Initials: JR

RESULTS OF ANALYSES OF WATER

BV Labs ID				OCH894		OCH895		OCH895		OCH896	
Sampling Date				2020/11/04 14:50		2020/11/04 14:50		2020/11/04 14:50		2020/11/04 14:50	
COC Number				799567-04-01		799567-04-01		799567-04-01		799567-04-01	
	UNITS	MAC	AO	MW-18A Lab-Dup	RDL	MW-18B	RDL	MW-18B Lab-Dup	RDL	MW-18C	RDL
Calculated Parameters											
Anion Sum	me/L	-	-			1.24	N/A			2.25	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	-			45	1.0			77	1.0
Calculated TDS	mg/L	-	500			76	1.0			130	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-			<1.0	1.0			<1.0	1.0
Cation Sum	me/L	-	-			1.14	N/A			2.05	N/A
Hardness (CaCO3)	mg/L	-	-			45	1.0			59	1.0
Ion Balance (% Difference)	%	-	-			4.20	N/A			4.65	N/A
Langelier Index (@ 20C)	N/A	-	-			-0.737				-0.393	
Langelier Index (@ 4C)	N/A	-	-			-0.989				-0.644	
Nitrate (N)	mg/L	**10**	-			0.075	0.050			<0.050	0.050
Saturation pH (@ 20C)	N/A	-	-			8.48				8.17	
Saturation pH (@ 4C)	N/A	-	-			8.73				8.42	
Inorganics											
Total Alkalinity (Total as CaCO3)	mg/L	-	-	6.6	5.0	45	5.0			77	5.0
Total Chemical Oxygen Demand	mg/L	-	-			<20	20	<20	20	<20	20
Dissolved Chloride (Cl-)	mg/L	-	250	2.9	1.0	2.6	1.0			4.1	1.0
Colour	TCU	-	15	<5.0	5.0	<5.0	5.0			<5.0	5.0
Nitrate + Nitrite (N)	mg/L	-	-	0.11	0.050	0.075	0.050			<0.050	0.050
Nitrite (N)	mg/L	**1**	-	<0.010	0.010	<0.010	0.010			<0.010	0.010

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RESULTS OF ANALYSES OF WATER

BV Labs ID				OCH894		OCH895		OCH895		OCH896	
Sampling Date				2020/11/04 14:50		2020/11/04 14:50		2020/11/04 14:50		2020/11/04 14:50	
COC Number				799567-04-01		799567-04-01		799567-04-01		799567-04-01	
	UNITS	MAC	AO	MW-18A Lab-Dup	RDL	MW-18B	RDL	MW-18B Lab-Dup	RDL	MW-18C	RDL
Nitrogen (Ammonia Nitrogen)	mg/L	-	-			<0.050	0.050			<0.050	0.050
Dissolved Organic Carbon (C)	mg/L	-	-			<0.5	0.5			3.6	0.5
Total Organic Carbon (C)	mg/L	-	-			<0.50	0.50			3.7	0.50
Orthophosphate (P)	mg/L	-	-	<0.010	0.010	0.045	0.010			0.023	0.010
pH	pH	-	7.0 : 10.5			7.74				7.77	
Dissolved Phosphorus	mg/L	-	-			<0.020	0.020			<0.020	0.020
Total Phosphorus	mg/L	-	-			<0.020	0.020			0.023	0.020
Reactive Silica (SiO2)	mg/L	-	-	5.8	0.50	11	0.50			12	0.50
Total Suspended Solids	mg/L	-	-			14	1.0			3.2	1.0
Dissolved Sulphate (SO4)	mg/L	-	500	3.2	2.0	12	2.0			28	2.0
Turbidity	NTU	-	0.3			8.8	0.10			1.9	0.10
Conductivity	uS/cm	-	-			110	1.0			200	1.0

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RESULTS OF ANALYSES OF WATER

BV Labs ID				OCH897		OCH898		OCH899		OCH899	
Sampling Date				2020/11/04 16:10		2020/11/04 16:20		2020/11/04 16:30		2020/11/04 16:30	
COC Number				799567-04-01		799567-04-01		799567-04-01		799567-04-01	
	UNITS	MAC	AO	MW-19A	RDL	MW-19B	RDL	MW-19C	RDL	MW-19C Lab-Dup	RDL
Calculated Parameters											
Anion Sum	me/L	-	-	0.310	N/A	1.55	N/A	0.860	N/A		
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	-	6.5	1.0	61	1.0	33	1.0		
Calculated TDS	mg/L	-	500	22	1.0	89	1.0	54	1.0		
Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	<1.0	1.0	<1.0	1.0	<1.0	1.0		
Cation Sum	me/L	-	-	0.260	N/A	1.41	N/A	0.810	N/A		
Hardness (CaCO3)	mg/L	-	-	3.1	1.0	59	1.0	28	1.0		
Ion Balance (% Difference)	%	-	-	8.77	N/A	4.73	N/A	2.99	N/A		
Langelier Index (@ 20C)	N/A	-	-	-4.70		-0.391		-1.71			
Langelier Index (@ 4C)	N/A	-	-	-4.95		-0.642		-1.96			
Nitrate (N)	mg/L	**10**	-	0.053	0.050	0.084	0.050	0.16	0.050		
Saturation pH (@ 20C)	N/A	-	-	10.6		8.22		8.80			
Saturation pH (@ 4C)	N/A	-	-	10.9		8.47		9.05			
Inorganics											
Total Alkalinity (Total as CaCO3)	mg/L	-	-	6.5	5.0	62	5.0	33	5.0		
Total Chemical Oxygen Demand	mg/L	-	-	<20	20	<20	20	<20	20		
Dissolved Chloride (Cl-)	mg/L	-	250	1.9	1.0	2.5	1.0	2.7	1.0		
Colour	TCU	-	15	<5.0	5.0	<5.0	5.0	<5.0	5.0		
Nitrate + Nitrite (N)	mg/L	-	-	0.067	0.050	0.084	0.050	0.16	0.050		
Nitrite (N)	mg/L	**1**	-	0.015	0.010	<0.010	0.010	<0.010	0.010		

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RESULTS OF ANALYSES OF WATER

BV Labs ID				OCH897		OCH898		OCH899		OCH899	
Sampling Date				2020/11/04 16:10		2020/11/04 16:20		2020/11/04 16:30		2020/11/04 16:30	
COC Number				799567-04-01		799567-04-01		799567-04-01		799567-04-01	
	UNITS	MAC	AO	MW-19A	RDL	MW-19B	RDL	MW-19C	RDL	MW-19C Lab-Dup	RDL
Nitrogen (Ammonia Nitrogen)	mg/L	-	-	<0.050	0.050	<0.050	0.050	<0.050	0.050		
Dissolved Organic Carbon (C)	mg/L	-	-	1.4	0.5	<0.5	0.5	<0.5	0.5		
Total Organic Carbon (C)	mg/L	-	-	1.7	0.50	<0.50	0.50	<5.0 (1)	5.0	<5.0 (1)	5.0
Orthophosphate (P)	mg/L	-	-	<0.010	0.010	<0.010	0.010	<0.010	0.010		
pH	pH	-	7.0 : 10.5	5.93		7.83		7.09			
Dissolved Phosphorus	mg/L	-	-	<0.020	0.020	<0.020	0.020	0.026	0.020		
Total Phosphorus	mg/L	-	-	0.033	0.020	<0.020	0.020	0.030	0.020		
Reactive Silica (SiO2)	mg/L	-	-	4.5	0.50	9.3	0.50	8.8	0.50		
Total Suspended Solids	mg/L	-	-	38	2.5	8.6	1.0	47	2.0		
Dissolved Sulphate (SO4)	mg/L	-	500	5.9	2.0	12	2.0	5.2	2.0		
Turbidity	NTU	-	0.3	11	0.10	2.6	0.10	15	0.10		
Conductivity	uS/cm	-	-	30	1.0	140	1.0	82	1.0		

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Report Date: 2020/11/20

GHD Limited
Client Project #: 11220159
Your P.O. #: 00016620
Sampler Initials: JR

RESULTS OF ANALYSES OF WATER

BV Labs ID				OCH900		OCH900		OCH901		OCH901	
Sampling Date				2020/11/04 15:05		2020/11/04 15:05		2020/11/05 09:15		2020/11/05 09:15	
COC Number				799567-04-01		799567-04-01		799567-04-01		799567-04-01	
	UNITS	MAC	AO	MW-20A	RDL	MW-20A Lab-Dup	RDL	MW-20B	RDL	MW-20B Lab-Dup	RDL
Calculated Parameters											
Anion Sum	me/L	-	-	0.320	N/A			0.180	N/A		
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	-	7.0	1.0			<1.0	1.0		
Calculated TDS	mg/L	-	500	24	1.0			21	1.0		
Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	<1.0	1.0			<1.0	1.0		
Cation Sum	me/L	-	-	0.260	N/A			0.260	N/A		
Hardness (CaCO3)	mg/L	-	-	6.0	1.0			5.6	1.0		
Ion Balance (% Difference)	%	-	-	10.3	N/A			18.2	N/A		
Langelier Index (@ 20C)	N/A	-	-	-4.45				NC			
Langelier Index (@ 4C)	N/A	-	-	-4.70				NC			
Nitrate (N)	mg/L	**10**	-	0.77	0.050			0.91	0.050		
Saturation pH (@ 20C)	N/A	-	-	10.2				NC			
Saturation pH (@ 4C)	N/A	-	-	10.5				NC			
Inorganics											
Total Alkalinity (Total as CaCO3)	mg/L	-	-	7.0	5.0			<5.0	5.0	5.9	5.0
Total Chemical Oxygen Demand	mg/L	-	-	<20	20			<20	20		
Dissolved Chloride (Cl-)	mg/L	-	250	2.3	1.0			2.3	1.0	2.3	1.0
Colour	TCU	-	15	<5.0	5.0			<5.0	5.0	<5.0	5.0
Nitrate + Nitrite (N)	mg/L	-	-	0.77	0.050			0.91	0.050	0.92	0.050
Nitrite (N)	mg/L	**1**	-	<0.010	0.010			<0.010	0.010	<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	-	-	<0.050	0.050	<0.050	0.050	<0.050	0.050		

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N/A = Not Applicable

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BV Labs Job #: C0T5709
Report Date: 2020/11/20

GHD Limited
Client Project #: 11220159
Your P.O. #: 00016620
Sampler Initials: JR

RESULTS OF ANALYSES OF WATER

BV Labs ID				OCH900		OCH900		OCH901		OCH901	
Sampling Date				2020/11/04 15:05		2020/11/04 15:05		2020/11/05 09:15		2020/11/05 09:15	
COC Number				799567-04-01		799567-04-01		799567-04-01		799567-04-01	
	UNITS	MAC	AO	MW-20A	RDL	MW-20A Lab-Dup	RDL	MW-20B	RDL	MW-20B Lab-Dup	RDL
Dissolved Organic Carbon (C)	mg/L	-	-	1.0	0.5			<0.5	0.5		
Total Organic Carbon (C)	mg/L	-	-	<5.0 (1)	5.0			<0.50	0.50		
Orthophosphate (P)	mg/L	-	-	0.17	0.010			<0.010	0.010	<0.010	0.010
pH	pH	-	7.0 : 10.5	5.80				5.80			
Dissolved Phosphorus	mg/L	-	-	0.063	0.020	0.052	0.020	0.028	0.020	0.023	0.020
Total Phosphorus	mg/L	-	-	0.030	0.020			<0.020	0.020		
Reactive Silica (SiO2)	mg/L	-	-	6.0	0.50			6.6	0.50	6.6	0.50
Total Suspended Solids	mg/L	-	-	28	2.0			1.8	1.0		
Dissolved Sulphate (SO4)	mg/L	-	500	2.4	2.0			2.2	2.0	2.1	2.0
Turbidity	NTU	-	0.3	5.1	0.10			0.12	0.10		
Conductivity	uS/cm	-	-	35	1.0			30	1.0		

RDL = Reportable Detection Limit

Lab-Dup = Laboratory Initiated Duplicate

MAC,AO: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, September 2020.

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If Screening Levels (SL) for gross alpha or gross beta are exceeded then concentration of the specific radionuclides of the CWQG should be analyzed.

Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.

Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.

(1) Elevated reporting limit due to turbidity.

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BV Labs Job #: C0T5709
Report Date: 2020/11/20

GHD Limited
Client Project #: 11220159
Your P.O. #: 00016620
Sampler Initials: JR

RESULTS OF ANALYSES OF WATER

BV Labs ID				OCH916		OCH916		OCH917		OCH918	
Sampling Date				2020/11/05 08:15		2020/11/05 08:15		2020/11/05 08:25		2020/11/05 08:42	
COC Number				799567-05-01		799567-05-01		799567-05-01		799567-05-01	
	UNITS	MAC	AO	MW-21A	RDL	MW-21A Lab-Dup	RDL	MW-21B	RDL	MW-21C	RDL
Calculated Parameters											
Anion Sum	me/L	-	-	0.260	N/A			0.330	N/A	1.81	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	-	7.4	1.0			10	1.0	66	1.0
Calculated TDS	mg/L	-	500	20	1.0			25	1.0	110	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	<1.0	1.0			<1.0	1.0	<1.0	1.0
Cation Sum	me/L	-	-	0.230	N/A			0.300	N/A	1.70	N/A
Hardness (CaCO3)	mg/L	-	-	4.7	1.0			8.8	1.0	48	1.0
Ion Balance (% Difference)	%	-	-	6.12	N/A			4.76	N/A	3.13	N/A
Langelier Index (@ 20C)	N/A	-	-	-4.75				-4.32		-1.69	
Langelier Index (@ 4C)	N/A	-	-	-5.00				-4.57		-1.94	
Nitrate (N)	mg/L	**10**	-	0.31	0.050			0.30	0.050	0.21	0.050
Saturation pH (@ 20C)	N/A	-	-	10.4				9.97		8.52	
Saturation pH (@ 4C)	N/A	-	-	10.6				10.2		8.77	
Inorganics											
Total Alkalinity (Total as CaCO3)	mg/L	-	-	7.4	5.0			10	5.0	66	5.0
Total Chemical Oxygen Demand	mg/L	-	-	<20	20			<20	20	<20	20
Dissolved Chloride (Cl-)	mg/L	-	250	1.6	1.0			1.7	1.0	3.7	1.0
Colour	TCU	-	15	<5.0	5.0			<5.0	5.0	8.0	5.0
Nitrate + Nitrite (N)	mg/L	-	-	0.31	0.050			0.30	0.050	0.23	0.050
Nitrite (N)	mg/L	**1**	-	<0.010	0.010			<0.010	0.010	0.015	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	-	-	<0.050	0.050			<0.050	0.050	<0.050	0.050

RDL = Reportable Detection Limit
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BV Labs Job #: C0T5709
Report Date: 2020/11/20

GHD Limited
Client Project #: 11220159
Your P.O. #: 00016620
Sampler Initials: JR

RESULTS OF ANALYSES OF WATER

BV Labs ID				OCH916		OCH916		OCH917		OCH918	
Sampling Date				2020/11/05 08:15		2020/11/05 08:15		2020/11/05 08:25		2020/11/05 08:42	
COC Number				799567-05-01		799567-05-01		799567-05-01		799567-05-01	
	UNITS	MAC	AO	MW-21A	RDL	MW-21A Lab-Dup	RDL	MW-21B	RDL	MW-21C	RDL
Dissolved Organic Carbon (C)	mg/L	-	-	2.2	0.5	2.2	0.5	1.8	0.5	2.4	0.5
Total Organic Carbon (C)	mg/L	-	-	2.4	0.50	2.4	0.50	<5.0 (1)	5.0	2.6	0.50
Orthophosphate (P)	mg/L	-	-	<0.010	0.010			0.017	0.010	<0.010	0.010
pH	pH	-	7.0 : 10.5	5.62				5.65		6.84	
Dissolved Phosphorus	mg/L	-	-	0.028	0.020			0.026	0.020	<0.020	0.020
Total Phosphorus	mg/L	-	-	<0.020	0.020			0.025	0.020	0.024	0.020
Reactive Silica (SiO2)	mg/L	-	-	5.7	0.50			6.6	0.50	17	0.50
Total Suspended Solids	mg/L	-	-	23	1.0			18	1.0	15	1.0
Dissolved Sulphate (SO4)	mg/L	-	500	2.1	2.0			2.9	2.0	18	2.0
Turbidity	NTU	-	0.3	4.8	0.10			4.4	0.10	3.6	0.10
Conductivity	uS/cm	-	-	27	1.0			33	1.0	160	1.0

RDL = Reportable Detection Limit
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Report Date: 2020/11/20

GHD Limited
Client Project #: 11220159
Your P.O. #: 00016620
Sampler Initials: JR

RESULTS OF ANALYSES OF WATER

BV Labs ID				OCH918		OCH919		OCH919		OCH920	
Sampling Date				2020/11/05 08:42		2020/11/05 10:45		2020/11/05 10:45		2020/11/05 10:45	
COC Number				799567-05-01		799567-05-01		799567-05-01		799567-05-01	
	UNITS	MAC	AO	MW-21C Lab-Dup	RDL	MW-22A	RDL	MW-22A Lab-Dup	RDL	MW-22B	RDL
Calculated Parameters											
Anion Sum	me/L	-	-			0.330	N/A			1.02	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	-			7.1	1.0			37	1.0
Calculated TDS	mg/L	-	500			25	1.0			65	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-			<1.0	1.0			<1.0	1.0
Cation Sum	me/L	-	-			0.300	N/A			0.970	N/A
Hardness (CaCO3)	mg/L	-	-			3.3	1.0			33	1.0
Ion Balance (% Difference)	%	-	-			4.76	N/A			2.51	N/A
Langelier Index (@ 20C)	N/A	-	-			-4.84				-1.98	
Langelier Index (@ 4C)	N/A	-	-			-5.10				-2.23	
Nitrate (N)	mg/L	**10**	-			0.065	0.050			0.055	0.050
Saturation pH (@ 20C)	N/A	-	-			10.6				8.77	
Saturation pH (@ 4C)	N/A	-	-			10.8				9.03	
Inorganics											
Total Alkalinity (Total as CaCO3)	mg/L	-	-			7.1	5.0			37	5.0
Total Chemical Oxygen Demand	mg/L	-	-	<20	20	<20	20			<20	20
Dissolved Chloride (Cl-)	mg/L	-	250			2.3	1.0			3.1	1.0
Colour	TCU	-	15			<5.0	5.0			<5.0	5.0
Nitrate + Nitrite (N)	mg/L	-	-			0.065	0.050			0.055	0.050
Nitrite (N)	mg/L	**1**	-			<0.010	0.010			<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	-	-			<0.050	0.050			<0.050	0.050

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RESULTS OF ANALYSES OF WATER

BV Labs ID				OCH918		OCH919		OCH919		OCH920	
Sampling Date				2020/11/05 08:42		2020/11/05 10:45		2020/11/05 10:45		2020/11/05 10:45	
COC Number				799567-05-01		799567-05-01		799567-05-01		799567-05-01	
	UNITS	MAC	AO	MW-21C Lab-Dup	RDL	MW-22A	RDL	MW-22A Lab-Dup	RDL	MW-22B	RDL
Dissolved Organic Carbon (C)	mg/L	-	-			1.1	0.5			0.7	0.5
Total Organic Carbon (C)	mg/L	-	-			1.5	0.50			1.2	0.50
Orthophosphate (P)	mg/L	-	-			<0.010	0.010			<0.010	0.010
pH	pH	-	7.0 : 10.5			5.73				6.80	
Dissolved Phosphorus	mg/L	-	-			<0.020	0.020	<0.020	0.020	<0.020	0.020
Total Phosphorus	mg/L	-	-	0.026	0.020	<0.020	0.020			<0.020	0.020
Reactive Silica (SiO2)	mg/L	-	-			6.0	0.50			11	0.50
Total Suspended Solids	mg/L	-	-			7.6	1.0			8.8	1.0
Dissolved Sulphate (SO4)	mg/L	-	500			5.7	2.0			9.3	2.0
Turbidity	NTU	-	0.3			3.1	0.10			5.2	0.10
Conductivity	uS/cm	-	-			33	1.0			95	1.0

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RESULTS OF ANALYSES OF WATER

BV Labs ID				OCH921		OCH922		OCH922		OCH923	
Sampling Date				2020/11/05 10:45		2020/11/04		2020/11/04		2020/11/05	
COC Number				799567-05-01		799567-05-01		799567-05-01		799567-05-01	
	UNITS	MAC	AO	MW-22C	RDL	DUP-1	RDL	DUP-1 Lab-Dup	RDL	DUP-2	RDL
Calculated Parameters											
Anion Sum	me/L	-	-	2.11	N/A	0.140	N/A			1.58	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	-	93	1.0	<1.0	1.0			62	1.0
Calculated TDS	mg/L	-	500	120	1.0	14	1.0			90	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	1.0	1.0	<1.0	1.0			<1.0	1.0
Cation Sum	me/L	-	-	2.02	N/A	0.220	N/A			1.40	N/A
Hardness (CaCO3)	mg/L	-	-	60	1.0	3.7	1.0			59	1.0
Ion Balance (% Difference)	%	-	-	2.18	N/A	22.2	N/A			6.04	N/A
Langelier Index (@ 20C)	N/A	-	-	-0.0320		NC				-0.466	
Langelier Index (@ 4C)	N/A	-	-	-0.283		NC				-0.717	
Nitrate (N)	mg/L	**10**	-	<0.050	0.050	<0.050	0.050			<0.050	0.050
Saturation pH (@ 20C)	N/A	-	-	8.11		NC				8.24	
Saturation pH (@ 4C)	N/A	-	-	8.36		NC				8.50	
Inorganics											
Total Alkalinity (Total as CaCO3)	mg/L	-	-	94	5.0	<5.0	5.0			62	5.0
Total Chemical Oxygen Demand	mg/L	-	-	<20	20	<20	20			<20	20
Dissolved Chloride (Cl-)	mg/L	-	250	3.1	1.0	2.6	1.0			3.4	1.0
Colour	TCU	-	15	<5.0	5.0	<5.0	5.0			<5.0	5.0
Nitrate + Nitrite (N)	mg/L	-	-	<0.050	0.050	<0.050	0.050			<0.050	0.050
Nitrite (N)	mg/L	**1**	-	<0.010	0.010	<0.010	0.010			<0.010	0.010

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RESULTS OF ANALYSES OF WATER

BV Labs ID				OCH921		OCH922		OCH922		OCH923	
Sampling Date				2020/11/05 10:45		2020/11/04		2020/11/04		2020/11/05	
COC Number				799567-05-01		799567-05-01		799567-05-01		799567-05-01	
	UNITS	MAC	AO	MW-22C	RDL	DUP-1	RDL	DUP-1 Lab-Dup	RDL	DUP-2	RDL
Nitrogen (Ammonia Nitrogen)	mg/L	-	-	<0.050	0.050	<0.050	0.050			<0.050	0.050
Dissolved Organic Carbon (C)	mg/L	-	-	<0.5	0.5	<0.5	0.5			<0.5	0.5
Total Organic Carbon (C)	mg/L	-	-	0.82	0.50	<0.50	0.50			<0.50	0.50
Orthophosphate (P)	mg/L	-	-	<0.010	0.010	<0.010	0.010			<0.010	0.010
pH	pH	-	7.0 : 10.5	8.08		5.78				7.78	
Dissolved Phosphorus	mg/L	-	-	<0.020	0.020	<0.020	0.020			<0.020	0.020
Total Phosphorus	mg/L	-	-	<0.020	0.020	0.073	0.020			<0.020	0.020
Reactive Silica (SiO2)	mg/L	-	-	12	0.50	4.1	0.50			9.5	0.50
Total Suspended Solids	mg/L	-	-	7.8	1.0	230	5.0	230	5.0	14	1.0
Dissolved Sulphate (SO4)	mg/L	-	500	7.2	2.0	3.2	2.0			11	2.0
Turbidity	NTU	-	0.3	3.4	0.10	63	0.10			3.7	0.10
Conductivity	uS/cm	-	-	190	1.0	26	1.0			140	1.0

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BV Labs Job #: C0T5709
Report Date: 2020/11/20

GHD Limited
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Sampler Initials: JR

RESULTS OF ANALYSES OF WATER

BV Labs ID				OCH924		OCH925		OCH925		OCH926	
Sampling Date				2020/11/05		2020/11/05		2020/11/05		2020/11/05	
COC Number				799567-05-01		799567-05-01		799567-05-01		799567-06-01	
	UNITS	MAC	AO	DUP-3	RDL	DUP-4	RDL	DUP-4 Lab-Dup	RDL	DUP-5	RDL
Calculated Parameters											
Anion Sum	me/L	-	-	2.68	N/A	1.03	N/A			0.280	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	-	89	1.0	41	1.0			6.7	1.0
Calculated TDS	mg/L	-	500	160	1.0	61	1.0			20	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	<1.0	1.0	<1.0	1.0			<1.0	1.0
Cation Sum	me/L	-	-	2.45	N/A	0.890	N/A			0.240	N/A
Hardness (CaCO3)	mg/L	-	-	82	1.0	33	1.0			6.0	1.0
Ion Balance (% Difference)	%	-	-	4.48	N/A	7.29	N/A			7.69	N/A
Langelier Index (@ 20C)	N/A	-	-	-0.126		-1.42				-4.34	
Langelier Index (@ 4C)	N/A	-	-	-0.376		-1.67				-4.59	
Nitrate (N)	mg/L	**10**	-	0.052	0.050	0.11	0.050			0.069	0.050
Saturation pH (@ 20C)	N/A	-	-	7.99		8.66				10.2	
Saturation pH (@ 4C)	N/A	-	-	8.24		8.91				10.4	
Inorganics											
Total Alkalinity (Total as CaCO3)	mg/L	-	-	89	5.0	41	5.0			6.7	5.0
Total Chemical Oxygen Demand	mg/L	-	-	<20	20	<20	20			<20	20
Dissolved Chloride (Cl-)	mg/L	-	250	4.3	1.0	2.8	1.0			2.6	1.0
Colour	TCU	-	15	<5.0	5.0	<5.0	5.0			<5.0	5.0
Nitrate + Nitrite (N)	mg/L	-	-	0.052	0.050	0.11	0.050			0.069	0.050
Nitrite (N)	mg/L	**1**	-	<0.010	0.010	<0.010	0.010			<0.010	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	-	-	<0.050	0.050	<0.050	0.050			<0.050	0.050

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Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.
N/A = Not Applicable

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BV Labs Job #: C0T5709
Report Date: 2020/11/20

GHD Limited
Client Project #: 11220159
Your P.O. #: 00016620
Sampler Initials: JR

RESULTS OF ANALYSES OF WATER

BV Labs ID				OCH924		OCH925		OCH925		OCH926	
Sampling Date				2020/11/05		2020/11/05		2020/11/05		2020/11/05	
COC Number				799567-05-01		799567-05-01		799567-05-01		799567-06-01	
	UNITS	MAC	AO	DUP-3	RDL	DUP-4	RDL	DUP-4 Lab-Dup	RDL	DUP-5	RDL
Dissolved Organic Carbon (C)	mg/L	-	-	4.2	0.5	<0.5	0.5			<0.5	0.5
Total Organic Carbon (C)	mg/L	-	-	3.8	0.50	<5.0 (1)	5.0			<0.50	0.50
Orthophosphate (P)	mg/L	-	-	0.012	0.010	<0.010	0.010			0.038	0.010
pH	pH	-	7.0 : 10.5	7.87		7.24		7.26		5.86	
Dissolved Phosphorus	mg/L	-	-	0.032	0.020	<0.020	0.020			<0.020	0.020
Total Phosphorus	mg/L	-	-	<0.020	0.020	<0.020	0.020			<0.020	0.020
Reactive Silica (SiO2)	mg/L	-	-	12	0.50	8.8	0.50			4.7	0.50
Total Suspended Solids	mg/L	-	-	2.8	1.0	38	2.0			4.6	1.0
Dissolved Sulphate (SO4)	mg/L	-	500	37	2.0	5.7	2.0			3.0	2.0
Turbidity	NTU	-	0.3	3.0	0.10	15	0.10	15	0.10	1.8	0.10
Conductivity	uS/cm	-	-	240	1.0	96	1.0	95	1.0	30	1.0

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(1) Elevated reporting limit due to turbidity.

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Report Date: 2020/11/20

GHD Limited
Client Project #: 11220159
Your P.O. #: 00016620
Sampler Initials: JR

MERCURY BY COLD VAPOUR AA (WATER)

BV Labs ID			OCH862	OCH863	OCH864	OCH865	OCH866	OCH867	
Sampling Date			2020/11/05 09:35	2020/11/05 09:50	2020/11/05 10:05	2020/11/04 15:30	2020/11/04 15:42	2020/11/05 10:30	
COC Number			799567-01-01	799567-01-01	799567-01-01	799567-01-01	799567-01-01	799567-01-01	
	UNITS	**MAC**	**MW-01A**	**MW-01B**	**MW-01C**	**MW-02A**	**MW-02B**	**MW-03A**	**RDL**
Metals									
Dissolved Mercury (Hg)	ug/L	**1**	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	0.013
Total Mercury (Hg)	ug/L	**1**	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	0.013

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MERCURY BY COLD VAPOUR AA (WATER)

BV Labs ID			OCH868		OCH868		OCH869	OCH870	OCH871	
Sampling Date			2020/11/05 10:45		2020/11/05 10:45		2020/11/05 10:55	2020/11/05 12:56	2020/11/05 13:10	
COC Number			799567-01-01		799567-01-01		799567-01-01	799567-01-01	799567-01-01	
	UNITS	MAC	MW-03B	RDL	MW-03B Lab-Dup	RDL	MW-03C	MW-04A	MW-04B	RDL
Metals										
Dissolved Mercury (Hg)	ug/L	**1**	<0.013	0.013	<0.013	0.013	<0.013	<0.013	<0.013	0.013
Total Mercury (Hg)	ug/L	**1**	<0.013	0.013			<0.013	<0.013	<0.013	0.013

RDL = Reportable Detection Limit

Lab-Dup = Laboratory Initiated Duplicate

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Report Date: 2020/11/20

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Sampler Initials: JR

MERCURY BY COLD VAPOUR AA (WATER)

BV Labs ID			OCH872	OCH873	OCH874		OCH874		OCH875	
Sampling Date			2020/11/05 12:56	2020/11/05 12:56	2020/11/05 12:56		2020/11/05 12:56		2020/11/05 11:55	
COC Number			799567-02-01	799567-02-01	799567-02-01		799567-02-01		799567-02-01	
	UNITS	MAC	MW-05A	MW-05B	MW-05D	RDL	MW-05D Lab-Dup	RDL	MW-07A	RDL
Metals										
Dissolved Mercury (Hg)	ug/L	**1**	<0.013	<0.013	<0.013	0.013			<0.013	0.013
Total Mercury (Hg)	ug/L	**1**	<0.013	<0.013	<0.013	0.013	<0.013	0.013	<0.013	0.013

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MERCURY BY COLD VAPOUR AA (WATER)

BV Labs ID			OCH876	OCH877	OCH878	OCH879	OCH880	OCH881	
Sampling Date			2020/11/05 11:55	2020/11/05 11:55	2020/11/05 11:50	2020/11/05 12:00	2020/11/05 12:15	2020/11/05 13:50	
COC Number			799567-02-01	799567-02-01	799567-02-01	799567-02-01	799567-02-01	799567-02-01	
	UNITS	**MAC**	**MW-07B**	**MW-07D**	**MW-09A**	**MW-09B**	**MW-09D**	**MW-11A**	**RDL**
Metals									
Dissolved Mercury (Hg)	ug/L	**1**	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	0.013
Total Mercury (Hg)	ug/L	**1**	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	0.013

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MERCURY BY COLD VAPOUR AA (WATER)

BV Labs ID			OCH882	OCH883	OCH884	OCH885	OCH886	OCH887	
Sampling Date			2020/11/05 14:05	2020/11/05 14:10	2020/11/05 11:20	2020/11/05 11:30	2020/11/05 09:40	2020/11/05 09:40	
COC Number			799567-03-01	799567-03-01	799567-03-01	799567-03-01	799567-03-01	799567-03-01	
	UNITS	**MAC**	**MW-11B**	**MW-11C**	**MW-12A**	**MW-12B**	**MW-14A**	**MW-14B**	**RDL**
Metals									
Dissolved Mercury (Hg)	ug/L	**1**	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	0.013
Total Mercury (Hg)	ug/L	**1**	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	0.013

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MERCURY BY COLD VAPOUR AA (WATER)

BV Labs ID			OCH888		OCH888		OCH889	OCH890	OCH891	
Sampling Date			2020/11/05 09:40		2020/11/05 09:40		2020/11/04 16:02	2020/11/04 16:02	2020/11/05 08:43	
COC Number			799567-03-01		799567-03-01		799567-03-01	799567-03-01	799567-03-01	
	UNITS	MAC	MW-14C	RDL	MW-14C Lab-Dup	RDL	MW-16A	MW-16B	MW-17A	RDL
Metals										
Dissolved Mercury (Hg)	ug/L	1	<0.013	0.013	<0.013	0.013	<0.013	<0.013	<0.013	0.013
Total Mercury (Hg)	ug/L	1	<0.013	0.013			<0.013	<0.013	<0.013	0.013

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MERCURY BY COLD VAPOUR AA (WATER)

BV Labs ID			OCH892	OCH893	OCH894		OCH894		OCH895	
Sampling Date			2020/11/05 08:43	2020/11/05 08:43	2020/11/04 14:50		2020/11/04 14:50		2020/11/04 14:50	
COC Number			799567-04-01	799567-04-01	799567-04-01		799567-04-01		799567-04-01	
	UNITS	MAC	MW-17B	MW-17C	MW-18A	RDL	MW-18A Lab-Dup	RDL	MW-18B	RDL
Metals										
Dissolved Mercury (Hg)	ug/L	**1**	<0.013	<0.013	<0.013	0.013			<0.013	0.013
Total Mercury (Hg)	ug/L	**1**	<0.013	<0.013	<0.013	0.013	<0.013	0.013	<0.013	0.013

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MERCURY BY COLD VAPOUR AA (WATER)

BV Labs ID			OCH896	OCH897	OCH898	OCH899	OCH900	OCH901	
Sampling Date			2020/11/04 14:50	2020/11/04 16:10	2020/11/04 16:20	2020/11/04 16:30	2020/11/04 15:05	2020/11/05 09:15	
COC Number			799567-04-01	799567-04-01	799567-04-01	799567-04-01	799567-04-01	799567-04-01	
	UNITS	**MAC**	**MW-18C**	**MW-19A**	**MW-19B**	**MW-19C**	**MW-20A**	**MW-20B**	**RDL**
Metals									
Dissolved Mercury (Hg)	ug/L	**1**	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	0.013
Total Mercury (Hg)	ug/L	**1**	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	0.013

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MERCURY BY COLD VAPOUR AA (WATER)

BV Labs ID			OCH916	OCH917		OCH917		OCH918	OCH919	
Sampling Date			2020/11/05 08:15	2020/11/05 08:25		2020/11/05 08:25		2020/11/05 08:42	2020/11/05 10:45	
COC Number			799567-05-01	799567-05-01		799567-05-01		799567-05-01	799567-05-01	
	UNITS	MAC	MW-21A	MW-21B	RDL	MW-21B Lab-Dup	RDL	MW-21C	MW-22A	RDL
Metals										
Dissolved Mercury (Hg)	ug/L	**1**	<0.013	<0.013	0.013			<0.013	<0.013	0.013
Total Mercury (Hg)	ug/L	**1**	<0.013	<0.013	0.013	<0.013	0.013	<0.013	<0.013	0.013

RDL = Reportable Detection Limit
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Sampler Initials: JR

MERCURY BY COLD VAPOUR AA (WATER)

BV Labs ID			OCH920	OCH921	OCH922		OCH922		OCH923	
Sampling Date			2020/11/05 10:45	2020/11/05 10:45	2020/11/04		2020/11/04		2020/11/05	
COC Number			799567-05-01	799567-05-01	799567-05-01		799567-05-01		799567-05-01	
	UNITS	MAC	MW-22B	MW-22C	DUP-1	RDL	DUP-1 Lab-Dup	RDL	DUP-2	RDL
Metals										
Dissolved Mercury (Hg)	ug/L	**1**	<0.013	<0.013	<0.013	0.013	<0.013	0.013	<0.013	0.013
Total Mercury (Hg)	ug/L	**1**	<0.013	<0.013	<0.013	0.013			<0.013	0.013

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Lab-Dup = Laboratory Initiated Duplicate
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Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.
Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.

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MERCURY BY COLD VAPOUR AA (WATER)

BV Labs ID			OCH924	OCH925	OCH926	
Sampling Date			2020/11/05	2020/11/05	2020/11/05	
COC Number			799567-05-01	799567-05-01	799567-06-01	
	UNITS	MAC	DUP-3	DUP-4	DUP-5	RDL
Metals						
Dissolved Mercury (Hg)	ug/L	1	<0.013	<0.013	<0.013	0.013
Total Mercury (Hg)	ug/L	1	<0.013	<0.013	<0.013	0.013

RDL = Reportable Detection Limit

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BV Labs Job #: C0T5709
Report Date: 2020/11/20

GHD Limited
Client Project #: 11220159
Your P.O. #: 00016620
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID				OCH862	OCH863	OCH864	OCH865	OCH866	OCH867	
Sampling Date				2020/11/05 09:35	2020/11/05 09:50	2020/11/05 10:05	2020/11/04 15:30	2020/11/04 15:42	2020/11/05 10:30	
COC Number				799567-01-01	799567-01-01	799567-01-01	799567-01-01	799567-01-01	799567-01-01	
	UNITS	MAC	AO	MW-01A	MW-01B	MW-01C	MW-02A	MW-02B	MW-03A	RDL
Metals										
Dissolved Aluminum (Al)	ug/L	-	100	9.1	8.2	5.9	86	<5.0	120	5.0
Total Aluminum (Al)	ug/L	-	100	200	120	190	3200	39	730	5.0
Dissolved Antimony (Sb)	ug/L	**6**	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Antimony (Sb)	ug/L	**6**	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Arsenic (As)	ug/L	**10**	-	<1.0	2.7	<1.0	<1.0	2.5	<1.0	1.0
Total Arsenic (As)	ug/L	**10**	-	<1.0	2.9	<1.0	3.7	2.5	<1.0	1.0
Dissolved Barium (Ba)	ug/L	**2000**	-	6.7	4.9	5.4	6.1	2.3	8.2	1.0
Total Barium (Ba)	ug/L	**2000**	-	8.3	5.4	7.0	21	2.5	15	1.0
Dissolved Beryllium (Be)	ug/L	**-**	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Beryllium (Be)	ug/L	**-**	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	**-**	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Bismuth (Bi)	ug/L	**-**	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Boron (B)	ug/L	**5000**	-	<50	<50	<50	<50	<50	<50	50
Total Boron (B)	ug/L	**5000**	-	<50	<50	<50	<50	<50	<50	50
Dissolved Cadmium (Cd)	ug/L	**7**	-	0.015	0.011	0.028	0.024	0.44	0.034	0.010
Total Cadmium (Cd)	ug/L	**7**	-	0.022	<0.010	0.023	0.031	0.46	0.038	0.010
Dissolved Calcium (Ca)	ug/L	**-**	-	1700	20000	5500	740	2800	1600	100
Total Calcium (Ca)	ug/L	**-**	-	1800	21000	5800	850	2700	1600	100
Dissolved Chromium (Cr)	ug/L	**50**	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Chromium (Cr)	ug/L	**50**	-	<1.0	<1.0	<1.0	3.6	<1.0	<1.0	1.0
Dissolved Cobalt (Co)	ug/L	**-**	-	<0.40	<0.40	<0.40	0.46	<0.40	<0.40	0.40

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BV Labs Job #: C0T5709
Report Date: 2020/11/20

GHD Limited
Client Project #: 11220159
Your P.O. #: 00016620
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID				OCH862	OCH863	OCH864	OCH865	OCH866	OCH867	
Sampling Date				2020/11/05 09:35	2020/11/05 09:50	2020/11/05 10:05	2020/11/04 15:30	2020/11/04 15:42	2020/11/05 10:30	
COC Number				799567-01-01	799567-01-01	799567-01-01	799567-01-01	799567-01-01	799567-01-01	
	UNITS	MAC	AO	MW-01A	MW-01B	MW-01C	MW-02A	MW-02B	MW-03A	RDL
Total Cobalt (Co)	ug/L	-	-	0.97	<0.40	<0.40	2.2	<0.40	0.48	0.40
Dissolved Copper (Cu)	ug/L	**2000**	1000	<0.50	0.73	0.78	2.1	0.61	2.4	0.50
Total Copper (Cu)	ug/L	**2000**	1000	1.4	1.1	2.3	9.2	0.93	3.7	0.50
Dissolved Iron (Fe)	ug/L	-	300	<50	<50	<50	<50	<50	<50	50
Total Iron (Fe)	ug/L	-	300	300	150	210	4600	<50	900	50
Dissolved Lead (Pb)	ug/L	**5**	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Total Lead (Pb)	ug/L	**5**	-	<0.50	<0.50	<0.50	2.3	<0.50	1.4	0.50
Dissolved Magnesium (Mg)	ug/L	-	-	460	2000	700	410	800	450	100
Total Magnesium (Mg)	ug/L	-	-	530	2100	760	1300	810	580	100
Dissolved Manganese (Mn)	ug/L	**120**	20	40	<2.0	12	27	4.4	64	2.0
Total Manganese (Mn)	ug/L	**120**	20	86	4.4	29	120	4.3	120	2.0
Dissolved Molybdenum (Mo)	ug/L	-	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Molybdenum (Mo)	ug/L	-	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Nickel (Ni)	ug/L	-	-	<2.0	<2.0	2.1	<2.0	<2.0	2.6	2.0
Total Nickel (Ni)	ug/L	-	-	<2.0	<2.0	2.8	5.5	<2.0	3.3	2.0
Dissolved Phosphorus (P)	ug/L	-	-	<100	<100	<100	<100	110	<100	100
Total Phosphorus (P)	ug/L	-	-	<100	<100	<100	170	120	<100	100
Dissolved Potassium (K)	ug/L	-	-	640	1200	850	240	600	690	100
Total Potassium (K)	ug/L	-	-	690	1200	900	750	530	830	100
Dissolved Selenium (Se)	ug/L	**50**	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Total Selenium (Se)	ug/L	**50**	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Dissolved Silver (Ag)	ug/L	-	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10

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Report Date: 2020/11/20

GHD Limited
Client Project #: 11220159
Your P.O. #: 00016620
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID				OCH862	OCH863	OCH864	OCH865	OCH866	OCH867	
Sampling Date				2020/11/05 09:35	2020/11/05 09:50	2020/11/05 10:05	2020/11/04 15:30	2020/11/04 15:42	2020/11/05 10:30	
COC Number				799567-01-01	799567-01-01	799567-01-01	799567-01-01	799567-01-01	799567-01-01	
	UNITS	MAC	AO	MW-01A	MW-01B	MW-01C	MW-02A	MW-02B	MW-03A	RDL
Total Silver (Ag)	ug/L	-	-	<0.10	<0.10	<0.10	0.70	<0.10	0.37	0.10
Dissolved Sodium (Na)	ug/L	-	200000	3400	4600	3800	3100	4600	3200	100
Total Sodium (Na)	ug/L	-	200000	3500	4700	3700	3000	4500	3300	100
Dissolved Strontium (Sr)	ug/L	**7000**	-	13	50	30	9.2	18	11	2.0
Total Strontium (Sr)	ug/L	**7000**	-	14	53	29	7.9	18	12	2.0
Dissolved Thallium (Tl)	ug/L	-	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Total Thallium (Tl)	ug/L	-	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Dissolved Tin (Sn)	ug/L	-	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Tin (Sn)	ug/L	-	-	<2.0	<2.0	<2.0	2.4	<2.0	<2.0	2.0
Dissolved Titanium (Ti)	ug/L	-	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Titanium (Ti)	ug/L	-	-	9.2	7.9	8.1	120	<2.0	15	2.0
Dissolved Uranium (U)	ug/L	**20**	-	<0.10	0.64	<0.10	<0.10	0.78	<0.10	0.10
Total Uranium (U)	ug/L	**20**	-	<0.10	0.80	0.21	0.23	1.0	0.40	0.10
Dissolved Vanadium (V)	ug/L	-	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Vanadium (V)	ug/L	-	-	<2.0	<2.0	<2.0	3.4	<2.0	<2.0	2.0
Dissolved Zinc (Zn)	ug/L	-	5000	<5.0	5.8	14	5.1	100	13	5.0
Total Zinc (Zn)	ug/L	-	5000	<5.0	<5.0	14	14	96	12	5.0

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Report Date: 2020/11/20

GHD Limited
Client Project #: 11220159
Your P.O. #: 00016620
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID				OCH868		OCH868		OCH869	OCH870	OCH871	
Sampling Date				2020/11/05 10:45		2020/11/05 10:45		2020/11/05 10:55	2020/11/05 12:56	2020/11/05 13:10	
COC Number				799567-01-01		799567-01-01		799567-01-01	799567-01-01	799567-01-01	
	UNITS	MAC	AO	MW-03B	RDL	MW-03B Lab-Dup	RDL	MW-03C	MW-04A	MW-04B	RDL
Metals											
Dissolved Aluminum (Al)	ug/L	-	100	<5.0	5.0	<5.0	5.0	<5.0	29	<5.0	5.0
Total Aluminum (Al)	ug/L	-	100	61	5.0			43	51	79	5.0
Dissolved Antimony (Sb)	ug/L	**6**	-	<1.0	1.0	<1.0	1.0	<1.0	<1.0	<1.0	1.0
Total Antimony (Sb)	ug/L	**6**	-	<1.0	1.0			<1.0	<1.0	<1.0	1.0
Dissolved Arsenic (As)	ug/L	**10**	-	<1.0	1.0	<1.0	1.0	1.5	<1.0	<1.0	1.0
Total Arsenic (As)	ug/L	**10**	-	<1.0	1.0			1.7	<1.0	<1.0	1.0
Dissolved Barium (Ba)	ug/L	**2000**	-	3.0	1.0	3.1	1.0	3.0	3.5	2.2	1.0
Total Barium (Ba)	ug/L	**2000**	-	3.3	1.0			3.4	3.7	2.8	1.0
Dissolved Beryllium (Be)	ug/L	**-**	-	<1.0	1.0	<1.0	1.0	<1.0	<1.0	<1.0	1.0
Total Beryllium (Be)	ug/L	**-**	-	<1.0	1.0			<1.0	<1.0	<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	**-**	-	<2.0	2.0	<2.0	2.0	<2.0	<2.0	<2.0	2.0
Total Bismuth (Bi)	ug/L	**-**	-	<2.0	2.0			<2.0	<2.0	<2.0	2.0
Dissolved Boron (B)	ug/L	**5000**	-	<50	50	<50	50	<50	<50	<50	50
Total Boron (B)	ug/L	**5000**	-	<50	50			<50	<50	<50	50
Dissolved Cadmium (Cd)	ug/L	**7**	-	0.023	0.010	0.019	0.010	0.012	0.015	<0.010	0.010
Total Cadmium (Cd)	ug/L	**7**	-	0.016	0.010			0.010	0.016	<0.010	0.010
Dissolved Calcium (Ca)	ug/L	**-**	-	12000	100	12000	100	24000	1700	11000	100
Total Calcium (Ca)	ug/L	**-**	-	11000	100			24000	1600	11000	100
Dissolved Chromium (Cr)	ug/L	**50**	-	<1.0	1.0	<1.0	1.0	<1.0	<1.0	<1.0	1.0
Total Chromium (Cr)	ug/L	**50**	-	<1.0	1.0			<1.0	<1.0	<1.0	1.0
Dissolved Cobalt (Co)	ug/L	**-**	-	<0.40	0.40	<0.40	0.40	<0.40	<0.40	<0.40	0.40

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Client Project #: 11220159
Your P.O. #: 00016620
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID				OCH868		OCH868		OCH869	OCH870	OCH871	
Sampling Date				2020/11/05 10:45		2020/11/05 10:45		2020/11/05 10:55	2020/11/05 12:56	2020/11/05 13:10	
COC Number				799567-01-01		799567-01-01		799567-01-01	799567-01-01	799567-01-01	
	UNITS	MAC	AO	MW-03B	RDL	MW-03B Lab-Dup	RDL	MW-03C	MW-04A	MW-04B	RDL
Total Cobalt (Co)	ug/L	-	-	<0.40	0.40			<0.40	<0.40	<0.40	0.40
Dissolved Copper (Cu)	ug/L	**2000**	1000	0.65	0.50	0.63	0.50	<0.50	0.73	1.7	0.50
Total Copper (Cu)	ug/L	**2000**	1000	1.4	0.50			1.0	1.0	3.6	0.50
Dissolved Iron (Fe)	ug/L	-	300	<50	50	<50	50	<50	<50	<50	50
Total Iron (Fe)	ug/L	-	300	91	50			150	<50	110	50
Dissolved Lead (Pb)	ug/L	**5**	-	<0.50	0.50	<0.50	0.50	<0.50	<0.50	<0.50	0.50
Total Lead (Pb)	ug/L	**5**	-	<0.50	0.50			<0.50	<0.50	<0.50	0.50
Dissolved Magnesium (Mg)	ug/L	-	-	1200	100	1200	100	2400	440	1100	100
Total Magnesium (Mg)	ug/L	-	-	1200	100			2400	440	1200	100
Dissolved Manganese (Mn)	ug/L	**120**	20	4.3	2.0	4.5	2.0	2.5	4.9	7.5	2.0
Total Manganese (Mn)	ug/L	**120**	20	7.1	2.0			7.1	5.9	12	2.0
Dissolved Molybdenum (Mo)	ug/L	-	-	<2.0	2.0	<2.0	2.0	<2.0	<2.0	<2.0	2.0
Total Molybdenum (Mo)	ug/L	-	-	<2.0	2.0			<2.0	<2.0	<2.0	2.0
Dissolved Nickel (Ni)	ug/L	-	-	<2.0	2.0	<2.0	2.0	<2.0	<2.0	<2.0	2.0
Total Nickel (Ni)	ug/L	-	-	<2.0	2.0			<2.0	<2.0	<2.0	2.0
Dissolved Phosphorus (P)	ug/L	-	-	<100	100	<100	100	<100	<100	<100	100
Total Phosphorus (P)	ug/L	-	-	<100	100			<100	<100	<100	100
Dissolved Potassium (K)	ug/L	-	-	830	100	840	100	1600	360	610	100
Total Potassium (K)	ug/L	-	-	840	100			1600	350	590	100
Dissolved Selenium (Se)	ug/L	**50**	-	<0.50	0.50	<0.50	0.50	<0.50	<0.50	<0.50	0.50
Total Selenium (Se)	ug/L	**50**	-	<0.50	0.50			<0.50	<0.50	<0.50	0.50
Dissolved Silver (Ag)	ug/L	-	-	<0.10	0.10	<0.10	0.10	<0.10	<0.10	<0.10	0.10

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GHD Limited
Client Project #: 11220159
Your P.O. #: 00016620
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID				OCH868		OCH868		OCH869	OCH870	OCH871	
Sampling Date				2020/11/05 10:45		2020/11/05 10:45		2020/11/05 10:55	2020/11/05 12:56	2020/11/05 13:10	
COC Number				799567-01-01		799567-01-01		799567-01-01	799567-01-01	799567-01-01	
	UNITS	MAC	AO	MW-03B	RDL	MW-03B Lab-Dup	RDL	MW-03C	MW-04A	MW-04B	RDL
Total Silver (Ag)	ug/L	-	-	0.12	0.10			0.12	0.13	<0.10	0.10
Dissolved Sodium (Na)	ug/L	-	200000	4400	100	4300	100	5300	3000	4000	100
Total Sodium (Na)	ug/L	-	200000	4200	100			5200	3000	3900	100
Dissolved Strontium (Sr)	ug/L	**7000**	-	24	2.0	25	2.0	65	16	63	2.0
Total Strontium (Sr)	ug/L	**7000**	-	24	2.0			64	15	61	2.0
Dissolved Thallium (Tl)	ug/L	-	-	<0.10	0.10	<0.10	0.10	<0.10	<0.10	<0.10	0.10
Total Thallium (Tl)	ug/L	-	-	<0.10	0.10			<0.10	<0.10	<0.10	0.10
Dissolved Tin (Sn)	ug/L	-	-	<2.0	2.0	<2.0	2.0	<2.0	<2.0	<2.0	2.0
Total Tin (Sn)	ug/L	-	-	<2.0	2.0			<2.0	<2.0	<2.0	2.0
Dissolved Titanium (Ti)	ug/L	-	-	<2.0	2.0	<2.0	2.0	<2.0	<2.0	<2.0	2.0
Total Titanium (Ti)	ug/L	-	-	5.3	2.0			3.7	<2.0	4.4	2.0
Dissolved Uranium (U)	ug/L	**20**	-	0.12	0.10	0.12	0.10	1.2	<0.10	<0.10	0.10
Total Uranium (U)	ug/L	**20**	-	0.22	0.10			1.2	<0.10	<0.10	0.10
Dissolved Vanadium (V)	ug/L	-	-	<2.0	2.0	<2.0	2.0	<2.0	<2.0	<2.0	2.0
Total Vanadium (V)	ug/L	-	-	<2.0	2.0			<2.0	<2.0	<2.0	2.0
Dissolved Zinc (Zn)	ug/L	-	5000	9.0	5.0	8.6	5.0	9.2	<5.0	14	5.0
Total Zinc (Zn)	ug/L	-	5000	7.3	5.0			7.8	<5.0	12	5.0

RDL = Reportable Detection Limit

Lab-Dup = Laboratory Initiated Duplicate

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BV Labs Job #: C0T5709
Report Date: 2020/11/20

GHD Limited
Client Project #: 11220159
Your P.O. #: 00016620
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID				OCH872	OCH873	OCH874	OCH875	OCH876	OCH877	
Sampling Date				2020/11/05 12:56	2020/11/05 12:56	2020/11/05 12:56	2020/11/05 11:55	2020/11/05 11:55	2020/11/05 11:55	
COC Number				799567-02-01	799567-02-01	799567-02-01	799567-02-01	799567-02-01	799567-02-01	
	UNITS	MAC	AO	MW-05A	MW-05B	MW-05D	MW-07A	MW-07B	MW-07D	RDL
Metals										
Dissolved Aluminum (Al)	ug/L	-	100	28	7.4	6.8	<5.0	<5.0	<5.0	5.0
Total Aluminum (Al)	ug/L	-	100	100	730	75	260	350	200	5.0
Dissolved Antimony (Sb)	ug/L	**6**	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Antimony (Sb)	ug/L	**6**	-	<1.0	<1.0	<1.0	<1.0	<1.0	1.1	1.0
Dissolved Arsenic (As)	ug/L	**10**	-	<1.0	<1.0	<1.0	**19**	**30**	**180**	1.0
Total Arsenic (As)	ug/L	**10**	-	<1.0	1.7	<1.0	**33**	**36**	**180**	1.0
Dissolved Barium (Ba)	ug/L	**2000**	-	6.1	9.6	4.0	5.6	16	6.7	1.0
Total Barium (Ba)	ug/L	**2000**	-	6.4	22	4.5	7.0	19	13	1.0
Dissolved Beryllium (Be)	ug/L	-	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Beryllium (Be)	ug/L	-	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	-	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Bismuth (Bi)	ug/L	-	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Boron (B)	ug/L	**5000**	-	<50	<50	<50	<50	<50	<50	50
Total Boron (B)	ug/L	**5000**	-	<50	<50	<50	<50	<50	<50	50
Dissolved Cadmium (Cd)	ug/L	**7**	-	0.019	<0.010	<0.010	<0.010	<0.010	<0.010	0.010
Total Cadmium (Cd)	ug/L	**7**	-	0.016	0.023	<0.010	<0.010	<0.010	<0.010	0.010
Dissolved Calcium (Ca)	ug/L	-	-	2000	12000	18000	29000	88000	34000	100
Total Calcium (Ca)	ug/L	-	-	2000	13000	19000	28000	90000	36000	100
Dissolved Chromium (Cr)	ug/L	**50**	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Chromium (Cr)	ug/L	**50**	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Cobalt (Co)	ug/L	-	-	0.86	<0.40	<0.40	<0.40	<0.40	<0.40	0.40

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BV Labs Job #: C0T5709
Report Date: 2020/11/20

GHD Limited
Client Project #: 11220159
Your P.O. #: 00016620
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID				OCH872	OCH873	OCH874	OCH875	OCH876	OCH877	
Sampling Date				2020/11/05 12:56	2020/11/05 12:56	2020/11/05 12:56	2020/11/05 11:55	2020/11/05 11:55	2020/11/05 11:55	
COC Number				799567-02-01	799567-02-01	799567-02-01	799567-02-01	799567-02-01	799567-02-01	
	UNITS	MAC	AO	MW-05A	MW-05B	MW-05D	MW-07A	MW-07B	MW-07D	RDL
Total Cobalt (Co)	ug/L	-	-	0.89	0.54	<0.40	<0.40	<0.40	<0.40	0.40
Dissolved Copper (Cu)	ug/L	**2000**	1000	3.6	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Total Copper (Cu)	ug/L	**2000**	1000	3.8	3.2	<0.50	<0.50	0.82	0.98	0.50
Dissolved Iron (Fe)	ug/L	-	300	<50	<50	<50	2400	<50	<50	50
Total Iron (Fe)	ug/L	-	300	110	710	85	3800	440	260	50
Dissolved Lead (Pb)	ug/L	**5**	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Total Lead (Pb)	ug/L	**5**	-	<0.50	1.2	<0.50	<0.50	<0.50	<0.50	0.50
Dissolved Magnesium (Mg)	ug/L	-	-	450	1200	2400	7300	7400	5900	100
Total Magnesium (Mg)	ug/L	-	-	490	1500	2500	7000	7300	5900	100
Dissolved Manganese (Mn)	ug/L	**120**	20	37	17	28	600	830	40	2.0
Total Manganese (Mn)	ug/L	**120**	20	40	55	30	590	980	55	2.0
Dissolved Molybdenum (Mo)	ug/L	-	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Molybdenum (Mo)	ug/L	-	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Nickel (Ni)	ug/L	-	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Nickel (Ni)	ug/L	-	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Phosphorus (P)	ug/L	-	-	<100	<100	<100	<100	<100	<100	100
Total Phosphorus (P)	ug/L	-	-	<100	<100	<100	<100	<100	<100	100
Dissolved Potassium (K)	ug/L	-	-	490	990	970	2000	3000	1200	100
Total Potassium (K)	ug/L	-	-	490	1300	970	2000	3100	1300	100
Dissolved Selenium (Se)	ug/L	**50**	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Total Selenium (Se)	ug/L	**50**	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Dissolved Silver (Ag)	ug/L	-	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10

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ELEMENTS BY ICP/MS (WATER)

BV Labs ID				OCH872	OCH873	OCH874	OCH875	OCH876	OCH877	
Sampling Date				2020/11/05 12:56	2020/11/05 12:56	2020/11/05 12:56	2020/11/05 11:55	2020/11/05 11:55	2020/11/05 11:55	
COC Number				799567-02-01	799567-02-01	799567-02-01	799567-02-01	799567-02-01	799567-02-01	
	UNITS	MAC	AO	MW-05A	MW-05B	MW-05D	MW-07A	MW-07B	MW-07D	RDL
Total Silver (Ag)	ug/L	-	-	0.24	0.11	<0.10	<0.10	<0.10	<0.10	0.10
Dissolved Sodium (Na)	ug/L	-	200000	2700	4900	11000	9600	17000	24000	100
Total Sodium (Na)	ug/L	-	200000	2700	5400	11000	9400	17000	27000	100
Dissolved Strontium (Sr)	ug/L	**7000**	-	11	71	170	150	340	330	2.0
Total Strontium (Sr)	ug/L	**7000**	-	11	76	170	150	340	340	2.0
Dissolved Thallium (Tl)	ug/L	-	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Total Thallium (Tl)	ug/L	-	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Dissolved Tin (Sn)	ug/L	-	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Tin (Sn)	ug/L	-	-	<2.0	2.7	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Titanium (Ti)	ug/L	-	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Titanium (Ti)	ug/L	-	-	3.5	24	2.5	9.3	9.5	8.6	2.0
Dissolved Uranium (U)	ug/L	**20**	-	<0.10	0.18	0.31	<0.10	2.0	0.64	0.10
Total Uranium (U)	ug/L	**20**	-	<0.10	0.38	0.34	0.12	2.0	0.69	0.10
Dissolved Vanadium (V)	ug/L	-	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Vanadium (V)	ug/L	-	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Zinc (Zn)	ug/L	-	5000	<5.0	7.5	<5.0	5.5	<5.0	<5.0	5.0
Total Zinc (Zn)	ug/L	-	5000	<5.0	16	<5.0	<5.0	<5.0	<5.0	5.0

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ELEMENTS BY ICP/MS (WATER)

BV Labs ID				OCH878		OCH879	OCH880		OCH881	OCH882	
Sampling Date				2020/11/05 11:50		2020/11/05 12:00	2020/11/05 12:15		2020/11/05 13:50	2020/11/05 14:05	
COC Number				799567-02-01		799567-02-01	799567-02-01		799567-02-01	799567-03-01	
	UNITS	MAC	AO	MW-09A	RDL	MW-09B	MW-09D	RDL	MW-11A	MW-11B	RDL
Metals											
Dissolved Aluminum (Al)	ug/L	-	100	13	5.0	10	5.7	5.0	52	<5.0	5.0
Total Aluminum (Al)	ug/L	-	100	260	5.0	340	47	5.0	110	86	5.0
Dissolved Antimony (Sb)	ug/L	**6**	-	<1.0	1.0	<1.0	<1.0	1.0	<1.0	<1.0	1.0
Total Antimony (Sb)	ug/L	**6**	-	<1.0	1.0	<1.0	<1.0	1.0	<1.0	<1.0	1.0
Dissolved Arsenic (As)	ug/L	**10**	-	2.1	1.0	**110**	**84**	1.0	<1.0	6.3	1.0
Total Arsenic (As)	ug/L	**10**	-	2.8	1.0	**100**	**120**	1.0	<1.0	**15**	1.0
Dissolved Barium (Ba)	ug/L	**2000**	-	8.2	1.0	13	11	1.0	6.7	4.0	1.0
Total Barium (Ba)	ug/L	**2000**	-	8.9	1.0	13	11	1.0	6.4	4.8	1.0
Dissolved Beryllium (Be)	ug/L	**-**	-	<1.0	1.0	<1.0	<1.0	1.0	<1.0	<1.0	1.0
Total Beryllium (Be)	ug/L	**-**	-	<1.0	1.0	<1.0	<1.0	1.0	<1.0	<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	**-**	-	<2.0	2.0	<2.0	<2.0	2.0	<2.0	<2.0	2.0
Total Bismuth (Bi)	ug/L	**-**	-	<2.0	2.0	<2.0	<2.0	2.0	<2.0	<2.0	2.0
Dissolved Boron (B)	ug/L	**5000**	-	<50	50	<50	<50	50	<50	<50	50
Total Boron (B)	ug/L	**5000**	-	<50	50	<50	<50	50	<50	<50	50
Dissolved Cadmium (Cd)	ug/L	**7**	-	0.039	0.010	<0.010	<0.010	0.010	0.023	<0.010	0.010
Total Cadmium (Cd)	ug/L	**7**	-	0.039	0.010	<0.010	<0.010	0.010	0.019	<0.010	0.010
Dissolved Calcium (Ca)	ug/L	**-**	-	3500	100	28000	27000	1000	1800	23000	100
Total Calcium (Ca)	ug/L	**-**	-	3100	100	27000	25000	100	1800	24000	100
Dissolved Chromium (Cr)	ug/L	**50**	-	<1.0	1.0	<1.0	<1.0	1.0	<1.0	<1.0	1.0
Total Chromium (Cr)	ug/L	**50**	-	<1.0	1.0	<1.0	<1.0	1.0	<1.0	<1.0	1.0
Dissolved Cobalt (Co)	ug/L	**-**	-	0.50	0.40	<0.40	<0.40	0.40	0.54	<0.40	0.40

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ELEMENTS BY ICP/MS (WATER)

BV Labs ID				OCH878		OCH879	OCH880		OCH881	OCH882	
Sampling Date				2020/11/05 11:50		2020/11/05 12:00	2020/11/05 12:15		2020/11/05 13:50	2020/11/05 14:05	
COC Number				799567-02-01		799567-02-01	799567-02-01		799567-02-01	799567-03-01	
	UNITS	MAC	AO	MW-09A	RDL	MW-09B	MW-09D	RDL	MW-11A	MW-11B	RDL
Total Cobalt (Co)	ug/L	-	-	0.66	0.40	<0.40	<0.40	0.40	0.63	<0.40	0.40
Dissolved Copper (Cu)	ug/L	**2000**	1000	1.5	0.50	<0.50	<0.50	0.50	<0.50	<0.50	0.50
Total Copper (Cu)	ug/L	**2000**	1000	2.7	0.50	0.70	1.3	0.50	0.71	0.81	0.50
Dissolved Iron (Fe)	ug/L	-	300	<50	50	<50	<50	50	<50	<50	50
Total Iron (Fe)	ug/L	-	300	150	50	180	81	50	87	250	50
Dissolved Lead (Pb)	ug/L	**5**	-	<0.50	0.50	<0.50	<0.50	0.50	<0.50	<0.50	0.50
Total Lead (Pb)	ug/L	**5**	-	<0.50	0.50	<0.50	<0.50	0.50	<0.50	<0.50	0.50
Dissolved Magnesium (Mg)	ug/L	-	-	360	100	2500	3800	100	380	1600	100
Total Magnesium (Mg)	ug/L	-	-	360	100	2400	3300	100	380	1600	100
Dissolved Manganese (Mn)	ug/L	**120**	20	20	2.0	41	45	2.0	23	42	2.0
Total Manganese (Mn)	ug/L	**120**	20	30	2.0	41	48	2.0	22	45	2.0
Dissolved Molybdenum (Mo)	ug/L	-	-	<2.0	2.0	4.2	2.7	2.0	<2.0	<2.0	2.0
Total Molybdenum (Mo)	ug/L	-	-	<2.0	2.0	4.0	3.4	2.0	<2.0	<2.0	2.0
Dissolved Nickel (Ni)	ug/L	-	-	2.2	2.0	<2.0	<2.0	2.0	<2.0	<2.0	2.0
Total Nickel (Ni)	ug/L	-	-	2.4	2.0	<2.0	<2.0	2.0	<2.0	<2.0	2.0
Dissolved Phosphorus (P)	ug/L	-	-	<100	100	<100	<100	100	<100	<100	100
Total Phosphorus (P)	ug/L	-	-	<100	100	<100	<100	100	<100	<100	100
Dissolved Potassium (K)	ug/L	-	-	510	100	1300	1000	100	450	940	100
Total Potassium (K)	ug/L	-	-	510	100	1100	1000	100	420	940	100
Dissolved Selenium (Se)	ug/L	**50**	-	<0.50	0.50	<0.50	<0.50	0.50	<0.50	<0.50	0.50
Total Selenium (Se)	ug/L	**50**	-	<0.50	0.50	<0.50	<0.50	0.50	<0.50	<0.50	0.50
Dissolved Silver (Ag)	ug/L	-	-	0.71	0.10	<0.10	<0.10	0.10	<0.10	<0.10	0.10

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BV Labs Job #: C0T5709
Report Date: 2020/11/20

GHD Limited
Client Project #: 11220159
Your P.O. #: 00016620
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID				OCH878		OCH879	OCH880		OCH881	OCH882	
Sampling Date				2020/11/05 11:50		2020/11/05 12:00	2020/11/05 12:15		2020/11/05 13:50	2020/11/05 14:05	
COC Number				799567-02-01		799567-02-01	799567-02-01		799567-02-01	799567-03-01	
	UNITS	MAC	AO	MW-09A	RDL	MW-09B	MW-09D	RDL	MW-11A	MW-11B	RDL
Total Silver (Ag)	ug/L	-	-	1.4	0.10	<0.10	0.11	0.10	<0.10	<0.10	0.10
Dissolved Sodium (Na)	ug/L	-	200000	4000	100	8400	18000	100	2600	4900	100
Total Sodium (Na)	ug/L	-	200000	4000	100	7500	18000	100	2600	4900	100
Dissolved Strontium (Sr)	ug/L	**7000**	-	11	2.0	370	600	2.0	12	51	2.0
Total Strontium (Sr)	ug/L	**7000**	-	11	2.0	360	540	2.0	13	52	2.0
Dissolved Thallium (Tl)	ug/L	-	-	<0.10	0.10	<0.10	<0.10	0.10	<0.10	<0.10	0.10
Total Thallium (Tl)	ug/L	-	-	<0.10	0.10	<0.10	<0.10	0.10	<0.10	<0.10	0.10
Dissolved Tin (Sn)	ug/L	-	-	<2.0	2.0	<2.0	<2.0	2.0	<2.0	<2.0	2.0
Total Tin (Sn)	ug/L	-	-	<2.0	2.0	<2.0	<2.0	2.0	<2.0	<2.0	2.0
Dissolved Titanium (Ti)	ug/L	-	-	<2.0	2.0	<2.0	<2.0	2.0	<2.0	<2.0	2.0
Total Titanium (Ti)	ug/L	-	-	3.0	2.0	6.1	2.1	2.0	2.4	2.4	2.0
Dissolved Uranium (U)	ug/L	**20**	-	<0.10	0.10	5.2	1.4	0.10	<0.10	0.61	0.10
Total Uranium (U)	ug/L	**20**	-	0.11	0.10	4.9	1.4	0.10	<0.10	0.69	0.10
Dissolved Vanadium (V)	ug/L	-	-	<2.0	2.0	<2.0	<2.0	2.0	<2.0	<2.0	2.0
Total Vanadium (V)	ug/L	-	-	<2.0	2.0	<2.0	<2.0	2.0	<2.0	<2.0	2.0
Dissolved Zinc (Zn)	ug/L	-	5000	5.7	5.0	<5.0	<5.0	5.0	<5.0	<5.0	5.0
Total Zinc (Zn)	ug/L	-	5000	<5.0	5.0	<5.0	<5.0	5.0	<5.0	<5.0	5.0

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BV Labs Job #: C0T5709
Report Date: 2020/11/20

GHD Limited
Client Project #: 11220159
Your P.O. #: 00016620
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID				OCH883	OCH884	OCH885	OCH886		OCH887	
Sampling Date				2020/11/05 14:10	2020/11/05 11:20	2020/11/05 11:30	2020/11/05 09:40		2020/11/05 09:40	
COC Number				799567-03-01	799567-03-01	799567-03-01	799567-03-01		799567-03-01	
	UNITS	MAC	AO	MW-11C	MW-12A	MW-12B	MW-14A	RDL	MW-14B	RDL
Metals										
Dissolved Aluminum (Al)	ug/L	-	100	<5.0	15	<5.0	9.8	5.0	<5.0	5.0
Total Aluminum (Al)	ug/L	-	100	350	2000	24	3800	5.0	380	5.0
Dissolved Antimony (Sb)	ug/L	**6**	-	<1.0	<1.0	<1.0	<1.0	1.0	<1.0	1.0
Total Antimony (Sb)	ug/L	**6**	-	<1.0	<1.0	<1.0	<1.0	1.0	<1.0	1.0
Dissolved Arsenic (As)	ug/L	**10**	-	**76**	<1.0	**38**	7.9	1.0	4.4	1.0
Total Arsenic (As)	ug/L	**10**	-	**76**	1.1	**39**	**48**	1.0	5.8	1.0
Dissolved Barium (Ba)	ug/L	**2000**	-	17	10	8.9	2.6	1.0	3.5	1.0
Total Barium (Ba)	ug/L	**2000**	-	17	21	9.2	29	1.0	7.2	1.0
Dissolved Beryllium (Be)	ug/L	**-**	-	<1.0	<1.0	<1.0	<1.0	1.0	<1.0	1.0
Total Beryllium (Be)	ug/L	**-**	-	<1.0	<1.0	<1.0	<1.0	1.0	<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	**-**	-	<2.0	<2.0	<2.0	<2.0	2.0	<2.0	2.0
Total Bismuth (Bi)	ug/L	**-**	-	<2.0	<2.0	<2.0	<2.0	2.0	<2.0	2.0
Dissolved Boron (B)	ug/L	**5000**	-	<50	<50	<50	<50	50	<50	50
Total Boron (B)	ug/L	**5000**	-	<50	<50	<50	<50	50	<50	50
Dissolved Cadmium (Cd)	ug/L	**7**	-	<0.010	0.048	<0.010	0.011	0.010	<0.010	0.010
Total Cadmium (Cd)	ug/L	**7**	-	0.016	0.057	<0.010	0.020	0.010	<0.010	0.010
Dissolved Calcium (Ca)	ug/L	**-**	-	27000	4700	25000	3400	100	16000	100
Total Calcium (Ca)	ug/L	**-**	-	26000	4600	25000	3600	100	16000	100
Dissolved Chromium (Cr)	ug/L	**50**	-	<1.0	<1.0	<1.0	<1.0	1.0	<1.0	1.0
Total Chromium (Cr)	ug/L	**50**	-	<1.0	2.2	<1.0	4.0	1.0	<1.0	1.0
Dissolved Cobalt (Co)	ug/L	**-**	-	<0.40	1.6	<0.40	0.44	0.40	<0.40	0.40

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Report Date: 2020/11/20

GHD Limited
Client Project #: 11220159
Your P.O. #: 00016620
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID				OCH883	OCH884	OCH885	OCH886		OCH887	
Sampling Date				2020/11/05 14:10	2020/11/05 11:20	2020/11/05 11:30	2020/11/05 09:40		2020/11/05 09:40	
COC Number				799567-03-01	799567-03-01	799567-03-01	799567-03-01		799567-03-01	
	UNITS	MAC	AO	MW-11C	MW-12A	MW-12B	MW-14A	RDL	MW-14B	RDL
Total Cobalt (Co)	ug/L	-	-	<0.40	2.9	<0.40	2.2	0.40	<0.40	0.40
Dissolved Copper (Cu)	ug/L	**2000**	1000	<0.50	1.2	1.6	5.9	0.50	<0.50	0.50
Total Copper (Cu)	ug/L	**2000**	1000	0.92	3.5	<0.50	19	0.50	0.75	0.50
Dissolved Iron (Fe)	ug/L	-	300	<50	<50	<50	<50	50	<50	50
Total Iron (Fe)	ug/L	-	300	250	2300	54	4600	50	710	50
Dissolved Lead (Pb)	ug/L	**5**	-	<0.50	<0.50	<0.50	<0.50	0.50	<0.50	0.50
Total Lead (Pb)	ug/L	**5**	-	<0.50	1.1	<0.50	3.0	0.50	0.57	0.50
Dissolved Magnesium (Mg)	ug/L	-	-	2500	1700	2700	860	100	1900	100
Total Magnesium (Mg)	ug/L	-	-	2400	2100	2700	1800	100	2000	100
Dissolved Manganese (Mn)	ug/L	**120**	20	75	270	190	36	2.0	250	2.0
Total Manganese (Mn)	ug/L	**120**	20	76	320	210	110	2.0	260	2.0
Dissolved Molybdenum (Mo)	ug/L	-	-	2.9	<2.0	18	<2.0	2.0	13	2.0
Total Molybdenum (Mo)	ug/L	-	-	3.0	<2.0	19	<2.0	2.0	13	2.0
Dissolved Nickel (Ni)	ug/L	-	-	<2.0	3.7	<2.0	4.7	2.0	<2.0	2.0
Total Nickel (Ni)	ug/L	-	-	<2.0	5.6	<2.0	9.7	2.0	<2.0	2.0
Dissolved Phosphorus (P)	ug/L	-	-	<100	<100	<100	<100	100	<100	100
Total Phosphorus (P)	ug/L	-	-	<100	<100	<100	130	100	<100	100
Dissolved Potassium (K)	ug/L	-	-	1300	1300	1500	900	100	1400	100
Total Potassium (K)	ug/L	-	-	1200	1500	1500	1700	100	1600	100
Dissolved Selenium (Se)	ug/L	**50**	-	<0.50	<0.50	<0.50	<0.50	0.50	<0.50	0.50
Total Selenium (Se)	ug/L	**50**	-	<0.50	<0.50	<0.50	<0.50	0.50	<0.50	0.50
Dissolved Silver (Ag)	ug/L	-	-	<0.10	<0.10	<0.10	<0.10	0.10	<0.10	0.10

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BV Labs Job #: C0T5709
Report Date: 2020/11/20

GHD Limited
Client Project #: 11220159
Your P.O. #: 00016620
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID				OCH883	OCH884	OCH885	OCH886		OCH887	
Sampling Date				2020/11/05 14:10	2020/11/05 11:20	2020/11/05 11:30	2020/11/05 09:40		2020/11/05 09:40	
COC Number				799567-03-01	799567-03-01	799567-03-01	799567-03-01		799567-03-01	
	UNITS	MAC	AO	MW-11C	MW-12A	MW-12B	MW-14A	RDL	MW-14B	RDL
Total Silver (Ag)	ug/L	-	-	<0.10	<0.10	<0.10	<0.10	0.10	<0.10	0.10
Dissolved Sodium (Na)	ug/L	-	200000	18000	6400	16000	15000	100	20000	100
Total Sodium (Na)	ug/L	-	200000	17000	5900	16000	16000	100	21000	100
Dissolved Strontium (Sr)	ug/L	**7000**	-	290	46	87	28	2.0	76	2.0
Total Strontium (Sr)	ug/L	**7000**	-	270	48	89	34	2.0	75	2.0
Dissolved Thallium (Tl)	ug/L	-	-	<0.10	<0.10	<0.10	<0.10	0.10	<0.10	0.10
Total Thallium (Tl)	ug/L	-	-	<0.10	<0.10	<0.10	<0.10	0.10	<0.10	0.10
Dissolved Tin (Sn)	ug/L	-	-	<2.0	<2.0	<2.0	<2.0	2.0	<2.0	2.0
Total Tin (Sn)	ug/L	-	-	<2.0	<2.0	<2.0	6.2	2.0	<2.0	2.0
Dissolved Titanium (Ti)	ug/L	-	-	<2.0	<2.0	<2.0	<2.0	2.0	<2.0	2.0
Total Titanium (Ti)	ug/L	-	-	7.4	53	<2.0	120	2.0	<20 (1)	20
Dissolved Uranium (U)	ug/L	**20**	-	3.9	<0.10	1.6	<0.10	0.10	0.44	0.10
Total Uranium (U)	ug/L	**20**	-	3.8	0.20	1.6	0.28	0.10	0.47	0.10
Dissolved Vanadium (V)	ug/L	-	-	<2.0	<2.0	<2.0	<2.0	2.0	<2.0	2.0
Total Vanadium (V)	ug/L	-	-	<2.0	<2.0	<2.0	5.0	2.0	<2.0	2.0
Dissolved Zinc (Zn)	ug/L	-	5000	5.5	5.6	<5.0	10	5.0	<5.0	5.0
Total Zinc (Zn)	ug/L	-	5000	7.6	8.5	<5.0	20	5.0	<5.0	5.0

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(1) Elevated reporting limit due to sample matrix.

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BV Labs Job #: C0T5709
Report Date: 2020/11/20

GHD Limited
Client Project #: 11220159
Your P.O. #: 00016620
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID				OCH888	OCH889	OCH890	OCH891	OCH892	
Sampling Date				2020/11/05 09:40	2020/11/04 16:02	2020/11/04 16:02	2020/11/05 08:43	2020/11/05 08:43	
COC Number				799567-03-01	799567-03-01	799567-03-01	799567-03-01	799567-04-01	
	UNITS	MAC	AO	MW-14C	MW-16A	MW-16B	MW-17A	MW-17B	RDL
Metals									
Dissolved Aluminum (Al)	ug/L	-	100	<5.0	<5.0	6.7	68	8.0	5.0
Total Aluminum (Al)	ug/L	-	100	92	530	73	1300	520	5.0
Dissolved Antimony (Sb)	ug/L	**6**	-	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Antimony (Sb)	ug/L	**6**	-	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Arsenic (As)	ug/L	**10**	-	1.3	1.5	10	<1.0	1.0	1.0
Total Arsenic (As)	ug/L	**10**	-	1.4	1.9	**11**	2.7	1.8	1.0
Dissolved Barium (Ba)	ug/L	**2000**	-	2.2	4.1	2.0	12	3.3	1.0
Total Barium (Ba)	ug/L	**2000**	-	2.4	9.6	2.6	20	7.7	1.0
Dissolved Beryllium (Be)	ug/L	**-**	-	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Beryllium (Be)	ug/L	**-**	-	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	**-**	-	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Bismuth (Bi)	ug/L	**-**	-	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Boron (B)	ug/L	**5000**	-	120	<50	<50	<50	<50	50
Total Boron (B)	ug/L	**5000**	-	110	<50	<50	<50	<50	50
Dissolved Cadmium (Cd)	ug/L	**7**	-	<0.010	0.013	<0.010	0.039	0.013	0.010
Total Cadmium (Cd)	ug/L	**7**	-	<0.010	0.013	<0.010	0.042	0.022	0.010
Dissolved Calcium (Ca)	ug/L	**-**	-	11000	22000	20000	1200	1500	100
Total Calcium (Ca)	ug/L	**-**	-	10000	25000	20000	1400	1700	100
Dissolved Chromium (Cr)	ug/L	**50**	-	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Chromium (Cr)	ug/L	**50**	-	<1.0	<1.0	<1.0	1.7	<1.0	1.0
Dissolved Cobalt (Co)	ug/L	**-**	-	<0.40	<0.40	<0.40	0.63	<0.40	0.40

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ELEMENTS BY ICP/MS (WATER)

BV Labs ID				OCH888	OCH889	OCH890	OCH891	OCH892	
Sampling Date				2020/11/05 09:40	2020/11/04 16:02	2020/11/04 16:02	2020/11/05 08:43	2020/11/05 08:43	
COC Number				799567-03-01	799567-03-01	799567-03-01	799567-03-01	799567-04-01	
	UNITS	**MAC**	**AO**	**MW-14C**	**MW-16A**	**MW-16B**	**MW-17A**	**MW-17B**	**RDL**
Total Cobalt (Co)	ug/L	-	-	<0.40	<0.40	<0.40	1.1	<0.40	0.40
Dissolved Copper (Cu)	ug/L	**2000**	1000	<0.50	1.6	<0.50	3.4	<0.50	0.50
Total Copper (Cu)	ug/L	**2000**	1000	0.66	1.4	<0.50	8.6	1.2	0.50
Dissolved Iron (Fe)	ug/L	-	300	<50	<50	<50	<50	<50	50
Total Iron (Fe)	ug/L	-	300	110	410	78	1900	480	50
Dissolved Lead (Pb)	ug/L	**5**	-	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Total Lead (Pb)	ug/L	**5**	-	<0.50	0.80	<0.50	0.81	<0.50	0.50
Dissolved Magnesium (Mg)	ug/L	-	-	1800	1500	1200	330	580	100
Total Magnesium (Mg)	ug/L	-	-	1800	1700	1300	830	770	100
Dissolved Manganese (Mn)	ug/L	**120**	20	13	190	<2.0	51	3.8	2.0
Total Manganese (Mn)	ug/L	**120**	20	18	86	4.4	76	27	2.0
Dissolved Molybdenum (Mo)	ug/L	-	-	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Molybdenum (Mo)	ug/L	-	-	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Nickel (Ni)	ug/L	-	-	<2.0	<2.0	<2.0	3.5	<2.0	2.0
Total Nickel (Ni)	ug/L	-	-	<2.0	<2.0	<2.0	4.7	<2.0	2.0
Dissolved Phosphorus (P)	ug/L	-	-	<100	<100	<100	<100	<100	100
Total Phosphorus (P)	ug/L	-	-	<100	<100	<100	<100	<100	100
Dissolved Potassium (K)	ug/L	-	-	550	1500	1200	430	400	100
Total Potassium (K)	ug/L	-	-	530	1500	1300	660	580	100
Dissolved Selenium (Se)	ug/L	**50**	-	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Total Selenium (Se)	ug/L	**50**	-	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Dissolved Silver (Ag)	ug/L	-	-	<0.10	<0.10	<0.10	<0.10	<0.10	0.10

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BV Labs Job #: C0T5709
Report Date: 2020/11/20

GHD Limited
Client Project #: 11220159
Your P.O. #: 00016620
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID				OCH888	OCH889	OCH890	OCH891	OCH892	
Sampling Date				2020/11/05 09:40	2020/11/04 16:02	2020/11/04 16:02	2020/11/05 08:43	2020/11/05 08:43	
COC Number				799567-03-01	799567-03-01	799567-03-01	799567-03-01	799567-04-01	
	UNITS	**MAC**	**AO**	**MW-14C**	**MW-16A**	**MW-16B**	**MW-17A**	**MW-17B**	**RDL**
Total Silver (Ag)	ug/L	-	-	<0.10	0.14	<0.10	0.33	0.55	0.10
Dissolved Sodium (Na)	ug/L	-	200000	20000	5400	4300	2800	3200	100
Total Sodium (Na)	ug/L	-	200000	19000	5100	4600	2600	3500	100
Dissolved Strontium (Sr)	ug/L	**7000**	-	250	81	73	18	19	2.0
Total Strontium (Sr)	ug/L	**7000**	-	240	94	72	19	22	2.0
Dissolved Thallium (Tl)	ug/L	-	-	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Total Thallium (Tl)	ug/L	-	-	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Dissolved Tin (Sn)	ug/L	-	-	<2.0	<2.0	<2.0	<2.0	3.2	2.0
Total Tin (Sn)	ug/L	-	-	3.1	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Titanium (Ti)	ug/L	-	-	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Titanium (Ti)	ug/L	-	-	2.5	12	3.4	42	18	2.0
Dissolved Uranium (U)	ug/L	**20**	-	0.15	0.98	2.3	<0.10	<0.10	0.10
Total Uranium (U)	ug/L	**20**	-	0.13	1.6	2.4	0.10	<0.10	0.10
Dissolved Vanadium (V)	ug/L	-	-	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Vanadium (V)	ug/L	-	-	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Zinc (Zn)	ug/L	-	5000	<5.0	6.3	<5.0	14	5.4	5.0
Total Zinc (Zn)	ug/L	-	5000	<5.0	<5.0	<5.0	10	<5.0	5.0

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BV Labs Job #: C0T5709
Report Date: 2020/11/20

GHD Limited
Client Project #: 11220159
Your P.O. #: 00016620
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID				OCH892		OCH893	OCH894	OCH895	OCH896	
Sampling Date				2020/11/05 08:43		2020/11/05 08:43	2020/11/04 14:50	2020/11/04 14:50	2020/11/04 14:50	
COC Number				799567-04-01		799567-04-01	799567-04-01	799567-04-01	799567-04-01	
	UNITS	MAC	AO	MW-17B Lab-Dup	RDL	MW-17C	MW-18A	MW-18B	MW-18C	RDL
Metals										
Dissolved Aluminum (Al)	ug/L	-	100	8.1	5.0	5.9	32	11	6.7	5.0
Total Aluminum (Al)	ug/L	-	100			280	53	410	44	5.0
Dissolved Antimony (Sb)	ug/L	**6**	-	<1.0	1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Antimony (Sb)	ug/L	**6**	-			<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Arsenic (As)	ug/L	**10**	-	1.1	1.0	2.8	10	**270**	**94**	1.0
Total Arsenic (As)	ug/L	**10**	-			4.3	**11**	**270**	**92**	1.0
Dissolved Barium (Ba)	ug/L	**2000**	-	3.3	1.0	1.4	5.1	2.3	11	1.0
Total Barium (Ba)	ug/L	**2000**	-			2.8	5.1	3.8	12	1.0
Dissolved Beryllium (Be)	ug/L	-	-	<1.0	1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Beryllium (Be)	ug/L	-	-			<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	-	-	<2.0	2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Bismuth (Bi)	ug/L	-	-			<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Boron (B)	ug/L	**5000**	-	<50	50	<50	<50	<50	<50	50
Total Boron (B)	ug/L	**5000**	-			<50	<50	<50	<50	50
Dissolved Cadmium (Cd)	ug/L	**7**	-	0.013	0.010	0.018	0.019	<0.010	<0.010	0.010
Total Cadmium (Cd)	ug/L	**7**	-			0.013	0.022	<0.010	<0.010	0.010
Dissolved Calcium (Ca)	ug/L	-	-	1500	100	2500	1700	16000	20000	100
Total Calcium (Ca)	ug/L	-	-			2500	1600	16000	20000	100
Dissolved Chromium (Cr)	ug/L	**50**	-	<1.0	1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Chromium (Cr)	ug/L	**50**	-			<1.0	<1.0	<1.0	<1.0	1.0

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BV Labs Job #: C0T5709
Report Date: 2020/11/20

GHD Limited
Client Project #: 11220159
Your P.O. #: 00016620
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID				OCH892		OCH893	OCH894	OCH895	OCH896	
Sampling Date				2020/11/05 08:43		2020/11/05 08:43	2020/11/04 14:50	2020/11/04 14:50	2020/11/04 14:50	
COC Number				799567-04-01		799567-04-01	799567-04-01	799567-04-01	799567-04-01	
	UNITS	MAC	AO	MW-17B Lab-Dup	RDL	MW-17C	MW-18A	MW-18B	MW-18C	RDL
Dissolved Cobalt (Co)	ug/L	-	-	<0.40	0.40	<0.40	<0.40	<0.40	<0.40	0.40
Total Cobalt (Co)	ug/L	-	-			<0.40	<0.40	<0.40	<0.40	0.40
Dissolved Copper (Cu)	ug/L	**2000**	1000	<0.50	0.50	<0.50	1.7	<0.50	<0.50	0.50
Total Copper (Cu)	ug/L	**2000**	1000			1.0	1.9	0.92	<0.50	0.50
Dissolved Iron (Fe)	ug/L	-	300	<50	50	<50	<50	<50	<50	50
Total Iron (Fe)	ug/L	-	300			410	<50	310	110	50
Dissolved Lead (Pb)	ug/L	**5**	-	<0.50	0.50	<0.50	<0.50	<0.50	<0.50	0.50
Total Lead (Pb)	ug/L	**5**	-			<0.50	<0.50	<0.50	<0.50	0.50
Dissolved Magnesium (Mg)	ug/L	-	-	600	100	620	430	1400	2000	100
Total Magnesium (Mg)	ug/L	-	-			720	440	1500	2000	100
Dissolved Manganese (Mn)	ug/L	**120**	20	3.9	2.0	8.2	11	<2.0	84	2.0
Total Manganese (Mn)	ug/L	**120**	20			14	11	4.6	80	2.0
Dissolved Molybdenum (Mo)	ug/L	-	-	<2.0	2.0	<2.0	<2.0	4.7	3.4	2.0
Total Molybdenum (Mo)	ug/L	-	-			<2.0	<2.0	4.8	3.2	2.0
Dissolved Nickel (Ni)	ug/L	-	-	<2.0	2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Nickel (Ni)	ug/L	-	-			<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Phosphorus (P)	ug/L	-	-	<100	100	<100	<100	<100	<100	100
Total Phosphorus (P)	ug/L	-	-			<100	<100	<100	<100	100
Dissolved Potassium (K)	ug/L	-	-	400	100	470	560	1200	1400	100
Total Potassium (K)	ug/L	-	-			520	580	1400	1300	100
Dissolved Selenium (Se)	ug/L	**50**	-	<0.50	0.50	<0.50	<0.50	<0.50	<0.50	0.50

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Report Date: 2020/11/20

GHD Limited
Client Project #: 11220159
Your P.O. #: 00016620
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID				OCH892		OCH893	OCH894	OCH895	OCH896	
Sampling Date				2020/11/05 08:43		2020/11/05 08:43	2020/11/04 14:50	2020/11/04 14:50	2020/11/04 14:50	
COC Number				799567-04-01		799567-04-01	799567-04-01	799567-04-01	799567-04-01	
	UNITS	MAC	AO	MW-17B Lab-Dup	RDL	MW-17C	MW-18A	MW-18B	MW-18C	RDL
Total Selenium (Se)	ug/L	**50**	-			<0.50	<0.50	<0.50	<0.50	0.50
Dissolved Silver (Ag)	ug/L	-	-	<0.10	0.10	<0.10	<0.10	<0.10	<0.10	0.10
Total Silver (Ag)	ug/L	-	-			0.20	<0.10	0.12	<0.10	0.10
Dissolved Sodium (Na)	ug/L	-	200000	3200	100	3200	2600	4800	19000	100
Total Sodium (Na)	ug/L	-	200000			3300	2700	5000	19000	100
Dissolved Strontium (Sr)	ug/L	**7000**	-	21	2.0	19	13	51	210	2.0
Total Strontium (Sr)	ug/L	**7000**	-			19	11	50	190	2.0
Dissolved Thallium (Tl)	ug/L	-	-	<0.10	0.10	<0.10	<0.10	<0.10	<0.10	0.10
Total Thallium (Tl)	ug/L	-	-			<0.10	<0.10	<0.10	<0.10	0.10
Dissolved Tin (Sn)	ug/L	-	-	3.2	2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Tin (Sn)	ug/L	-	-			<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Titanium (Ti)	ug/L	-	-	<2.0	2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Titanium (Ti)	ug/L	-	-			13	<2.0	8.0	<2.0	2.0
Dissolved Uranium (U)	ug/L	**20**	-	<0.10	0.10	<0.10	<0.10	0.94	0.65	0.10
Total Uranium (U)	ug/L	**20**	-			<0.10	<0.10	0.97	0.58	0.10
Dissolved Vanadium (V)	ug/L	-	-	<2.0	2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Vanadium (V)	ug/L	-	-			<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Zinc (Zn)	ug/L	-	5000	5.7	5.0	8.3	6.8	<5.0	<5.0	5.0
Total Zinc (Zn)	ug/L	-	5000			<5.0	<5.0	<5.0	<5.0	5.0

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Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID				OCH897	OCH898	OCH899	OCH900	OCH901	OCH916	
Sampling Date				2020/11/04 16:10	2020/11/04 16:20	2020/11/04 16:30	2020/11/04 15:05	2020/11/05 09:15	2020/11/05 08:15	
COC Number				799567-04-01	799567-04-01	799567-04-01	799567-04-01	799567-04-01	799567-05-01	
	UNITS	**MAC**	**AO**	**MW-19A**	**MW-19B**	**MW-19C**	**MW-20A**	**MW-20B**	**MW-21A**	**RDL**
Metals										
Dissolved Aluminum (Al)	ug/L	-	100	68	10	8.8	120	120	350	5.0
Total Aluminum (Al)	ug/L	-	100	1800	200	830	380	130	430	5.0
Dissolved Antimony (Sb)	ug/L	**6**	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Antimony (Sb)	ug/L	**6**	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Arsenic (As)	ug/L	**10**	-	<1.0	7.3	2.7	<1.0	<1.0	<1.0	1.0
Total Arsenic (As)	ug/L	**10**	-	<1.0	7.2	3.8	<1.0	<1.0	<1.0	1.0
Dissolved Barium (Ba)	ug/L	**2000**	-	4.6	10	5.0	7.0	5.1	13	1.0
Total Barium (Ba)	ug/L	**2000**	-	11	11	9.5	8.1	5.1	13	1.0
Dissolved Beryllium (Be)	ug/L	**-**	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Beryllium (Be)	ug/L	**-**	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	**-**	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Bismuth (Bi)	ug/L	**-**	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Boron (B)	ug/L	**5000**	-	<50	<50	<50	<50	<50	<50	50
Total Boron (B)	ug/L	**5000**	-	<50	<50	<50	<50	<50	<50	50
Dissolved Cadmium (Cd)	ug/L	**7**	-	0.017	<0.010	0.012	0.038	0.027	0.043	0.010
Total Cadmium (Cd)	ug/L	**7**	-	0.036	<0.010	0.019	0.035	0.022	0.040	0.010
Dissolved Calcium (Ca)	ug/L	**-**	-	700	21000	9800	1600	1200	1100	100
Total Calcium (Ca)	ug/L	**-**	-	740	22000	10000	1500	1300	1100	100
Dissolved Chromium (Cr)	ug/L	**50**	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Chromium (Cr)	ug/L	**50**	-	1.2	<1.0	1.1	<1.0	<1.0	<1.0	1.0
Dissolved Cobalt (Co)	ug/L	**-**	-	<0.40	<0.40	<0.40	3.5	<0.40	1.9	0.40

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BV Labs Job #: C0T5709
Report Date: 2020/11/20

GHD Limited
Client Project #: 11220159
Your P.O. #: 00016620
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID				OCH897	OCH898	OCH899	OCH900	OCH901	OCH916	
Sampling Date				2020/11/04 16:10	2020/11/04 16:20	2020/11/04 16:30	2020/11/04 15:05	2020/11/05 09:15	2020/11/05 08:15	
COC Number				799567-04-01	799567-04-01	799567-04-01	799567-04-01	799567-04-01	799567-05-01	
	UNITS	**MAC**	**AO**	**MW-19A**	**MW-19B**	**MW-19C**	**MW-20A**	**MW-20B**	**MW-21A**	**RDL**
Total Cobalt (Co)	ug/L	-	-	0.80	<0.40	0.45	3.8	<0.40	2.0	0.40
Dissolved Copper (Cu)	ug/L	**2000**	1000	0.65	<0.50	0.55	12	<0.50	0.90	0.50
Total Copper (Cu)	ug/L	**2000**	1000	4.8	0.89	3.1	14	<0.50	1.7	0.50
Dissolved Iron (Fe)	ug/L	-	300	<50	<50	<50	<50	<50	<50	50
Total Iron (Fe)	ug/L	-	300	1300	97	910	290	<50	74	50
Dissolved Lead (Pb)	ug/L	**5**	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Total Lead (Pb)	ug/L	**5**	-	1.2	<0.50	1.2	<0.50	<0.50	<0.50	0.50
Dissolved Magnesium (Mg)	ug/L	-	-	320	1300	880	510	620	460	100
Total Magnesium (Mg)	ug/L	-	-	610	1400	1100	580	590	430	100
Dissolved Manganese (Mn)	ug/L	**120**	20	18	<2.0	11	49	41	160	2.0
Total Manganese (Mn)	ug/L	**120**	20	53	3.2	34	56	42	160	2.0
Dissolved Molybdenum (Mo)	ug/L	-	-	<2.0	2.5	8.6	<2.0	<2.0	<2.0	2.0
Total Molybdenum (Mo)	ug/L	-	-	<2.0	2.4	8.9	<2.0	<2.0	<2.0	2.0
Dissolved Nickel (Ni)	ug/L	-	-	<2.0	<2.0	2.4	21	<2.0	<2.0	2.0
Total Nickel (Ni)	ug/L	-	-	2.2	<2.0	3.6	23	<2.0	<2.0	2.0
Dissolved Phosphorus (P)	ug/L	-	-	<100	<100	<100	<100	<100	<100	100
Total Phosphorus (P)	ug/L	-	-	<100	<100	<100	<100	<100	<100	100
Dissolved Potassium (K)	ug/L	-	-	560	1100	1300	580	420	730	100
Total Potassium (K)	ug/L	-	-	750	1100	1500	510	300	680	100
Dissolved Selenium (Se)	ug/L	**50**	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Total Selenium (Se)	ug/L	**50**	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Dissolved Silver (Ag)	ug/L	-	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10

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Report Date: 2020/11/20

GHD Limited
Client Project #: 11220159
Your P.O. #: 00016620
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID				OCH897	OCH898	OCH899	OCH900	OCH901	OCH916	
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COC Number				799567-04-01	799567-04-01	799567-04-01	799567-04-01	799567-04-01	799567-05-01	
	UNITS	MAC	AO	MW-19A	MW-19B	MW-19C	MW-20A	MW-20B	MW-21A	RDL
Total Silver (Ag)	ug/L	-	-	0.52	<0.10	0.18	0.12	<0.10	<0.10	0.10
Dissolved Sodium (Na)	ug/L	-	200000	4300	4600	5000	2900	3100	2600	100
Total Sodium (Na)	ug/L	-	200000	4900	4600	5300	2800	2800	2600	100
Dissolved Strontium (Sr)	ug/L	**7000**	-	6.2	100	59	14	14	11	2.0
Total Strontium (Sr)	ug/L	**7000**	-	7.3	100	60	15	16	11	2.0
Dissolved Thallium (Tl)	ug/L	-	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Total Thallium (Tl)	ug/L	-	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Dissolved Tin (Sn)	ug/L	-	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Tin (Sn)	ug/L	-	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Titanium (Ti)	ug/L	-	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Titanium (Ti)	ug/L	-	-	44	3.3	30	9.5	<2.0	3.0	2.0
Dissolved Uranium (U)	ug/L	**20**	-	<0.10	2.2	<0.10	<0.10	<0.10	<0.10	0.10
Total Uranium (U)	ug/L	**20**	-	0.18	2.2	0.18	<0.10	<0.10	<0.10	0.10
Dissolved Vanadium (V)	ug/L	-	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Vanadium (V)	ug/L	-	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Zinc (Zn)	ug/L	-	5000	7.8	5.8	15	51	<5.0	5.6	5.0
Total Zinc (Zn)	ug/L	-	5000	8.5	<5.0	16	48	<5.0	5.6	5.0

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GHD Limited
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Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID				OCH917	OCH918	OCH919		OCH919		OCH920	
Sampling Date				2020/11/05 08:25	2020/11/05 08:42	2020/11/05 10:45		2020/11/05 10:45		2020/11/05 10:45	
COC Number				799567-05-01	799567-05-01	799567-05-01		799567-05-01		799567-05-01	
	UNITS	MAC	AO	MW-21B	MW-21C	MW-22A	RDL	MW-22A Lab-Dup	RDL	MW-22B	RDL
Metals											
Dissolved Aluminum (Al)	ug/L	-	100	130	5.0	110	5.0	110	5.0	20	5.0
Total Aluminum (Al)	ug/L	-	100	310	61	430	5.0			180	5.0
Dissolved Antimony (Sb)	ug/L	**6**	-	<1.0	<1.0	<1.0	1.0	<1.0	1.0	<1.0	1.0
Total Antimony (Sb)	ug/L	**6**	-	<1.0	<1.0	<1.0	1.0			<1.0	1.0
Dissolved Arsenic (As)	ug/L	**10**	-	<1.0	<1.0	<1.0	1.0	<1.0	1.0	<1.0	1.0
Total Arsenic (As)	ug/L	**10**	-	<1.0	<1.0	1.7	1.0			1.1	1.0
Dissolved Barium (Ba)	ug/L	**2000**	-	4.1	8.0	6.9	1.0	6.6	1.0	4.8	1.0
Total Barium (Ba)	ug/L	**2000**	-	5.2	8.1	7.9	1.0			5.6	1.0
Dissolved Beryllium (Be)	ug/L	**-**	-	<1.0	<1.0	<1.0	1.0	<1.0	1.0	<1.0	1.0
Total Beryllium (Be)	ug/L	**-**	-	<1.0	<1.0	<1.0	1.0			<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	**-**	-	<2.0	<2.0	<2.0	2.0	<2.0	2.0	<2.0	2.0
Total Bismuth (Bi)	ug/L	**-**	-	<2.0	<2.0	<2.0	2.0			<2.0	2.0
Dissolved Boron (B)	ug/L	**5000**	-	<50	<50	<50	50	<50	50	<50	50
Total Boron (B)	ug/L	**5000**	-	<50	<50	<50	50			<50	50
Dissolved Cadmium (Cd)	ug/L	**7**	-	0.031	<0.010	0.012	0.010	0.017	0.010	0.012	0.010
Total Cadmium (Cd)	ug/L	**7**	-	0.031	<0.010	0.014	0.010			0.016	0.010
Dissolved Calcium (Ca)	ug/L	**-**	-	2100	10000	730	100	730	100	9600	100
Total Calcium (Ca)	ug/L	**-**	-	2000	9800	560	100			9200	100
Dissolved Chromium (Cr)	ug/L	**50**	-	<1.0	<1.0	<1.0	1.0	<1.0	1.0	<1.0	1.0
Total Chromium (Cr)	ug/L	**50**	-	<1.0	<1.0	<1.0	1.0			<1.0	1.0
Dissolved Cobalt (Co)	ug/L	**-**	-	1.1	0.46	0.61	0.40	0.58	0.40	<0.40	0.40

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GHD Limited
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ELEMENTS BY ICP/MS (WATER)

BV Labs ID				OCH917	OCH918	OCH919		OCH919		OCH920	
Sampling Date				2020/11/05 08:25	2020/11/05 08:42	2020/11/05 10:45		2020/11/05 10:45		2020/11/05 10:45	
COC Number				799567-05-01	799567-05-01	799567-05-01		799567-05-01		799567-05-01	
	UNITS	MAC	AO	MW-21B	MW-21C	MW-22A	RDL	MW-22A Lab-Dup	RDL	MW-22B	RDL
Total Cobalt (Co)	ug/L	-	-	1.1	0.51	0.77	0.40			0.58	0.40
Dissolved Copper (Cu)	ug/L	**2000**	1000	1.3	<0.50	6.2	0.50	6.3	0.50	1.6	0.50
Total Copper (Cu)	ug/L	**2000**	1000	1.8	0.59	7.8	0.50			3.7	0.50
Dissolved Iron (Fe)	ug/L	-	300	<50	420	<50	50	<50	50	<50	50
Total Iron (Fe)	ug/L	-	300	170	530	360	50			160	50
Dissolved Lead (Pb)	ug/L	**5**	-	<0.50	<0.50	<0.50	0.50	<0.50	0.50	<0.50	0.50
Total Lead (Pb)	ug/L	**5**	-	<0.50	<0.50	<0.50	0.50			<0.50	0.50
Dissolved Magnesium (Mg)	ug/L	-	-	880	5400	360	100	350	100	2100	100
Total Magnesium (Mg)	ug/L	-	-	880	5300	430	100			2000	100
Dissolved Manganese (Mn)	ug/L	**120**	20	150	270	39	2.0	39	2.0	160	2.0
Total Manganese (Mn)	ug/L	**120**	20	160	260	44	2.0			180	2.0
Dissolved Molybdenum (Mo)	ug/L	-	-	<2.0	<2.0	<2.0	2.0	<2.0	2.0	<2.0	2.0
Total Molybdenum (Mo)	ug/L	-	-	<2.0	<2.0	<2.0	2.0			<2.0	2.0
Dissolved Nickel (Ni)	ug/L	-	-	<2.0	<2.0	4.4	2.0	4.3	2.0	<2.0	2.0
Total Nickel (Ni)	ug/L	-	-	<2.0	<2.0	4.4	2.0			2.1	2.0
Dissolved Phosphorus (P)	ug/L	-	-	<100	<100	<100	100	<100	100	<100	100
Total Phosphorus (P)	ug/L	-	-	<100	<100	<100	100			<100	100
Dissolved Potassium (K)	ug/L	-	-	910	1600	590	100	560	100	820	100
Total Potassium (K)	ug/L	-	-	860	1500	490	100			880	100
Dissolved Selenium (Se)	ug/L	**50**	-	<0.50	<0.50	<0.50	0.50	<0.50	0.50	<0.50	0.50
Total Selenium (Se)	ug/L	**50**	-	<0.50	<0.50	<0.50	0.50			<0.50	0.50
Dissolved Silver (Ag)	ug/L	-	-	<0.10	<0.10	0.15	0.10	0.14	0.10	<0.10	0.10

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Report Date: 2020/11/20

GHD Limited
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ELEMENTS BY ICP/MS (WATER)

BV Labs ID				OCH917	OCH918	OCH919		OCH919		OCH920	
Sampling Date				2020/11/05 08:25	2020/11/05 08:42	2020/11/05 10:45		2020/11/05 10:45		2020/11/05 10:45	
COC Number				799567-05-01	799567-05-01	799567-05-01		799567-05-01		799567-05-01	
	UNITS	MAC	AO	MW-21B	MW-21C	MW-22A	RDL	MW-22A Lab-Dup	RDL	MW-22B	RDL
Total Silver (Ag)	ug/L	-	-	<0.10	<0.10	0.95	0.10			0.38	0.10
Dissolved Sodium (Na)	ug/L	-	200000	2300	16000	4900	100	5000	100	6900	100
Total Sodium (Na)	ug/L	-	200000	2200	15000	4700	100			6600	100
Dissolved Strontium (Sr)	ug/L	**7000**	-	20	70	7.6	2.0	7.8	2.0	53	2.0
Total Strontium (Sr)	ug/L	**7000**	-	20	69	7.8	2.0			52	2.0
Dissolved Thallium (Tl)	ug/L	-	-	<0.10	<0.10	<0.10	0.10	<0.10	0.10	<0.10	0.10
Total Thallium (Tl)	ug/L	-	-	<0.10	<0.10	<0.10	0.10			<0.10	0.10
Dissolved Tin (Sn)	ug/L	-	-	<2.0	<2.0	<2.0	2.0	<2.0	2.0	<2.0	2.0
Total Tin (Sn)	ug/L	-	-	<2.0	<2.0	<2.0	2.0			<2.0	2.0
Dissolved Titanium (Ti)	ug/L	-	-	<2.0	<2.0	<2.0	2.0	<2.0	2.0	<2.0	2.0
Total Titanium (Ti)	ug/L	-	-	6.0	3.7	9.6	2.0			4.3	2.0
Dissolved Uranium (U)	ug/L	**20**	-	<0.10	0.81	<0.10	0.10	<0.10	0.10	0.12	0.10
Total Uranium (U)	ug/L	**20**	-	<0.10	0.94	<0.10	0.10			0.11	0.10
Dissolved Vanadium (V)	ug/L	-	-	<2.0	<2.0	<2.0	2.0	<2.0	2.0	<2.0	2.0
Total Vanadium (V)	ug/L	-	-	<2.0	<2.0	<2.0	2.0			<2.0	2.0
Dissolved Zinc (Zn)	ug/L	-	5000	5.4	<5.0	11	5.0	11	5.0	<5.0	5.0
Total Zinc (Zn)	ug/L	-	5000	<5.0	<5.0	7.1	5.0			<5.0	5.0

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ELEMENTS BY ICP/MS (WATER)

BV Labs ID				OCH921	OCH922	OCH923	OCH924	OCH925	OCH926	
Sampling Date				2020/11/05 10:45	2020/11/04	2020/11/05	2020/11/05	2020/11/05	2020/11/05	
COC Number				799567-05-01	799567-05-01	799567-05-01	799567-05-01	799567-05-01	799567-06-01	
	UNITS	MAC	AO	MW-22C	DUP-1	DUP-2	DUP-3	DUP-4	DUP-5	RDL
Metals										
Dissolved Aluminum (Al)	ug/L	-	100	13	98	12	15	7.4	73	5.0
Total Aluminum (Al)	ug/L	-	100	440	1500	86	30	1500	120	5.0
Dissolved Antimony (Sb)	ug/L	**6**	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Antimony (Sb)	ug/L	**6**	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Arsenic (As)	ug/L	**10**	-	4.8	<1.0	2.7	**88**	<1.0	<1.0	1.0
Total Arsenic (As)	ug/L	**10**	-	5.0	1.8	2.9	**120**	1.7	<1.0	1.0
Dissolved Barium (Ba)	ug/L	**2000**	-	5.3	6.0	4.9	11	11	6.6	1.0
Total Barium (Ba)	ug/L	**2000**	-	13	13	4.9	12	23	6.7	1.0
Dissolved Beryllium (Be)	ug/L	-	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Beryllium (Be)	ug/L	-	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Bismuth (Bi)	ug/L	-	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Bismuth (Bi)	ug/L	-	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Boron (B)	ug/L	**5000**	-	<50	<50	<50	<50	<50	<50	50
Total Boron (B)	ug/L	**5000**	-	<50	<50	<50	<50	<50	<50	50
Dissolved Cadmium (Cd)	ug/L	**7**	-	<0.010	0.023	0.014	<0.010	0.010	0.066	0.010
Total Cadmium (Cd)	ug/L	**7**	-	<0.010	0.028	<0.010	<0.010	0.023	0.017	0.010
Dissolved Calcium (Ca)	ug/L	-	-	19000	790	20000	27000	11000	1800	100
Total Calcium (Ca)	ug/L	-	-	18000	640	21000	26000	12000	1800	100
Dissolved Chromium (Cr)	ug/L	**50**	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Total Chromium (Cr)	ug/L	**50**	-	<1.0	1.8	<1.0	<1.0	<1.0	<1.0	1.0
Dissolved Cobalt (Co)	ug/L	-	-	<0.40	0.47	<0.40	<0.40	<0.40	0.55	0.40

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BV Labs Job #: C0T5709
Report Date: 2020/11/20

GHD Limited
Client Project #: 11220159
Your P.O. #: 00016620
Sampler Initials: JR

ELEMENTS BY ICP/MS (WATER)

BV Labs ID				OCH921	OCH922	OCH923	OCH924	OCH925	OCH926	
Sampling Date				2020/11/05 10:45	2020/11/04	2020/11/05	2020/11/05	2020/11/05	2020/11/05	
COC Number				799567-05-01	799567-05-01	799567-05-01	799567-05-01	799567-05-01	799567-06-01	
	UNITS	MAC	AO	MW-22C	DUP-1	DUP-2	DUP-3	DUP-4	DUP-5	RDL
Total Cobalt (Co)	ug/L	-	-	<0.40	1.3	<0.40	<0.40	0.60	0.58	0.40
Dissolved Copper (Cu)	ug/L	**2000**	1000	<0.50	1.4	<0.50	<0.50	<0.50	1.8	0.50
Total Copper (Cu)	ug/L	**2000**	1000	0.85	4.9	0.67	<0.50	3.1	0.88	0.50
Dissolved Iron (Fe)	ug/L	-	300	<50	<50	<50	<50	<50	<50	50
Total Iron (Fe)	ug/L	-	300	200	2100	91	<50	920	110	50
Dissolved Lead (Pb)	ug/L	**5**	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Total Lead (Pb)	ug/L	**5**	-	<0.50	1.1	<0.50	<0.50	1.3	<0.50	0.50
Dissolved Magnesium (Mg)	ug/L	-	-	3200	420	2000	3600	1200	370	100
Total Magnesium (Mg)	ug/L	-	-	3000	800	2000	3500	1500	380	100
Dissolved Manganese (Mn)	ug/L	**120**	20	36	27	<2.0	47	31	22	2.0
Total Manganese (Mn)	ug/L	**120**	20	43	71	3.7	54	54	22	2.0
Dissolved Molybdenum (Mo)	ug/L	-	-	2.9	<2.0	<2.0	2.9	<2.0	<2.0	2.0
Total Molybdenum (Mo)	ug/L	-	-	2.8	<2.0	<2.0	3.4	<2.0	<2.0	2.0
Dissolved Nickel (Ni)	ug/L	-	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Nickel (Ni)	ug/L	-	-	<2.0	3.1	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Phosphorus (P)	ug/L	-	-	<100	<100	<100	<100	<100	<100	100
Total Phosphorus (P)	ug/L	-	-	<100	<100	<100	<100	<100	<100	100
Dissolved Potassium (K)	ug/L	-	-	940	220	1100	1000	940	460	100
Total Potassium (K)	ug/L	-	-	1100	440	1200	1100	1300	430	100
Dissolved Selenium (Se)	ug/L	**50**	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Total Selenium (Se)	ug/L	**50**	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Dissolved Silver (Ag)	ug/L	-	-	<0.10	0.10	<0.10	<0.10	<0.10	<0.10	0.10

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	UNITS	MAC	AO	MW-22C	DUP-1	DUP-2	DUP-3	DUP-4	DUP-5	RDL
Total Silver (Ag)	ug/L	-	-	<0.10	0.34	<0.10	<0.10	0.11	<0.10	0.10
Dissolved Sodium (Na)	ug/L	-	200000	18000	3100	4600	18000	4900	2500	100
Total Sodium (Na)	ug/L	-	200000	18000	3000	4600	20000	5500	2500	100
Dissolved Strontium (Sr)	ug/L	**7000**	-	270	8.4	49	600	71	14	2.0
Total Strontium (Sr)	ug/L	**7000**	-	270	5.9	50	570	73	14	2.0
Dissolved Thallium (Tl)	ug/L	-	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Total Thallium (Tl)	ug/L	-	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10
Dissolved Tin (Sn)	ug/L	-	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Tin (Sn)	ug/L	-	-	2.0	4.8	<2.0	<2.0	2.9	<2.0	2.0
Dissolved Titanium (Ti)	ug/L	-	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Titanium (Ti)	ug/L	-	-	12	52	4.0	<2.0	38	3.3	2.0
Dissolved Uranium (U)	ug/L	**20**	-	0.18	<0.10	0.66	1.3	0.18	<0.10	0.10
Total Uranium (U)	ug/L	**20**	-	0.28	0.12	0.71	1.4	0.40	<0.10	0.10
Dissolved Vanadium (V)	ug/L	-	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Total Vanadium (V)	ug/L	-	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
Dissolved Zinc (Zn)	ug/L	-	5000	<5.0	<5.0	<5.0	5.8	<5.0	<5.0	5.0
Total Zinc (Zn)	ug/L	-	5000	<5.0	7.7	<5.0	<5.0	17	<5.0	5.0

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GENERAL COMMENTS

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

Package 1	4.7°C
Package 2	5.0°C
Package 3	4.3°C
Package 4	6.0°C
Package 5	6.0°C
Package 6	1.7°C
Package 7	4.0°C
Package 8	3.3°C
Package 9	0.3°C
Package 10	2.3°C
Package 11	3.7°C

Sample OCH862 [MW-01A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample OCH864 [MW-01C] : COD < TOC: Both values fall within the method uncertainty for duplicates and are likely equivalent.

Sample OCH865 [MW-02A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample OCH866 [MW-02B] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L. ortho-Phosphate > Total Phosphorus: Both values fall within the method uncertainty for duplicates and are likely equivalent.

Sample OCH867 [MW-03A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample OCH868 [MW-03B] : COD < TOC: Both values fall within the method uncertainty for duplicates and are likely equivalent.

Sample OCH870 [MW-04A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample OCH871 [MW-04B] : COD < TOC: Both values fall within the method uncertainty for duplicates and are likely equivalent. RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample OCH872 [MW-05A] : COD < TOC: Both values fall within the method uncertainty for duplicates and are likely equivalent. RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample OCH874 [MW-05D] : Total Phosphorus < Dissolved Phosphorus: Both values fall within the method uncertainty for duplicates and are likely equivalent.

Sample OCH875 [MW-07A] : COD < TOC: Both values fall within the method uncertainty for duplicates and are likely equivalent.

Sample OCH876 [MW-07B] : COD < TOC: Both values fall within the method uncertainty for duplicates and are likely equivalent.

Sample OCH877 [MW-07D] : COD < TOC: Both values fall within the method uncertainty for duplicates and are likely equivalent. ortho-Phosphate > Total Phosphorus: Both values fall within the method uncertainty for duplicates and are likely equivalent. Total Phosphorus < Dissolved Phosphorus: Both values fall within the method uncertainty for duplicates and are likely equivalent.

Sample OCH879 [MW-09B] : COD < TOC: Both values fall within the method uncertainty for duplicates and are likely equivalent. ortho-Phosphate > Total Phosphorus: Both values fall within the method uncertainty for duplicates and are likely equivalent. Total Phosphorus < Dissolved Phosphorus: Both values fall within the method uncertainty for duplicates and are likely equivalent.

Sample OCH880 [MW-09D] : COD < TOC: Both values fall within the method uncertainty for duplicates and are likely equivalent. ortho-Phosphate > Total Phosphorus: Both values fall within the method uncertainty for duplicates and are likely equivalent.

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Sample OCH881 [MW-11A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample OCH883 [MW-11C] : ortho-Phosphate > Total Phosphorus: Both values fall within the method uncertainty for duplicates and are likely equivalent.

Sample OCH884 [MW-12A] : ortho-Phosphate > Total Phosphorus: Both values fall within the method uncertainty for duplicates and are likely equivalent.

Sample OCH885 [MW-12B] : ortho-Phosphate > Total Phosphorus: Both values fall within the method uncertainty for duplicates and are likely equivalent.

Sample OCH886 [MW-14A] : ortho-Phosphate > Total Phosphorus: Both values fall within the method uncertainty for duplicates and are likely equivalent. RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample OCH889 [MW-16A] : Dissolved Metals (Mn): Re-analysis of a new aliquot from client supplied bottle confirmed original result. Total Phosphorus < Dissolved Phosphorus: Both values fall within the method uncertainty for duplicates and are likely equivalent.

Sample OCH890 [MW-16B] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample OCH891 [MW-17A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L. Total Phosphorus < Dissolved Phosphorus: Both values fall within the method uncertainty for duplicates and are likely equivalent.

Sample OCH892 [MW-17B] : ortho-Phosphate > Total Phosphorus: Both values fall within the method uncertainty for duplicates and are likely equivalent. RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample OCH893 [MW-17C] : COD < TOC: Both values fall within the method uncertainty for duplicates and are likely equivalent. ortho-Phosphate > Total Phosphorus: Both values fall within the method uncertainty for duplicates and are likely equivalent.

Sample OCH894 [MW-18A] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample OCH895 [MW-18B] : ortho-Phosphate > Total Phosphorus: Both values fall within the method uncertainty for duplicates and are likely equivalent.

Sample OCH896 [MW-18C] : COD < TOC: Both values fall within the method uncertainty for duplicates and are likely equivalent. ortho-Phosphate > Total Phosphorus: Both values fall within the method uncertainty for duplicates and are likely equivalent.

Sample OCH897 [MW-19A] : COD < TOC: Both values fall within the method uncertainty for duplicates and are likely equivalent. RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample OCH900 [MW-20A] : ortho-Phosphate > Total Phosphorus: Both values fall within the method uncertainty for duplicates and are likely equivalent. RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample OCH901 [MW-20B] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L. Total Phosphorus < Dissolved Phosphorus: Both values fall within the method uncertainty for duplicates and are likely equivalent.

Sample OCH916 [MW-21A] : COD < TOC: Both values fall within the method uncertainty for duplicates and are likely equivalent. RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L. Total Phosphorus < Dissolved Phosphorus: Both values fall within the method uncertainty for duplicates and are likely equivalent.

Sample OCH917 [MW-21B] : ortho-Phosphate > Total Phosphorus: Both values fall within the method uncertainty for duplicates and are likely equivalent. Total Phosphorus < Dissolved Phosphorus: Both values fall within the method uncertainty for duplicates and are likely equivalent.

Sample OCH918 [MW-21C] : COD < TOC: Both values fall within the method uncertainty for duplicates and are likely equivalent.

Sample OCH919 [MW-22A] : COD < TOC: Both values fall within the method uncertainty for duplicates and are likely equivalent.

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Sample OCH920 [MW-22B] : COD < TOC: Both values fall within the method uncertainty for duplicates and are likely equivalent.

Sample OCH921 [MW-22C] : COD < TOC: Both values fall within the method uncertainty for duplicates and are likely equivalent.

Sample OCH922 [DUP-1] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample OCH923 [DUP-2] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample OCH924 [DUP-3] : ortho-Phosphate > Total Phosphorus: Both values fall within the method uncertainty for duplicates and are likely equivalent. COD < TOC: Both values fall within the method uncertainty for duplicates and are likely equivalent. Total Phosphorus < Dissolved Phosphorus: Both values fall within the method uncertainty for duplicates and are likely equivalent.

Sample OCH925 [DUP-4] : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample OCH926 [DUP-5] : ortho-Phosphate > Total Phosphorus: Both values fall within the method uncertainty for duplicates and are likely equivalent. RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Dissolved Metals (Cd): Re-analysis of a new aliquot from client supplied bottle confirmed original result.
Sample OCH866, Metals Water Total MS: Test repeated.
Sample OCH869, Metals Water Total MS: Test repeated.
Sample OCH870, Metals Water Total MS: Test repeated.
Sample OCH880, Metals Water Total MS: Test repeated.
Sample OCH889, Metals Water Diss. MS (as rec'd): Test repeated.
Sample OCH926, Metals Water Diss. MS (as rec'd): Test repeated.

Results relate only to the items tested.

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VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Anastassia Hamanov, Scientific Specialist

Mike MacGillivray, Scientific Specialist (Inorganics)

BV Labs 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 Signature Page.

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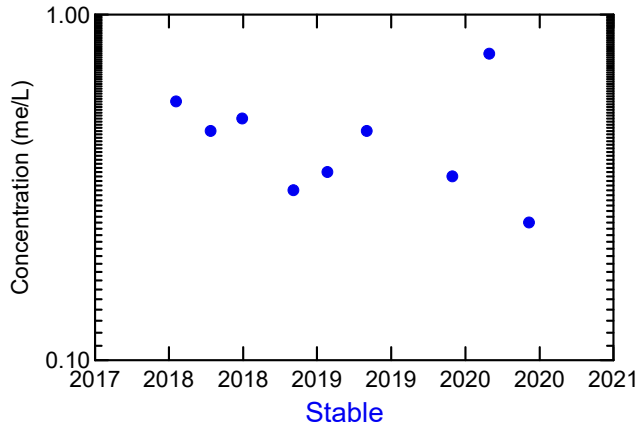
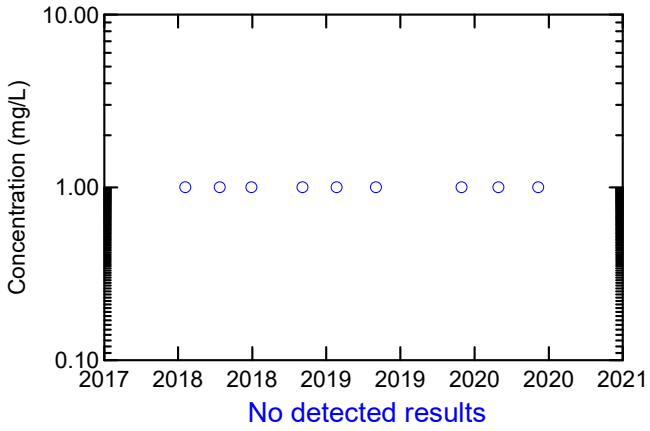
Appendix C
Trend Plots

Anion Sum



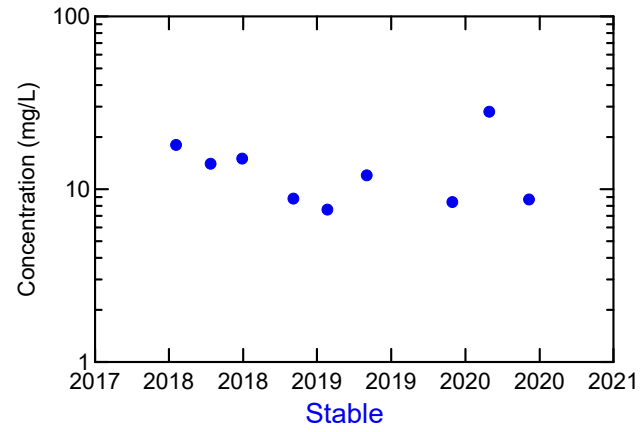
Stable

Carb. Alkalinity (calc. as CaCO3)



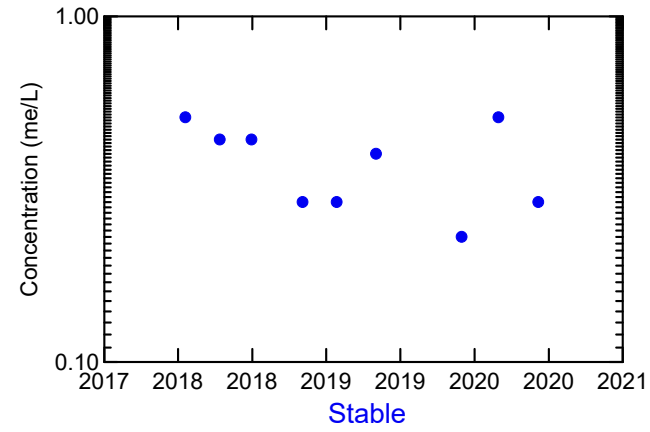
No detected results

Bicarb. Alkalinity (calc. as CaCO3)



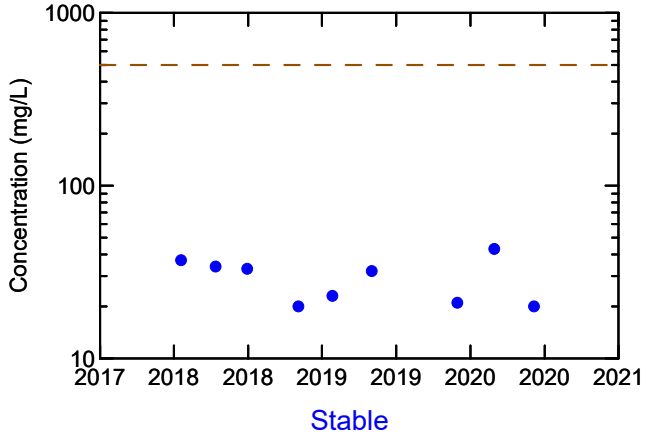
Stable

Cation Sum



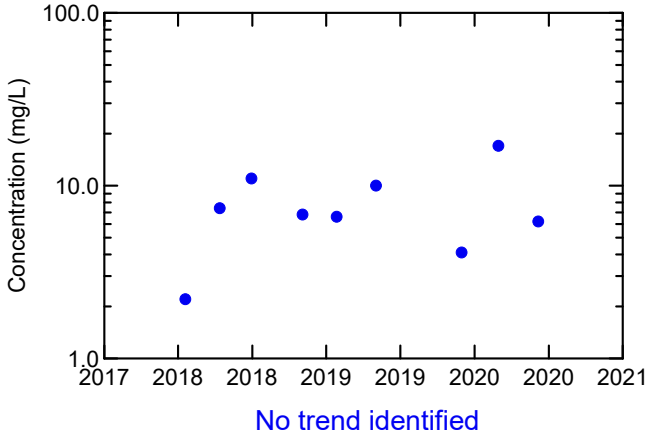
Stable

Calculated TDS



Stable

Hardness (CaCO3)



No trend identified

Legend:

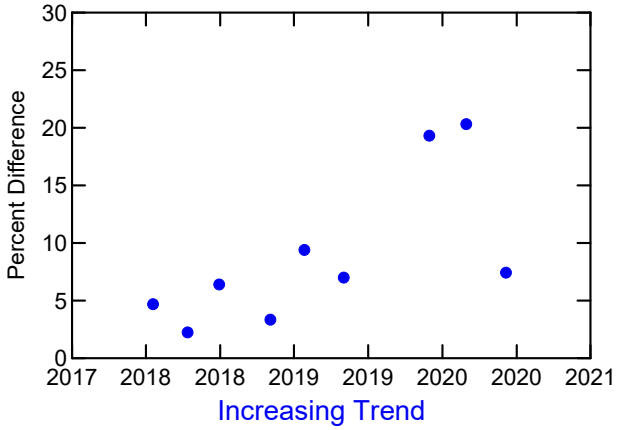
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines - Aesthetic

WELL MW-01A
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

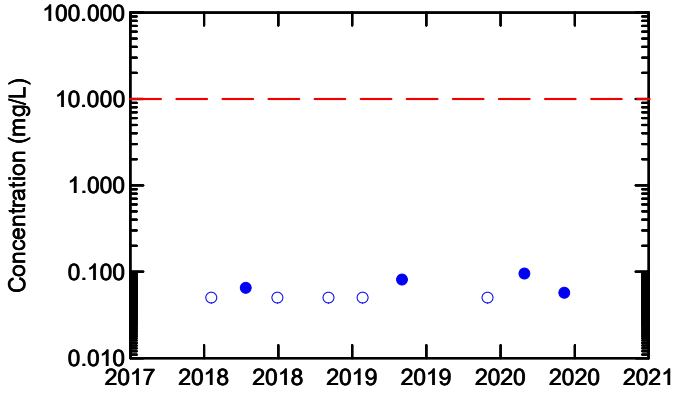
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Ion Balance



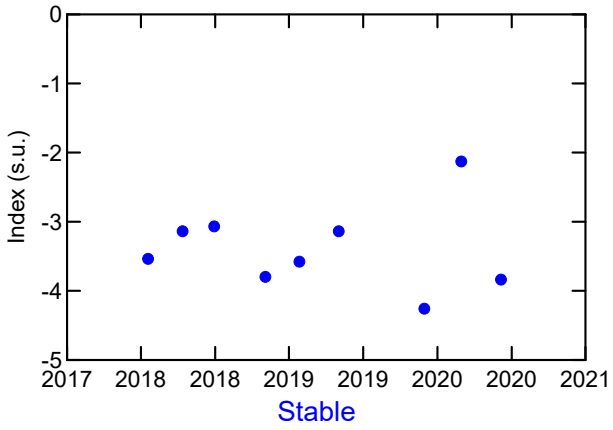
Increasing Trend

Nitrate



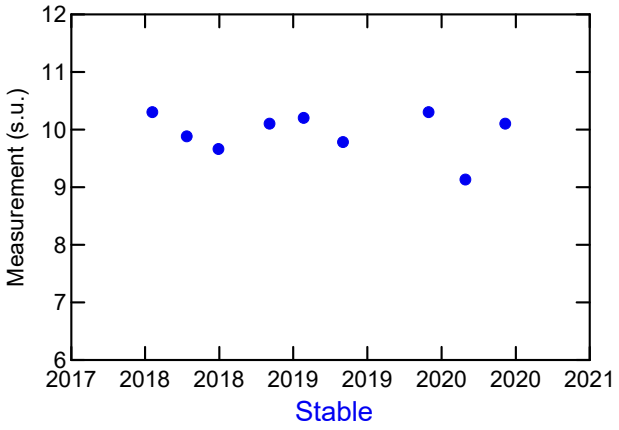
Over 50% non-detects

Langelier Index (@ 20C)



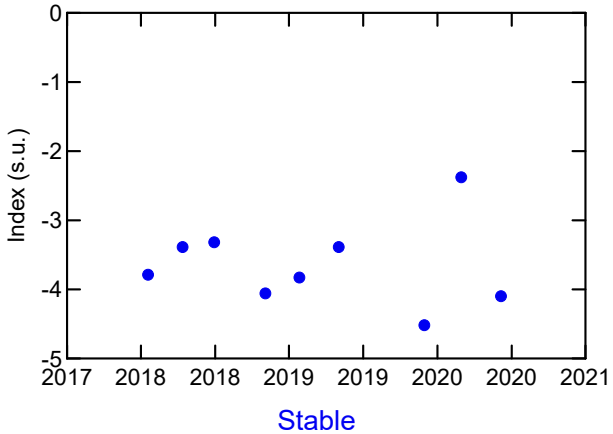
Stable

Saturation pH (@ 20C)



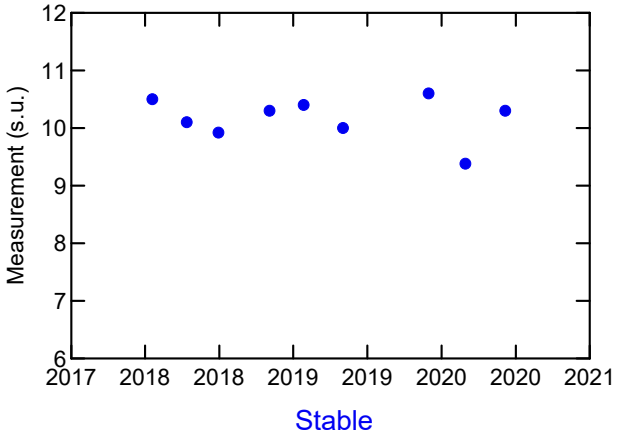
Stable

Langelier Index (@ 4C)



Stable

Saturation pH (@ 4C)



Stable

Legend:

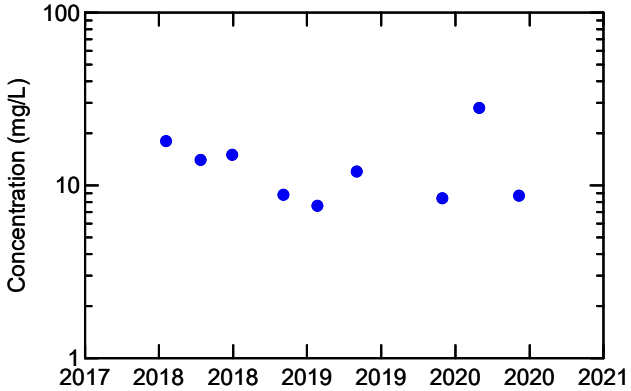
● Detected result ○ Non-Detect

— — Canadian Drinking Water Quality Guidelines: Maximum Acceptable

WELL MW-01A
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

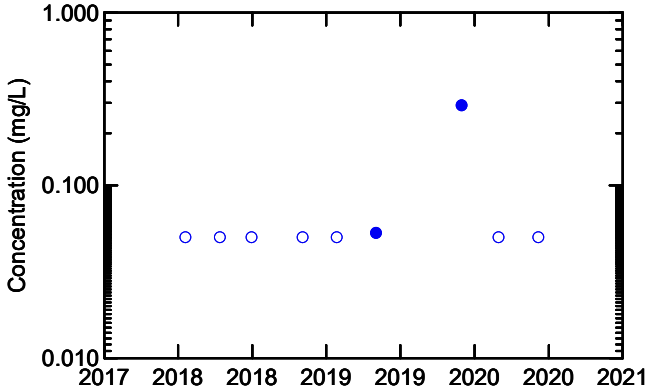
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Total Alkalinity (Total as CaCO3)



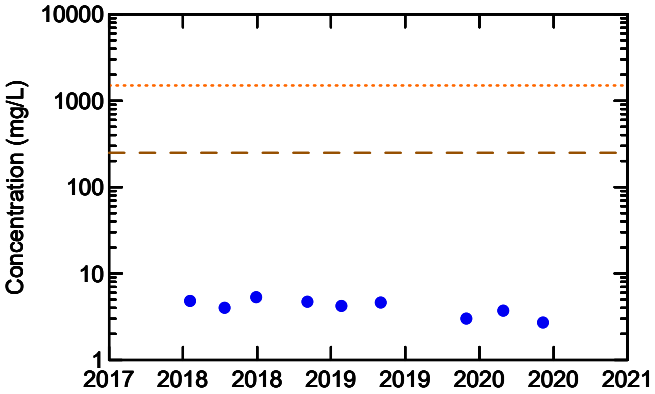
Stable

Nitrogen (Ammonia Nitrogen)



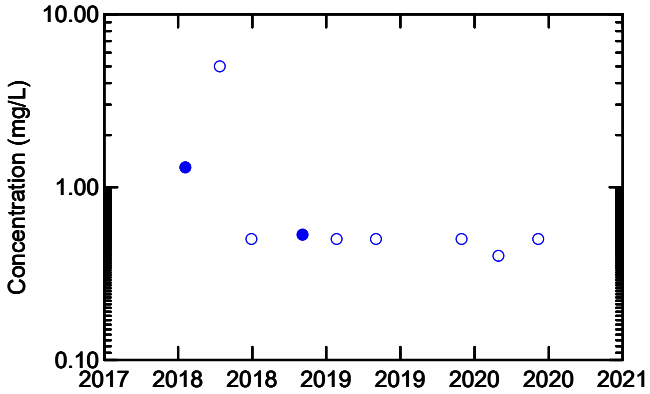
Over 50% non-detects

Dissolved Chloride



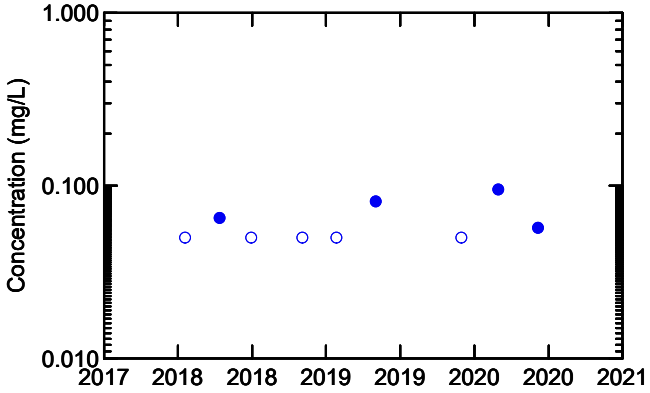
Decreasing Trend

Total Organic Carbon



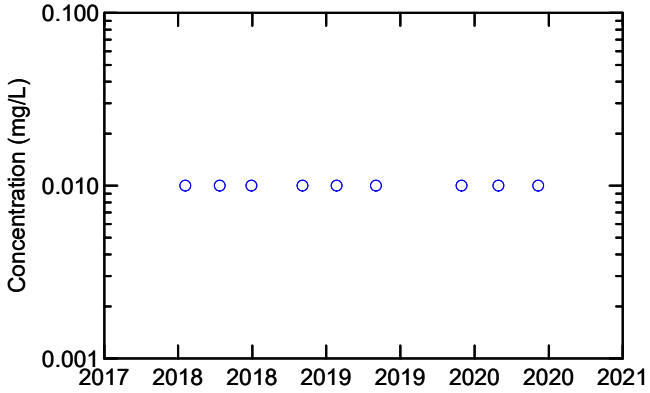
Over 50% non-detects

Nitrate + Nitrite



Over 50% non-detects

Orthophosphate



No detected results

Legend:

● Detected result ○ Non-Detect

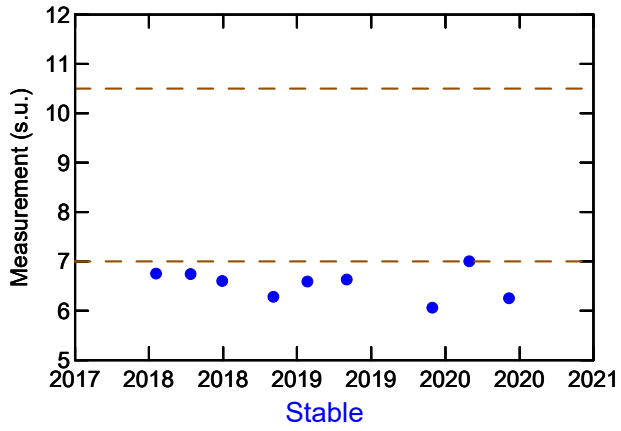
····· Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — - Canadian Drinking Water Quality Guideline: Aesthetic

WELL MW-01A
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

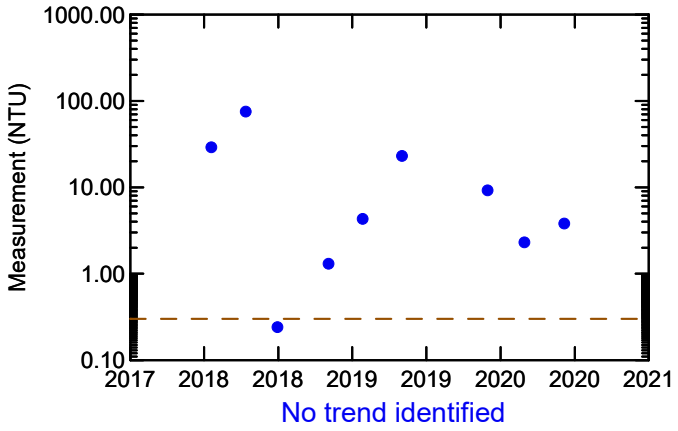
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

pH



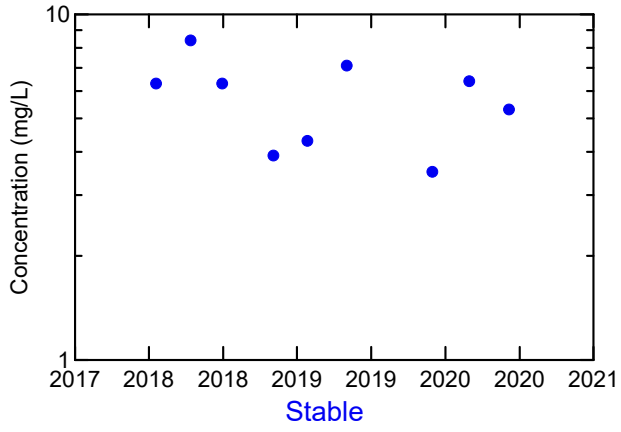
Stable

Turbidity



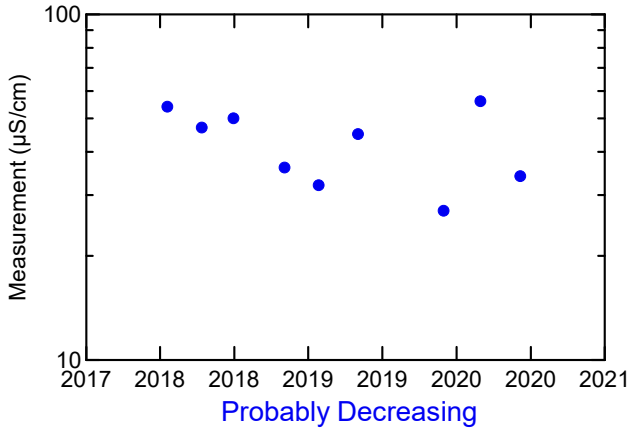
No trend identified

Reactive Silica (SiO2)



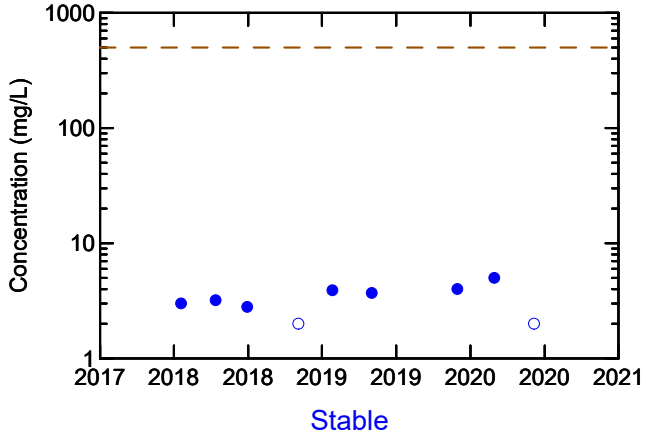
Stable

Conductivity



Probably Decreasing

Dissolved Sulphate (SO4)



Stable

Legend:

● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines: Aesthetic

WELL MW-01A
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Notes:
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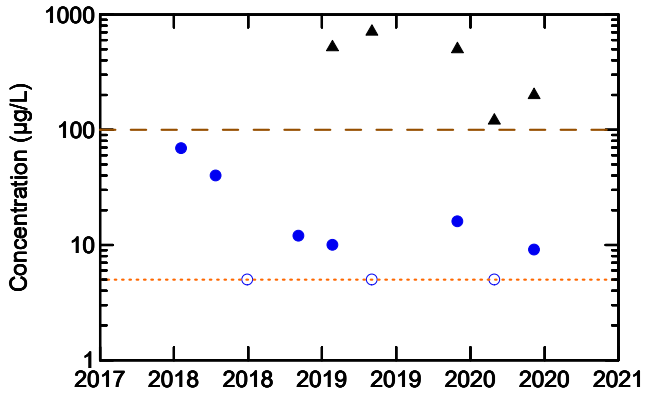
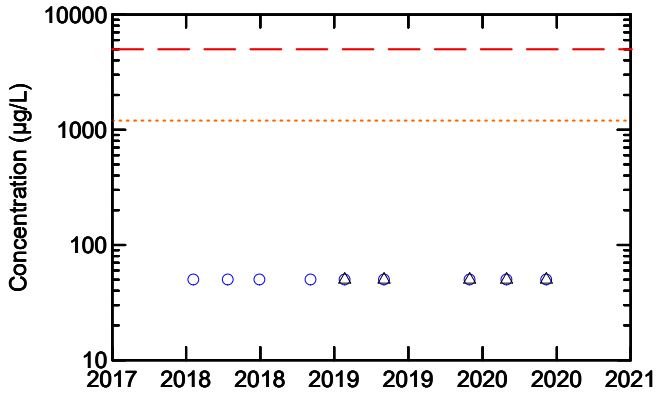
Aluminum



Total: Stable

Dissolved: No trend identified

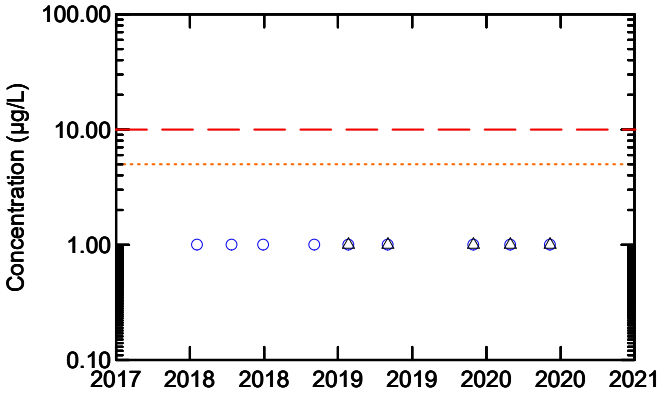
Boron



Total: No detected results

Dissolved: No detected results

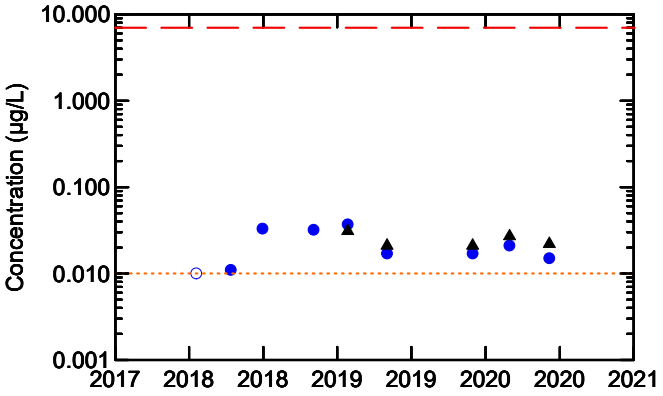
Arsenic



Total: No detected results

Dissolved: No detected results

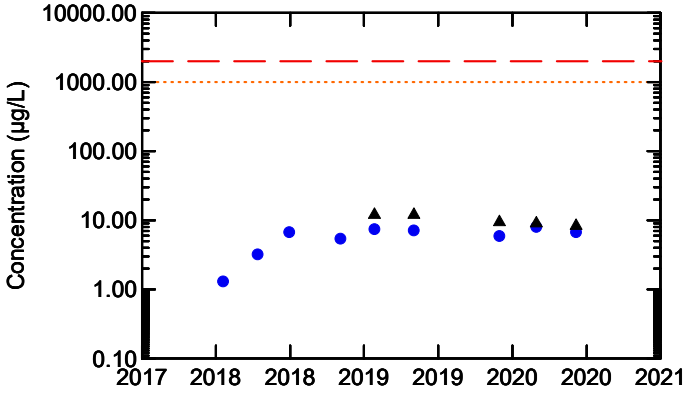
Cadmium



Total: Stable

Dissolved: No trend identified

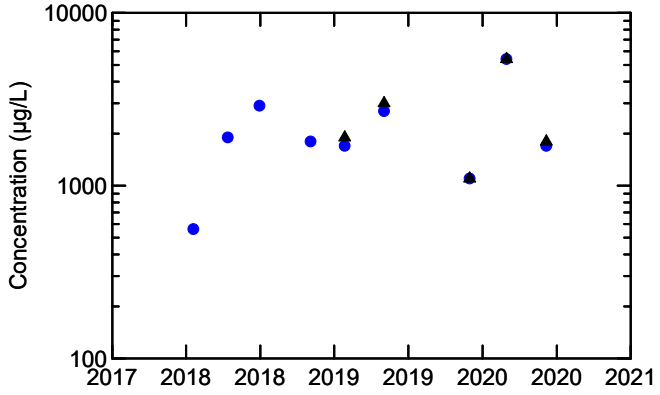
Barium



Total: Decreasing Trend

Dissolved: Probably Increasing

Calcium



Total: Stable

Dissolved: No trend identified

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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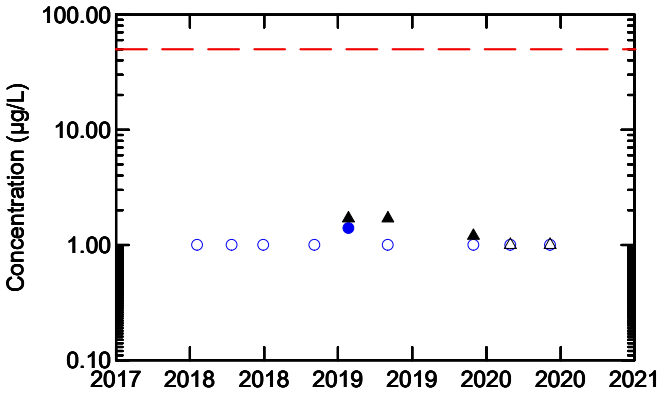
WELL MW-01A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

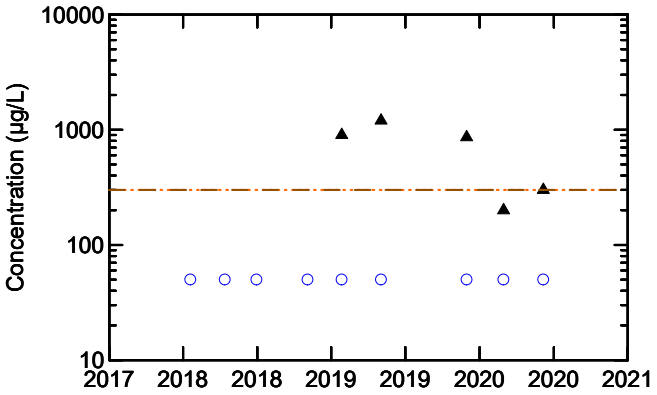
Chromium



Total: Probably Decreasing

Dissolved: Over 50% non-detects

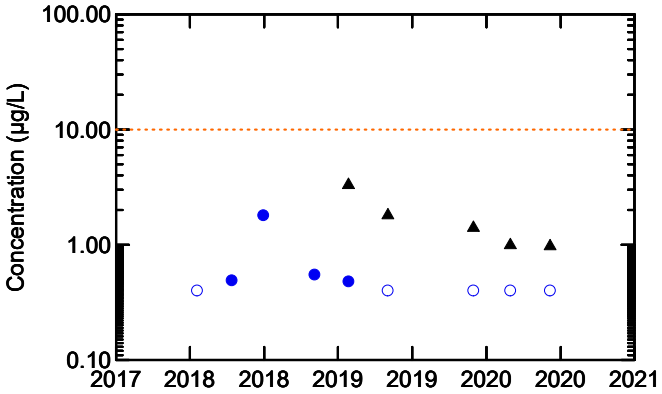
Iron



Total: Stable

Dissolved: No detected results

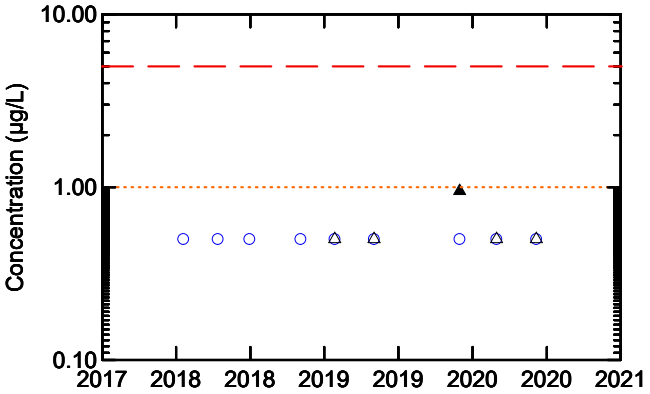
Cobalt



Total: Decreasing Trend

Dissolved: Over 50% non-detects

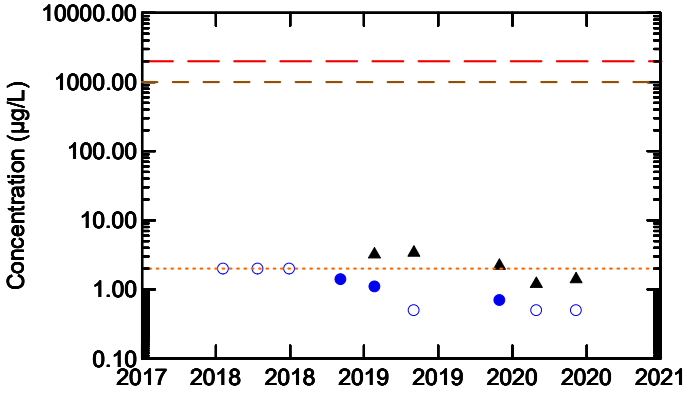
Lead



Total: Over 50% non-detects

Dissolved: No detected results

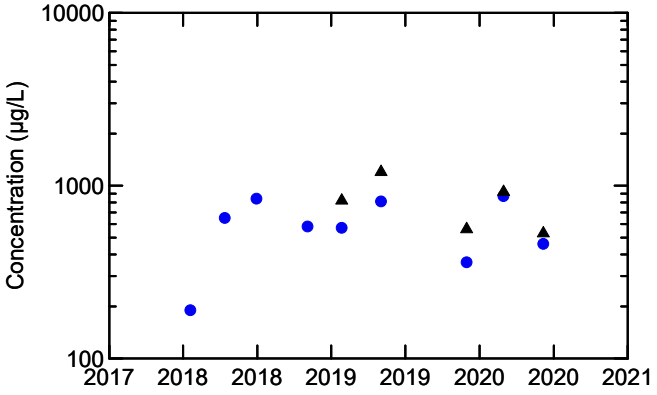
Copper



Total: Stable

Dissolved: Over 50% non-detects

Magnesium



Total: Stable

Dissolved: No trend identified

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

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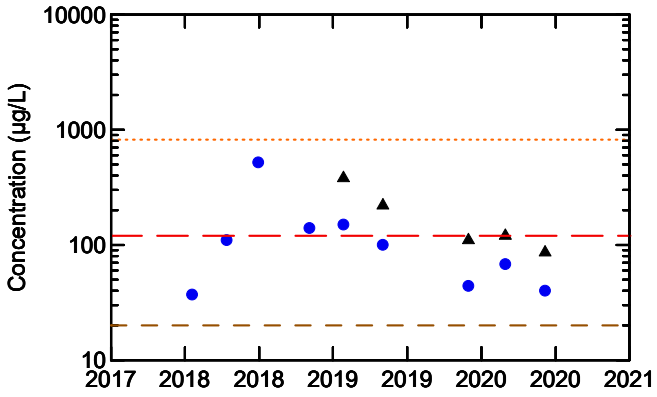
WELL MW-01A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

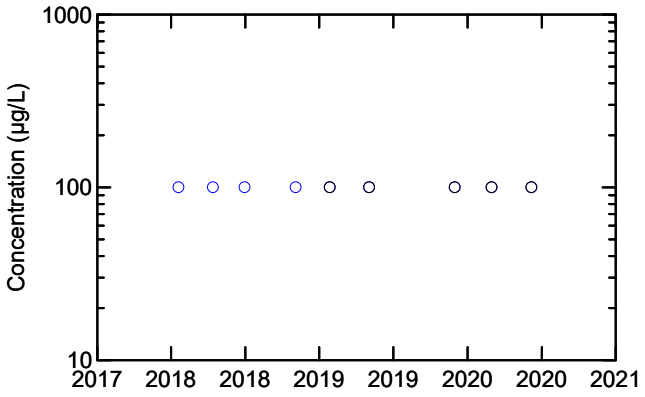
Manganese



Total: Probably Decreasing

Dissolved: No trend identified

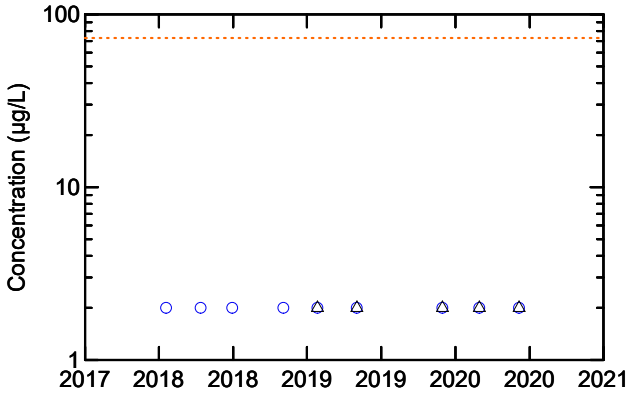
Phosphorus



Total: No detected results

Dissolved: No detected results

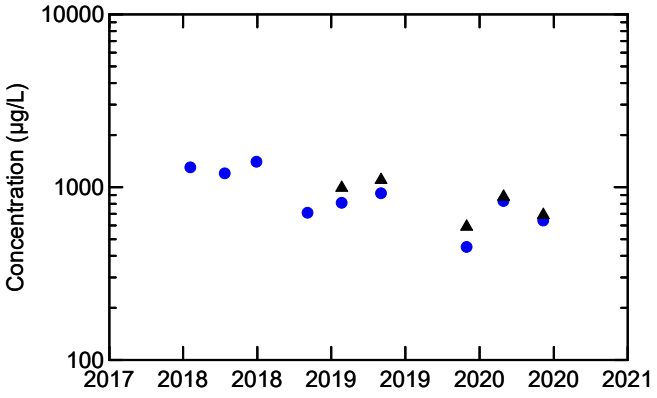
Molybdenum



Total: No detected results

Dissolved: No detected results

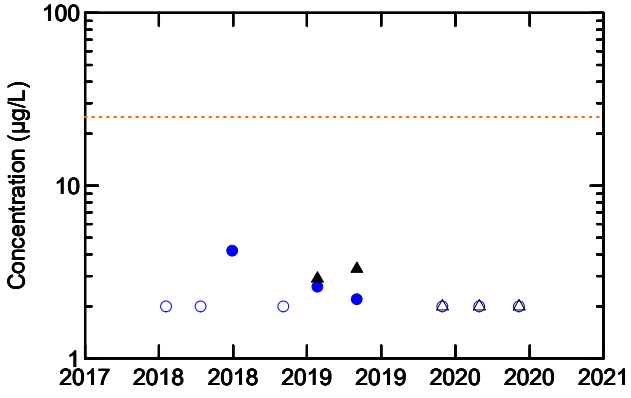
Potassium



Total: Stable

Dissolved: Probably Decreasing

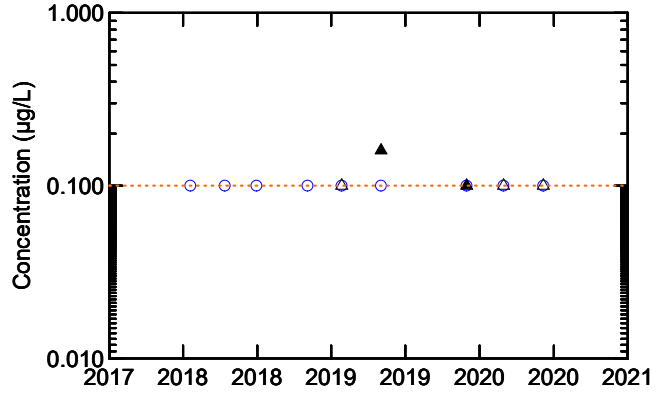
Nickel



Total: Over 50% non-detects

Dissolved: Over 50% non-detects

Silver



Total: Over 50% non-detects

Dissolved: No detected results

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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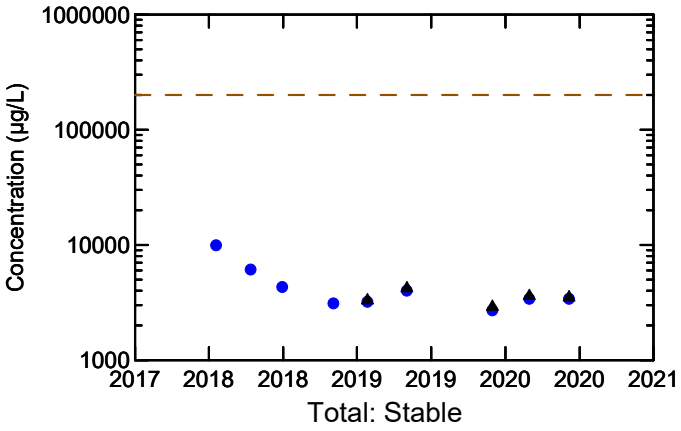
WELL MW-01A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

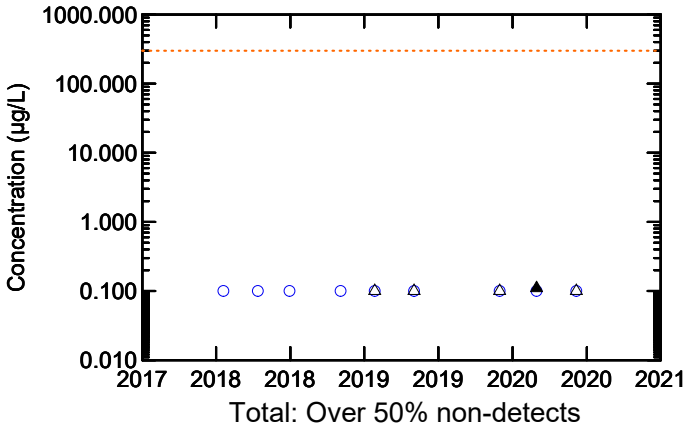
Sodium



Total: Stable

Dissolved: Probably Decreasing

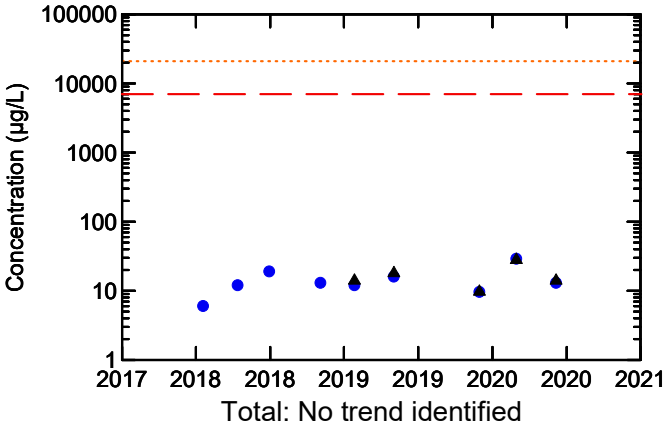
Uranium



Total: Over 50% non-detects

Dissolved: No detected results

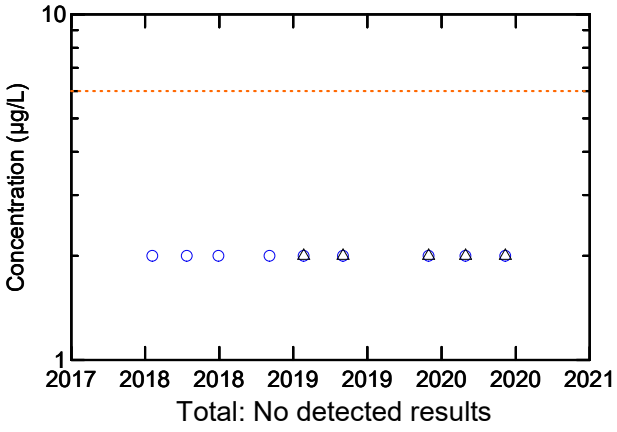
Strontium



Total: No trend identified

Dissolved: No trend identified

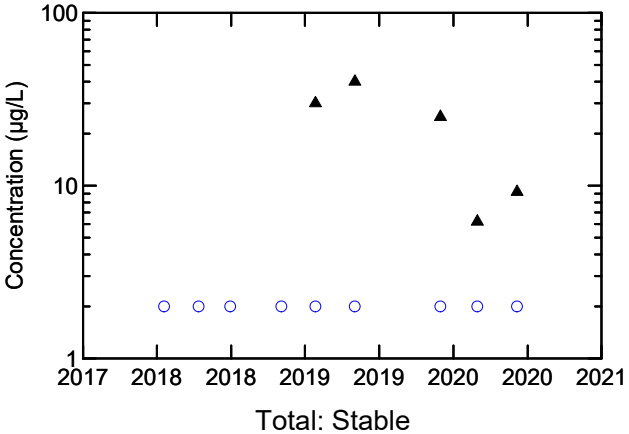
Vanadium



Total: No detected results

Dissolved: No detected results

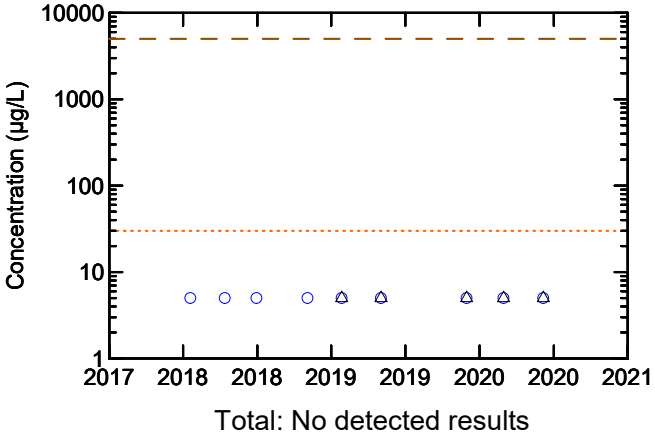
Titanium



Total: Stable

Dissolved: No detected results

Zinc



Total: No detected results

Dissolved: No detected results

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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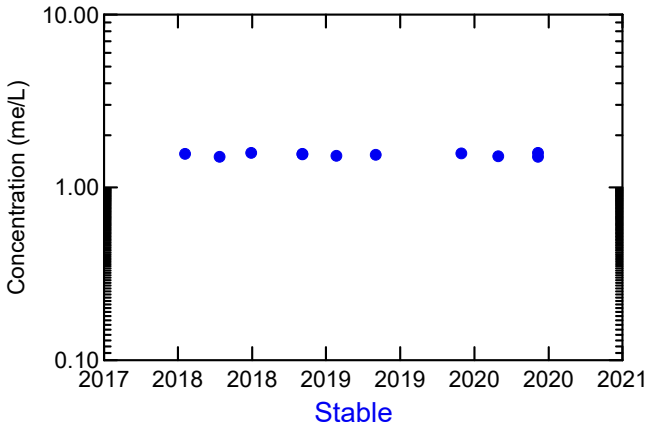
Non-detects are plotted at the reporting limit.

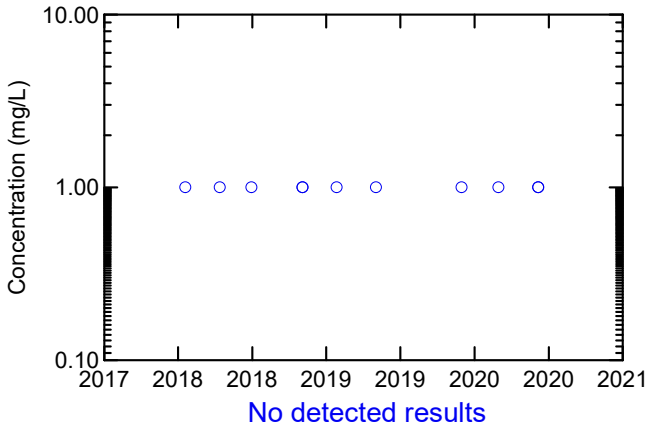
WELL MW-01A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Anion Sum



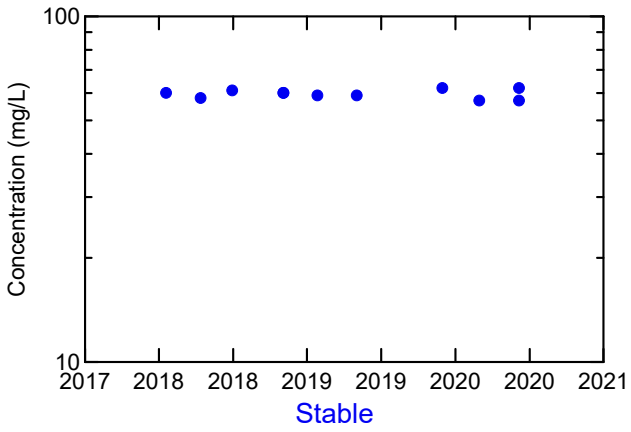
Stable

Carb. Alkalinity (calc. as CaCO3)



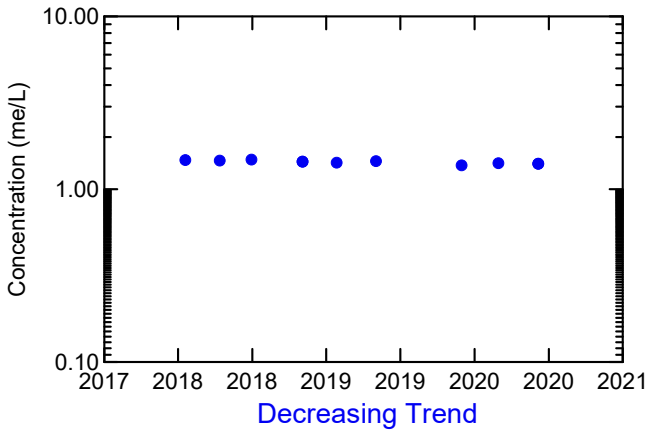
No detected results

Bicarb. Alkalinity (calc. as CaCO3)



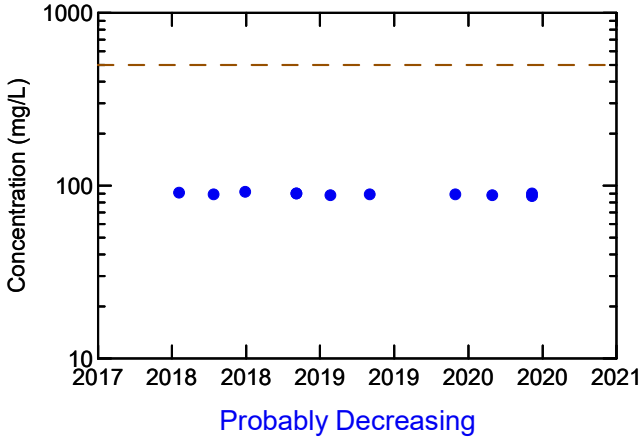
Stable

Cation Sum



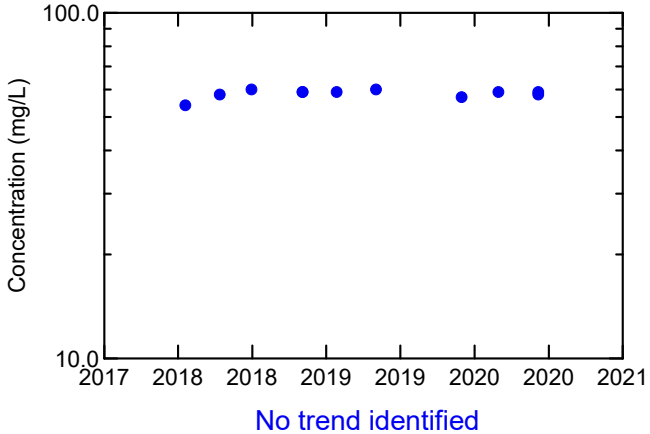
Decreasing Trend

Calculated TDS



Probably Decreasing

Hardness (CaCO3)



No trend identified

Legend:

● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines - Aesthetic

WELL MW-01B
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Notes:
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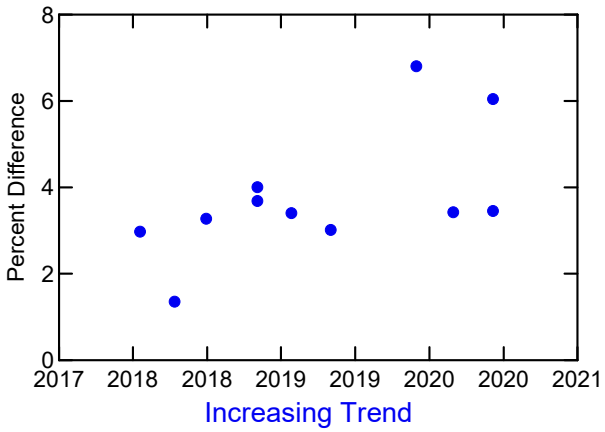
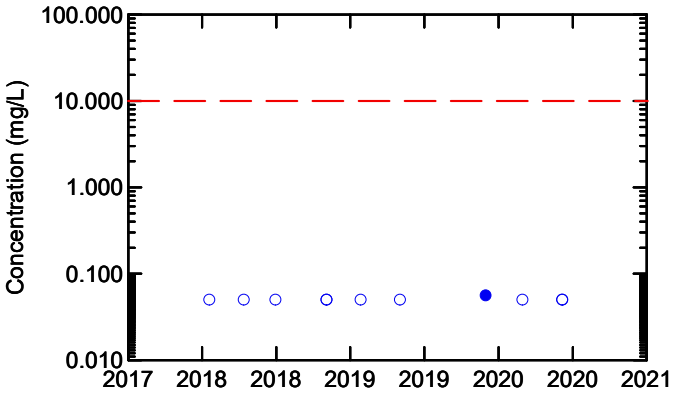
Non-detects are plotted at the reporting limit.

Ion Balance



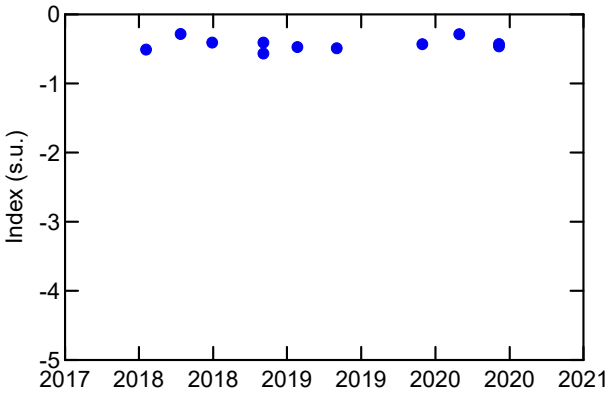
Increasing Trend

Nitrate



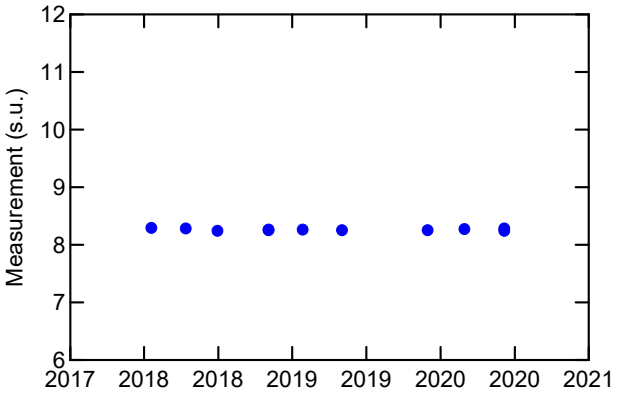
Over 50% non-detects

Langelier Index (@ 20C)



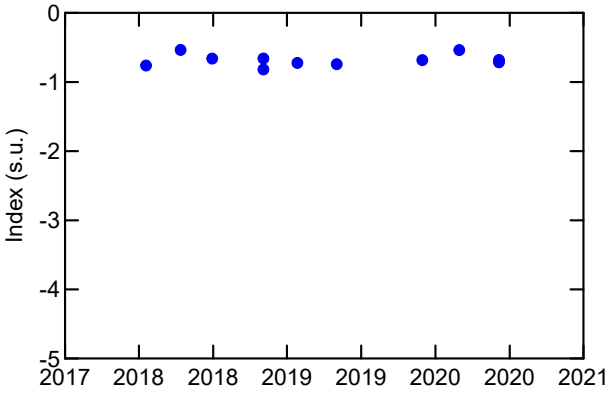
No trend identified

Saturation pH (@ 20C)



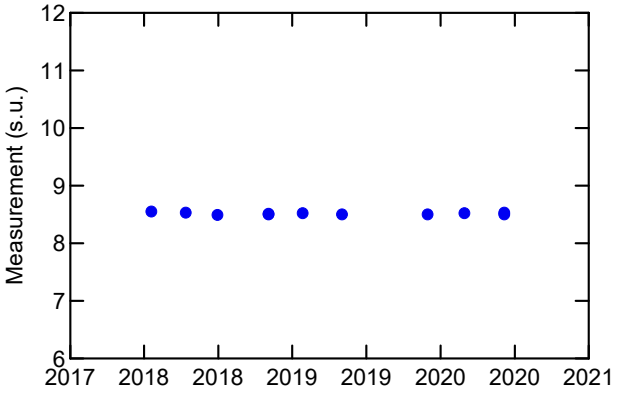
Stable

Langelier Index (@ 4C)



No trend identified

Saturation pH (@ 4C)



Stable

Legend:

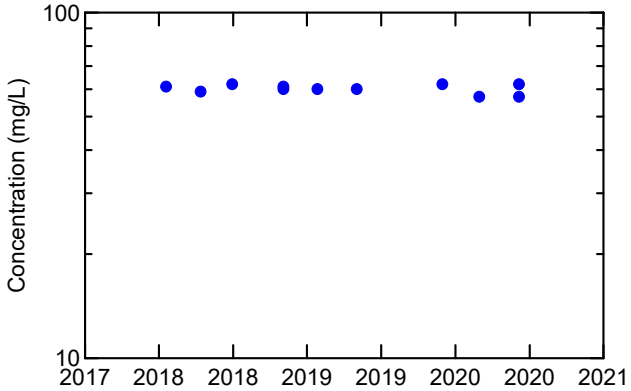
● Detected result ○ Non-Detect

— — Canadian Drinking Water Quality Guidelines: Maximum Acceptable

WELL MW-01B
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

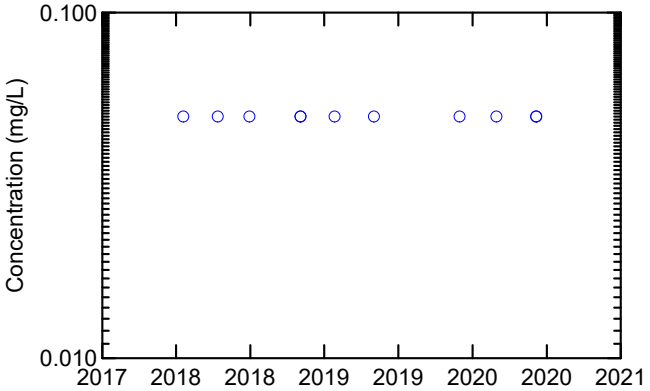
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Total Alkalinity (Total as CaCO3)



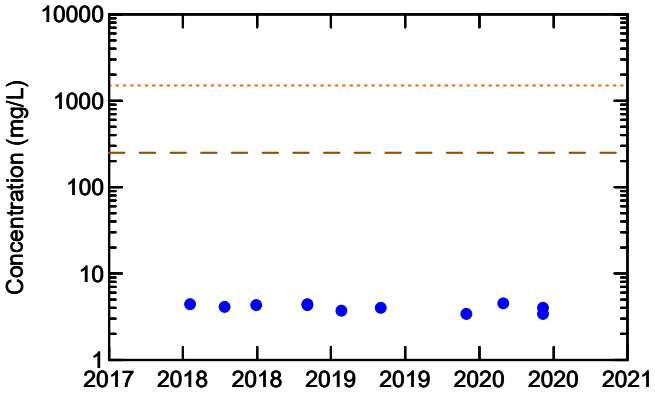
Stable

Nitrogen (Ammonia Nitrogen)



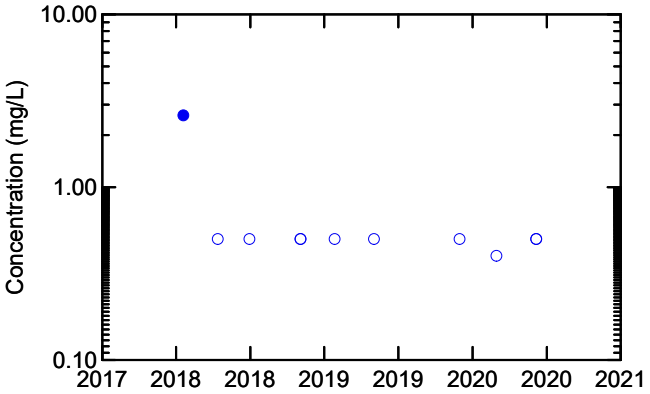
No detected results

Dissolved Chloride



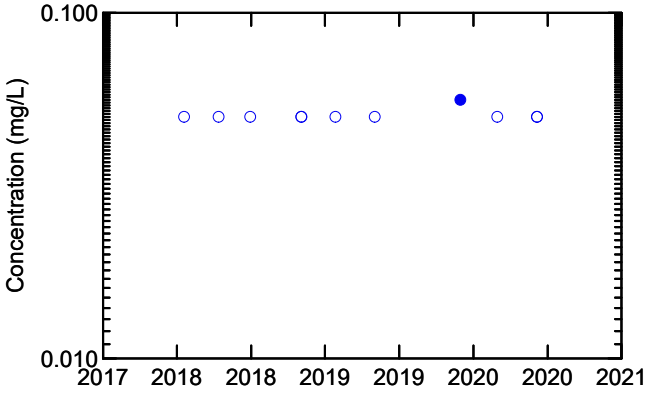
Stable

Total Organic Carbon



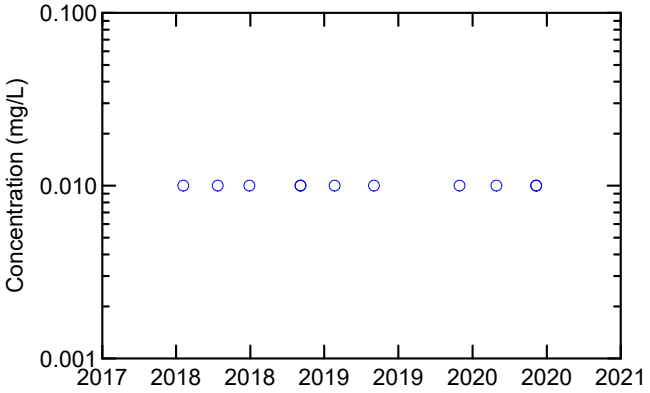
Over 50% non-detects

Nitrate + Nitrite



Over 50% non-detects

Orthophosphate



No detected results

Legend:

● Detected result ○ Non-Detect

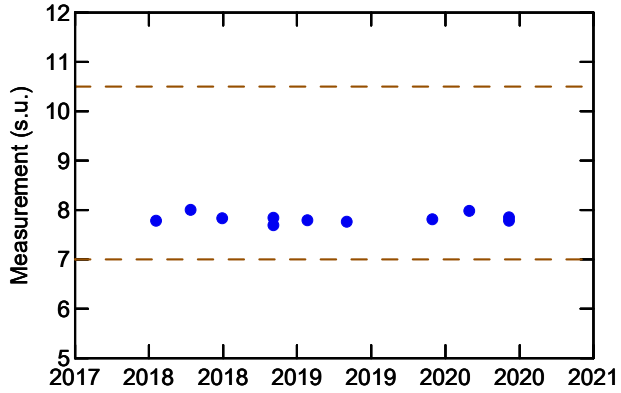
Nova Scotia (2014) Pathway-Specific Standard for Groundwater

Canadian Drinking Water Quality Guideline: Aesthetic

Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

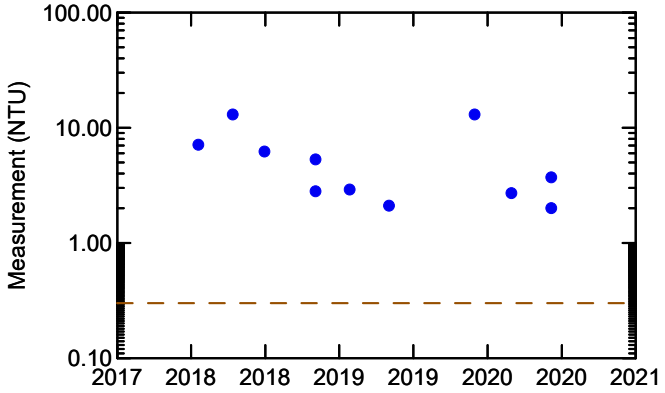
WELL MW-01B
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

pH



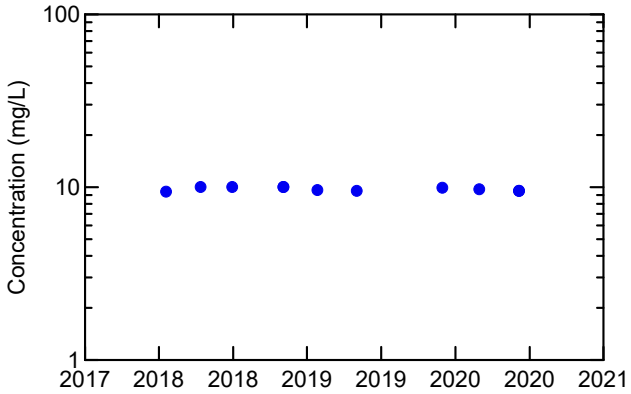
Stable

Turbidity



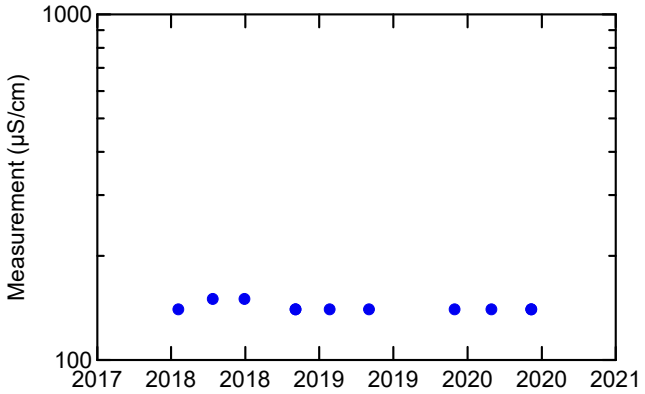
No trend identified

Reactive Silica (SiO2)



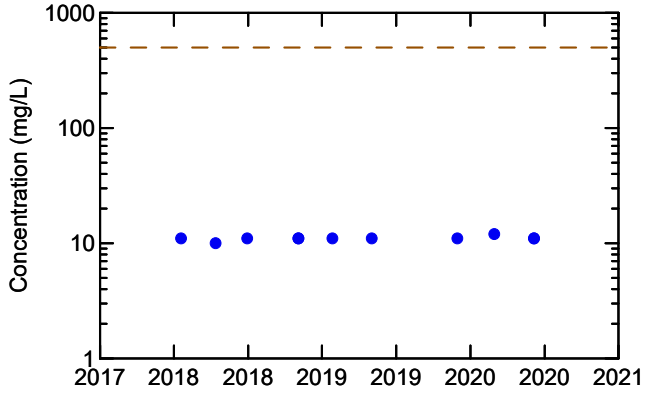
Stable

Conductivity



Probably Decreasing

Dissolved Sulphate (SO4)



Stable

Legend:

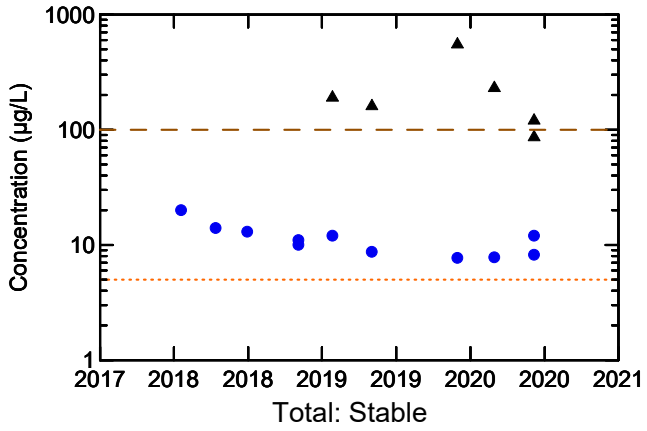
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines: Aesthetic

WELL MW-01B
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

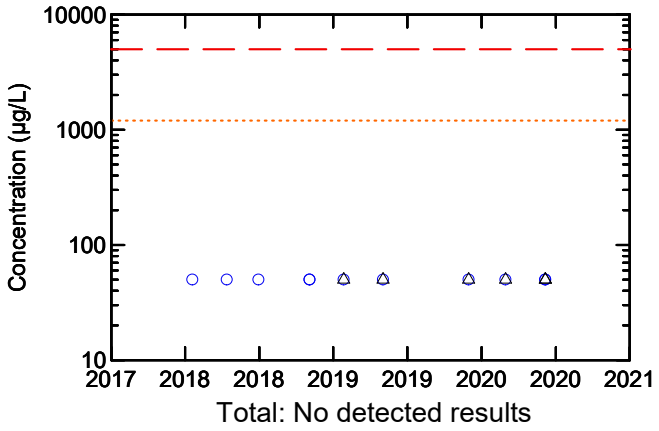
Aluminum



Total: Stable

Dissolved: Decreasing Trend

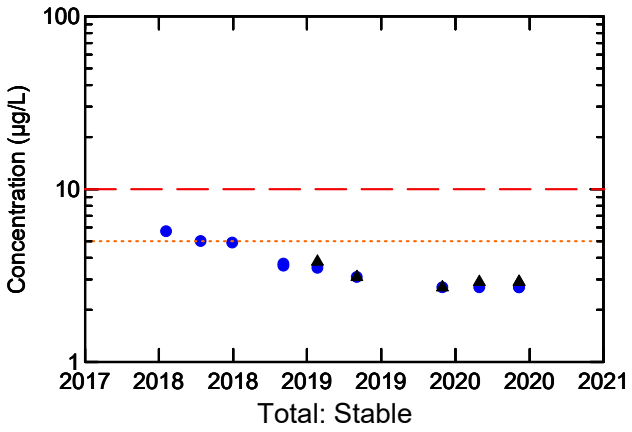
Boron



Total: No detected results

Dissolved: No detected results

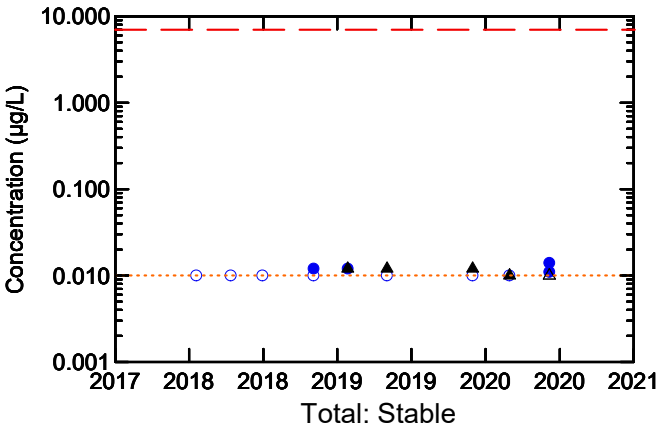
Arsenic



Total: Stable

Dissolved: Decreasing Trend

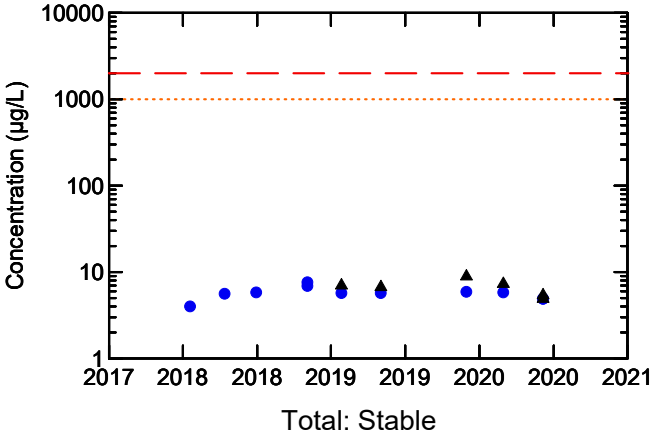
Cadmium



Total: Stable

Dissolved: Over 50% non-detects

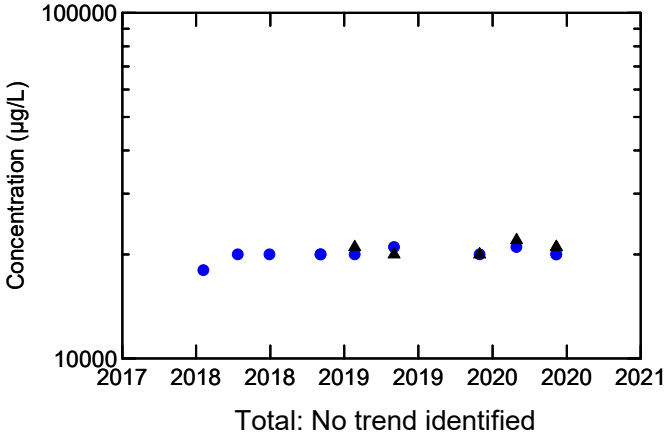
Barium



Total: Stable

Dissolved: No trend identified

Calcium



Total: No trend identified

Dissolved: No trend identified

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

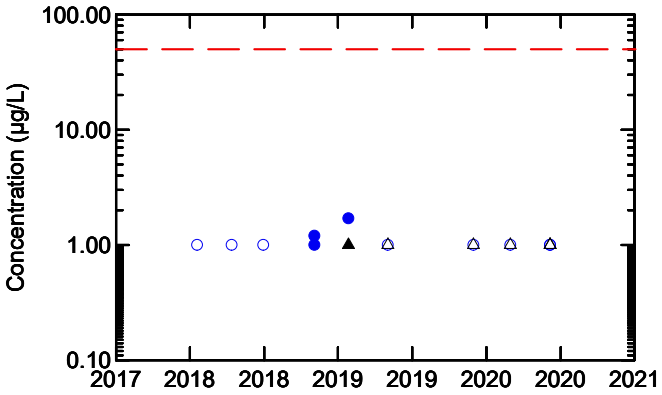
– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

WELL MW-01B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

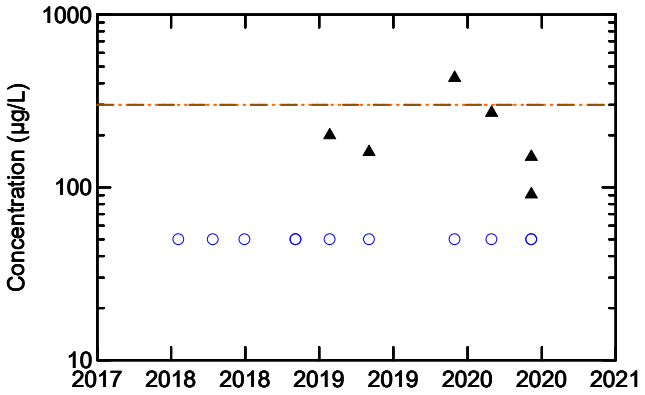
Chromium



Total: Over 50% non-detects

Dissolved: Over 50% non-detects

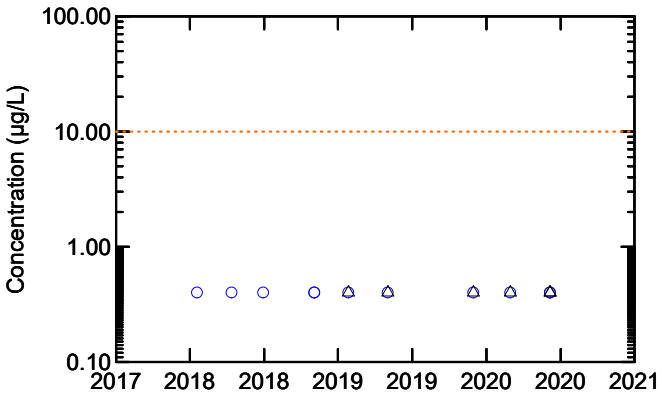
Iron



Total: Stable

Dissolved: No detected results

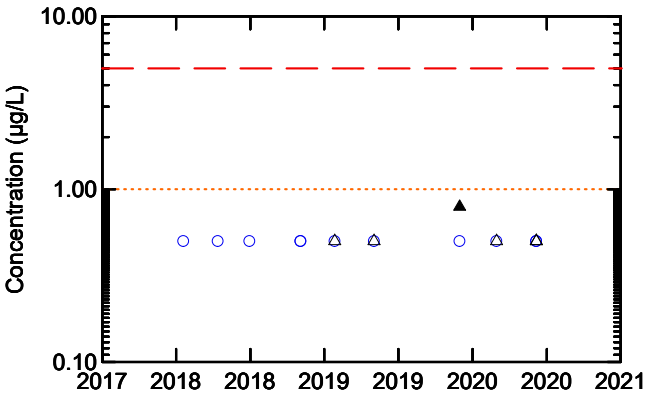
Cobalt



Total: No detected results

Dissolved: No detected results

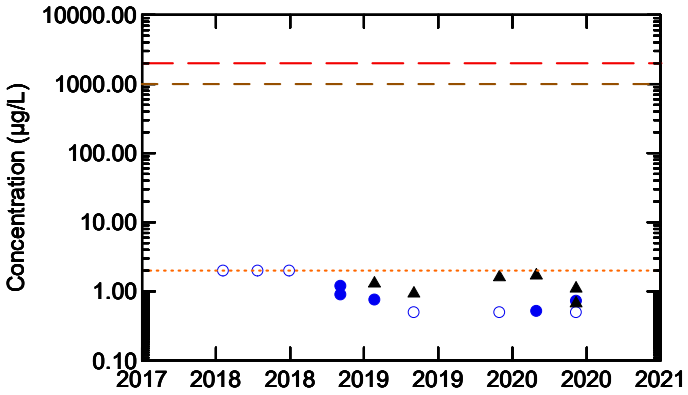
Lead



Total: Over 50% non-detects

Dissolved: No detected results

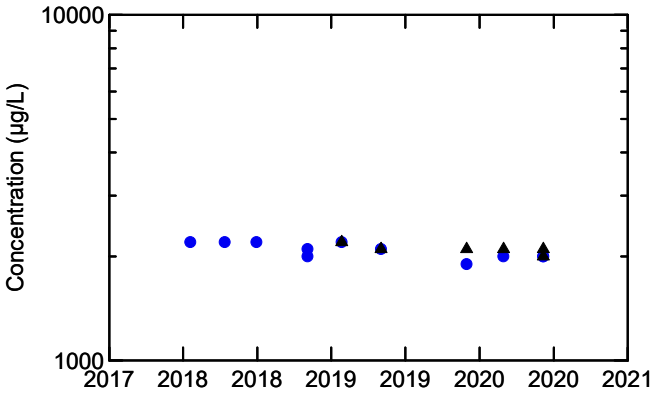
Copper



Total: Stable

Dissolved: Stable

Magnesium



Total: Stable

Dissolved: Decreasing Trend

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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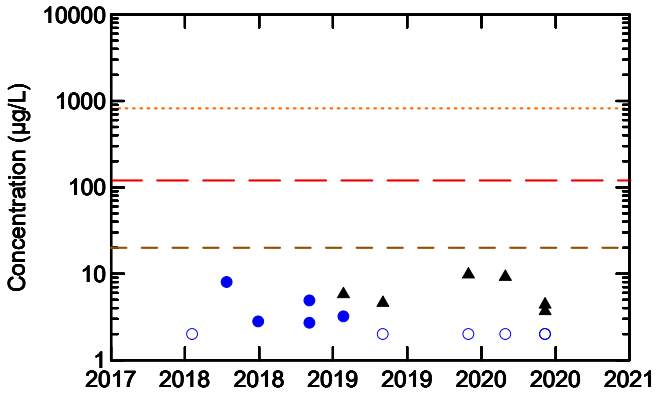
Non-detects are plotted at the reporting limit.

WELL MW-01B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

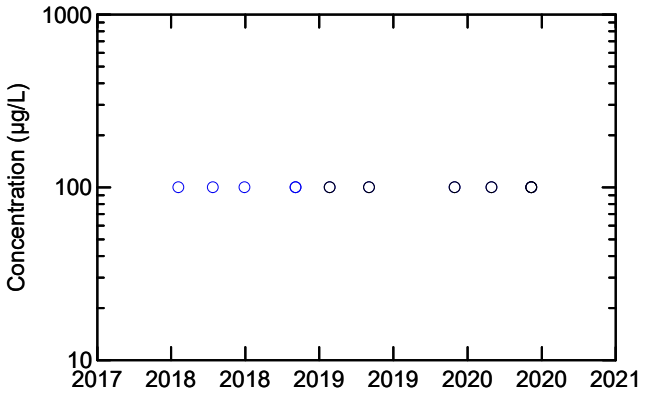
Manganese



Total: Stable

Dissolved: Over 50% non-detects

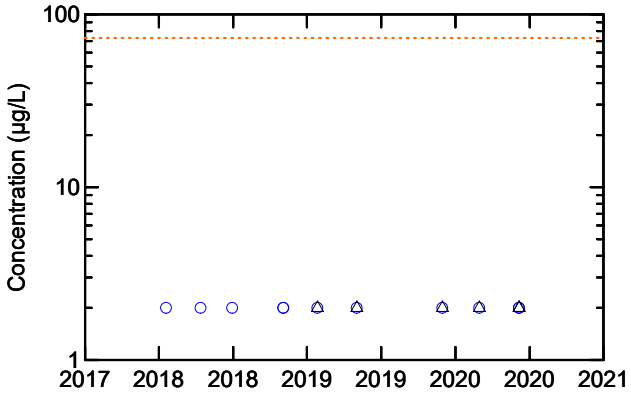
Phosphorus



Total: No detected results

Dissolved: No detected results

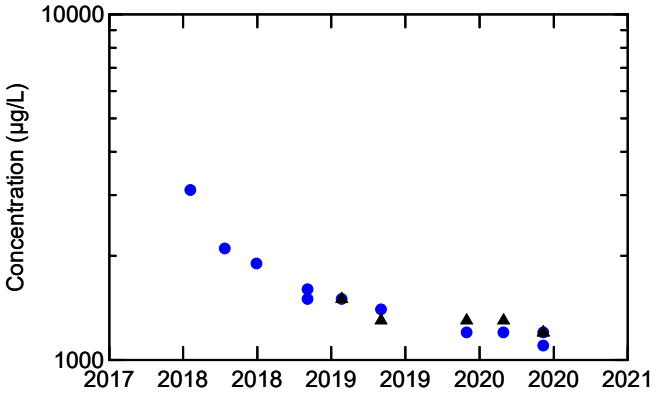
Molybdenum



Total: No detected results

Dissolved: No detected results

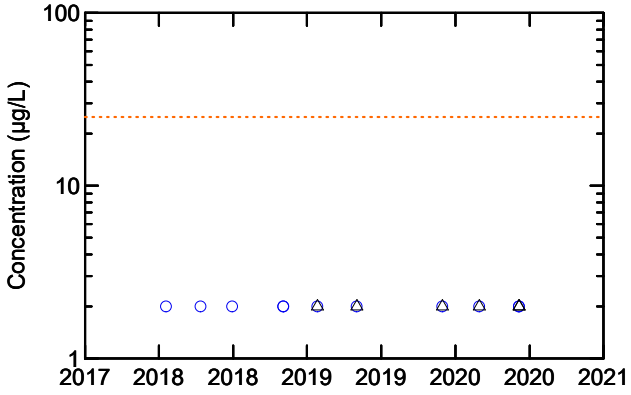
Potassium



Total: Stable

Dissolved: Decreasing Trend

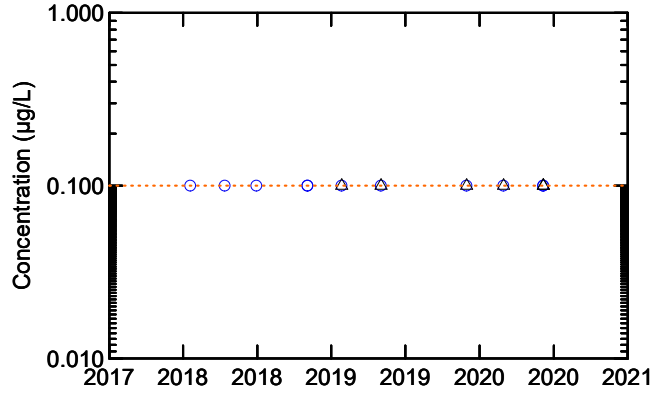
Nickel



Total: No detected results

Dissolved: No detected results

Silver



Total: No detected results

Dissolved: No detected results

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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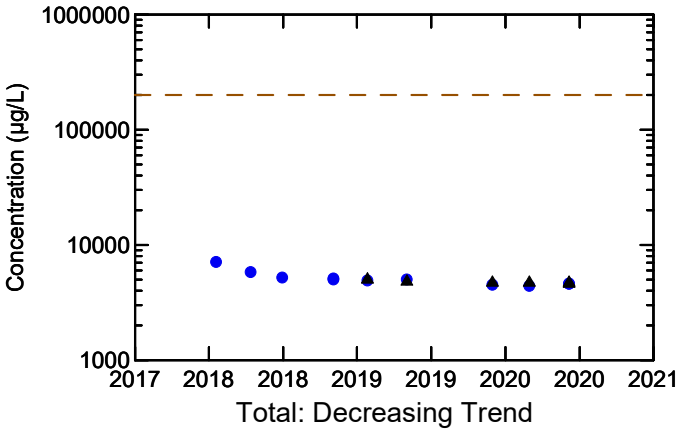
Non-detects are plotted at the reporting limit.

WELL MW-01B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

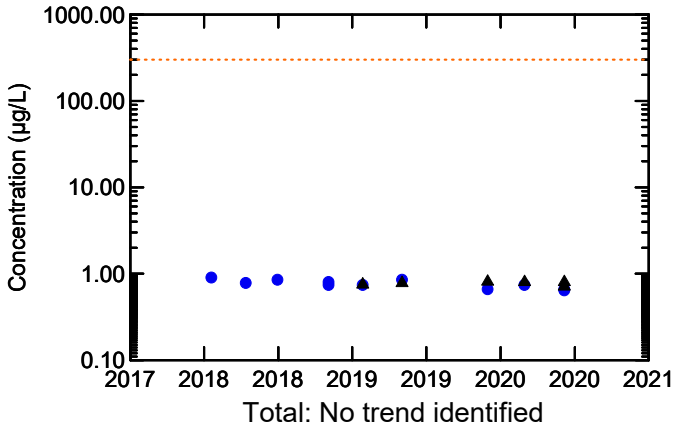
Sodium



Total: Decreasing Trend

Dissolved: Decreasing Trend

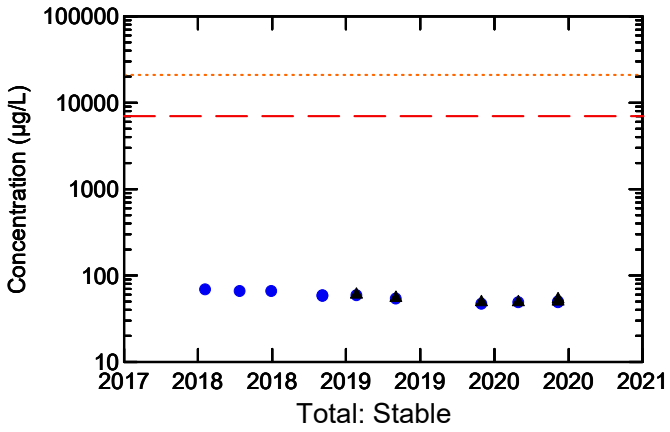
Uranium



Total: No trend identified

Dissolved: Decreasing Trend

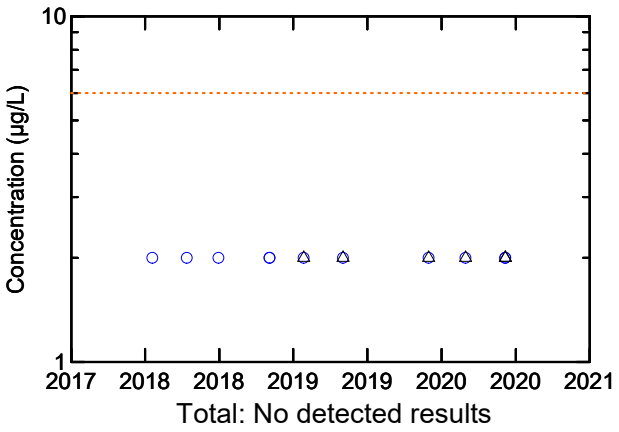
Strontium



Total: Stable

Dissolved: Decreasing Trend

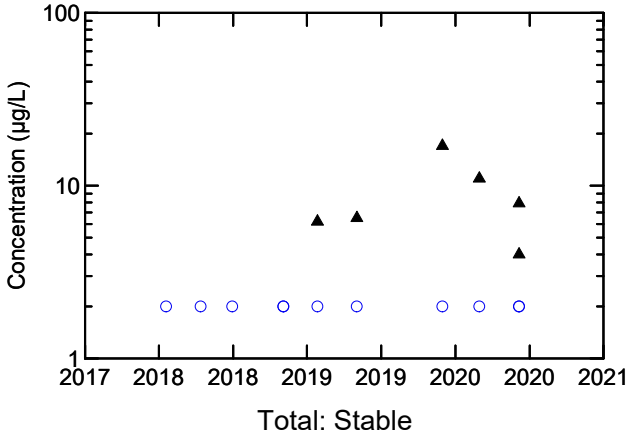
Vanadium



Total: No detected results

Dissolved: No detected results

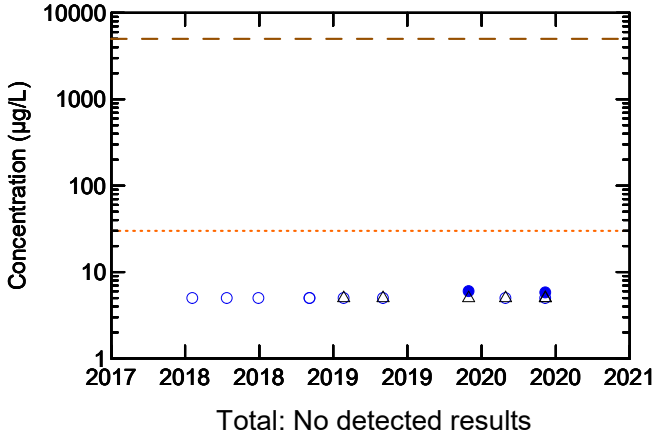
Titanium



Total: Stable

Dissolved: No detected results

Zinc



Total: No detected results

Dissolved: Over 50% non-detects

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

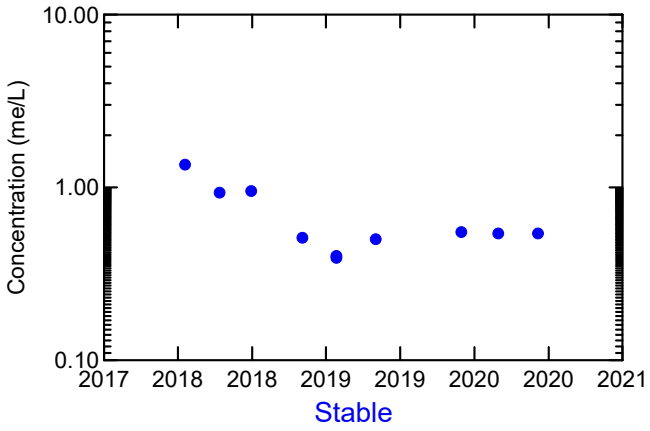
– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

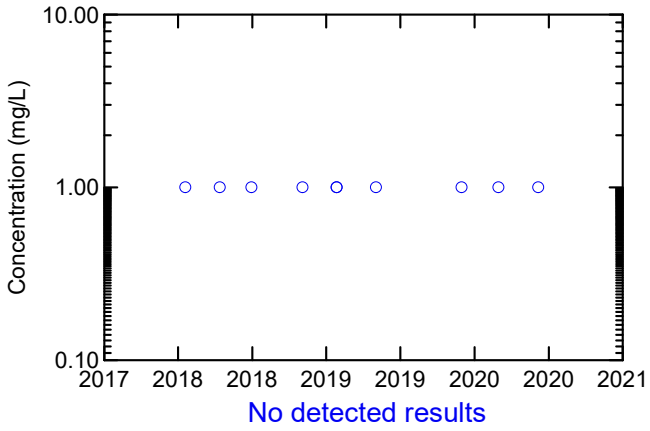
WELL MW-01B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Anion Sum



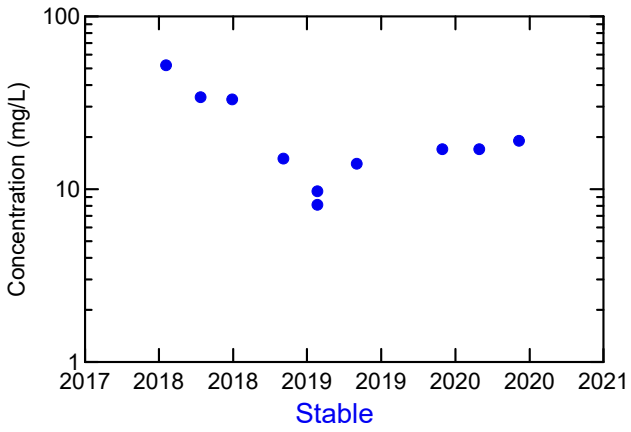
Stable

Carb. Alkalinity (calc. as CaCO3)



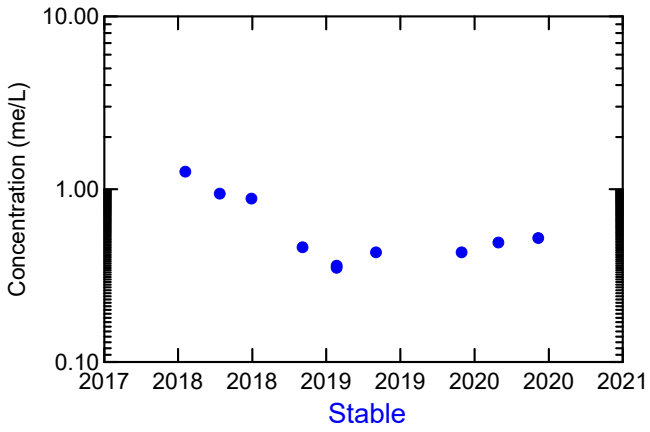
No detected results

Bicarb. Alkalinity (calc. as CaCO3)



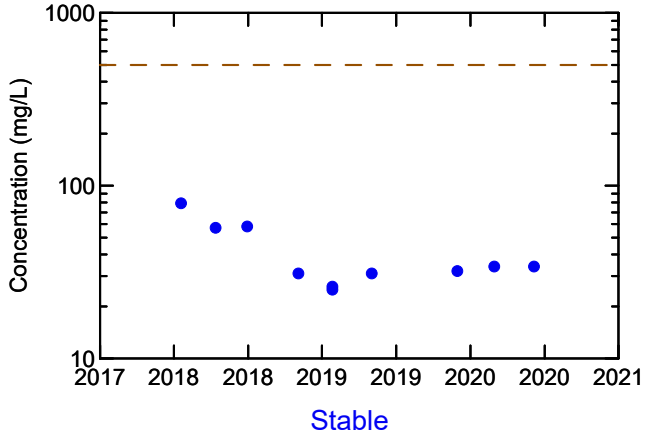
Stable

Cation Sum



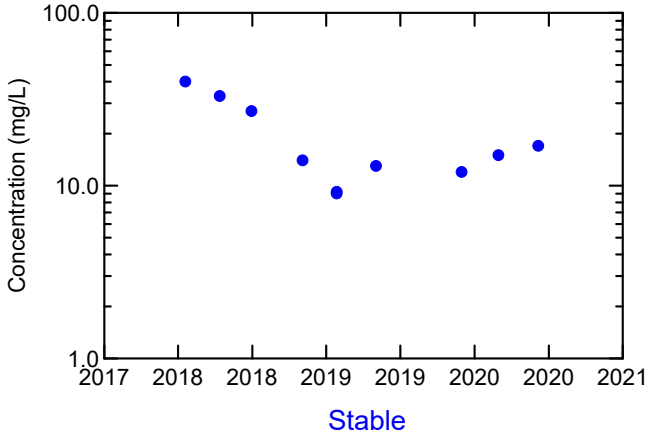
Stable

Calculated TDS



Stable

Hardness (CaCO3)



Stable

Legend:

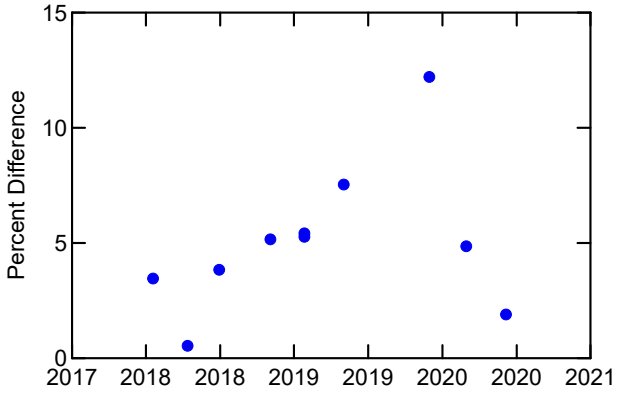
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines - Aesthetic

WELL MW-01C
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

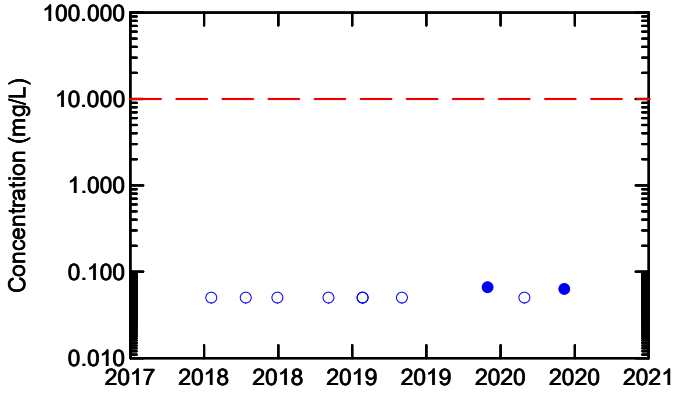
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Ion Balance



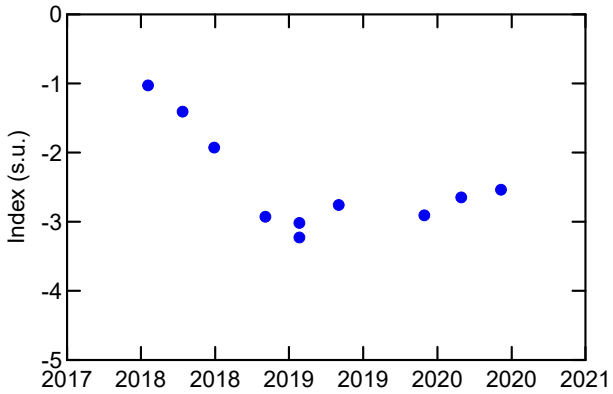
No trend identified

Nitrate



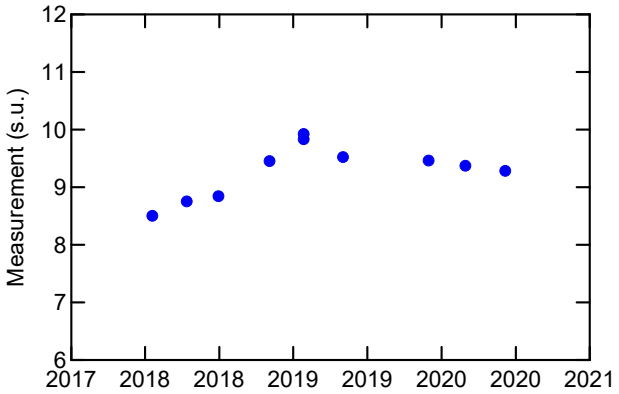
Over 50% non-detects

Langelier Index (@ 20C)



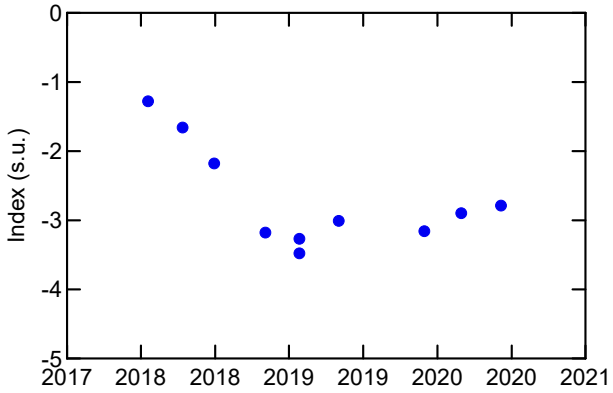
Stable

Saturation pH (@ 20C)



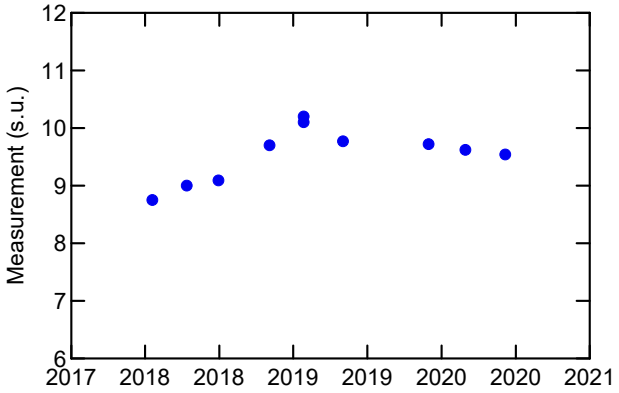
No trend identified

Langelier Index (@ 4C)



Stable

Saturation pH (@ 4C)



No trend identified

Legend:

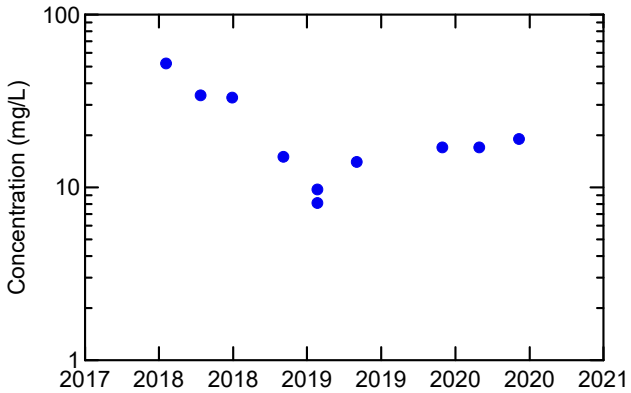
● Detected result ○ Non-Detect

— — Canadian Drinking Water Quality Guidelines: Maximum Acceptable

WELL MW-01C
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

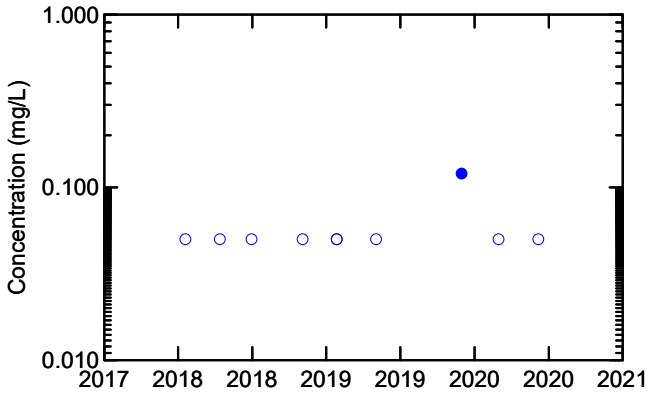
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Total Alkalinity (Total as CaCO3)



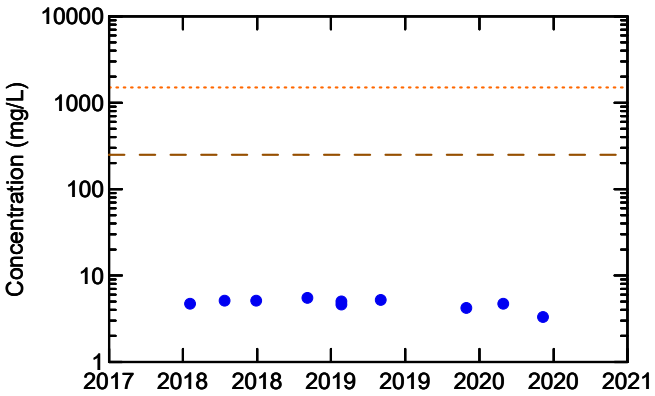
Stable

Nitrogen (Ammonia Nitrogen)



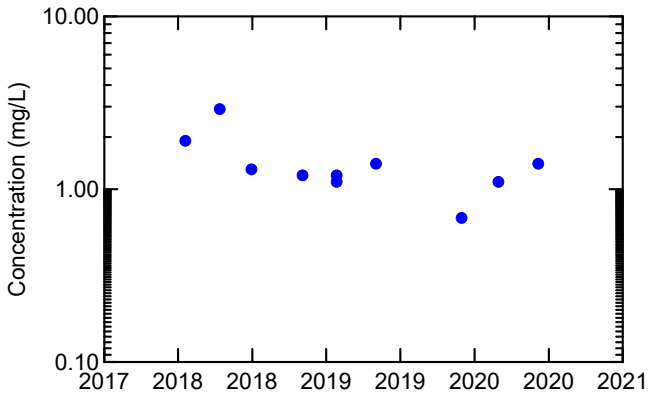
Over 50% non-detects

Dissolved Chloride



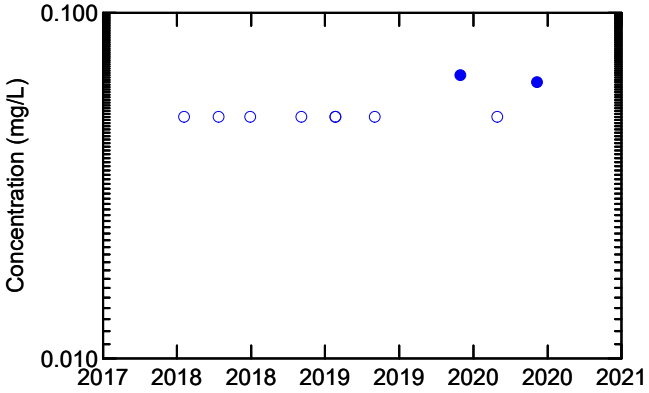
Stable

Total Organic Carbon



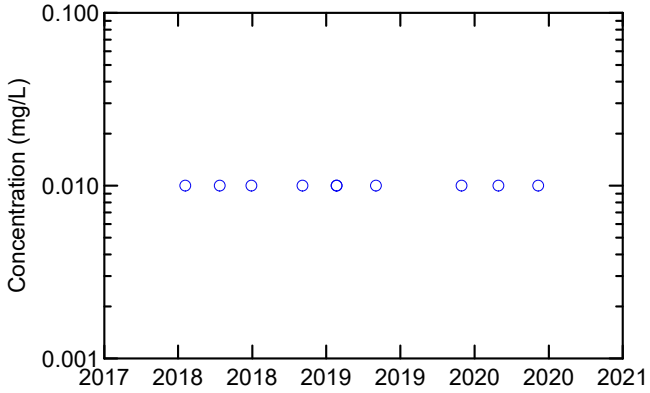
Stable

Nitrate + Nitrite



Over 50% non-detects

Orthophosphate



No detected results

Legend:

● Detected result ○ Non-Detect

····· Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:
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WELL MW-01C
INORGANICS
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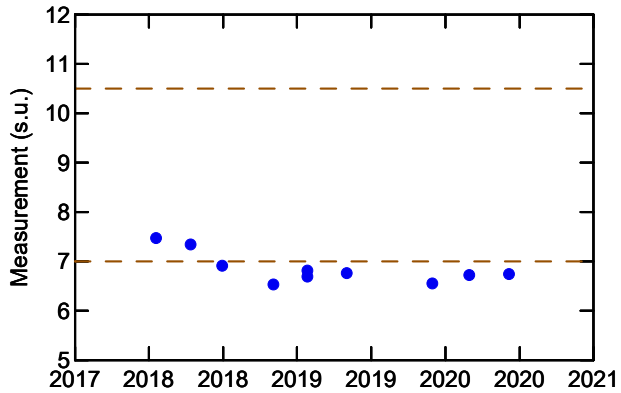
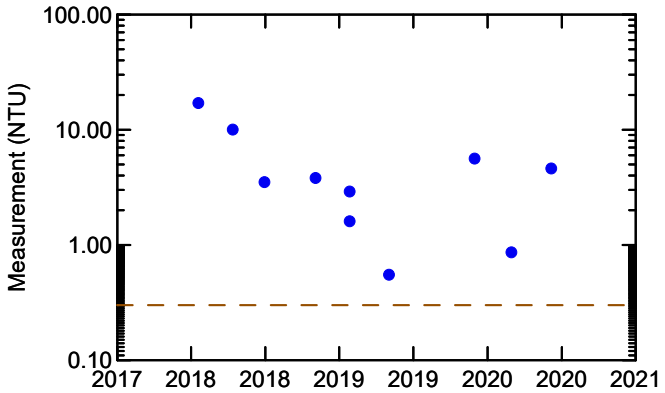
BEAVER DAM MINE
Marinette, Nova Scotia

pH



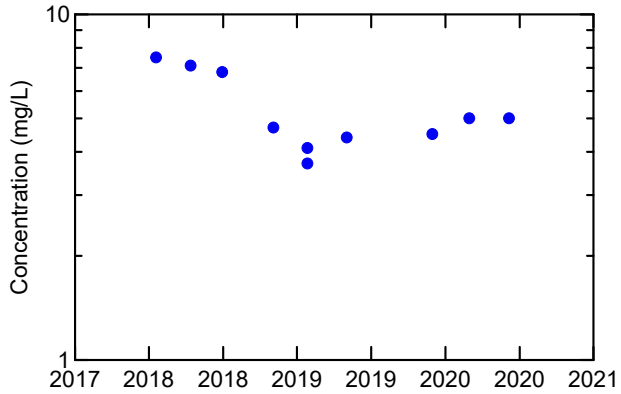
Stable

Turbidity



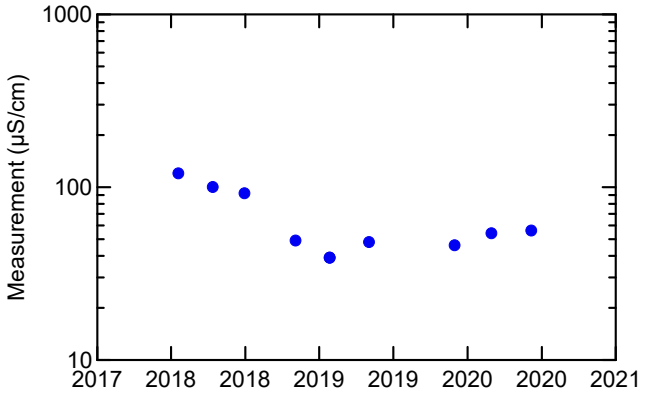
No trend identified

Reactive Silica (SiO2)



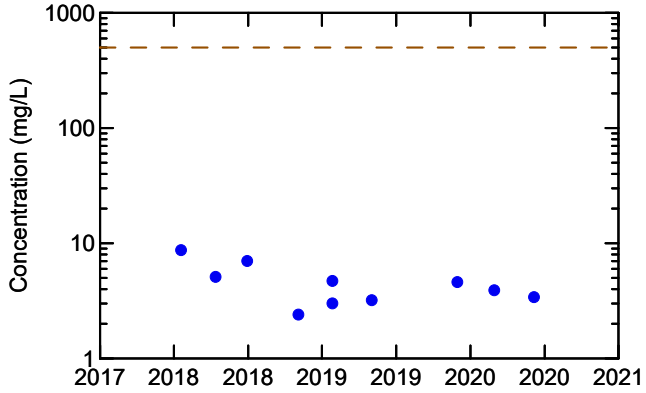
Stable

Conductivity



Probably Decreasing

Dissolved Sulphate (SO4)



Stable

Legend:

● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines: Aesthetic

WELL MW-01C
INORGANICS
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BEAVER DAM MINE
Marinette, Nova Scotia

Notes:
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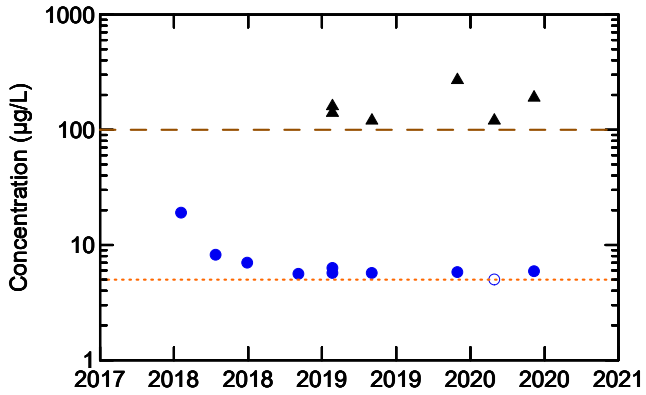
Non-detects are plotted at the reporting limit.

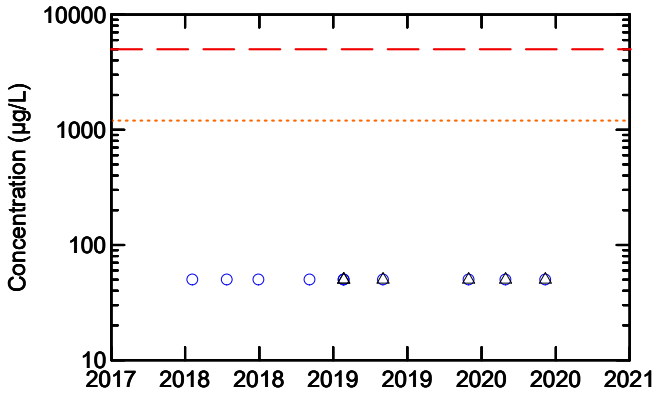
Aluminum



Total: No trend identified

Dissolved: Decreasing Trend

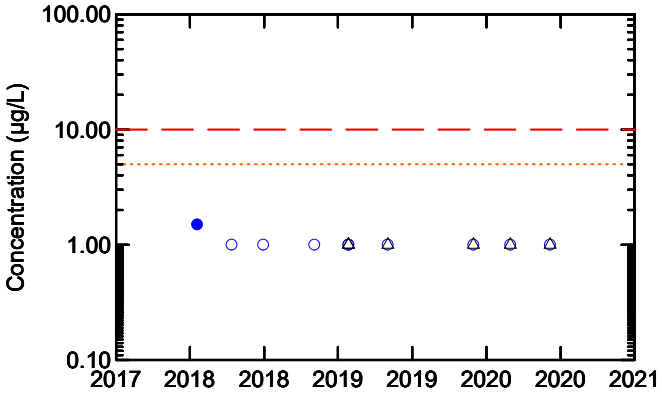
Boron



Total: No detected results

Dissolved: No detected results

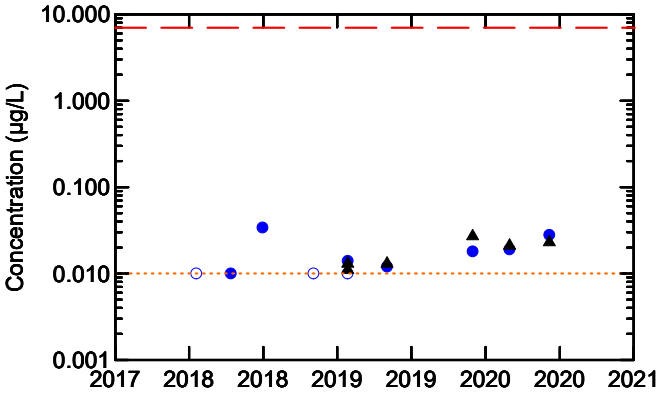
Arsenic



Total: No detected results

Dissolved: Over 50% non-detects

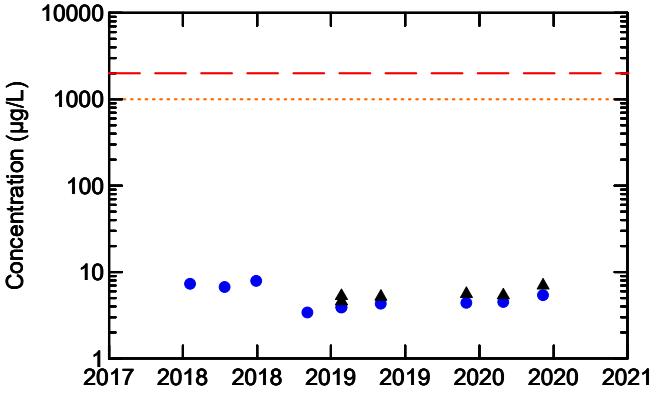
Cadmium



Total: No trend identified

Dissolved: Probably Increasing

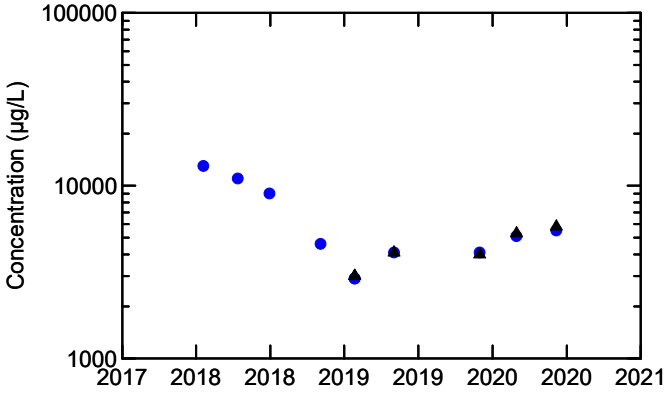
Barium



Total: Probably Increasing

Dissolved: Stable

Calcium



Total: Probably Increasing

Dissolved: Stable

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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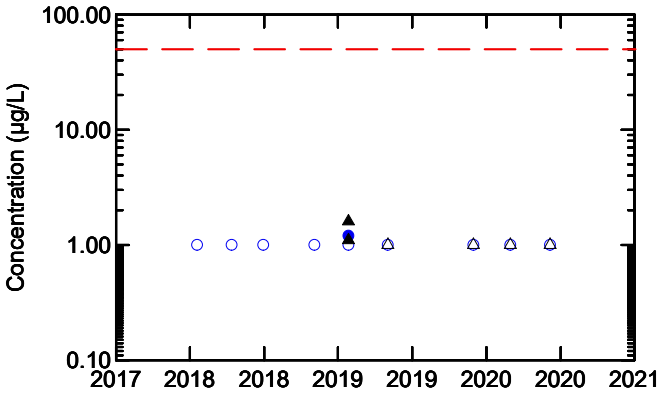
WELL MW-01C
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

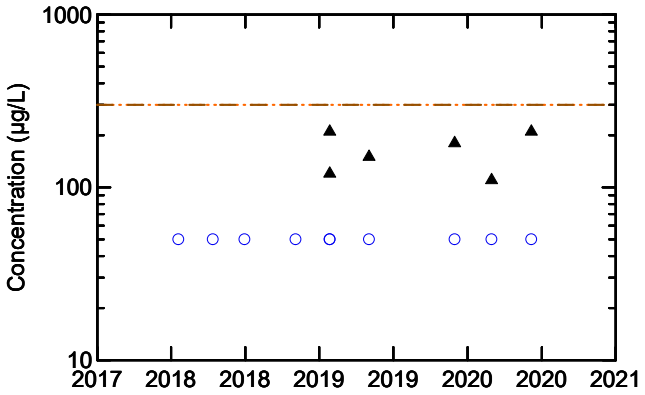
Chromium



Total: Over 50% non-detects

Dissolved: Over 50% non-detects

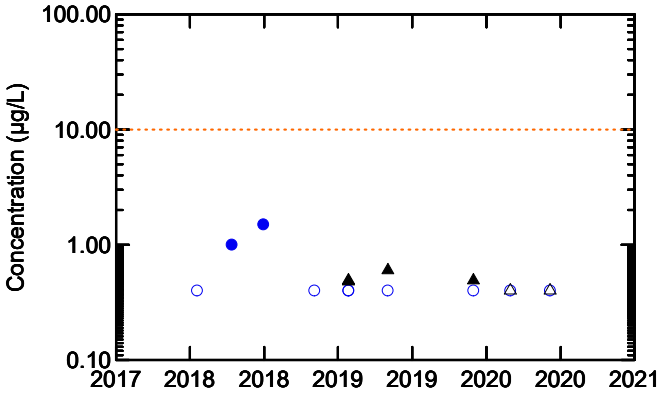
Iron



Total: No trend identified

Dissolved: No detected results

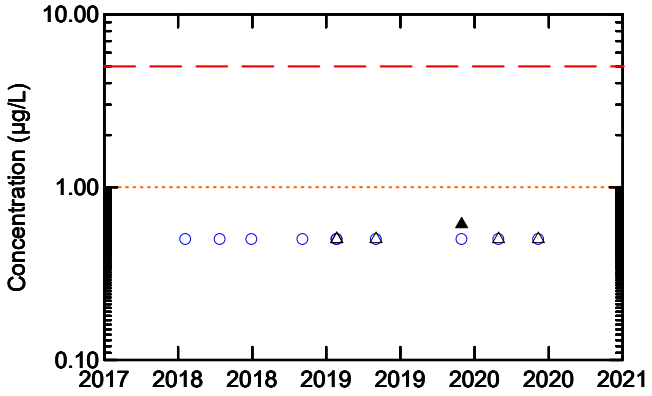
Cobalt



Total: Stable

Dissolved: Over 50% non-detects

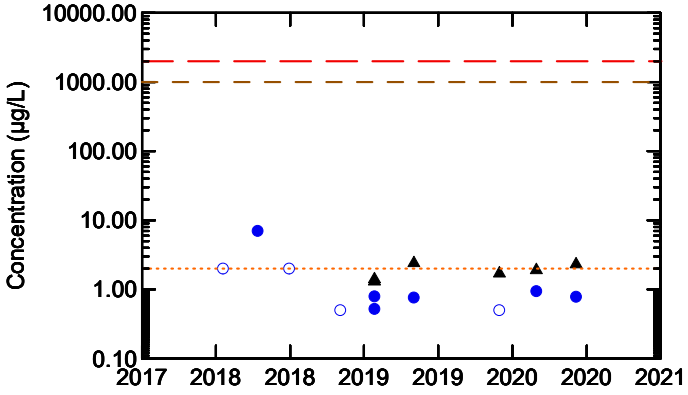
Lead



Total: Over 50% non-detects

Dissolved: No detected results

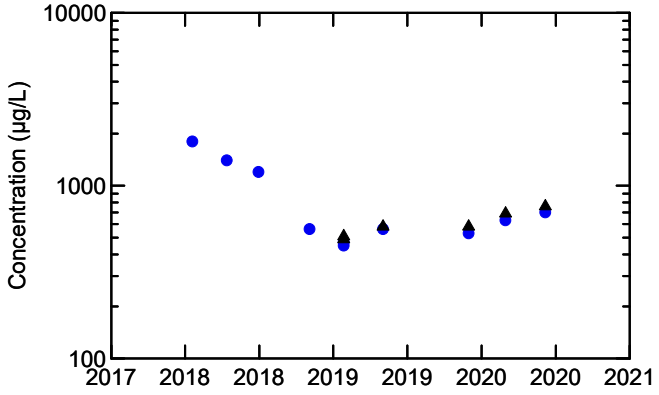
Copper



Total: No trend identified

Dissolved: No trend identified

Magnesium



Total: Increasing Trend

Dissolved: Stable

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

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Notes:

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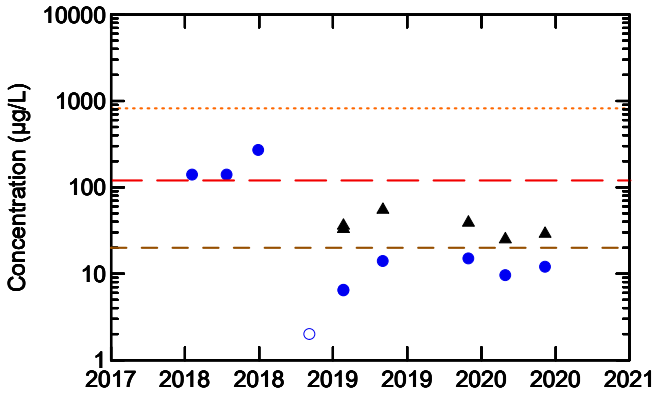
WELL MW-01C
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

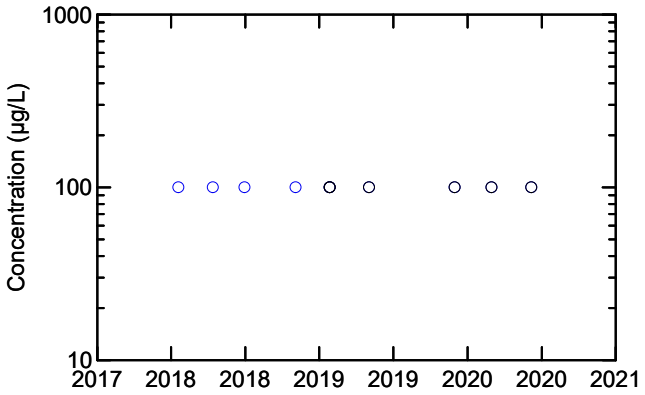
Manganese



Total: Stable

Dissolved: No trend identified

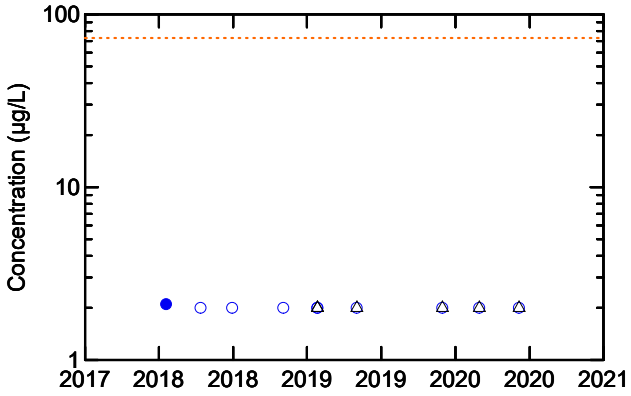
Phosphorus



Total: No detected results

Dissolved: No detected results

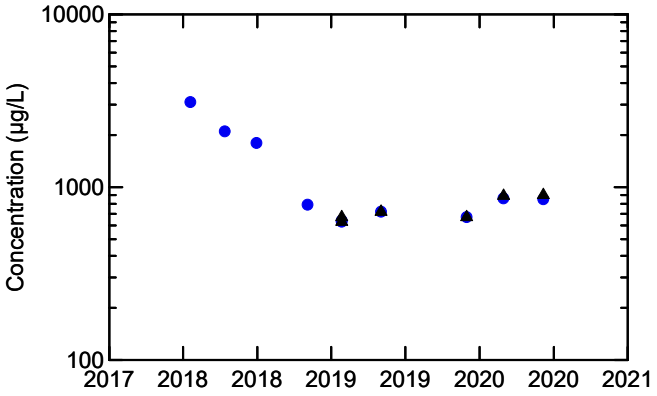
Molybdenum



Total: No detected results

Dissolved: Over 50% non-detects

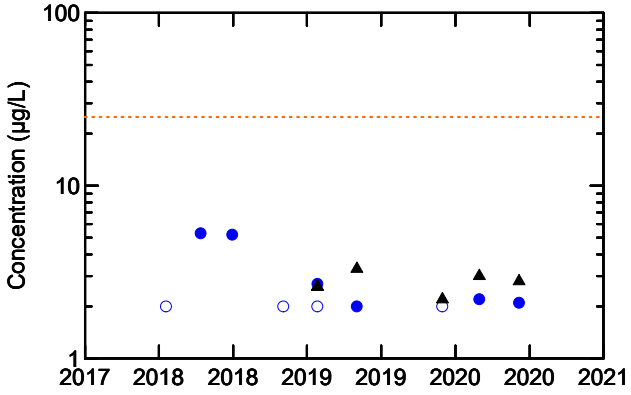
Potassium



Total: Probably Increasing

Dissolved: Stable

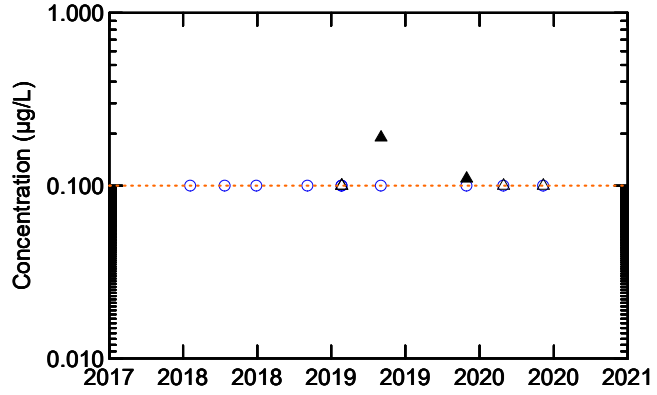
Nickel



Total: Stable

Dissolved: Stable

Silver



Total: Over 50% non-detects

Dissolved: No detected results

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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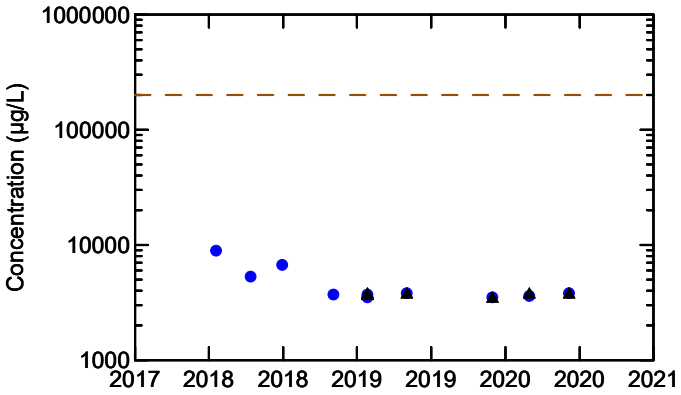
WELL MW-01C
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

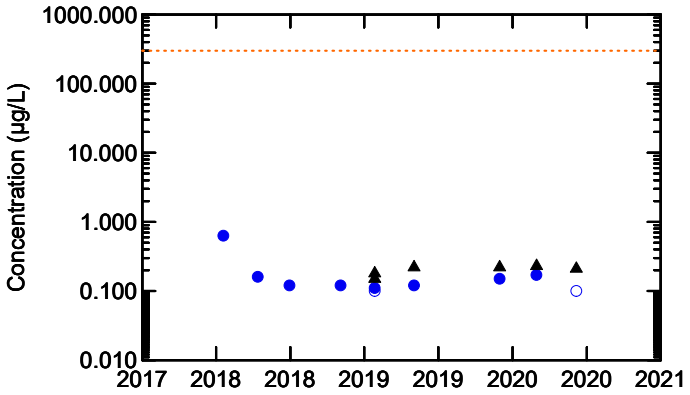
Sodium



Total: No trend identified

Dissolved: Probably Decreasing

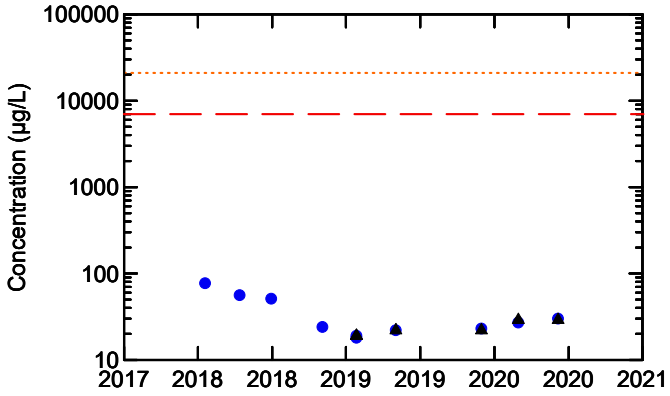
Uranium



Total: No trend identified

Dissolved: Stable

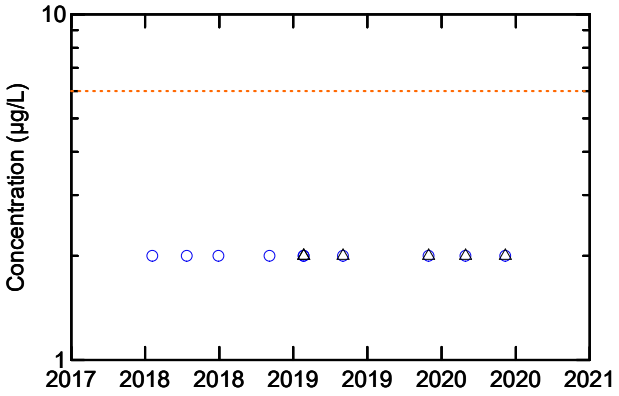
Strontium



Total: Probably Increasing

Dissolved: Stable

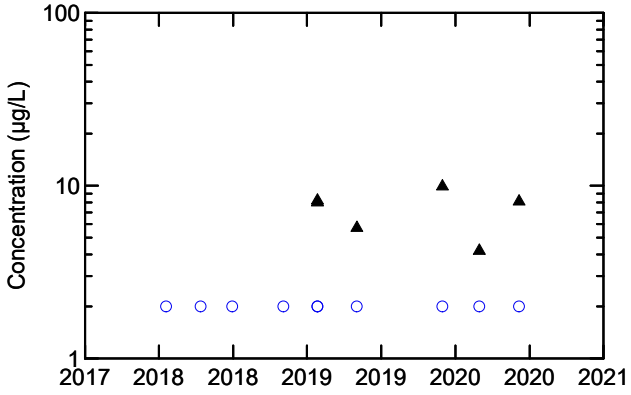
Vanadium



Total: No detected results

Dissolved: No detected results

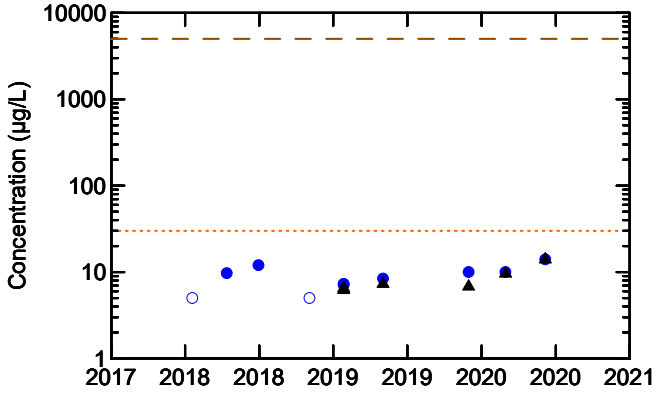
Titanium



Total: Stable

Dissolved: No detected results

Zinc



Total: Probably Increasing

Dissolved: Probably Increasing

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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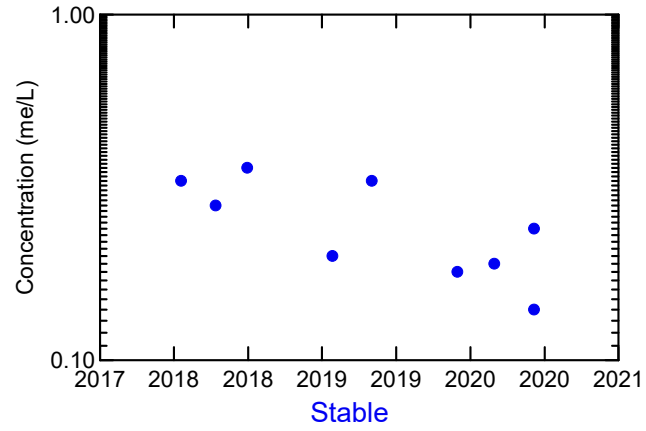
Non-detects are plotted at the reporting limit.

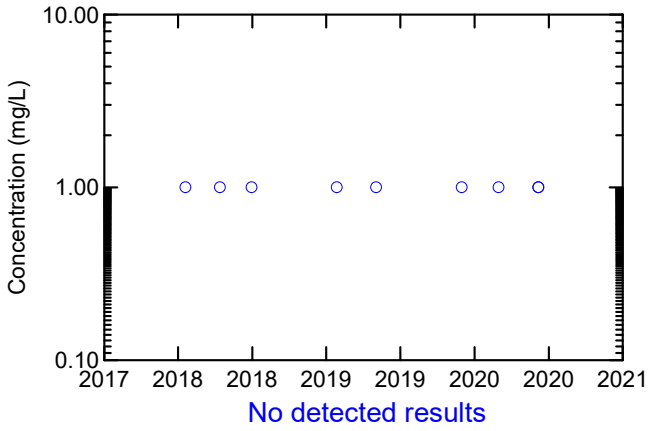
WELL MW-01C
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Anion Sum



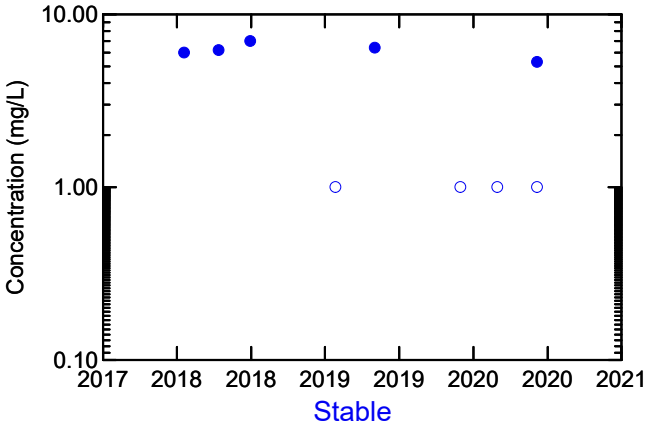
Stable

Carb. Alkalinity (calc. as CaCO3)



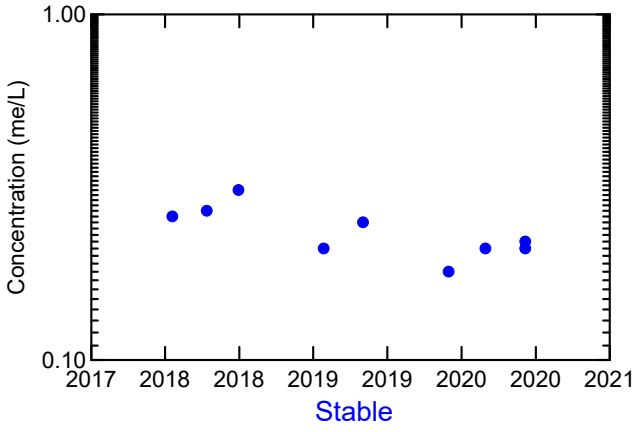
No detected results

Bicarb. Alkalinity (calc. as CaCO3)



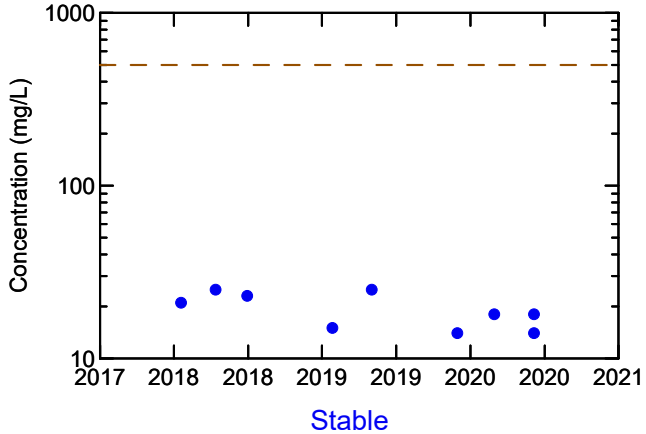
Stable

Cation Sum



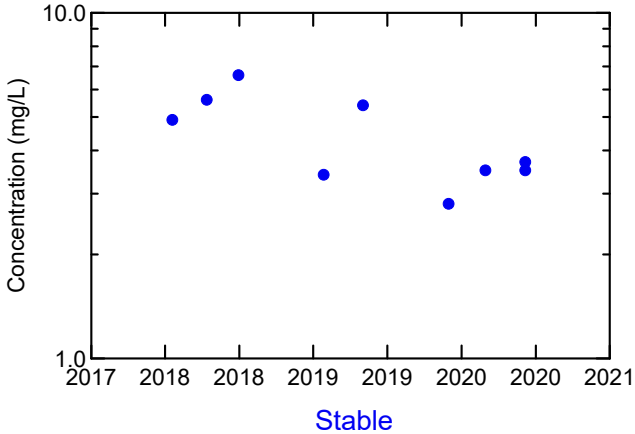
Stable

Calculated TDS



Stable

Hardness (CaCO3)



Stable

Legend:

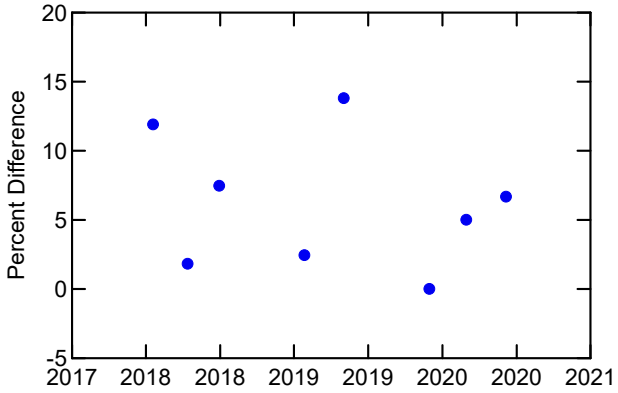
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines - Aesthetic

WELL MW-02A
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

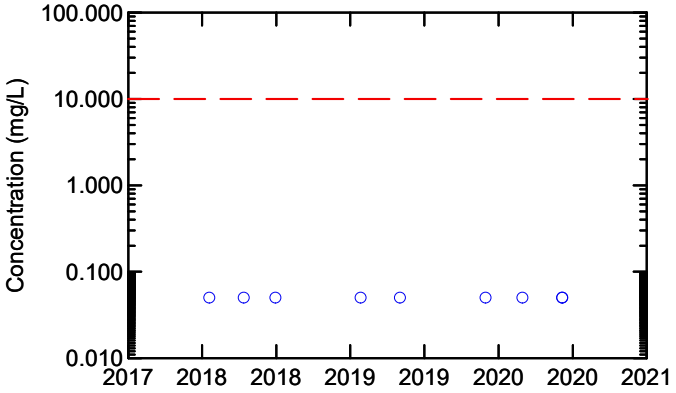
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Ion Balance



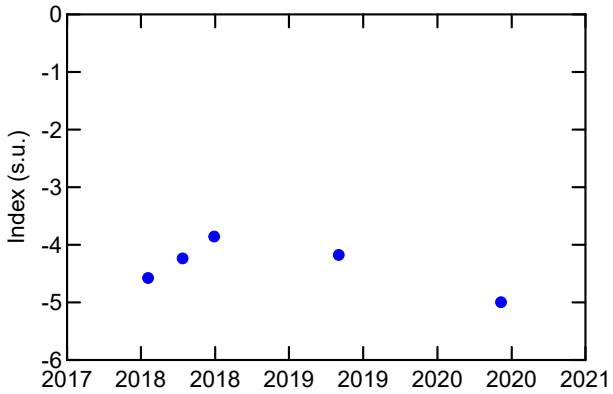
No trend identified

Nitrate



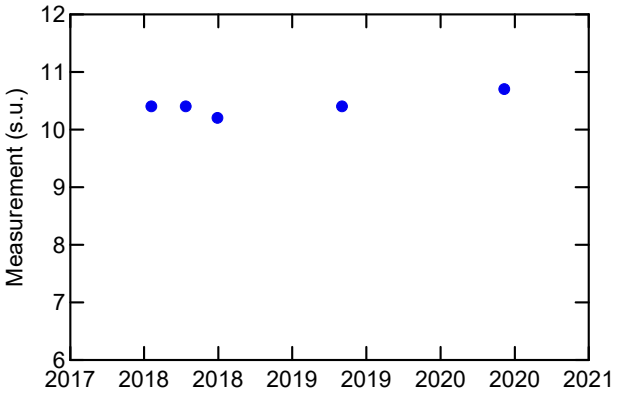
No detected results

Langelier Index (@ 20C)



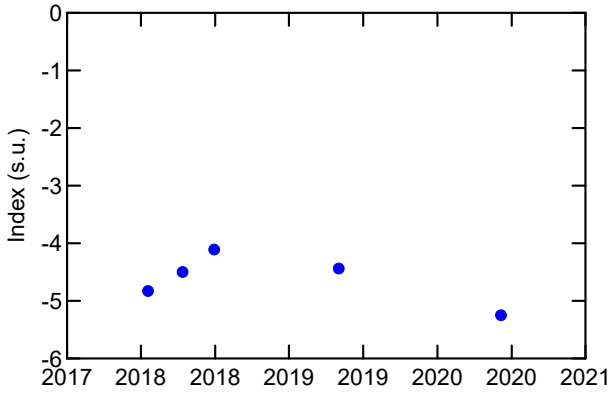
Stable

Saturation pH (@ 20C)



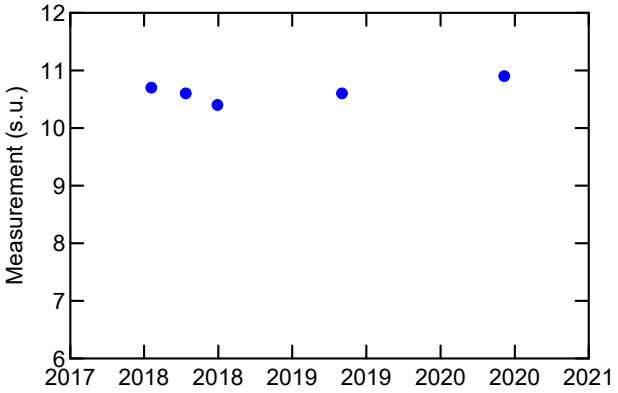
No trend identified

Langelier Index (@ 4C)



Stable

Saturation pH (@ 4C)



No trend identified

Legend:

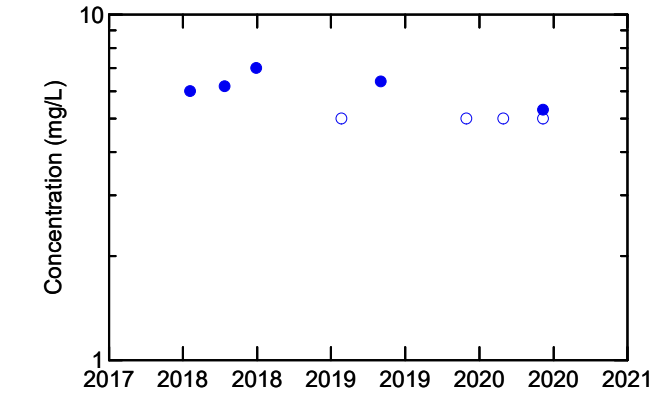
● Detected result ○ Non-Detect

— — Canadian Drinking Water Quality Guidelines: Maximum Acceptable

WELL MW-02A
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

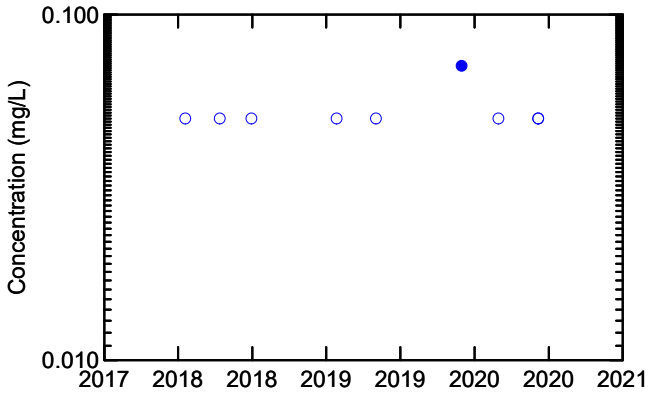
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Total Alkalinity (Total as CaCO3)



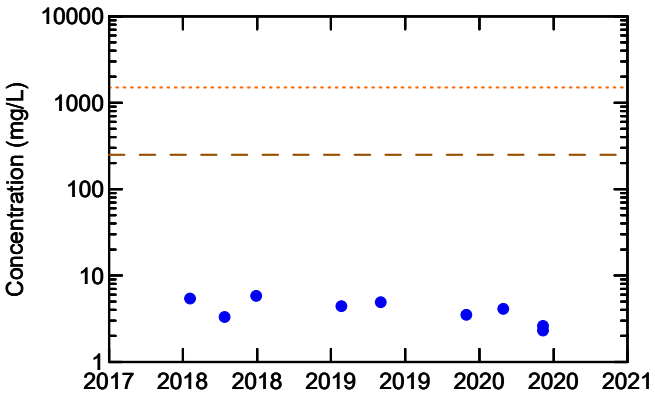
Stable

Nitrogen (Ammonia Nitrogen)



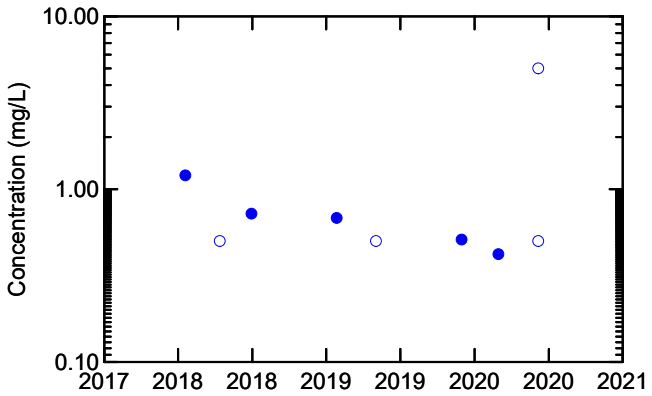
Over 50% non-detects

Dissolved Chloride



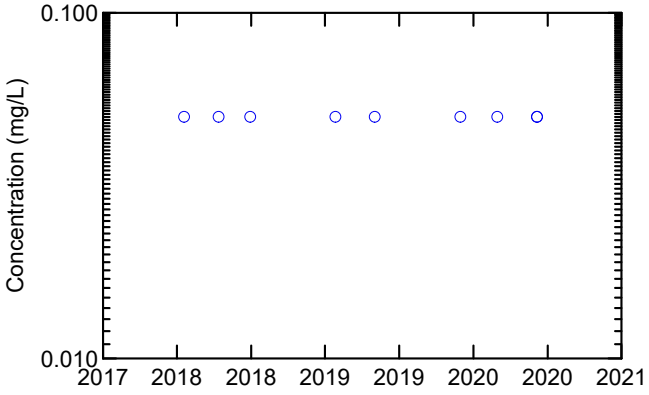
Stable

Total Organic Carbon



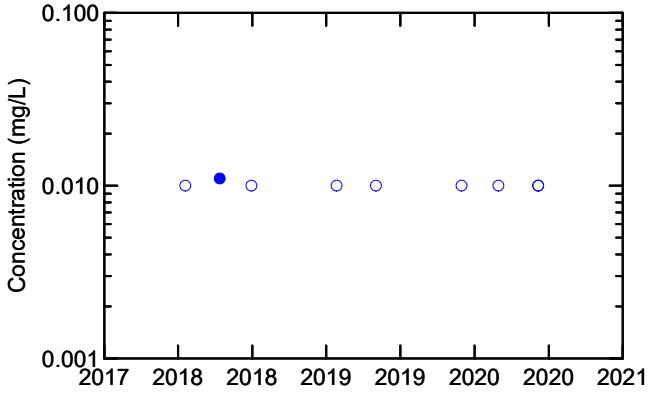
Stable

Nitrate + Nitrite



No detected results

Orthophosphate



Over 50% non-detects

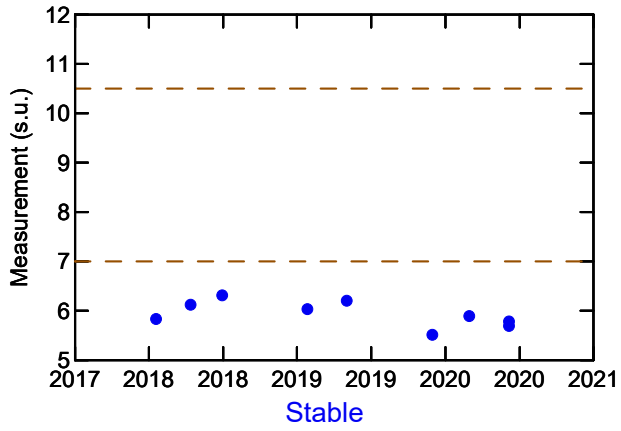
Legend:

- ● Detected result ○ Non-Detect
- ····· Nova Scotia (2014) Pathway-Specific Standard for Groundwater
- — — - Canadian Drinking Water Quality Guideline: Aesthetic

WELL MW-02A
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

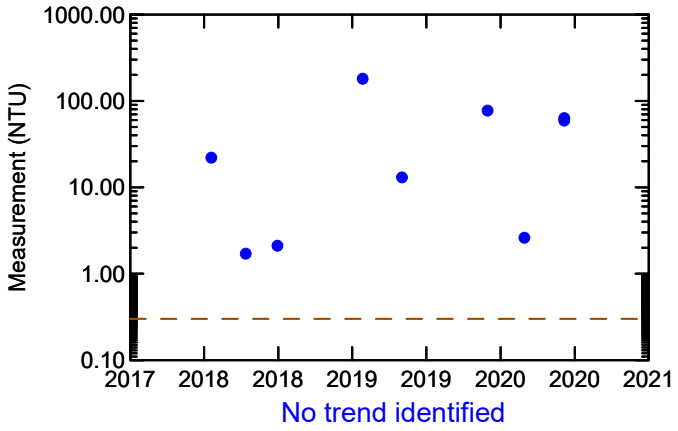
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

pH



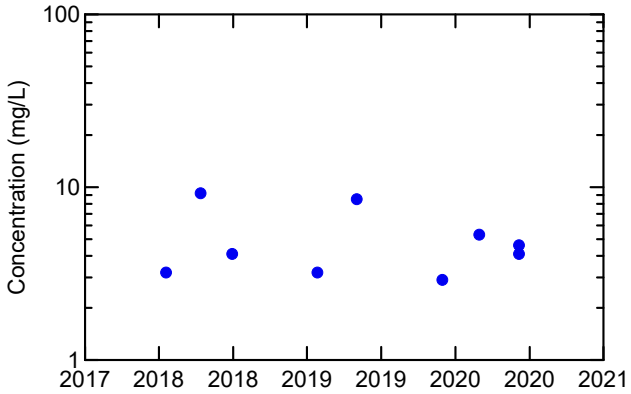
Stable

Turbidity



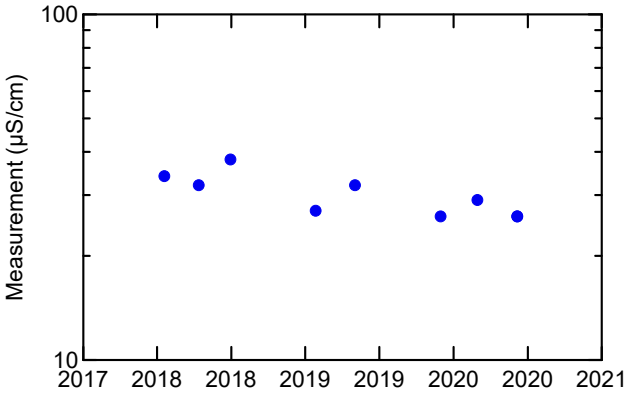
No trend identified

Reactive Silica (SiO2)



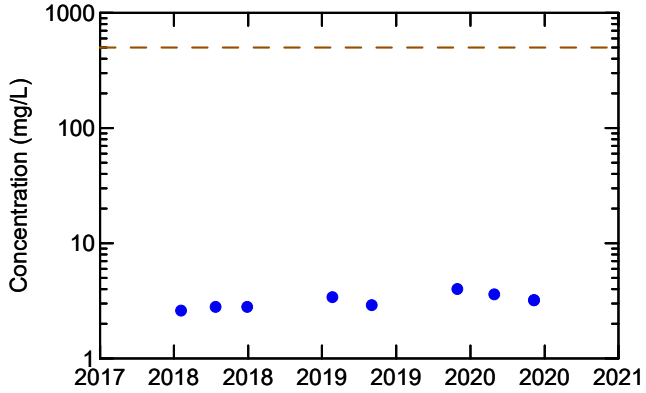
Stable

Conductivity



Probably Decreasing

Dissolved Sulphate (SO4)



Stable

Legend:

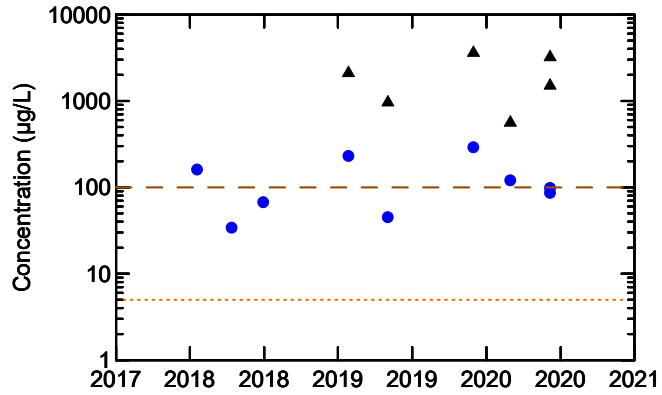
● Detected result ○ Non-Detect

– – - Canadian Drinking Water Quality Guidelines: Aesthetic

WELL MW-02A
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

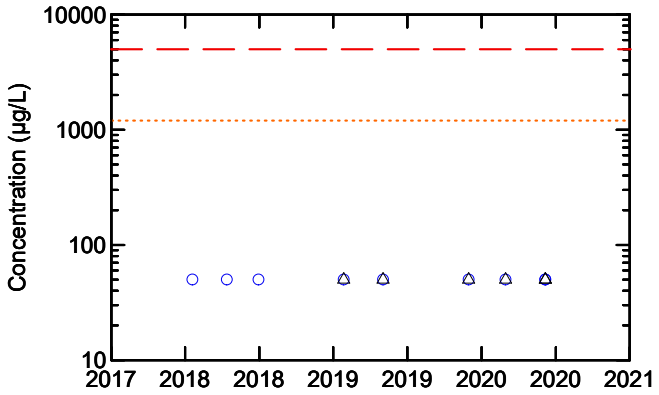
Aluminum



Total: Stable

Dissolved: No trend identified

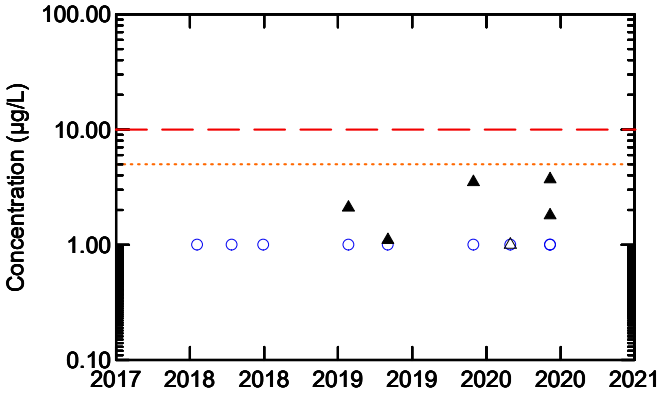
Boron



Total: No detected results

Dissolved: No detected results

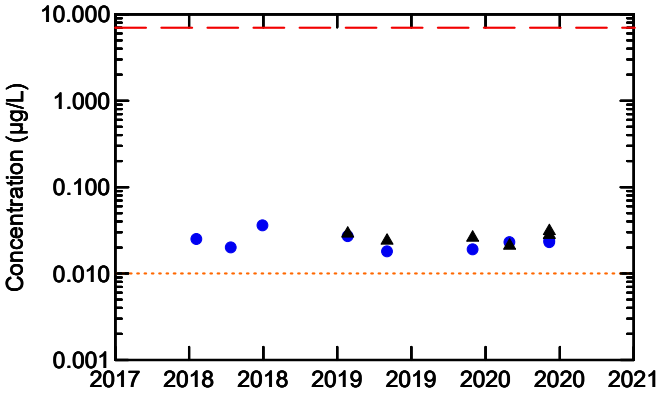
Arsenic



Total: Stable

Dissolved: No detected results

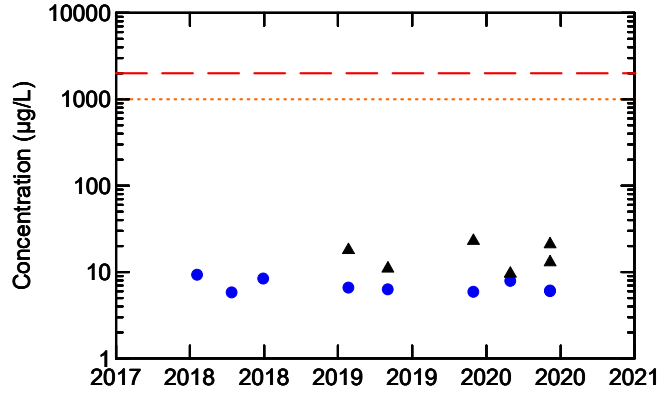
Cadmium



Total: Stable

Dissolved: Stable

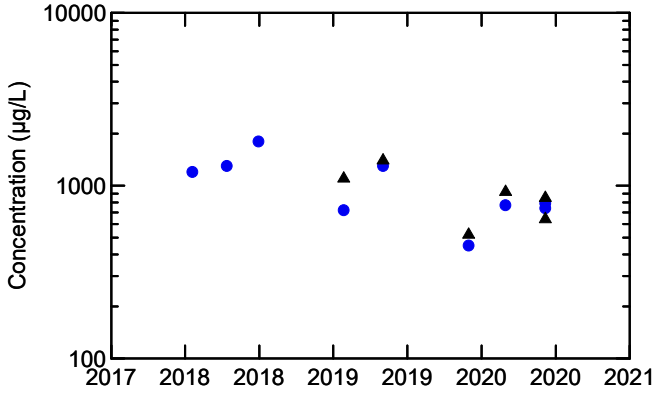
Barium



Total: Stable

Dissolved: Stable

Calcium



Total: Stable

Dissolved: Stable

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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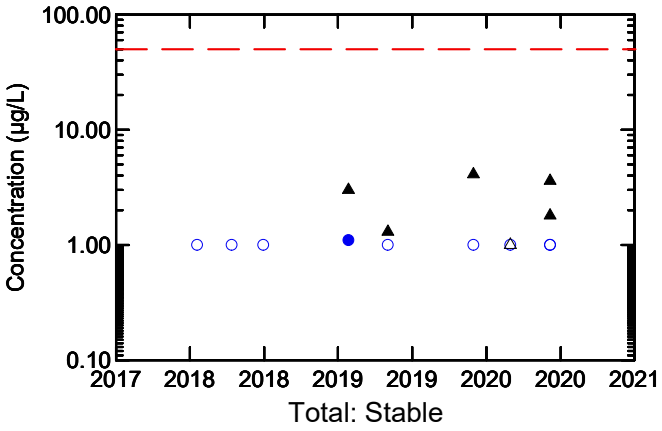
Non-detects are plotted at the reporting limit.

WELL MW-02A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

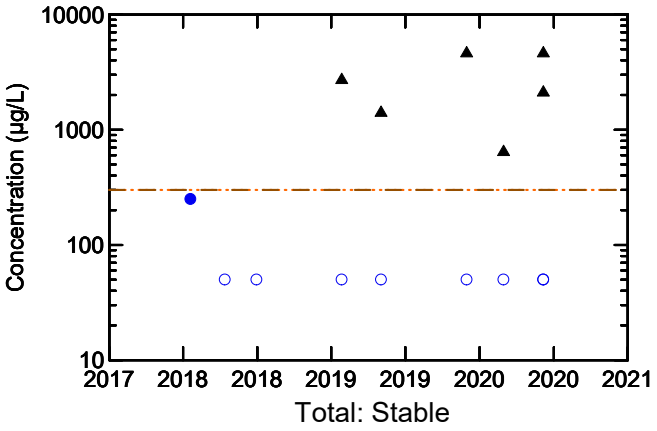
Chromium



Total: Stable

Dissolved: Over 50% non-detects

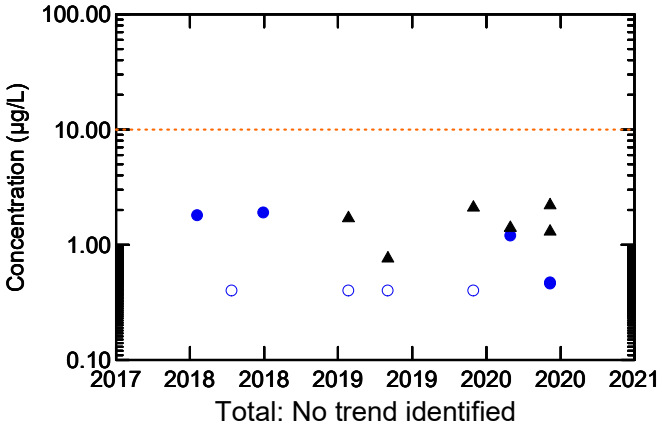
Iron



Total: Stable

Dissolved: Over 50% non-detects

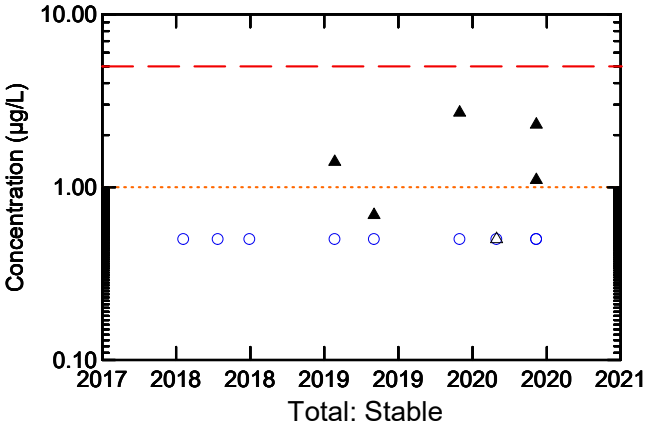
Cobalt



Total: No trend identified

Dissolved: Stable

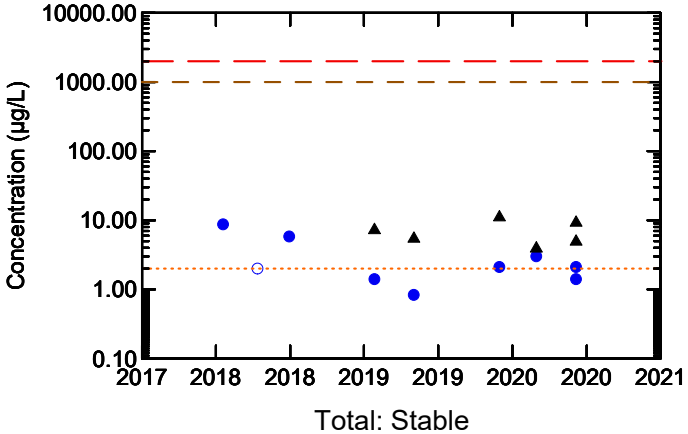
Lead



Total: Stable

Dissolved: No detected results

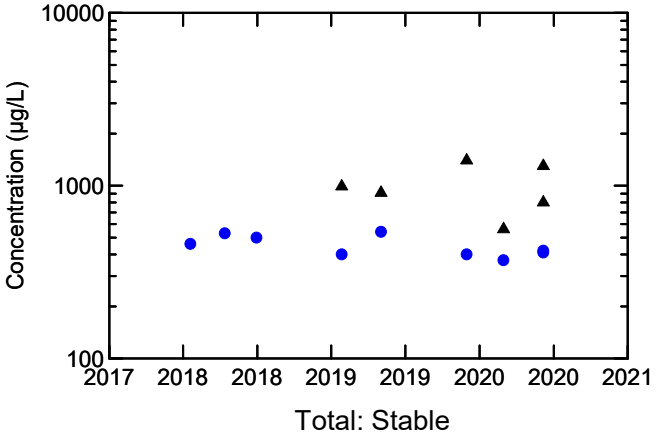
Copper



Total: Stable

Dissolved: Stable

Magnesium



Total: Stable

Dissolved: Stable

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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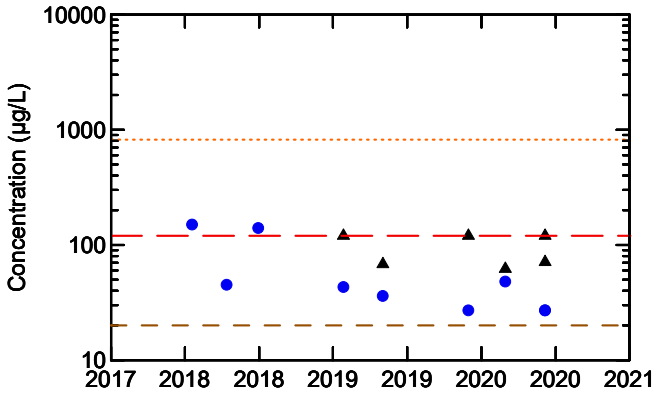
WELL MW-02A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

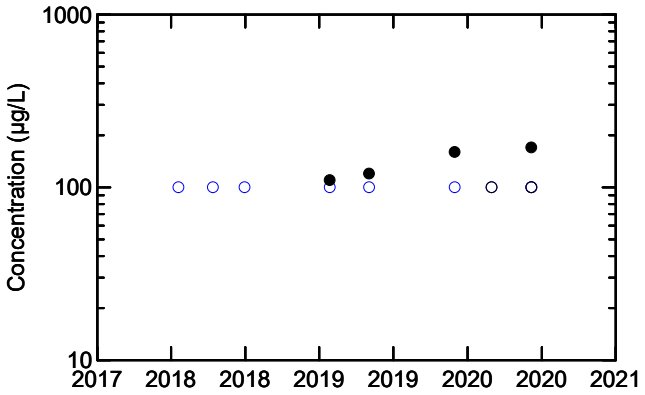
Manganese



Total: Stable

Dissolved: Decreasing Trend

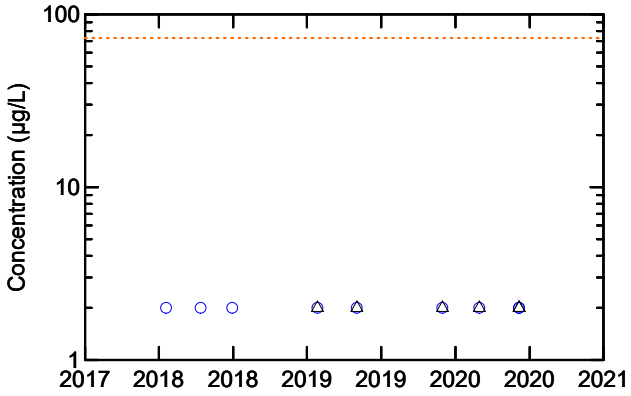
Phosphorus



Total: No trend identified

Dissolved: No detected results

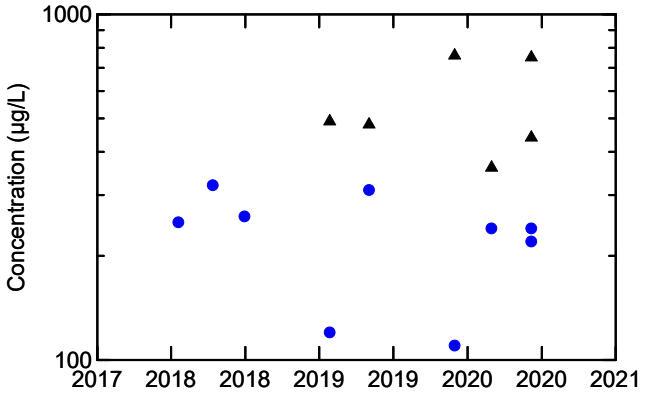
Molybdenum



Total: No detected results

Dissolved: No detected results

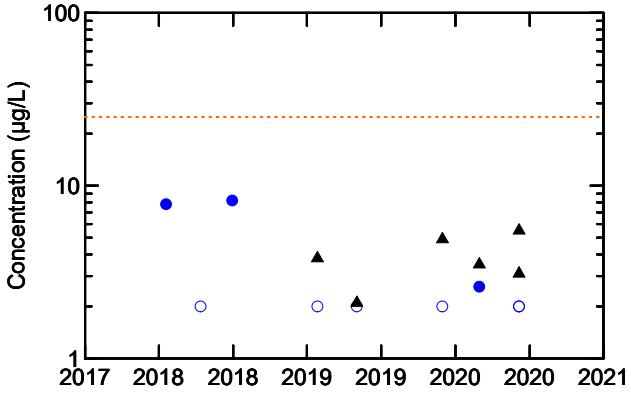
Potassium



Total: Stable

Dissolved: Stable

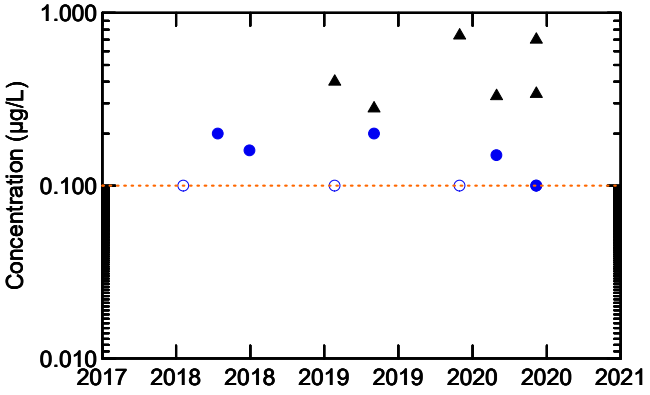
Nickel



Total: No trend identified

Dissolved: Over 50% non-detects

Silver



Total: No trend identified

Dissolved: Stable

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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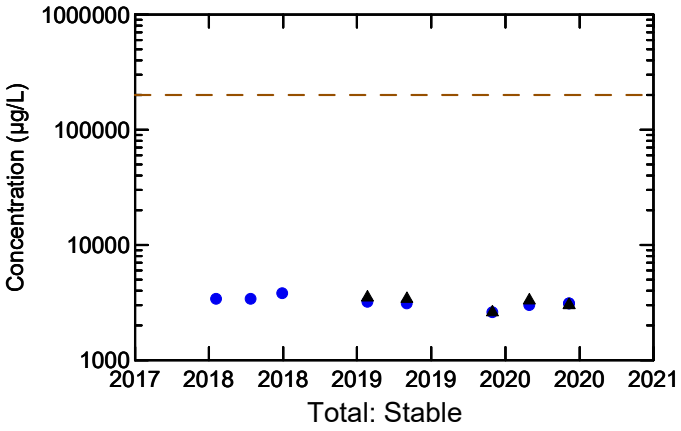
Non-detects are plotted at the reporting limit.

WELL MW-02A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

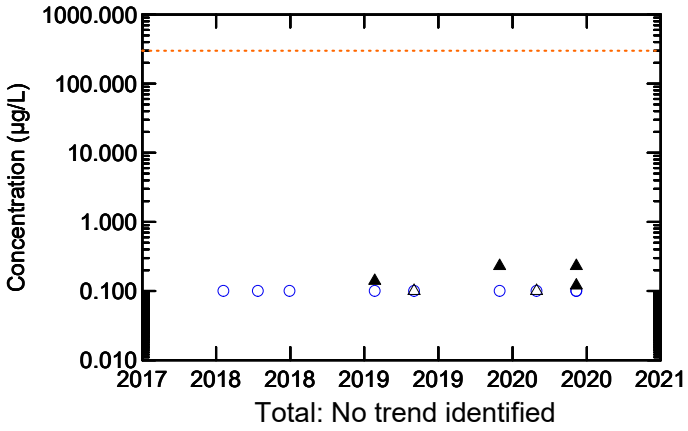
Sodium



Total: Stable

Dissolved: Probably Decreasing

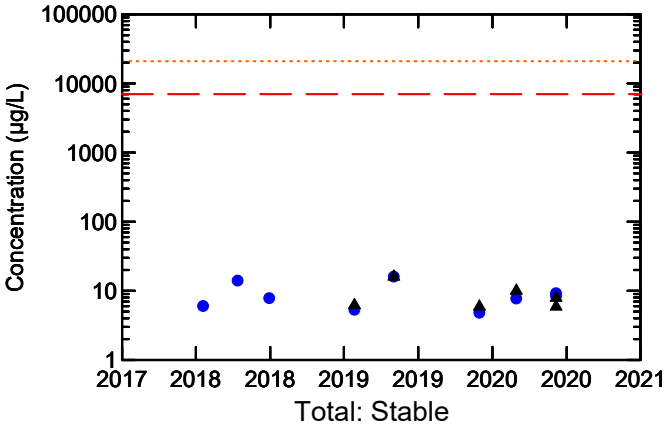
Uranium



Total: No trend identified

Dissolved: No detected results

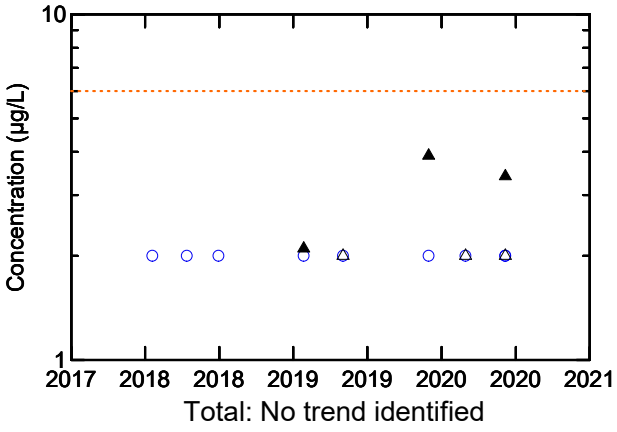
Strontium



Total: Stable

Dissolved: Stable

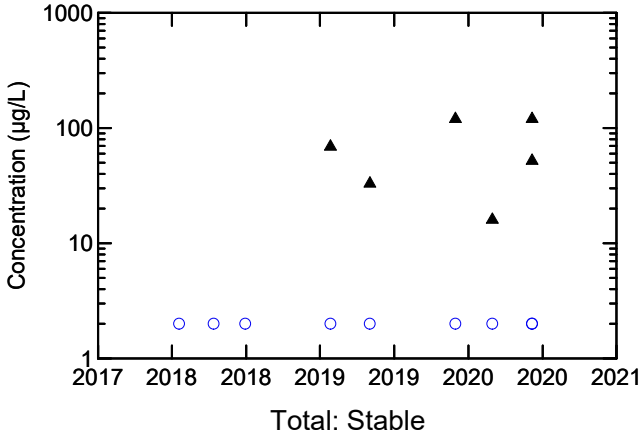
Vanadium



Total: No trend identified

Dissolved: No detected results

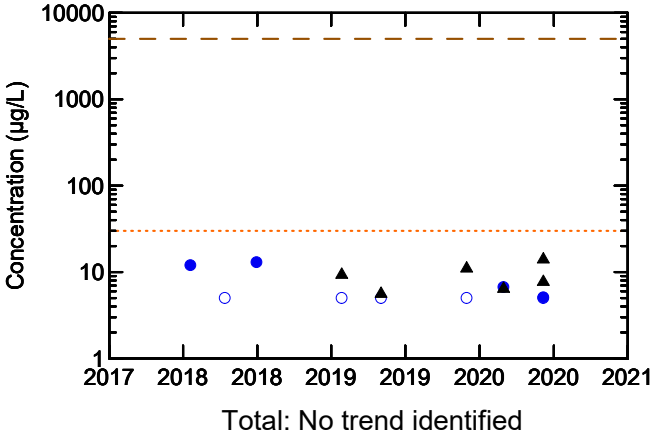
Titanium



Total: Stable

Dissolved: No detected results

Zinc



Total: No trend identified

Dissolved: Stable

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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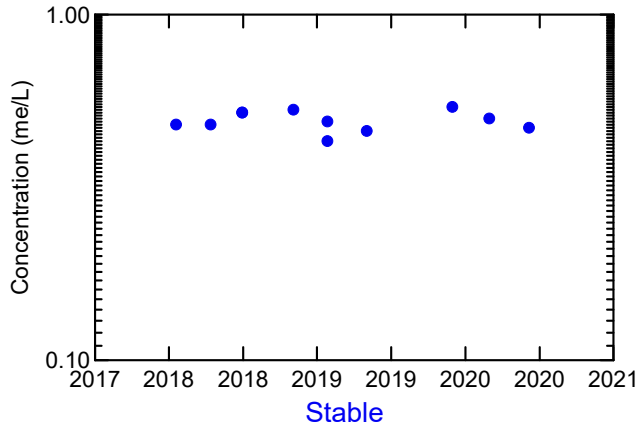
Non-detects are plotted at the reporting limit.

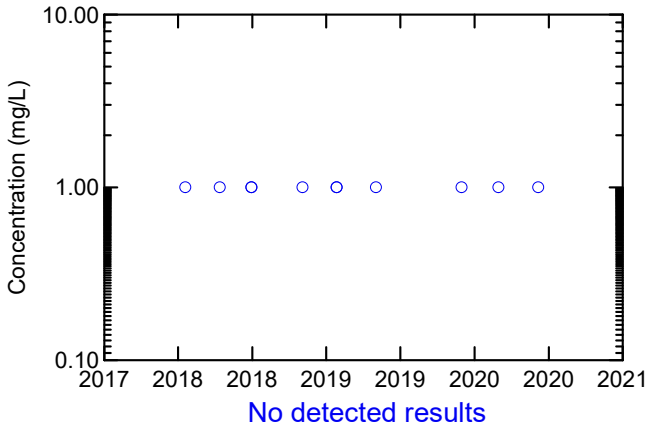
WELL MW-02A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Anion Sum



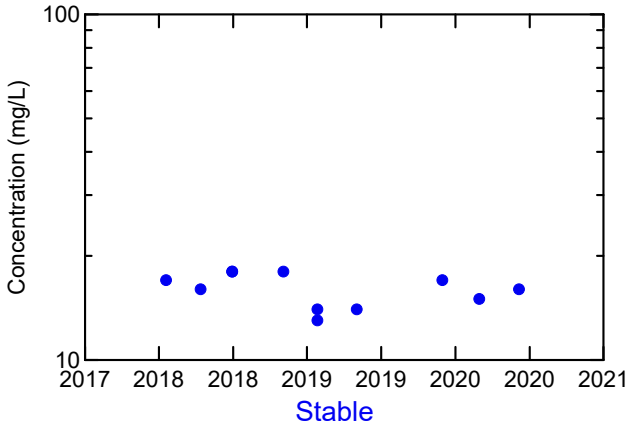
Stable

Carb. Alkalinity (calc. as CaCO3)



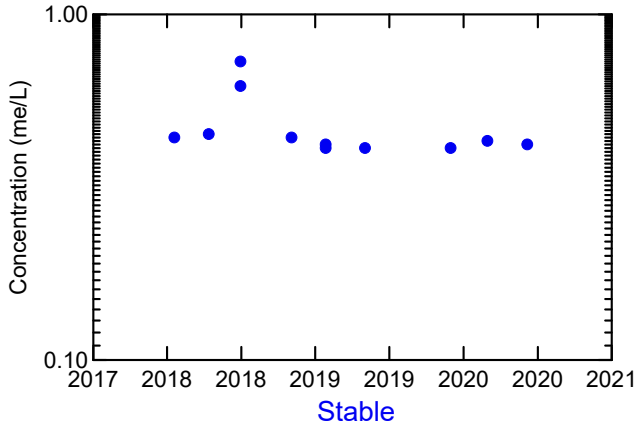
No detected results

Bicarb. Alkalinity (calc. as CaCO3)



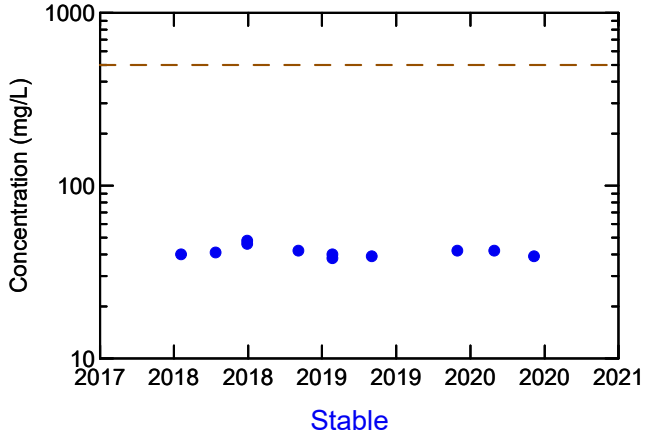
Stable

Cation Sum



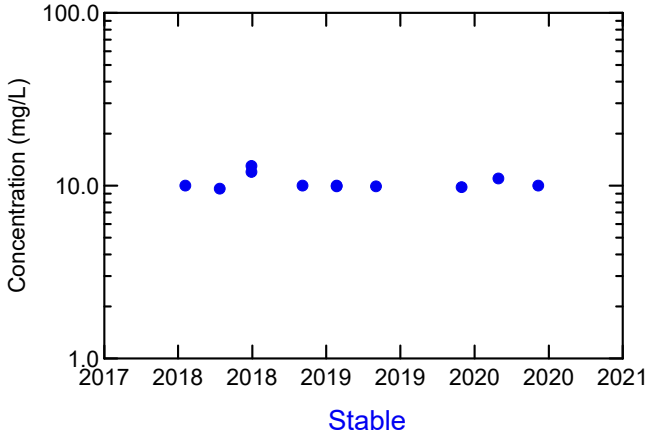
Stable

Calculated TDS



Stable

Hardness (CaCO3)



Stable

Legend:

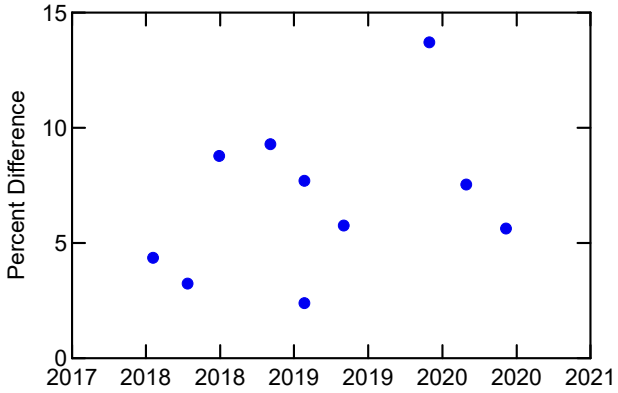
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines - Aesthetic

WELL MW-02B
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

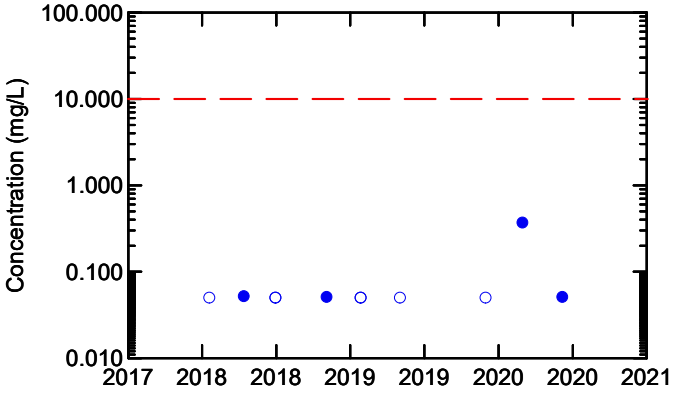
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Ion Balance



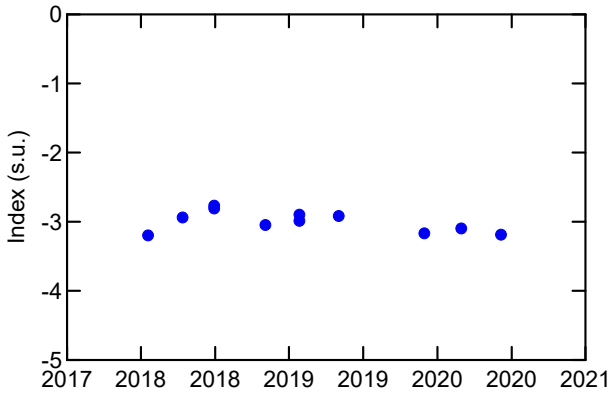
No trend identified

Nitrate



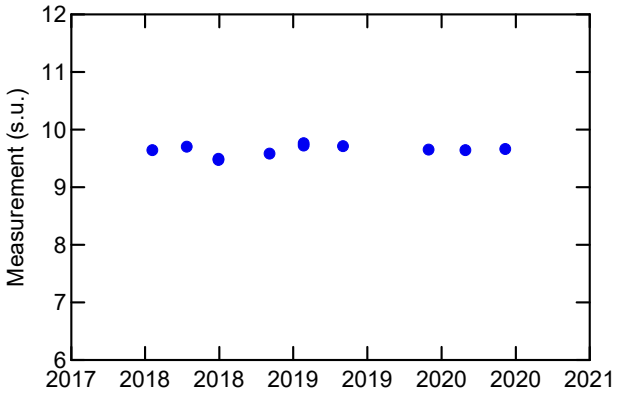
Over 50% non-detects

Langelier Index (@ 20C)



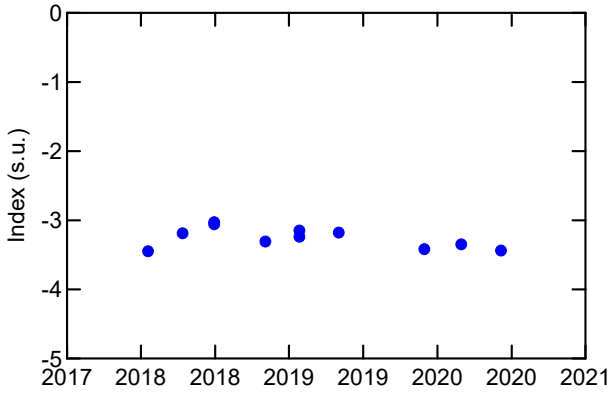
Stable

Saturation pH (@ 20C)



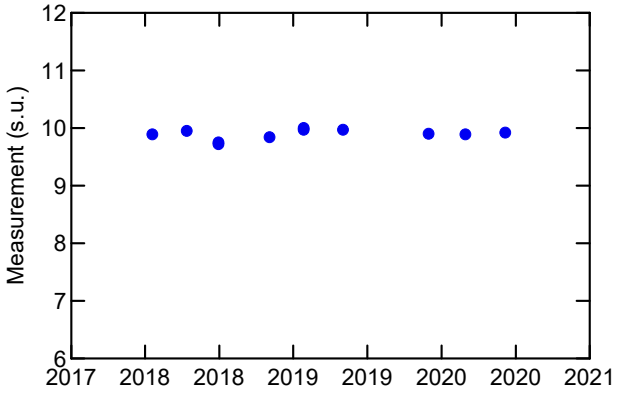
No trend identified

Langelier Index (@ 4C)



Stable

Saturation pH (@ 4C)



No trend identified

Legend:

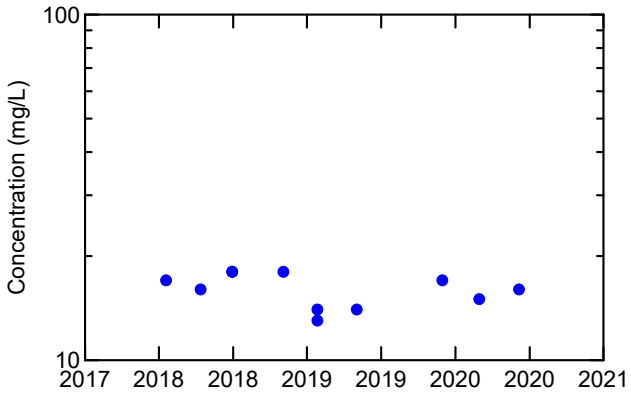
● Detected result ○ Non-Detect

— — Canadian Drinking Water Quality Guidelines: Maximum Acceptable

WELL MW-02B
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

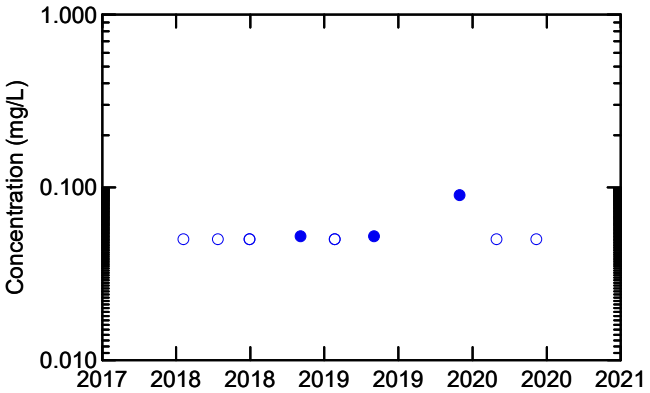
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Total Alkalinity (Total as CaCO3)



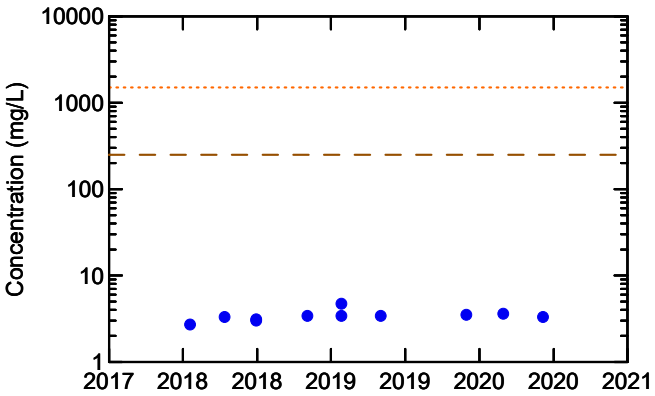
Stable

Nitrogen (Ammonia Nitrogen)



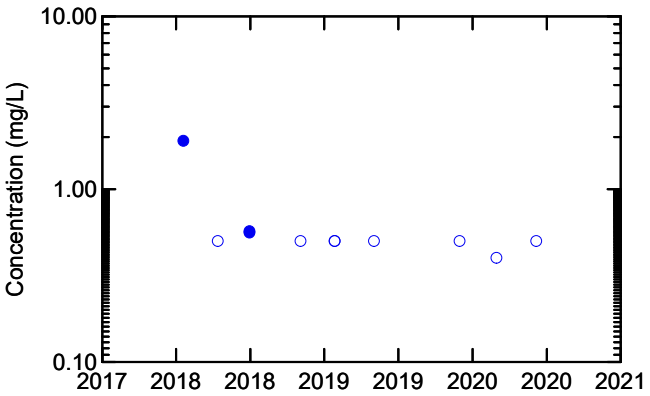
Over 50% non-detects

Dissolved Chloride



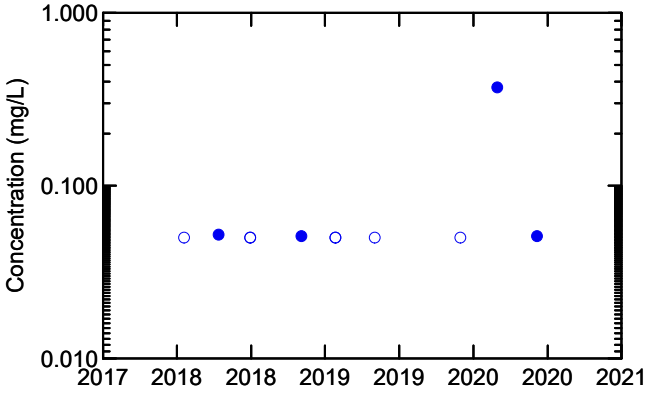
No trend identified

Total Organic Carbon



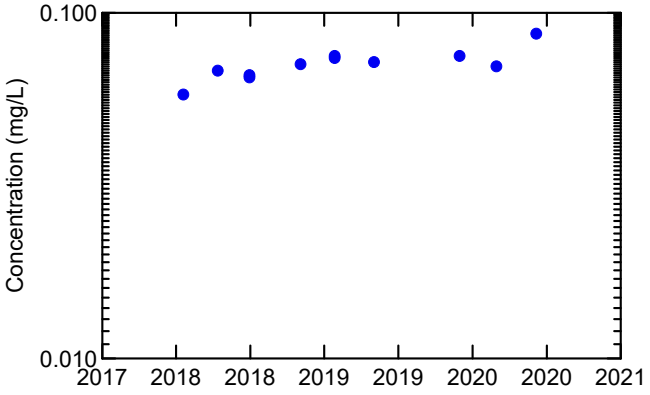
Over 50% non-detects

Nitrate + Nitrite



Over 50% non-detects

Orthophosphate



Increasing Trend

Legend:

● Detected result ○ Non-Detect

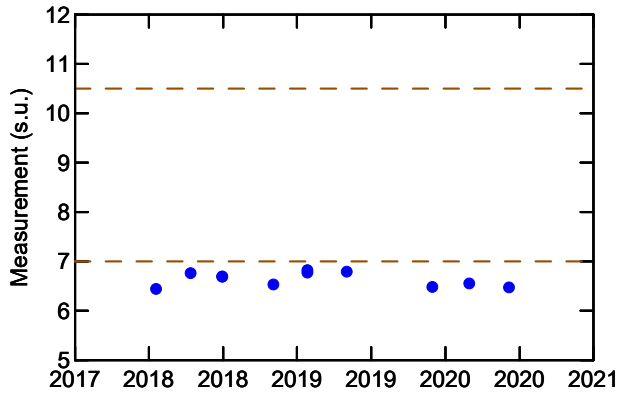
Nova Scotia (2014) Pathway-Specific Standard for Groundwater

Canadian Drinking Water Quality Guideline: Aesthetic

Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

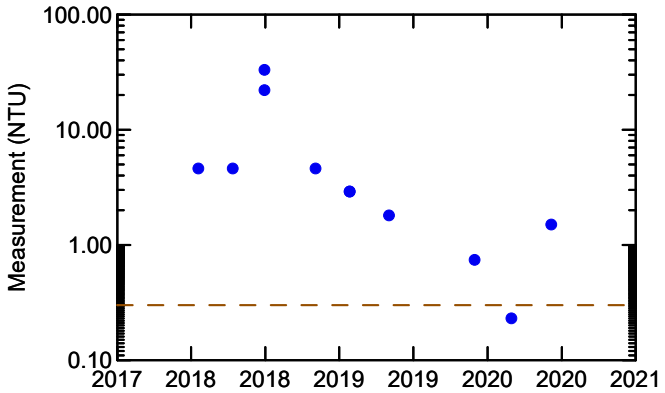
WELL MW-02B
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

pH



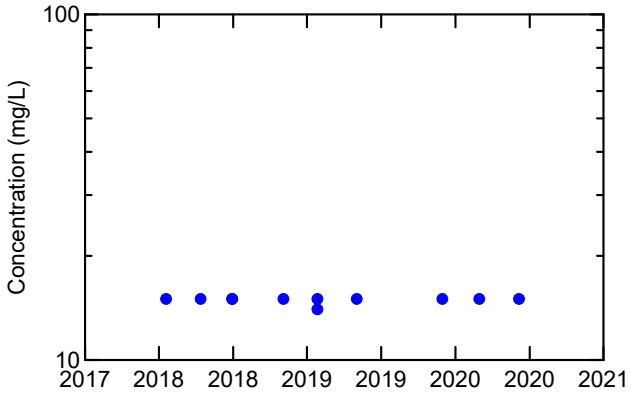
Stable

Turbidity



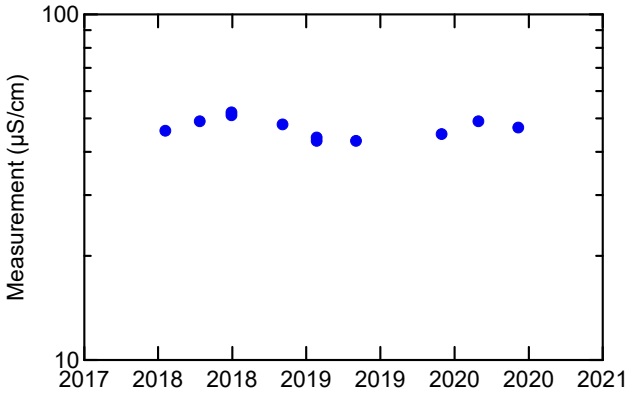
No trend identified

Reactive Silica (SiO2)



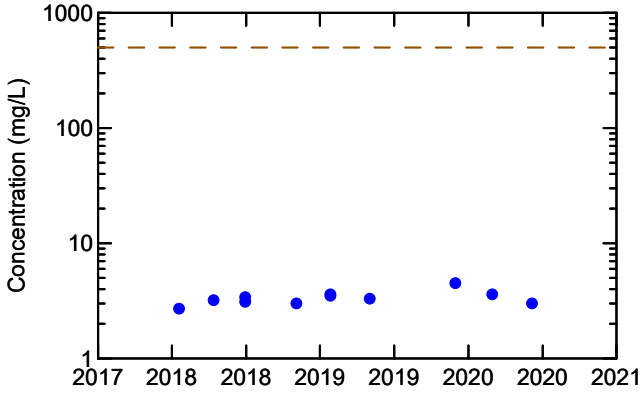
Stable

Conductivity



Probably Decreasing

Dissolved Sulphate (SO4)



Stable

Legend:

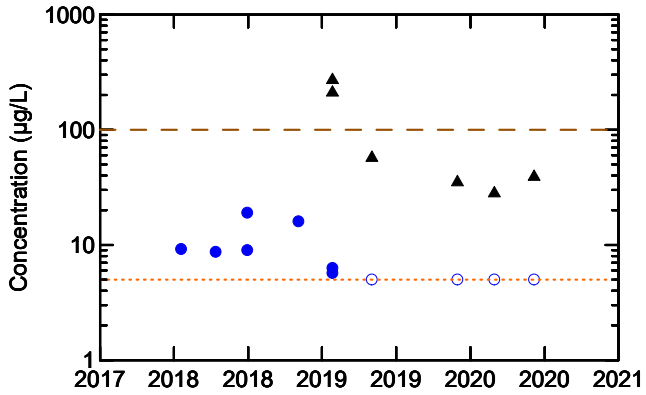
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines: Aesthetic

WELL MW-02B
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

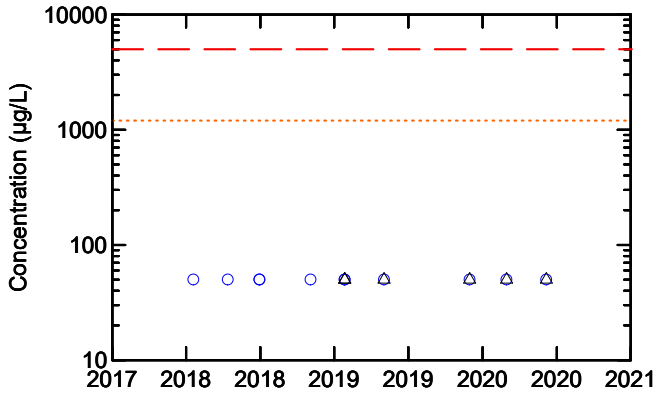
Aluminum



Total: No trend identified

Dissolved: Decreasing Trend

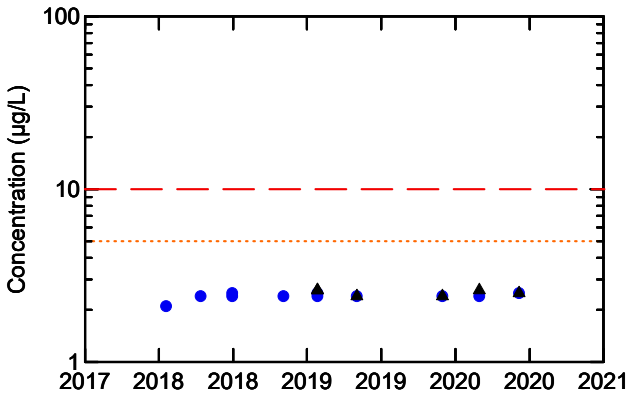
Boron



Total: No detected results

Dissolved: No detected results

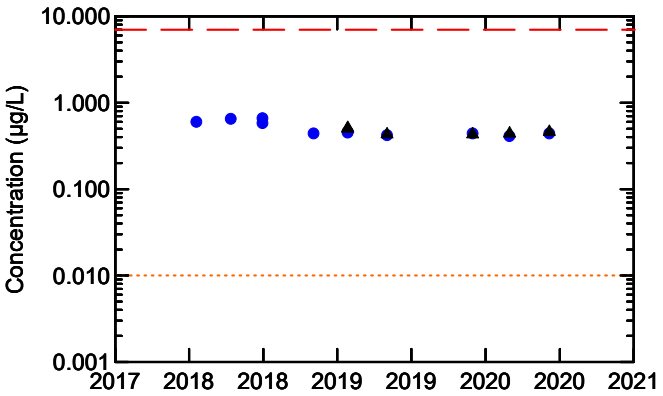
Arsenic



Total: Stable

Dissolved: No trend identified

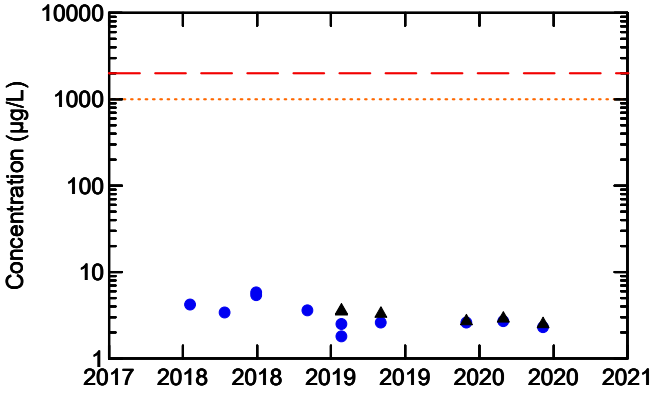
Cadmium



Total: No trend identified

Dissolved: Decreasing Trend

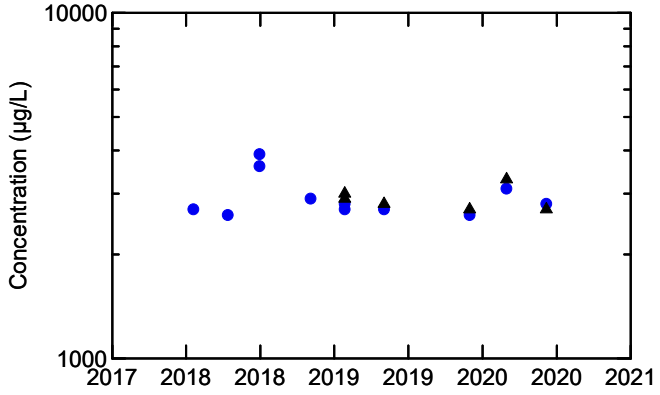
Barium



Total: Probably Decreasing

Dissolved: Probably Decreasing

Calcium



Total: Stable

Dissolved: No trend identified

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

Nova Scotia (2014) Pathway-Specific Standard for Groundwater

Canadian Drinking Water Quality Guideline: Maximum Acceptable

Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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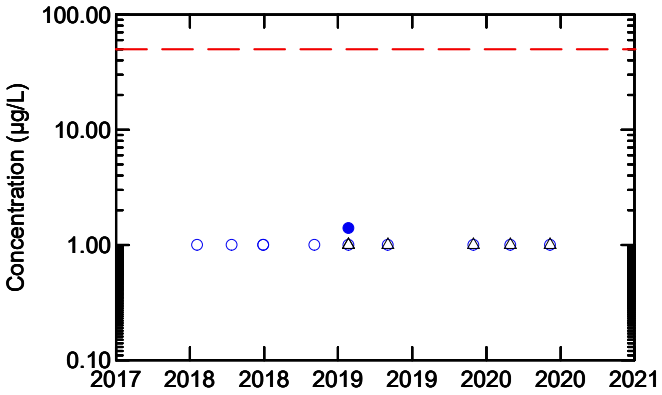
Non-detects are plotted at the reporting limit.

WELL MW-02B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

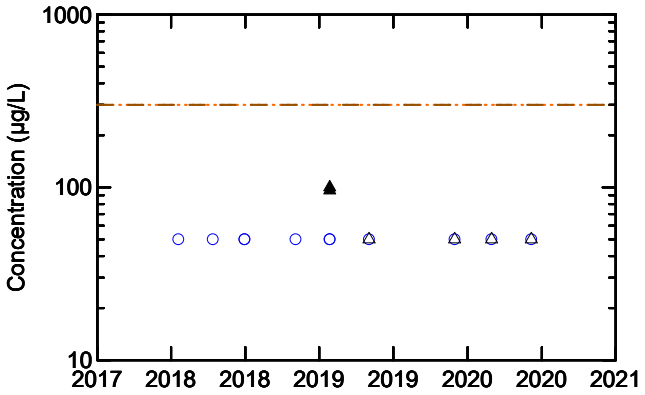
Chromium



Total: No detected results

Dissolved: Over 50% non-detects

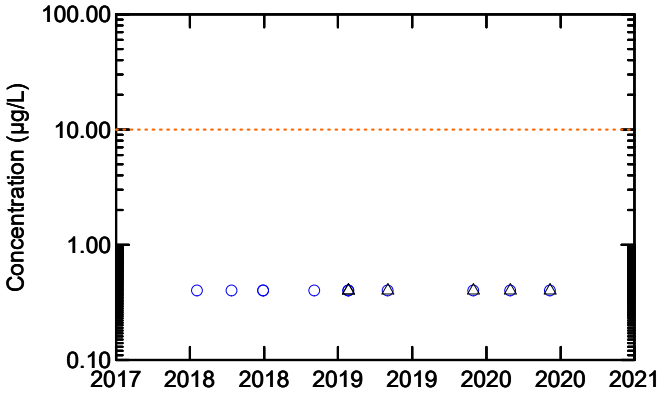
Iron



Total: Over 50% non-detects

Dissolved: No detected results

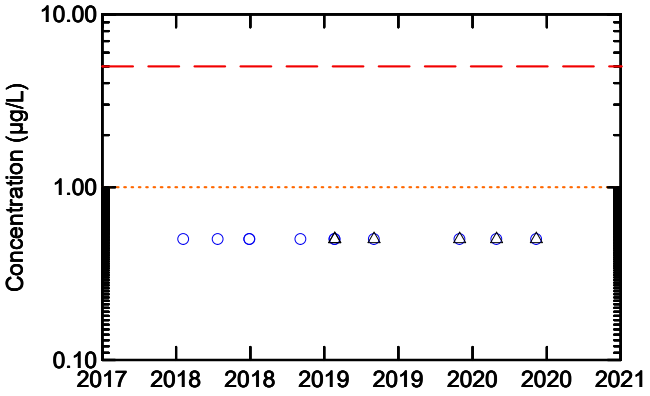
Cobalt



Total: No detected results

Dissolved: No detected results

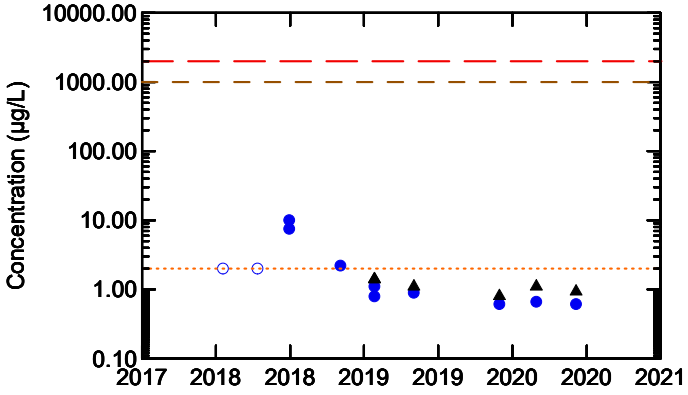
Lead



Total: No detected results

Dissolved: No detected results

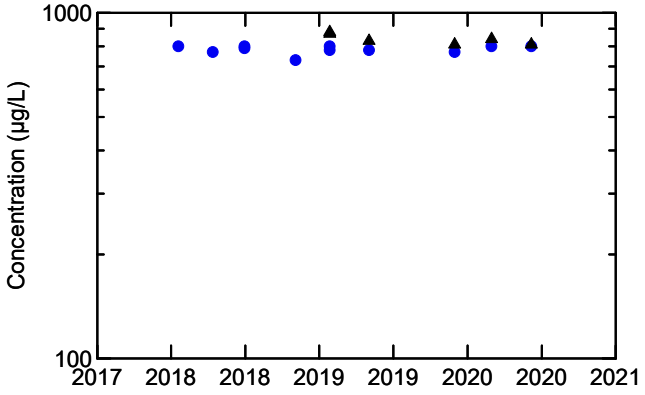
Copper



Total: Stable

Dissolved: Decreasing Trend

Magnesium



Total: Stable

Dissolved: No trend identified

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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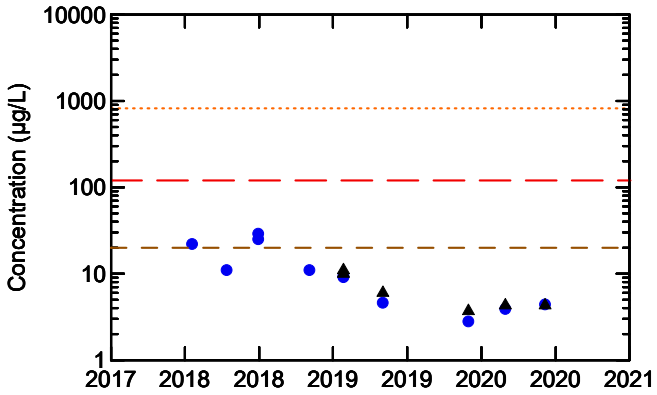
Non-detects are plotted at the reporting limit.

WELL MW-02B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

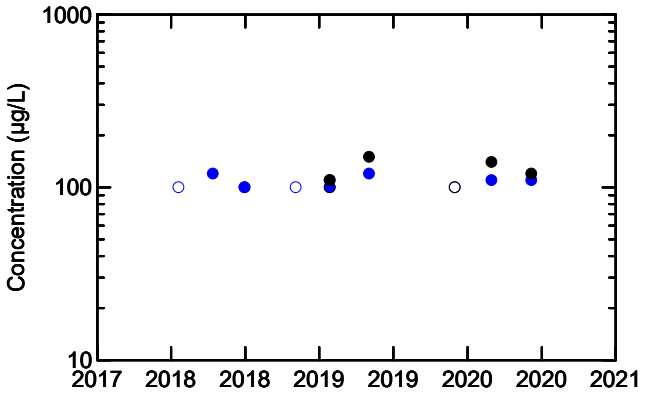
Manganese



Total: Stable

Dissolved: Decreasing Trend

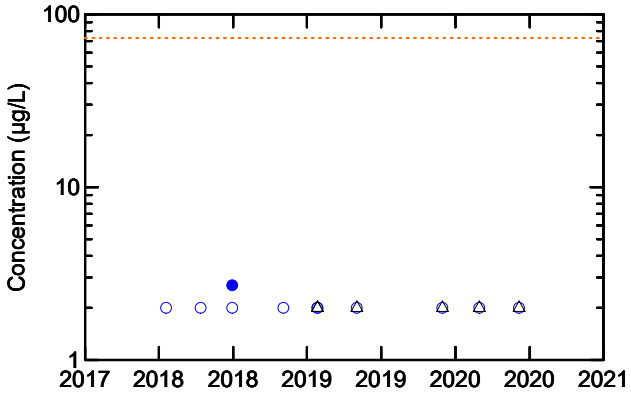
Phosphorus



Total: Stable

Dissolved: No trend identified

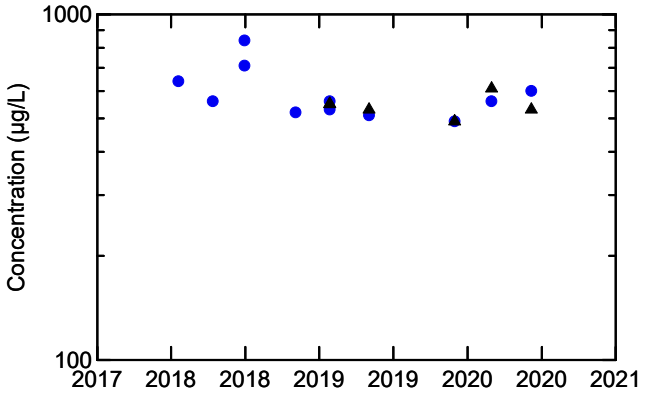
Molybdenum



Total: No detected results

Dissolved: Over 50% non-detects

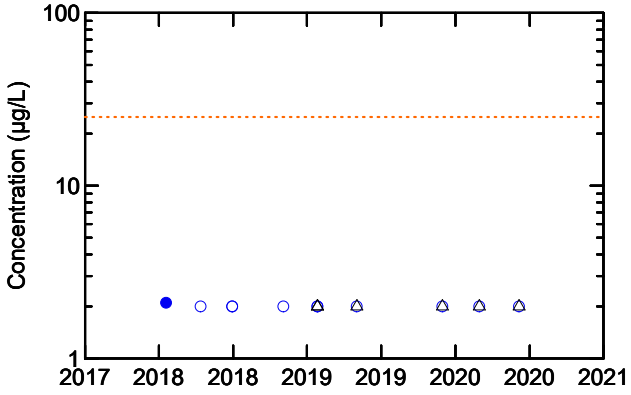
Potassium



Total: Stable

Dissolved: Stable

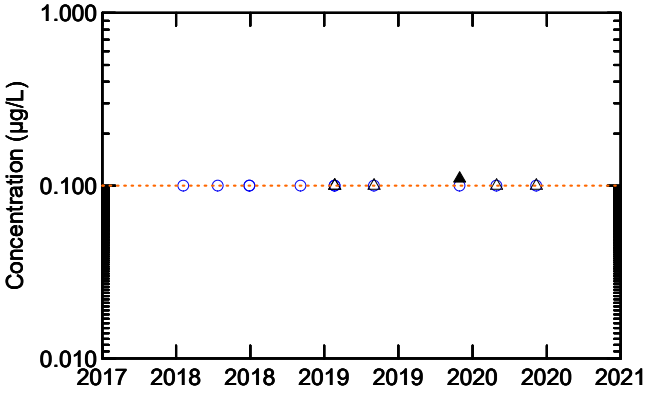
Nickel



Total: No detected results

Dissolved: Over 50% non-detects

Silver



Total: Over 50% non-detects

Dissolved: No detected results

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

Nova Scotia (2014) Pathway-Specific Standard for Groundwater

Canadian Drinking Water Quality Guideline: Maximum Acceptable

Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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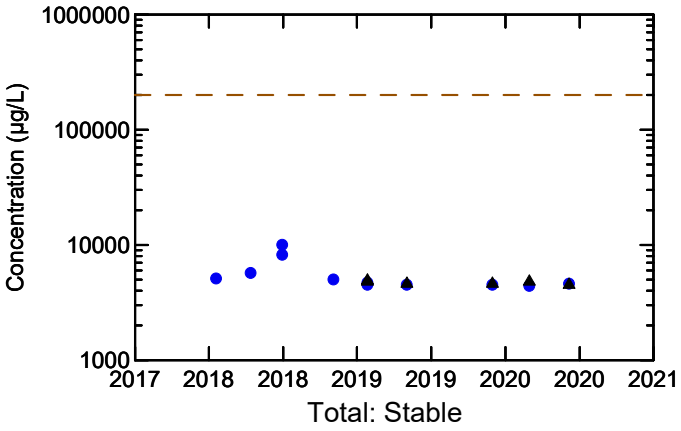
Non-detects are plotted at the reporting limit.

WELL MW-02B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

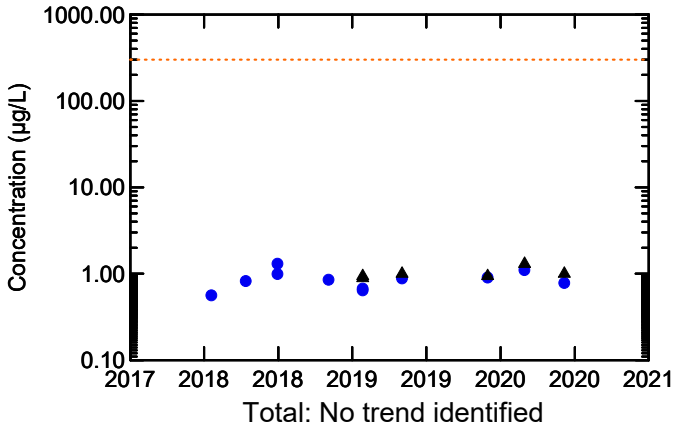
Sodium



Total: Stable

Dissolved: Decreasing Trend

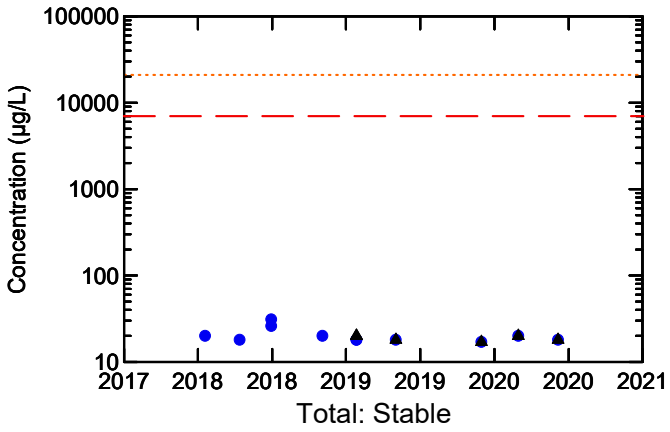
Uranium



Total: No trend identified

Dissolved: No trend identified

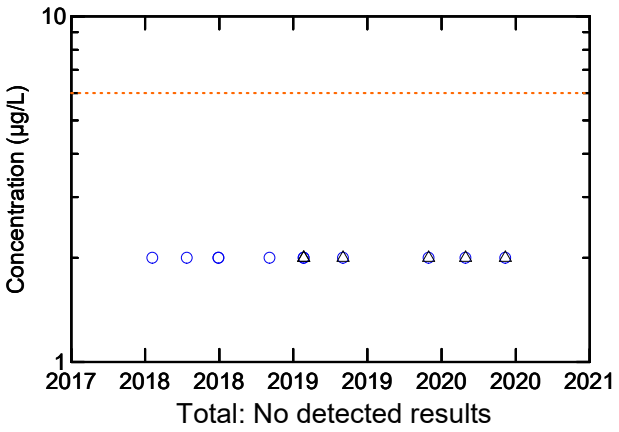
Strontium



Total: Stable

Dissolved: Stable

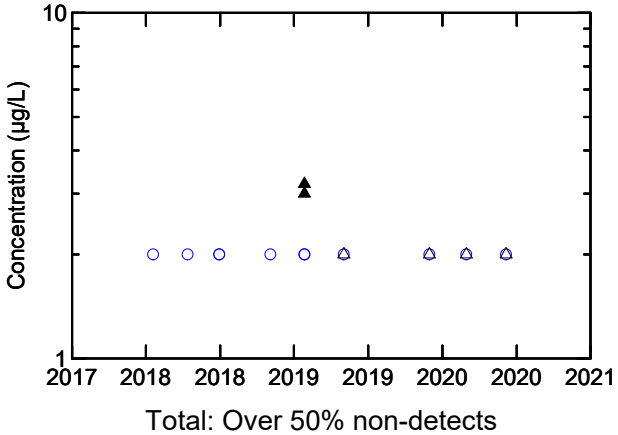
Vanadium



Total: No detected results

Dissolved: No detected results

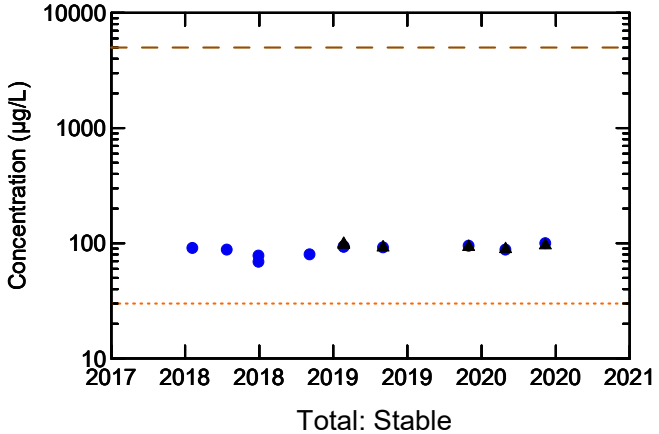
Titanium



Total: Over 50% non-detects

Dissolved: No detected results

Zinc



Total: Stable

Dissolved: No trend identified

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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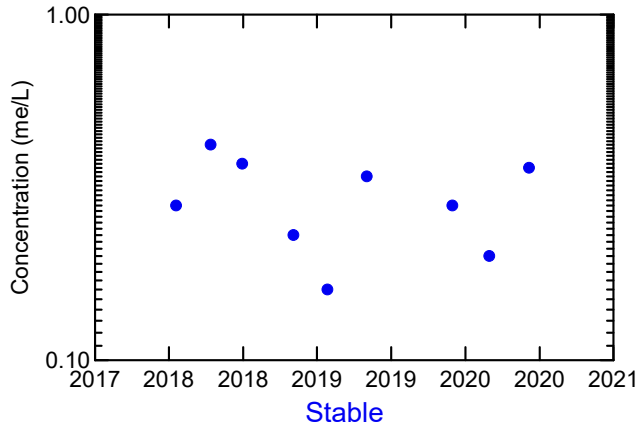
Non-detects are plotted at the reporting limit.

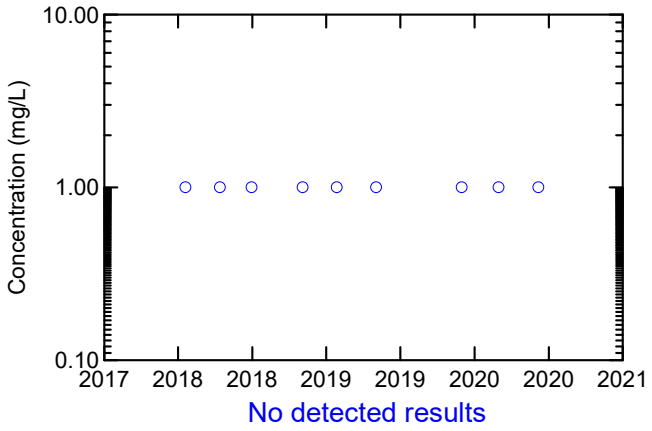
WELL MW-02B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Anion Sum



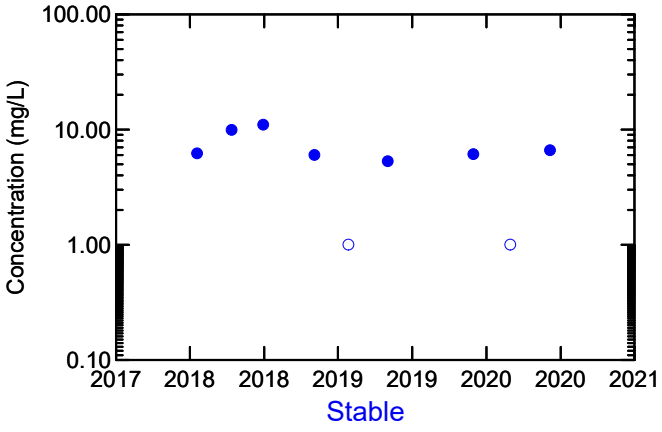
Stable

Carb. Alkalinity (calc. as CaCO3)



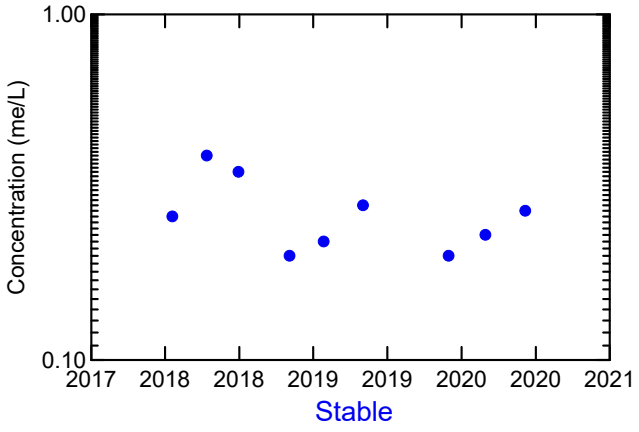
No detected results

Bicarb. Alkalinity (calc. as CaCO3)



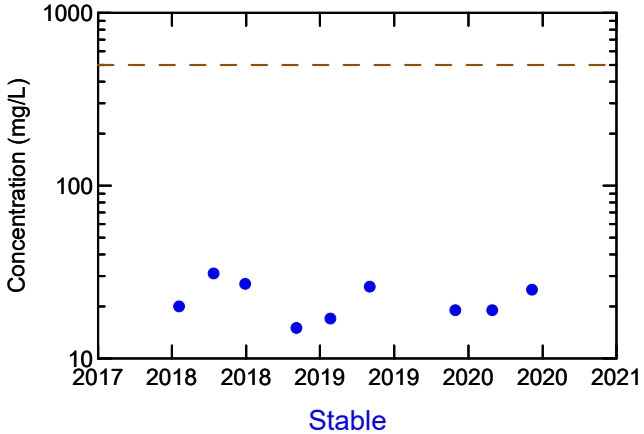
Stable

Cation Sum



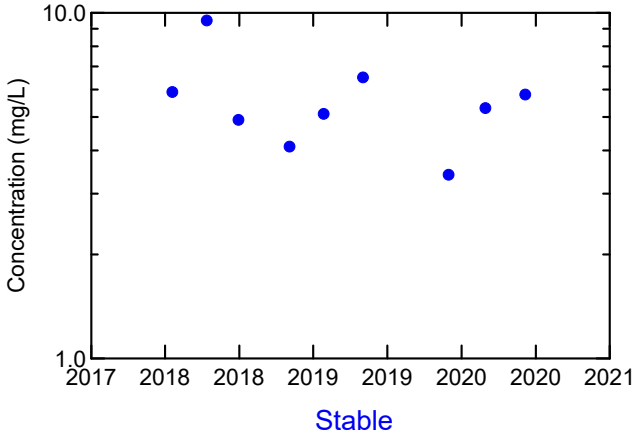
Stable

Calculated TDS



Stable

Hardness (CaCO3)



Stable

Legend:

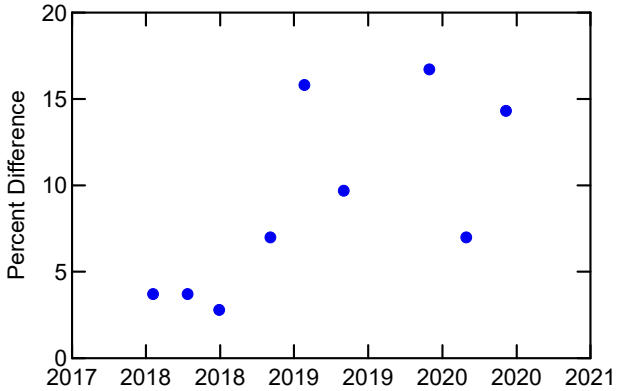
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines - Aesthetic

WELL MW-03A
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

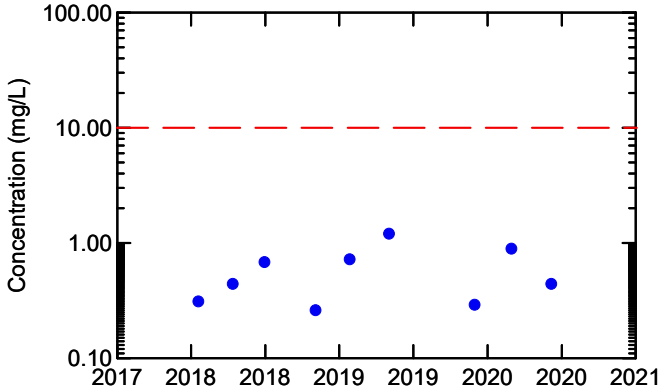
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Ion Balance



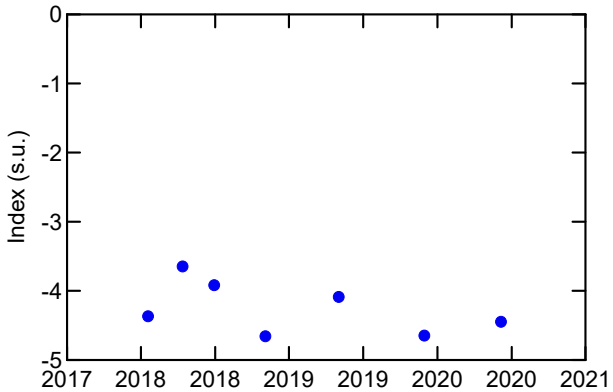
Probably Increasing

Nitrate



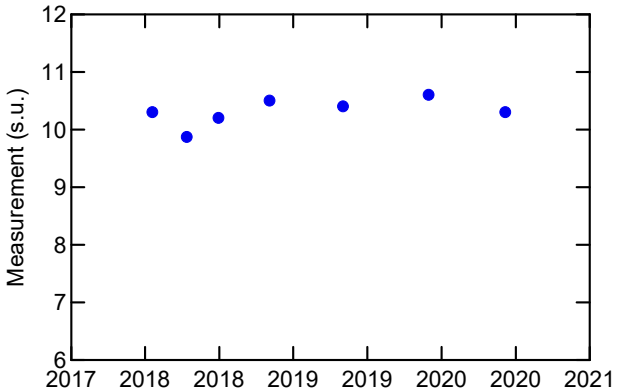
No trend identified

Langelier Index (@ 20C)



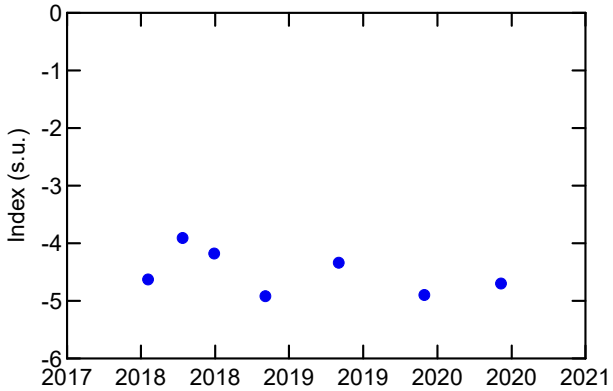
Stable

Saturation pH (@ 20C)



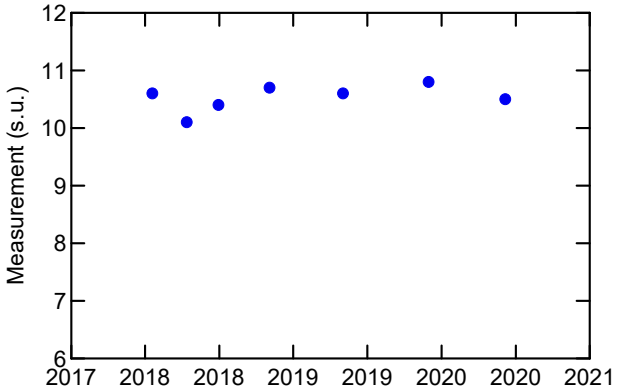
No trend identified

Langelier Index (@ 4C)



Stable

Saturation pH (@ 4C)



No trend identified

Legend:

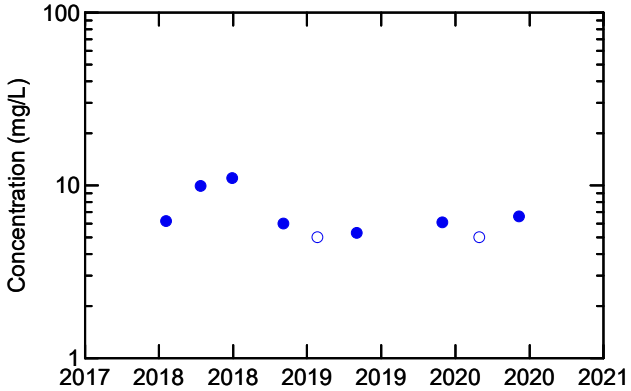
● Detected result ○ Non-Detect

— — Canadian Drinking Water Quality Guidelines: Maximum Acceptable

WELL MW-03A
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

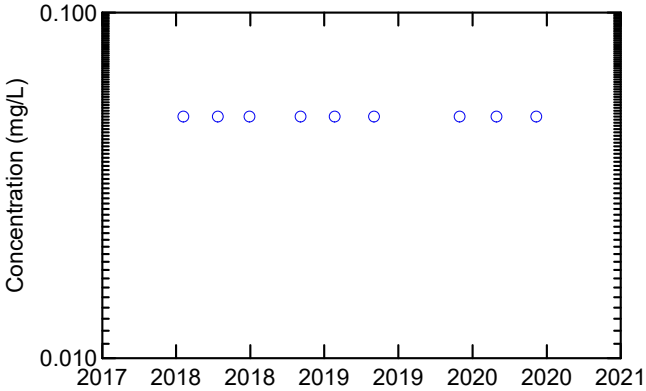
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Total Alkalinity (Total as CaCO3)



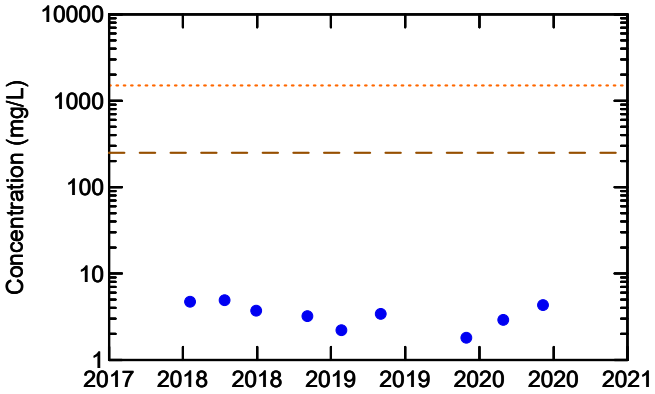
Stable

Nitrogen (Ammonia Nitrogen)



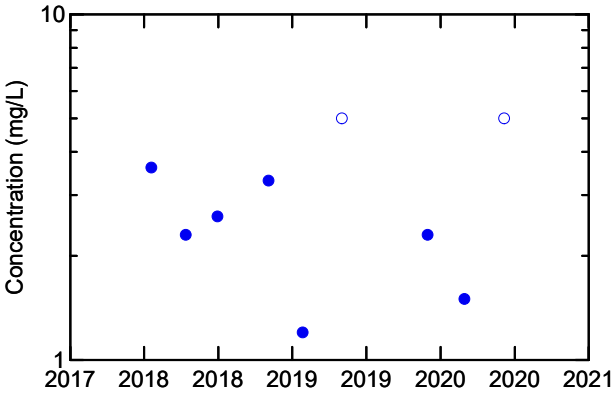
No detected results

Dissolved Chloride



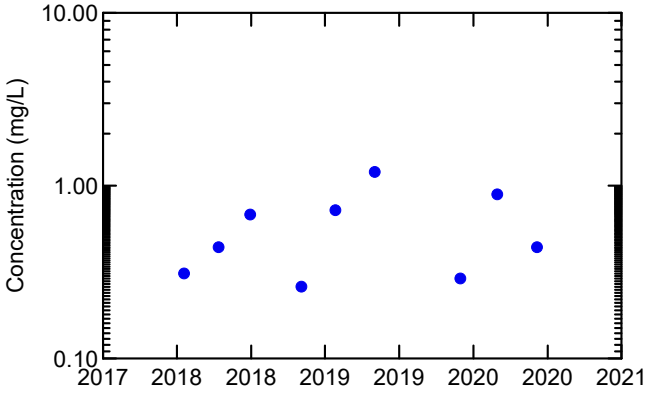
Stable

Total Organic Carbon



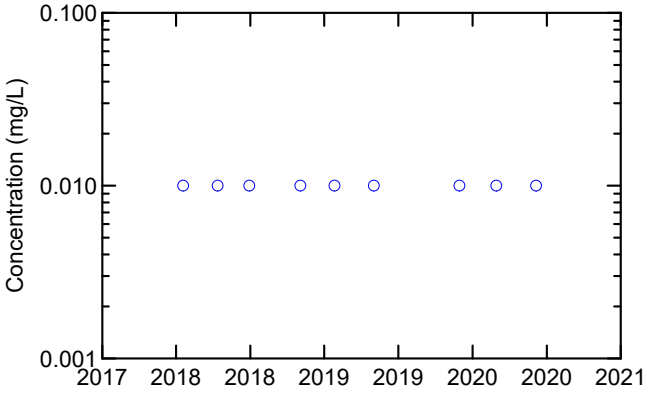
Stable

Nitrate + Nitrite



No trend identified

Orthophosphate



No detected results

Legend:

● Detected result ○ Non-Detect

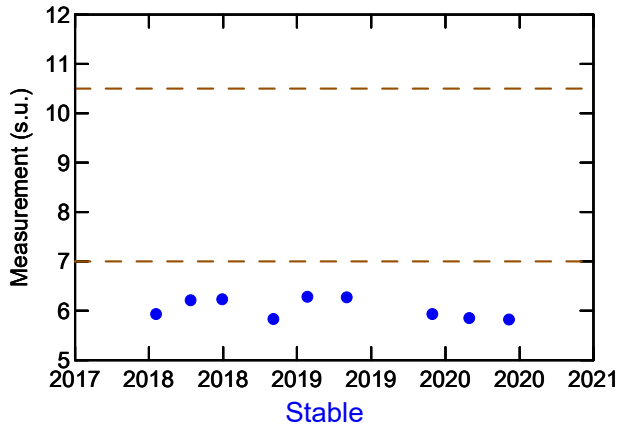
Nova Scotia (2014) Pathway-Specific Standard for Groundwater

Canadian Drinking Water Quality Guideline: Aesthetic

Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

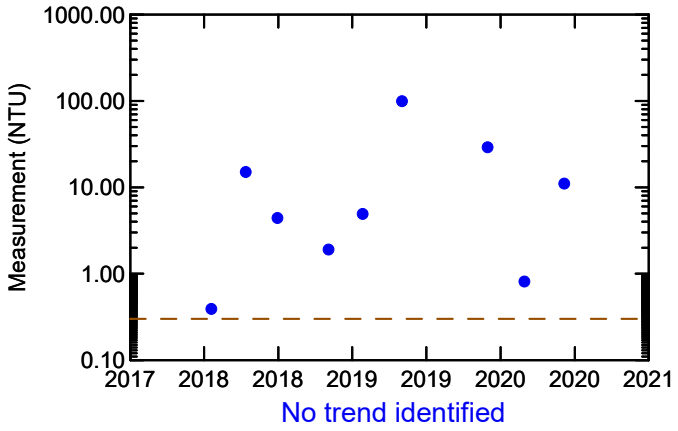
WELL MW-03A
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

pH



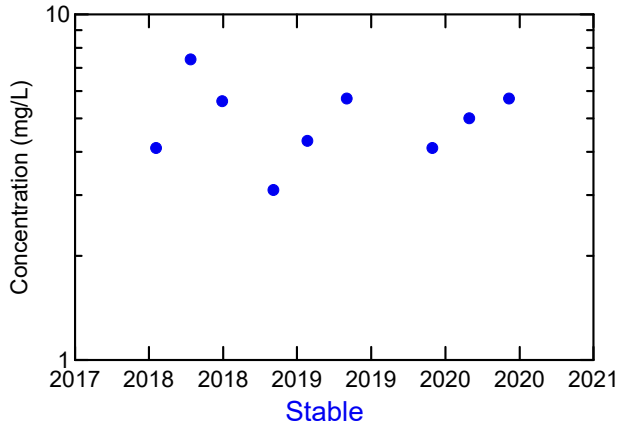
Stable

Turbidity



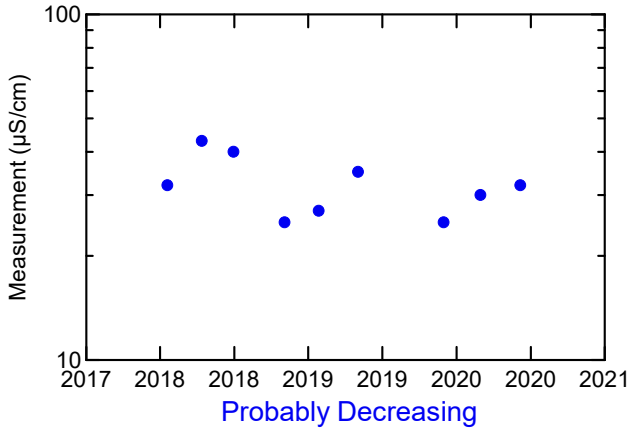
No trend identified

Reactive Silica (SiO2)



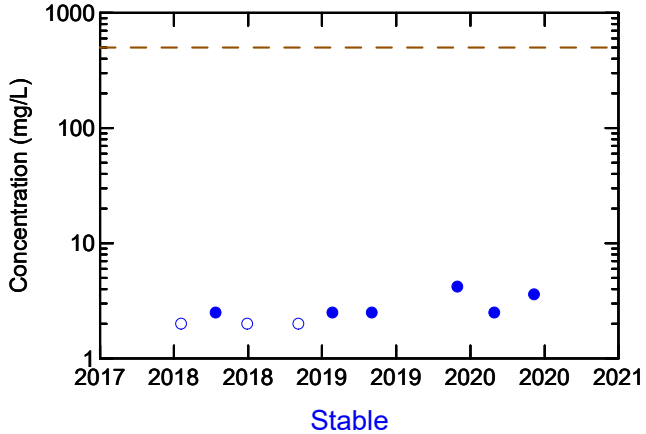
Stable

Conductivity



Probably Decreasing

Dissolved Sulphate (SO4)



Stable

Legend:

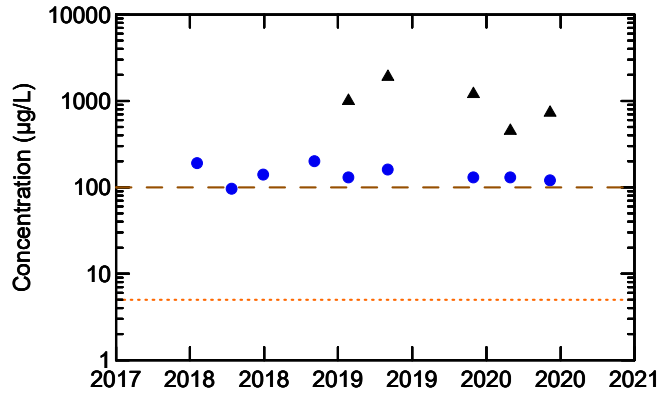
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines: Aesthetic

WELL MW-03A
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

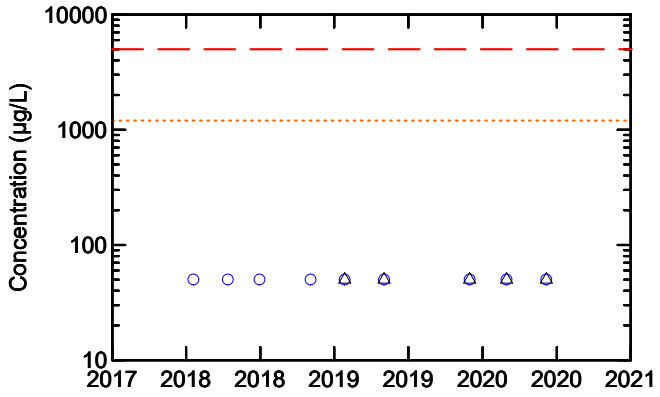
Aluminum



Total: Stable

Dissolved: Stable

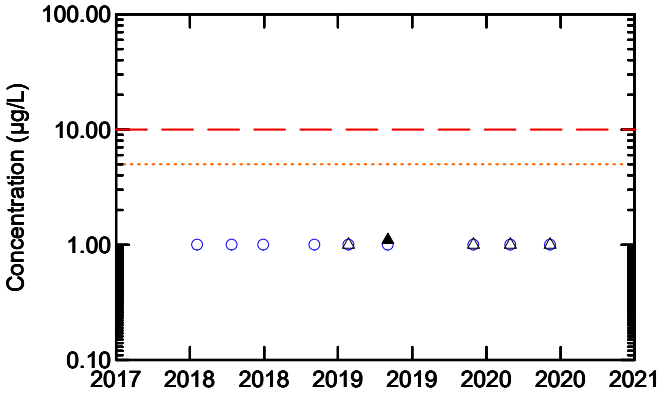
Boron



Total: No detected results

Dissolved: No detected results

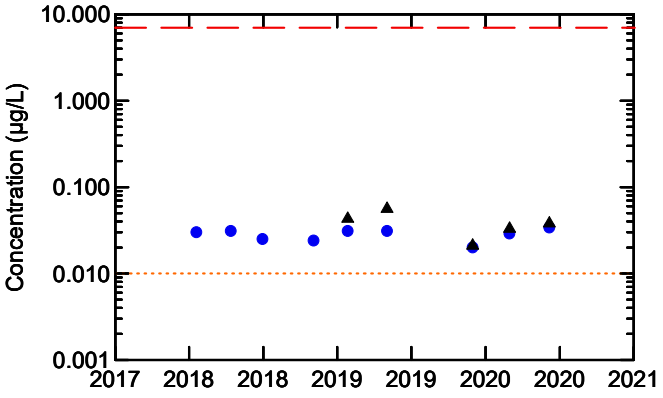
Arsenic



Total: Over 50% non-detects

Dissolved: No detected results

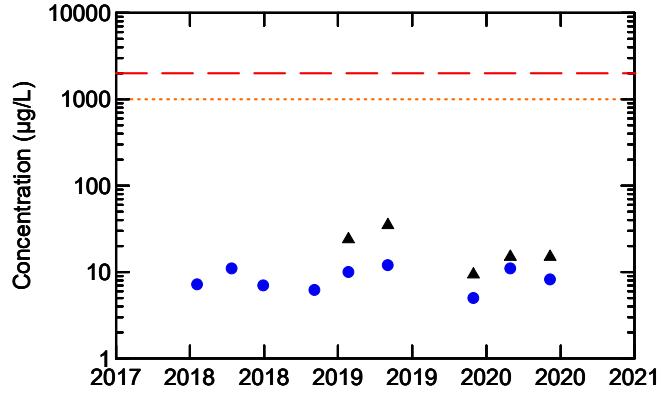
Cadmium



Total: Stable

Dissolved: No trend identified

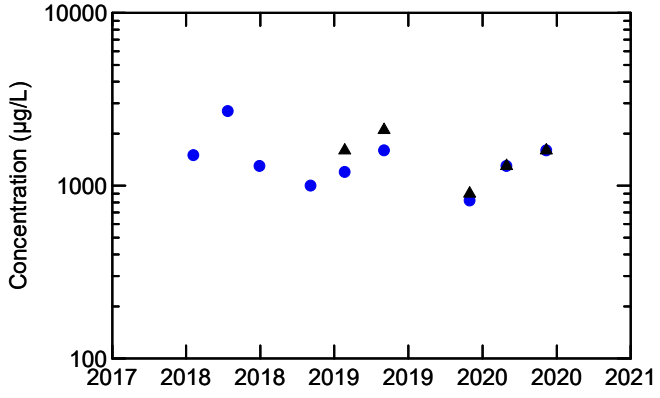
Barium



Total: Stable

Dissolved: No trend identified

Calcium



Total: Stable

Dissolved: Stable

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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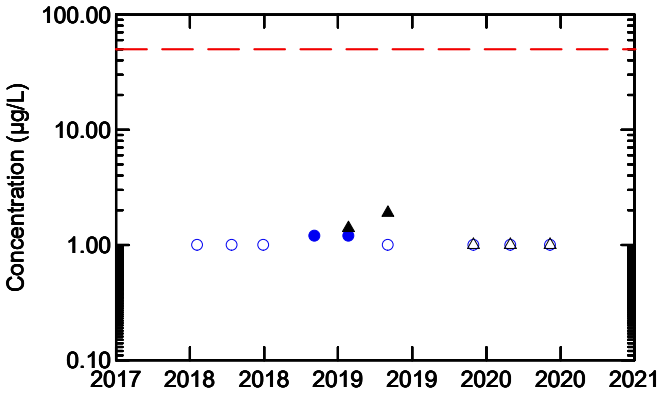
WELL MW-03A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

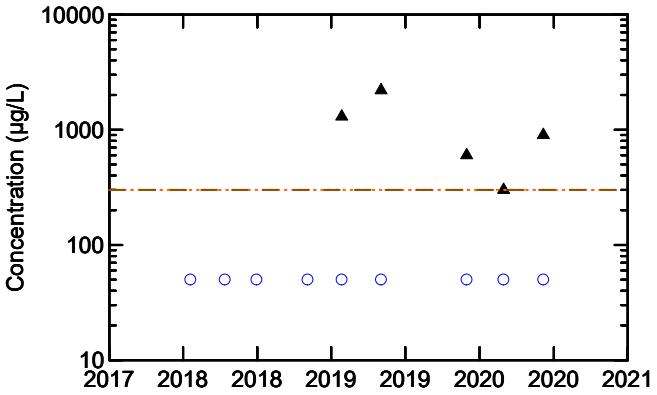
Chromium



Total: Over 50% non-detects

Dissolved: Over 50% non-detects

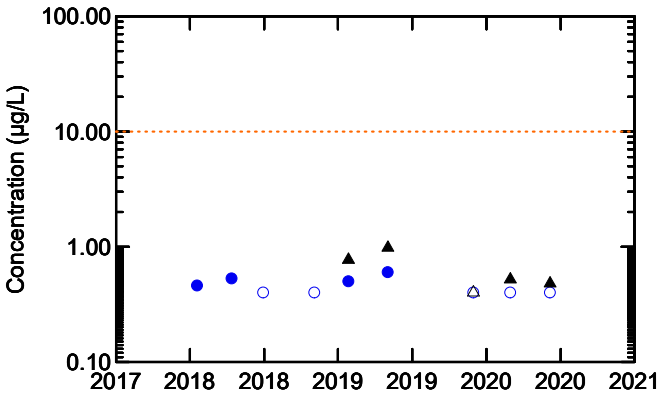
Iron



Total: Stable

Dissolved: No detected results

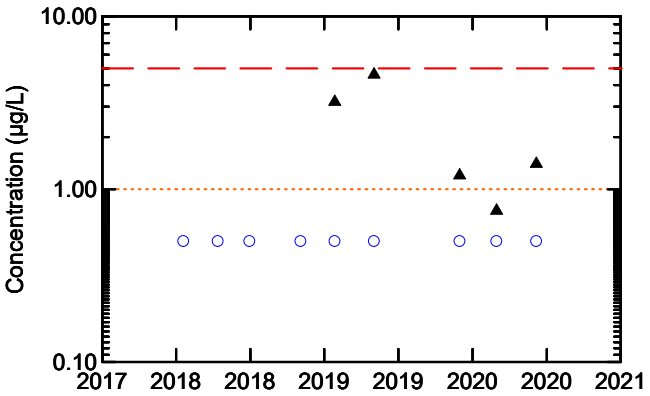
Cobalt



Total: Stable

Dissolved: Over 50% non-detects

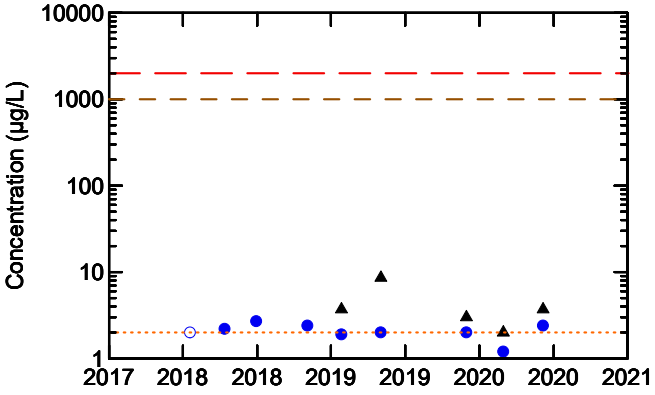
Lead



Total: Stable

Dissolved: No detected results

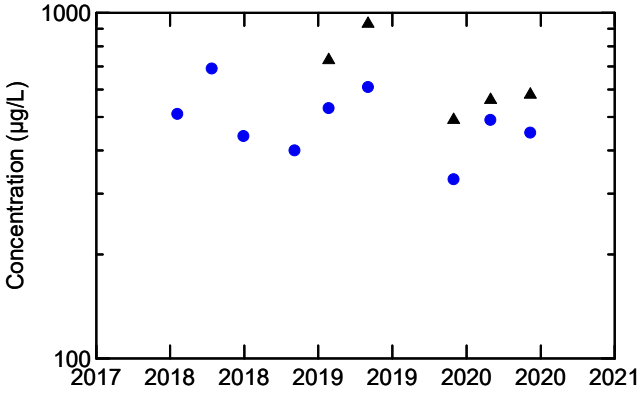
Copper



Total: Stable

Dissolved: Stable

Magnesium



Total: Stable

Dissolved: Stable

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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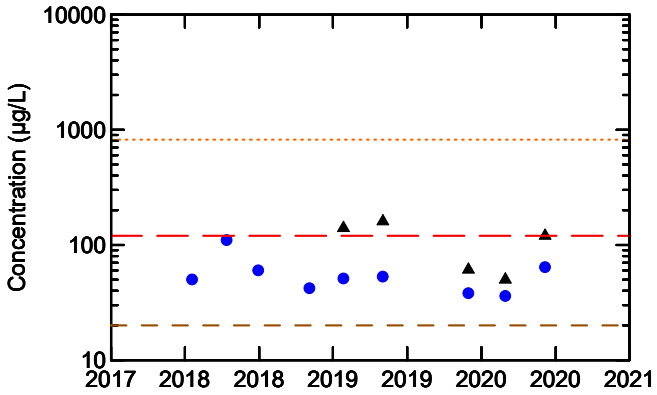
WELL MW-03A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

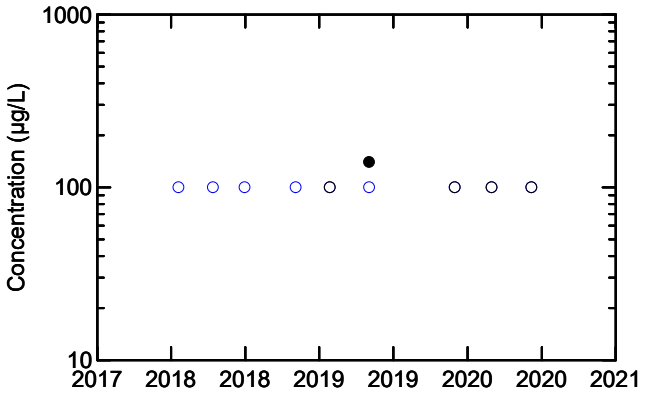
Manganese



Total: Stable

Dissolved: Stable

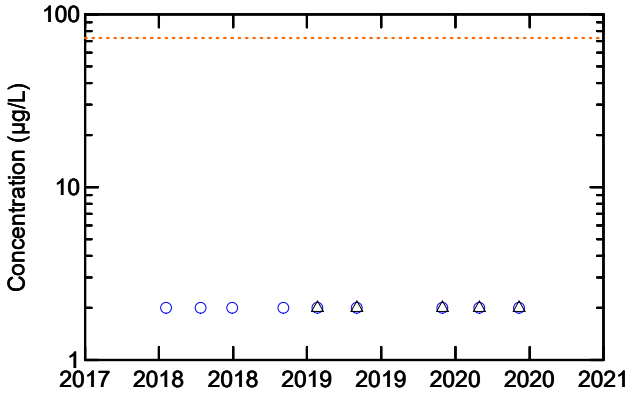
Phosphorus



Total: Over 50% non-detects

Dissolved: No detected results

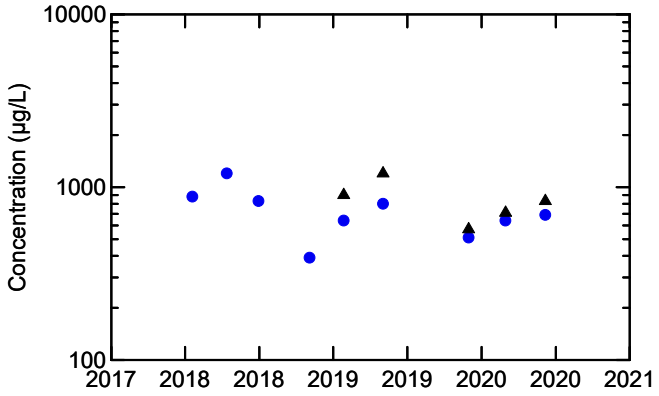
Molybdenum



Total: No detected results

Dissolved: No detected results

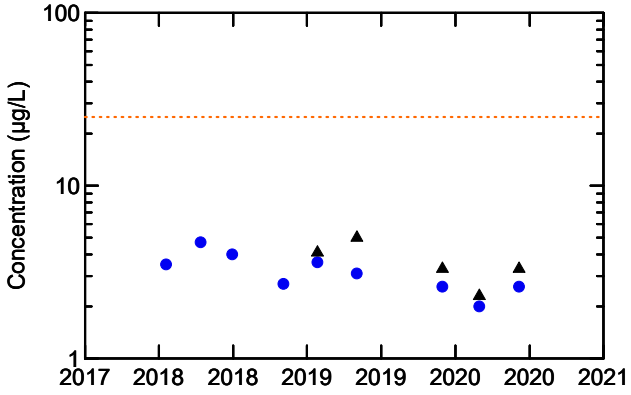
Potassium



Total: Stable

Dissolved: Stable

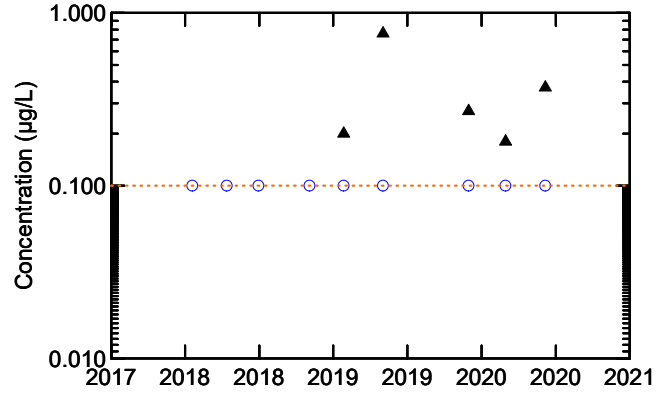
Nickel



Total: Stable

Dissolved: Decreasing Trend

Silver



Total: Stable

Dissolved: No detected results

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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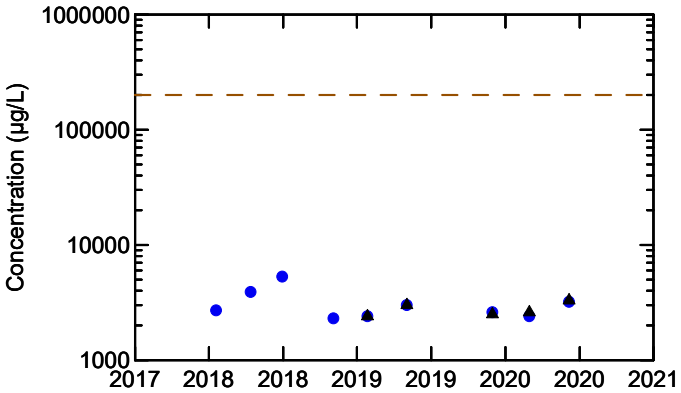
Non-detects are plotted at the reporting limit.

WELL MW-03A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

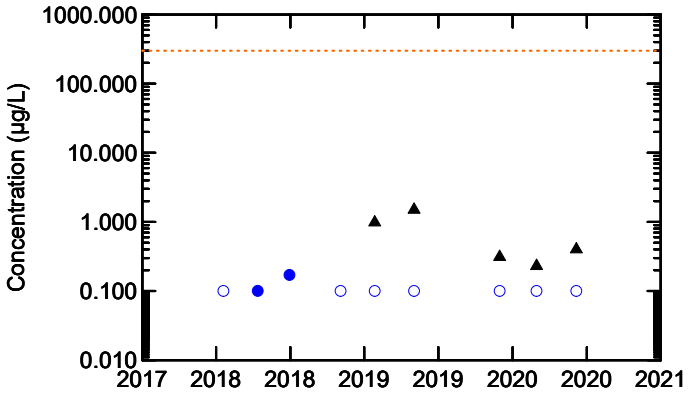
Sodium



Total: No trend identified

Dissolved: Stable

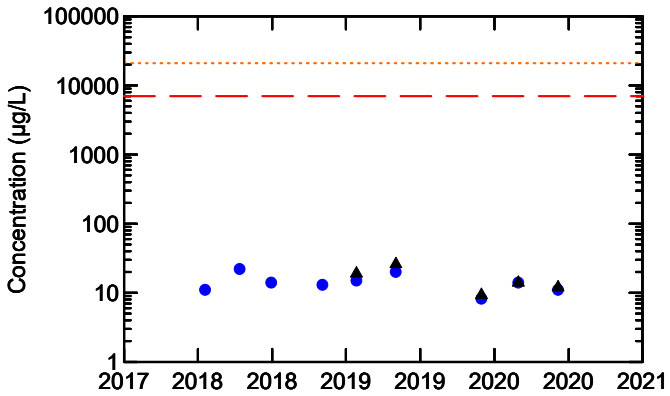
Uranium



Total: Stable

Dissolved: Over 50% non-detects

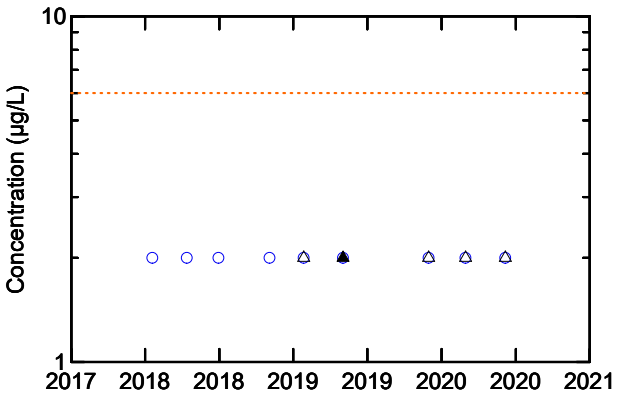
Strontium



Total: Stable

Dissolved: Stable

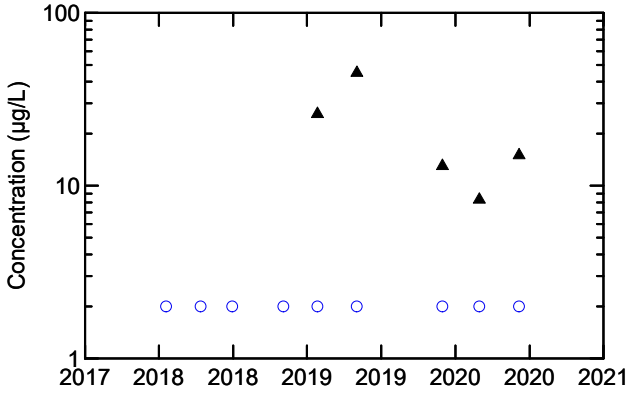
Vanadium



Total: Over 50% non-detects

Dissolved: No detected results

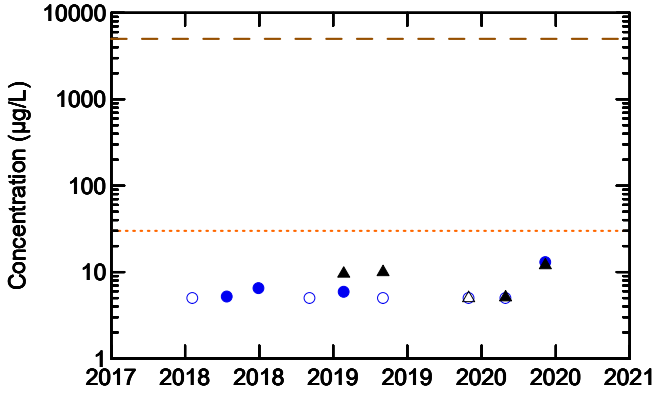
Titanium



Total: Stable

Dissolved: No detected results

Zinc



Total: No trend identified

Dissolved: Over 50% non-detects

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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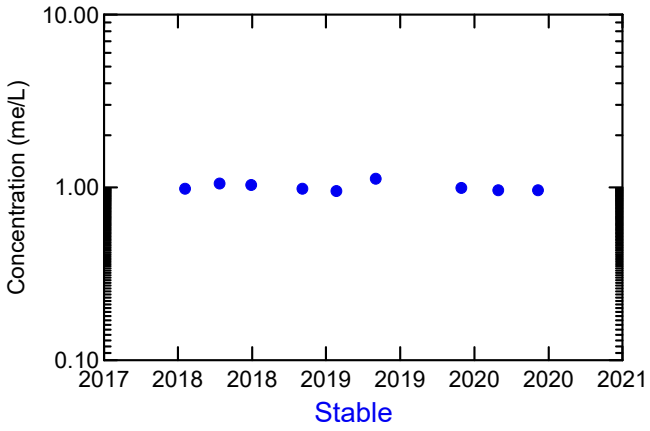
Non-detects are plotted at the reporting limit.

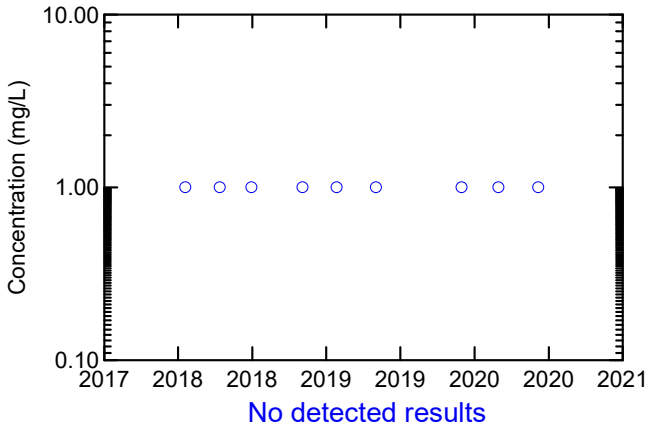
WELL MW-03A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Anion Sum



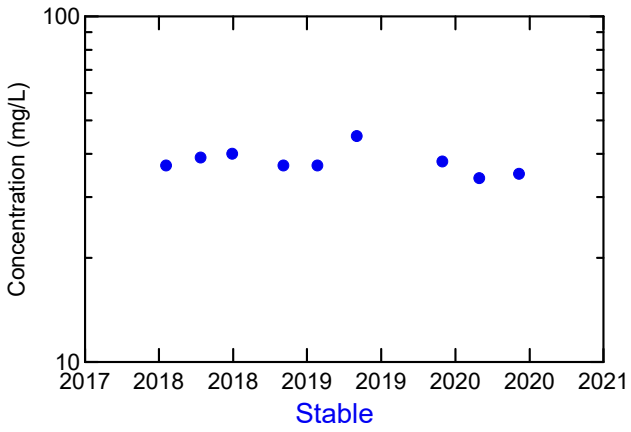
Stable

Carb. Alkalinity (calc. as CaCO3)



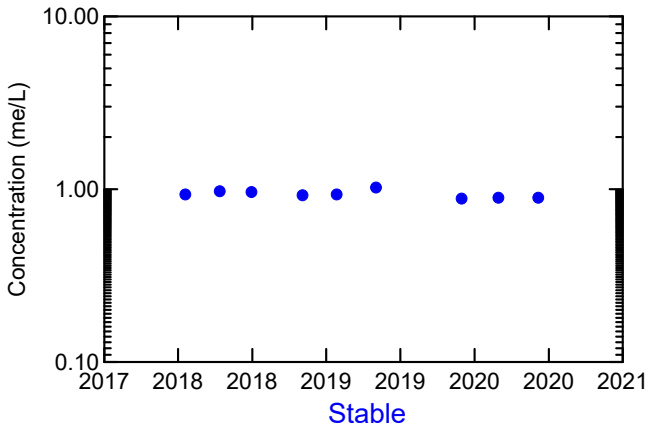
No detected results

Bicarb. Alkalinity (calc. as CaCO3)



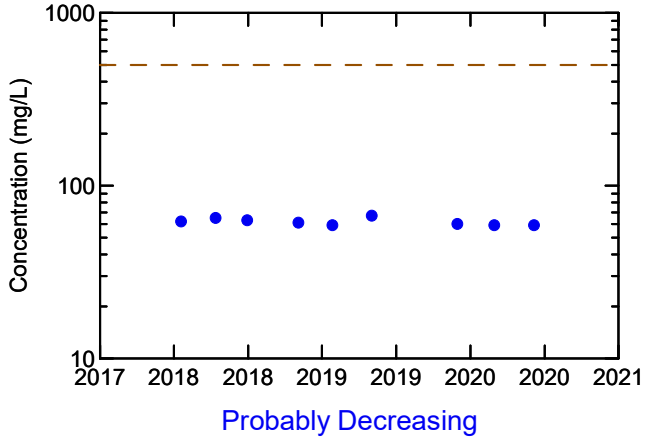
Stable

Cation Sum



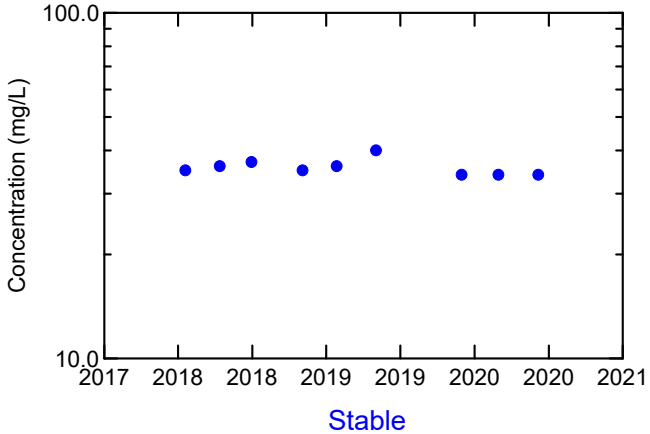
Stable

Calculated TDS



Probably Decreasing

Hardness (CaCO3)



Stable

Legend:

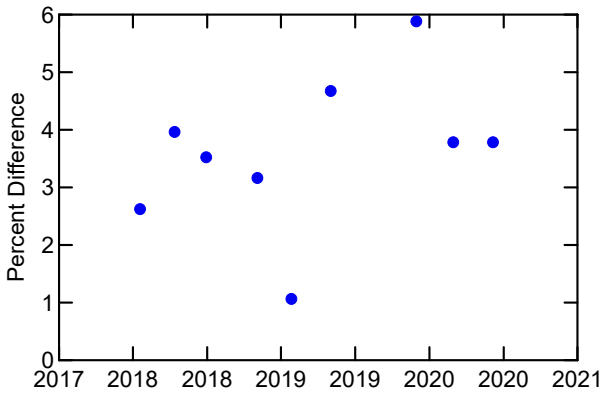
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines - Aesthetic

WELL MW-03B
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

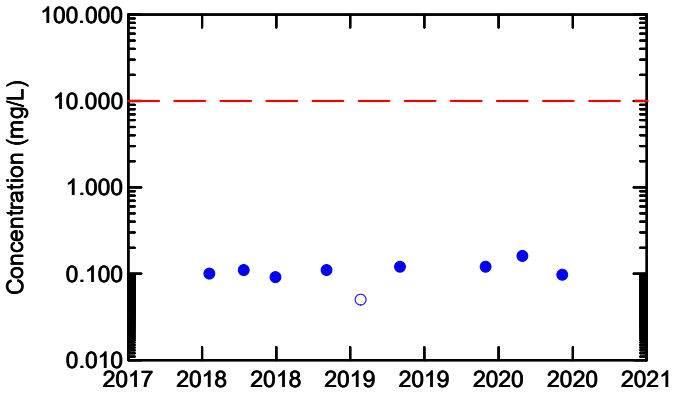
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Ion Balance



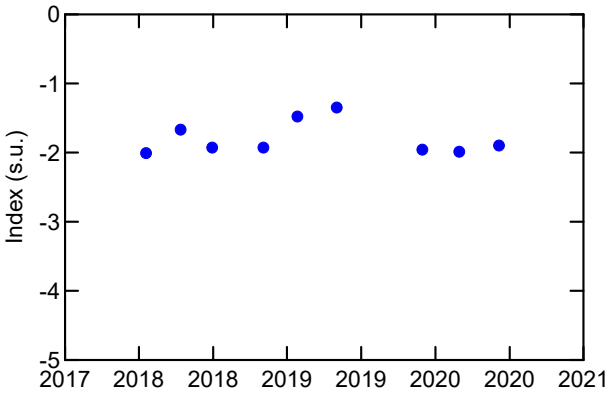
No trend identified

Nitrate



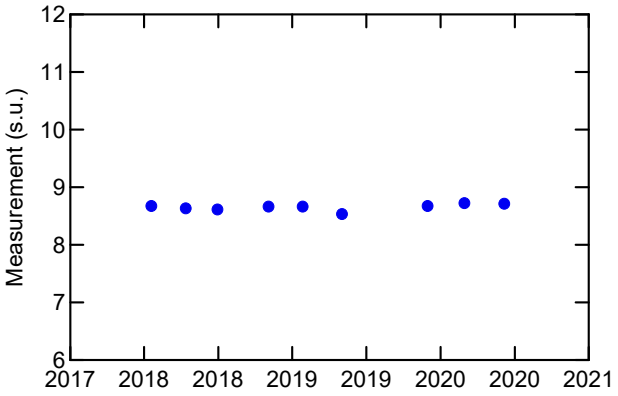
No trend identified

Langelier Index (@ 20C)



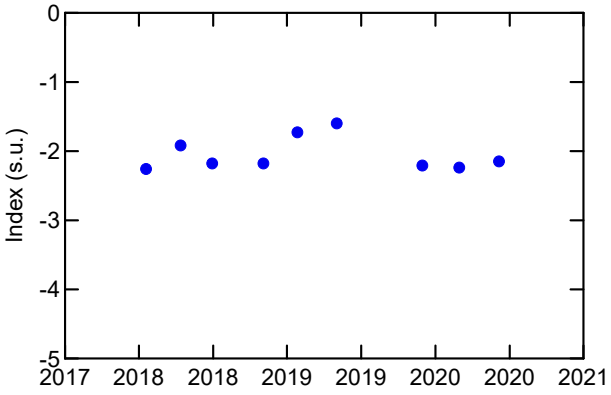
No trend identified

Saturation pH (@ 20C)



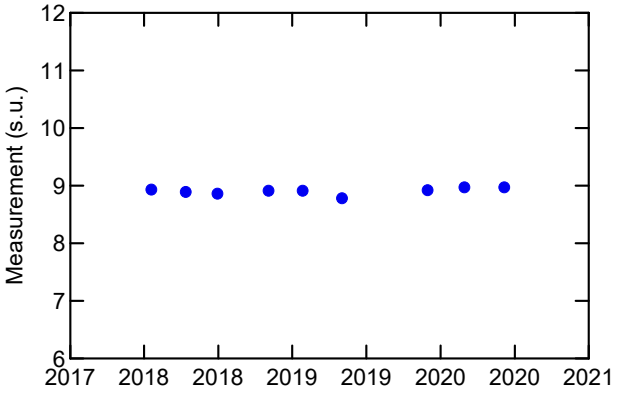
No trend identified

Langelier Index (@ 4C)



No trend identified

Saturation pH (@ 4C)



No trend identified

Legend:

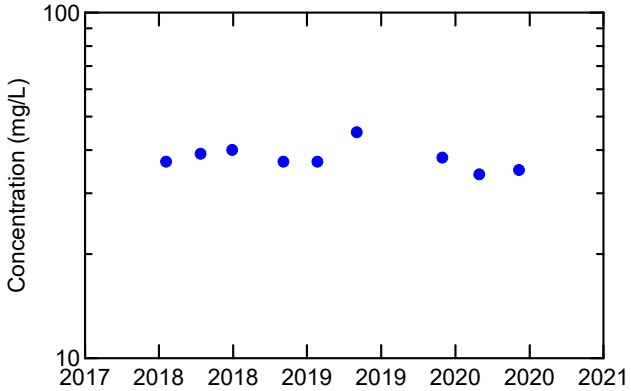
● Detected result ○ Non-Detect

— — Canadian Drinking Water Quality Guidelines: Maximum Acceptable

WELL MW-03B
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

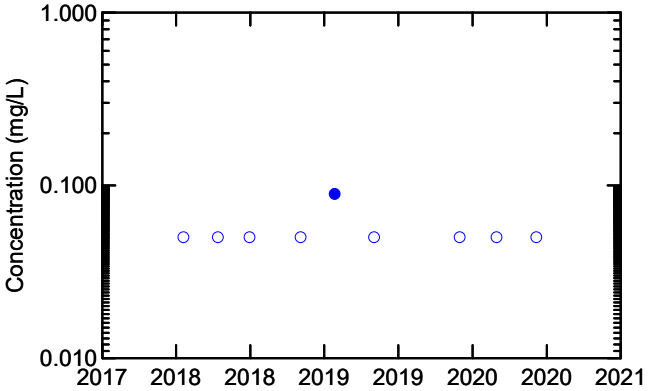
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Total Alkalinity (Total as CaCO3)



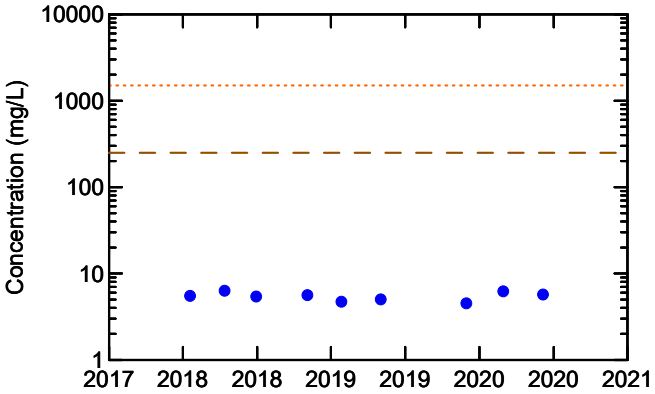
Stable

Nitrogen (Ammonia Nitrogen)



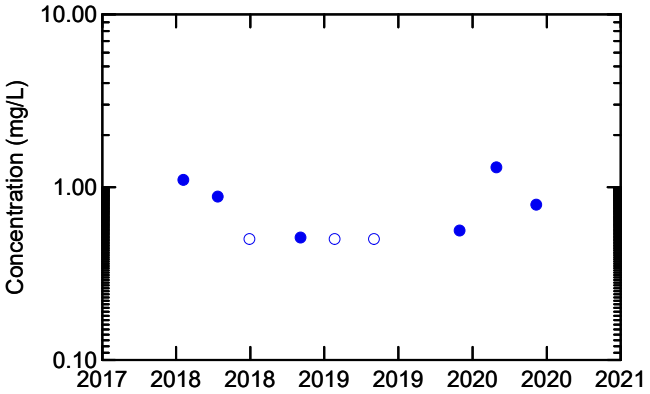
Over 50% non-detects

Dissolved Chloride



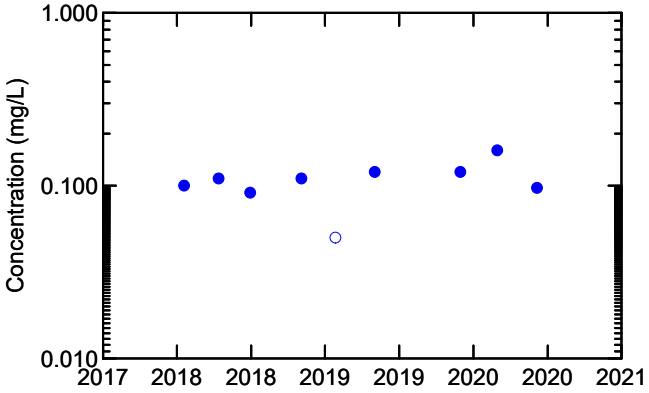
Stable

Total Organic Carbon



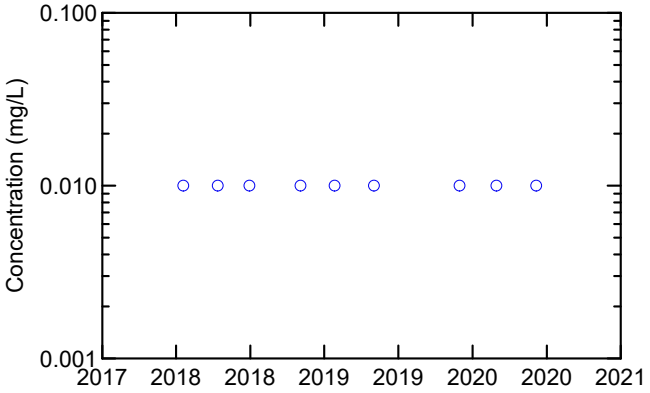
No trend identified

Nitrate + Nitrite



No trend identified

Orthophosphate



No detected results

Legend:

● Detected result ○ Non-Detect

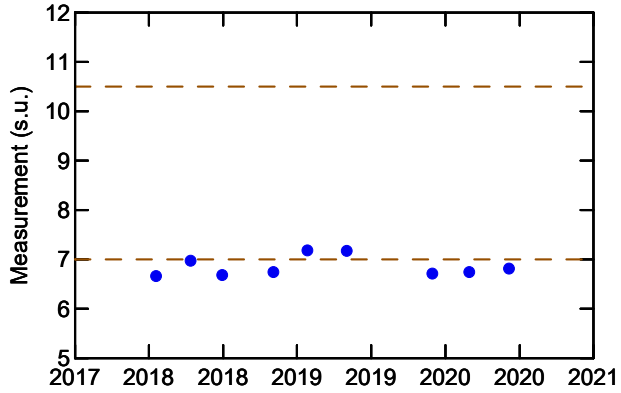
Nova Scotia (2014) Pathway-Specific Standard for Groundwater

Canadian Drinking Water Quality Guideline: Aesthetic

Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

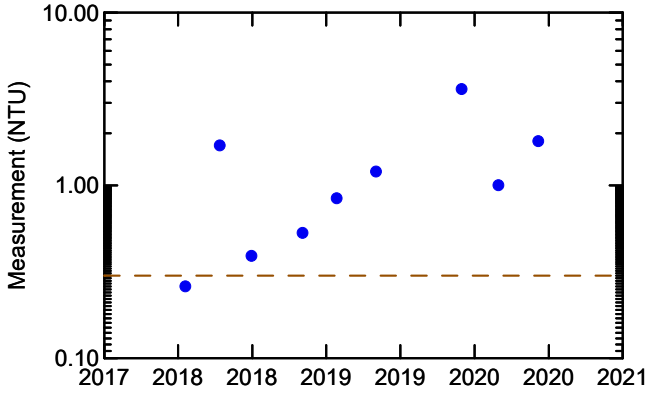
WELL MW-03B
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

pH



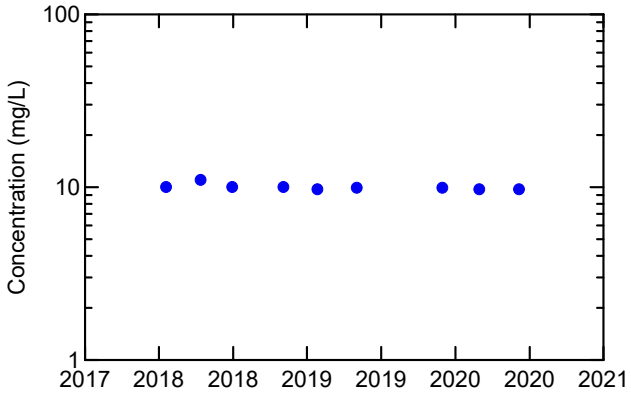
Stable

Turbidity



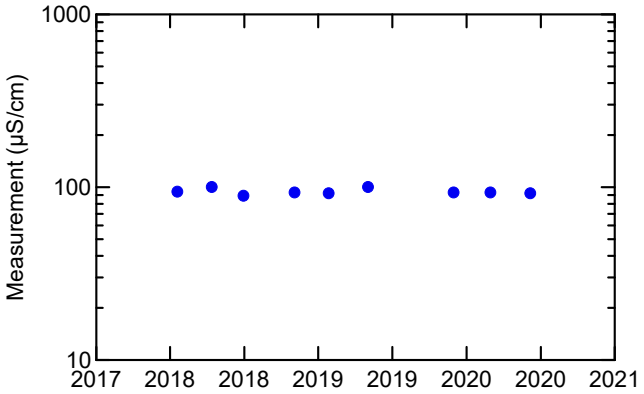
No trend identified

Reactive Silica (SiO2)



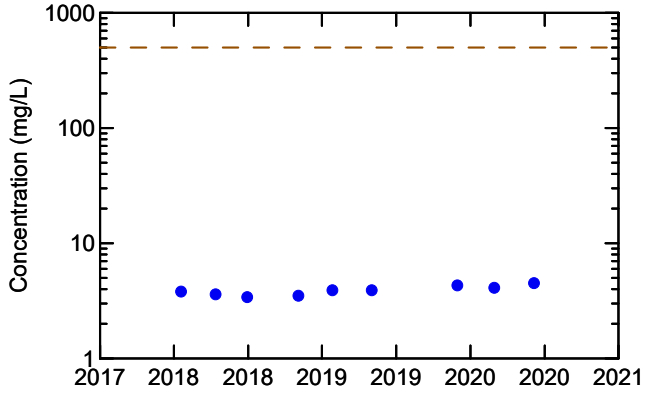
Stable

Conductivity



Probably Decreasing

Dissolved Sulphate (SO4)



Stable

Legend:

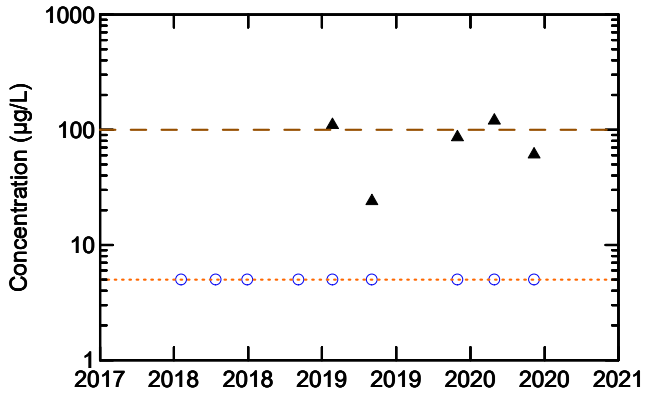
● Detected result ○ Non-Detect

— — - Canadian Drinking Water Quality Guidelines: Aesthetic

WELL MW-03B
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

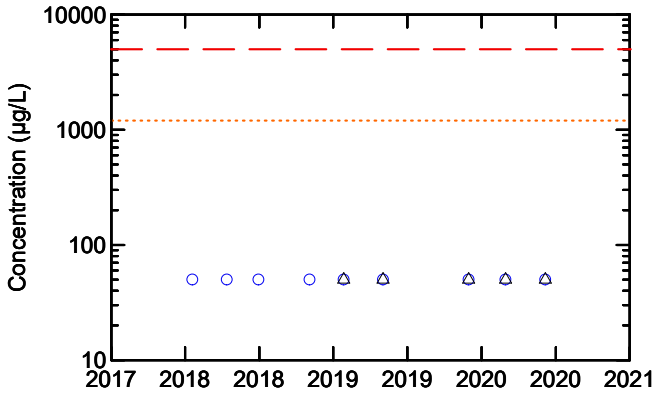
Aluminum



Total: Stable

Dissolved: No detected results

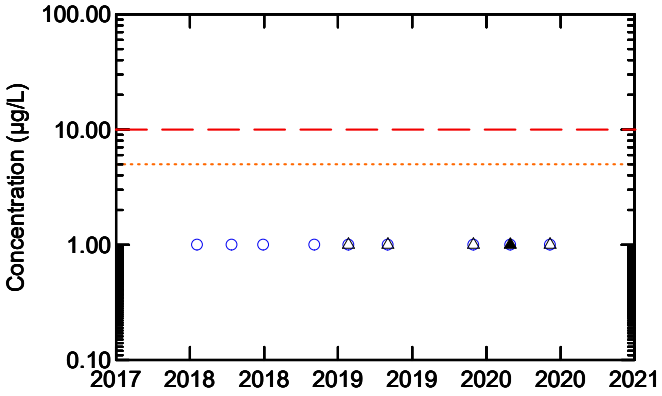
Boron



Total: No detected results

Dissolved: No detected results

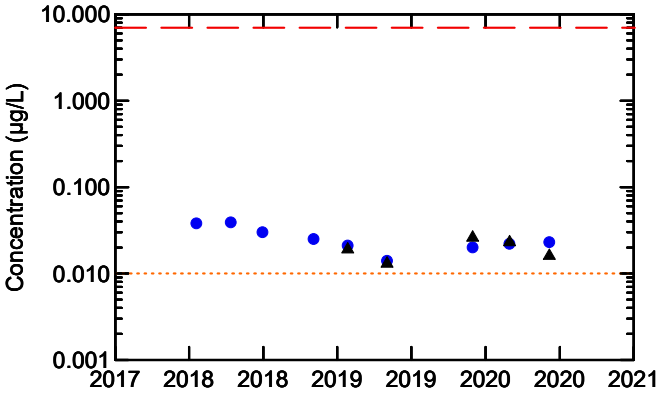
Arsenic



Total: Over 50% non-detects

Dissolved: No detected results

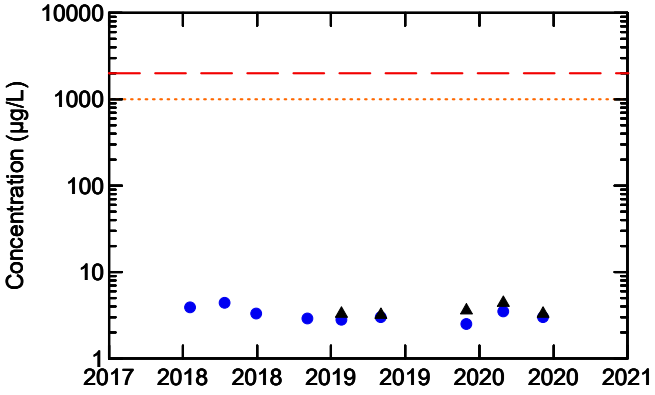
Cadmium



Total: Stable

Dissolved: Probably Decreasing

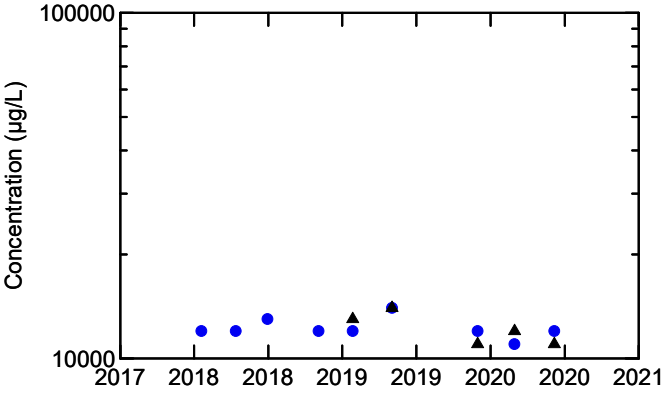
Barium



Total: No trend identified

Dissolved: Stable

Calcium



Total: Stable

Dissolved: Stable

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

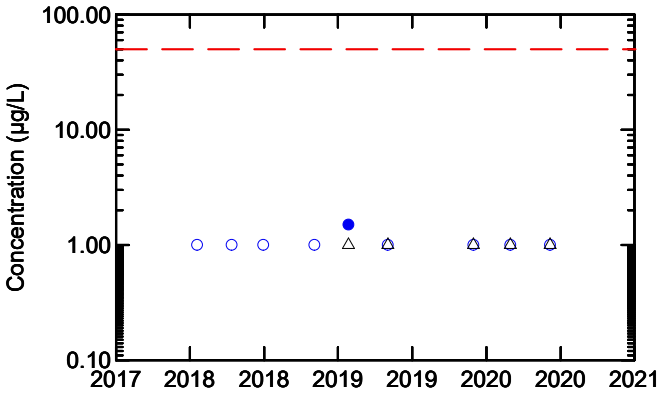
– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

WELL MW-03B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

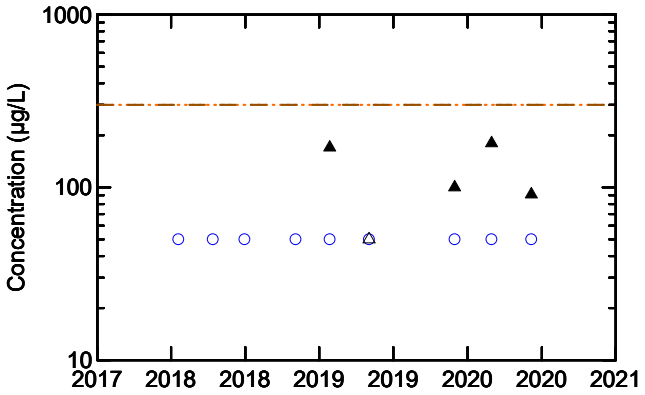
Chromium



Total: No detected results

Dissolved: Over 50% non-detects

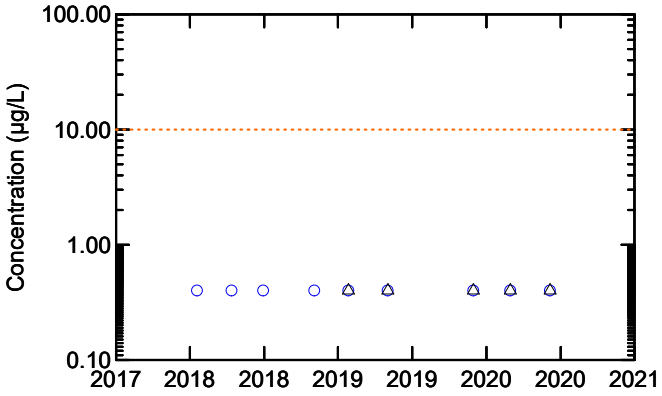
Iron



Total: Stable

Dissolved: No detected results

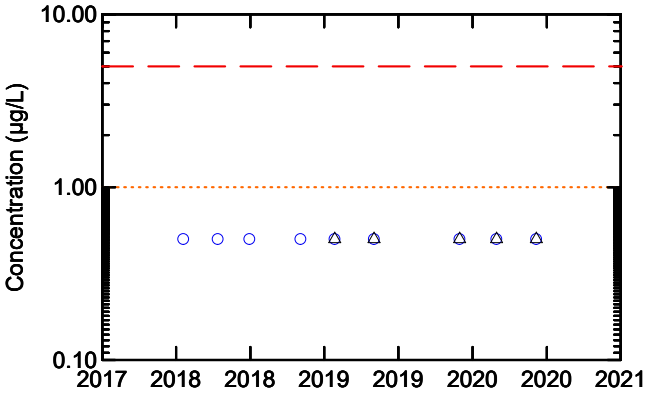
Cobalt



Total: No detected results

Dissolved: No detected results

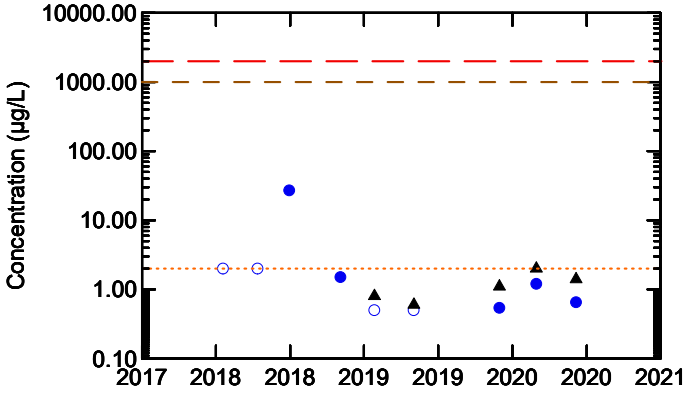
Lead



Total: No detected results

Dissolved: No detected results

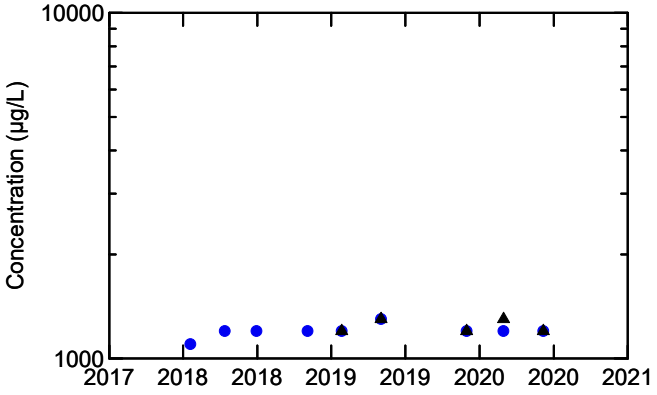
Copper



Total: No trend identified

Dissolved: No trend identified

Magnesium



Total: Stable

Dissolved: No trend identified

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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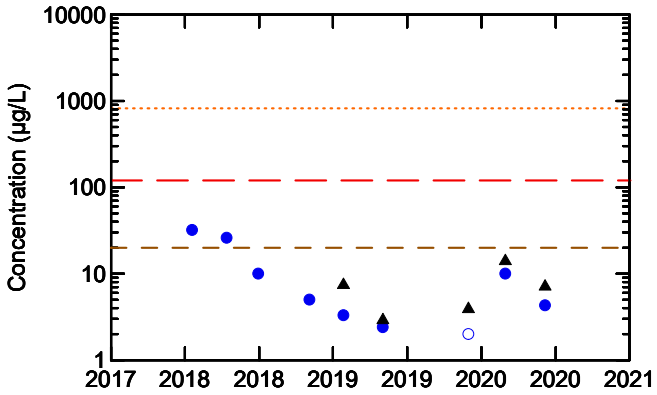
Non-detects are plotted at the reporting limit.

WELL MW-03B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

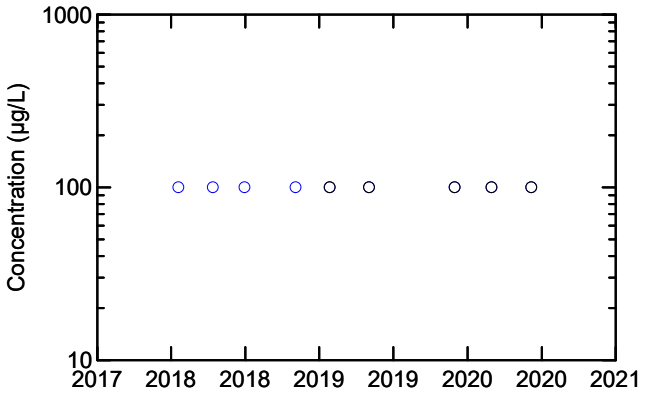
Manganese



Total: No trend identified

Dissolved: Decreasing Trend

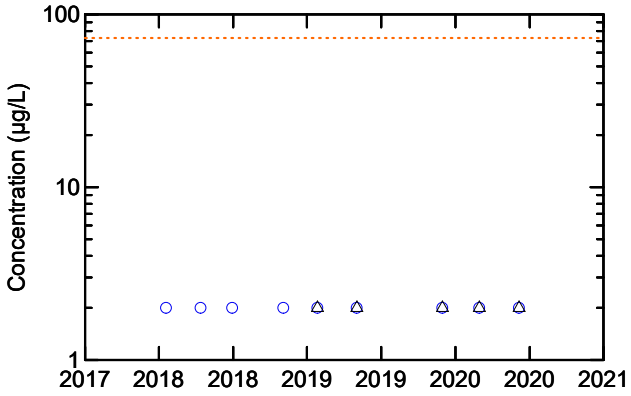
Phosphorus



Total: No detected results

Dissolved: No detected results

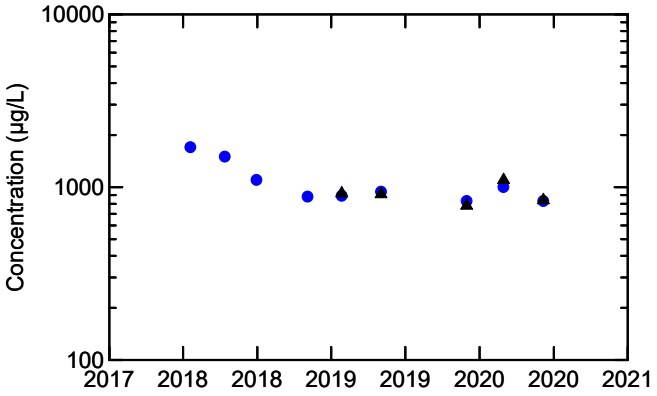
Molybdenum



Total: No detected results

Dissolved: No detected results

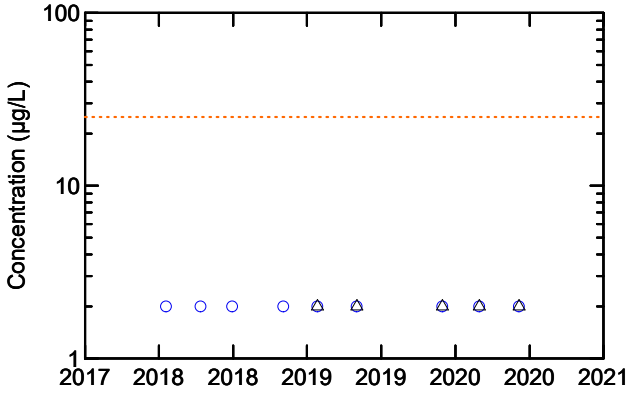
Potassium



Total: Stable

Dissolved: Decreasing Trend

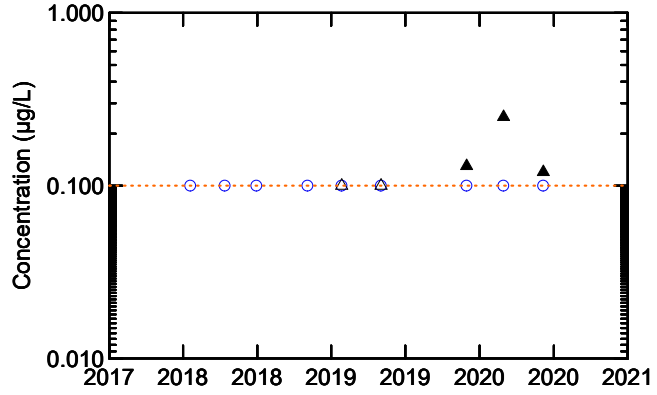
Nickel



Total: No detected results

Dissolved: No detected results

Silver



Total: No trend identified

Dissolved: No detected results

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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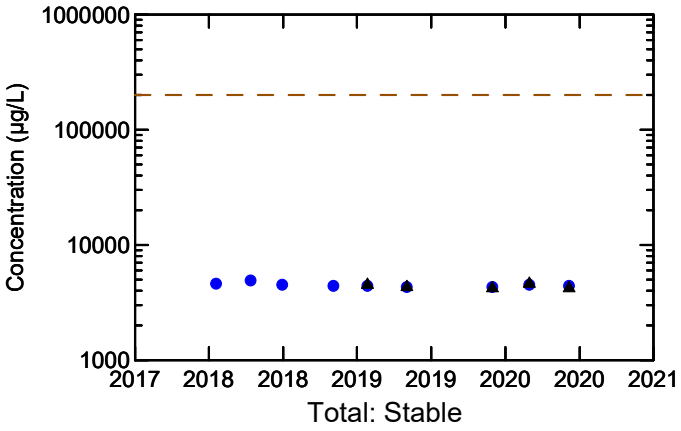
Non-detects are plotted at the reporting limit.

WELL MW-03B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

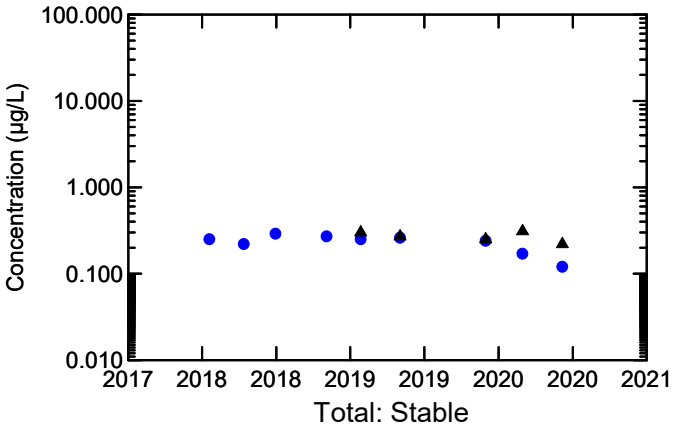
Sodium



Total: Stable

Dissolved: Probably Decreasing

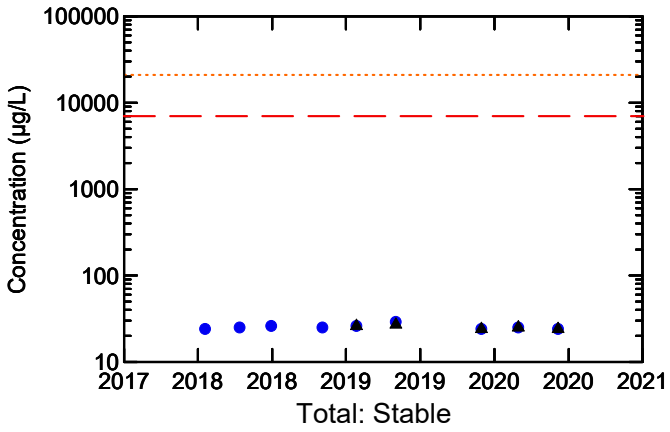
Uranium



Total: Stable

Dissolved: Probably Decreasing

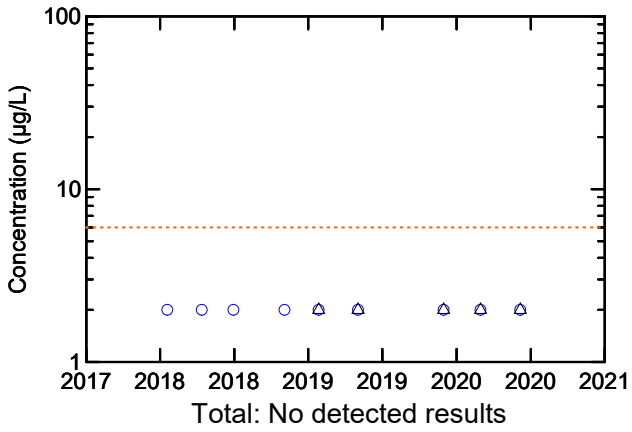
Strontium



Total: Stable

Dissolved: Stable

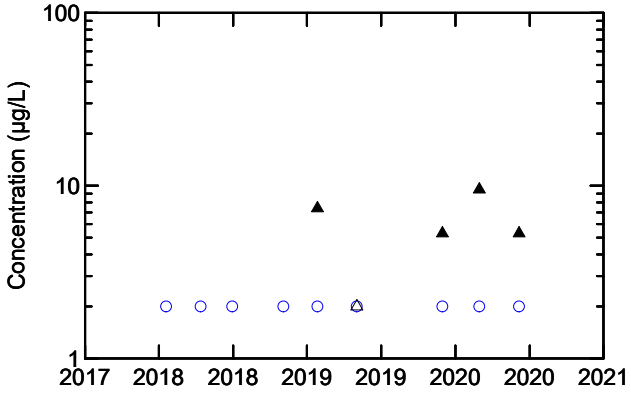
Vanadium



Total: No detected results

Dissolved: No detected results

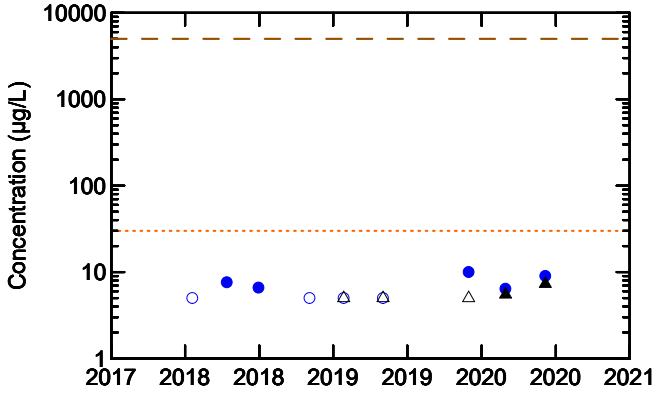
Titanium



Total: No trend identified

Dissolved: No detected results

Zinc



Total: Over 50% non-detects

Dissolved: No trend identified

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

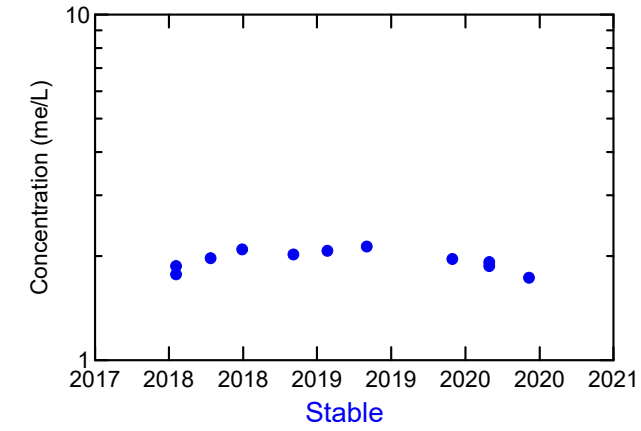
– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

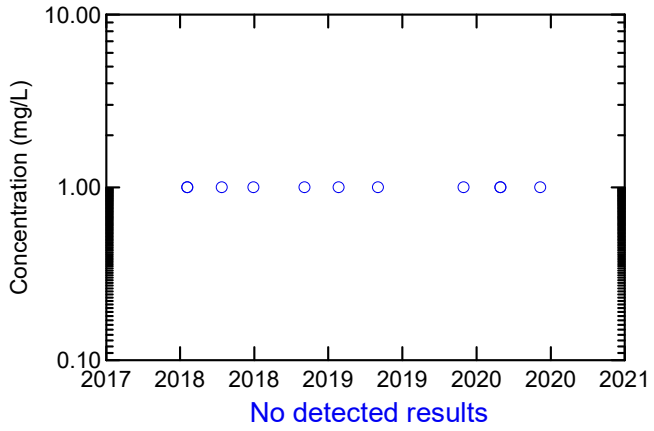
WELL MW-03B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Anion Sum



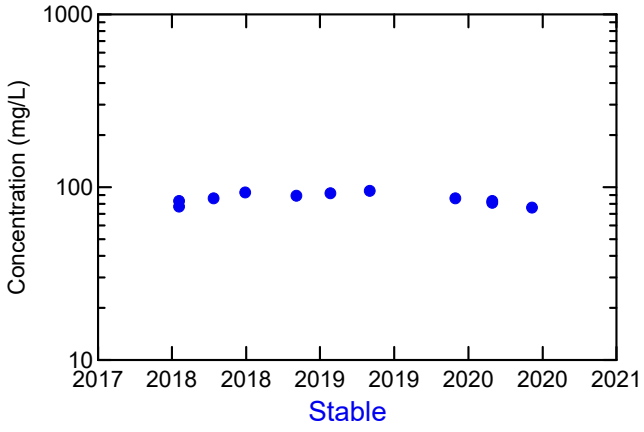
Stable

Carb. Alkalinity (calc. as CaCO3)



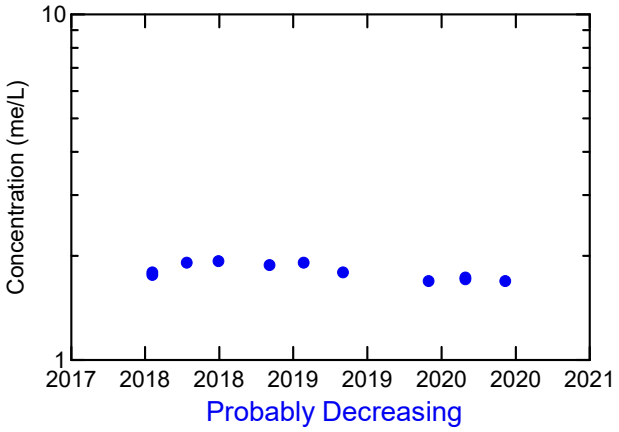
No detected results

Bicarb. Alkalinity (calc. as CaCO3)



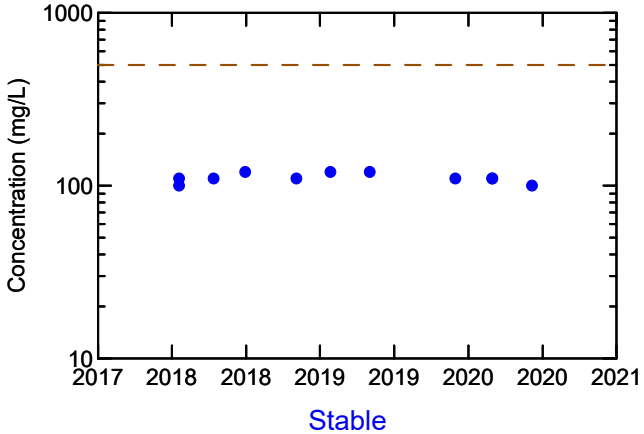
Stable

Cation Sum



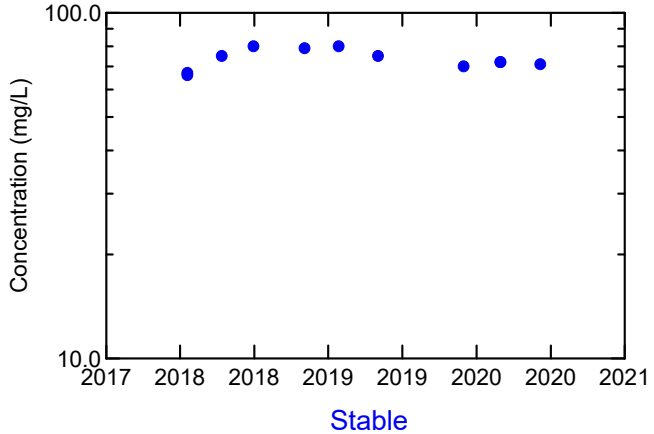
Probably Decreasing

Calculated TDS



Stable

Hardness (CaCO3)



Stable

Legend:

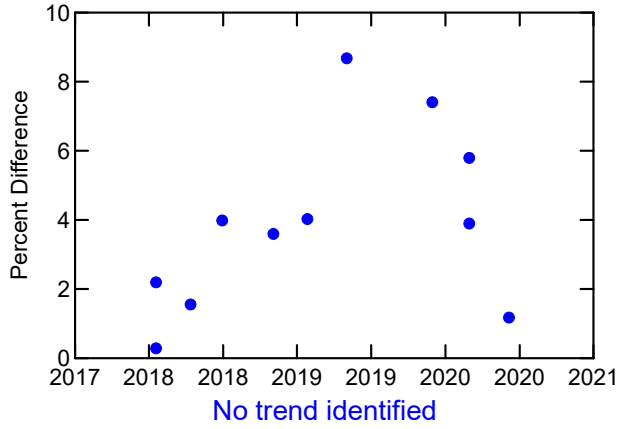
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines - Aesthetic

WELL MW-03C
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

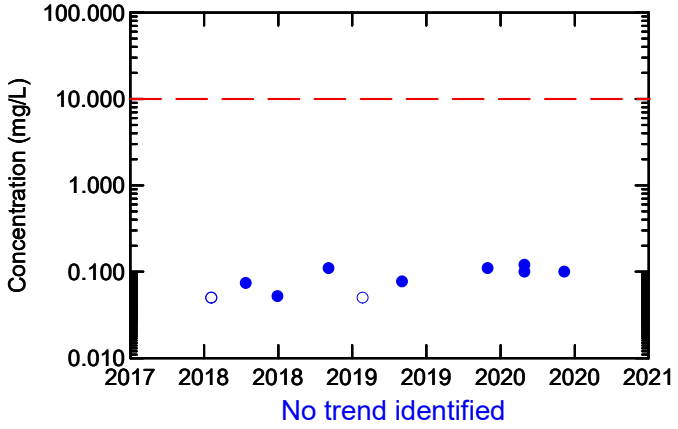
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Ion Balance



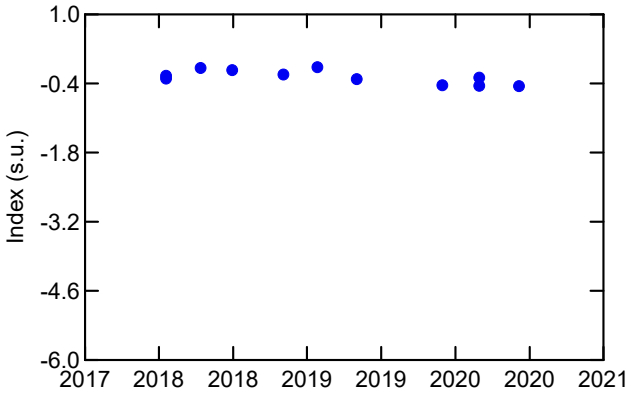
No trend identified

Nitrate



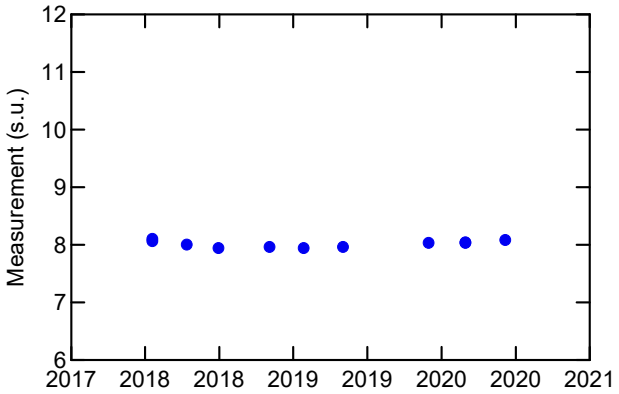
No trend identified

Langelier Index (@ 20C)



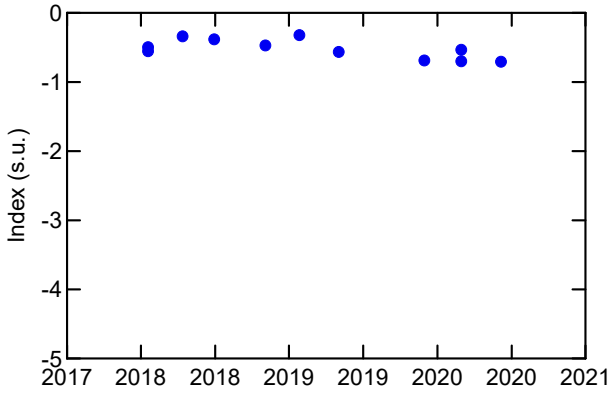
Decreasing Trend

Saturation pH (@ 20C)



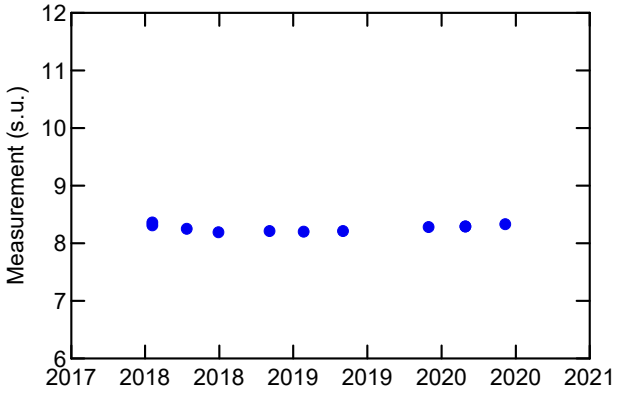
No trend identified

Langelier Index (@ 4C)



Decreasing Trend

Saturation pH (@ 4C)



No trend identified

Legend:

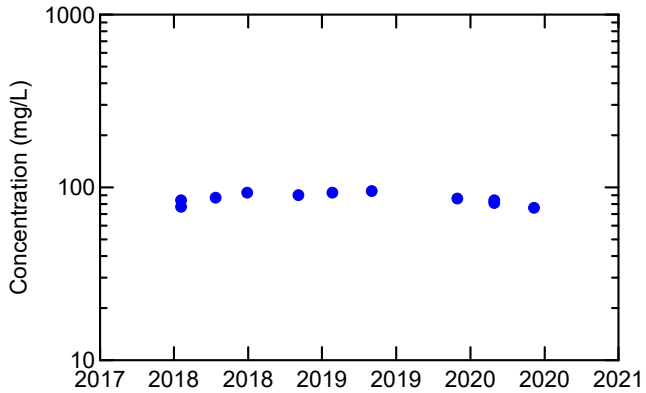
● Detected result ○ Non-Detect

— — Canadian Drinking Water Quality Guidelines: Maximum Acceptable

WELL MW-03C
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

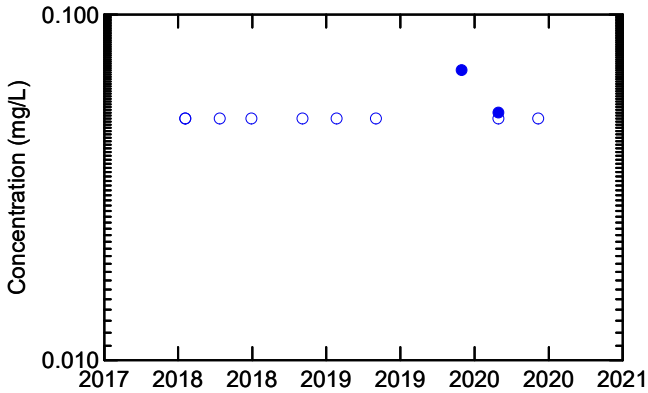
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Total Alkalinity (Total as CaCO3)



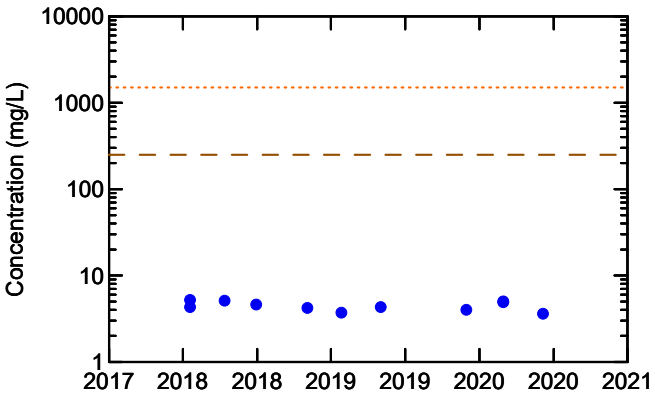
Stable

Nitrogen (Ammonia Nitrogen)



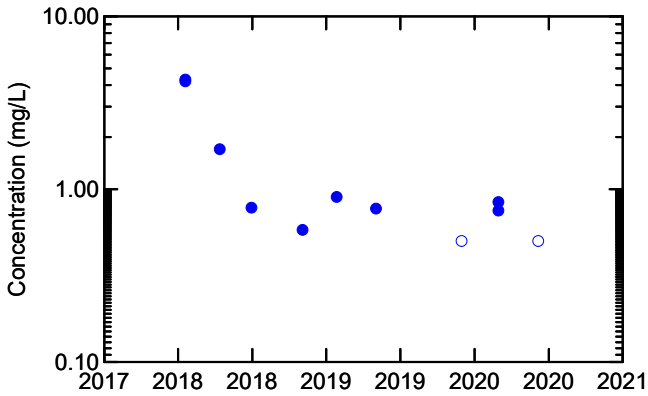
Over 50% non-detects

Dissolved Chloride



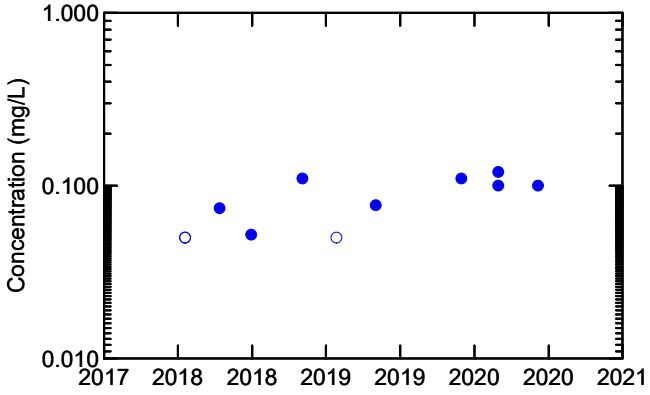
Stable

Total Organic Carbon



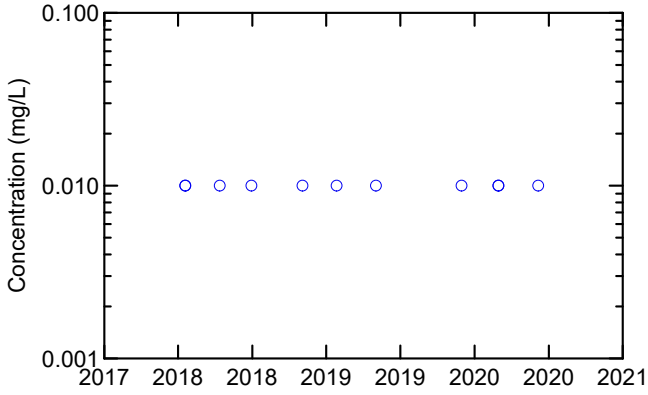
Decreasing Trend

Nitrate + Nitrite



No trend identified

Orthophosphate



No detected results

Legend:

● Detected result ○ Non-Detect

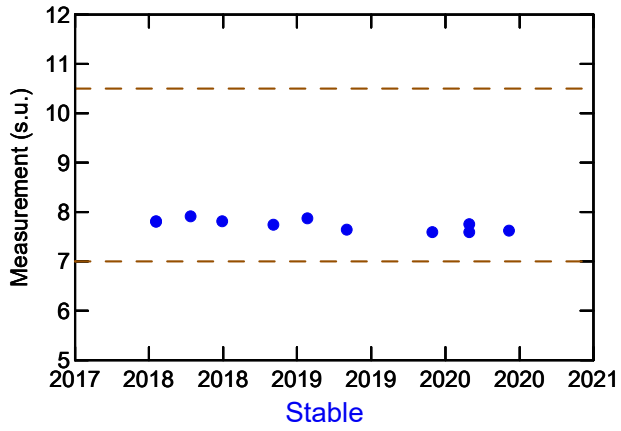
Nova Scotia (2014) Pathway-Specific Standard for Groundwater

Canadian Drinking Water Quality Guideline: Aesthetic

WELL MW-03C
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

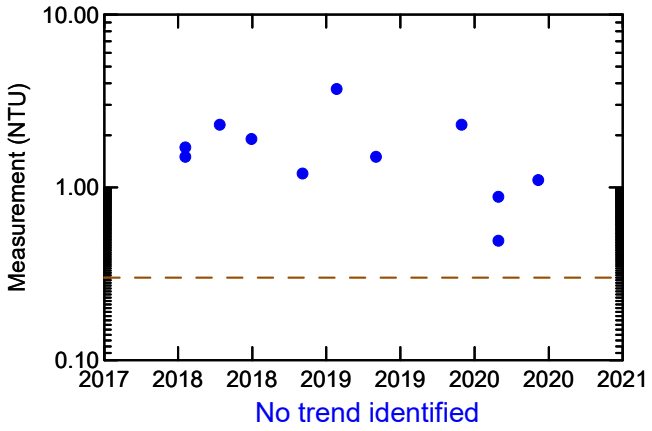
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

pH



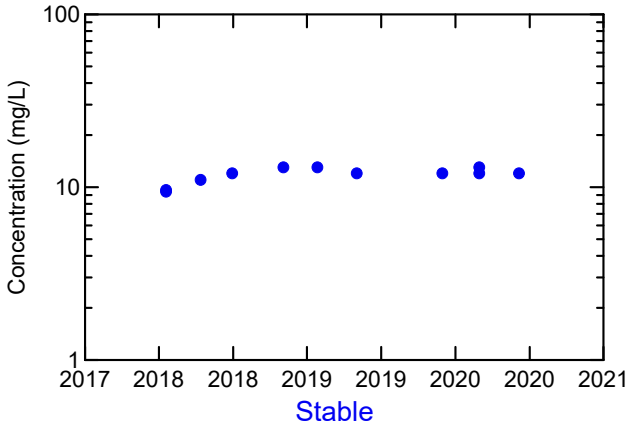
Stable

Turbidity



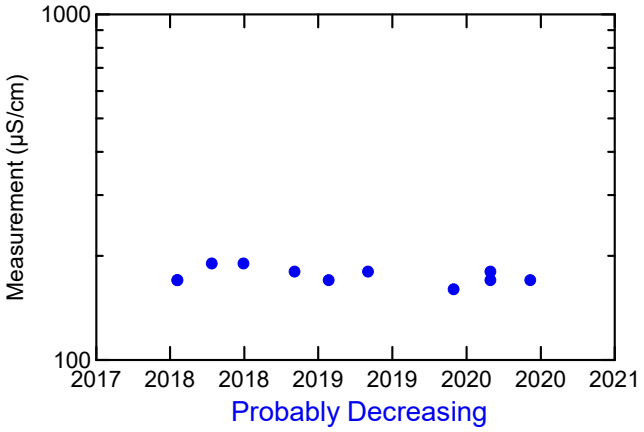
No trend identified

Reactive Silica (SiO2)



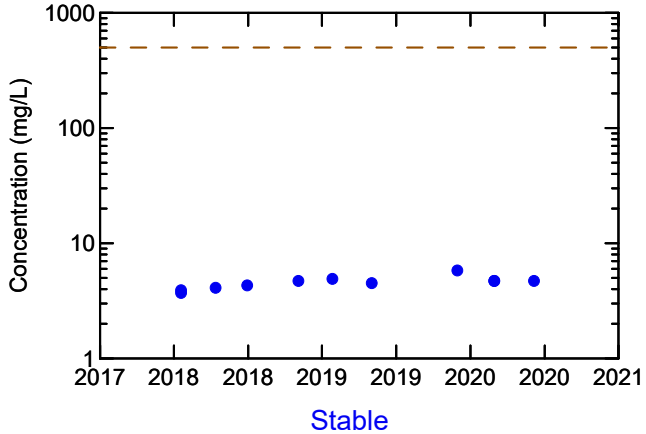
Stable

Conductivity



Probably Decreasing

Dissolved Sulphate (SO4)



Stable

Legend:

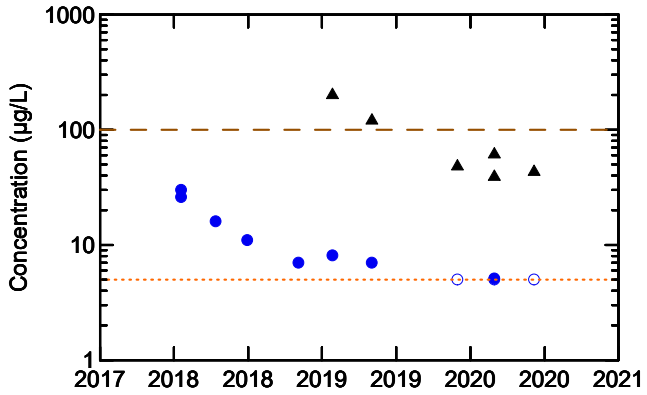
● Detected result ○ Non-Detect

– – - Canadian Drinking Water Quality Guidelines: Aesthetic

WELL MW-03C
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

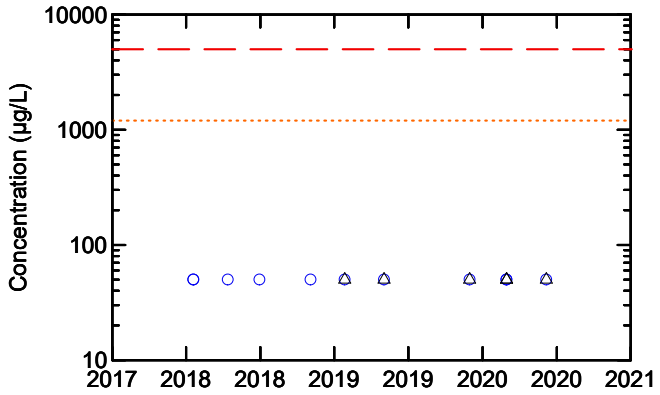
Aluminum



Total: Probably Decreasing

Dissolved: Decreasing Trend

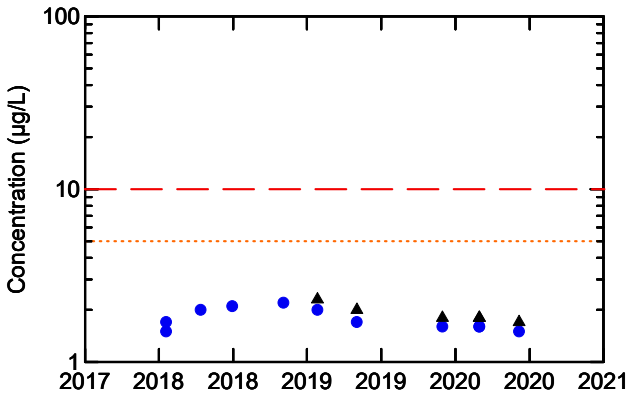
Boron



Total: No detected results

Dissolved: No detected results

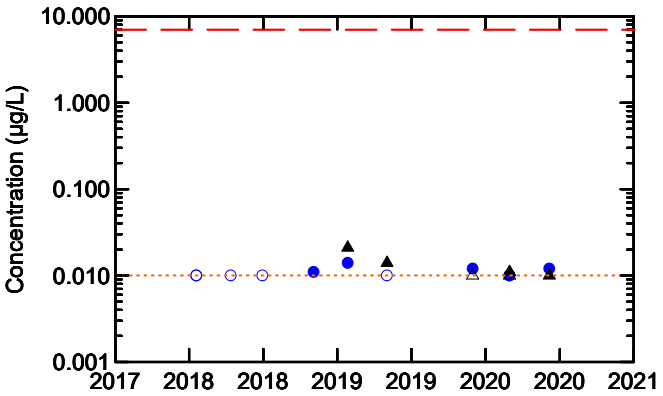
Arsenic



Total: Decreasing Trend

Dissolved: Stable

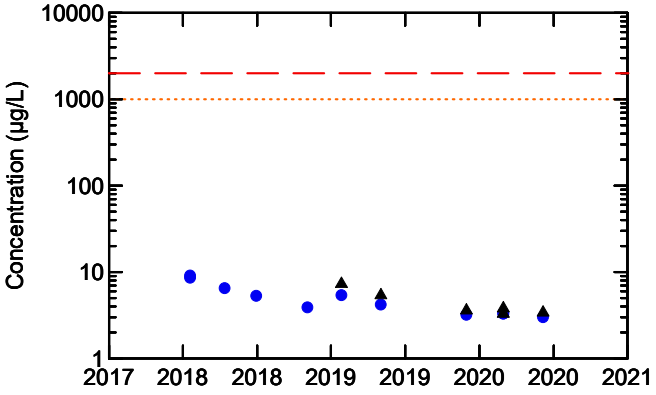
Cadmium



Total: Stable

Dissolved: No trend identified

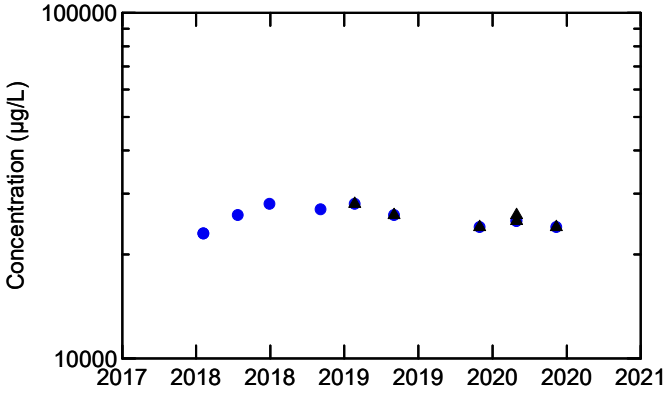
Barium



Total: Decreasing Trend

Dissolved: Decreasing Trend

Calcium



Total: Stable

Dissolved: Stable

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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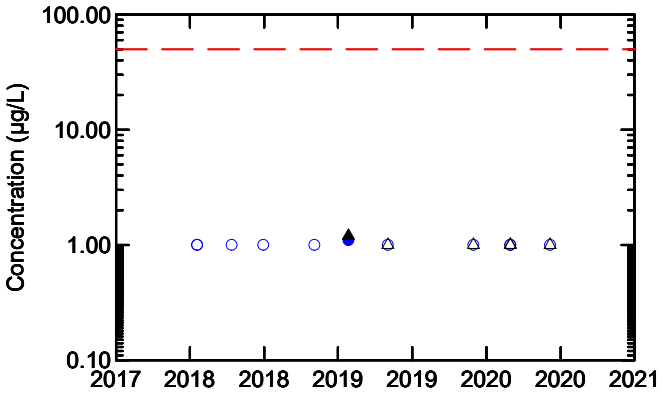
Non-detects are plotted at the reporting limit.

WELL MW-03C
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

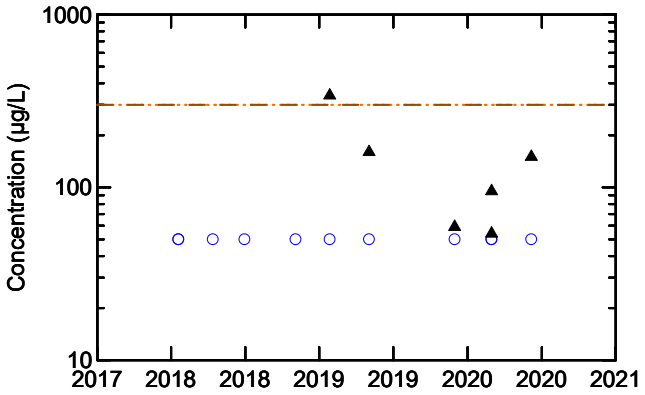
Chromium



Total: Over 50% non-detects

Dissolved: Over 50% non-detects

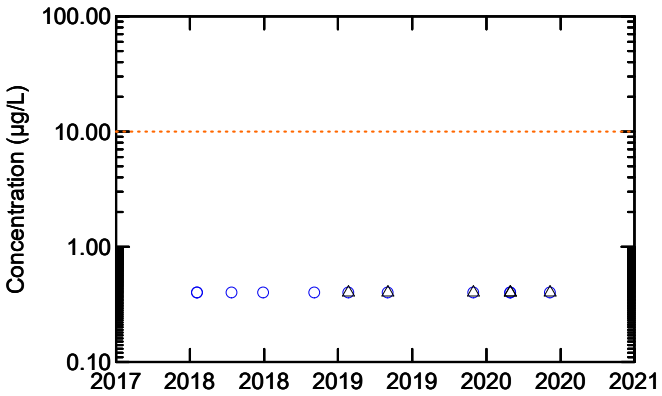
Iron



Total: Stable

Dissolved: No detected results

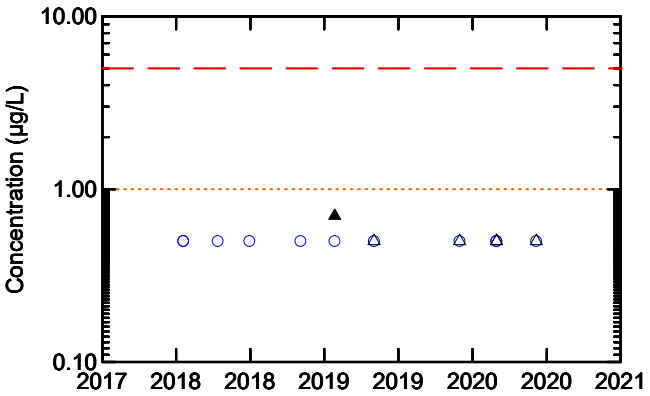
Cobalt



Total: No detected results

Dissolved: No detected results

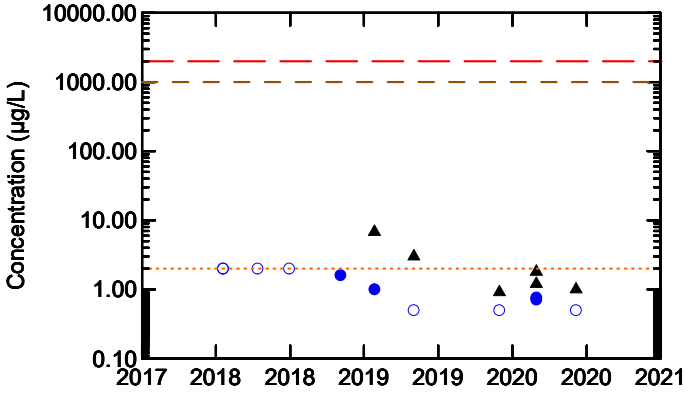
Lead



Total: Over 50% non-detects

Dissolved: No detected results

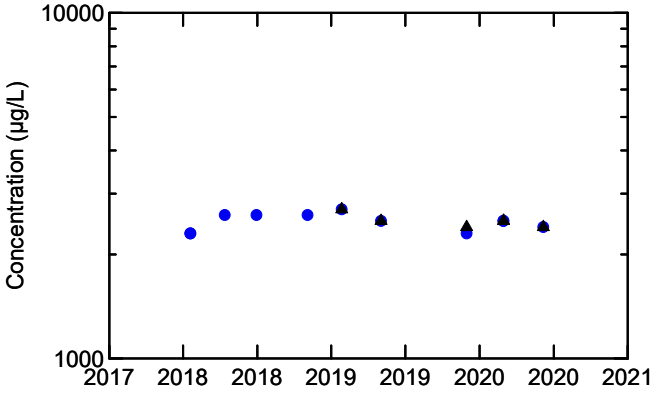
Copper



Total: Stable

Dissolved: Over 50% non-detects

Magnesium



Total: Stable

Dissolved: Stable

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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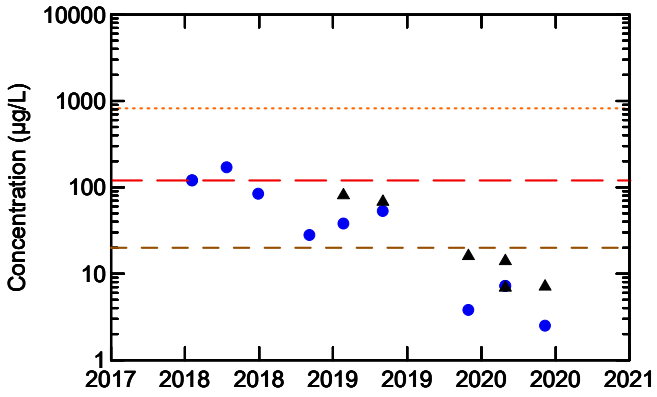
WELL MW-03C
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

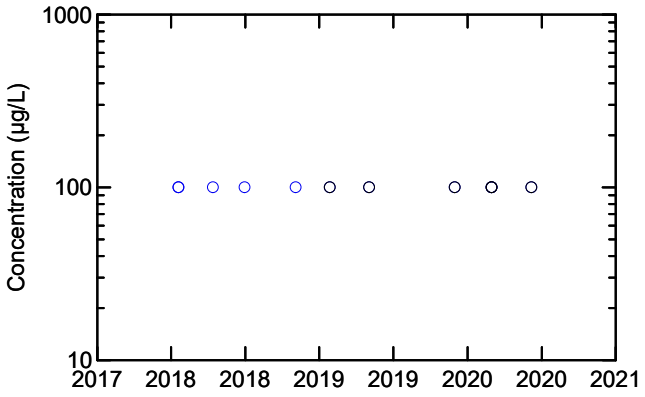
Manganese



Total: Decreasing Trend

Dissolved: Decreasing Trend

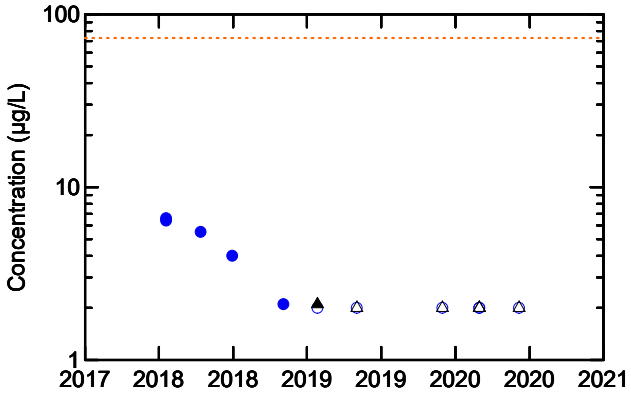
Phosphorus



Total: No detected results

Dissolved: No detected results

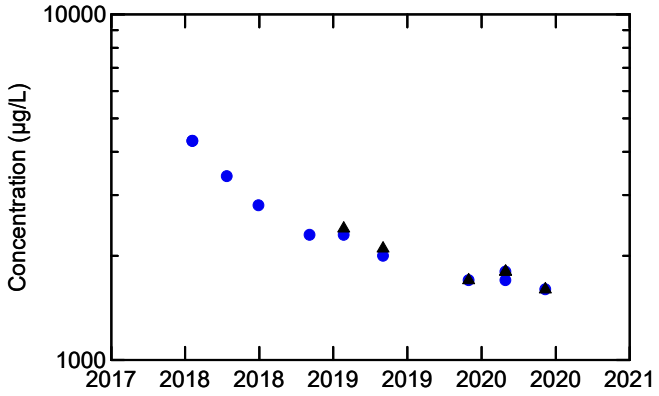
Molybdenum



Total: Over 50% non-detects

Dissolved: Over 50% non-detects

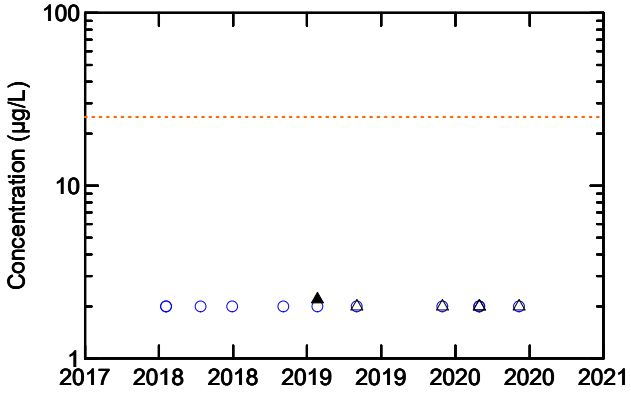
Potassium



Total: Probably Decreasing

Dissolved: Decreasing Trend

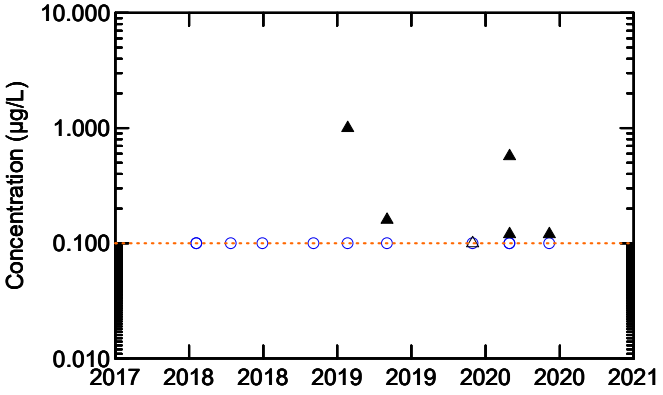
Nickel



Total: Over 50% non-detects

Dissolved: No detected results

Silver



Total: No trend identified

Dissolved: No detected results

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

Nova Scotia (2014) Pathway-Specific Standard for Groundwater

Canadian Drinking Water Quality Guideline: Maximum Acceptable

Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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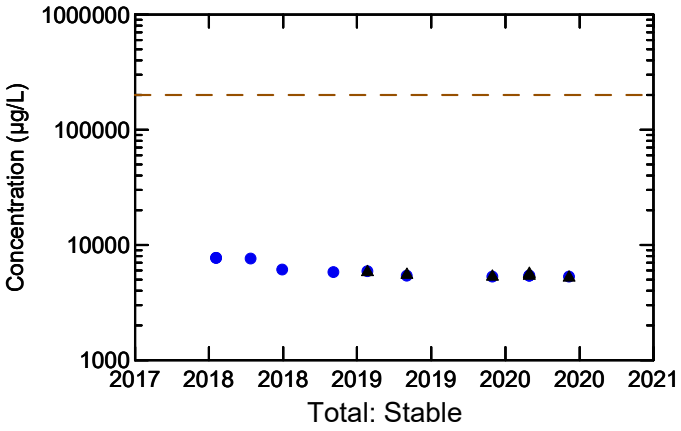
WELL MW-03C
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

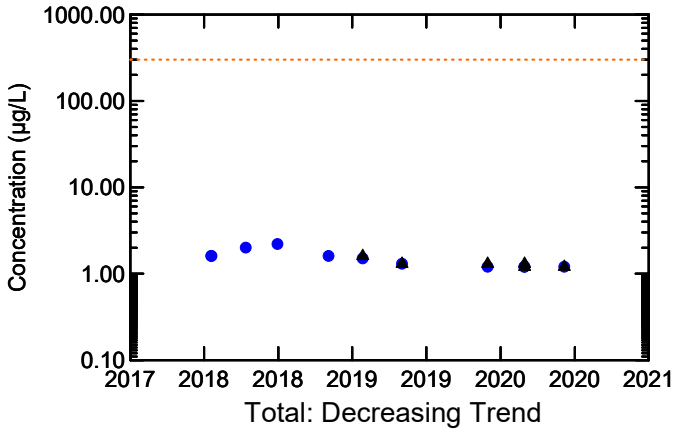
Sodium



Total: Stable

Dissolved: Decreasing Trend

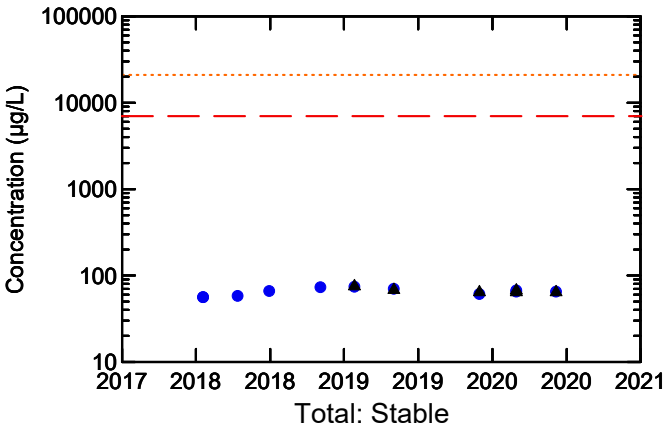
Uranium



Total: Decreasing Trend

Dissolved: Decreasing Trend

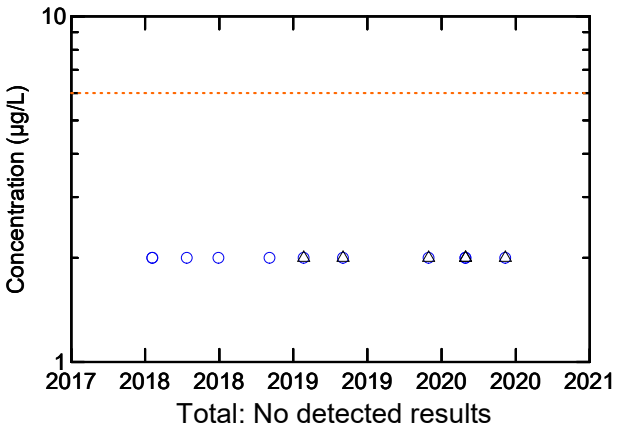
Strontium



Total: Stable

Dissolved: No trend identified

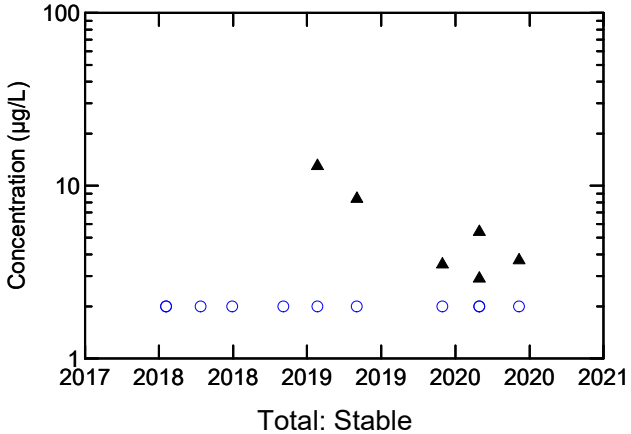
Vanadium



Total: No detected results

Dissolved: No detected results

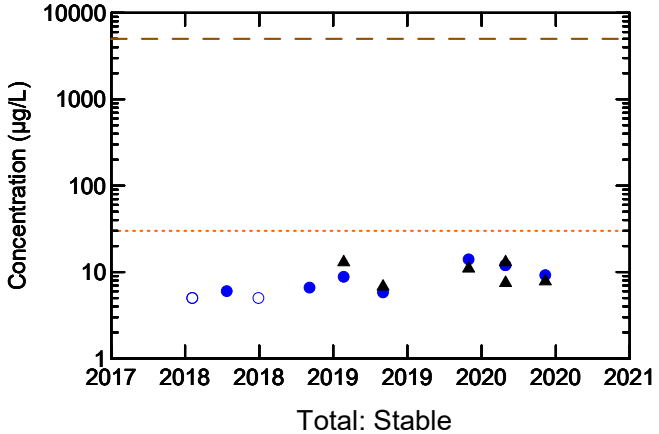
Titanium



Total: Stable

Dissolved: No detected results

Zinc



Total: Stable

Dissolved: Increasing Trend

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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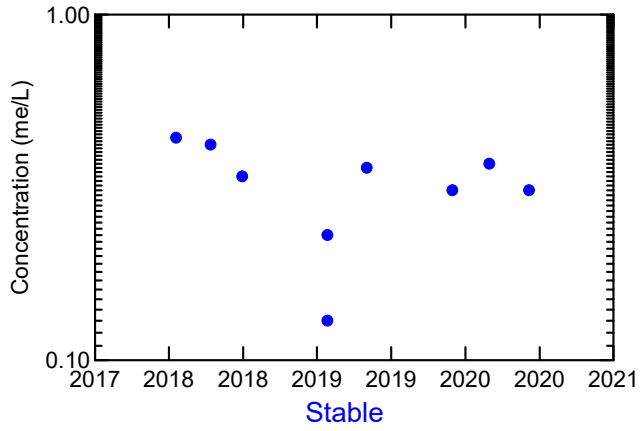
Non-detects are plotted at the reporting limit.

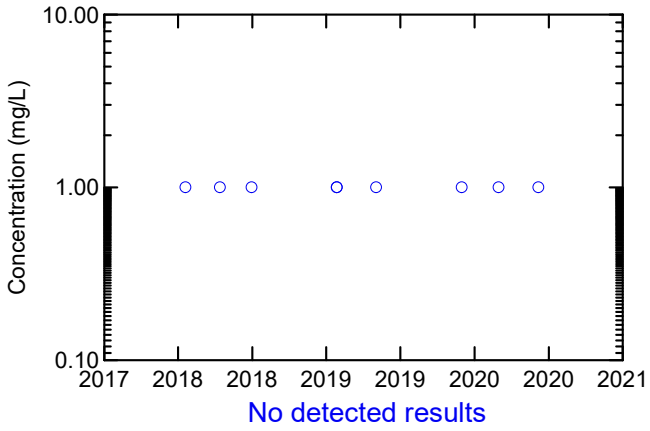
WELL MW-03C
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Anion Sum



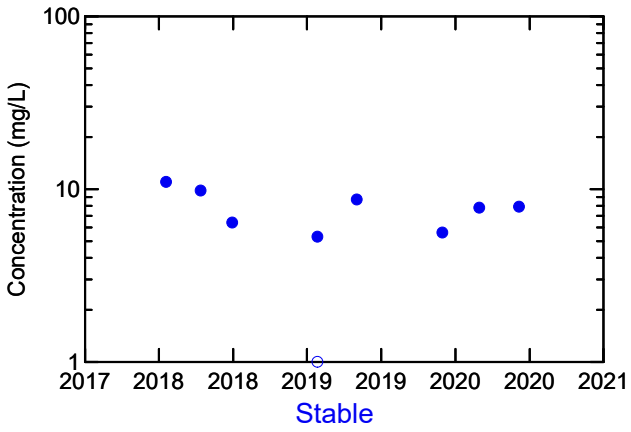
Stable

Carb. Alkalinity (calc. as CaCO3)



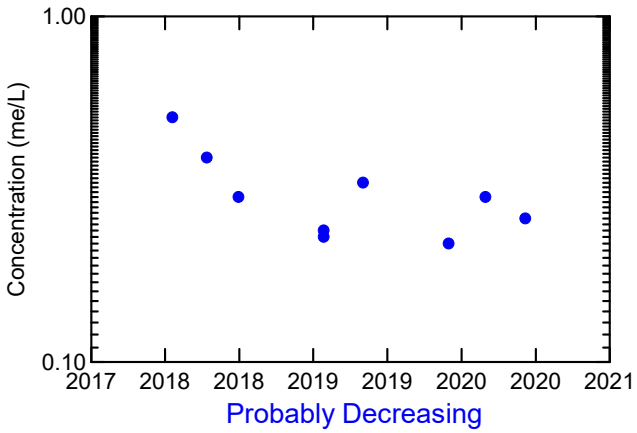
No detected results

Bicarb. Alkalinity (calc. as CaCO3)



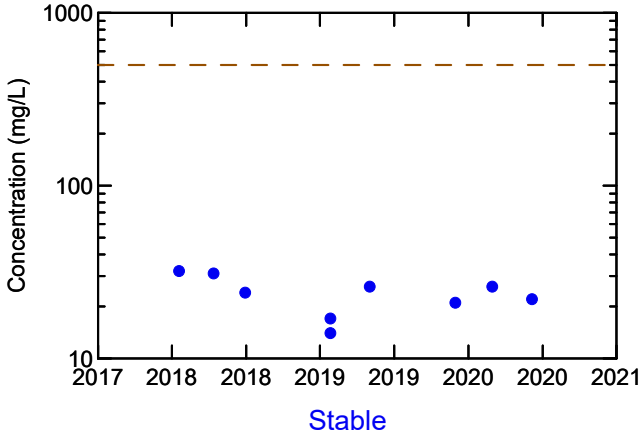
Stable

Cation Sum



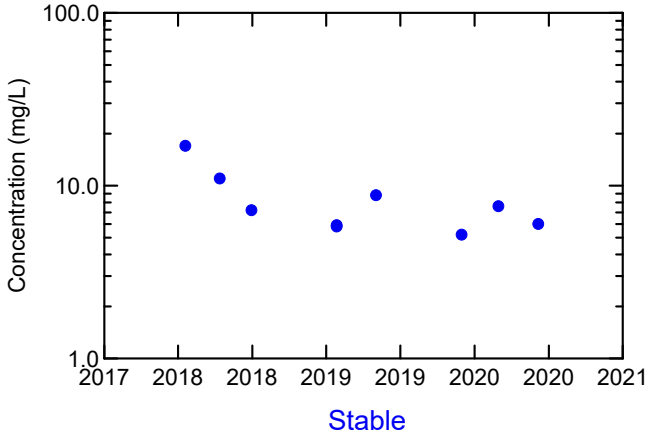
Probably Decreasing

Calculated TDS



Stable

Hardness (CaCO3)



Stable

Legend:

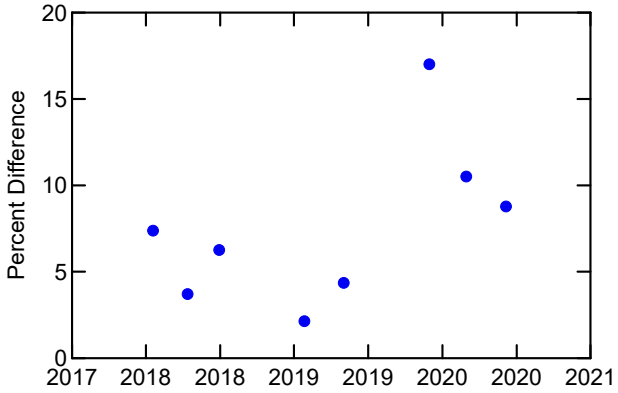
● Detected result ○ Non-Detect

— — - Canadian Drinking Water Quality Guidelines - Aesthetic

WELL MW-04A
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

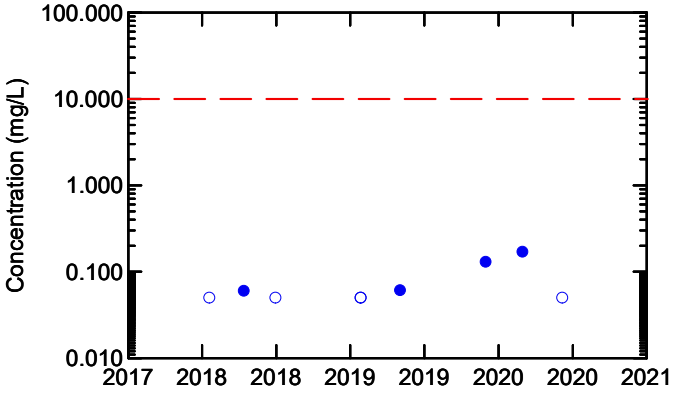
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Ion Balance



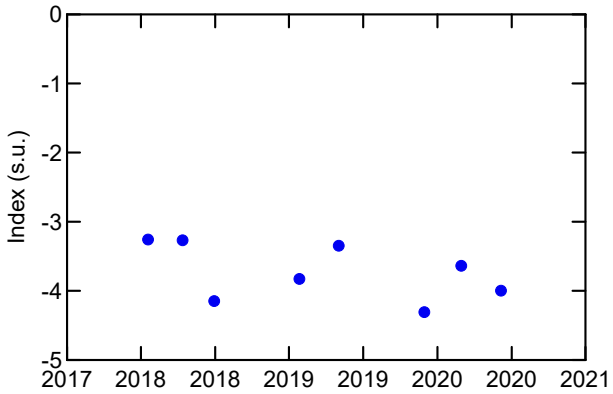
No trend identified

Nitrate



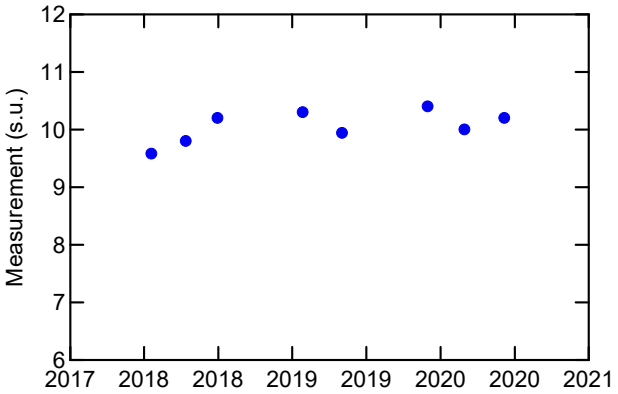
No trend identified

Langelier Index (@ 20C)



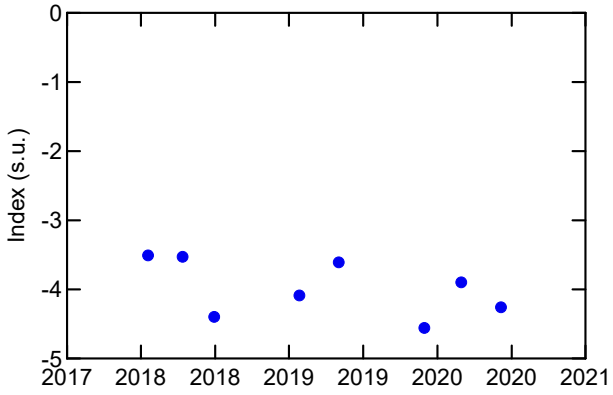
Stable

Saturation pH (@ 20C)



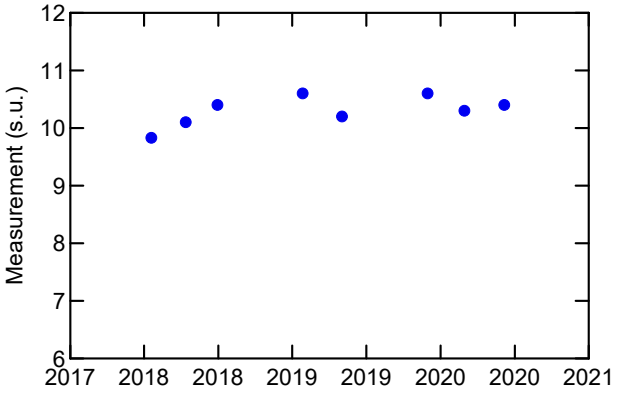
No trend identified

Langelier Index (@ 4C)



Stable

Saturation pH (@ 4C)



No trend identified

Legend:

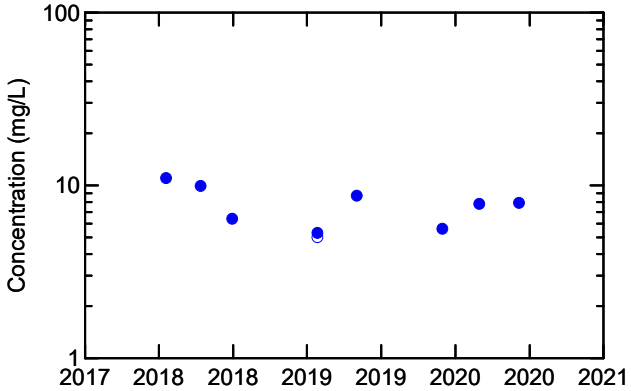
● Detected result ○ Non-Detect

— — Canadian Drinking Water Quality Guidelines: Maximum Acceptable

WELL MW-04A
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

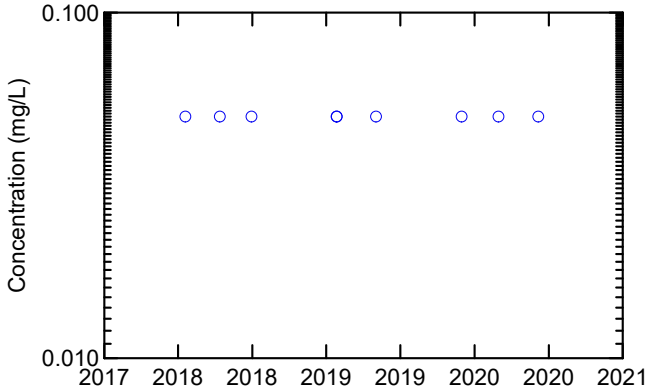
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Total Alkalinity (Total as CaCO3)



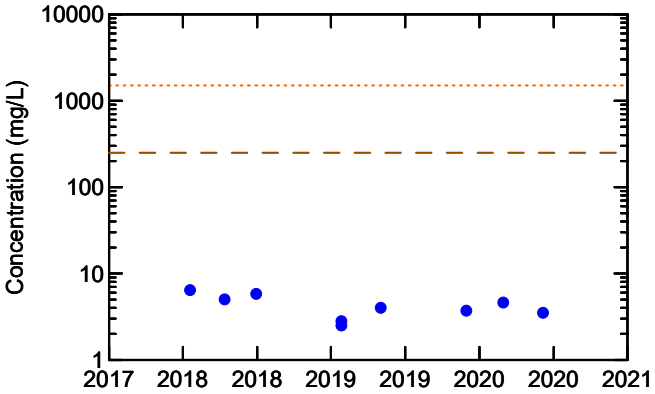
Stable

Nitrogen (Ammonia Nitrogen)



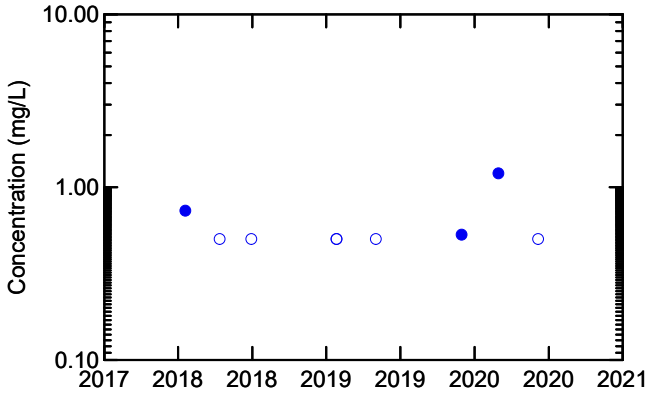
No detected results

Dissolved Chloride



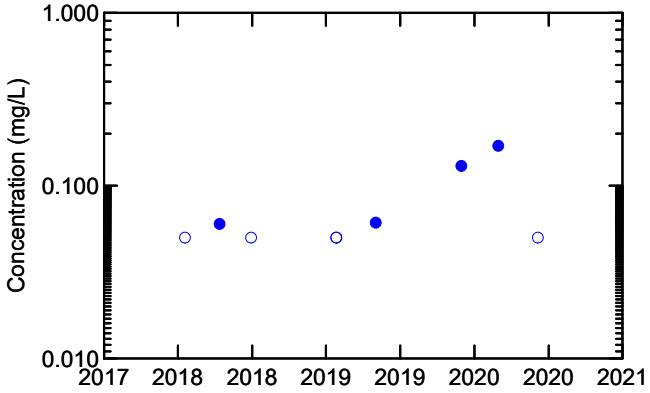
Stable

Total Organic Carbon



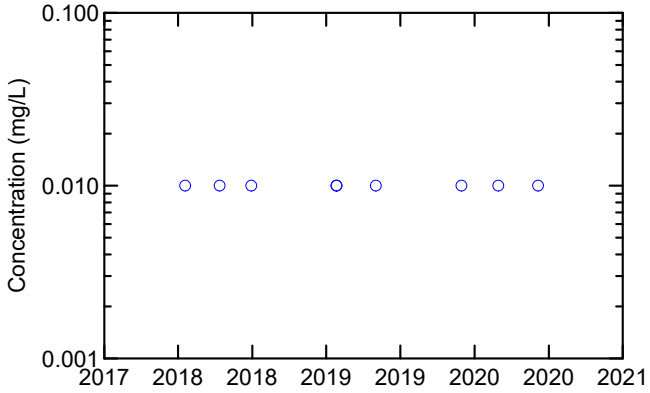
Over 50% non-detects

Nitrate + Nitrite



No trend identified

Orthophosphate



No detected results

Legend:

● Detected result ○ Non-Detect

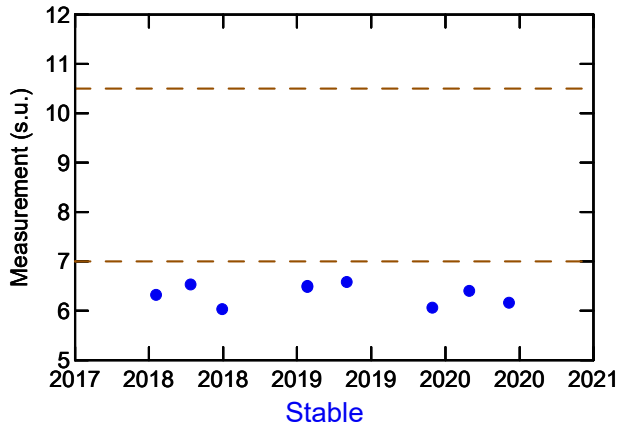
Nova Scotia (2014) Pathway-Specific Standard for Groundwater

Canadian Drinking Water Quality Guideline: Aesthetic

WELL MW-04A
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

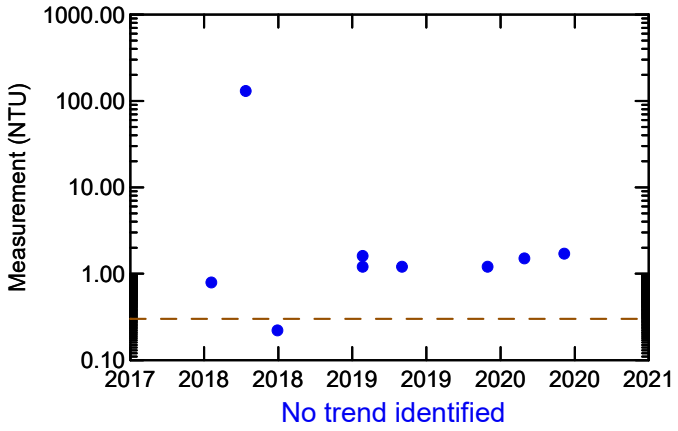
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

pH



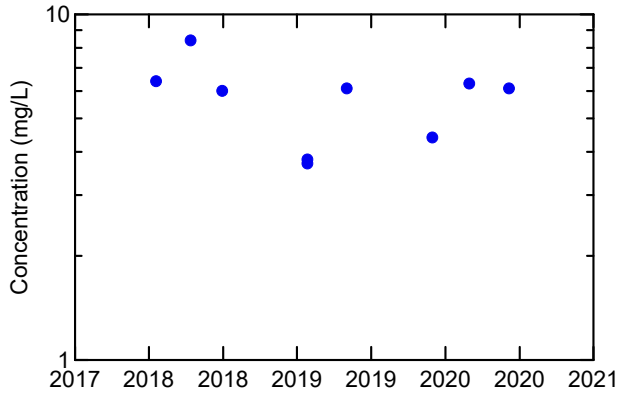
Stable

Turbidity



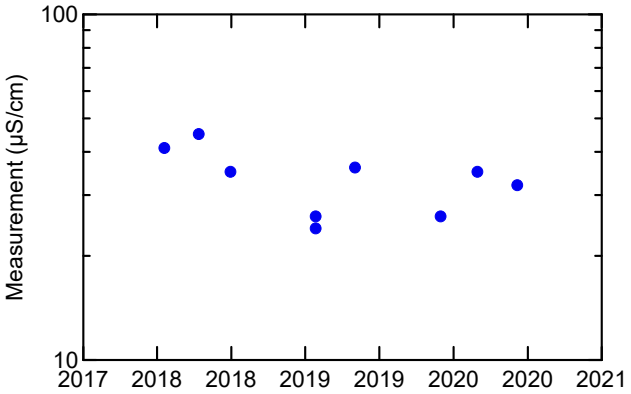
No trend identified

Reactive Silica (SiO2)



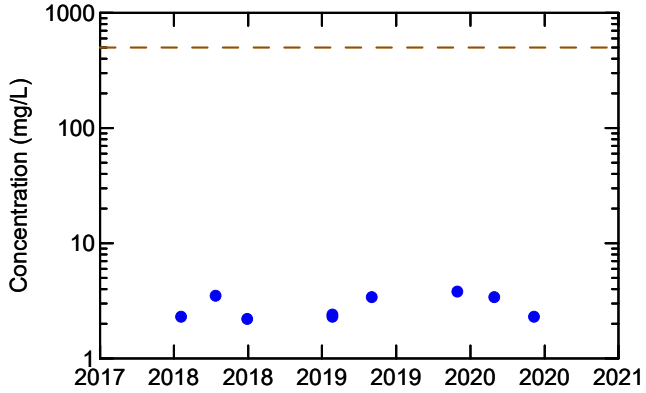
Stable

Conductivity



Probably Decreasing

Dissolved Sulphate (SO4)



Stable

Legend:

● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines: Aesthetic

WELL MW-04A
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Notes:
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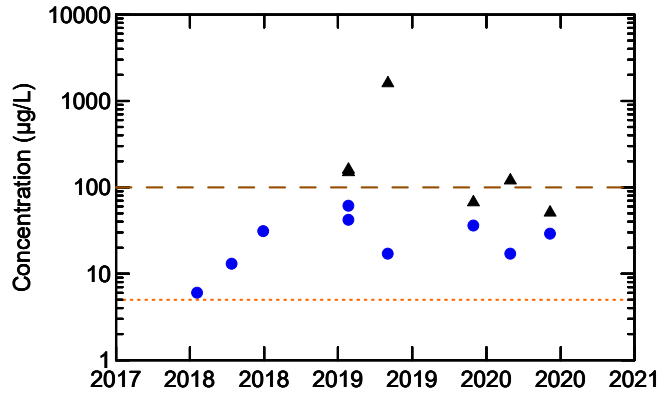
Non-detects are plotted at the reporting limit.

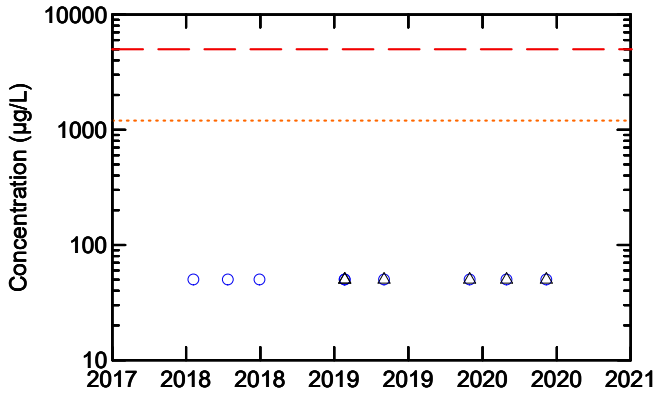
Aluminum



Total: No trend identified

Dissolved: No trend identified

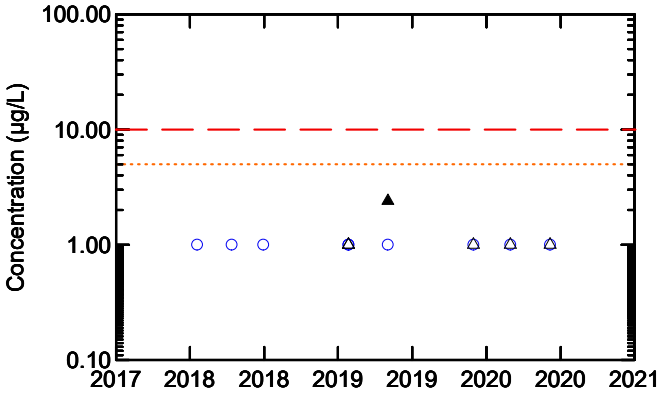
Boron



Total: No detected results

Dissolved: No detected results

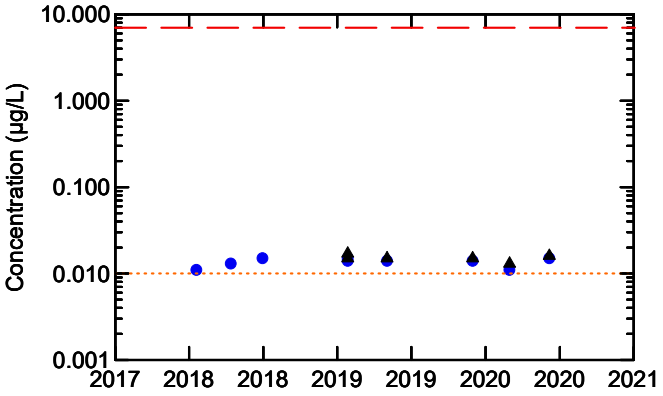
Arsenic



Total: Over 50% non-detects

Dissolved: No detected results

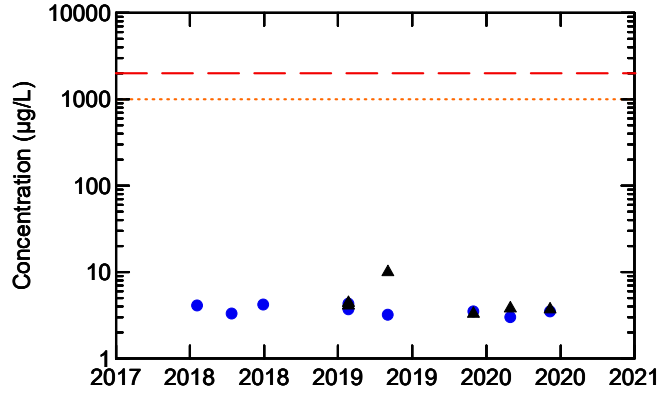
Cadmium



Total: Stable

Dissolved: No trend identified

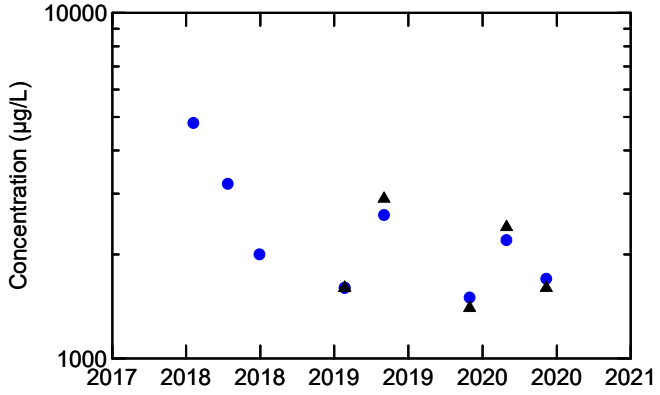
Barium



Total: Stable

Dissolved: Stable

Calcium



Total: Stable

Dissolved: Stable

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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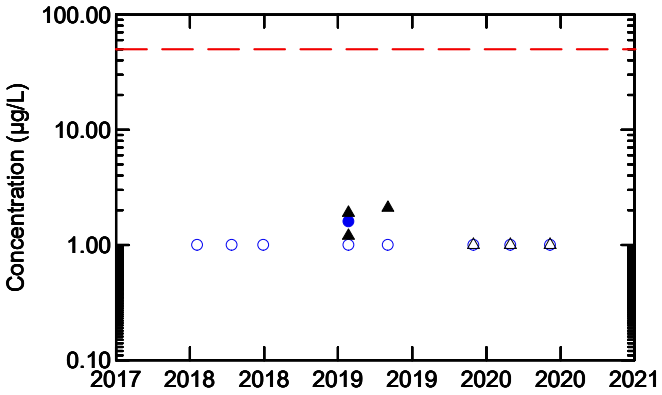
Non-detects are plotted at the reporting limit.

WELL MW-04A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

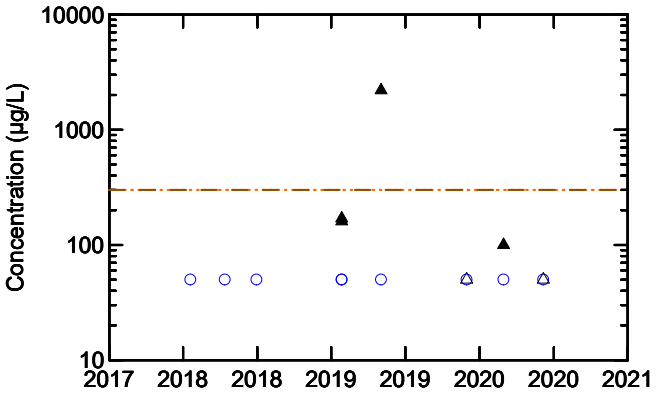
Chromium



Total: Over 50% non-detects

Dissolved: Over 50% non-detects

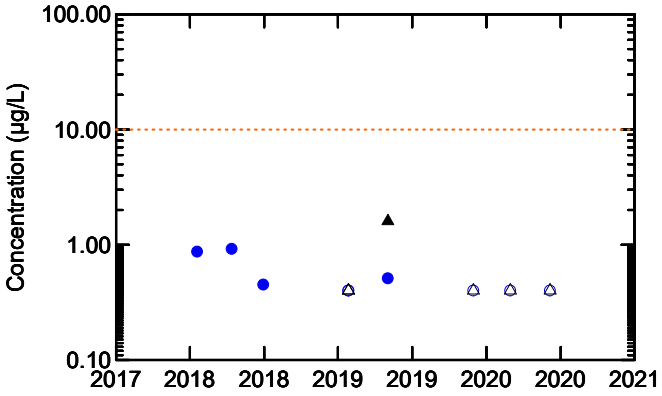
Iron



Total: No trend identified

Dissolved: No detected results

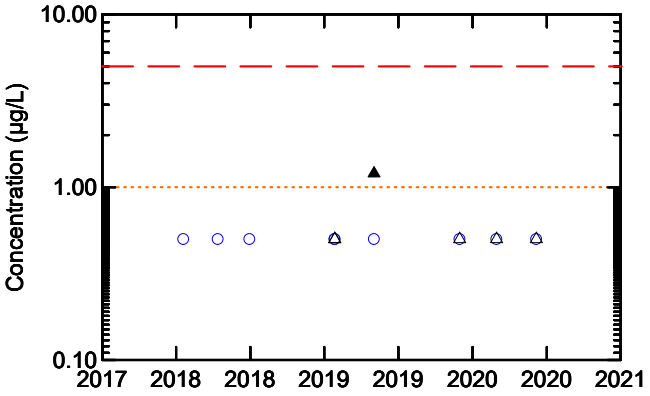
Cobalt



Total: Over 50% non-detects

Dissolved: Probably Decreasing

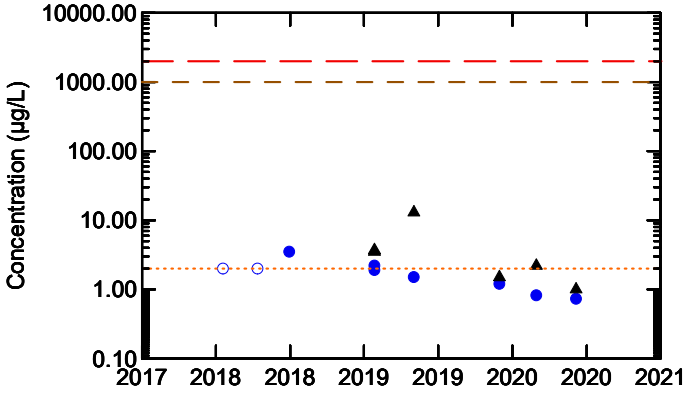
Lead



Total: Over 50% non-detects

Dissolved: No detected results

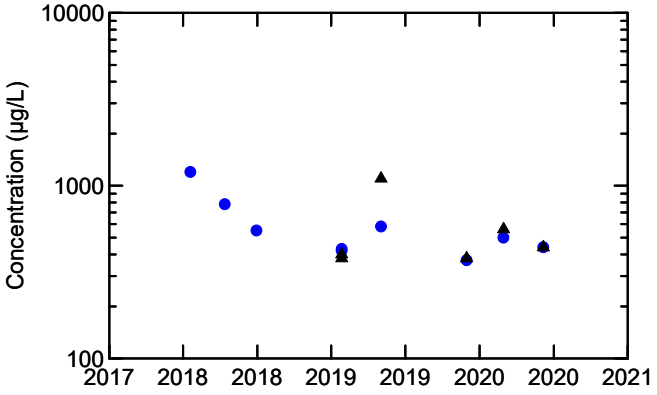
Copper



Total: No trend identified

Dissolved: Decreasing Trend

Magnesium



Total: Stable

Dissolved: Probably Decreasing

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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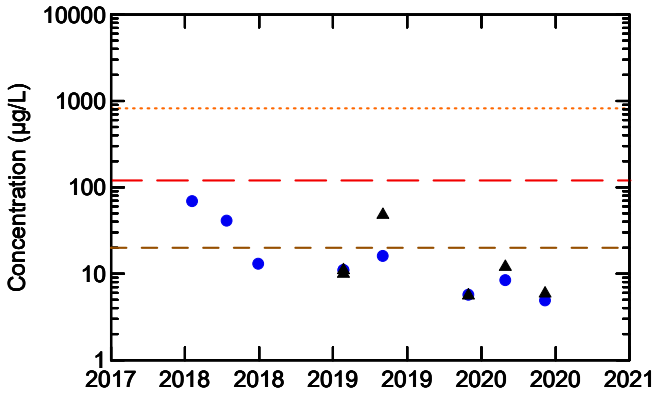
WELL MW-04A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

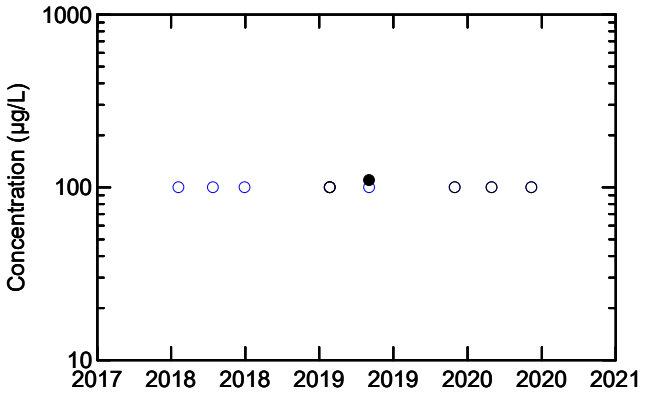
Manganese



Total: No trend identified

Dissolved: Decreasing Trend

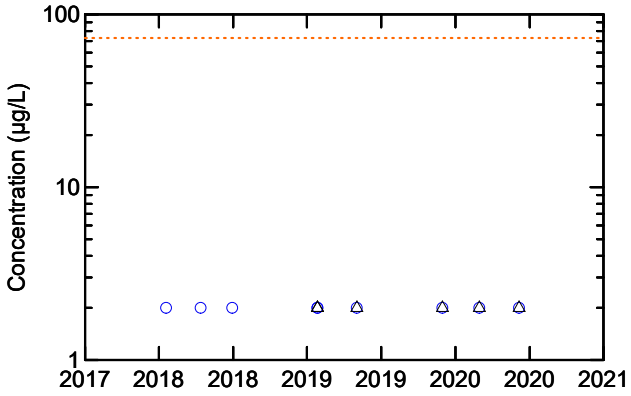
Phosphorus



Total: Over 50% non-detects

Dissolved: No detected results

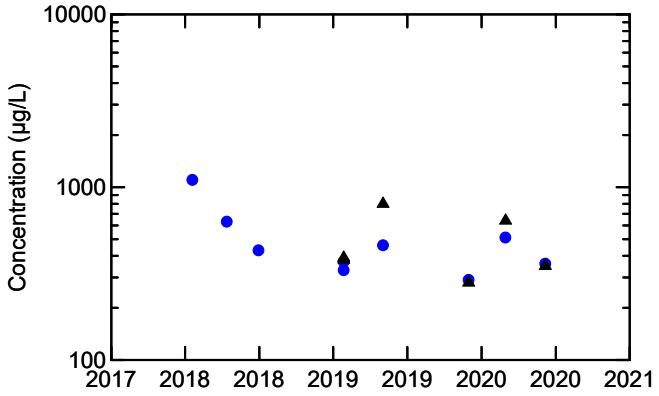
Molybdenum



Total: No detected results

Dissolved: No detected results

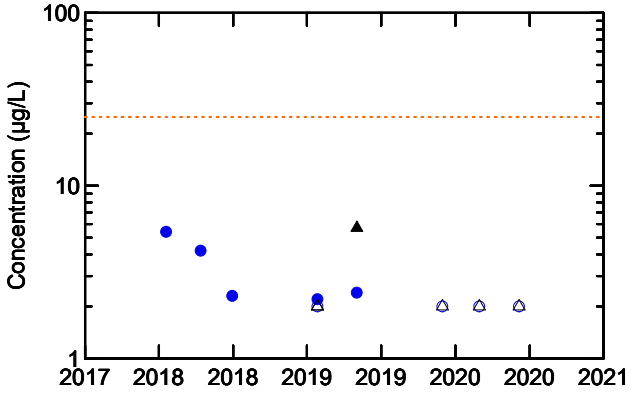
Potassium



Total: Stable

Dissolved: Stable

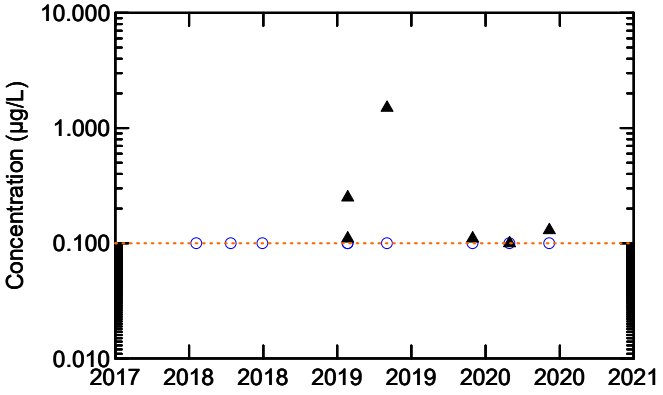
Nickel



Total: Over 50% non-detects

Dissolved: Decreasing Trend

Silver



Total: No trend identified

Dissolved: No detected results

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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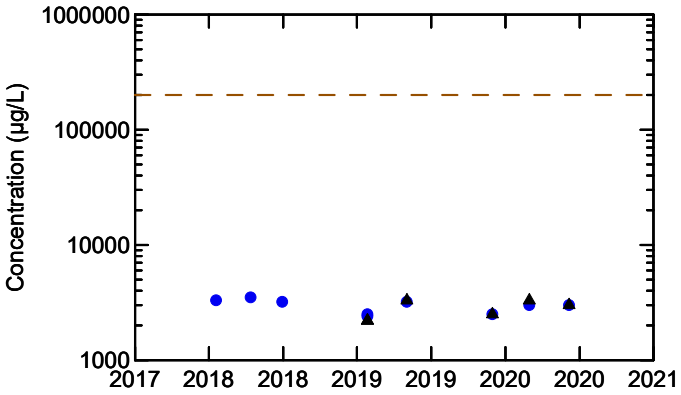
WELL MW-04A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

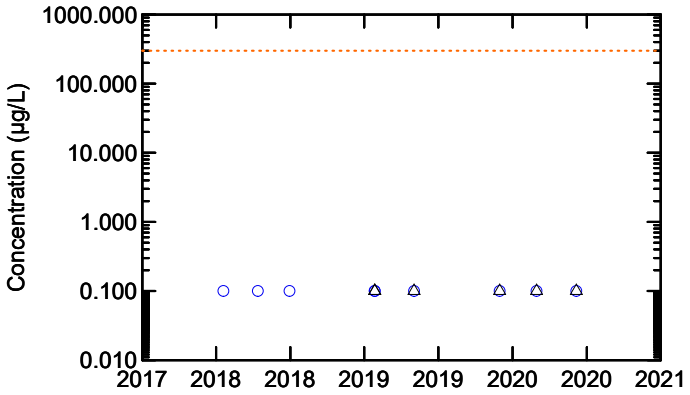
Sodium



Total: No trend identified

Dissolved: Stable

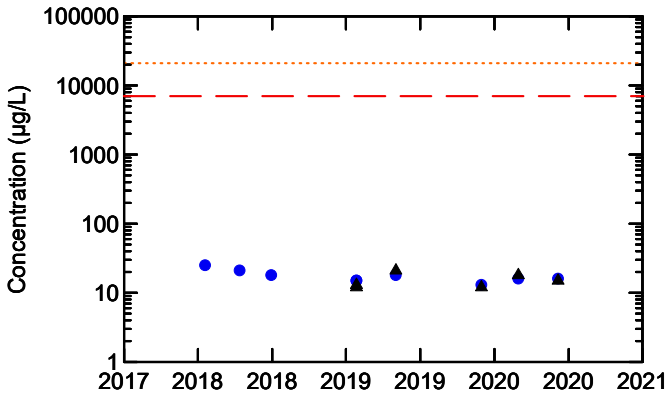
Uranium



Total: No detected results

Dissolved: No detected results

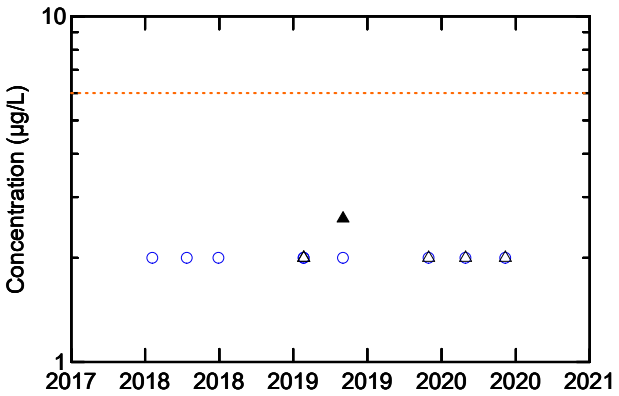
Strontium



Total: Stable

Dissolved: Probably Decreasing

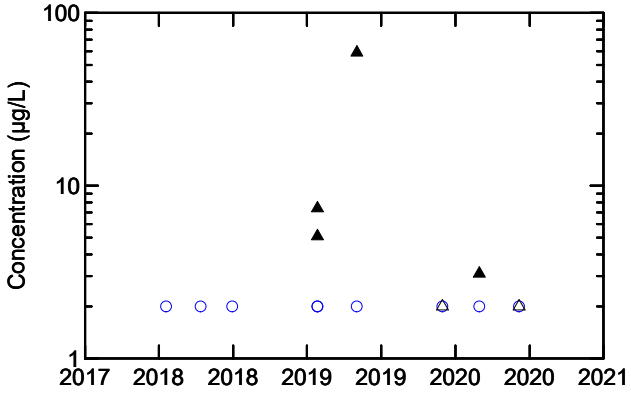
Vanadium



Total: Over 50% non-detects

Dissolved: No detected results

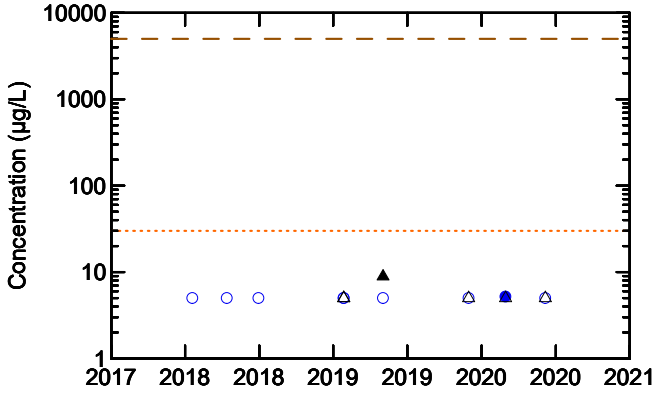
Titanium



Total: No trend identified

Dissolved: No detected results

Zinc



Total: Over 50% non-detects

Dissolved: Over 50% non-detects

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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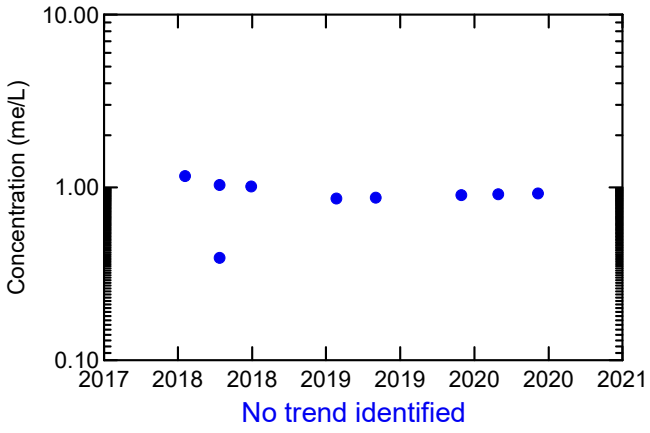
Non-detects are plotted at the reporting limit.

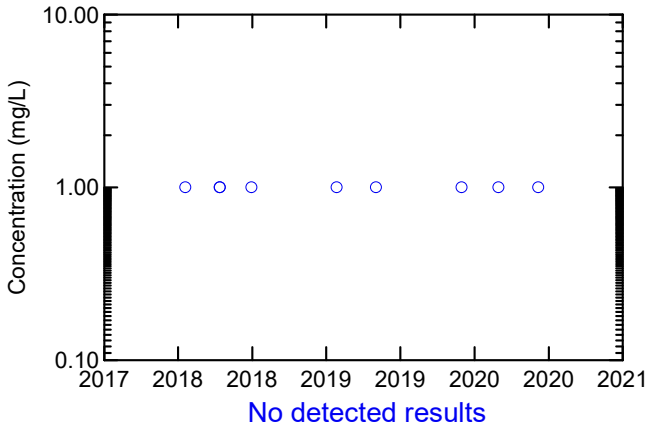
WELL MW-04A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Anion Sum



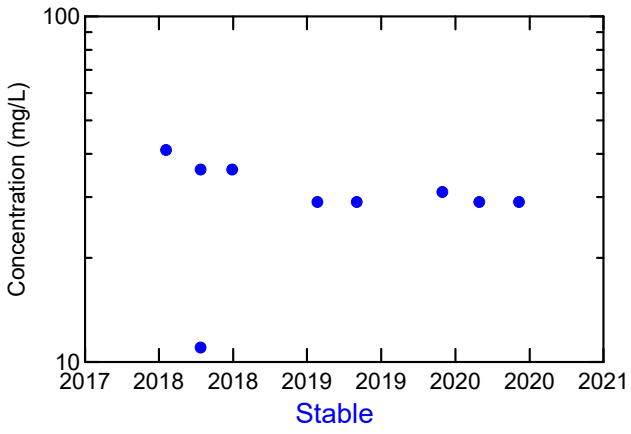
No trend identified

Carb. Alkalinity (calc. as CaCO3)



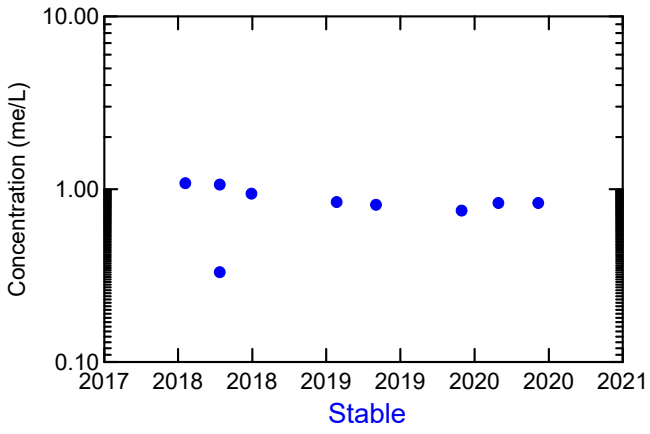
No detected results

Bicarb. Alkalinity (calc. as CaCO3)



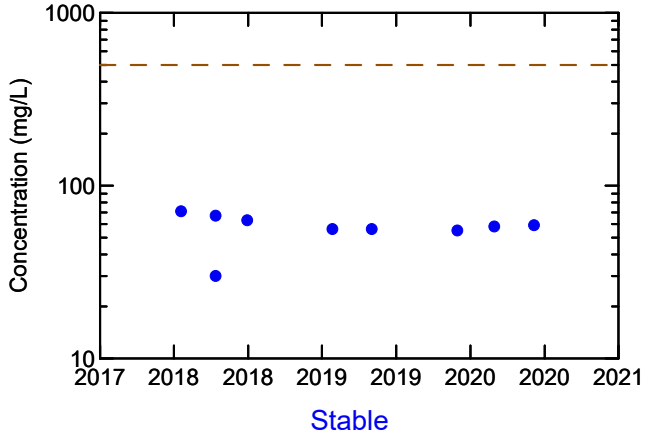
Stable

Cation Sum



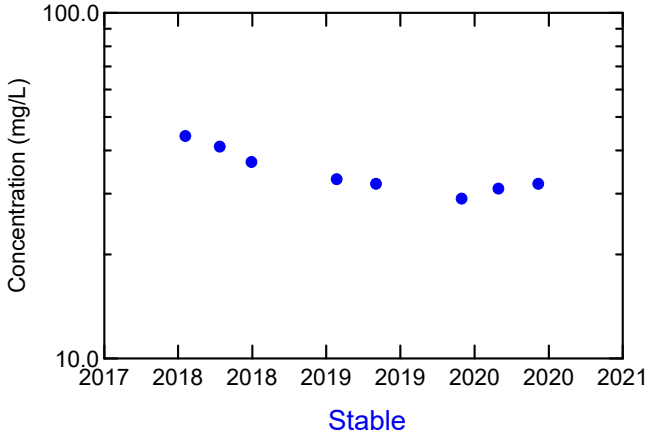
Stable

Calculated TDS



Stable

Hardness (CaCO3)



Stable

Legend:

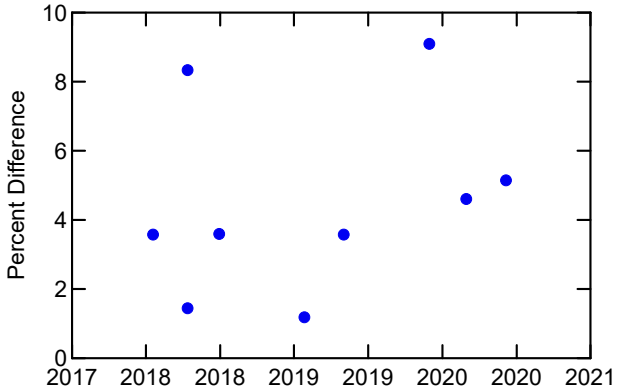
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines - Aesthetic

WELL MW-04B
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

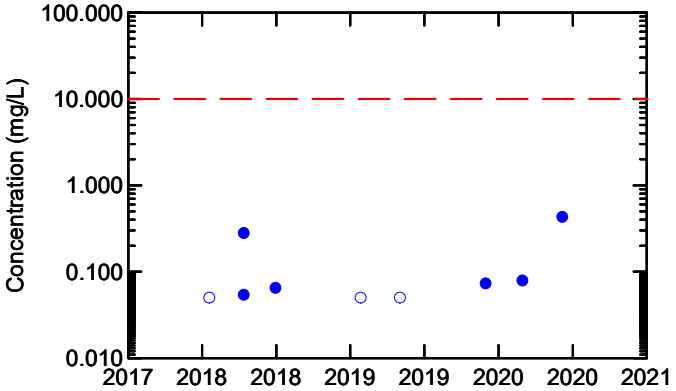
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Ion Balance



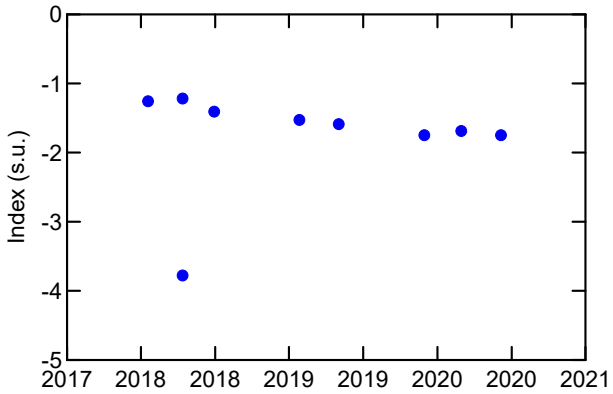
No trend identified

Nitrate



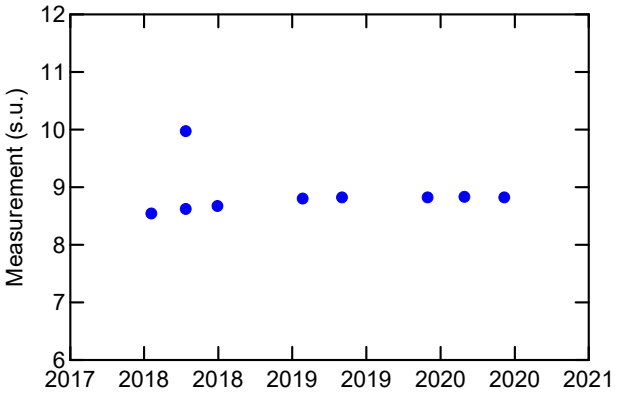
No trend identified

Langelier Index (@ 20C)



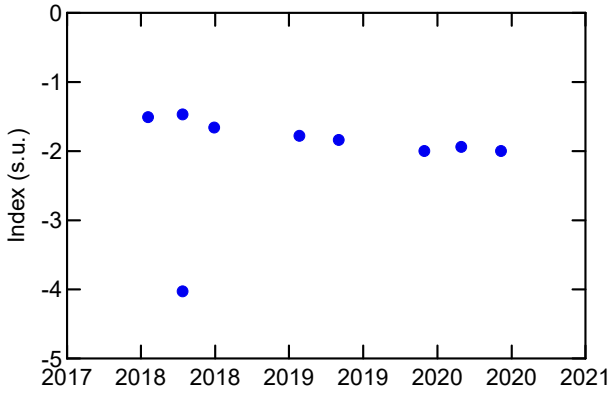
Stable

Saturation pH (@ 20C)



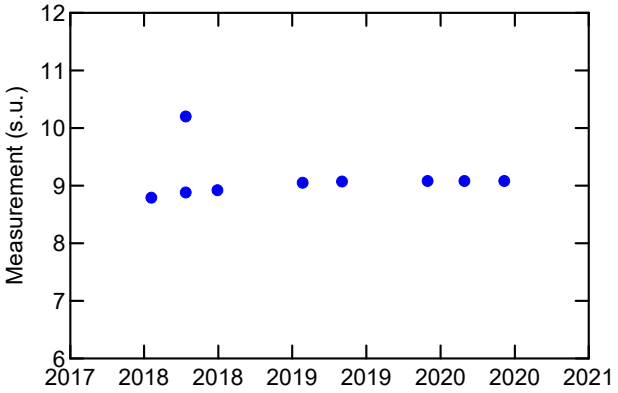
No trend identified

Langelier Index (@ 4C)



Stable

Saturation pH (@ 4C)



No trend identified

Legend:

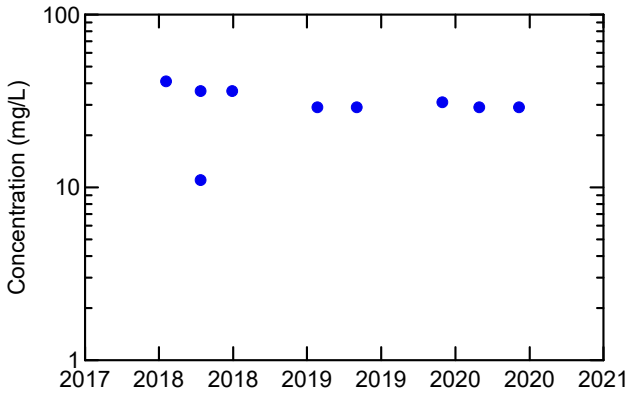
● Detected result ○ Non-Detect

— — Canadian Drinking Water Quality Guidelines: Maximum Acceptable

WELL MW-04B
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

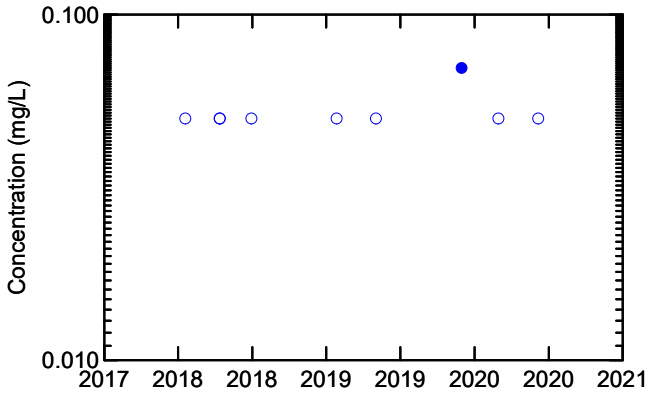
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Total Alkalinity (Total as CaCO3)



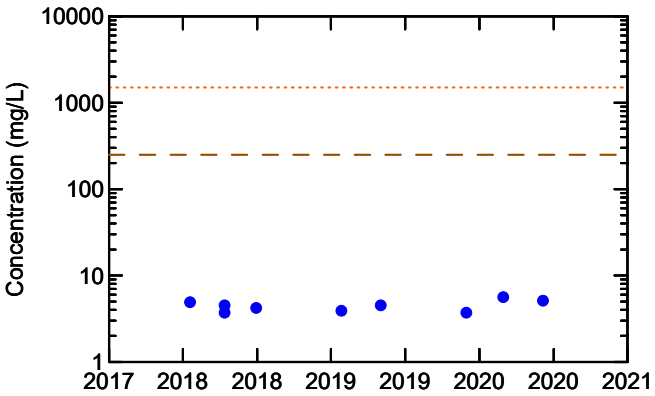
Stable

Nitrogen (Ammonia Nitrogen)



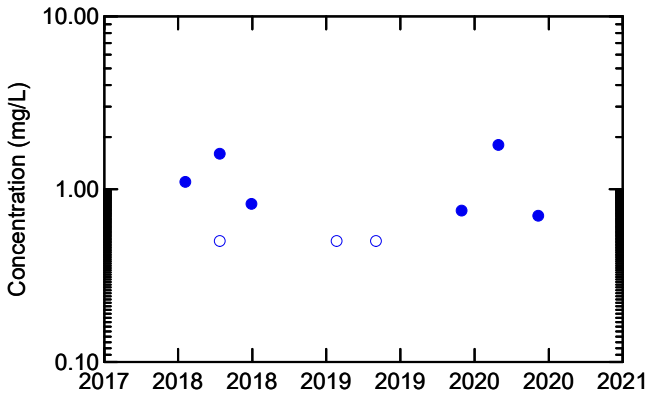
Over 50% non-detects

Dissolved Chloride



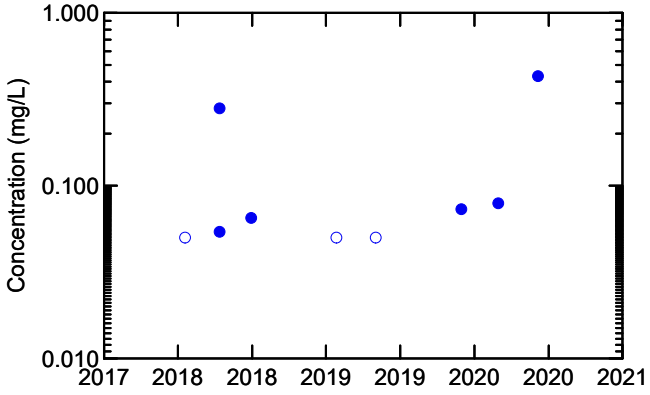
No trend identified

Total Organic Carbon



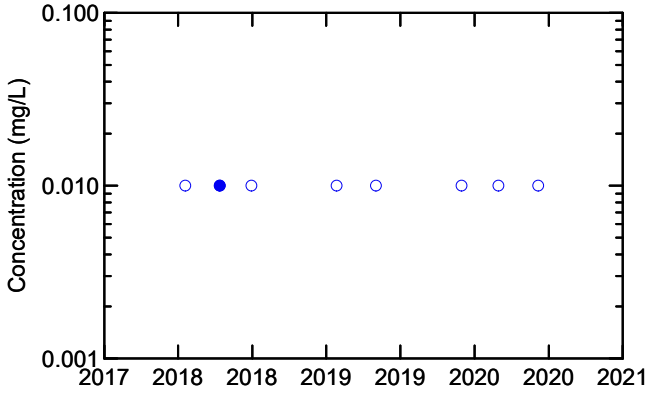
Stable

Nitrate + Nitrite



No trend identified

Orthophosphate



Over 50% non-detects

Legend:

● Detected result ○ Non-Detect

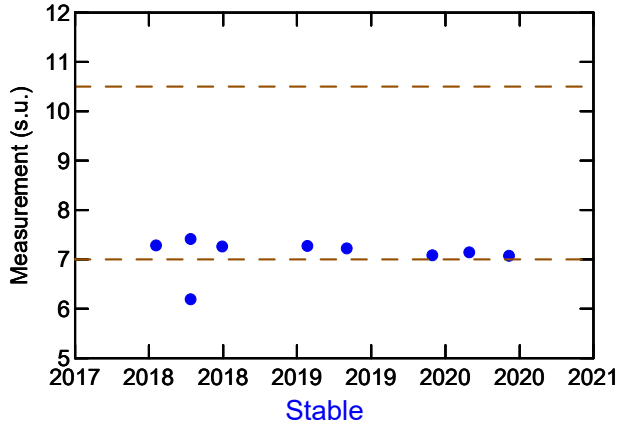
Nova Scotia (2014) Pathway-Specific Standard for Groundwater

Canadian Drinking Water Quality Guideline: Aesthetic

Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

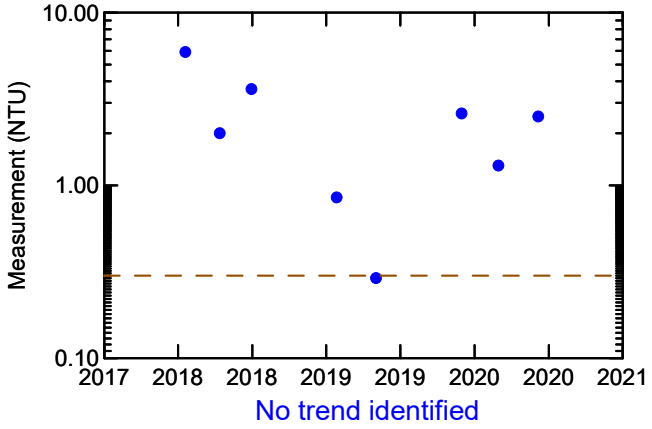
WELL MW-04B
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

pH



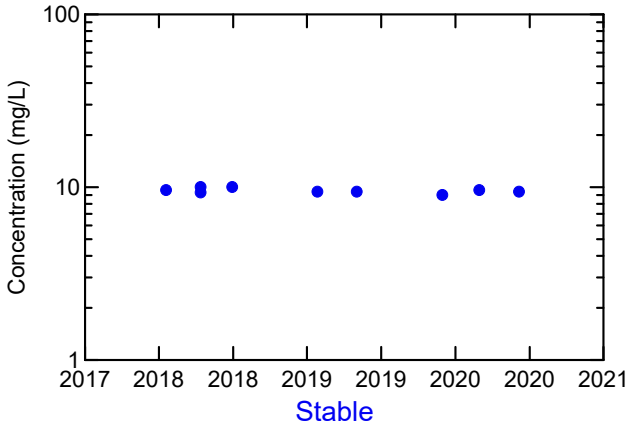
Stable

Turbidity



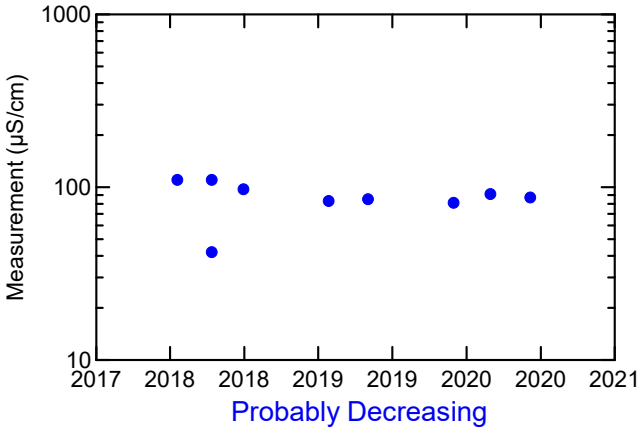
No trend identified

Reactive Silica (SiO2)



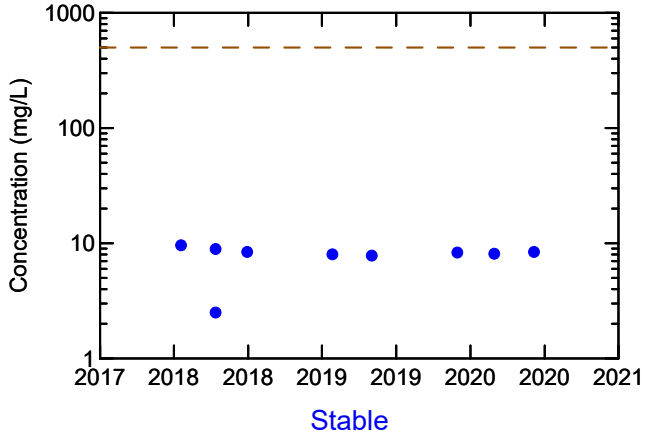
Stable

Conductivity



Probably Decreasing

Dissolved Sulphate (SO4)



Stable

Legend:

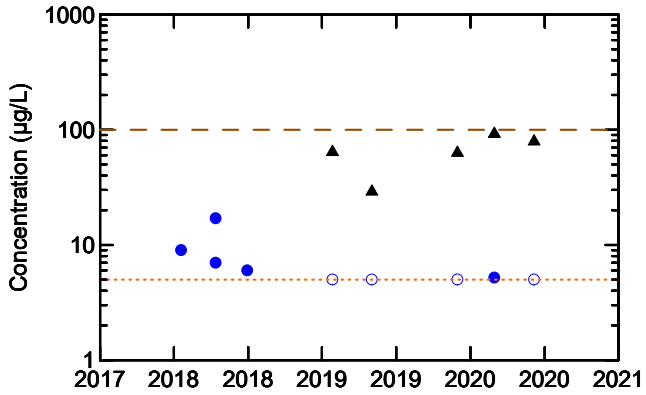
● Detected result ○ Non-Detect

– – - Canadian Drinking Water Quality Guidelines: Aesthetic

WELL MW-04B
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

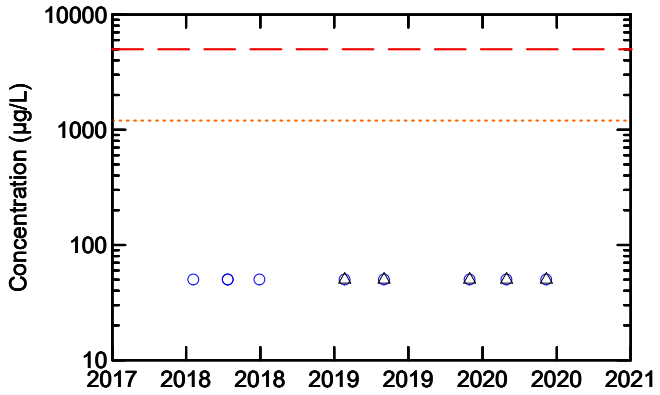
Aluminum



Total: No trend identified

Dissolved: Stable

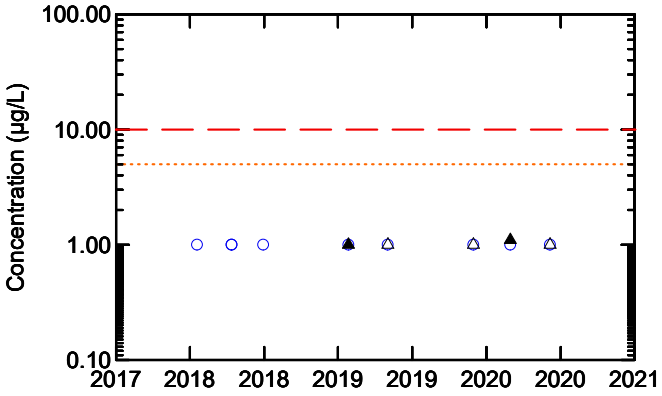
Boron



Total: No detected results

Dissolved: No detected results

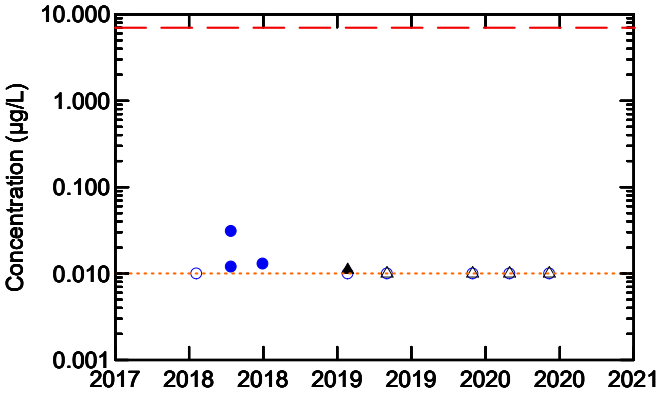
Arsenic



Total: Over 50% non-detects

Dissolved: No detected results

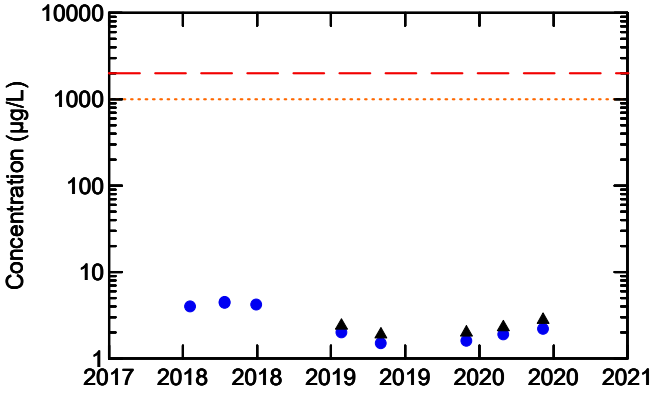
Cadmium



Total: Over 50% non-detects

Dissolved: Over 50% non-detects

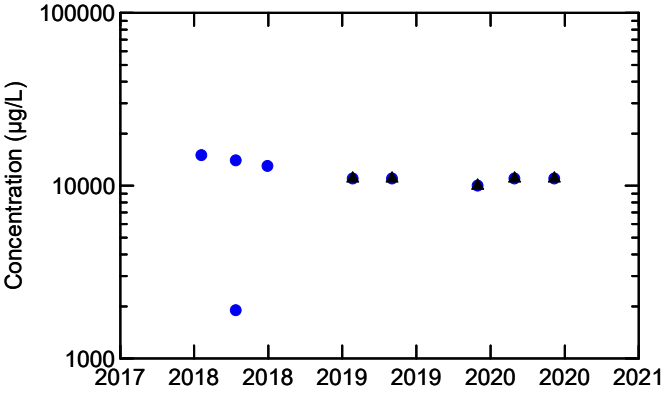
Barium



Total: No trend identified

Dissolved: Stable

Calcium



Total: Stable

Dissolved: Stable

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

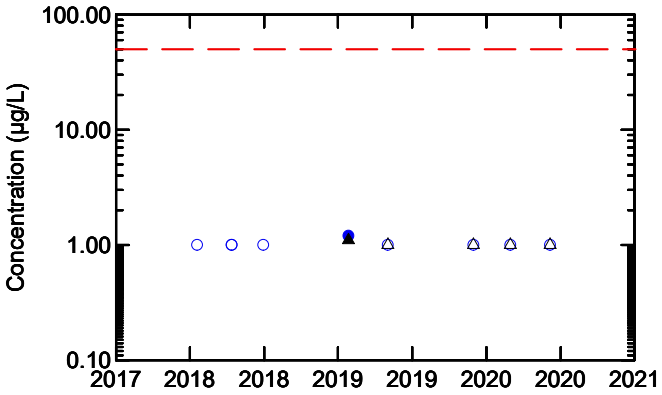
– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

WELL MW-04B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

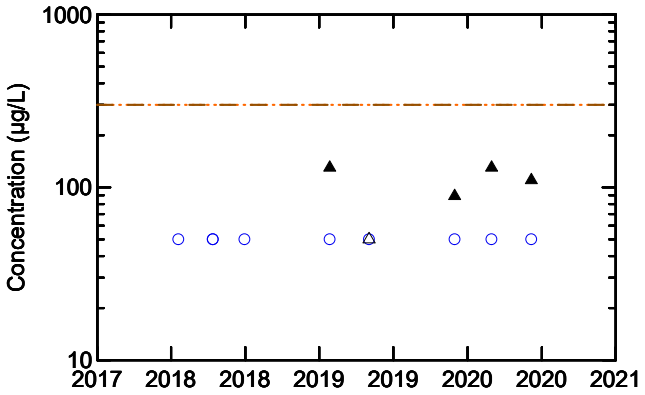
Chromium



Total: Over 50% non-detects

Dissolved: Over 50% non-detects

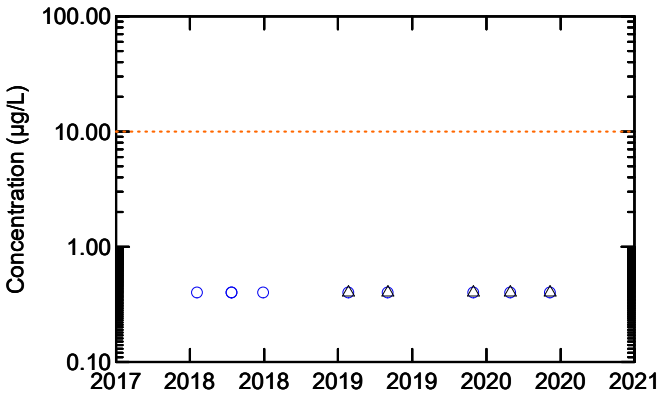
Iron



Total: No trend identified

Dissolved: No detected results

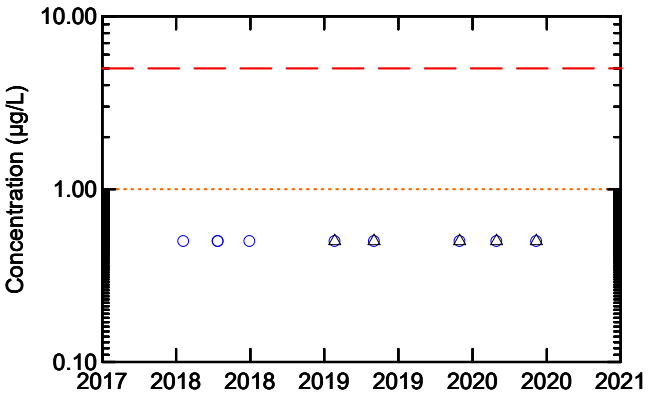
Cobalt



Total: No detected results

Dissolved: No detected results

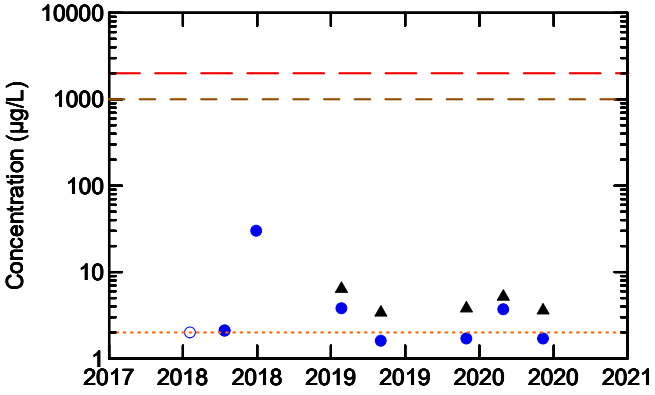
Lead



Total: No detected results

Dissolved: No detected results

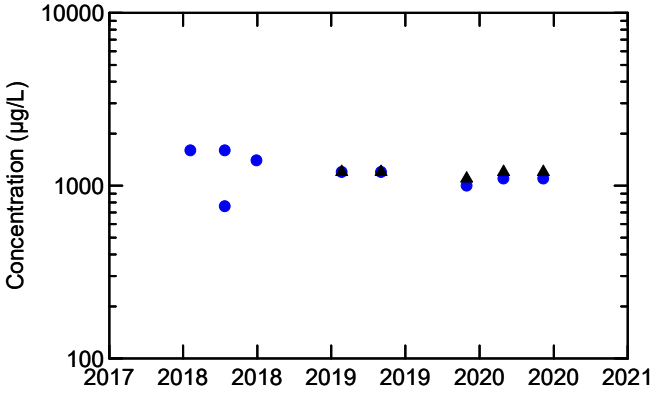
Copper



Total: Stable

Dissolved: No trend identified

Magnesium



Total: Stable

Dissolved: Probably Decreasing

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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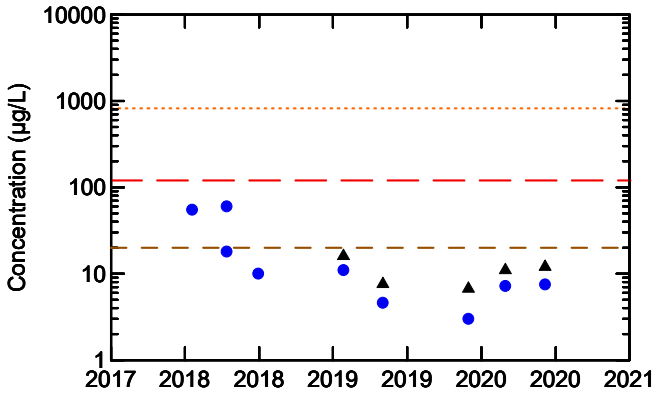
WELL MW-04B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

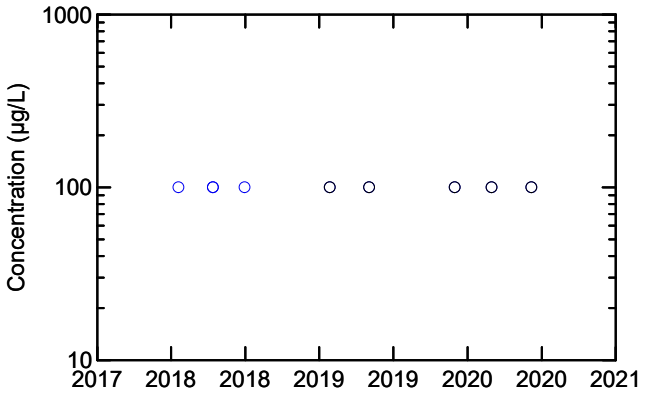
Manganese



Total: Stable

Dissolved: Probably Decreasing

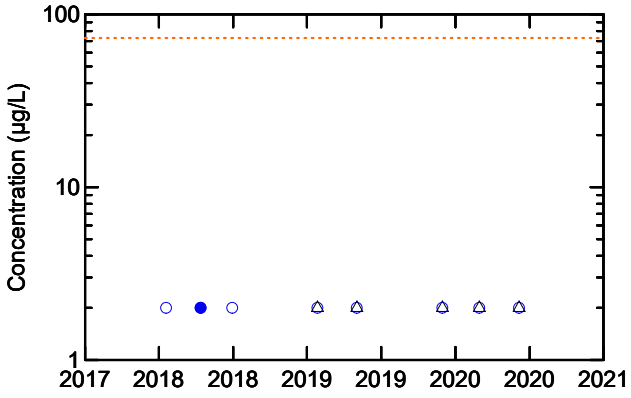
Phosphorus



Total: No detected results

Dissolved: No detected results

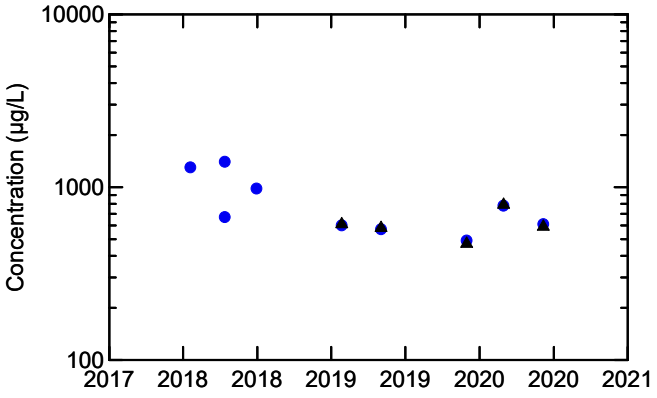
Molybdenum



Total: No detected results

Dissolved: Over 50% non-detects

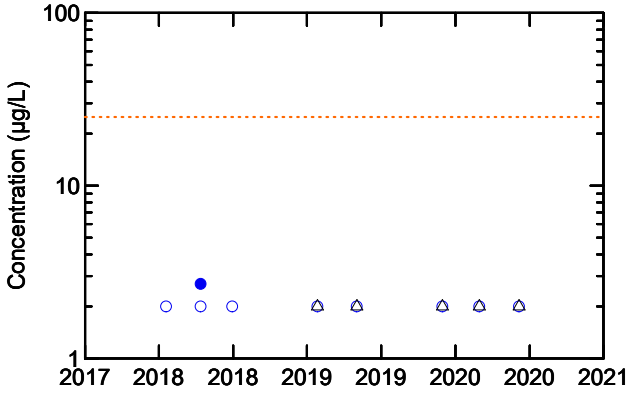
Potassium



Total: Stable

Dissolved: Probably Decreasing

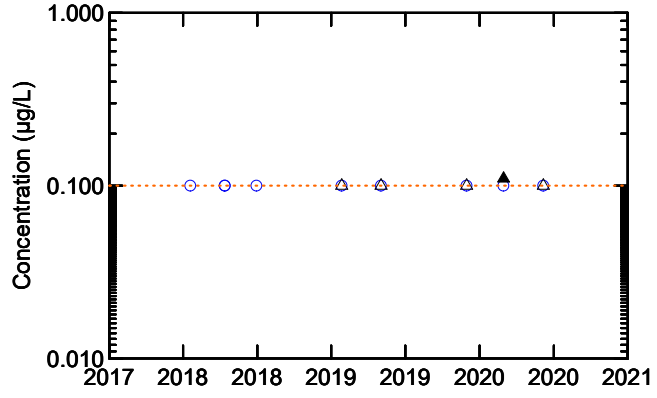
Nickel



Total: No detected results

Dissolved: Over 50% non-detects

Silver



Total: Over 50% non-detects

Dissolved: No detected results

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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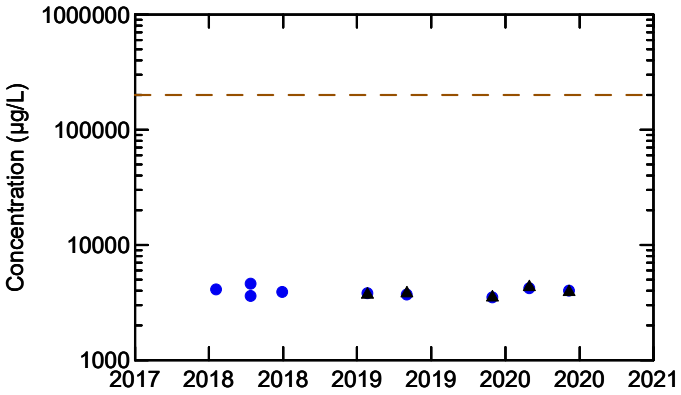
WELL MW-04B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

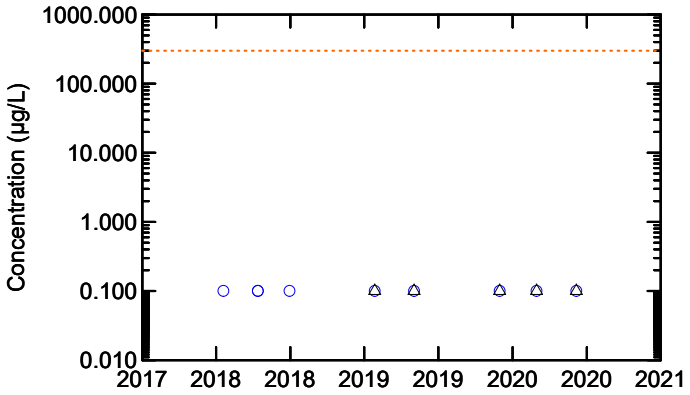
Sodium



Total: No trend identified

Dissolved: Stable

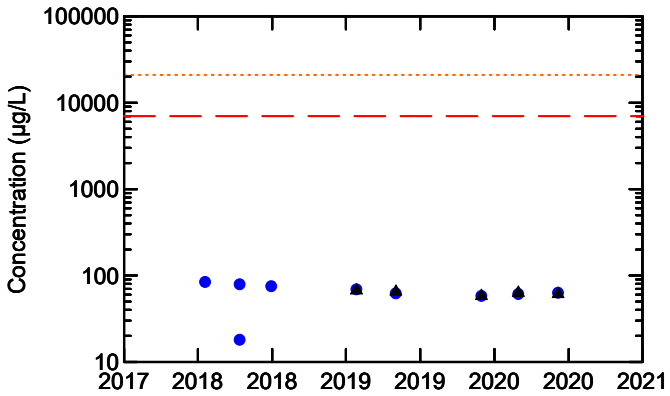
Uranium



Total: No detected results

Dissolved: No detected results

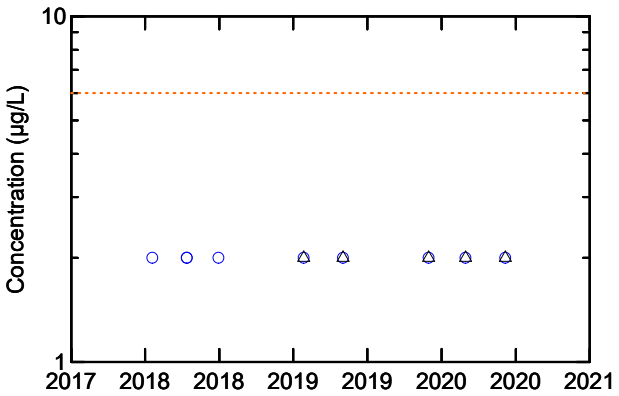
Strontium



Total: Stable

Dissolved: Stable

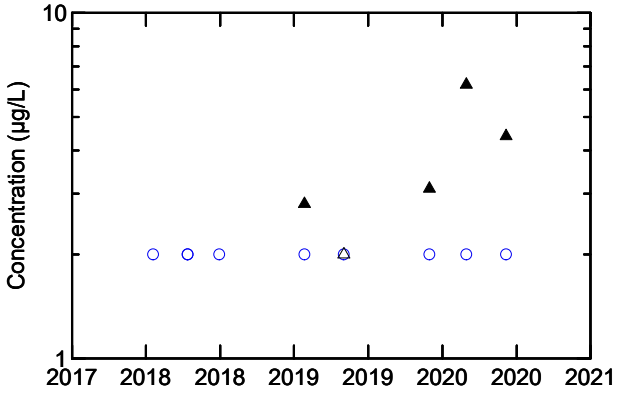
Vanadium



Total: No detected results

Dissolved: No detected results

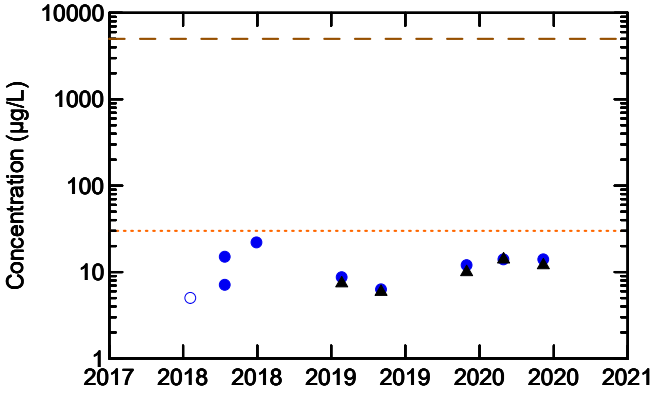
Titanium



Total: No trend identified

Dissolved: No detected results

Zinc



Total: No trend identified

Dissolved: No trend identified

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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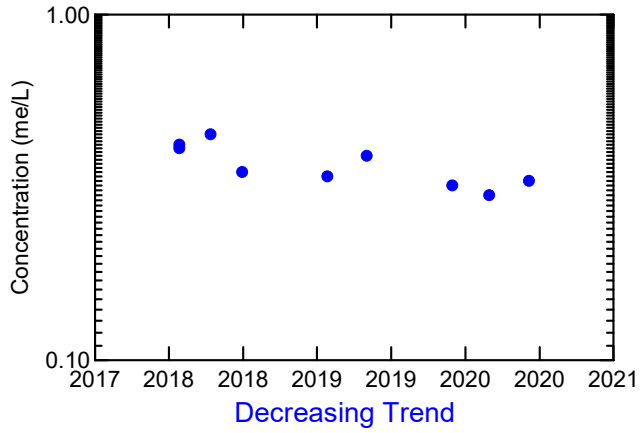
Non-detects are plotted at the reporting limit.

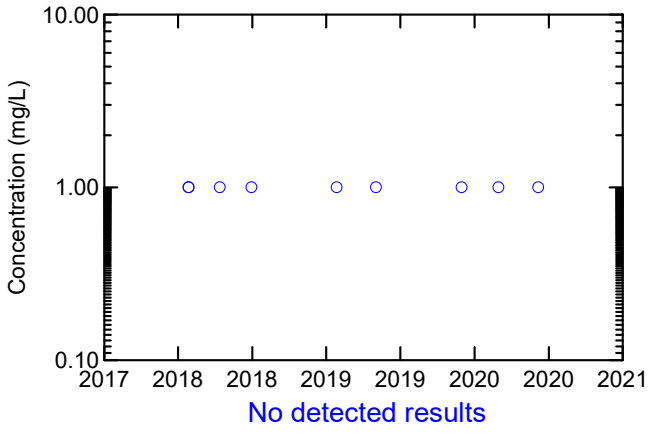
WELL MW-04B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Anion Sum



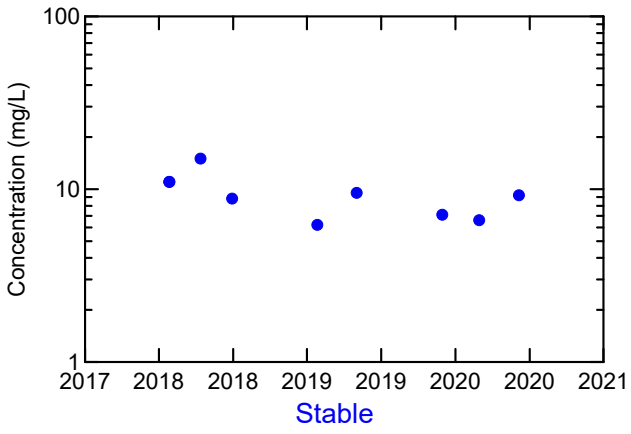
Decreasing Trend

Carb. Alkalinity (calc. as CaCO3)



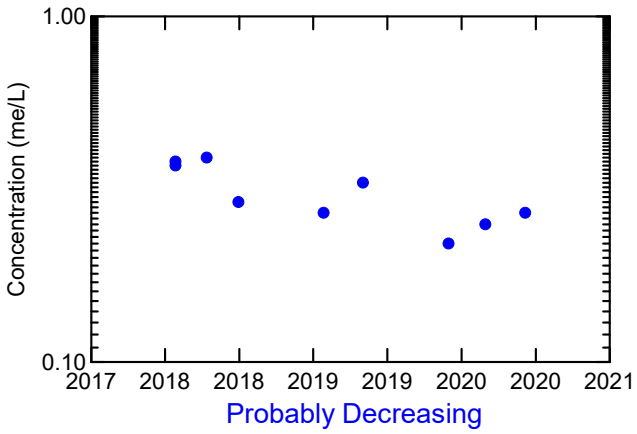
No detected results

Bicarb. Alkalinity (calc. as CaCO3)



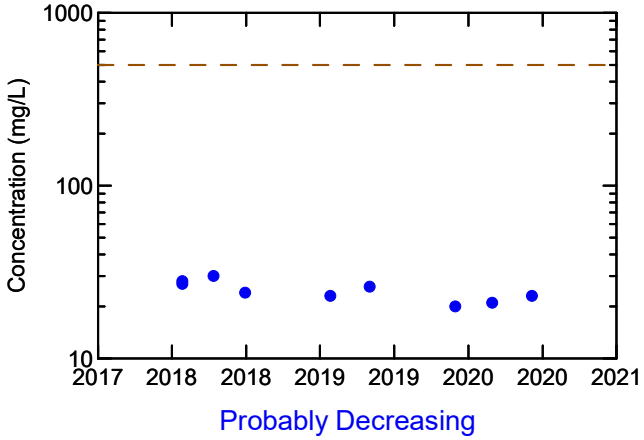
Stable

Cation Sum



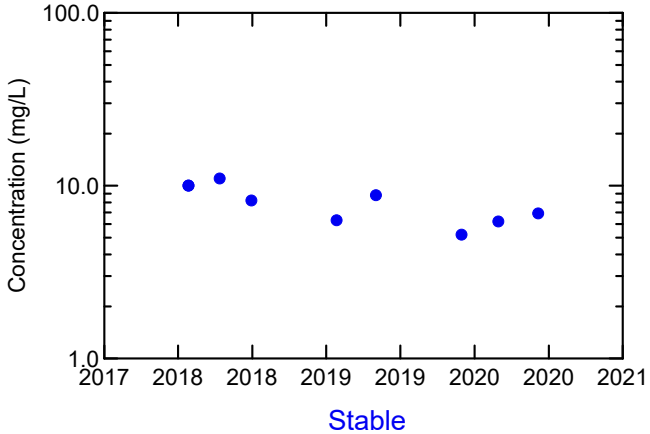
Probably Decreasing

Calculated TDS



Probably Decreasing

Hardness (CaCO3)



Stable

Legend:

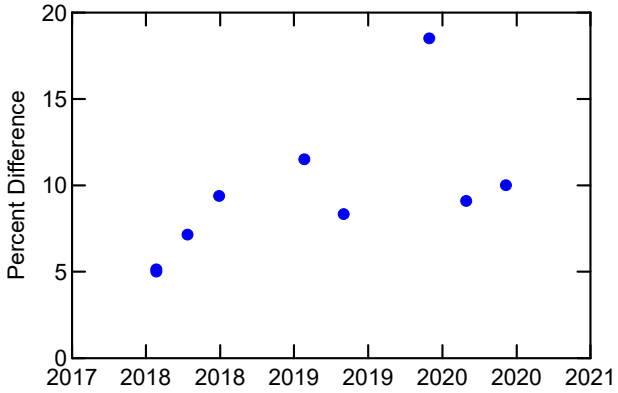
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines - Aesthetic

WELL MW-05A
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

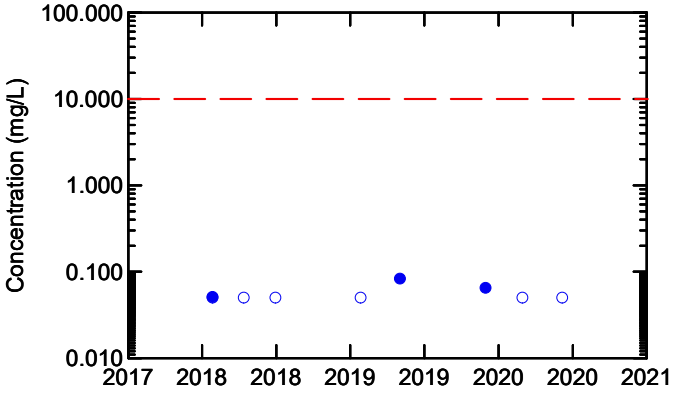
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Ion Balance



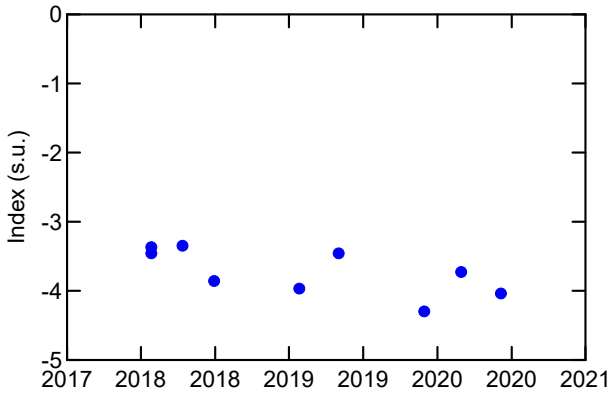
No trend identified

Nitrate



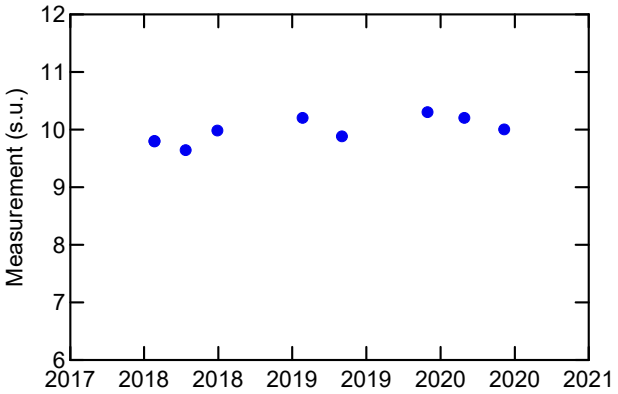
Over 50% non-detects

Langelier Index (@ 20C)



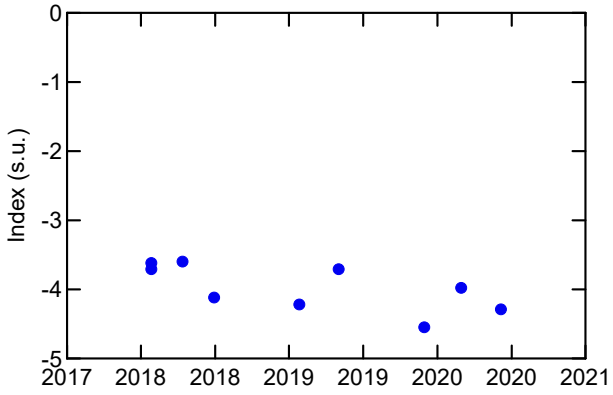
Stable

Saturation pH (@ 20C)



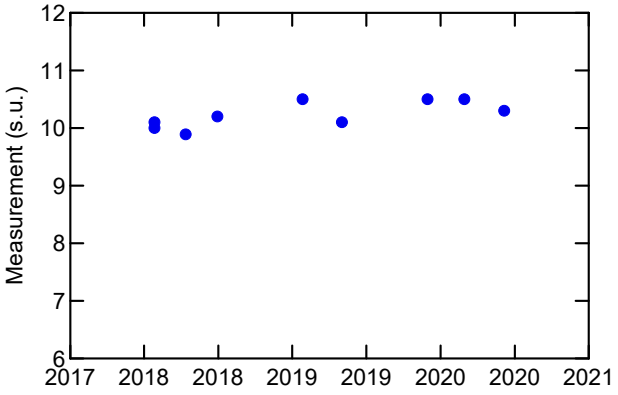
No trend identified

Langelier Index (@ 4C)



Stable

Saturation pH (@ 4C)



No trend identified

Legend:

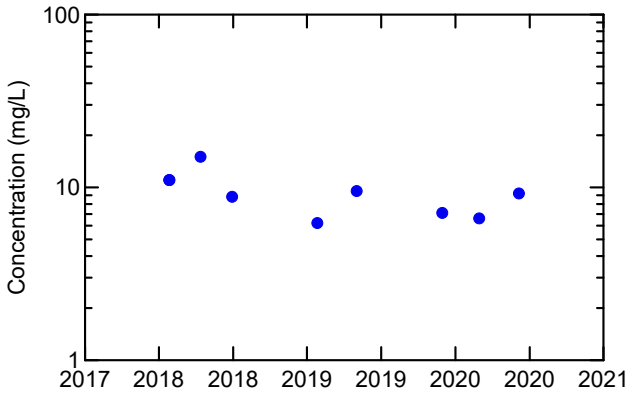
● Detected result ○ Non-Detect

— — Canadian Drinking Water Quality Guidelines: Maximum Acceptable

WELL MW-05A
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

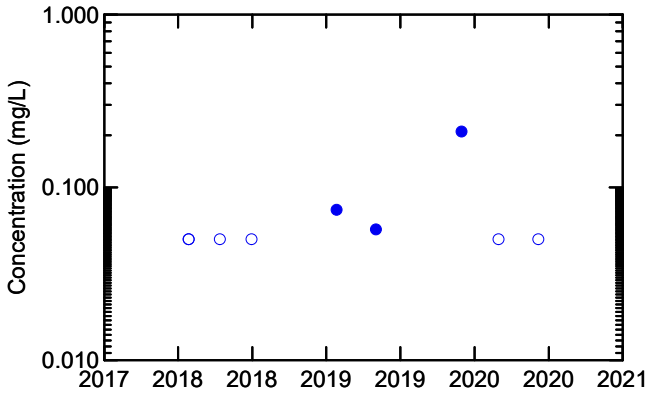
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Total Alkalinity (Total as CaCO3)



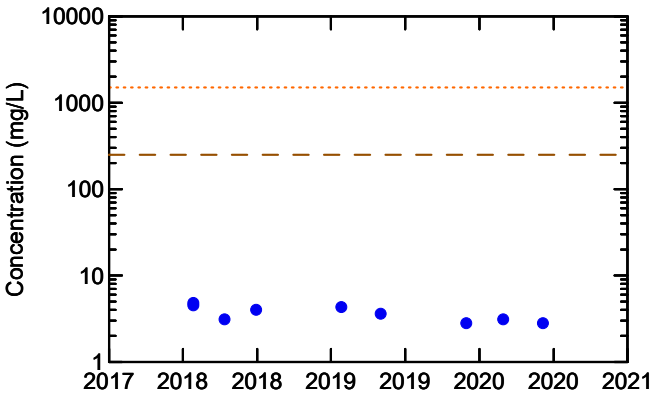
Stable

Nitrogen (Ammonia Nitrogen)



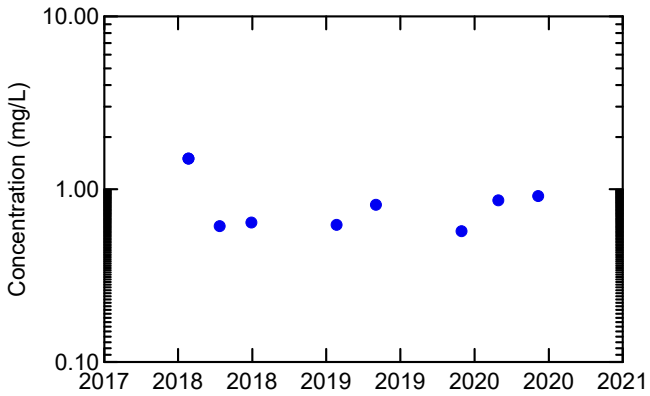
Over 50% non-detects

Dissolved Chloride



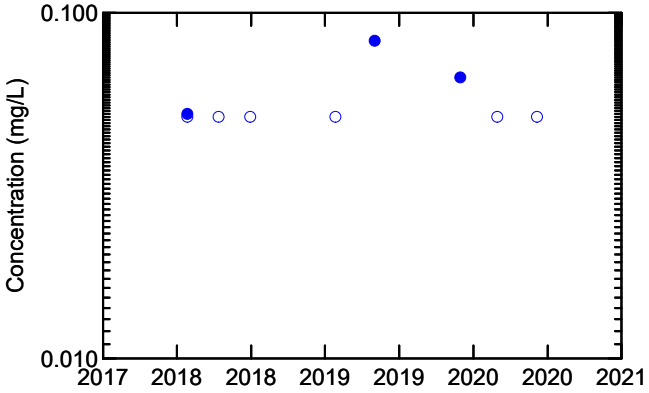
Probably Decreasing

Total Organic Carbon



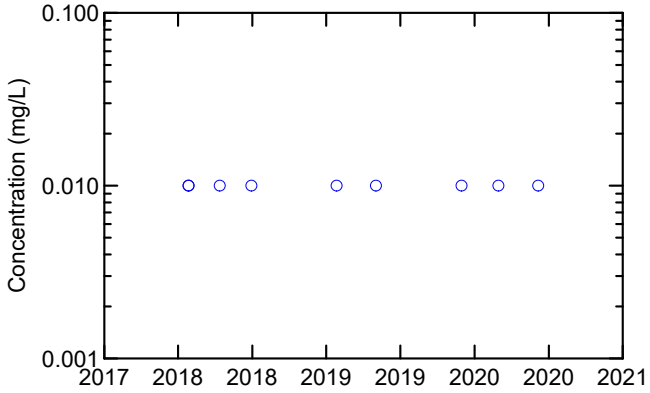
No trend identified

Nitrate + Nitrite



Over 50% non-detects

Orthophosphate



No detected results

Legend:

● Detected result ○ Non-Detect

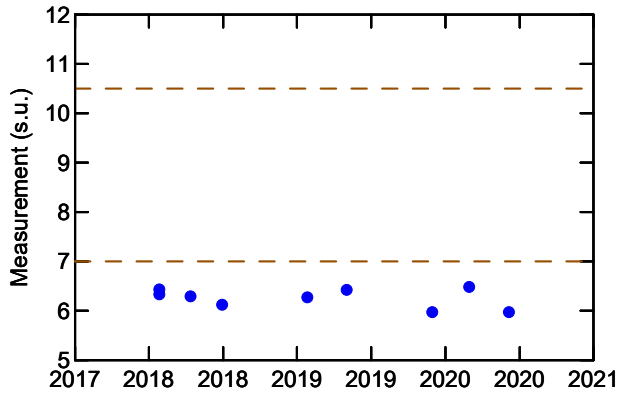
Nova Scotia (2014) Pathway-Specific Standard for Groundwater

Canadian Drinking Water Quality Guideline: Aesthetic

WELL MW-05A
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

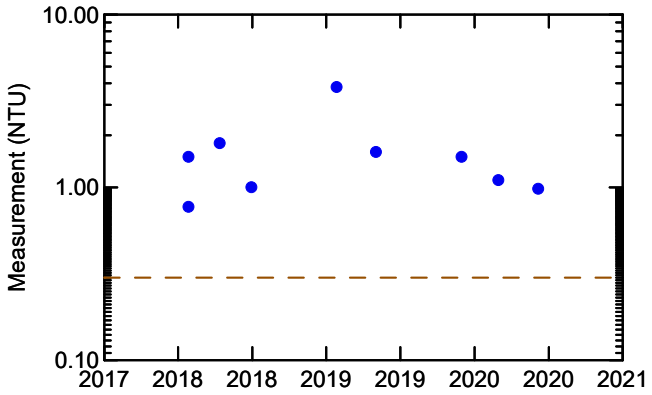
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

pH



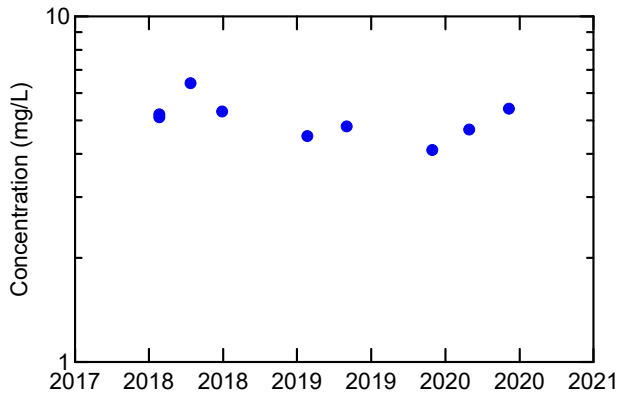
Stable

Turbidity



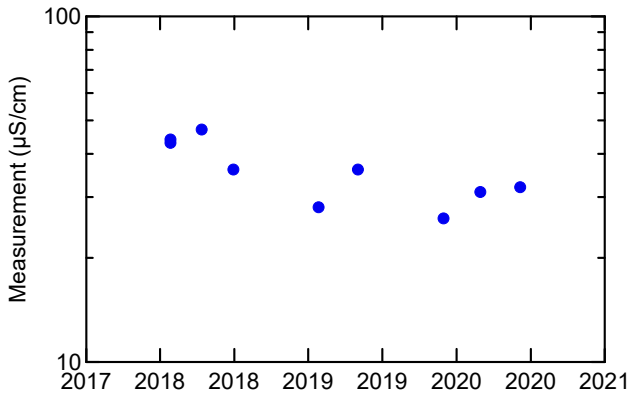
No trend identified

Reactive Silica (SiO2)



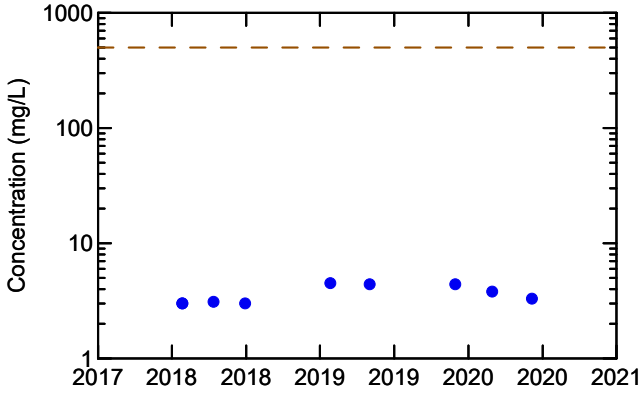
Stable

Conductivity



Probably Decreasing

Dissolved Sulphate (SO4)



Stable

Legend:

● Detected result ○ Non-Detect

– – - Canadian Drinking Water Quality Guidelines: Aesthetic

WELL MW-05A
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Notes:
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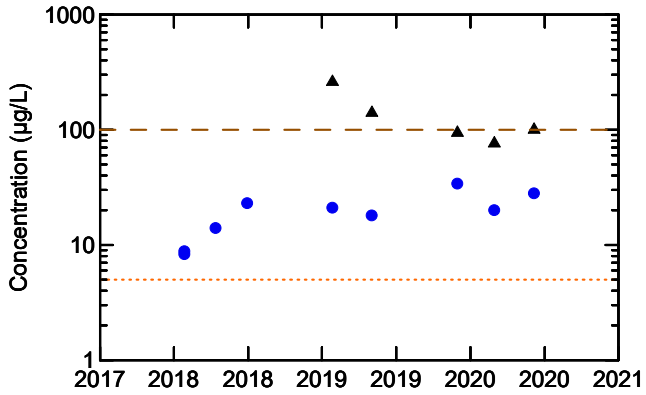
Non-detects are plotted at the reporting limit.

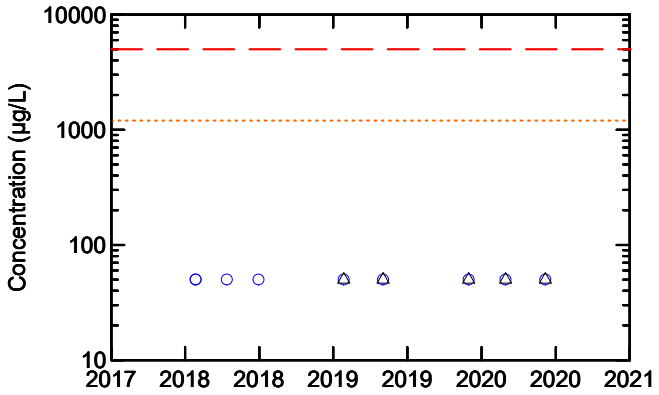
Aluminum



Total: Stable

Dissolved: No trend identified

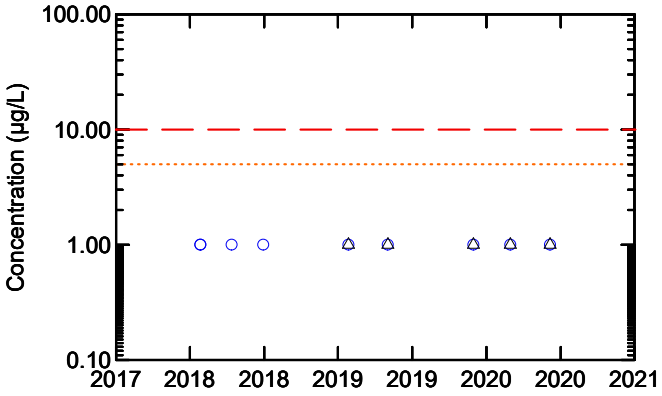
Boron



Total: No detected results

Dissolved: No detected results

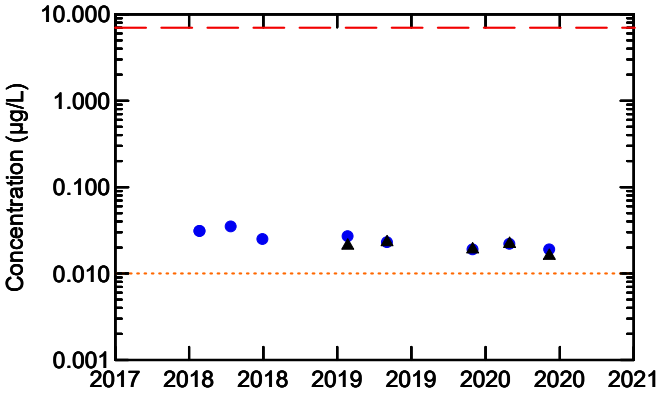
Arsenic



Total: No detected results

Dissolved: No detected results

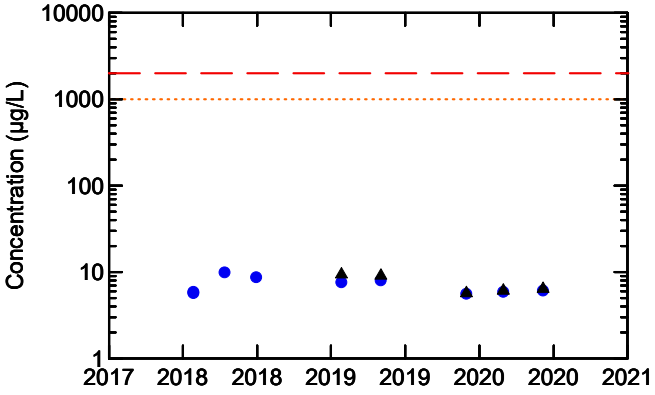
Cadmium



Total: Stable

Dissolved: Decreasing Trend

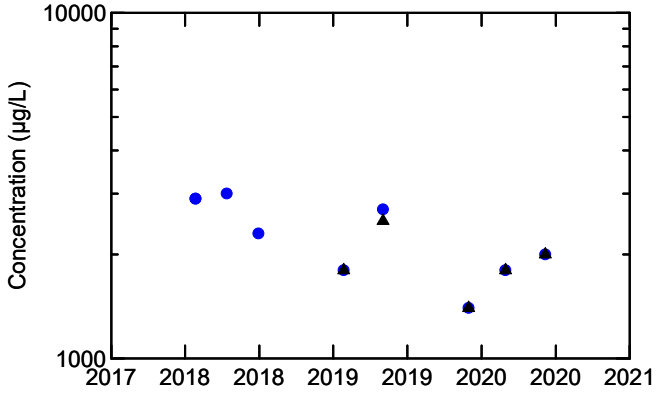
Barium



Total: Stable

Dissolved: Stable

Calcium



Total: No trend identified

Dissolved: Stable

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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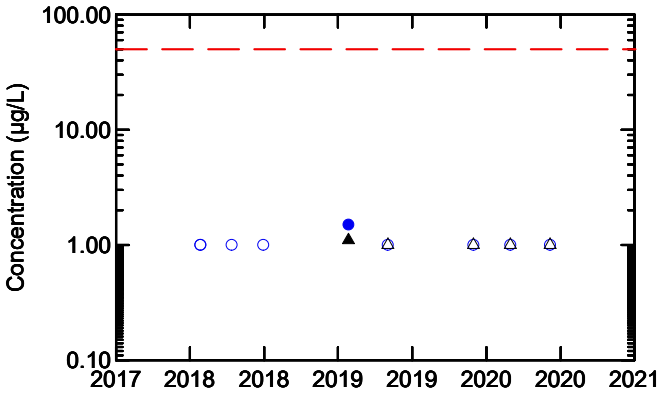
WELL MW-05A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

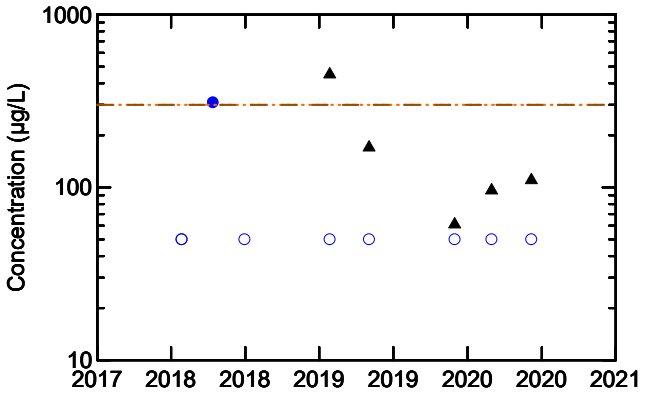
Chromium



Total: Over 50% non-detects

Dissolved: Over 50% non-detects

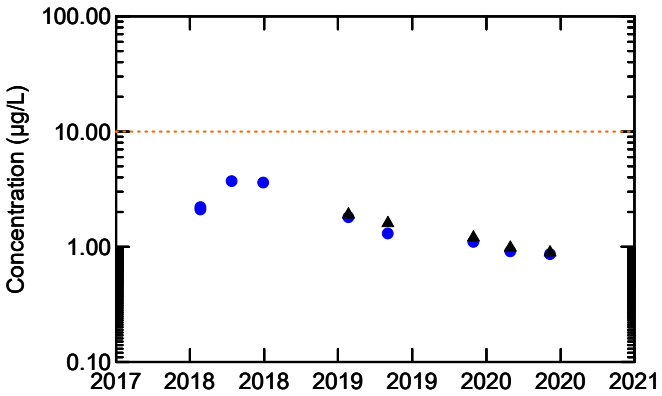
Iron



Total: Stable

Dissolved: Over 50% non-detects

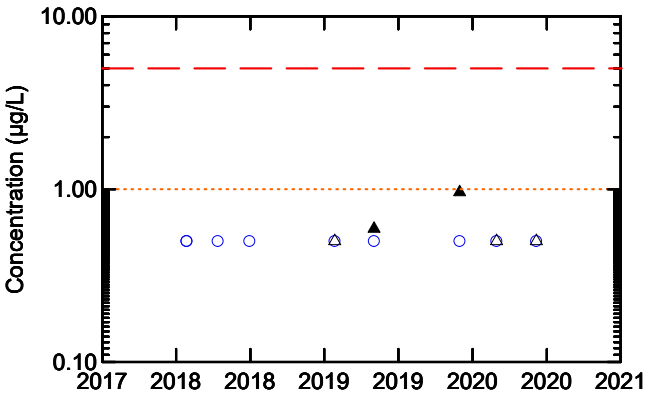
Cobalt



Total: Decreasing Trend

Dissolved: Decreasing Trend

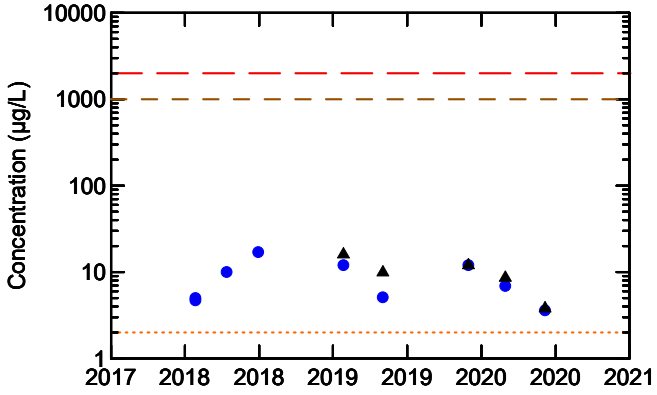
Lead



Total: Over 50% non-detects

Dissolved: No detected results

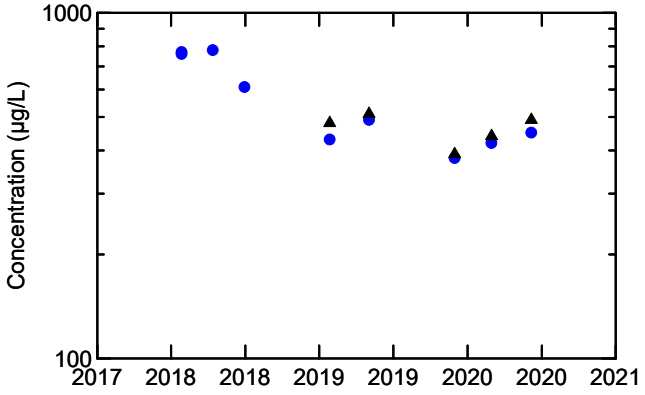
Copper



Total: Probably Decreasing

Dissolved: Stable

Magnesium



Total: Stable

Dissolved: Probably Decreasing

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

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Notes:

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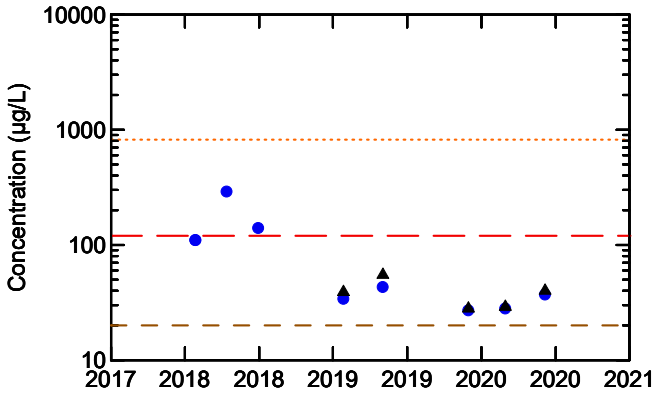
WELL MW-05A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

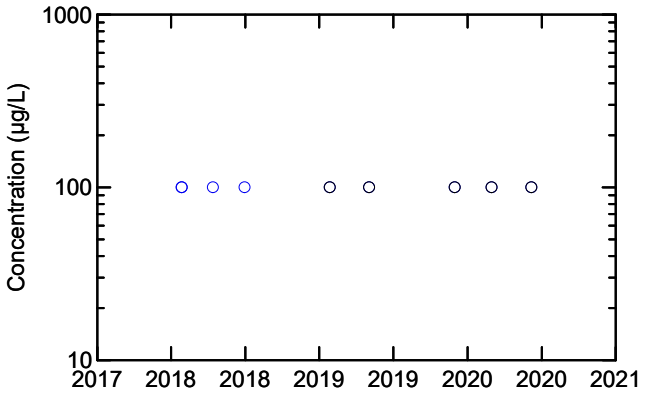
Manganese



Total: Stable

Dissolved: No trend identified

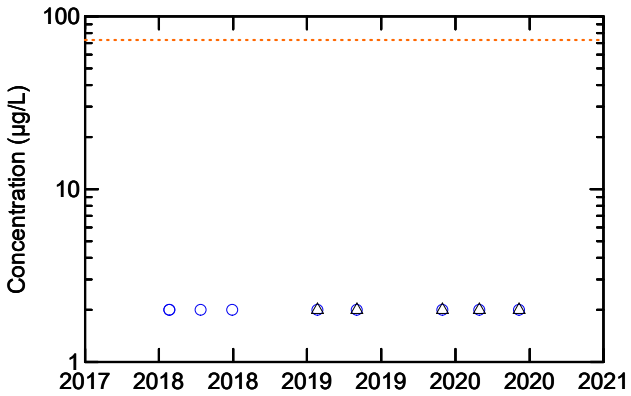
Phosphorus



Total: No detected results

Dissolved: No detected results

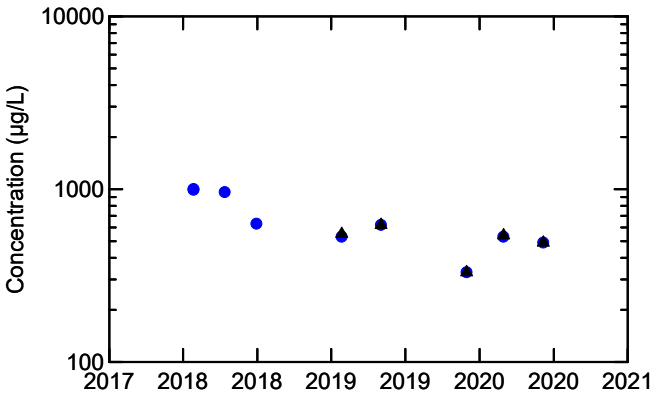
Molybdenum



Total: No detected results

Dissolved: No detected results

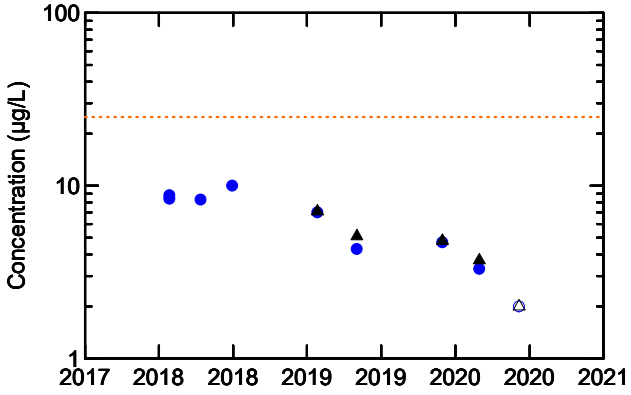
Potassium



Total: Stable

Dissolved: Decreasing Trend

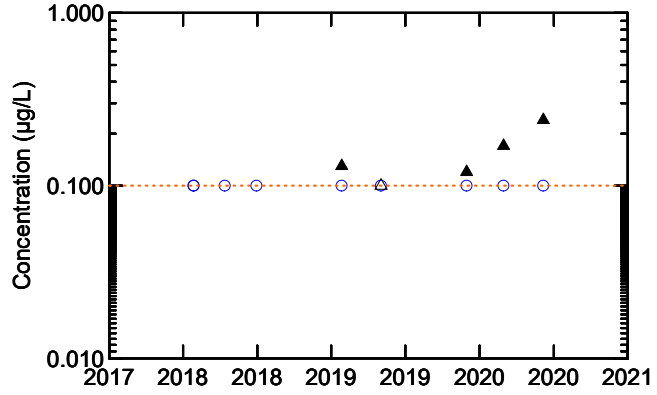
Nickel



Total: Decreasing Trend

Dissolved: Decreasing Trend

Silver



Total: No trend identified

Dissolved: No detected results

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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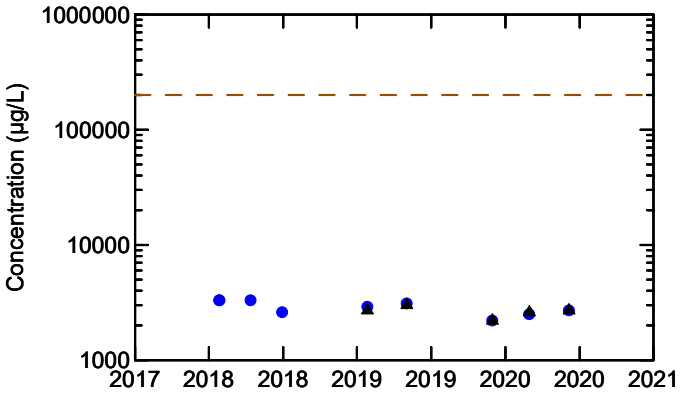
WELL MW-05A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

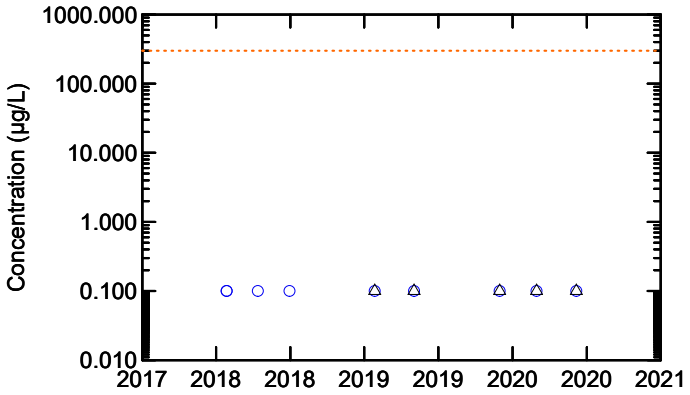
Sodium



Total: Stable

Dissolved: Stable

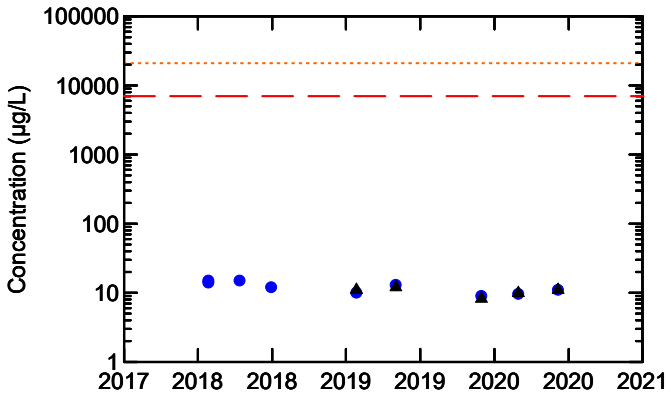
Uranium



Total: No detected results

Dissolved: No detected results

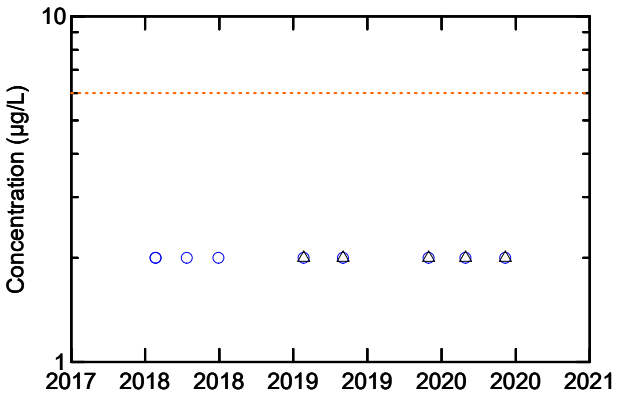
Strontium



Total: Stable

Dissolved: Stable

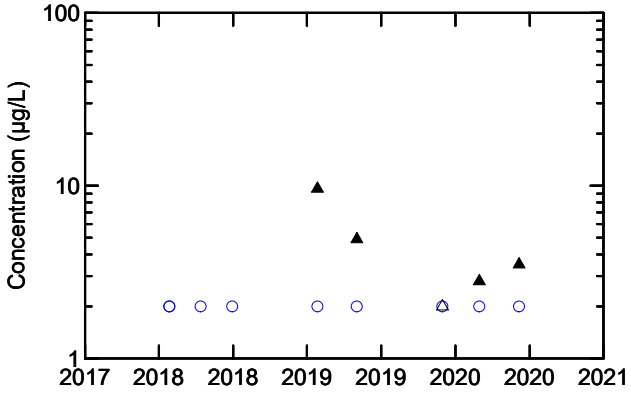
Vanadium



Total: No detected results

Dissolved: No detected results

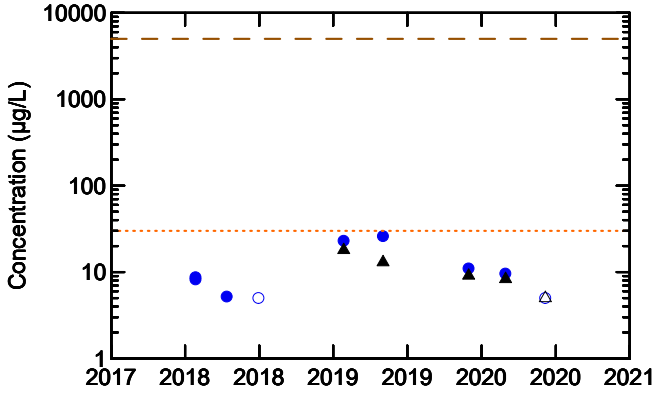
Titanium



Total: Stable

Dissolved: No detected results

Zinc



Total: Decreasing Trend

Dissolved: Stable

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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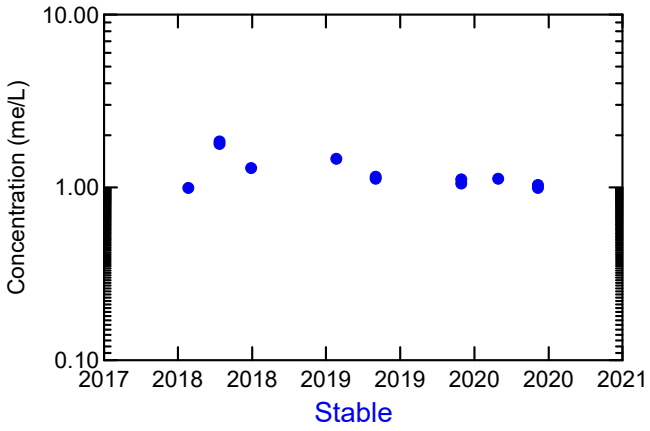
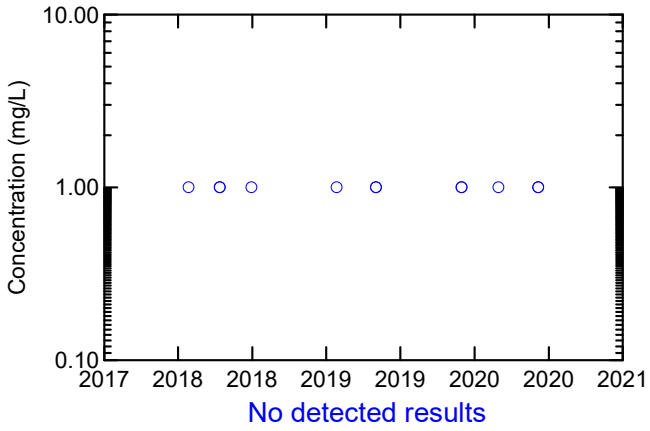
WELL MW-05A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Anion Sum



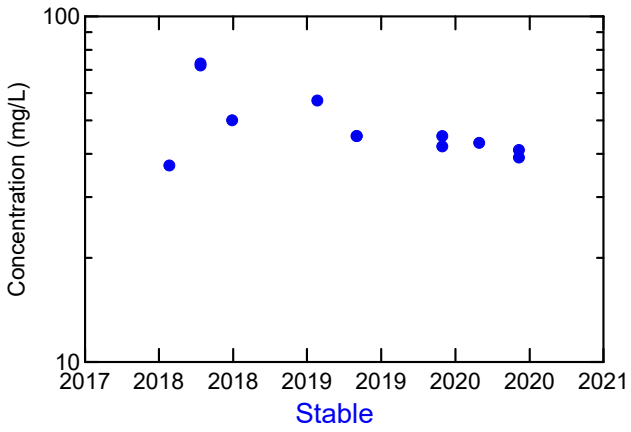
Stable

Carb. Alkalinity (calc. as CaCO3)



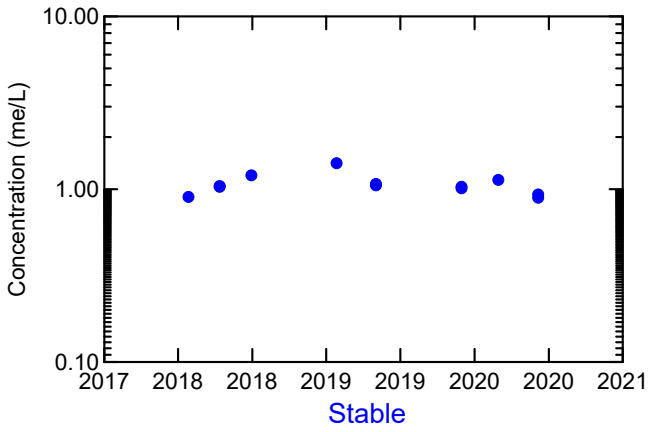
No detected results

Bicarb. Alkalinity (calc. as CaCO3)



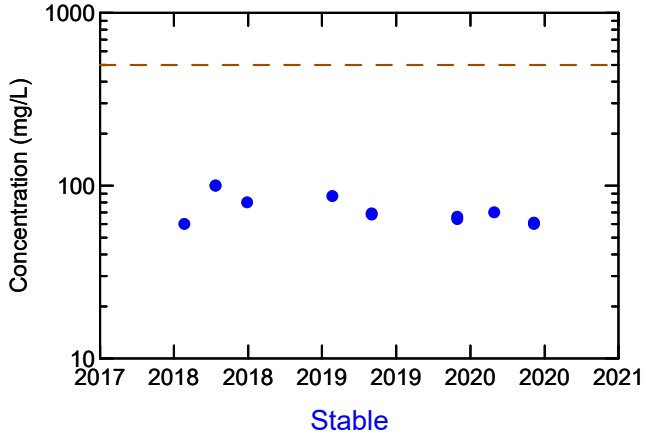
Stable

Cation Sum



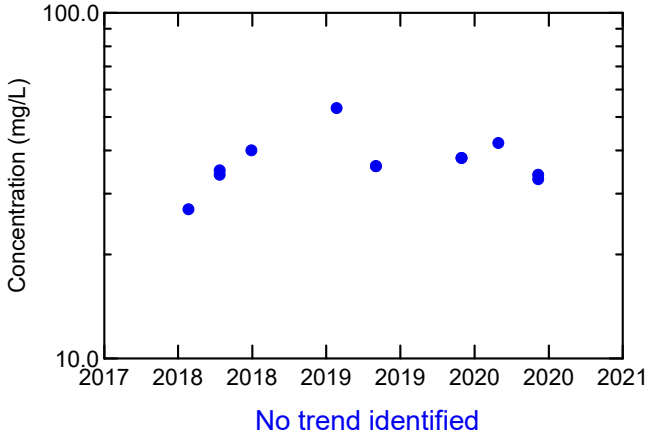
Stable

Calculated TDS



Stable

Hardness (CaCO3)



No trend identified

Legend:

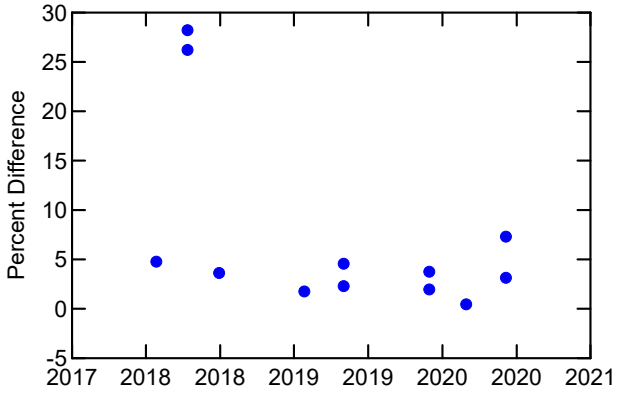
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines - Aesthetic

WELL MW-05B
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

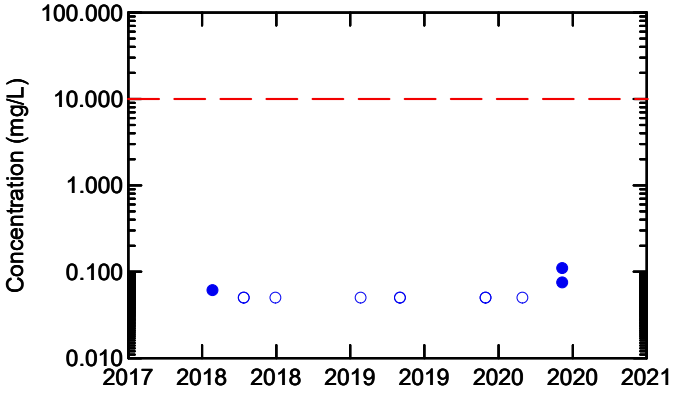
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Ion Balance



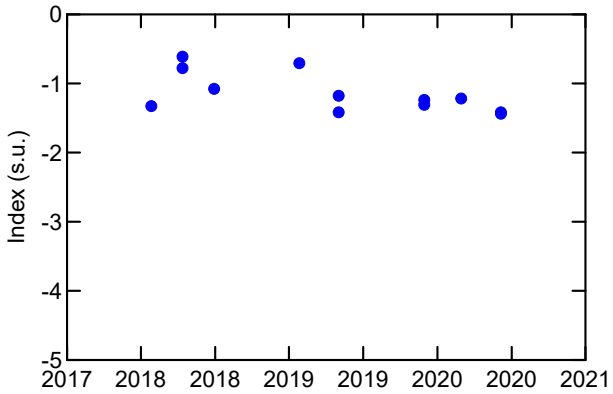
No trend identified

Nitrate



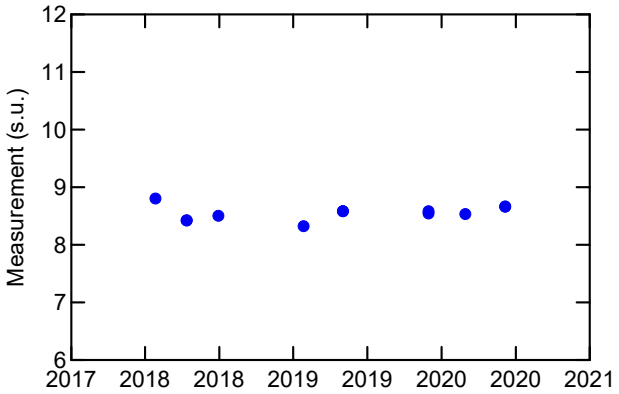
Over 50% non-detects

Langelier Index (@ 20C)



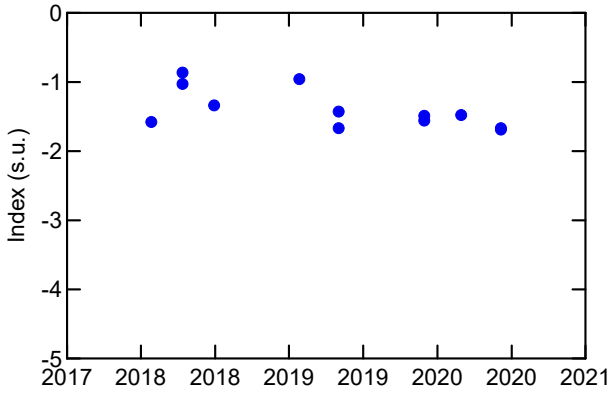
Stable

Saturation pH (@ 20C)



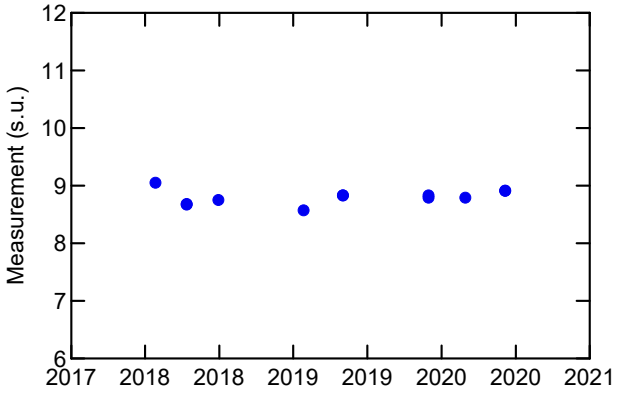
No trend identified

Langelier Index (@ 4C)



Stable

Saturation pH (@ 4C)



No trend identified

Legend:

● Detected result ○ Non-Detect

— — Canadian Drinking Water Quality Guidelines: Maximum Acceptable

WELL MW-05B
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Notes:
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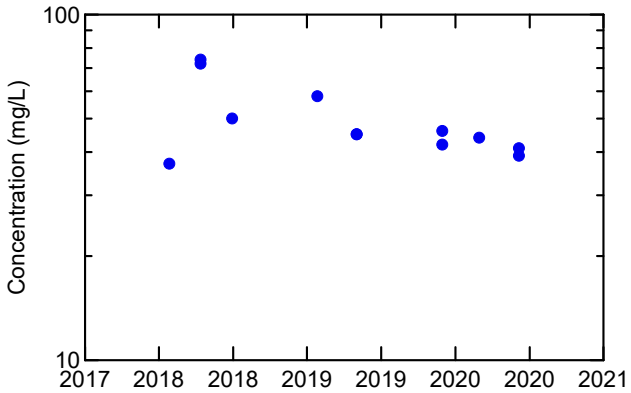
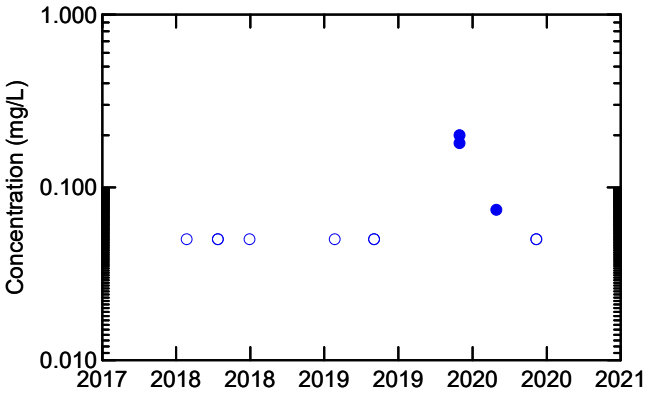
Non-detects are plotted at the reporting limit.

Total Alkalinity (Total as CaCO3)



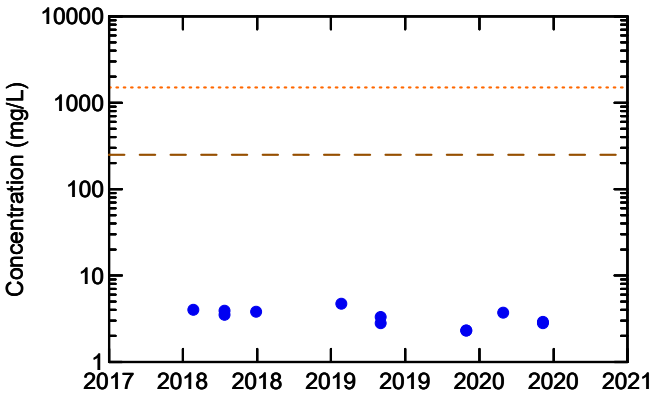
Stable

Nitrogen (Ammonia Nitrogen)



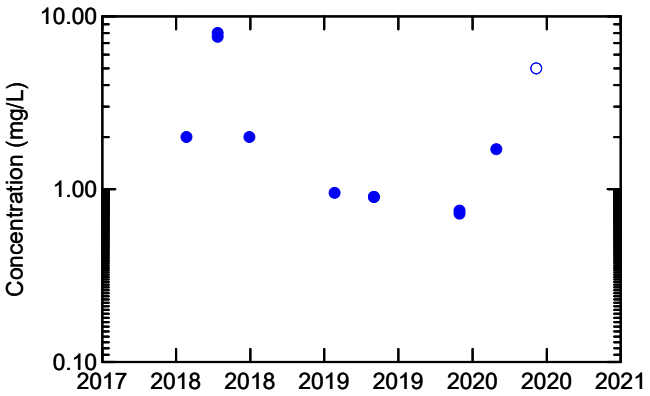
Over 50% non-detects

Dissolved Chloride



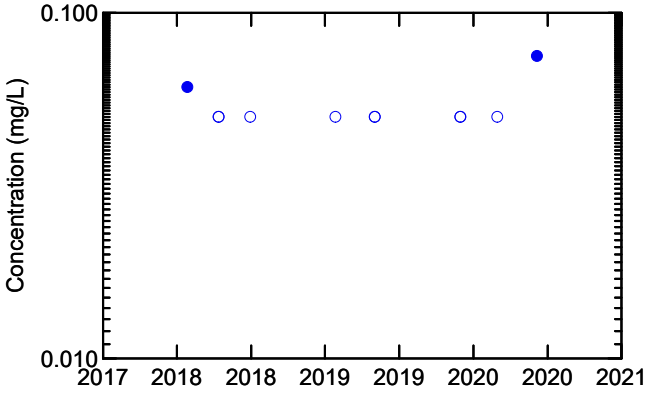
Stable

Total Organic Carbon



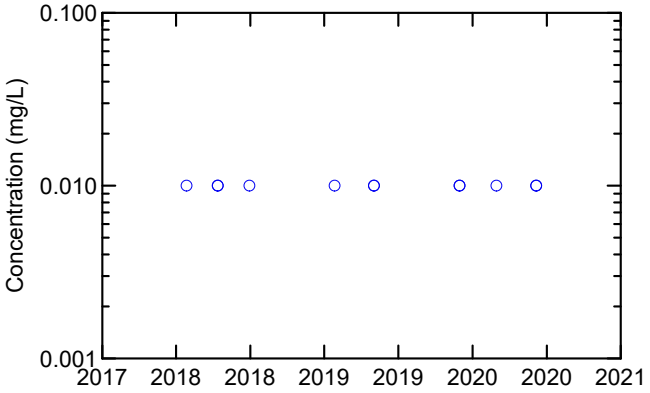
No trend identified

Nitrate + Nitrite



Over 50% non-detects

Orthophosphate



No detected results

Legend:

● Detected result ○ Non-Detect

Nova Scotia (2014) Pathway-Specific Standard for Groundwater

Canadian Drinking Water Quality Guideline: Aesthetic

WELL MW-05B
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Notes:
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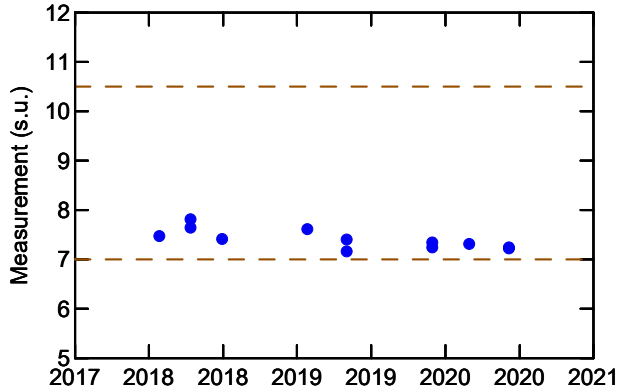
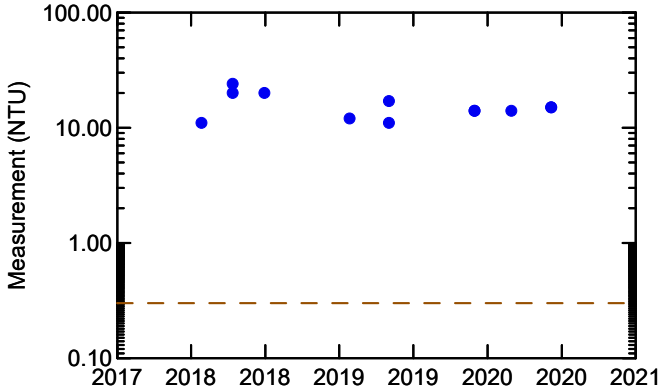
Non-detects are plotted at the reporting limit.

pH



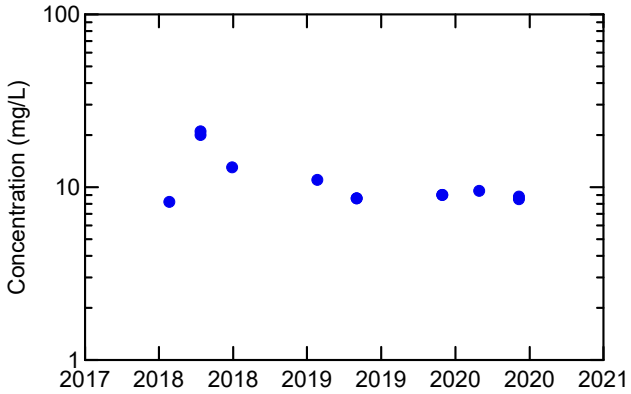
Stable

Turbidity



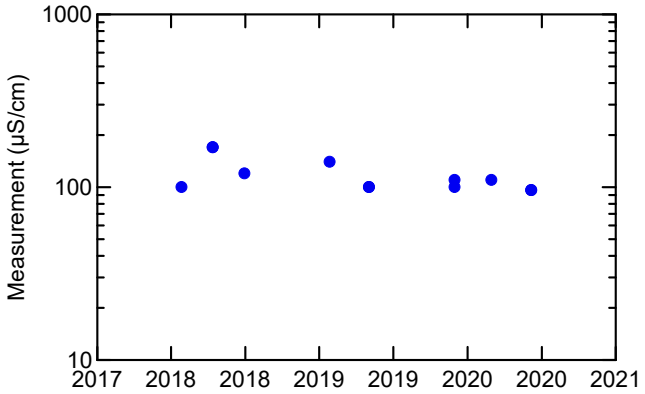
No trend identified

Reactive Silica (SiO2)



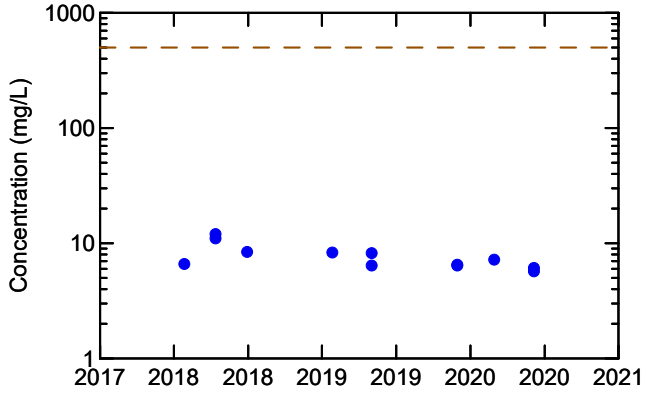
Stable

Conductivity



Probably Decreasing

Dissolved Sulphate (SO4)



Stable

Legend:

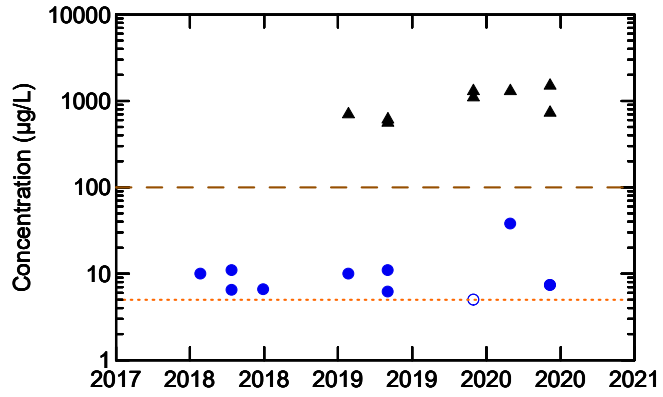
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines: Aesthetic

WELL MW-05B
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

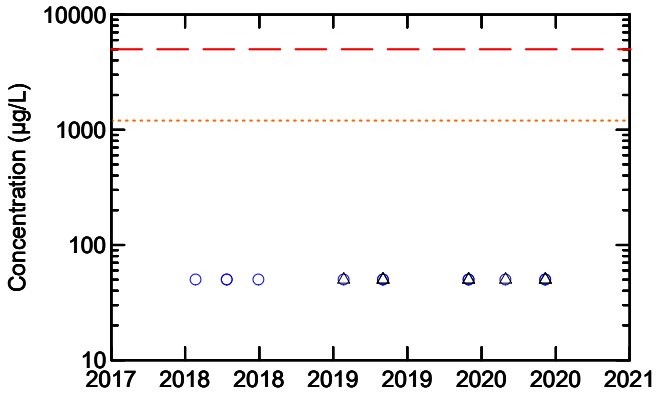
Aluminum



Total: No trend identified

Dissolved: Stable

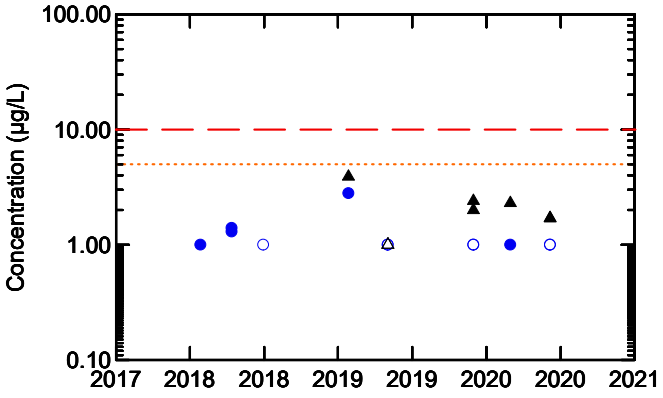
Boron



Total: No detected results

Dissolved: No detected results

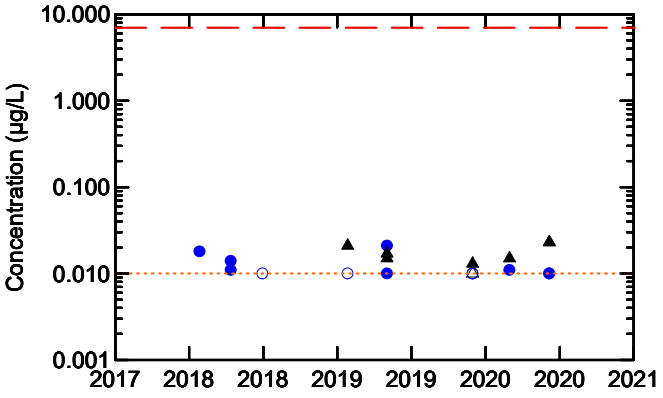
Arsenic



Total: Stable

Dissolved: Stable

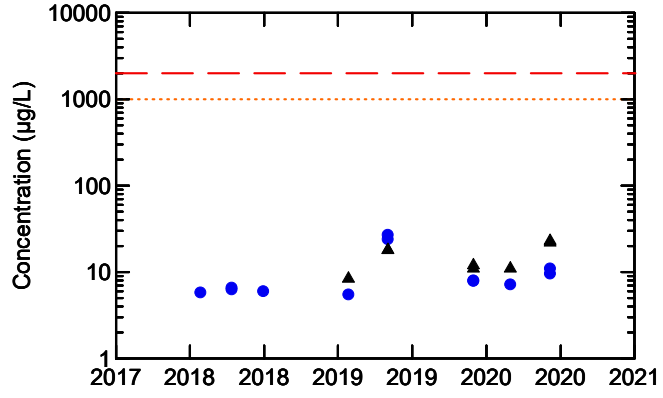
Cadmium



Total: Stable

Dissolved: Stable

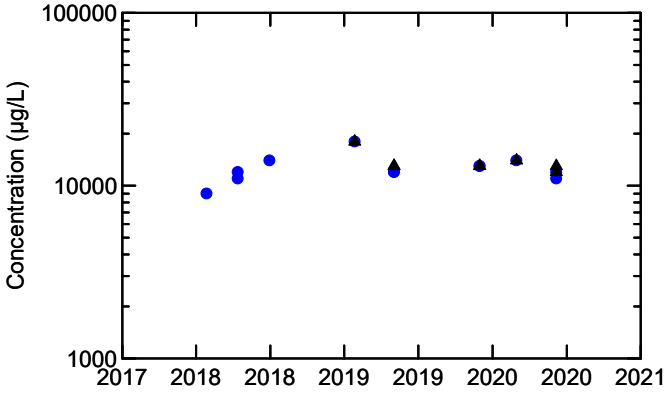
Barium



Total: No trend identified

Dissolved: No trend identified

Calcium



Total: Stable

Dissolved: No trend identified

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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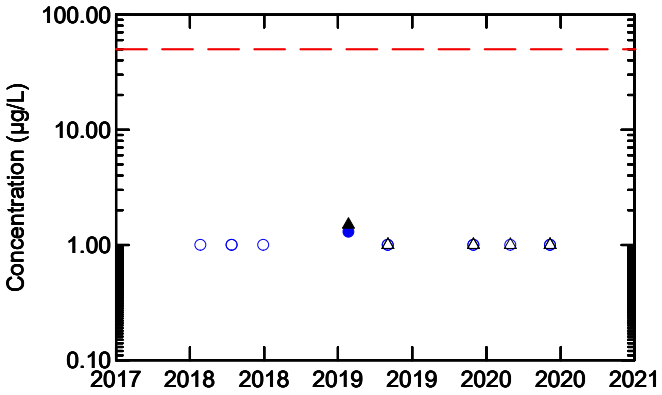
WELL MW-05B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

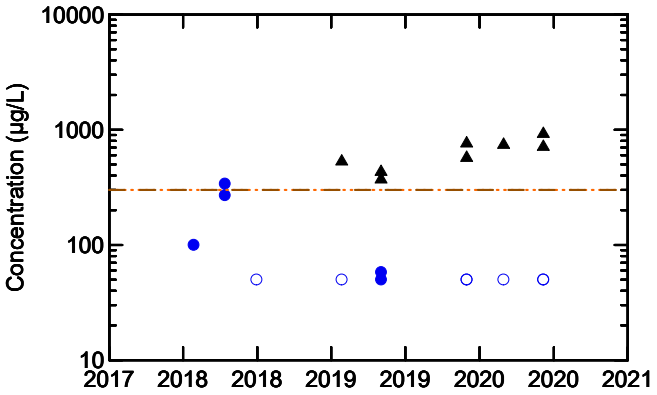
Chromium



Total: Over 50% non-detects

Dissolved: Over 50% non-detects

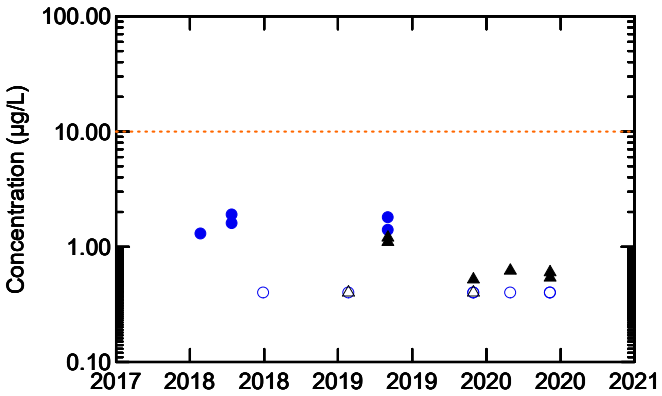
Iron



Total: Probably Increasing

Dissolved: Over 50% non-detects

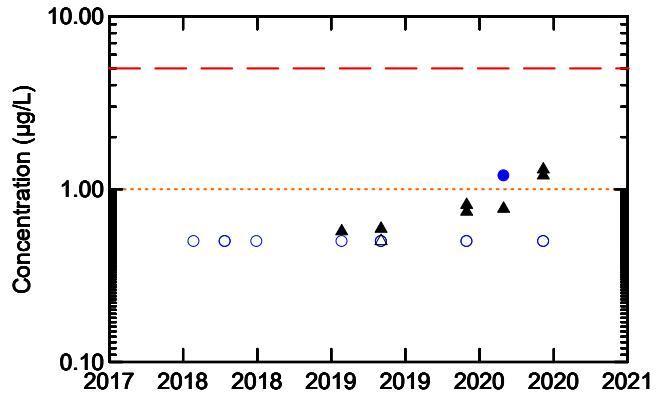
Cobalt



Total: No trend identified

Dissolved: Over 50% non-detects

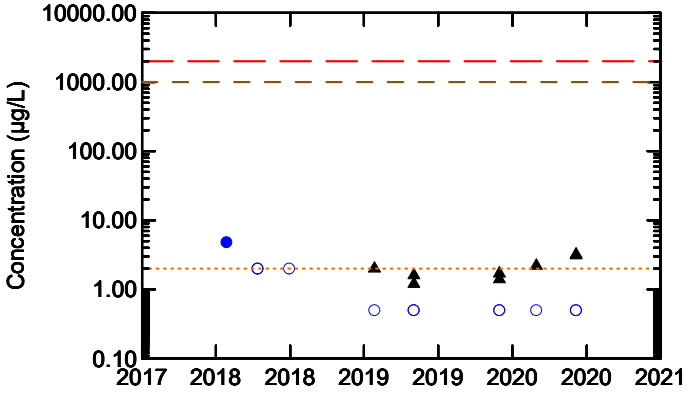
Lead



Total: Probably Increasing

Dissolved: Over 50% non-detects

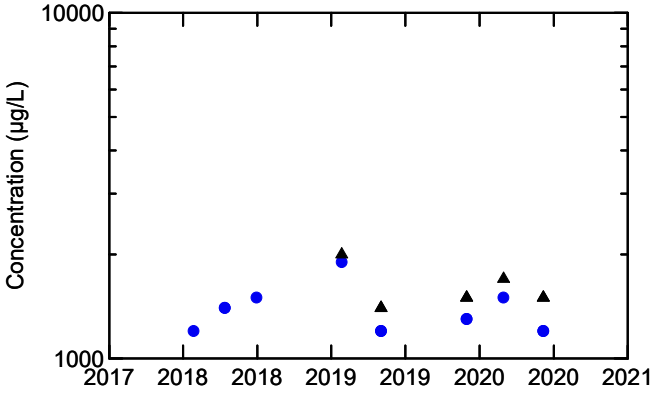
Copper



Total: No trend identified

Dissolved: Over 50% non-detects

Magnesium



Total: Stable

Dissolved: Stable

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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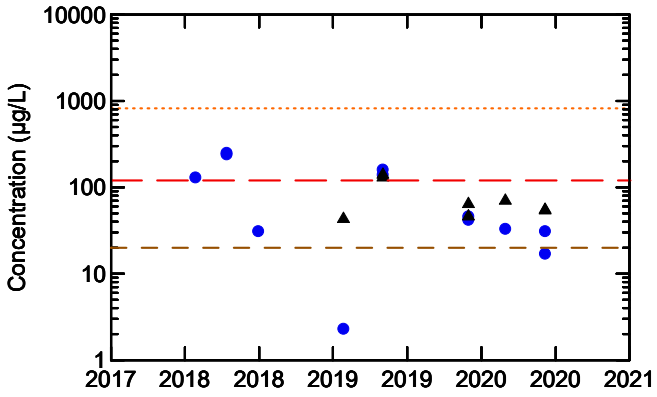
WELL MW-05B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

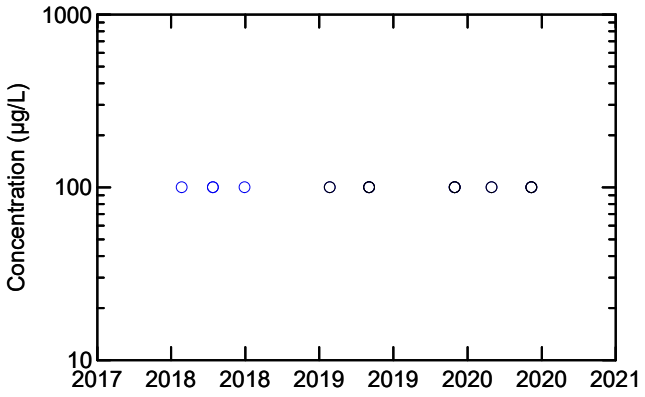
Manganese



Total: Stable

Dissolved: No trend identified

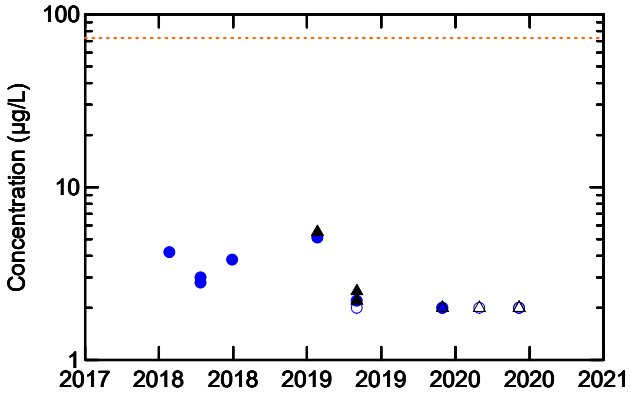
Phosphorus



Total: No detected results

Dissolved: No detected results

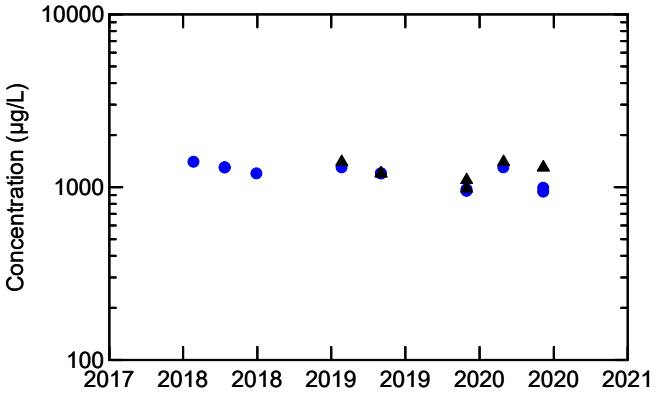
Molybdenum



Total: Over 50% non-detects

Dissolved: Decreasing Trend

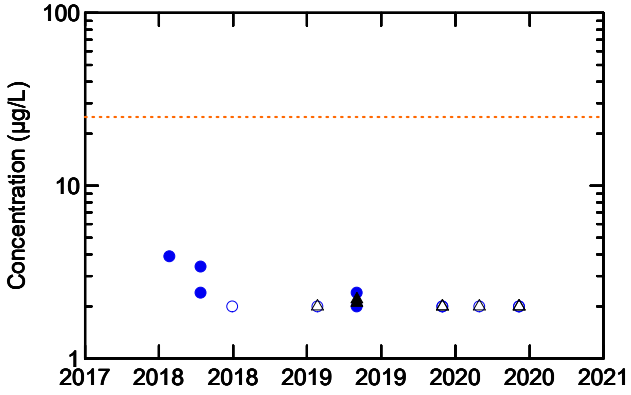
Potassium



Total: Stable

Dissolved: Stable

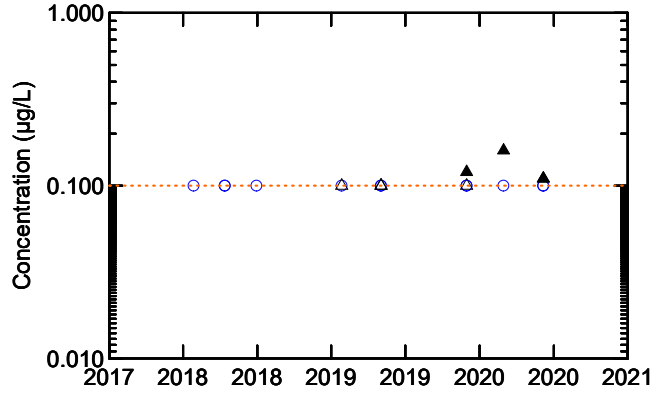
Nickel



Total: Over 50% non-detects

Dissolved: Over 50% non-detects

Silver



Total: No trend identified

Dissolved: No detected results

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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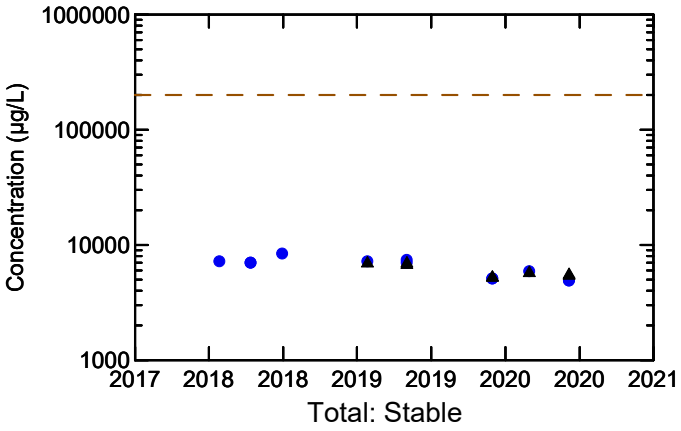
WELL MW-05B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

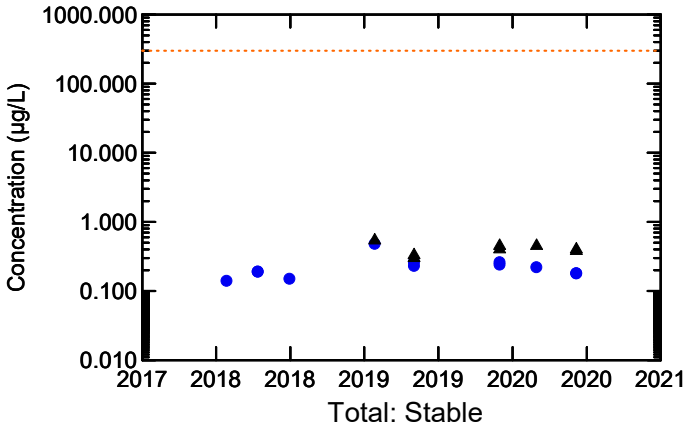
Sodium



Total: Stable

Dissolved: Probably Decreasing

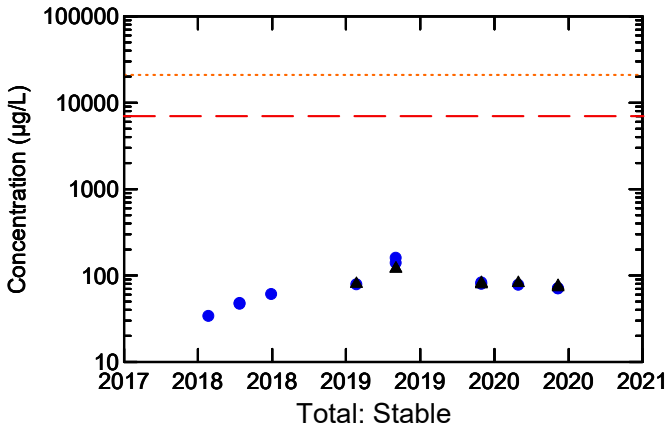
Uranium



Total: Stable

Dissolved: No trend identified

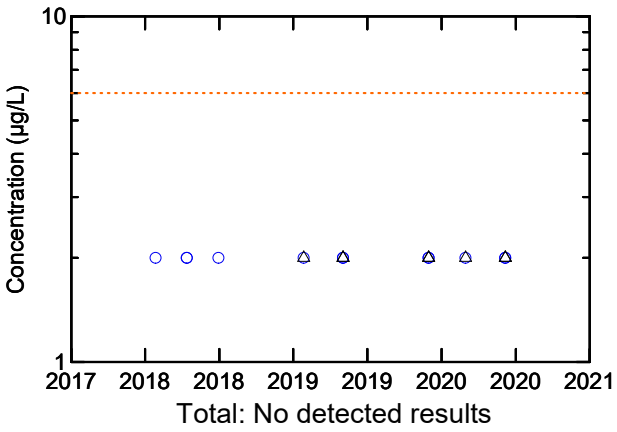
Strontium



Total: Stable

Dissolved: No trend identified

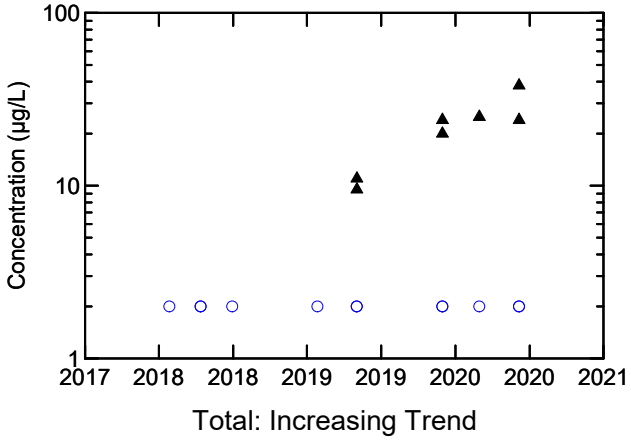
Vanadium



Total: No detected results

Dissolved: No detected results

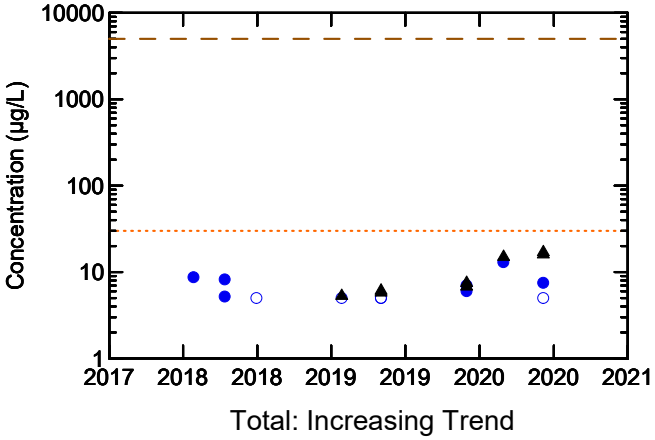
Titanium



Total: Increasing Trend

Dissolved: No detected results

Zinc



Total: Increasing Trend

Dissolved: No trend identified

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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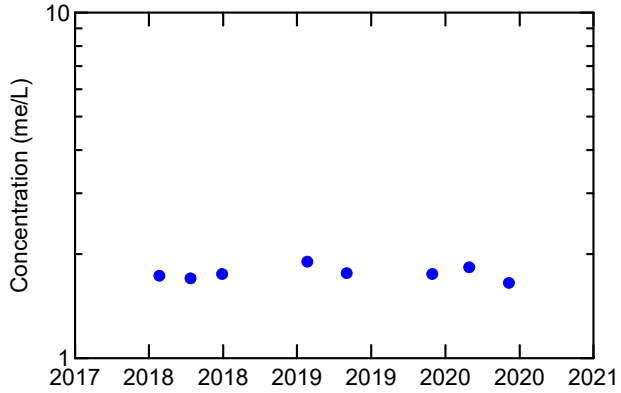
Non-detects are plotted at the reporting limit.

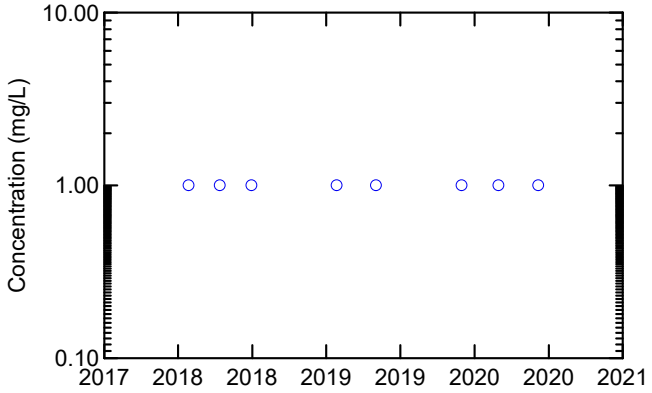
WELL MW-05B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Anion Sum



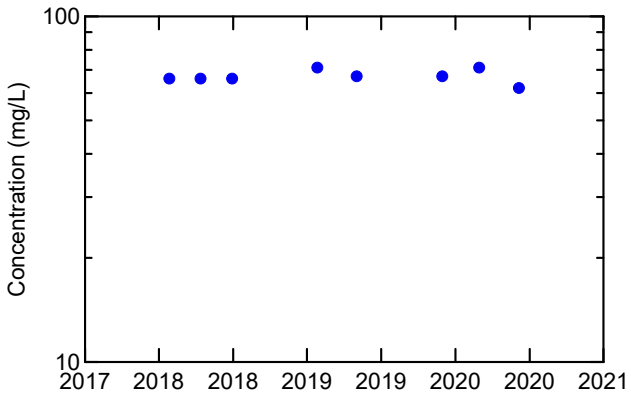
No trend identified

Carb. Alkalinity (calc. as CaCO3)



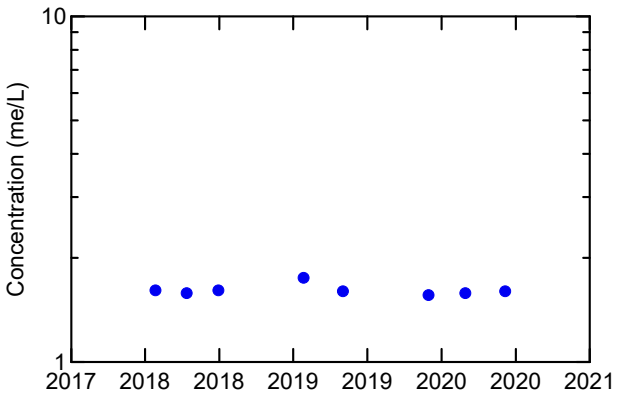
No detected results

Bicarb. Alkalinity (calc. as CaCO3)



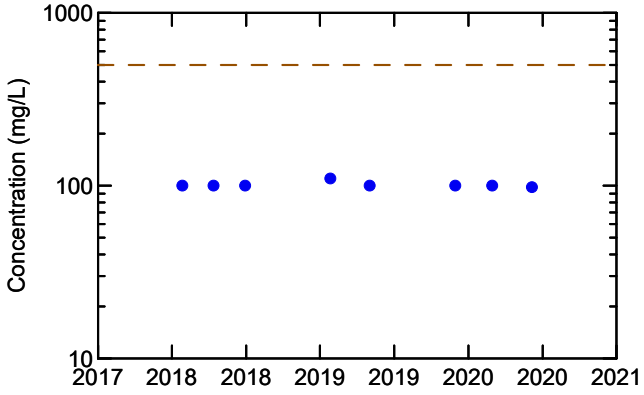
No trend identified

Cation Sum



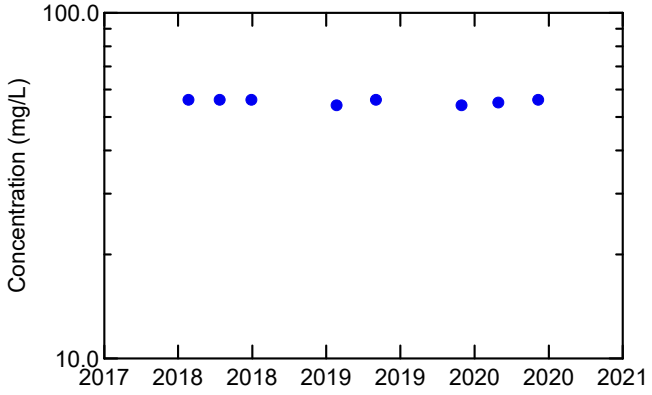
Stable

Calculated TDS



Stable

Hardness (CaCO3)



Stable

Legend:

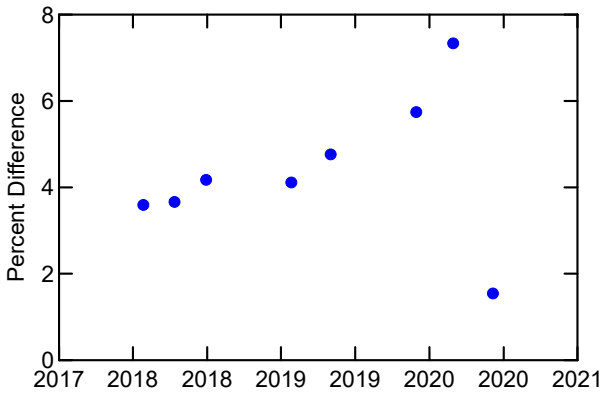
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines - Aesthetic

WELL MW-05D
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

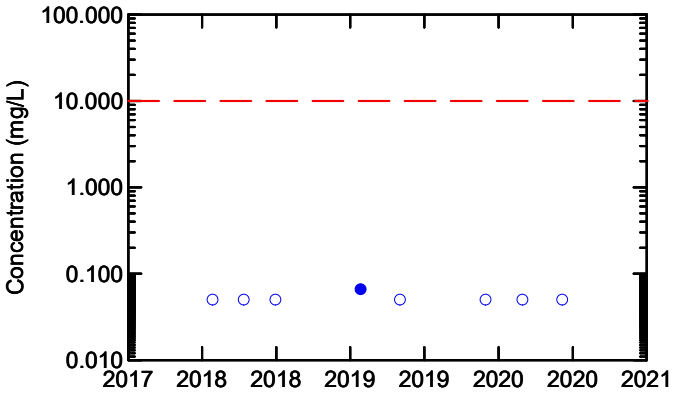
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Ion Balance



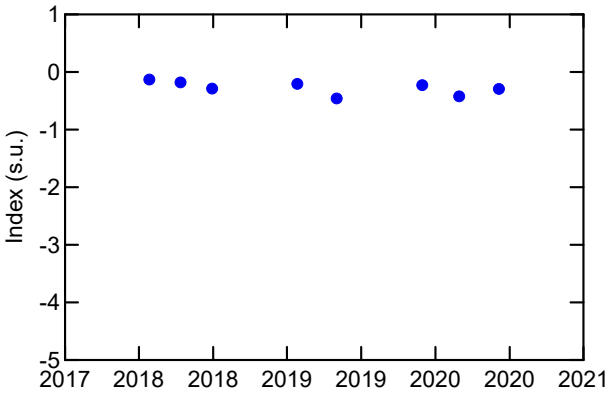
No trend identified

Nitrate



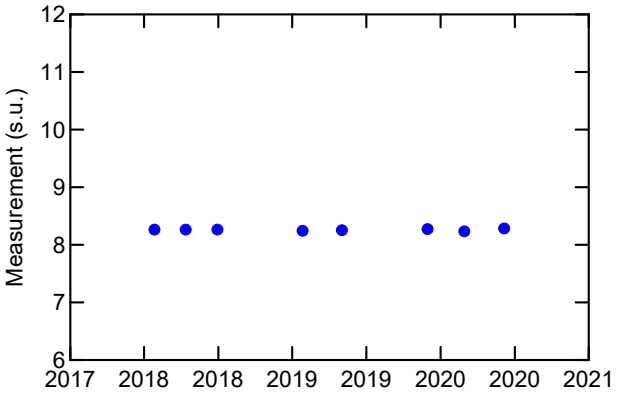
Over 50% non-detects

Langelier Index (@ 20C)



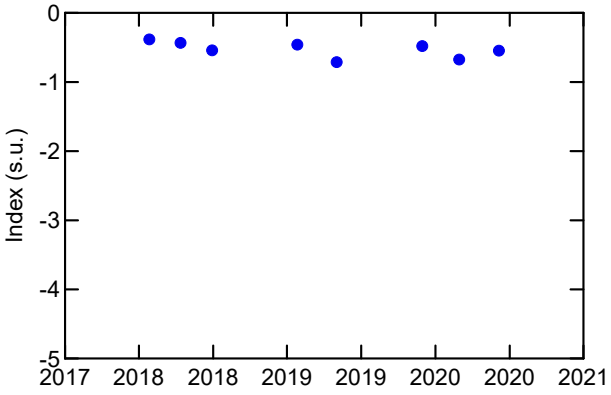
Probably Decreasing

Saturation pH (@ 20C)



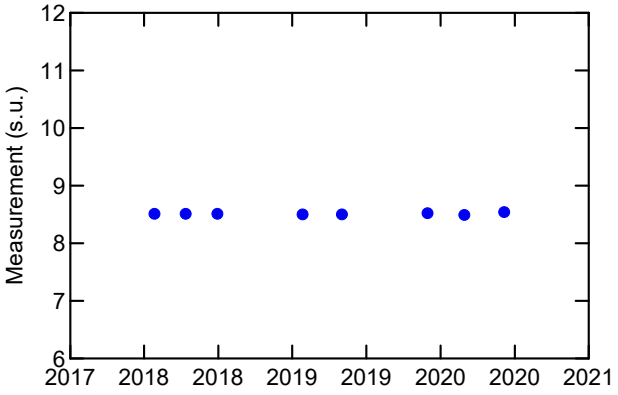
No trend identified

Langelier Index (@ 4C)



Probably Decreasing

Saturation pH (@ 4C)



Stable

Legend:

● Detected result ○ Non-Detect

— — Canadian Drinking Water Quality Guidelines: Maximum Acceptable

Notes:
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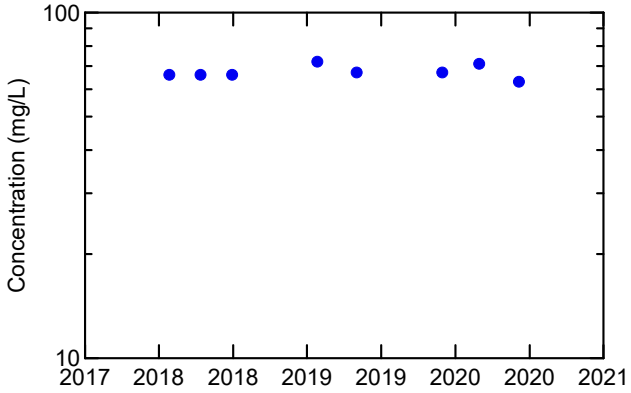
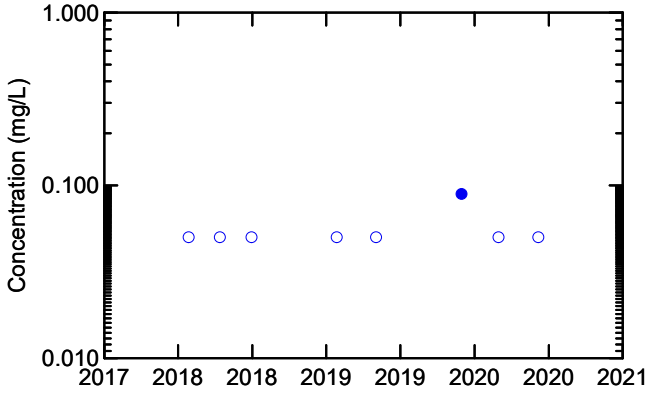
WELL MW-05D
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Total Alkalinity (Total as CaCO3)



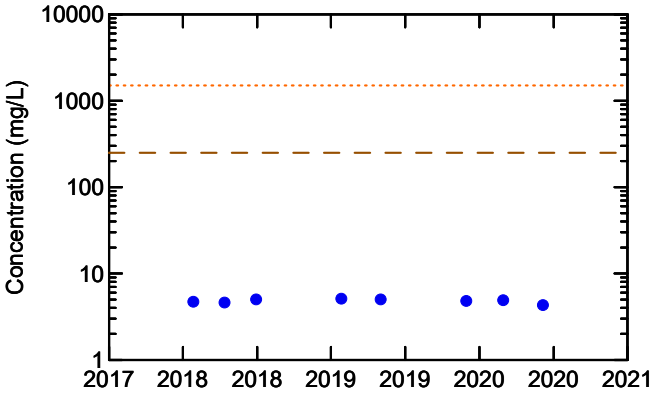
No trend identified

Nitrogen (Ammonia Nitrogen)



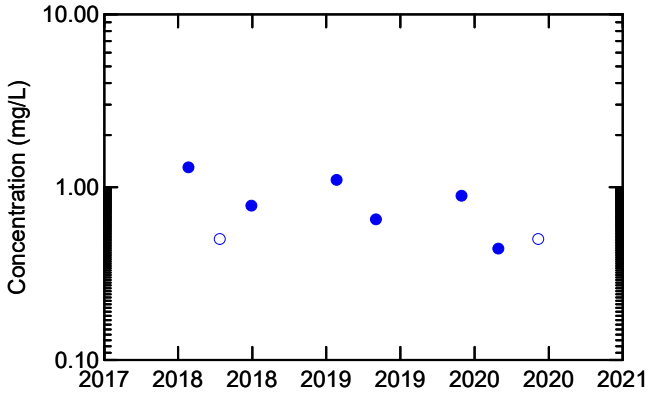
Over 50% non-detects

Dissolved Chloride



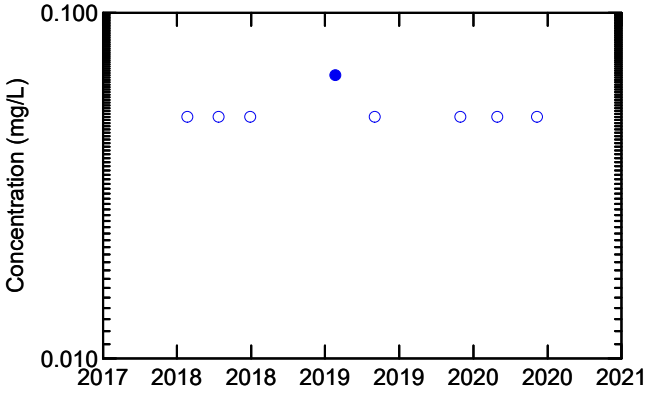
Stable

Total Organic Carbon



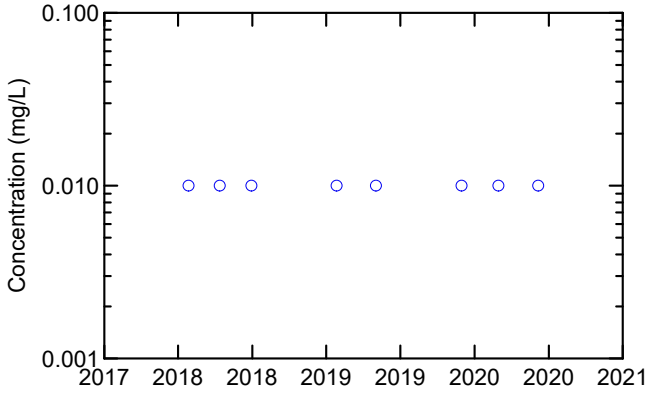
Stable

Nitrate + Nitrite



Over 50% non-detects

Orthophosphate



No detected results

Legend:

● Detected result ○ Non-Detect

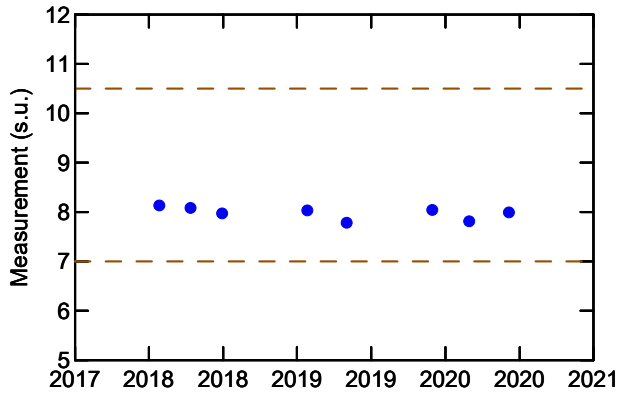
Nova Scotia (2014) Pathway-Specific Standard for Groundwater

Canadian Drinking Water Quality Guideline: Aesthetic

WELL MW-05D
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

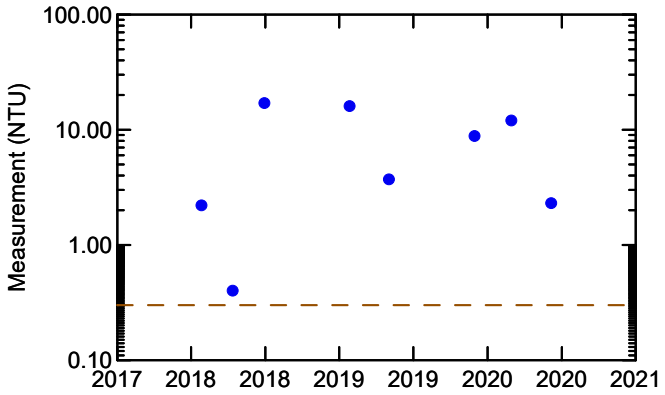
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

pH



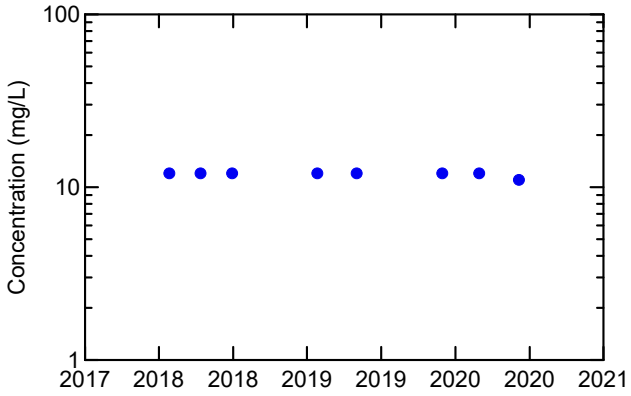
Stable

Turbidity



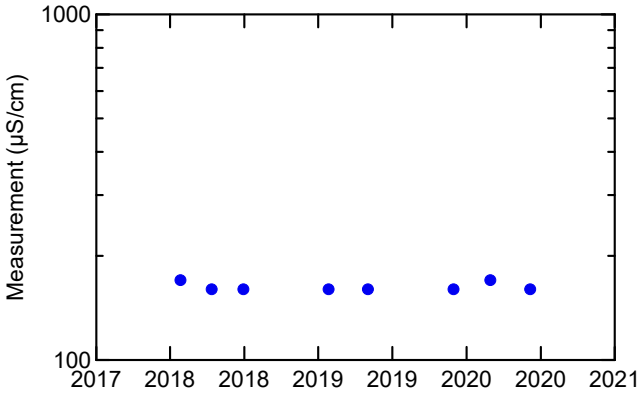
No trend identified

Reactive Silica (SiO2)



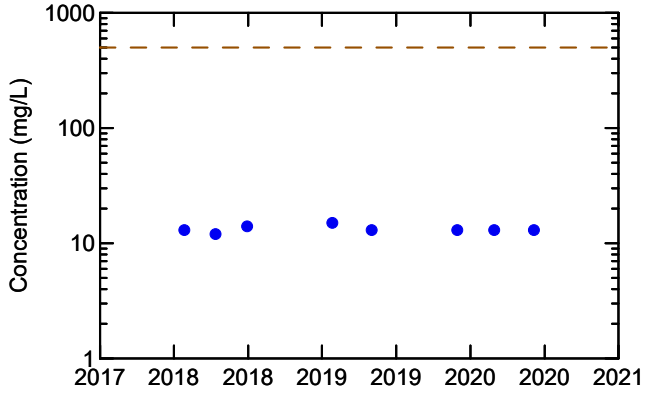
Stable

Conductivity



Probably Decreasing

Dissolved Sulphate (SO4)



Stable

Legend:

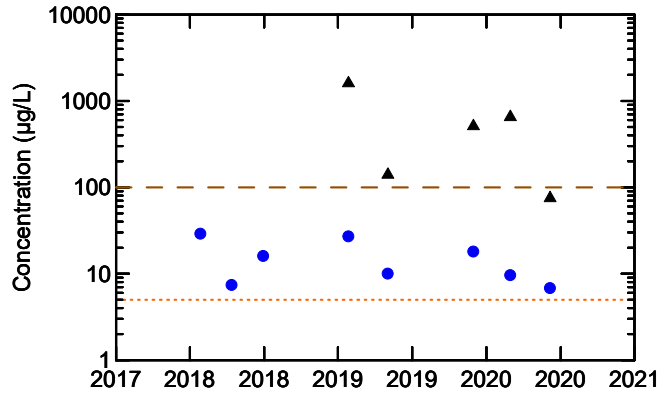
● Detected result ○ Non-Detect

– – - Canadian Drinking Water Quality Guidelines: Aesthetic

WELL MW-05D
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

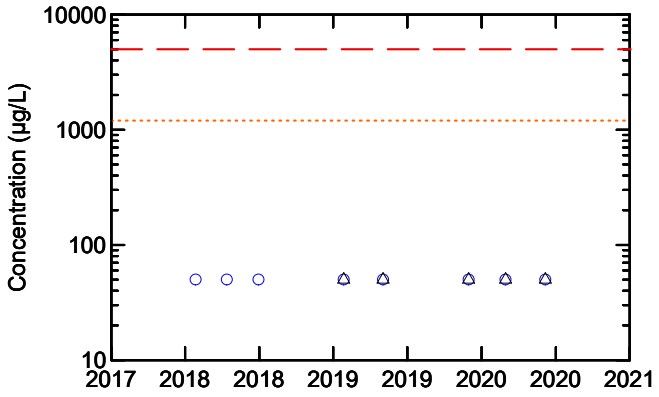
Aluminum



Total: No trend identified

Dissolved: Stable

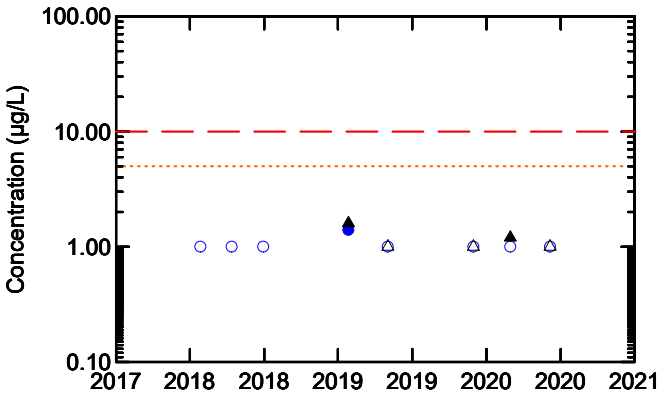
Boron



Total: No detected results

Dissolved: No detected results

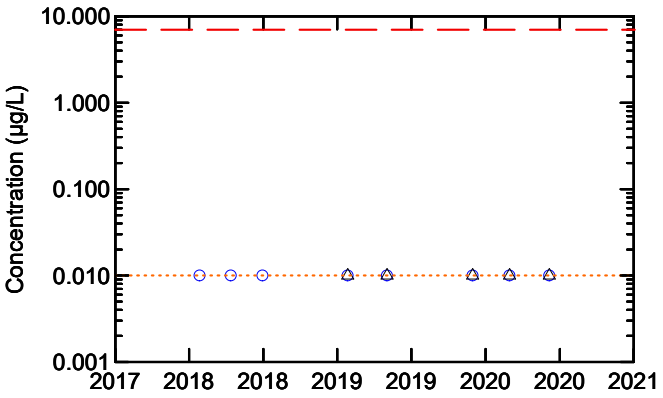
Arsenic



Total: Over 50% non-detects

Dissolved: Over 50% non-detects

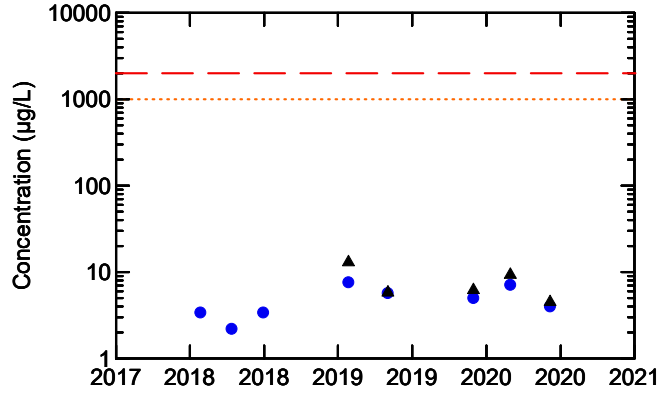
Cadmium



Total: No detected results

Dissolved: No detected results

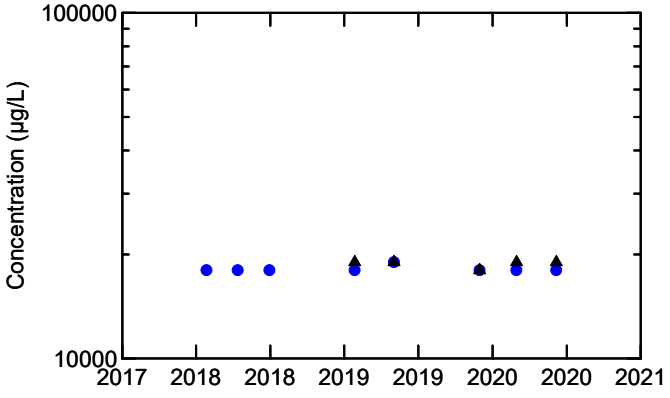
Barium



Total: Stable

Dissolved: No trend identified

Calcium



Total: Stable

Dissolved: No trend identified

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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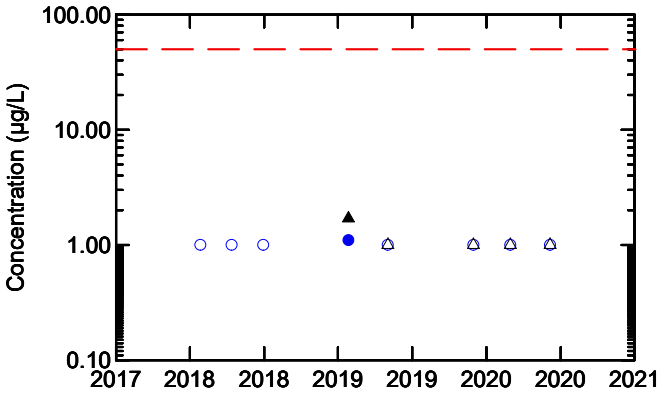
WELL MW-05D
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

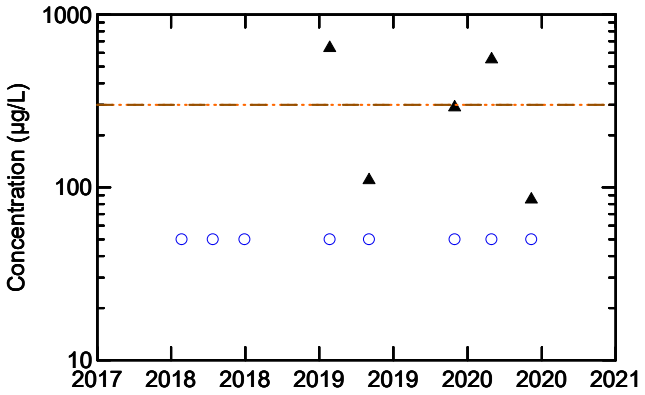
Chromium



Total: Over 50% non-detects

Dissolved: Over 50% non-detects

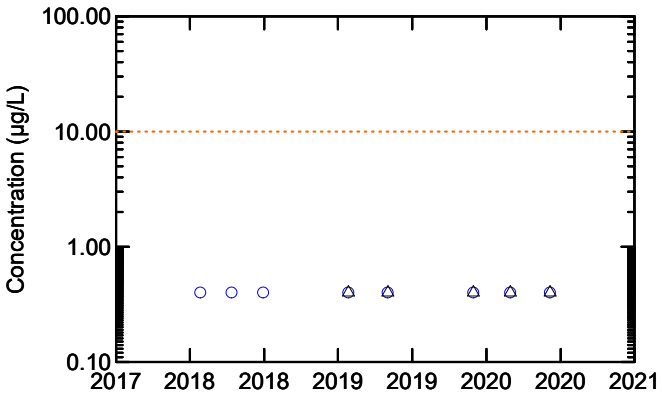
Iron



Total: Stable

Dissolved: No detected results

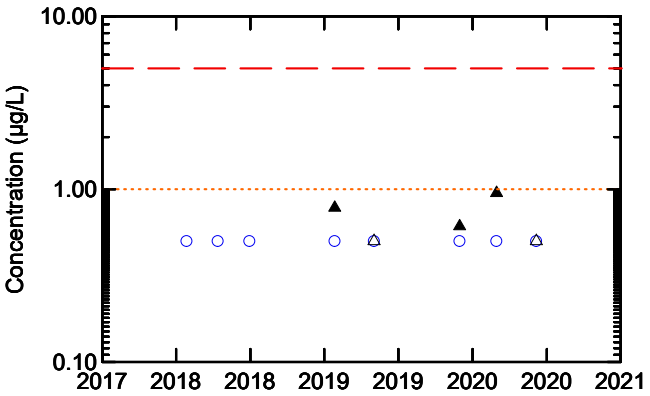
Cobalt



Total: No detected results

Dissolved: No detected results

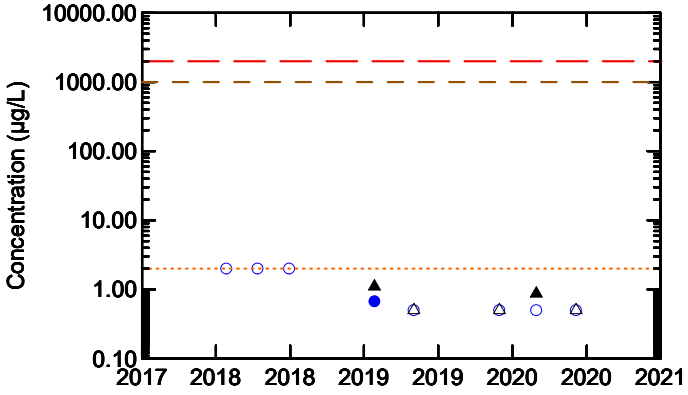
Lead



Total: Stable

Dissolved: No detected results

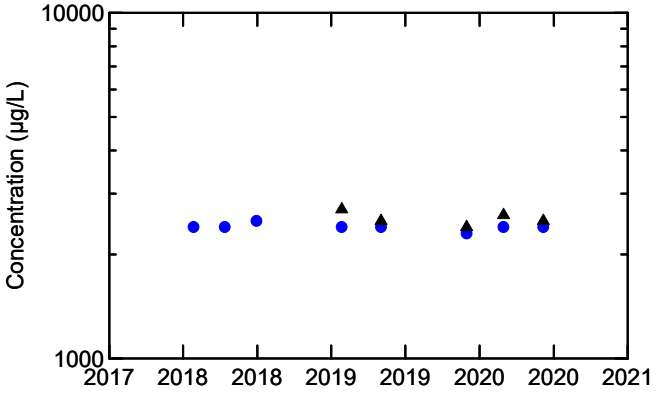
Copper



Total: Over 50% non-detects

Dissolved: Over 50% non-detects

Magnesium



Total: Stable

Dissolved: Stable

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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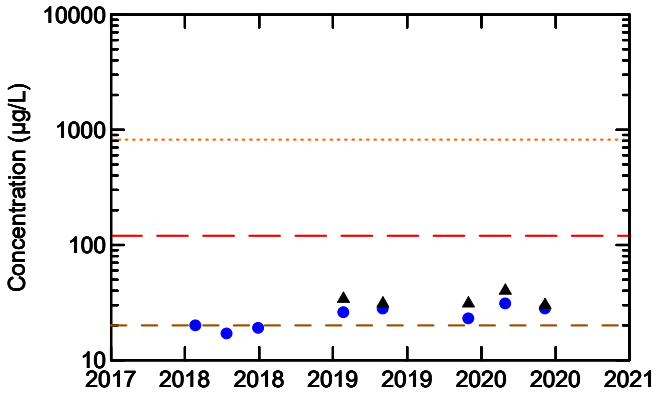
WELL MW-05D
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

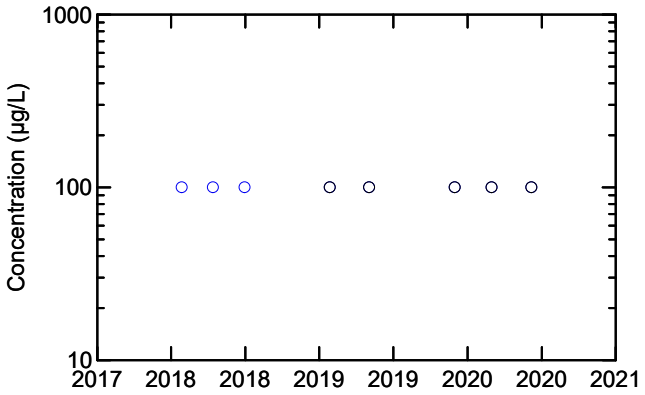
Manganese



Total: Stable

Dissolved: Increasing Trend

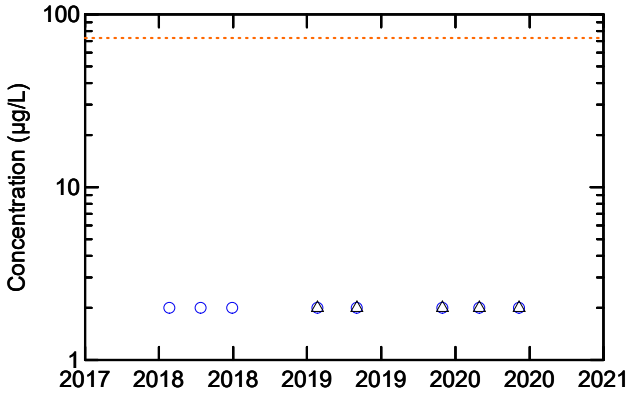
Phosphorus



Total: No detected results

Dissolved: No detected results

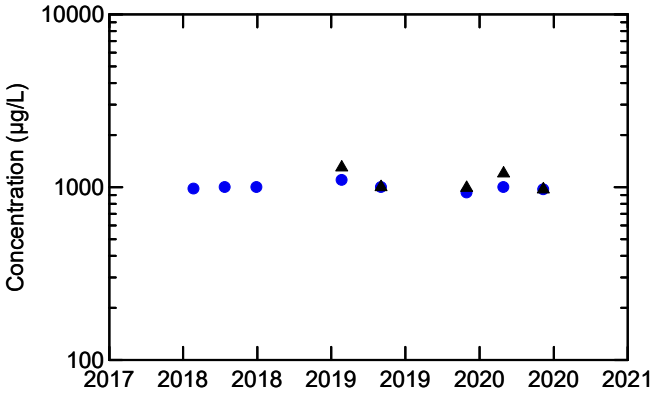
Molybdenum



Total: No detected results

Dissolved: No detected results

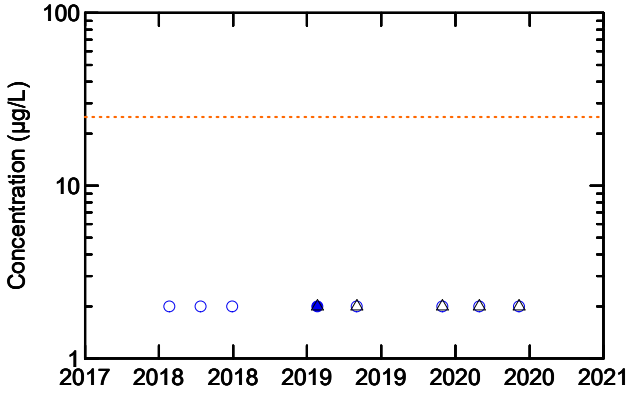
Potassium



Total: Stable

Dissolved: Stable

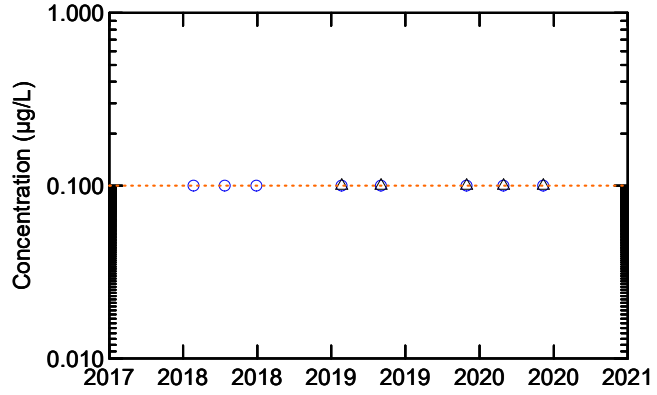
Nickel



Total: No detected results

Dissolved: Over 50% non-detects

Silver



Total: No detected results

Dissolved: No detected results

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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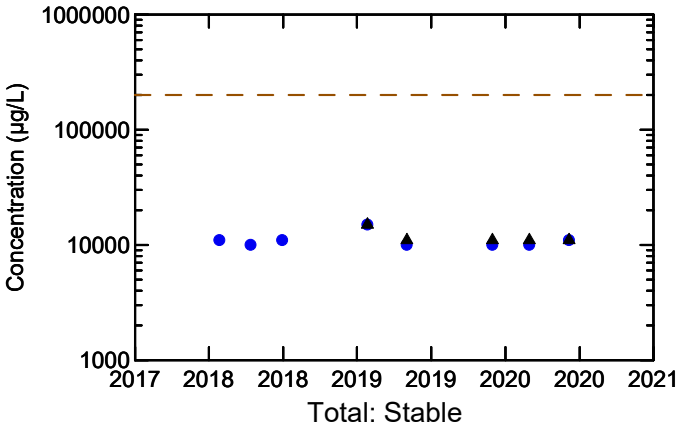
WELL MW-05D
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

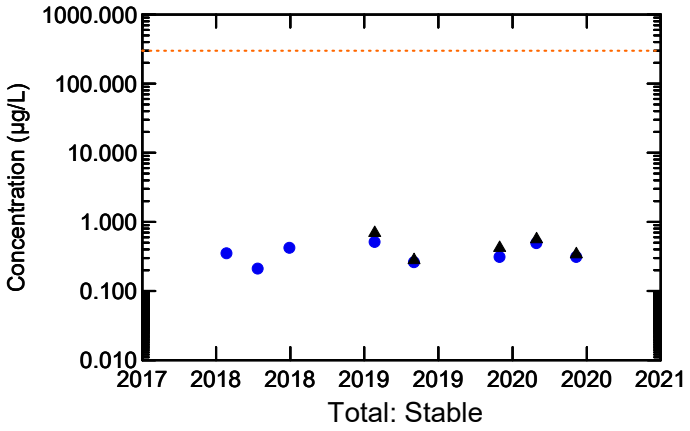
Sodium



Total: Stable

Dissolved: Stable

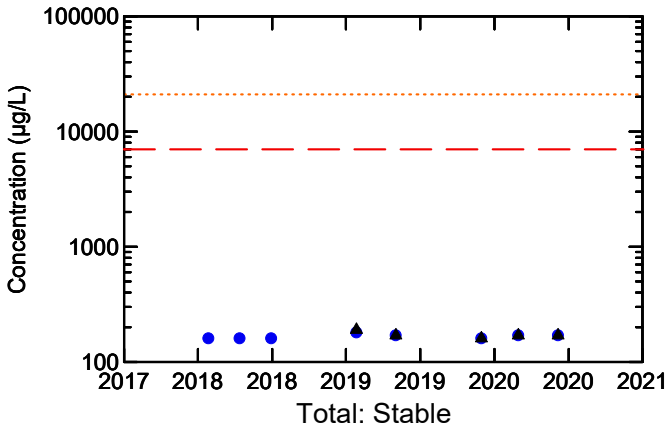
Uranium



Total: Stable

Dissolved: No trend identified

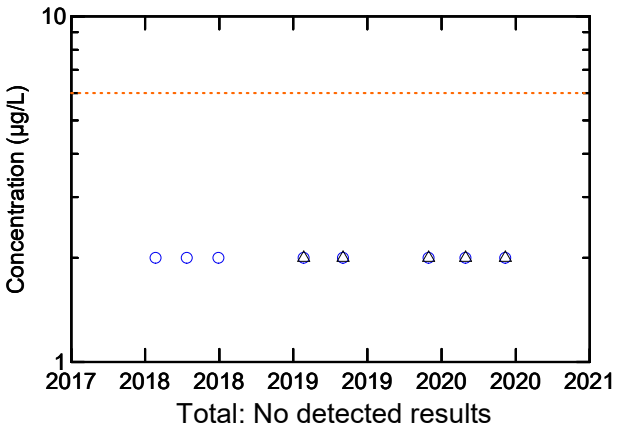
Strontium



Total: Stable

Dissolved: No trend identified

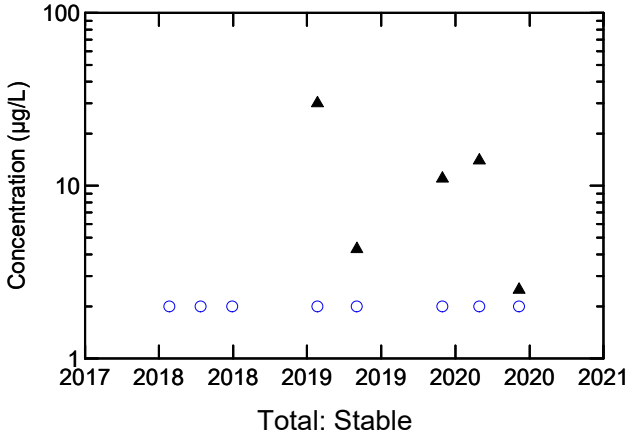
Vanadium



Total: No detected results

Dissolved: No detected results

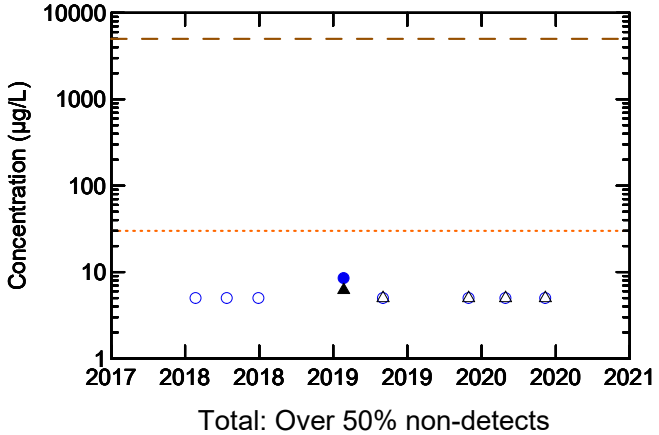
Titanium



Total: Stable

Dissolved: No detected results

Zinc



Total: Over 50% non-detects

Dissolved: Over 50% non-detects

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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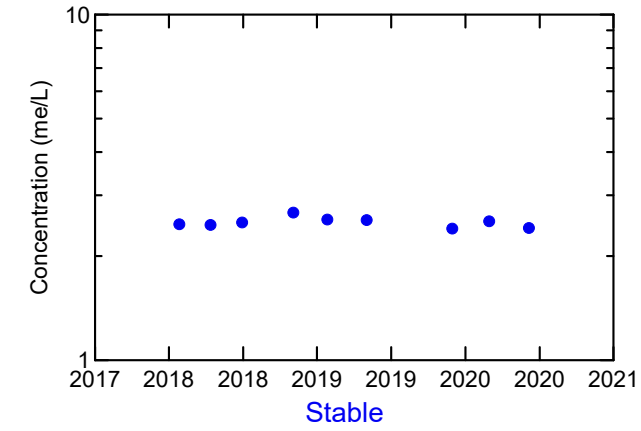
Non-detects are plotted at the reporting limit.

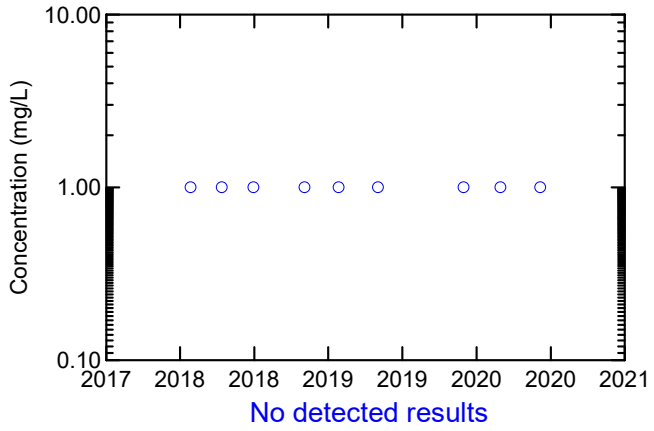
WELL MW-05D
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Anion Sum



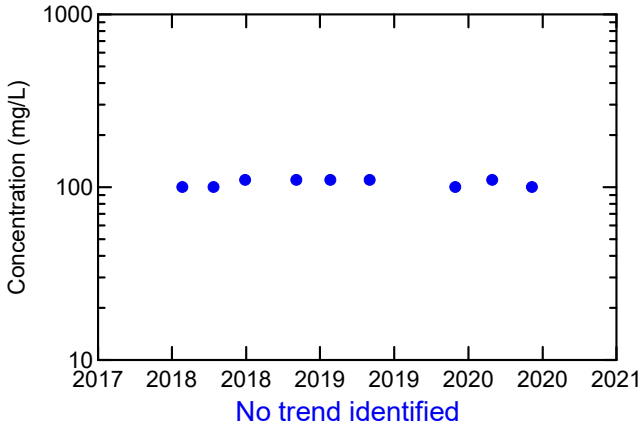
Stable

Carb. Alkalinity (calc. as CaCO3)



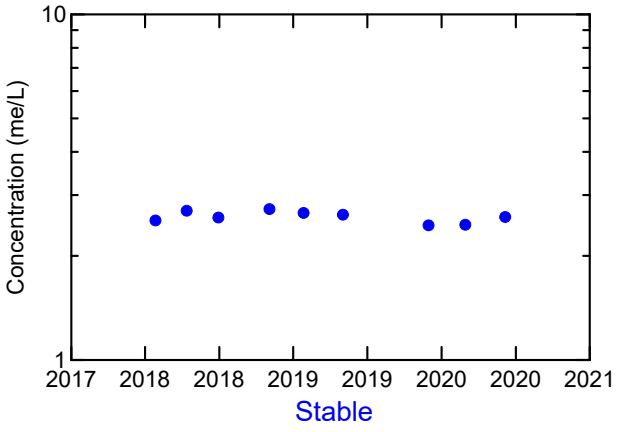
No detected results

Bicarb. Alkalinity (calc. as CaCO3)



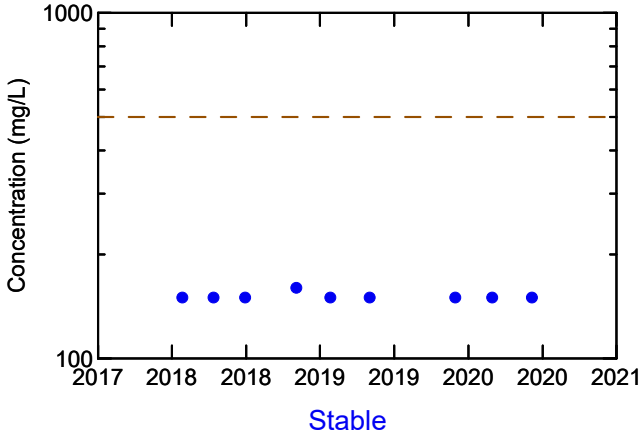
No trend identified

Cation Sum



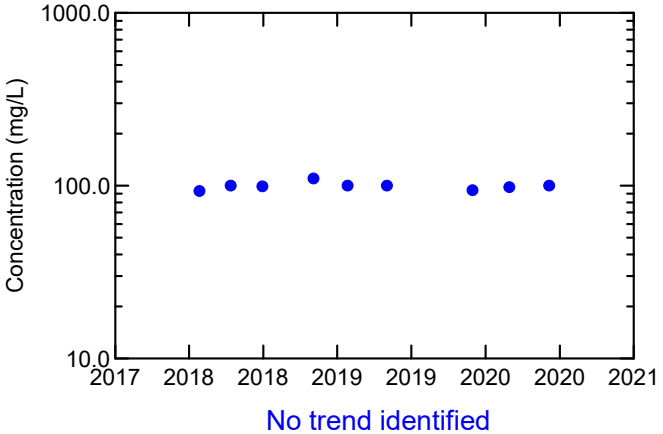
Stable

Calculated TDS



Stable

Hardness (CaCO3)



No trend identified

Legend:

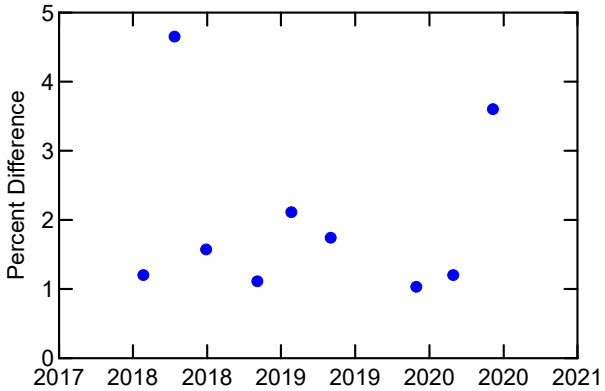
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines - Aesthetic

WELL MW-07A
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

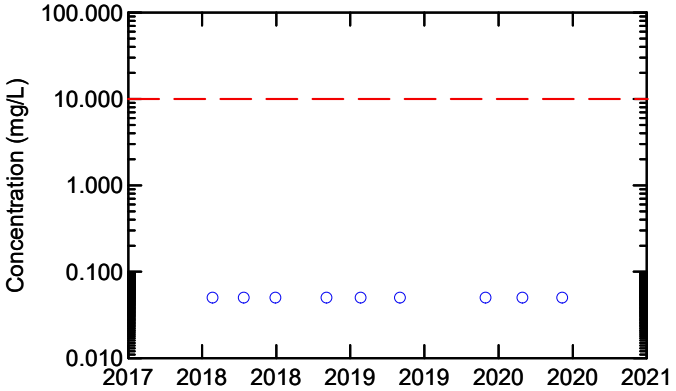
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Ion Balance



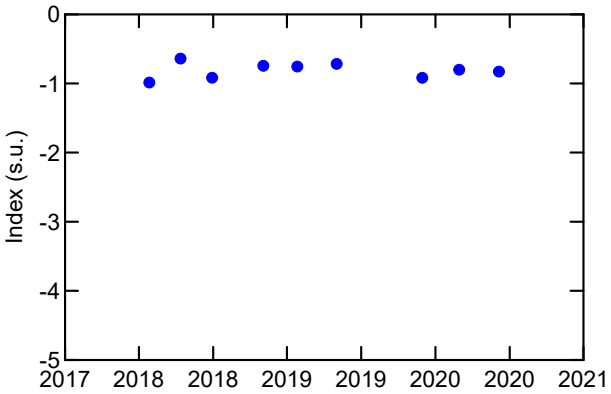
Stable

Nitrate



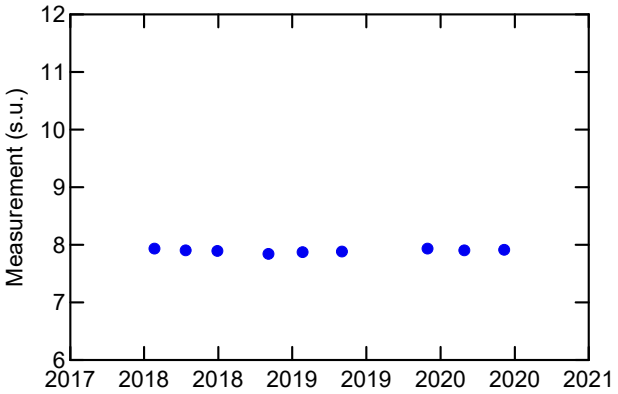
No detected results

Langelier Index (@ 20C)



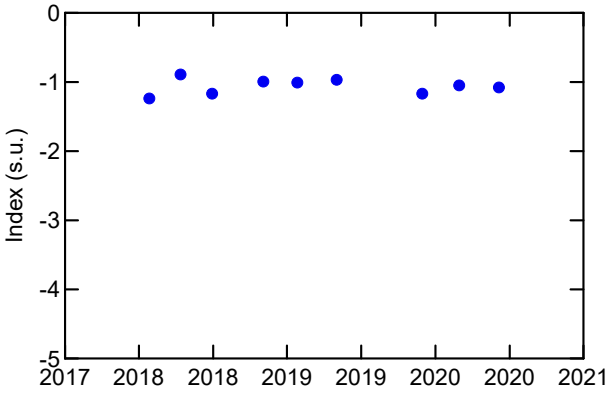
Stable

Saturation pH (@ 20C)



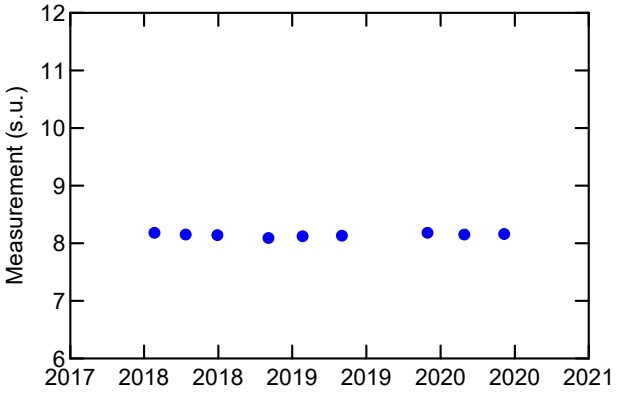
No trend identified

Langelier Index (@ 4C)



Stable

Saturation pH (@ 4C)



No trend identified

Legend:

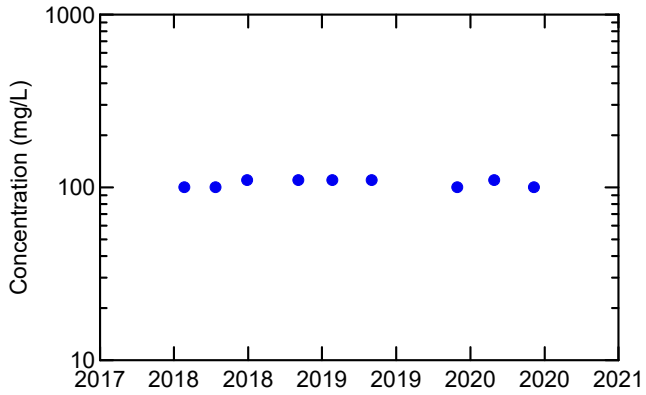
● Detected result ○ Non-Detect

— — Canadian Drinking Water Quality Guidelines: Maximum Acceptable

WELL MW-07A
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

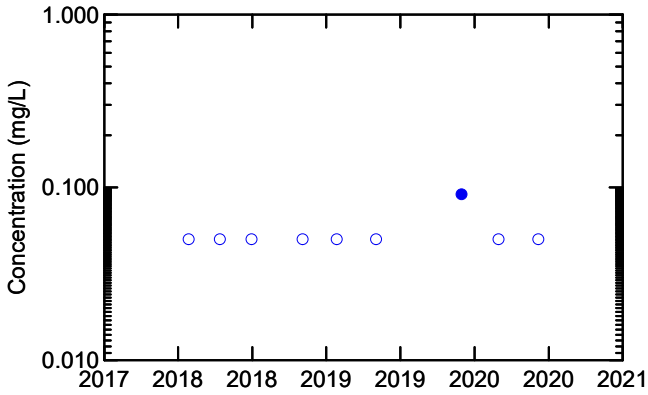
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Total Alkalinity (Total as CaCO3)



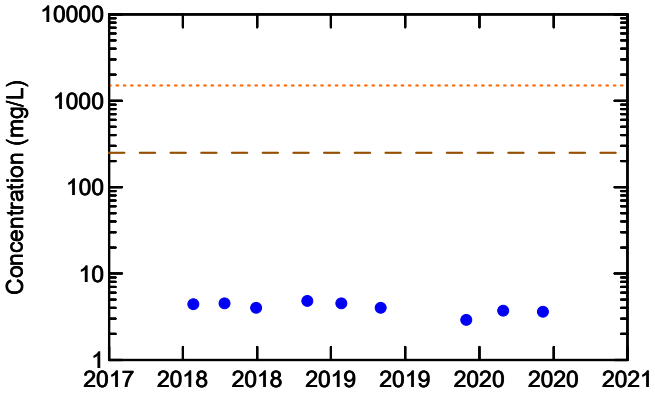
No trend identified

Nitrogen (Ammonia Nitrogen)



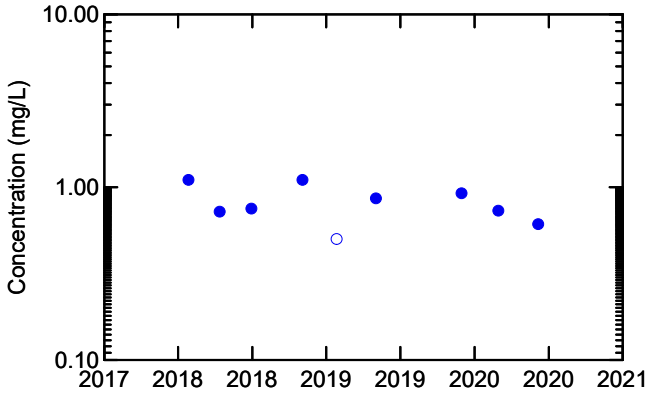
Over 50% non-detects

Dissolved Chloride



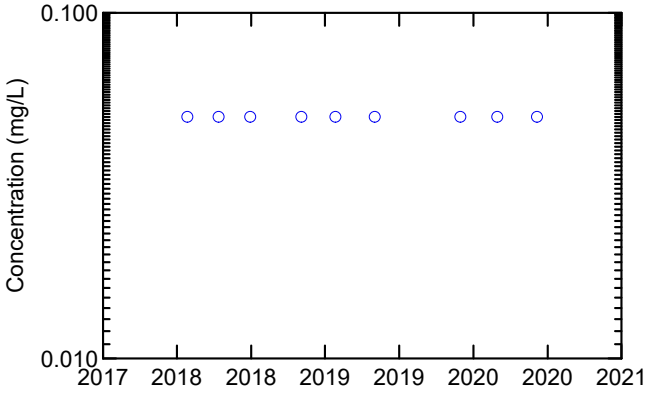
Probably Decreasing

Total Organic Carbon



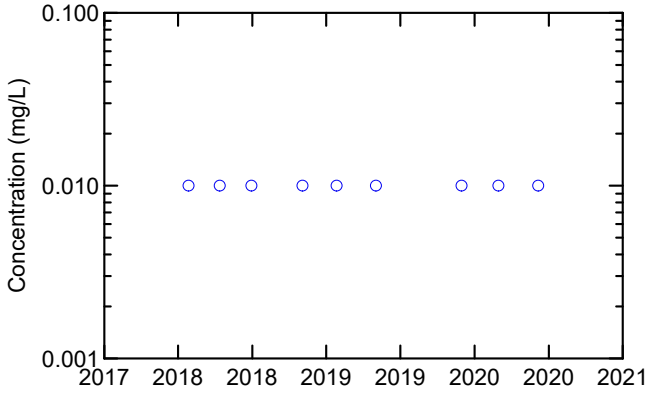
Stable

Nitrate + Nitrite



No detected results

Orthophosphate



No detected results

Legend:

● Detected result ○ Non-Detect

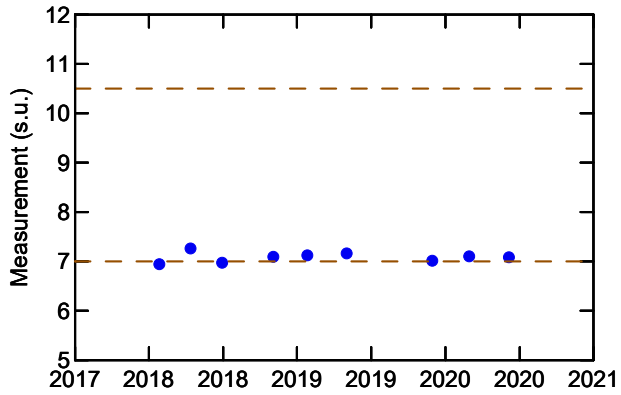
Nova Scotia (2014) Pathway-Specific Standard for Groundwater

Canadian Drinking Water Quality Guideline: Aesthetic

WELL MW-07A
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

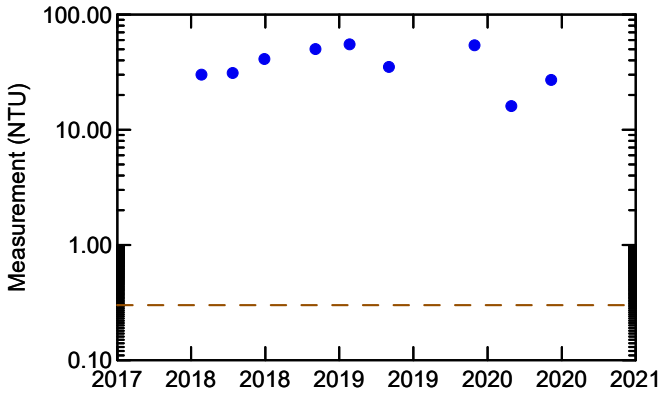
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

pH



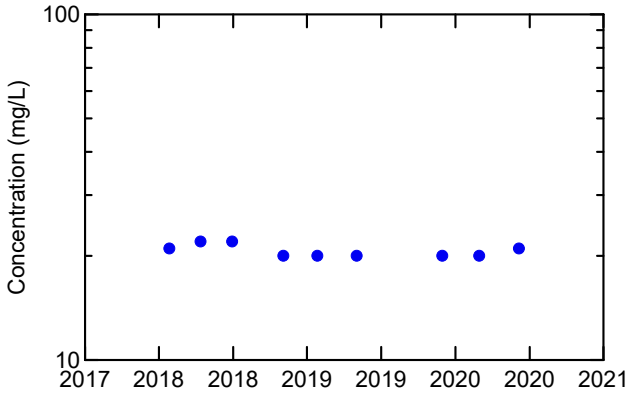
Stable

Turbidity



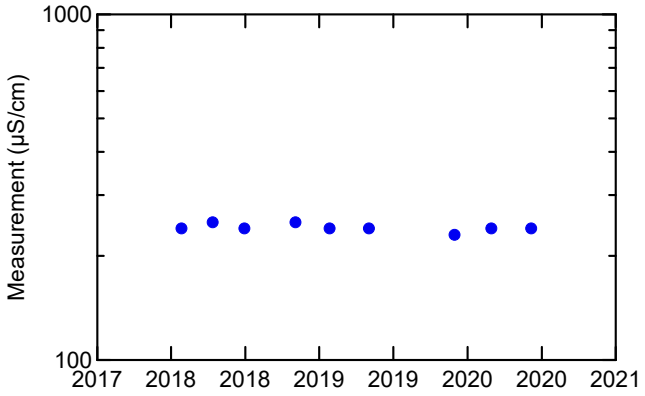
No trend identified

Reactive Silica (SiO2)



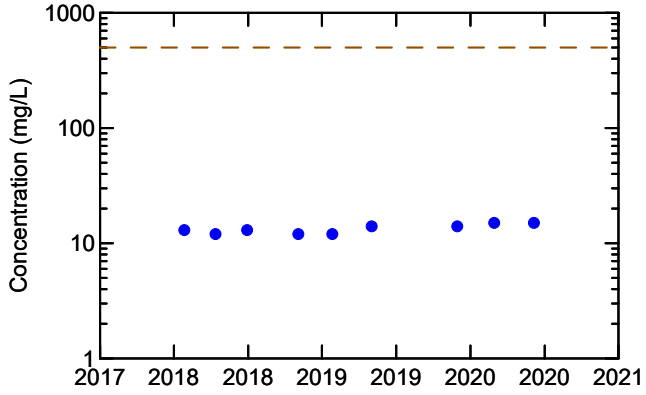
Stable

Conductivity



Probably Decreasing

Dissolved Sulphate (SO4)



Stable

Legend:

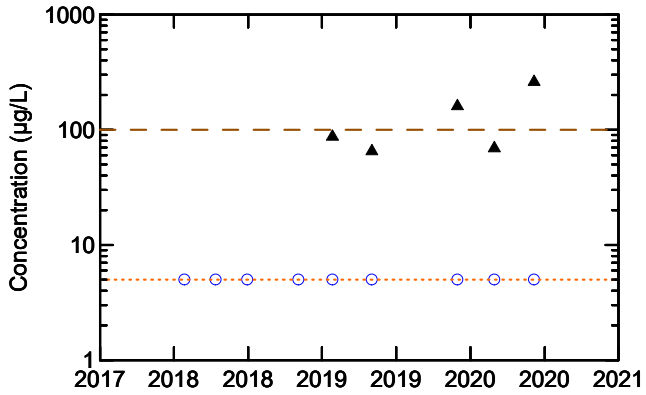
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines: Aesthetic

WELL MW-07A
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

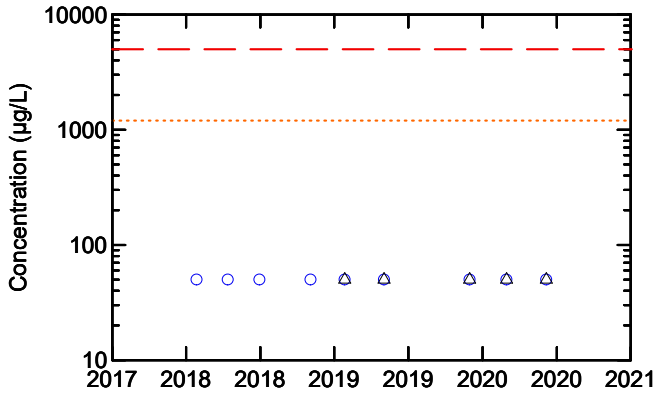
Aluminum



Total: No trend identified

Dissolved: No detected results

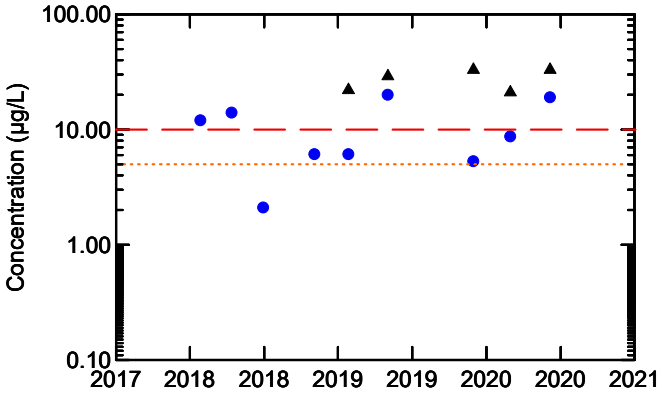
Boron



Total: No detected results

Dissolved: No detected results

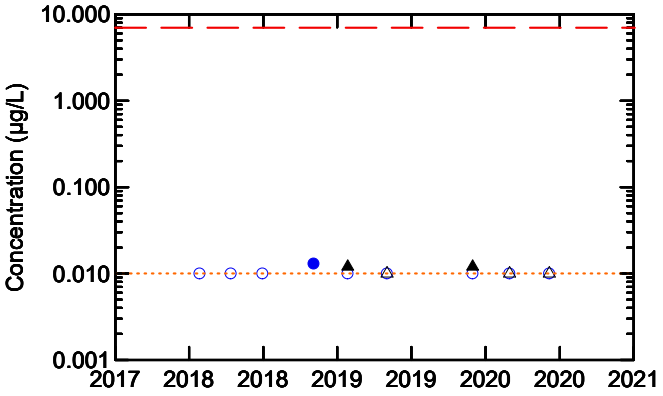
Arsenic



Total: No trend identified

Dissolved: No trend identified

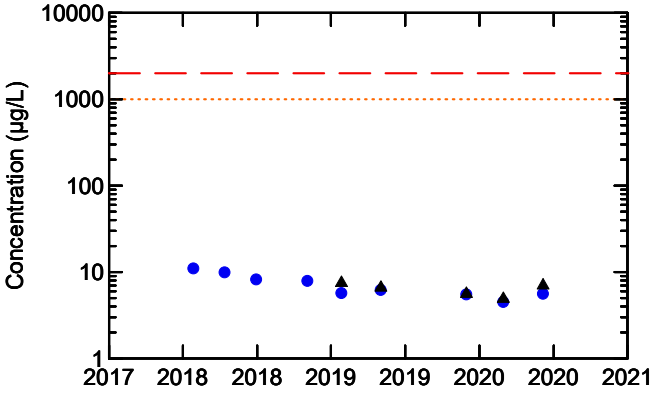
Cadmium



Total: Over 50% non-detects

Dissolved: Over 50% non-detects

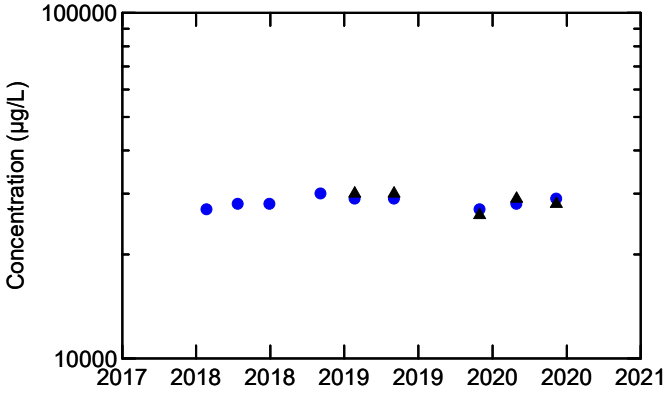
Barium



Total: Stable

Dissolved: Decreasing Trend

Calcium



Total: Stable

Dissolved: No trend identified

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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WELL MW-07A
METALS
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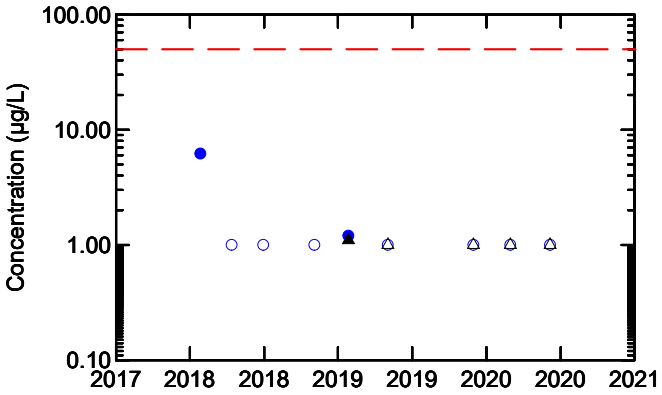
BEAVER DAM MINE
Marinette, Nova Scotia

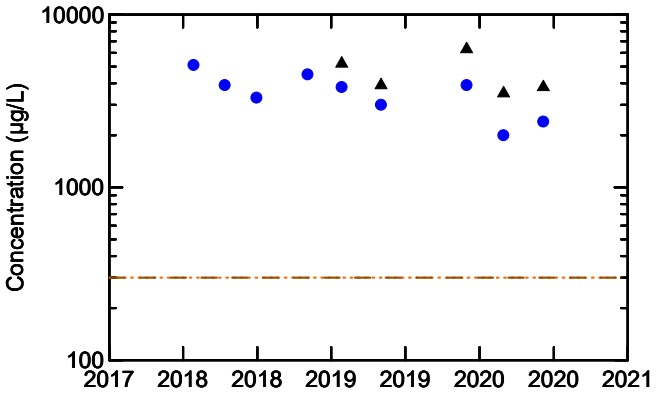
Chromium



Total: Over 50% non-detects

Dissolved: Over 50% non-detects

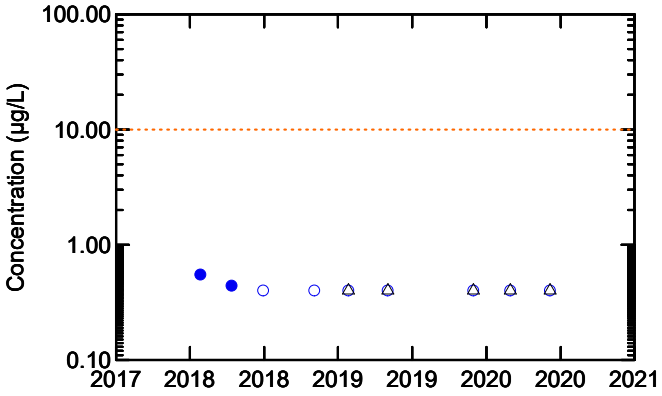
Iron



Total: Stable

Dissolved: Decreasing Trend

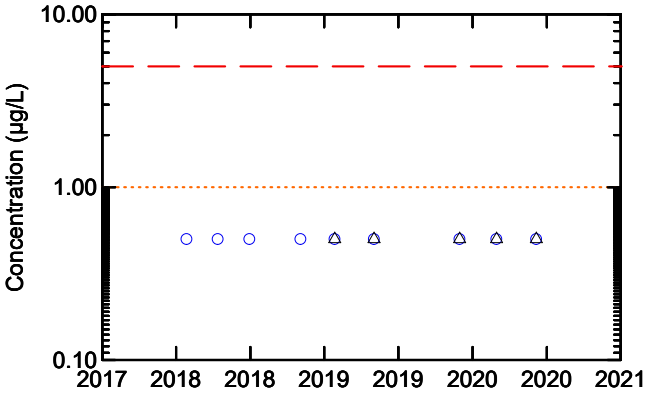
Cobalt



Total: No detected results

Dissolved: Over 50% non-detects

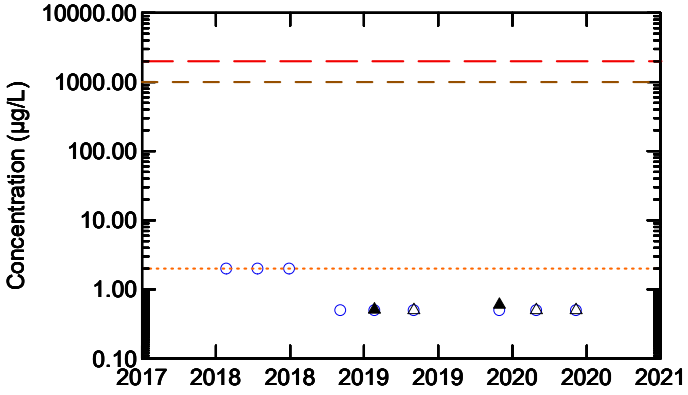
Lead



Total: No detected results

Dissolved: No detected results

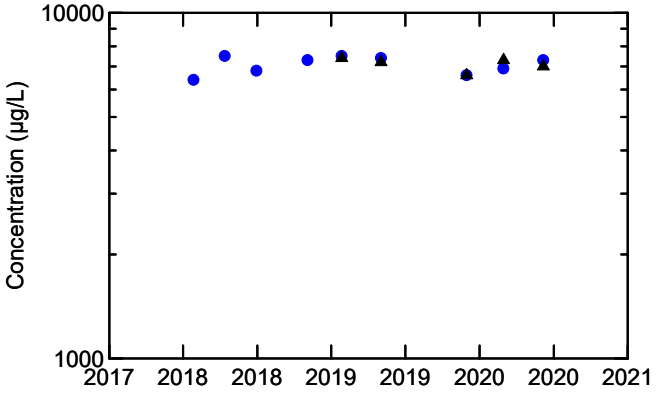
Copper



Total: Over 50% non-detects

Dissolved: No detected results

Magnesium



Total: Stable

Dissolved: No trend identified

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

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Notes:

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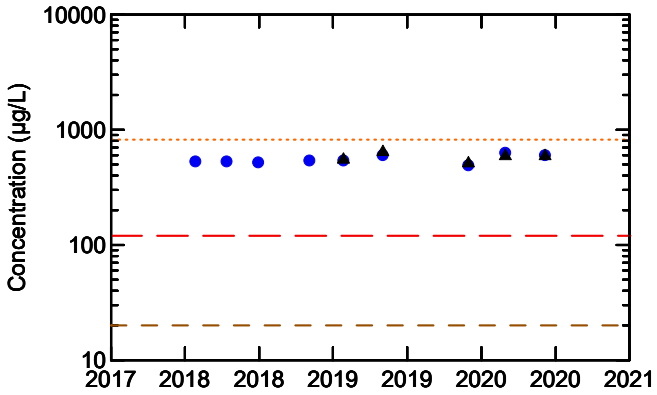
WELL MW-07A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

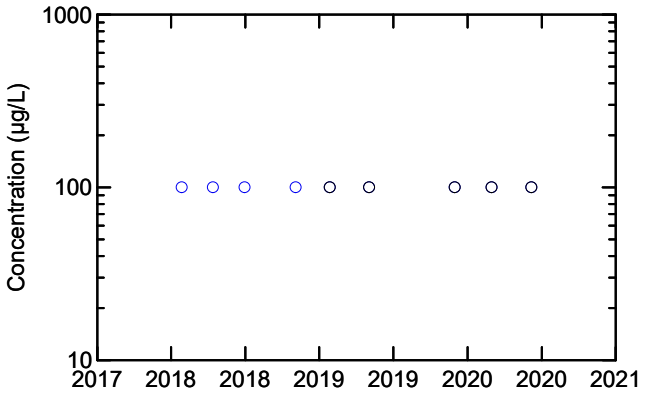
Manganese



Total: No trend identified

Dissolved: No trend identified

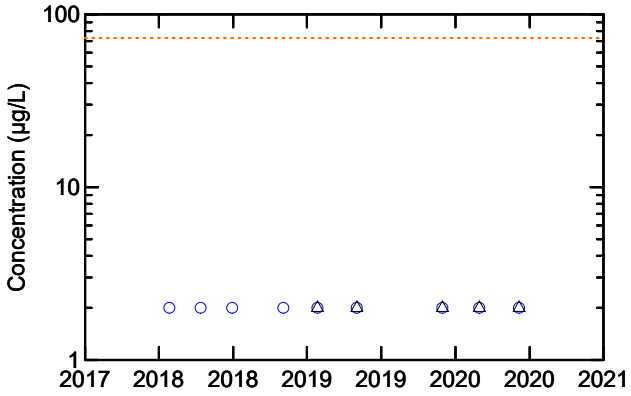
Phosphorus



Total: No detected results

Dissolved: No detected results

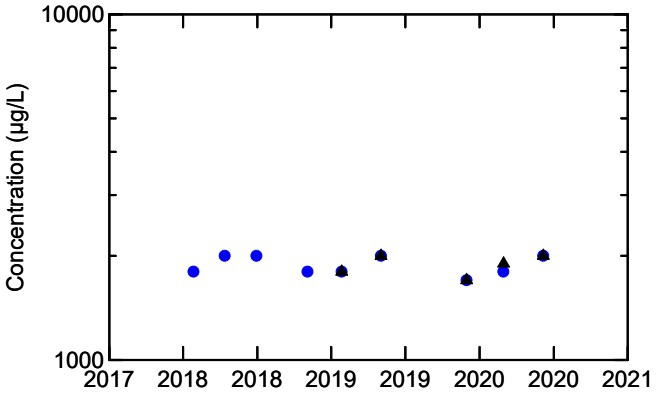
Molybdenum



Total: No detected results

Dissolved: No detected results

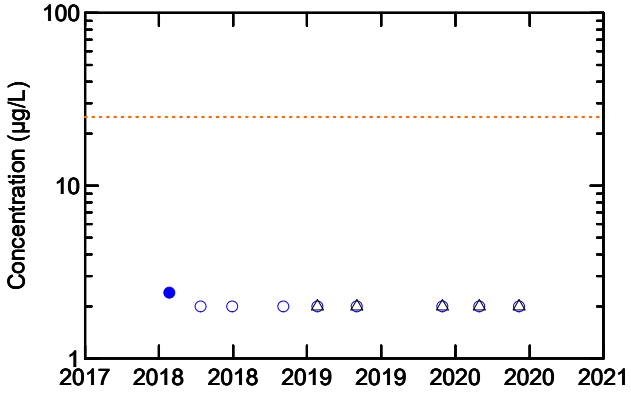
Potassium



Total: No trend identified

Dissolved: Stable

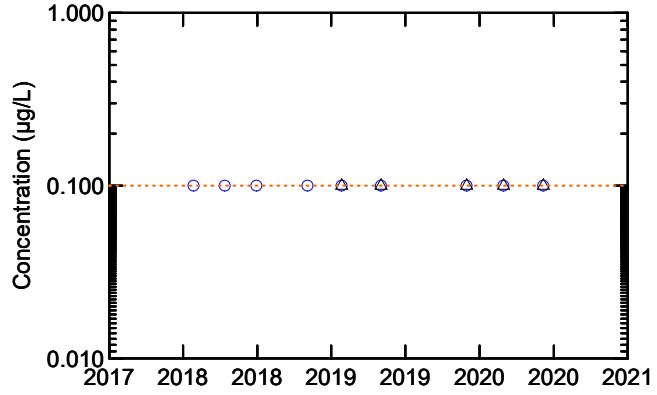
Nickel



Total: No detected results

Dissolved: Over 50% non-detects

Silver



Total: No detected results

Dissolved: No detected results

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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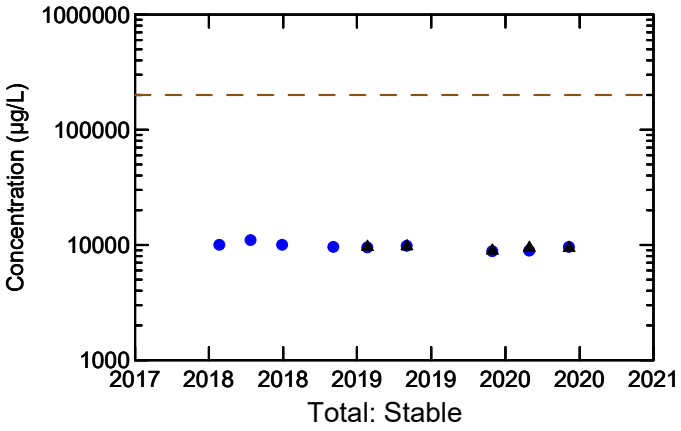
WELL MW-07A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

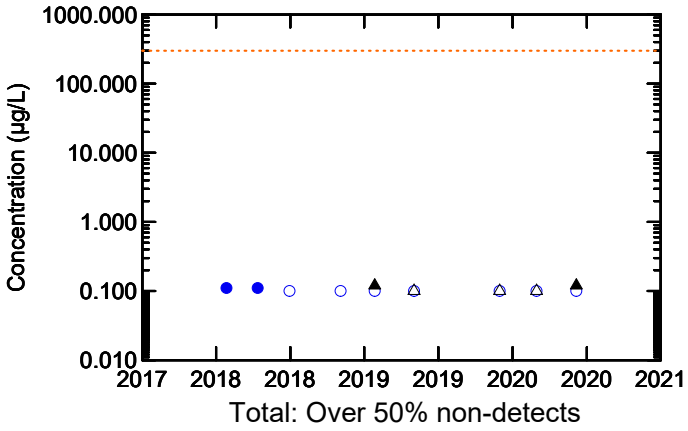
Sodium



Total: Stable

Dissolved: Decreasing Trend

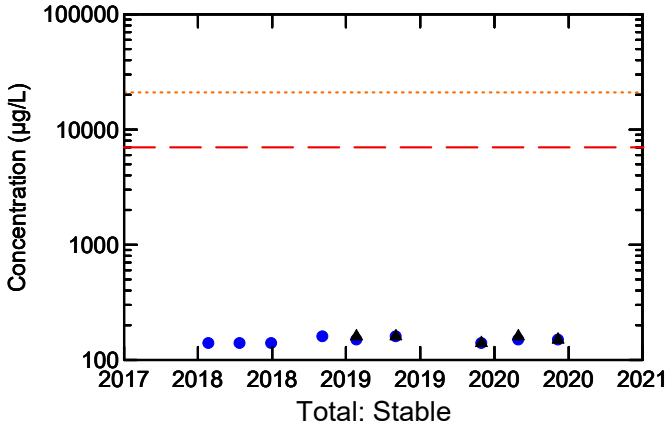
Uranium



Total: Over 50% non-detects

Dissolved: Over 50% non-detects

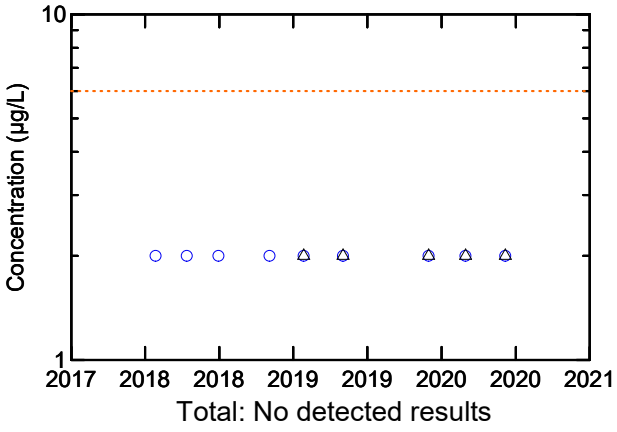
Strontium



Total: Stable

Dissolved: No trend identified

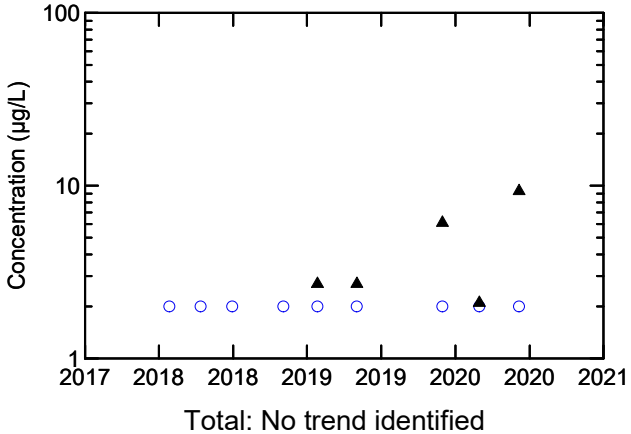
Vanadium



Total: No detected results

Dissolved: No detected results

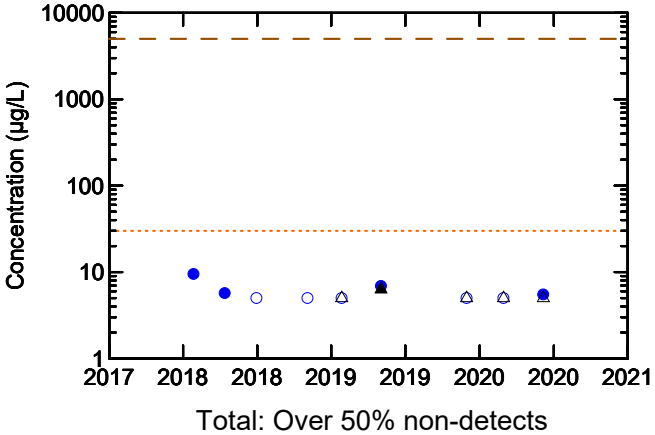
Titanium



Total: No trend identified

Dissolved: No detected results

Zinc



Total: Over 50% non-detects

Dissolved: Over 50% non-detects

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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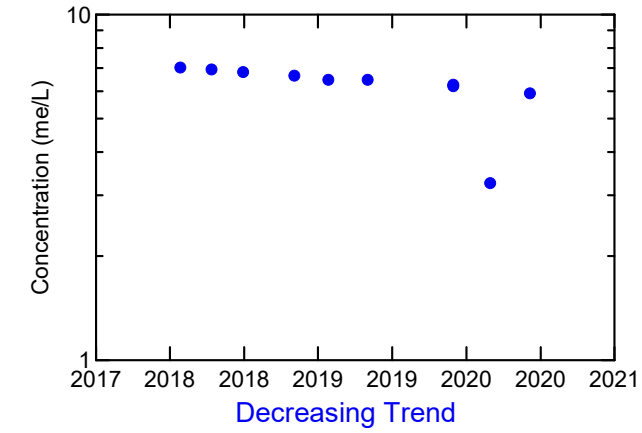
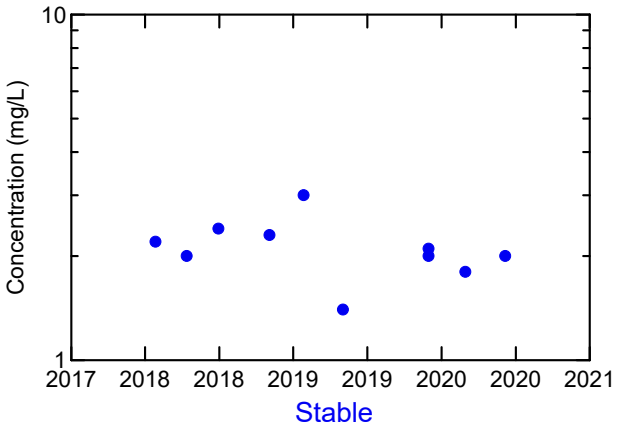
WELL MW-07A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Anion Sum



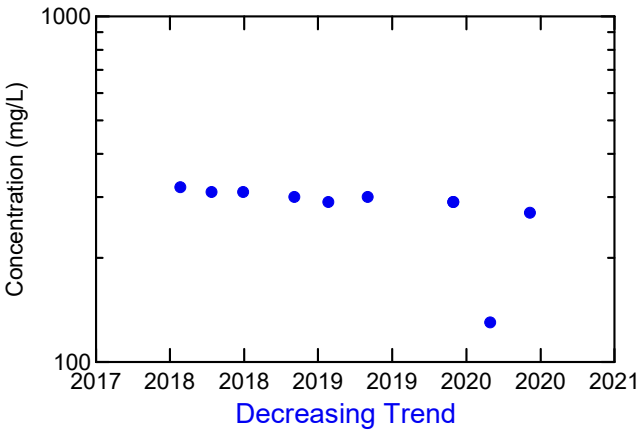
Decreasing Trend

Carb. Alkalinity (calc. as CaCO3)



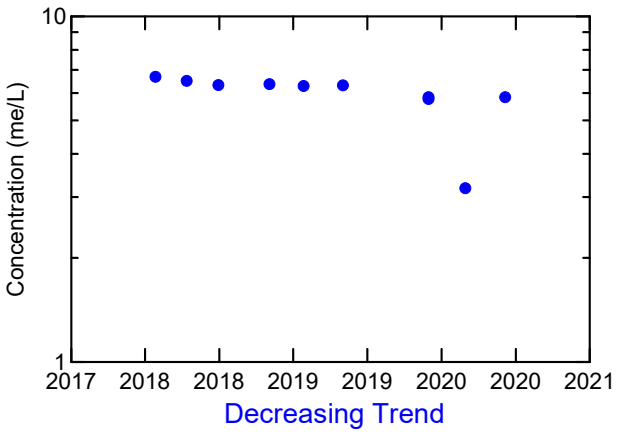
Stable

Bicarb. Alkalinity (calc. as CaCO3)



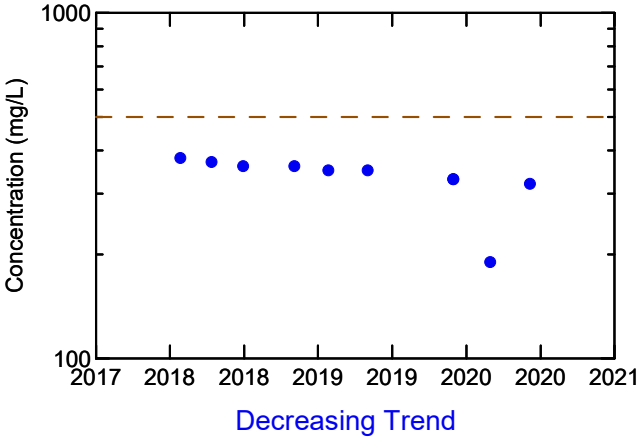
Decreasing Trend

Cation Sum



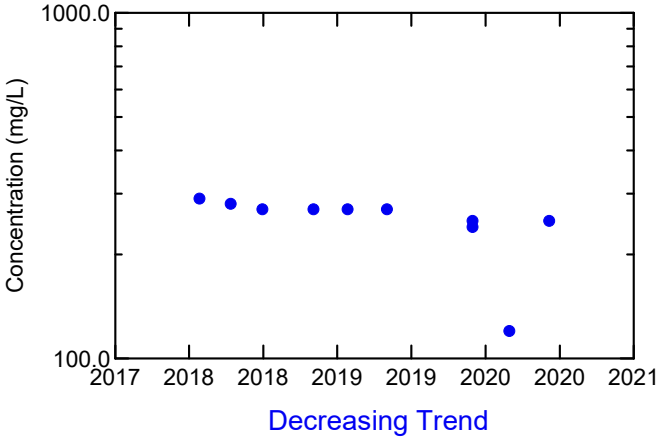
Decreasing Trend

Calculated TDS



Decreasing Trend

Hardness (CaCO3)



Decreasing Trend

Legend:

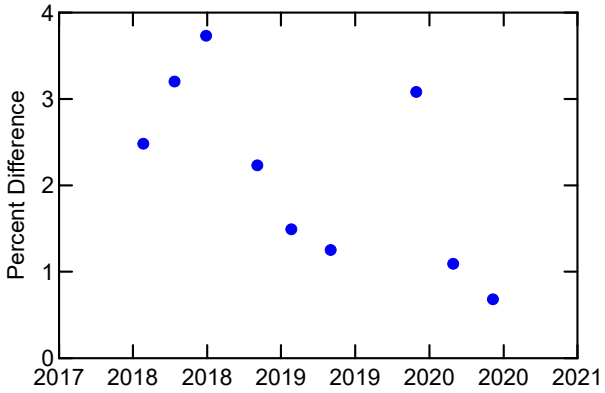
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines - Aesthetic

WELL MW-07B
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

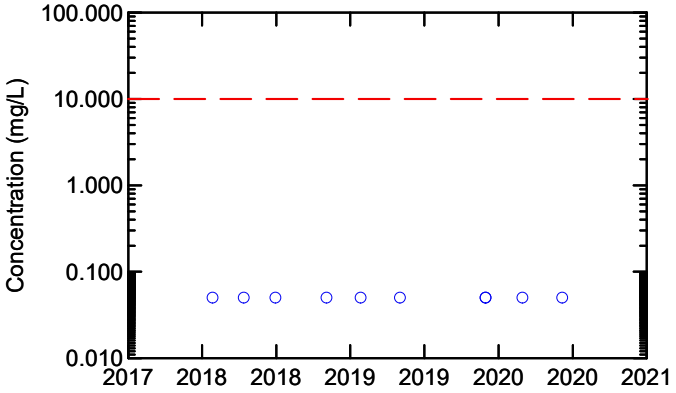
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Ion Balance



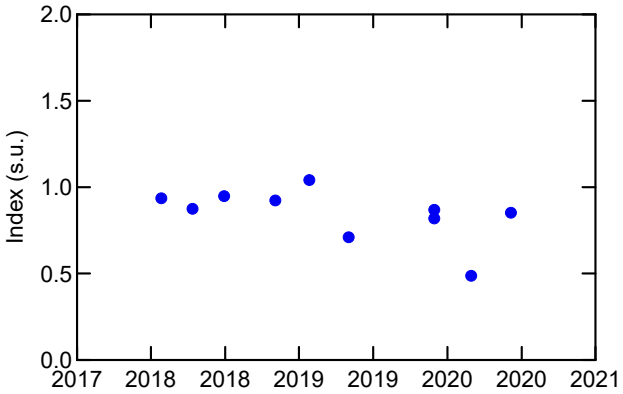
Decreasing Trend

Nitrate



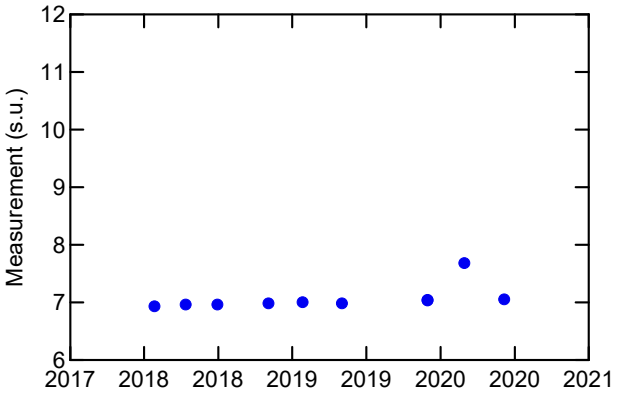
No detected results

Langelier Index (@ 20C)



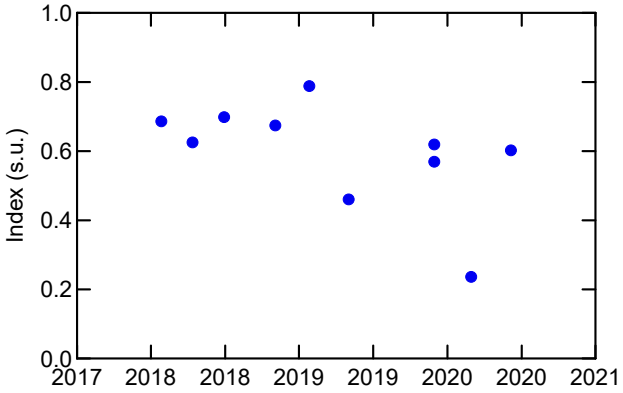
Stable

Saturation pH (@ 20C)



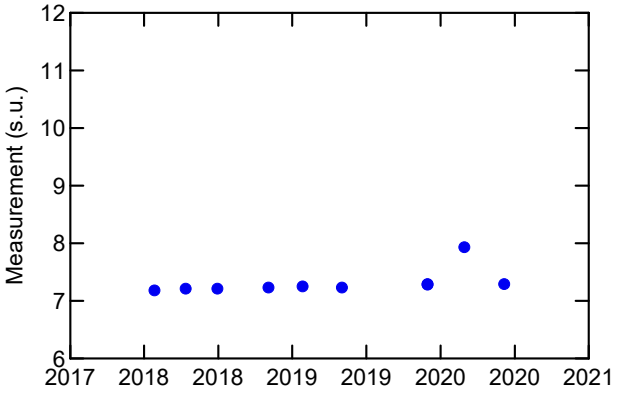
Increasing Trend

Langelier Index (@ 4C)



Stable

Saturation pH (@ 4C)



Increasing Trend

Legend:

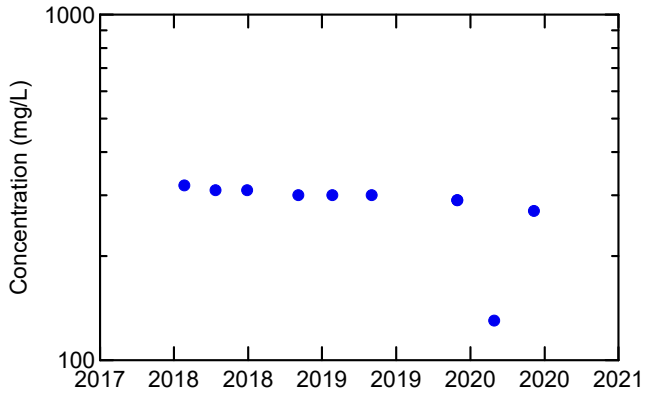
● Detected result ○ Non-Detect

— — Canadian Drinking Water Quality Guidelines: Maximum Acceptable

WELL MW-07B
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

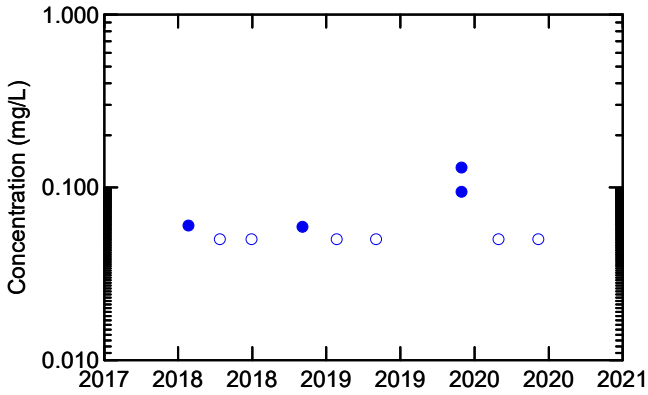
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Total Alkalinity (Total as CaCO3)



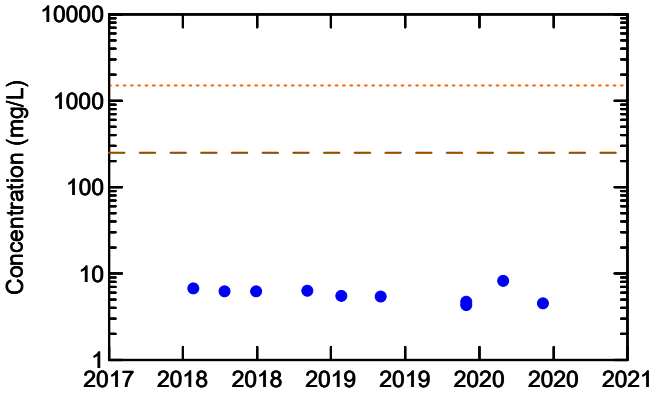
Decreasing Trend

Nitrogen (Ammonia Nitrogen)



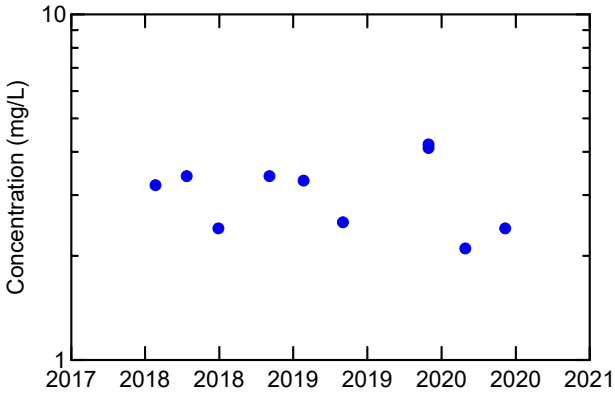
Over 50% non-detects

Dissolved Chloride



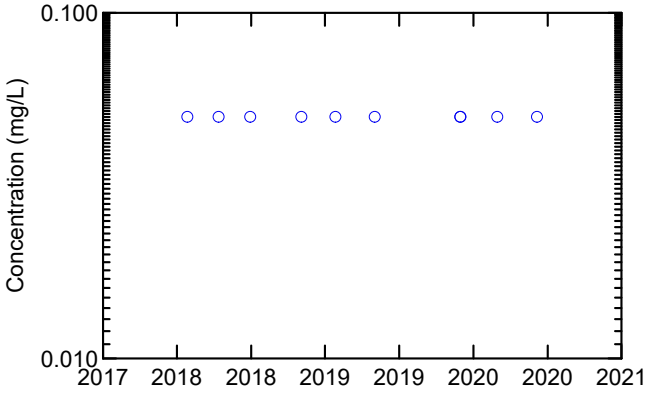
Stable

Total Organic Carbon



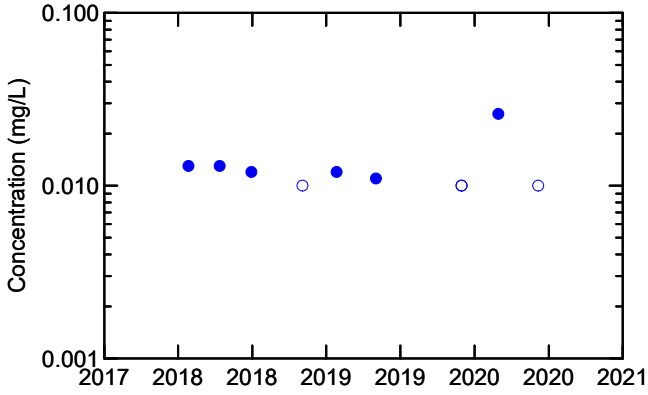
Stable

Nitrate + Nitrite



No detected results

Orthophosphate



Stable

Legend:

● Detected result ○ Non-Detect

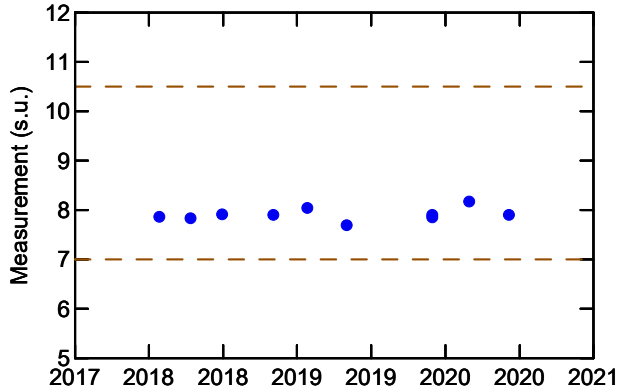
Nova Scotia (2014) Pathway-Specific Standard for Groundwater

Canadian Drinking Water Quality Guideline: Aesthetic

WELL MW-07B
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

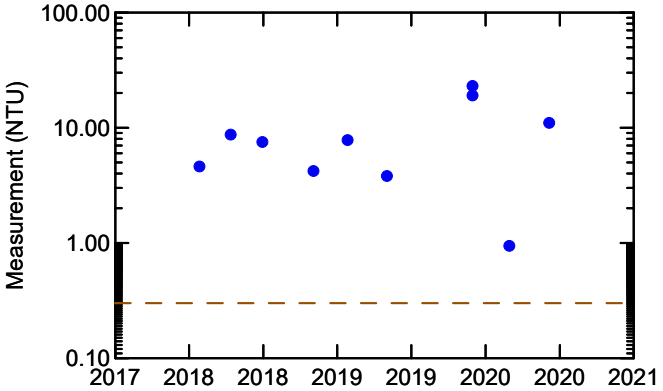
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

pH



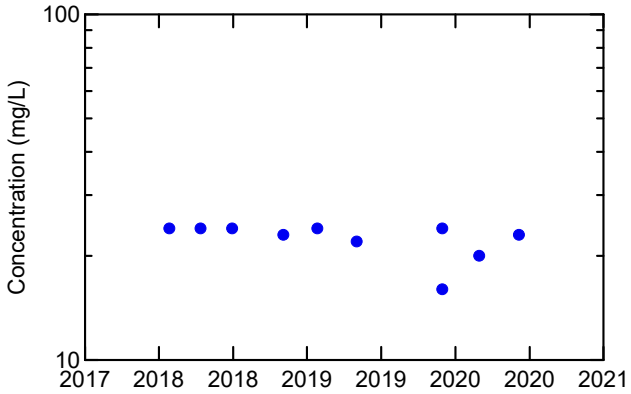
Stable

Turbidity



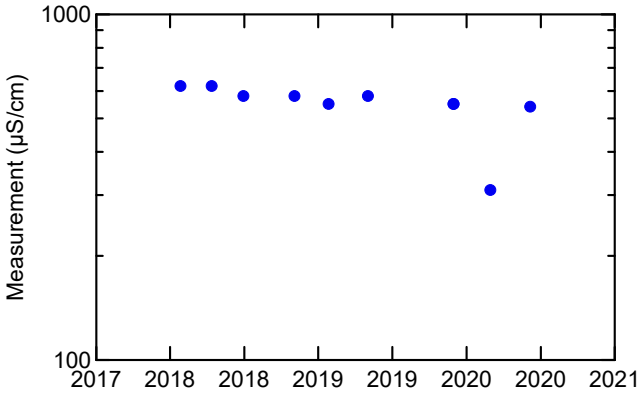
No trend identified

Reactive Silica (SiO2)



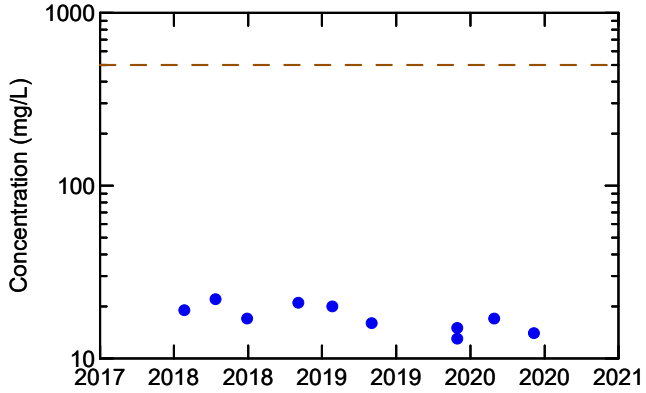
Stable

Conductivity



Probably Decreasing

Dissolved Sulphate (SO4)



Stable

Legend:

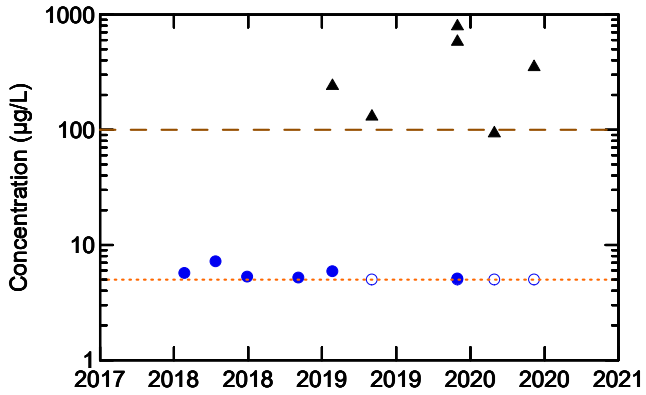
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines: Aesthetic

WELL MW-07B
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

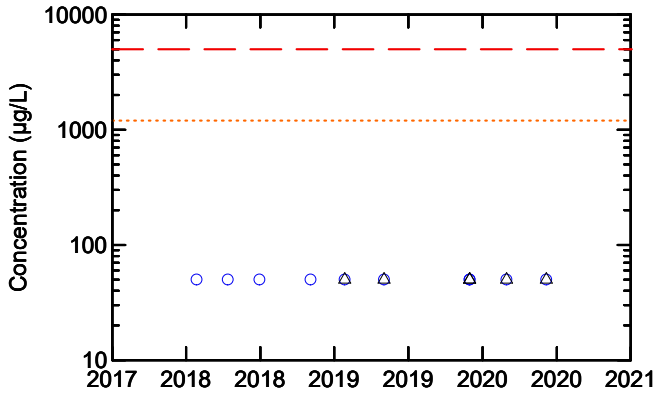
Aluminum



Total: Stable

Dissolved: Decreasing Trend

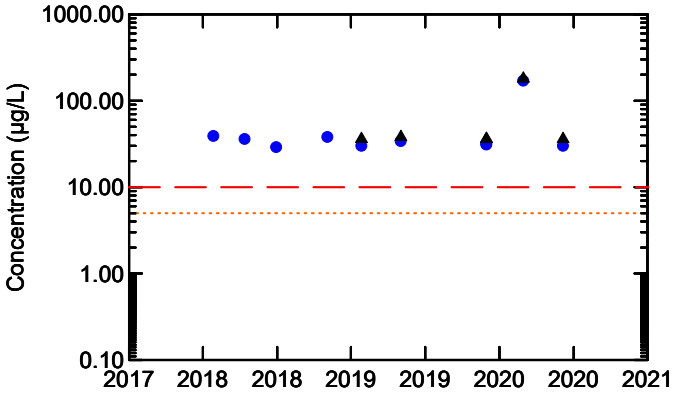
Boron



Total: No detected results

Dissolved: No detected results

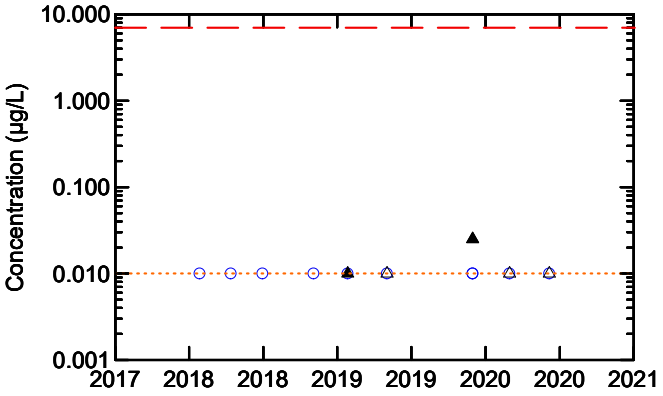
Arsenic



Total: No trend identified

Dissolved: Stable

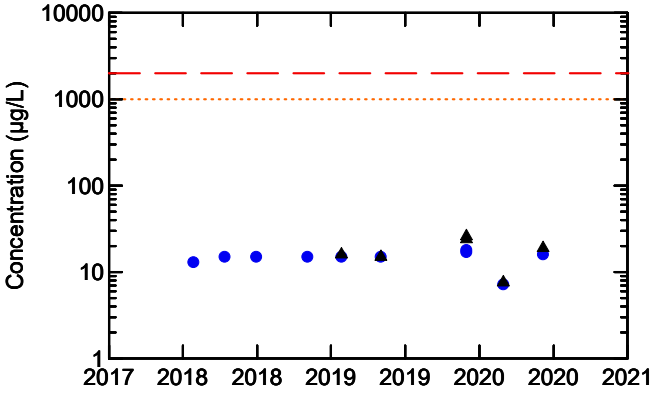
Cadmium



Total: Over 50% non-detects

Dissolved: No detected results

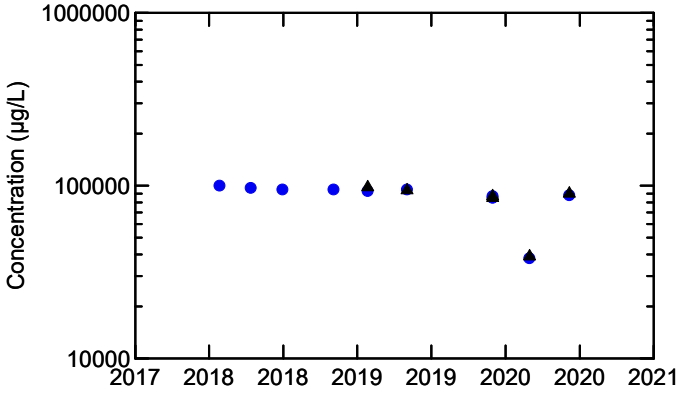
Barium



Total: Stable

Dissolved: No trend identified

Calcium



Total: Stable

Dissolved: Decreasing Trend

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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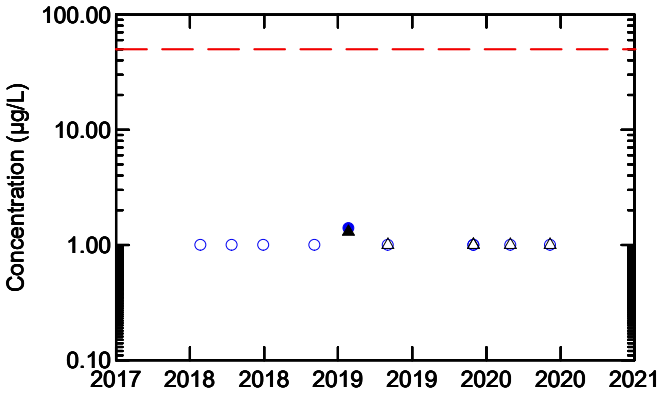
WELL MW-07B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

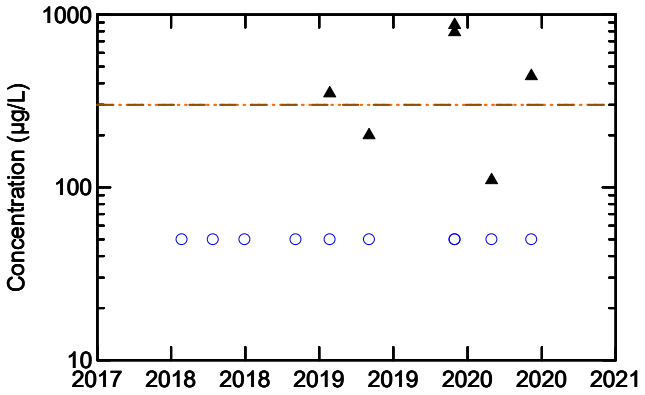
Chromium



Total: Over 50% non-detects

Dissolved: Over 50% non-detects

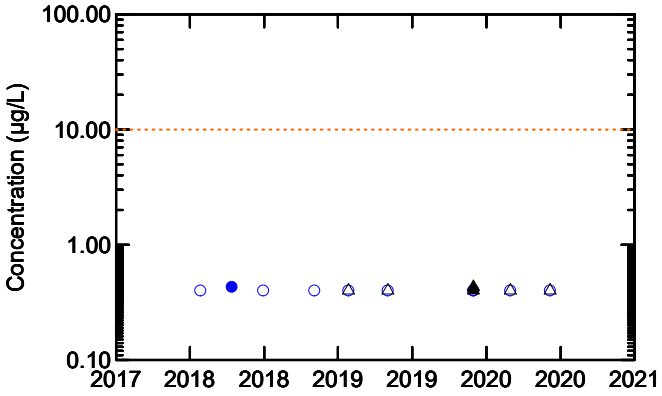
Iron



Total: Stable

Dissolved: No detected results

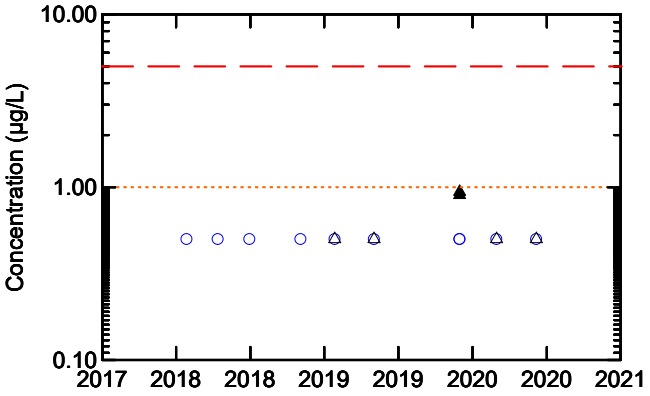
Cobalt



Total: Over 50% non-detects

Dissolved: Over 50% non-detects

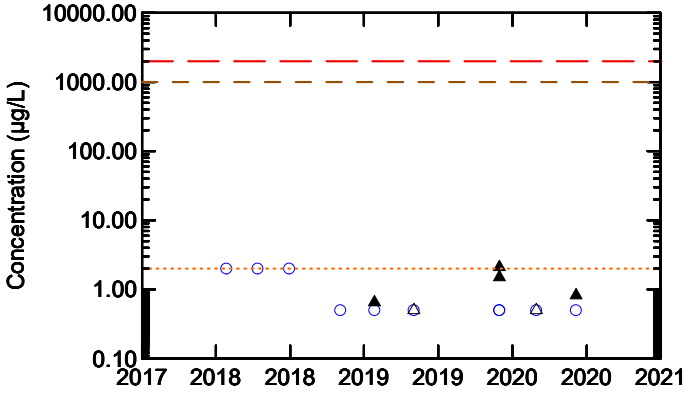
Lead



Total: Over 50% non-detects

Dissolved: No detected results

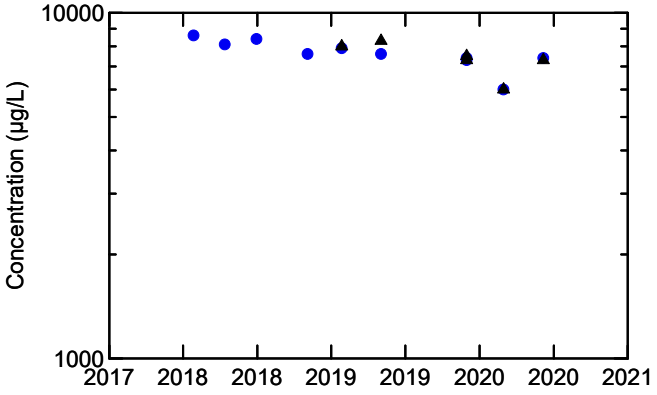
Copper



Total: No trend identified

Dissolved: No detected results

Magnesium



Total: Stable

Dissolved: Decreasing Trend

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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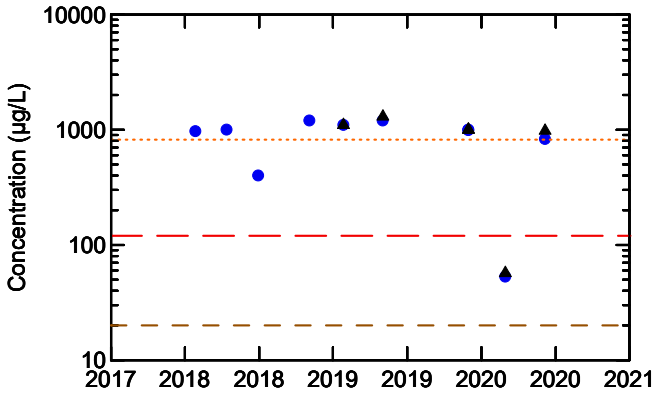
WELL MW-07B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

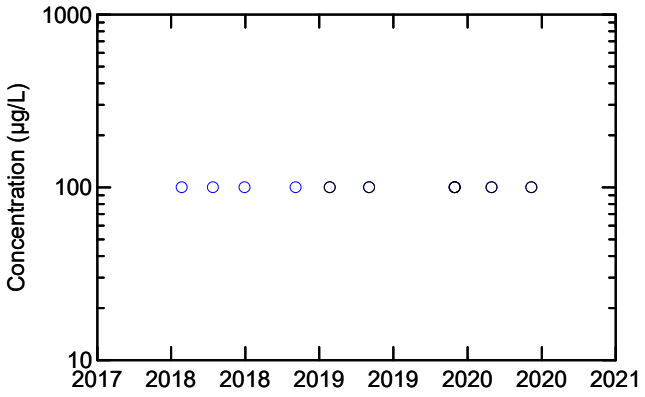
Manganese



Total: Stable

Dissolved: Stable

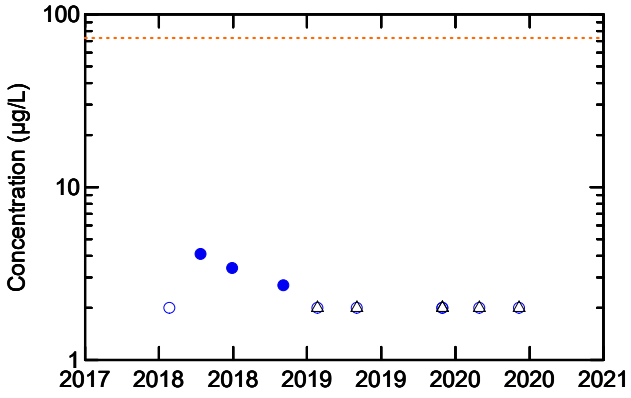
Phosphorus



Total: No detected results

Dissolved: No detected results

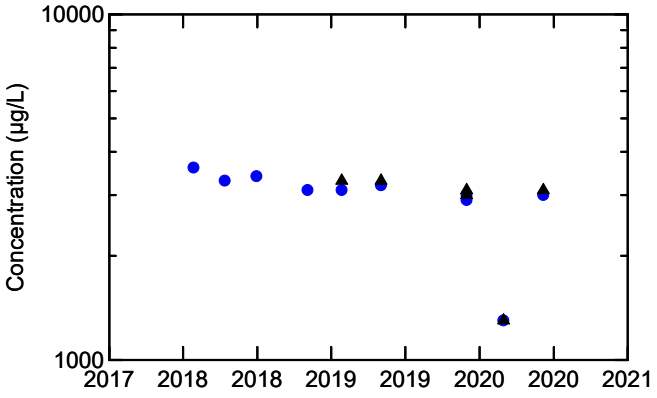
Molybdenum



Total: No detected results

Dissolved: Over 50% non-detects

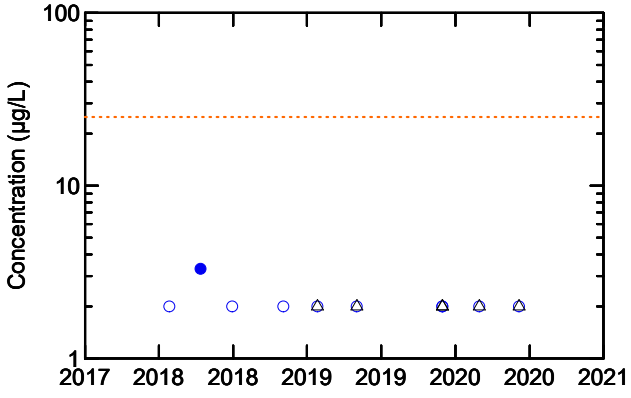
Potassium



Total: Stable

Dissolved: Decreasing Trend

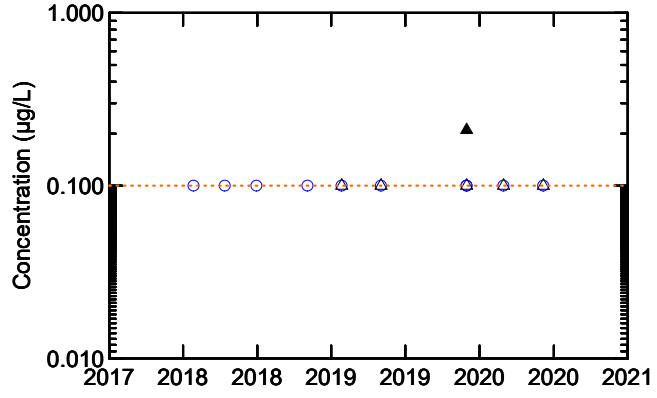
Nickel



Total: No detected results

Dissolved: Over 50% non-detects

Silver



Total: Over 50% non-detects

Dissolved: No detected results

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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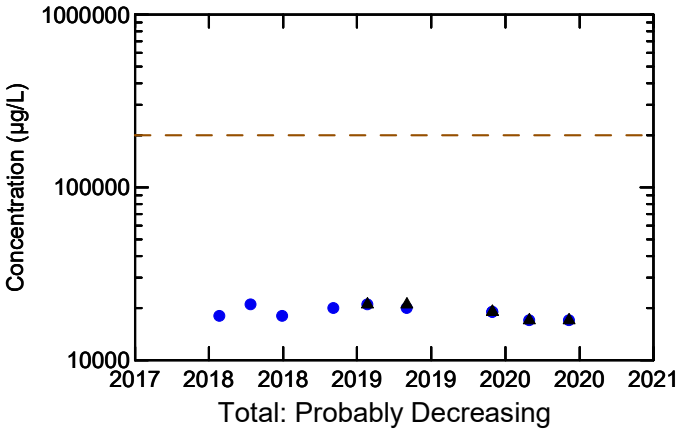
WELL MW-07B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

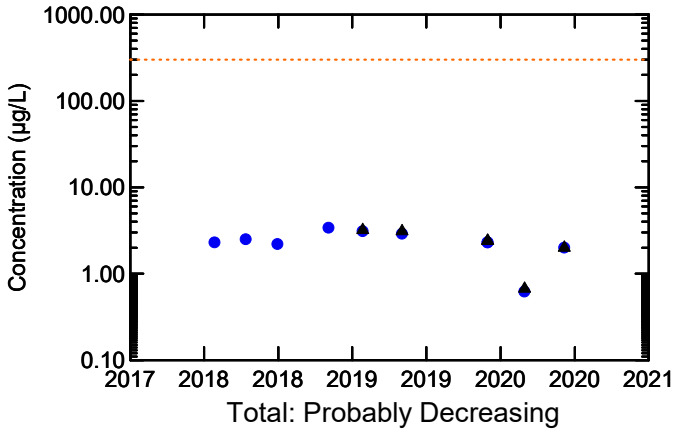
Sodium



Total: Probably Decreasing

Dissolved: Stable

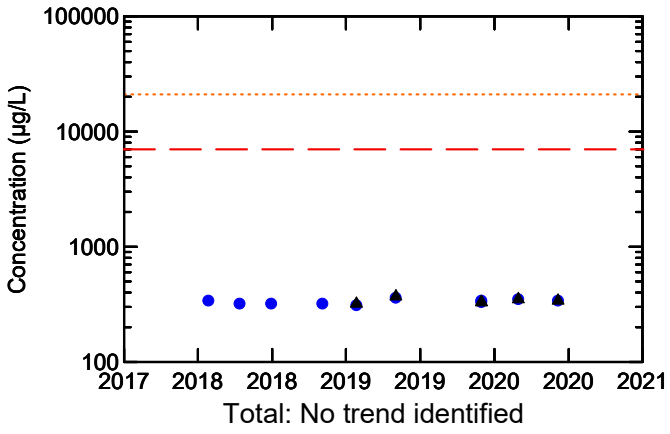
Uranium



Total: Probably Decreasing

Dissolved: Stable

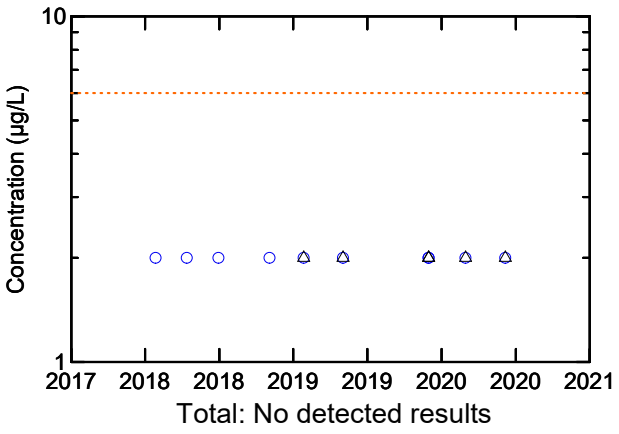
Strontium



Total: No trend identified

Dissolved: No trend identified

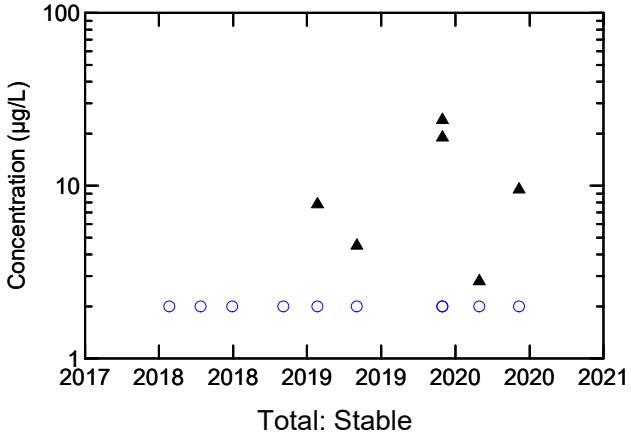
Vanadium



Total: No detected results

Dissolved: No detected results

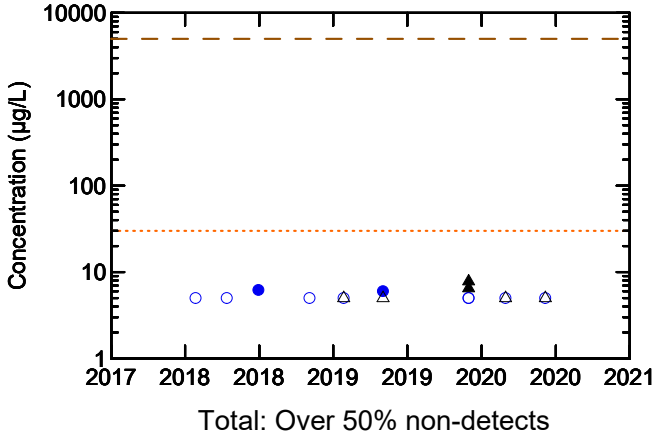
Titanium



Total: Stable

Dissolved: No detected results

Zinc



Total: Over 50% non-detects

Dissolved: Over 50% non-detects

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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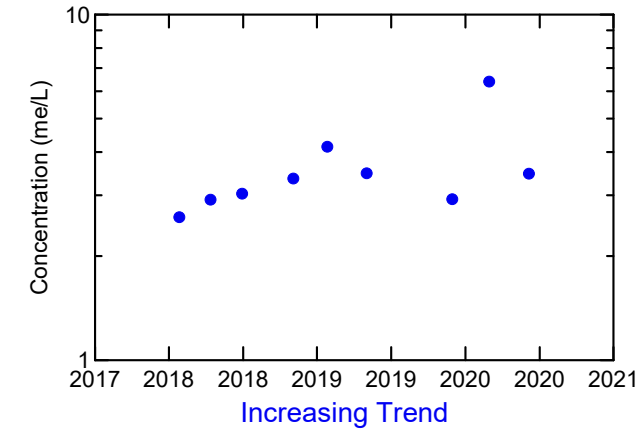
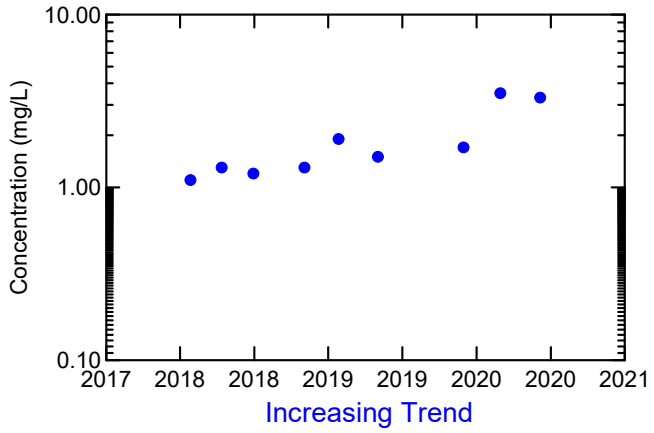
Non-detects are plotted at the reporting limit.

WELL MW-07B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

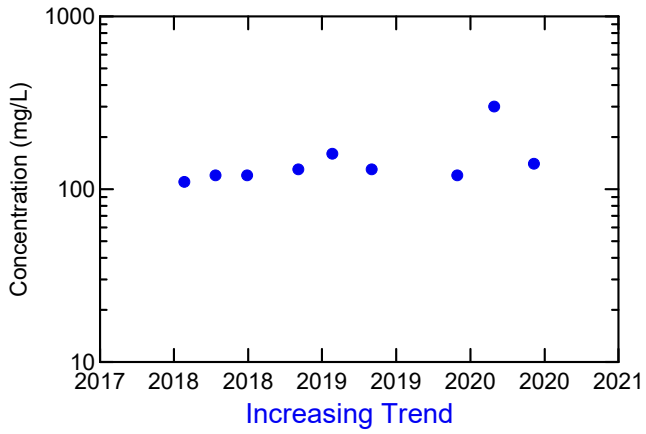
Anion Sum



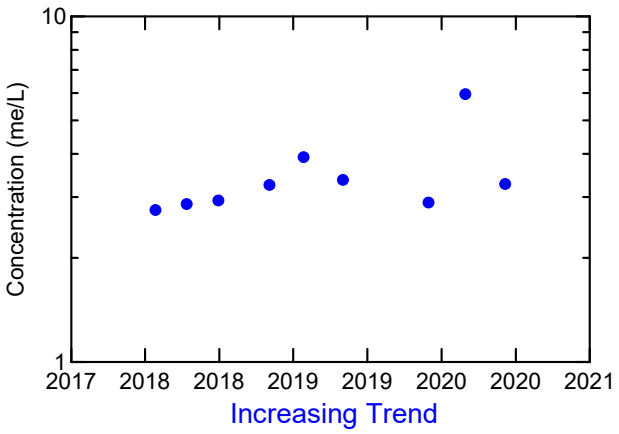
Carb. Alkalinity (calc. as CaCO3)



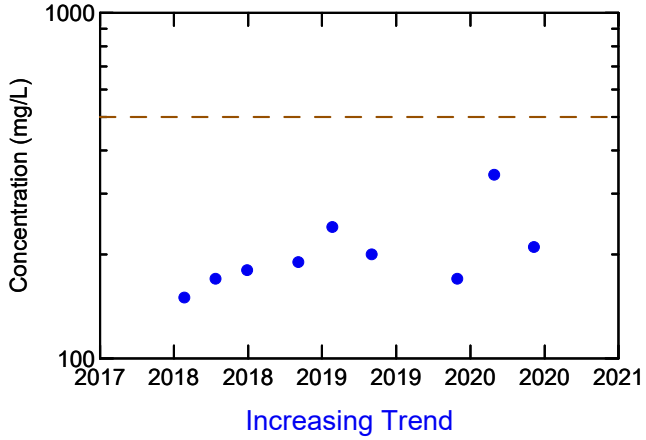
Bicarb. Alkalinity (calc. as CaCO3)



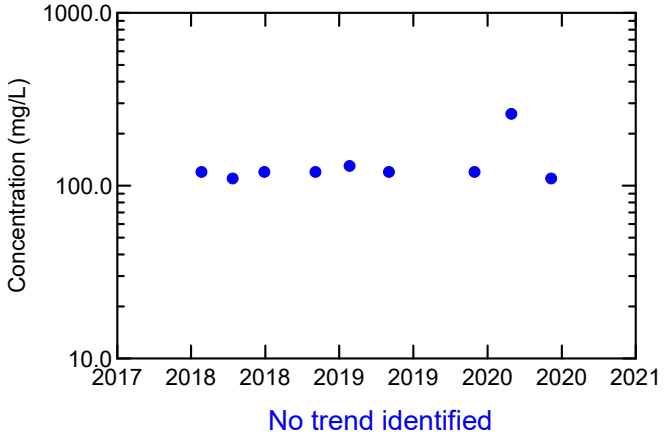
Cation Sum



Calculated TDS



Hardness (CaCO3)



Legend:

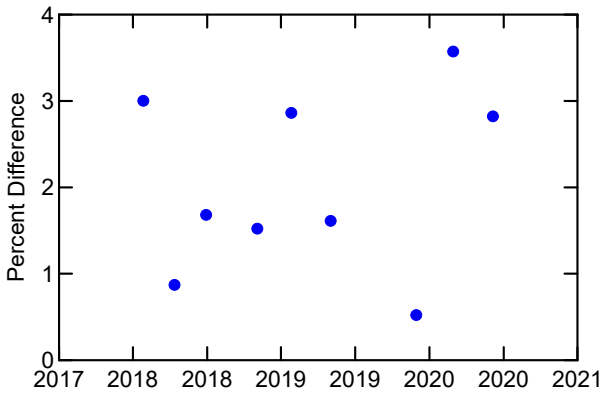
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines - Aesthetic

WELL MW-07D
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

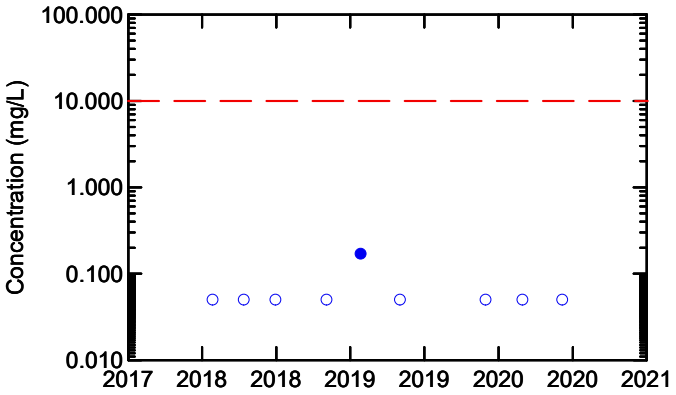
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Ion Balance



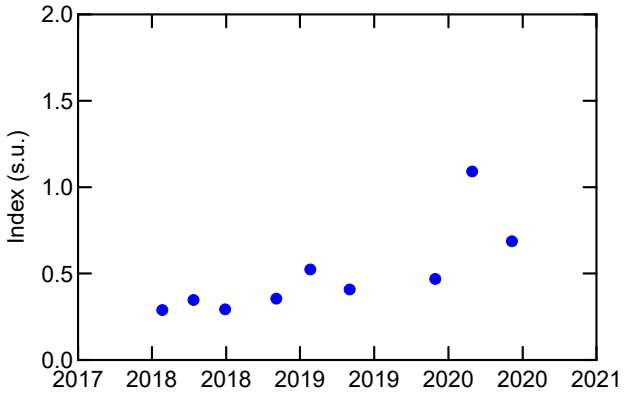
No trend identified

Nitrate



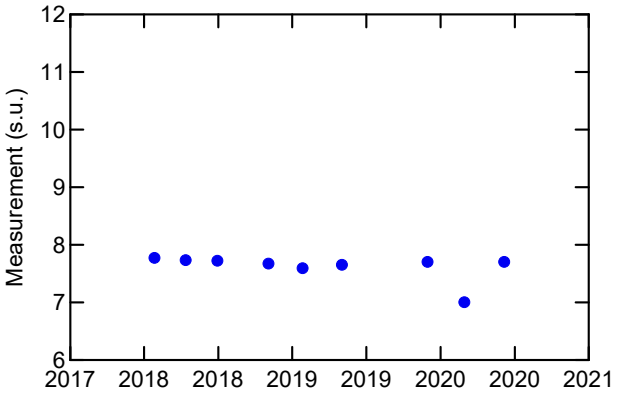
Over 50% non-detects

Langelier Index (@ 20C)



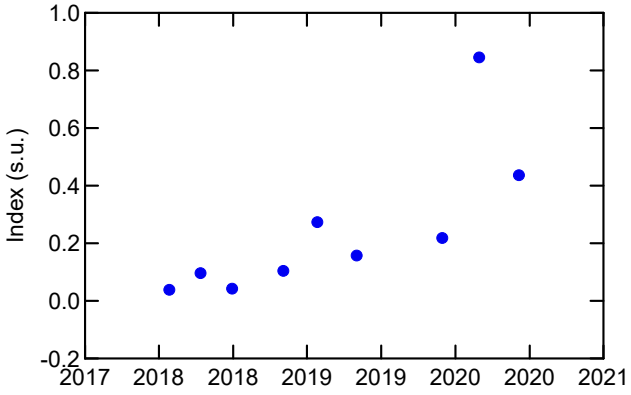
Increasing Trend

Saturation pH (@ 20C)



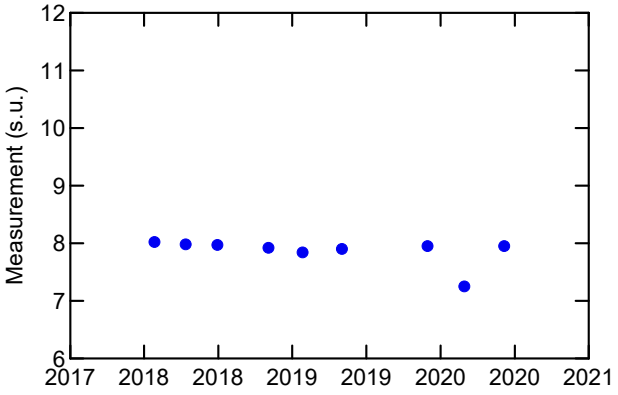
Probably Decreasing

Langelier Index (@ 4C)



Increasing Trend

Saturation pH (@ 4C)



Probably Decreasing

Legend:

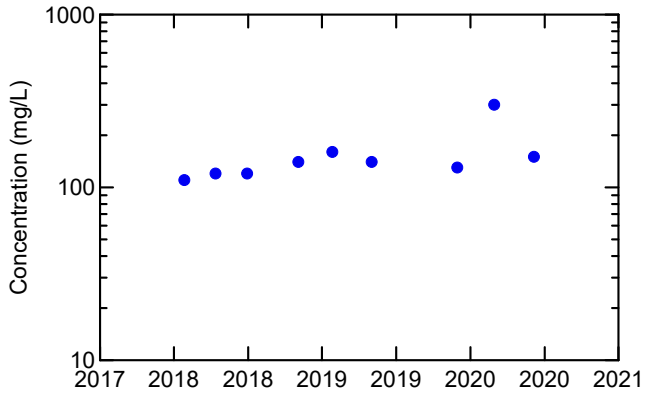
● Detected result ○ Non-Detect

— — Canadian Drinking Water Quality Guidelines: Maximum Acceptable

WELL MW-07D
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

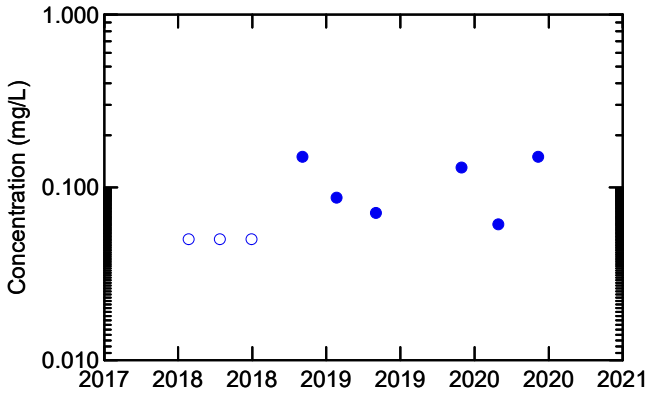
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Total Alkalinity (Total as CaCO3)



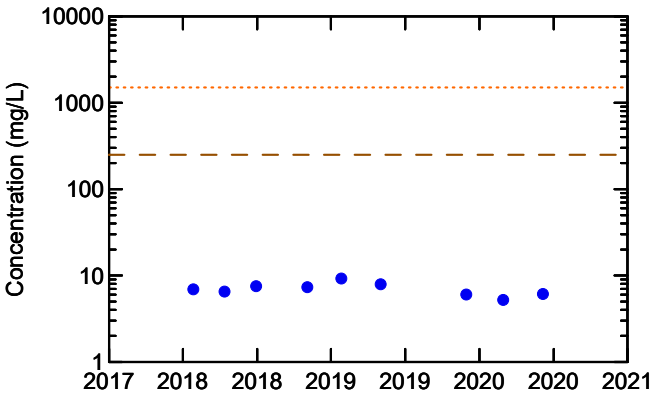
Increasing Trend

Nitrogen (Ammonia Nitrogen)



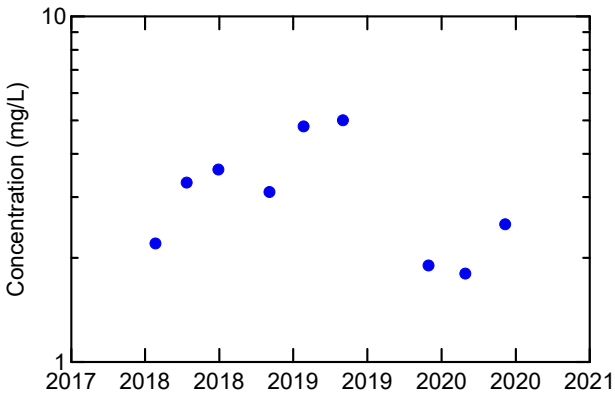
No trend identified

Dissolved Chloride



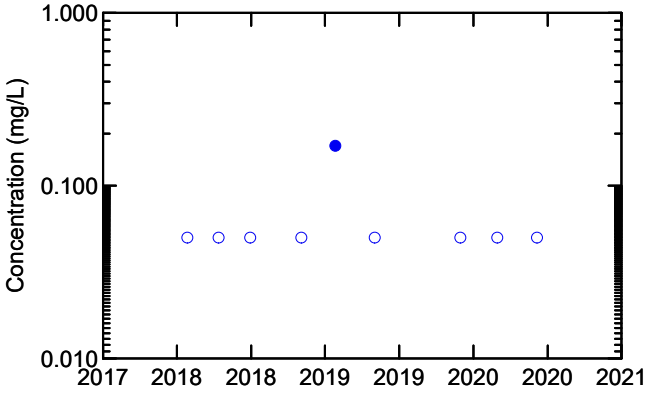
Stable

Total Organic Carbon



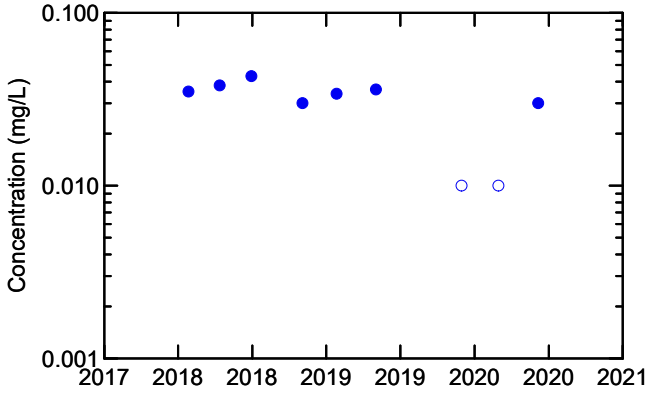
Stable

Nitrate + Nitrite



Over 50% non-detects

Orthophosphate



Stable

Legend:

- ● Detected result ○ Non-Detect
- ····· Nova Scotia (2014) Pathway-Specific Standard for Groundwater
- — — - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:
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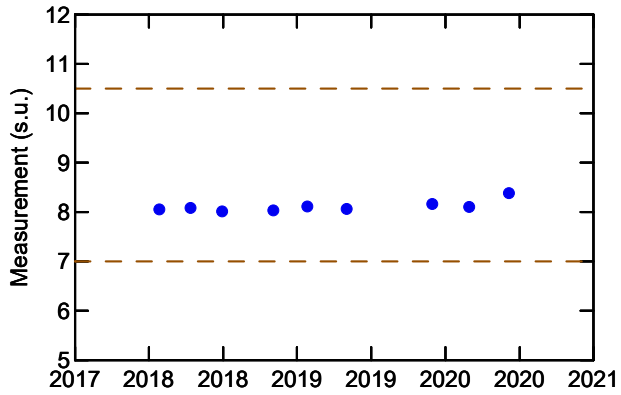
Non-detects are plotted at the reporting limit.

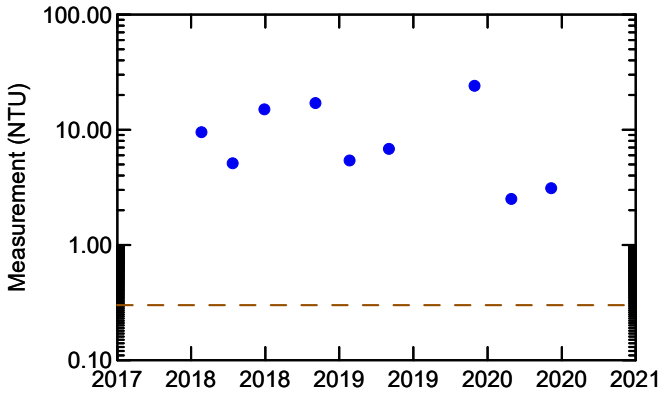
WELL MW-07D
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

pH



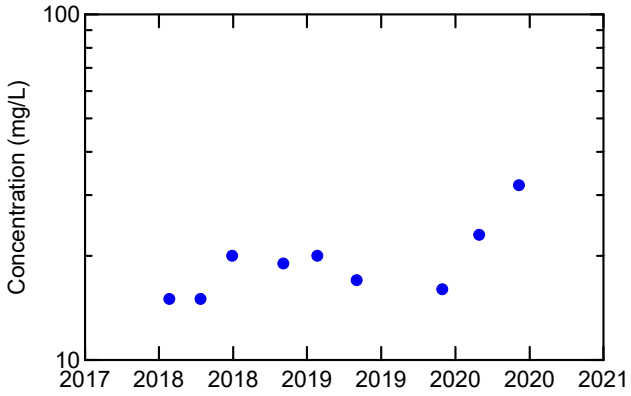
Stable

Turbidity



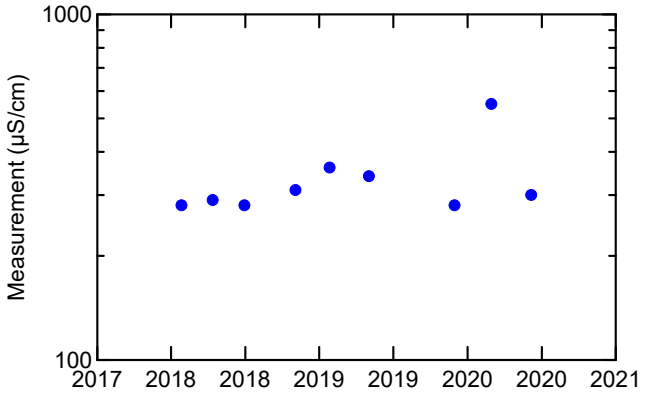
No trend identified

Reactive Silica (SiO2)



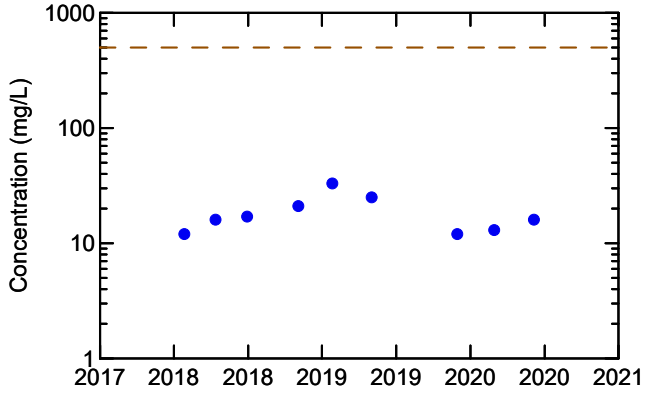
Stable

Conductivity



Probably Decreasing

Dissolved Sulphate (SO4)



Stable

Legend:

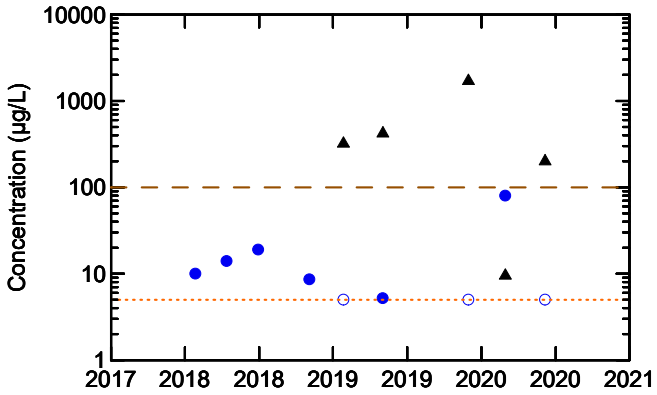
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines: Aesthetic

WELL MW-07D
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

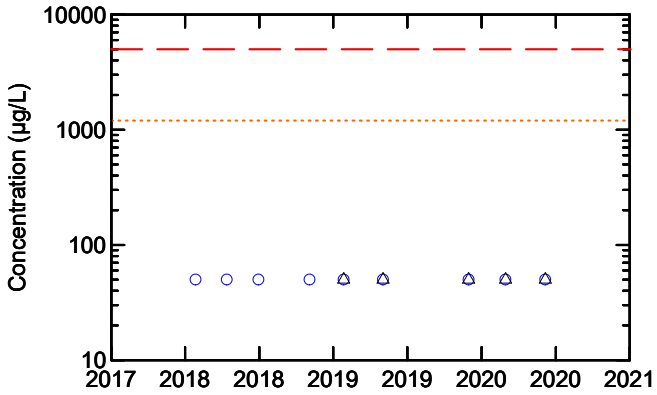
Aluminum



Total: No trend identified

Dissolved: No trend identified

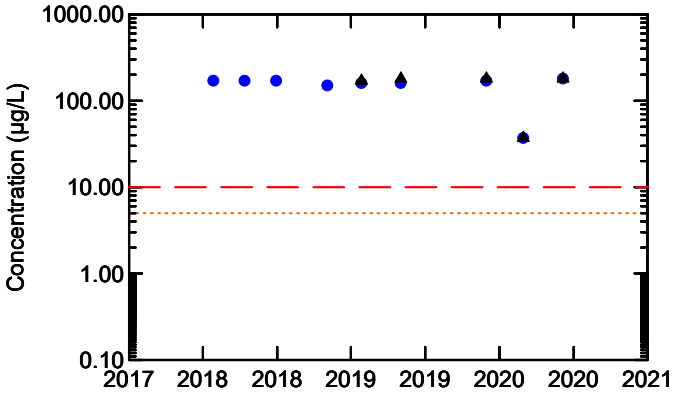
Boron



Total: No detected results

Dissolved: No detected results

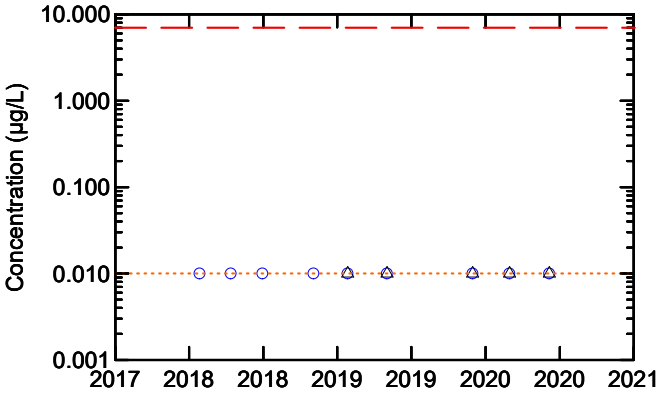
Arsenic



Total: No trend identified

Dissolved: Stable

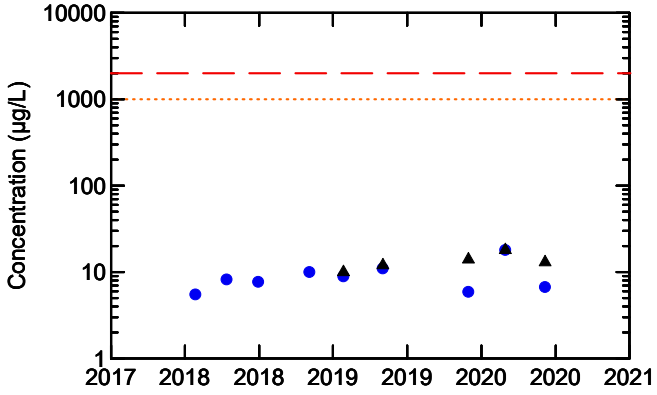
Cadmium



Total: No detected results

Dissolved: No detected results

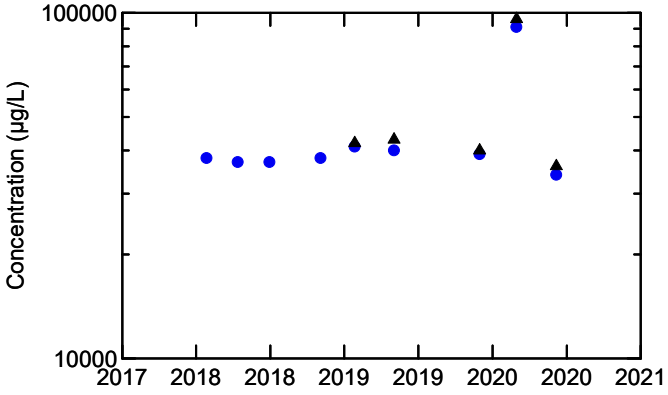
Barium



Total: No trend identified

Dissolved: No trend identified

Calcium



Total: Stable

Dissolved: No trend identified

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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WELL MW-07D
METALS
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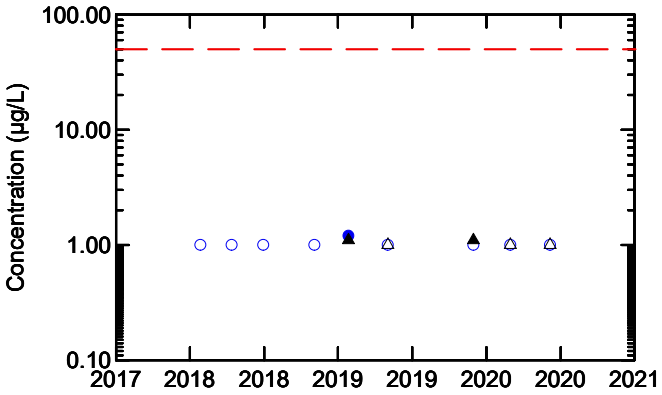
BEAVER DAM MINE
Marinette, Nova Scotia

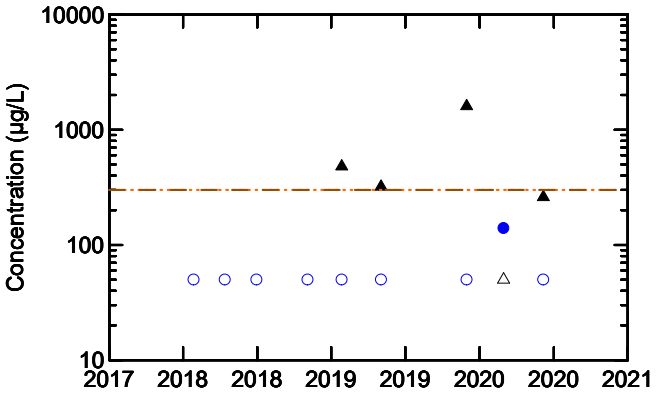
Chromium



Total: Over 50% non-detects

Dissolved: Over 50% non-detects

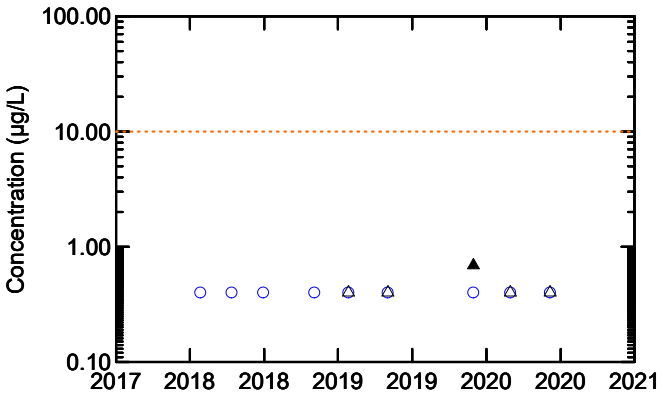
Iron



Total: No trend identified

Dissolved: Over 50% non-detects

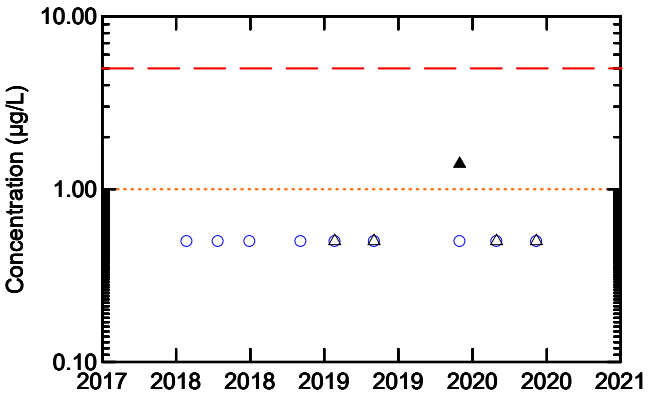
Cobalt



Total: Over 50% non-detects

Dissolved: No detected results

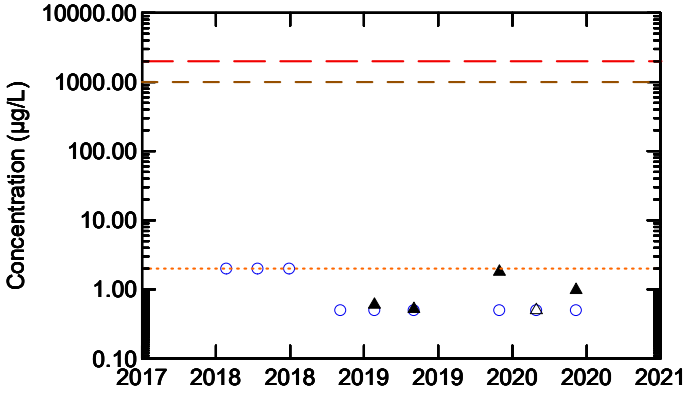
Lead



Total: Over 50% non-detects

Dissolved: No detected results

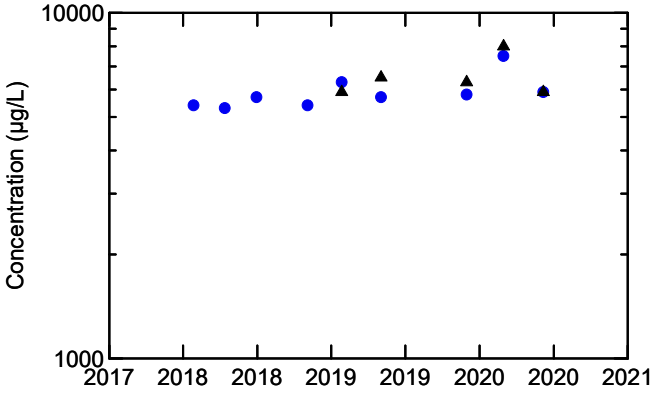
Copper



Total: Stable

Dissolved: No detected results

Magnesium



Total: No trend identified

Dissolved: Increasing Trend

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

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Notes:

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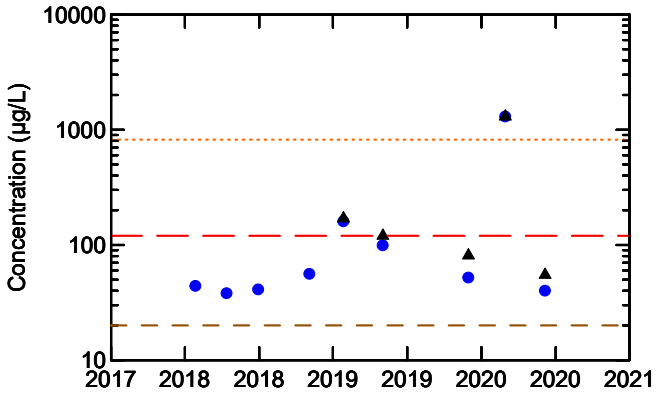
WELL MW-07D
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

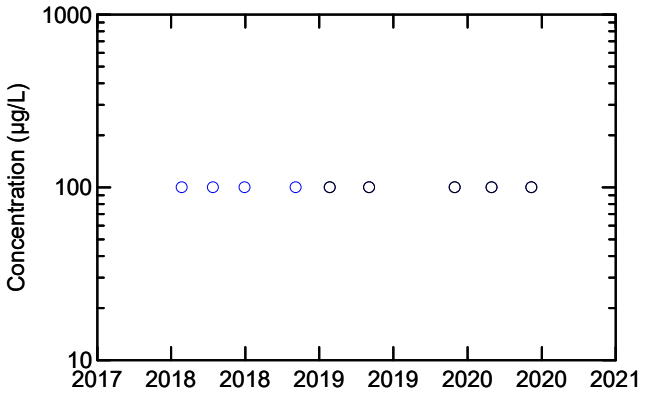
Manganese



Total: No trend identified

Dissolved: No trend identified

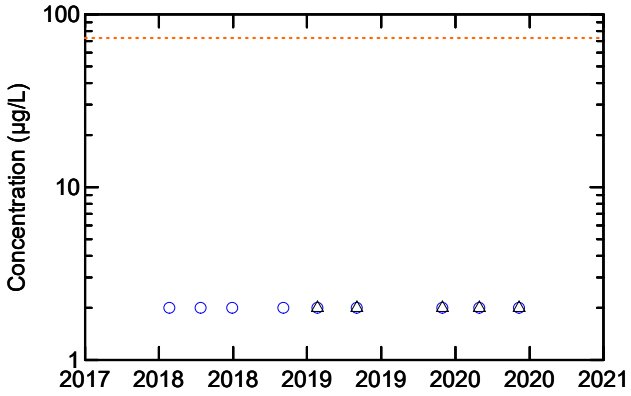
Phosphorus



Total: No detected results

Dissolved: No detected results

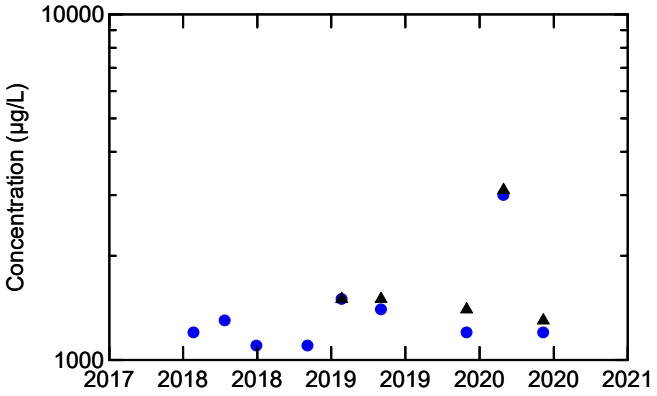
Molybdenum



Total: No detected results

Dissolved: No detected results

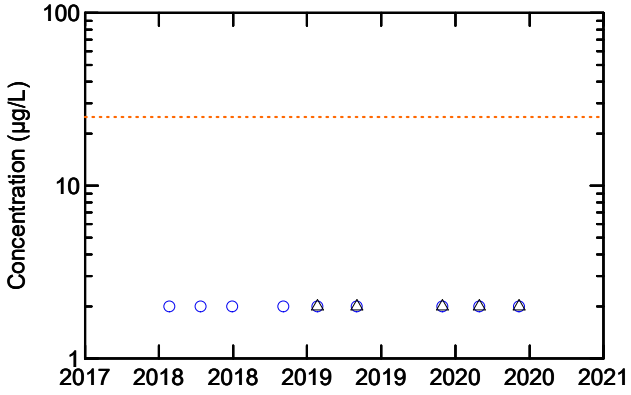
Potassium



Total: Stable

Dissolved: No trend identified

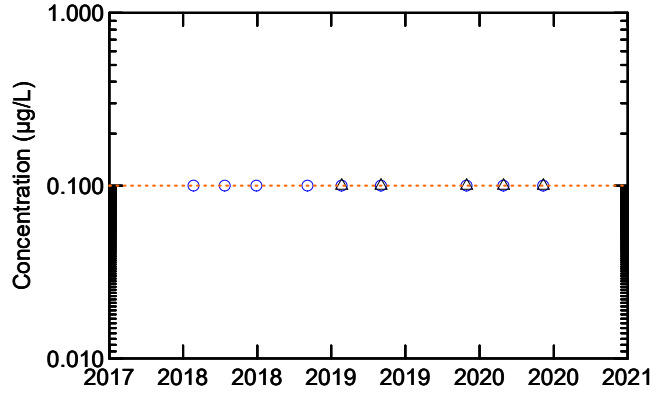
Nickel



Total: No detected results

Dissolved: No detected results

Silver



Total: No detected results

Dissolved: No detected results

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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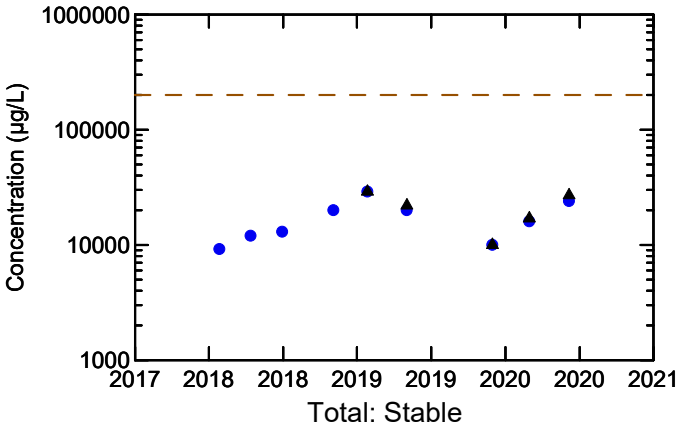
WELL MW-07D
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

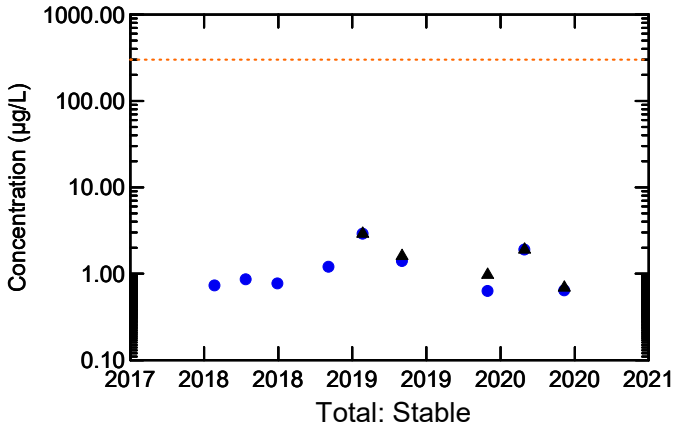
Sodium



Total: Stable

Dissolved: No trend identified

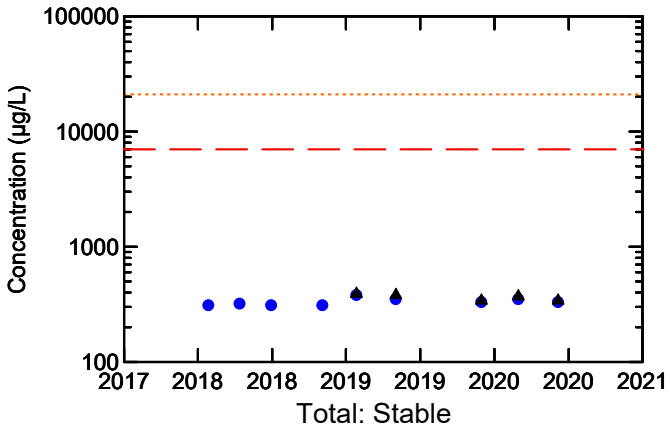
Uranium



Total: Stable

Dissolved: No trend identified

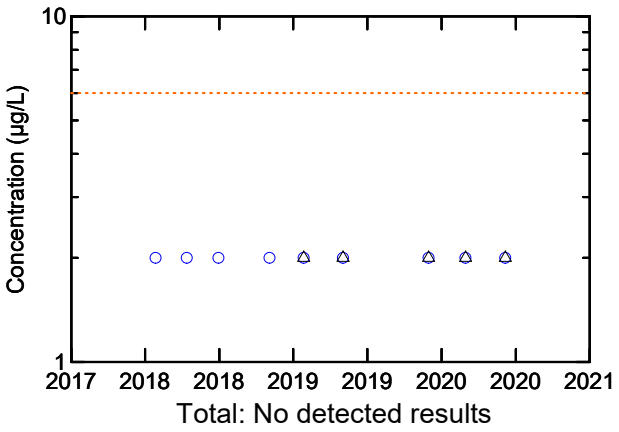
Strontium



Total: Stable

Dissolved: No trend identified

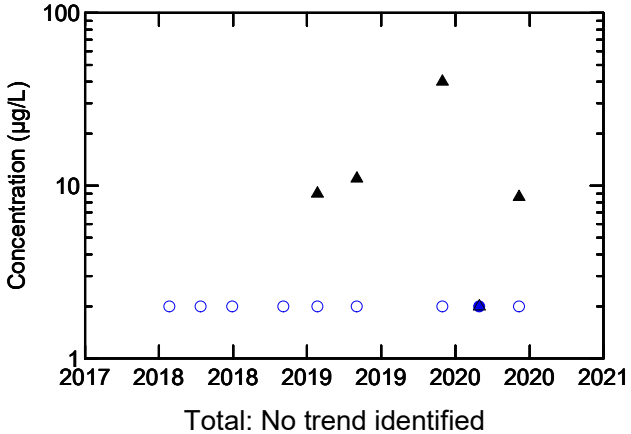
Vanadium



Total: No detected results

Dissolved: No detected results

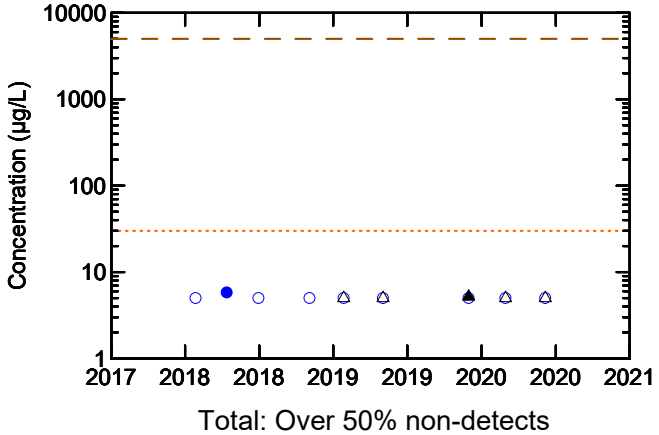
Titanium



Total: No trend identified

Dissolved: Over 50% non-detects

Zinc



Total: Over 50% non-detects

Dissolved: Over 50% non-detects

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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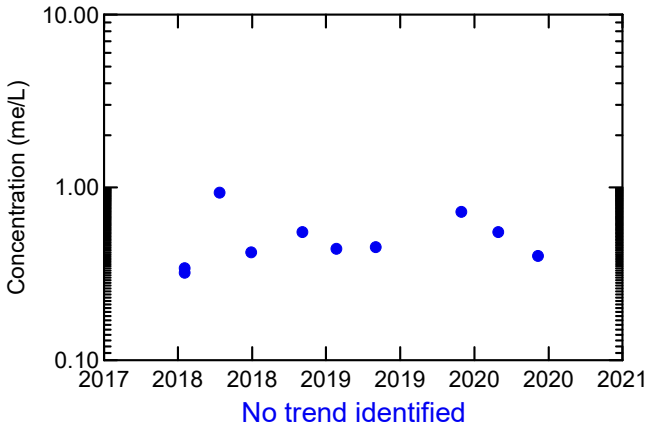
Non-detects are plotted at the reporting limit.

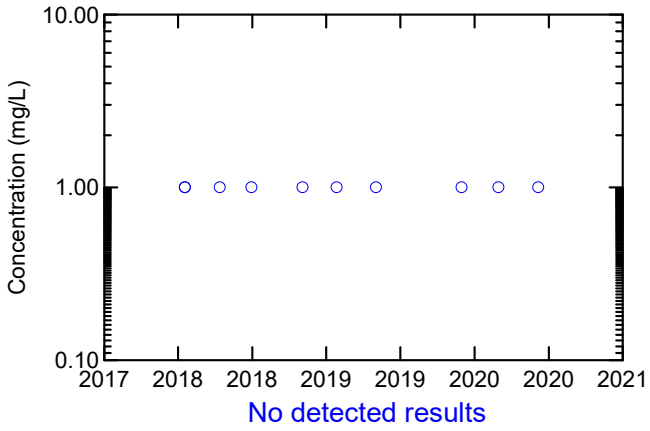
WELL MW-07D
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Anion Sum



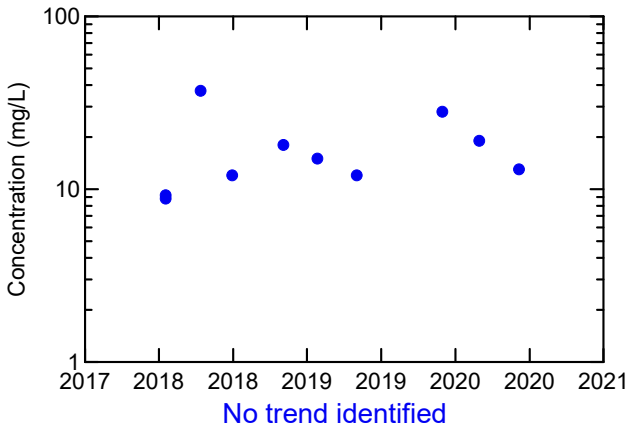
No trend identified

Carb. Alkalinity (calc. as CaCO3)



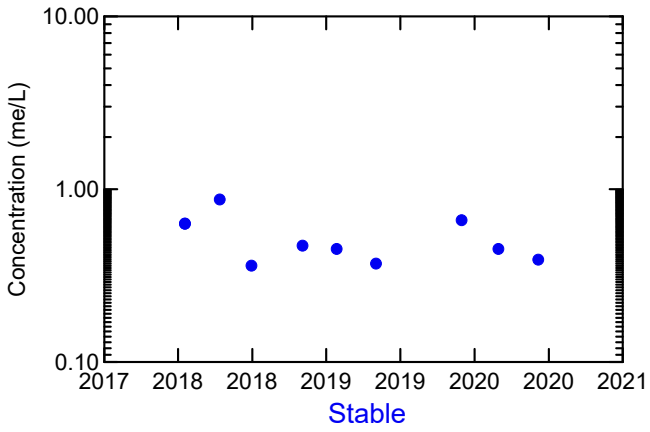
No detected results

Bicarb. Alkalinity (calc. as CaCO3)



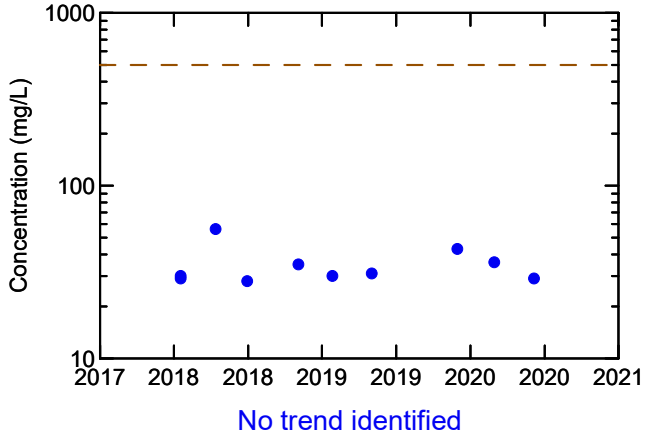
No trend identified

Cation Sum



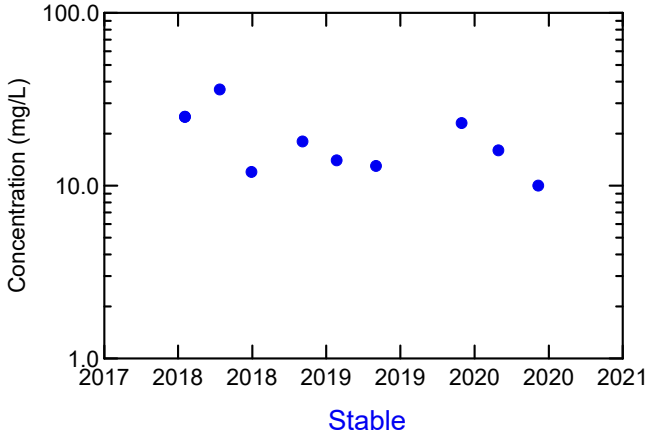
Stable

Calculated TDS



No trend identified

Hardness (CaCO3)



Stable

Legend:

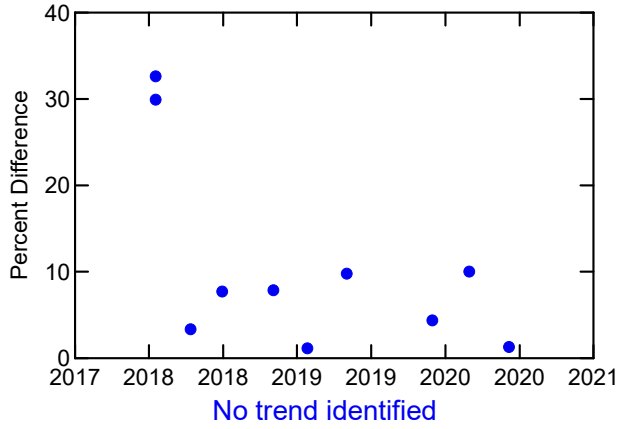
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines - Aesthetic

WELL MW-09A
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

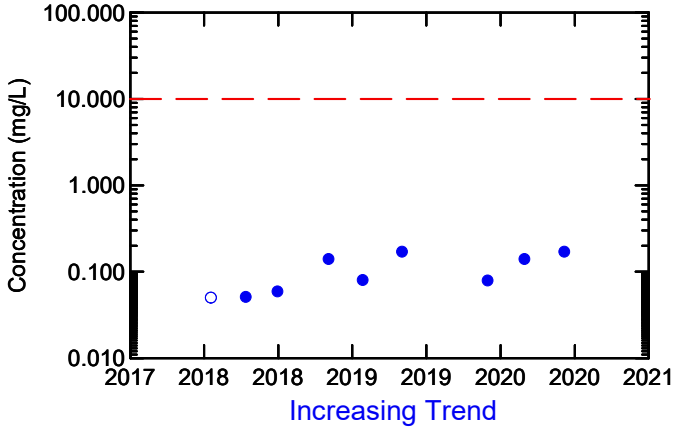
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Ion Balance



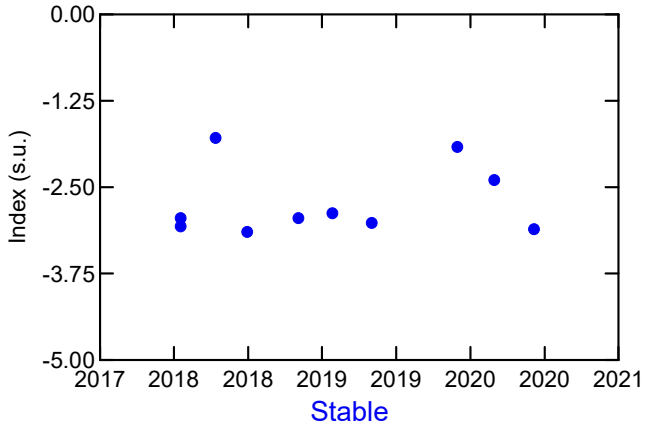
No trend identified

Nitrate



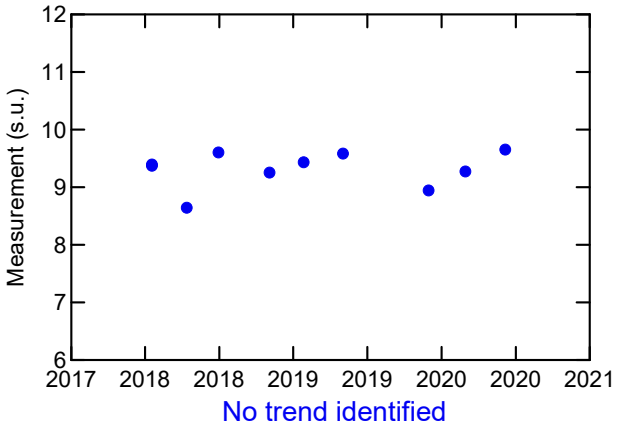
Increasing Trend

Langelier Index (@ 20C)



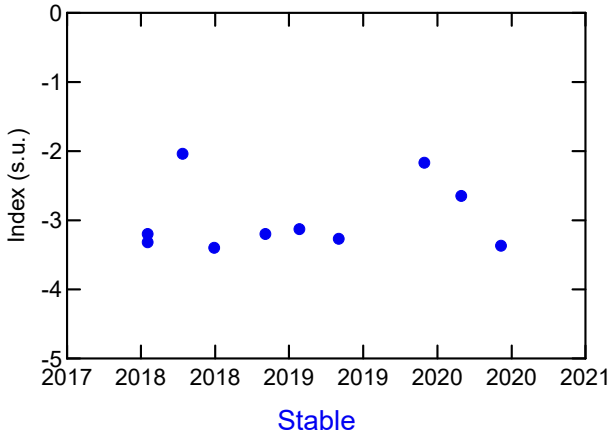
Stable

Saturation pH (@ 20C)



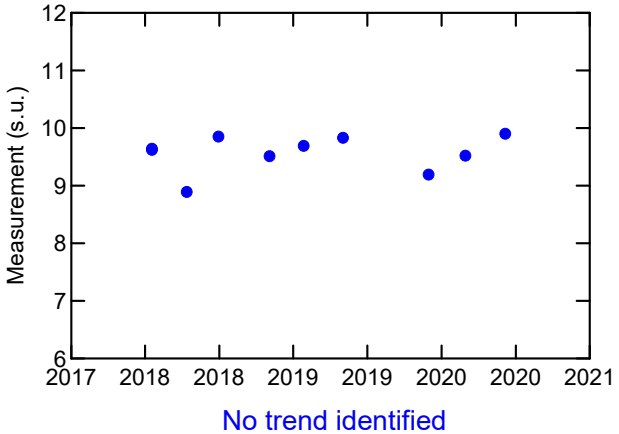
No trend identified

Langelier Index (@ 4C)



Stable

Saturation pH (@ 4C)



No trend identified

Legend:

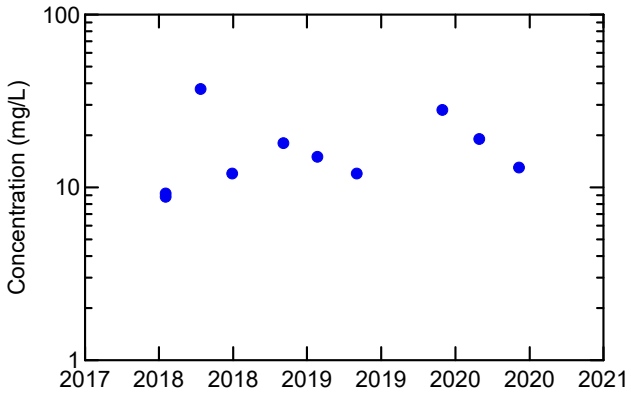
● Detected result ○ Non-Detect

— — Canadian Drinking Water Quality Guidelines: Maximum Acceptable

WELL MW-09A
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

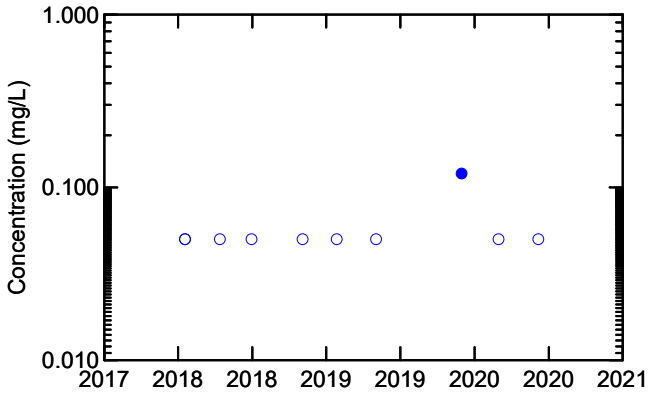
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Total Alkalinity (Total as CaCO3)



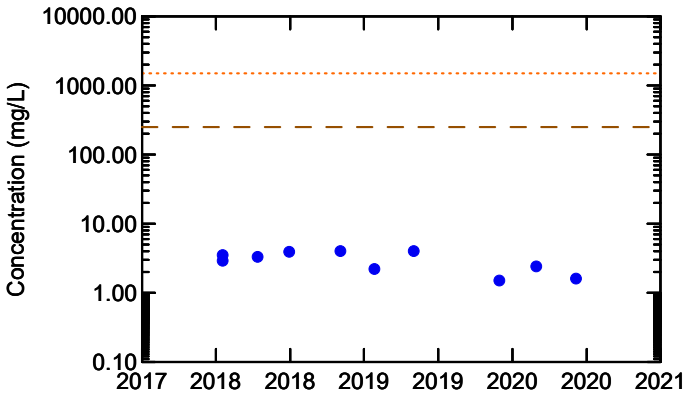
No trend identified

Nitrogen (Ammonia Nitrogen)



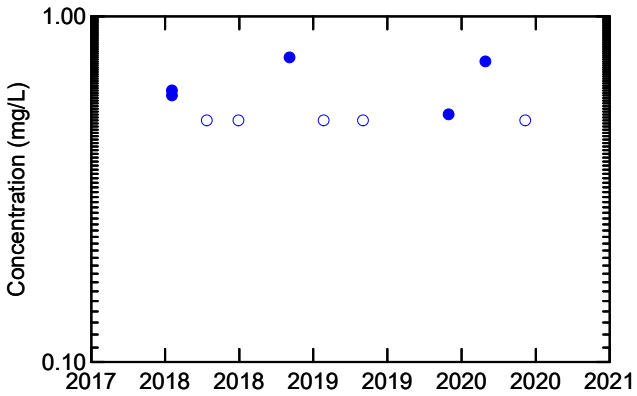
Over 50% non-detects

Dissolved Chloride



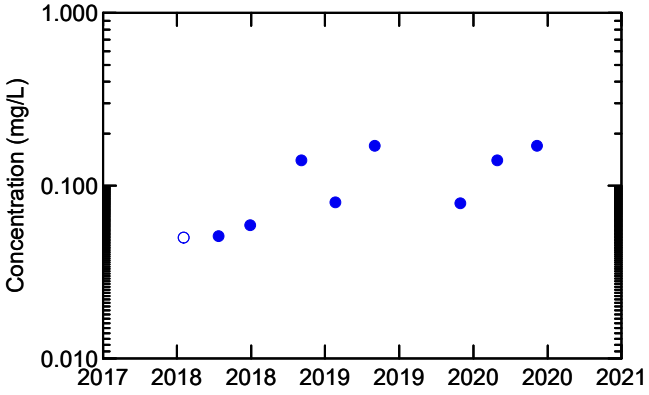
Stable

Total Organic Carbon



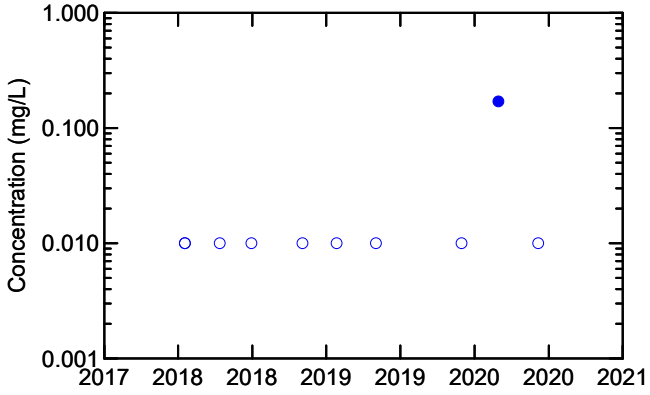
Over 50% non-detects

Nitrate + Nitrite



Increasing Trend

Orthophosphate



Over 50% non-detects

Legend:

● Detected result ○ Non-Detect

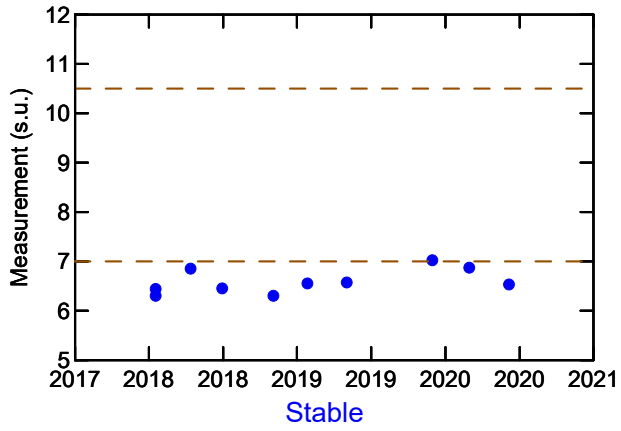
Nova Scotia (2014) Pathway-Specific Standard for Groundwater

Canadian Drinking Water Quality Guideline: Aesthetic

WELL MW-09A
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

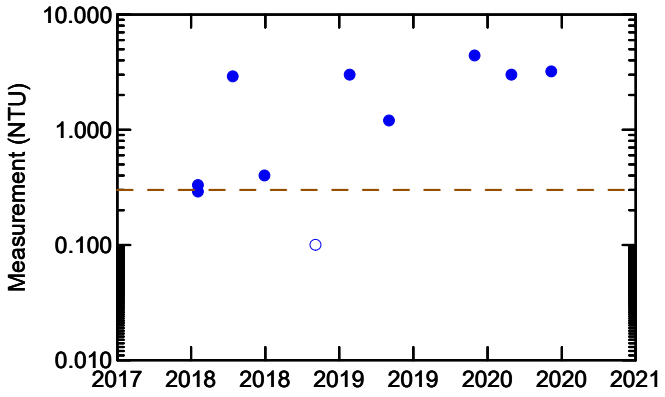
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

pH



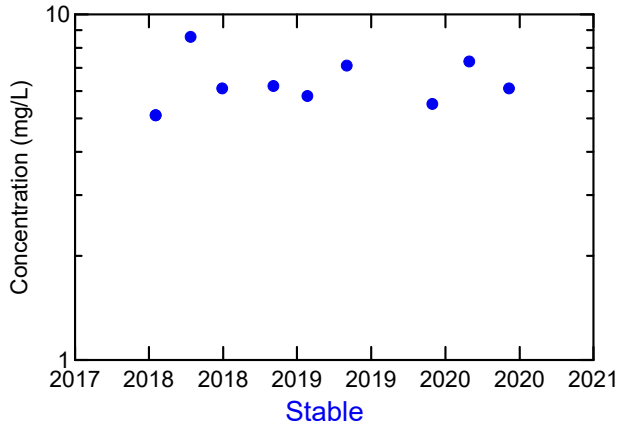
Stable

Turbidity



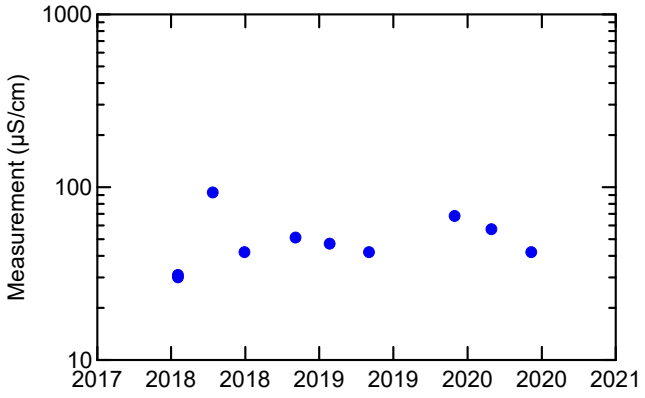
No trend identified

Reactive Silica (SiO2)



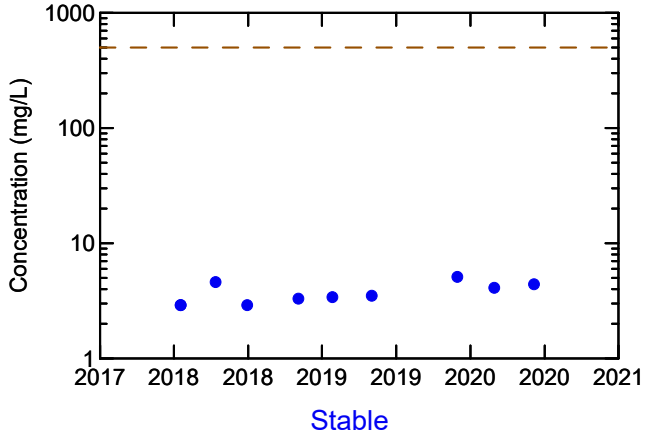
Stable

Conductivity



Probably Decreasing

Dissolved Sulphate (SO4)



Stable

Legend:

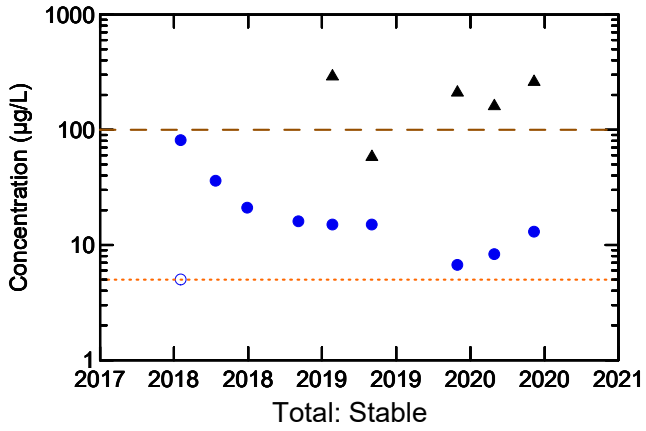
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines: Aesthetic

WELL MW-09A
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

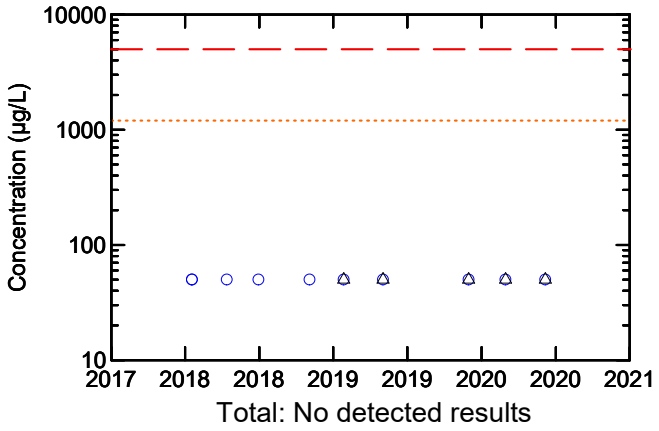
Aluminum



Total: Stable

Dissolved: Decreasing Trend

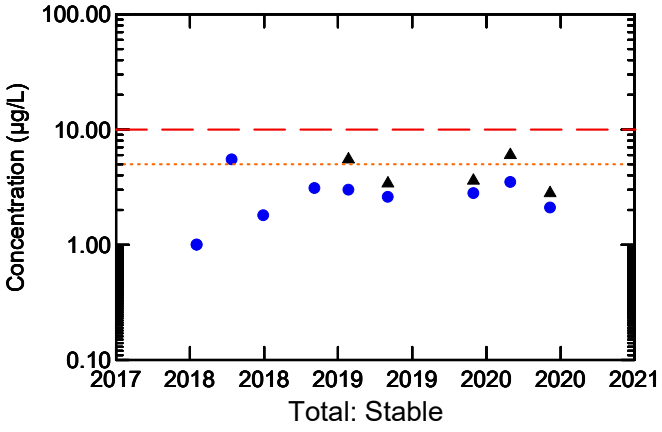
Boron



Total: No detected results

Dissolved: No detected results

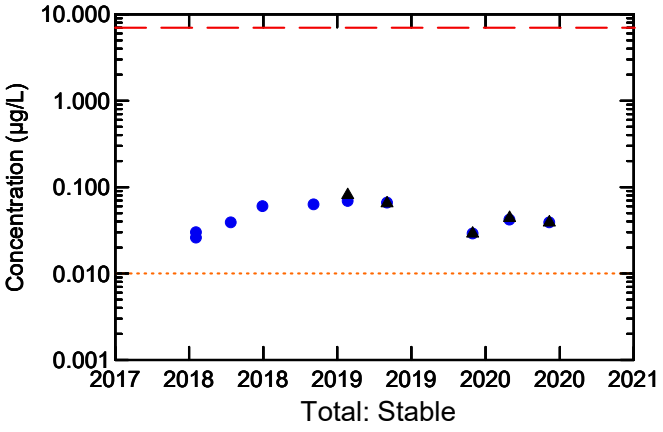
Arsenic



Total: Stable

Dissolved: No trend identified

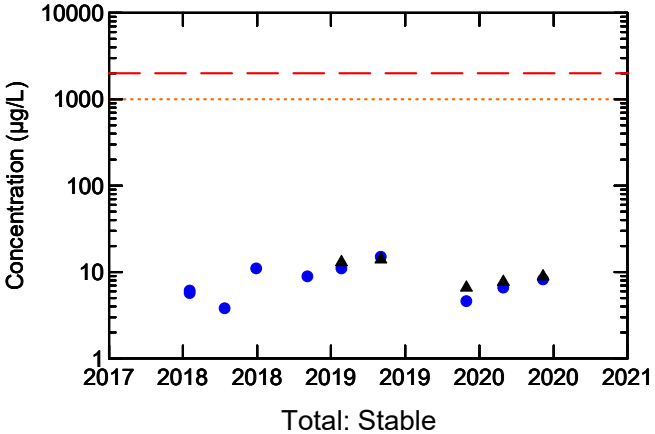
Cadmium



Total: Stable

Dissolved: No trend identified

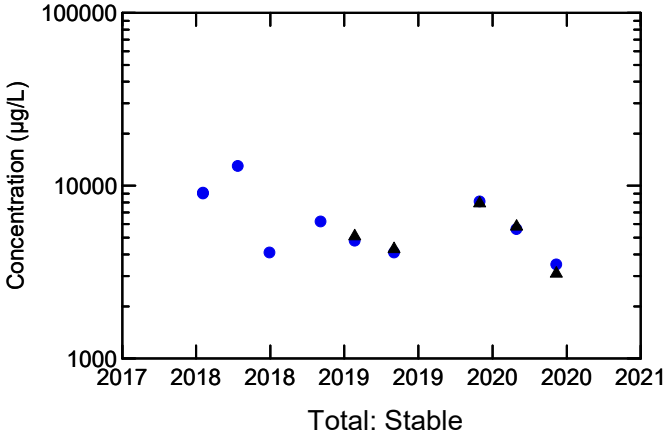
Barium



Total: Stable

Dissolved: No trend identified

Calcium



Total: Stable

Dissolved: Stable

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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WELL MW-09A
METALS
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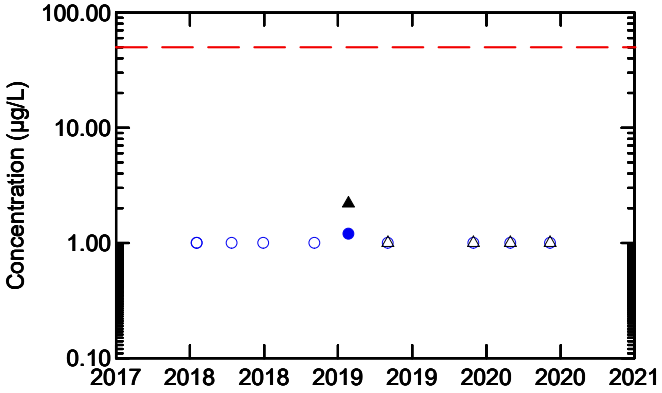
BEAVER DAM MINE
Marinette, Nova Scotia

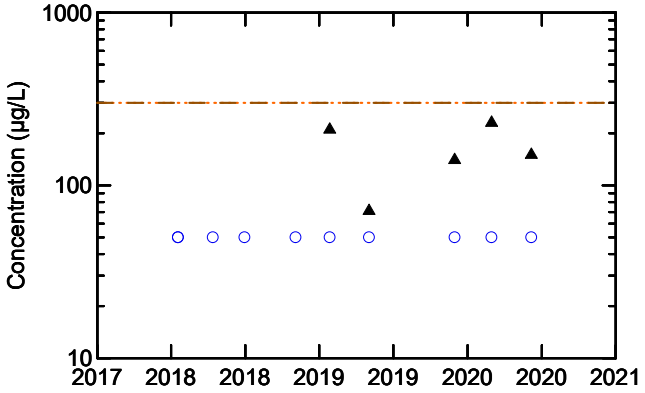
Chromium



Total: Over 50% non-detects

Dissolved: Over 50% non-detects

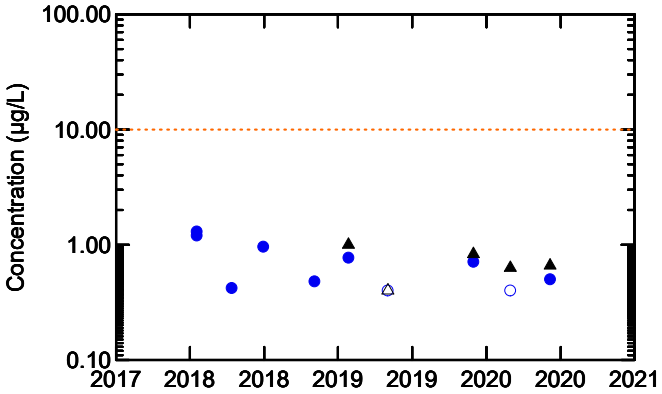
Iron



Total: No trend identified

Dissolved: No detected results

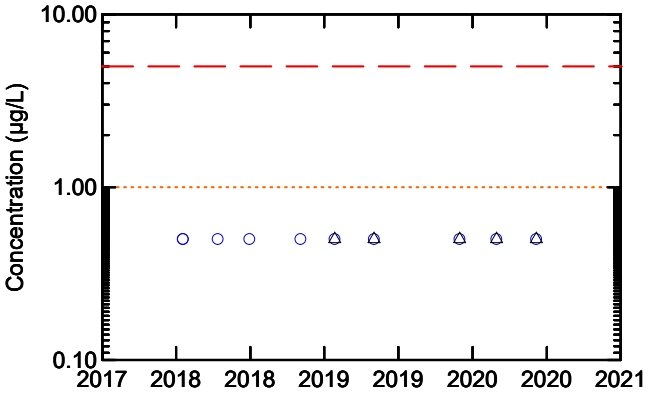
Cobalt



Total: Stable

Dissolved: Stable

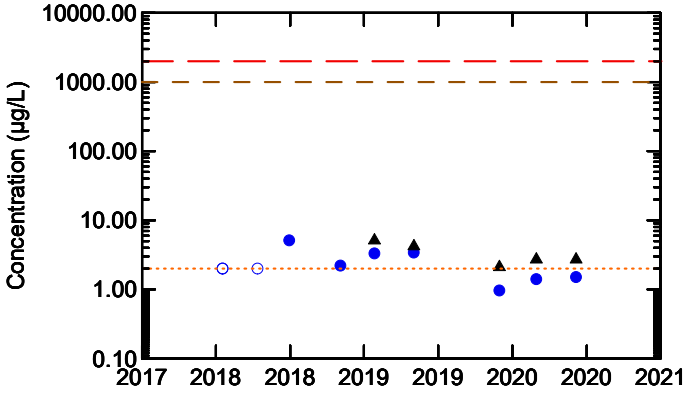
Lead



Total: No detected results

Dissolved: No detected results

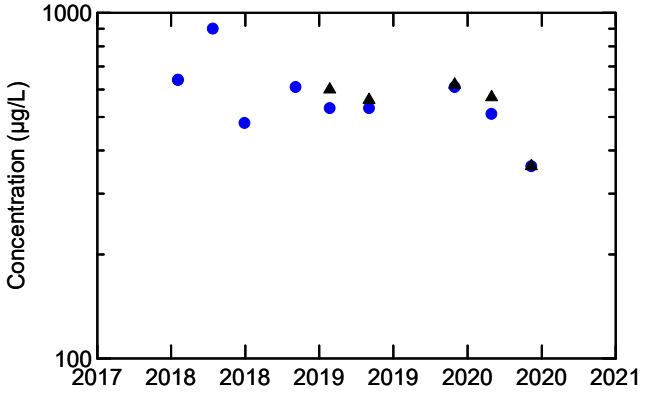
Copper



Total: Stable

Dissolved: Stable

Magnesium



Total: Stable

Dissolved: Probably Decreasing

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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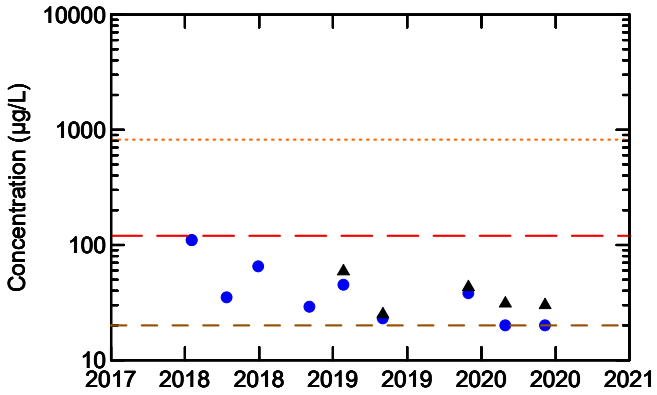
WELL MW-09A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

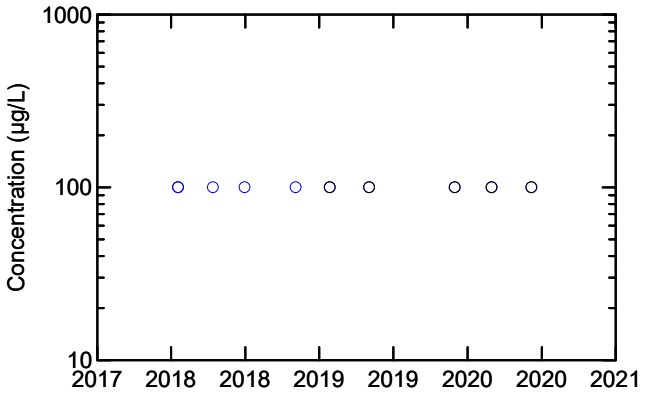
Manganese



Total: Stable

Dissolved: Decreasing Trend

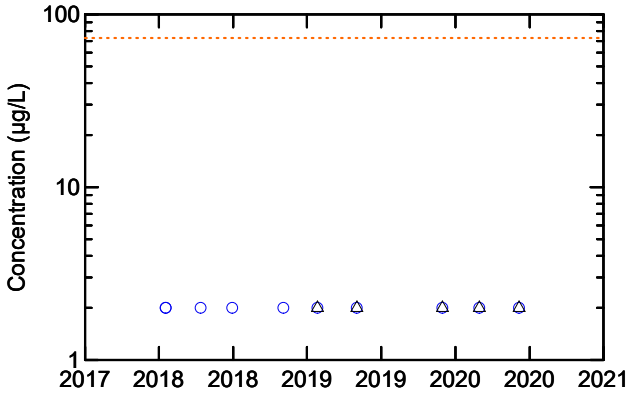
Phosphorus



Total: No detected results

Dissolved: No detected results

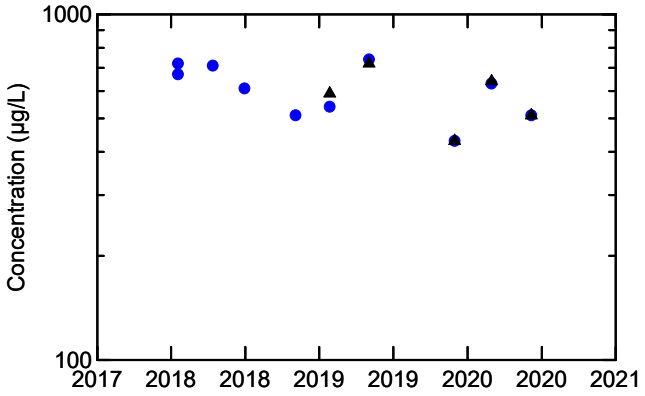
Molybdenum



Total: No detected results

Dissolved: No detected results

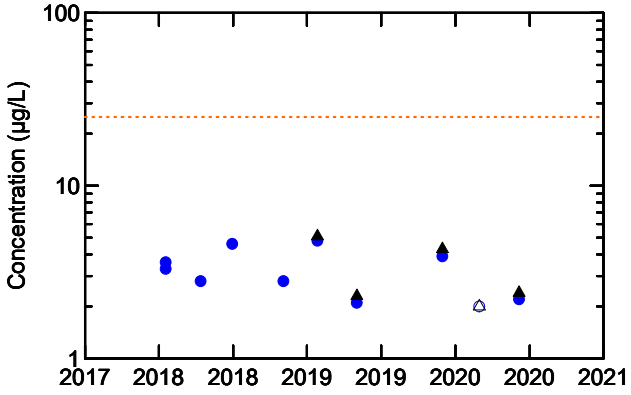
Potassium



Total: Stable

Dissolved: Stable

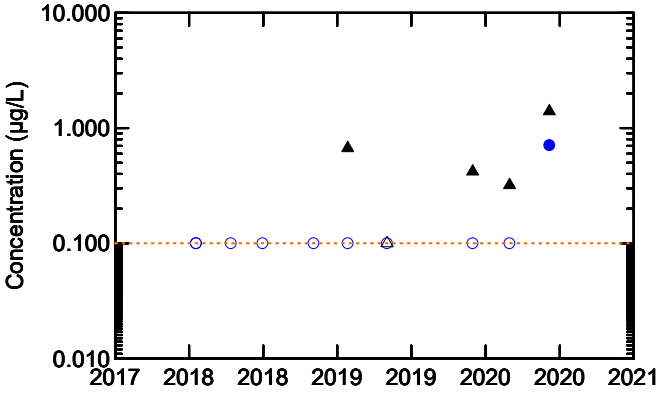
Nickel



Total: Stable

Dissolved: Stable

Silver



Total: No trend identified

Dissolved: Over 50% non-detects

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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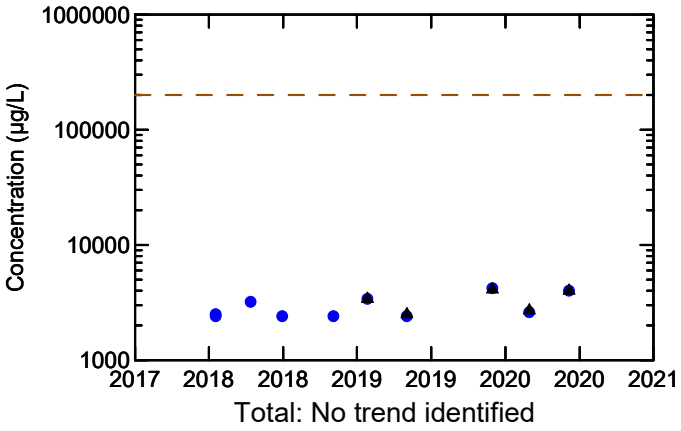
Non-detects are plotted at the reporting limit.

WELL MW-09A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

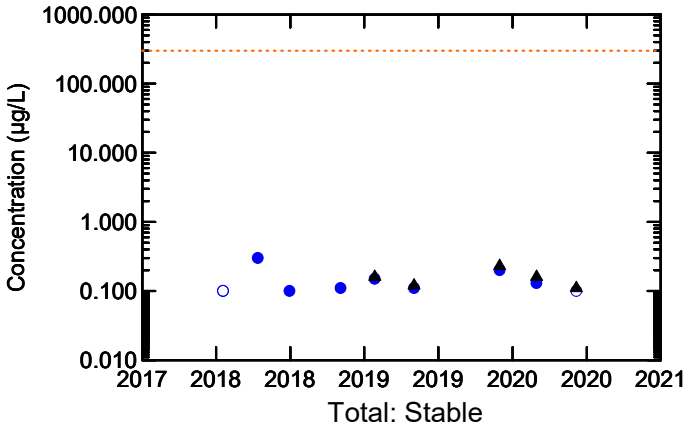
Sodium



Total: No trend identified

Dissolved: No trend identified

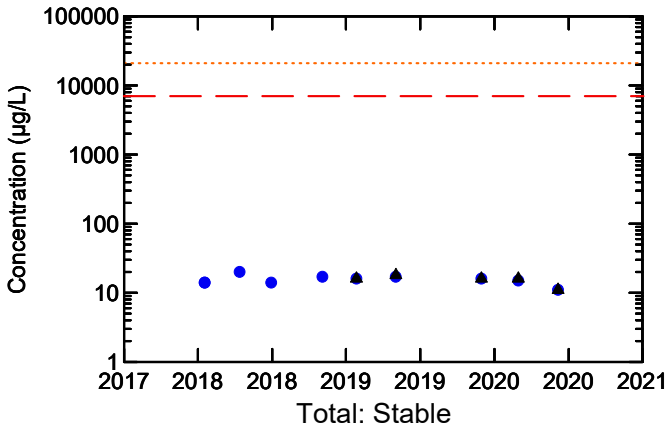
Uranium



Total: Stable

Dissolved: No trend identified

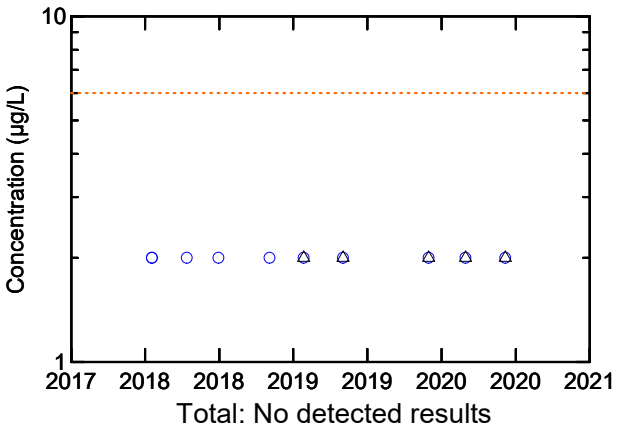
Strontium



Total: Stable

Dissolved: Stable

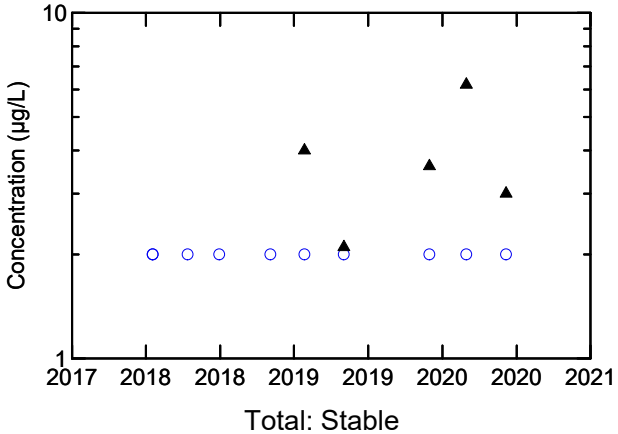
Vanadium



Total: No detected results

Dissolved: No detected results

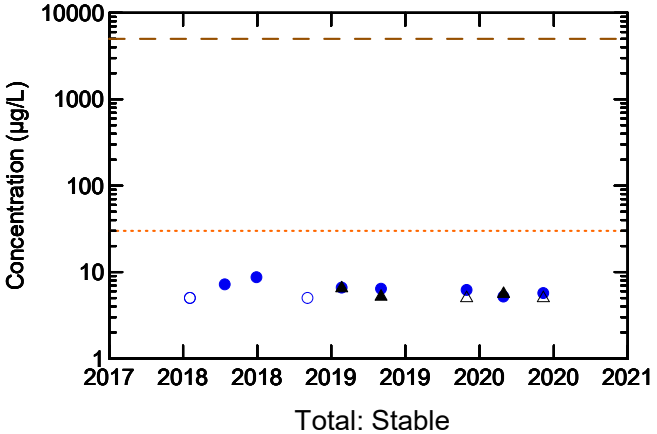
Titanium



Total: Stable

Dissolved: No detected results

Zinc



Total: Stable

Dissolved: Stable

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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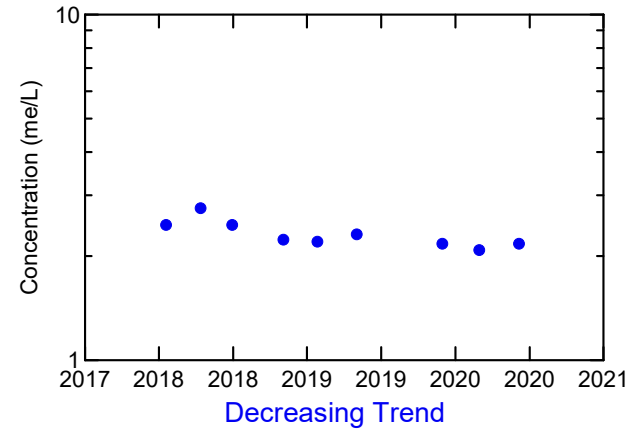
Non-detects are plotted at the reporting limit.

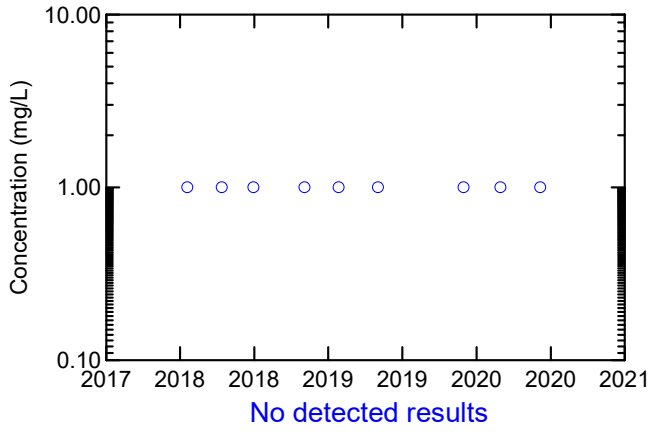
WELL MW-09A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Anion Sum



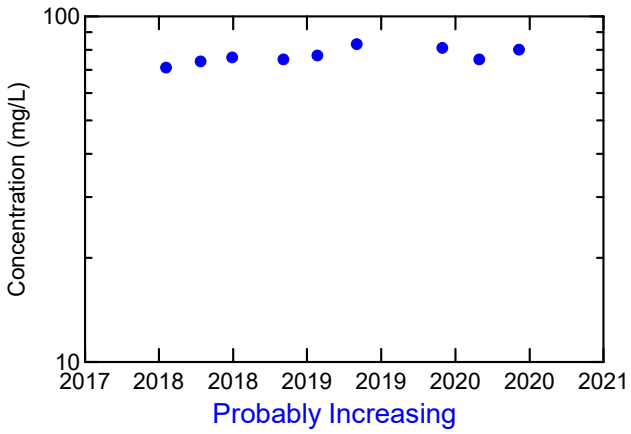
Decreasing Trend

Carb. Alkalinity (calc. as CaCO3)



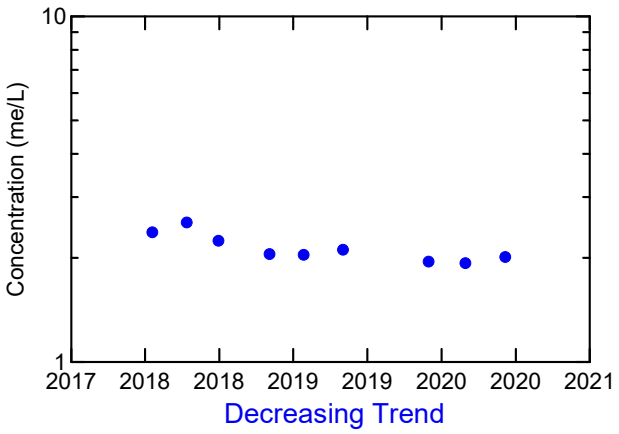
No detected results

Bicarb. Alkalinity (calc. as CaCO3)



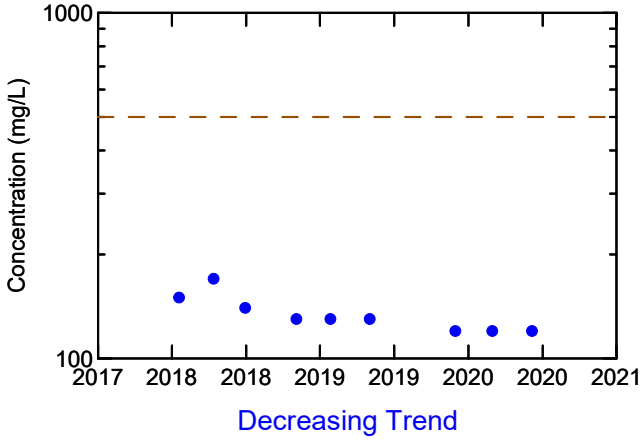
Probably Increasing

Cation Sum



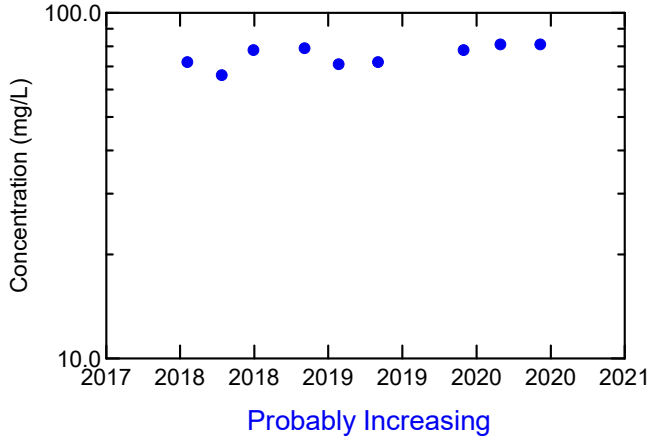
Decreasing Trend

Calculated TDS



Decreasing Trend

Hardness (CaCO3)



Probably Increasing

Legend:

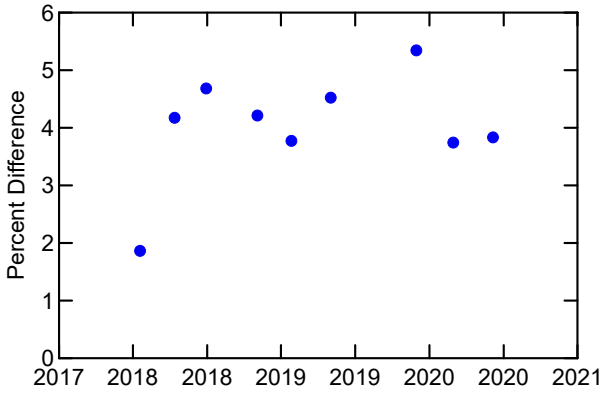
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines - Aesthetic

WELL MW-09B
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

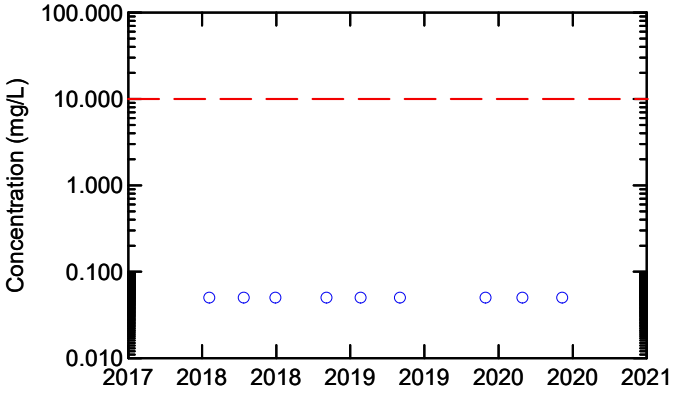
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Ion Balance



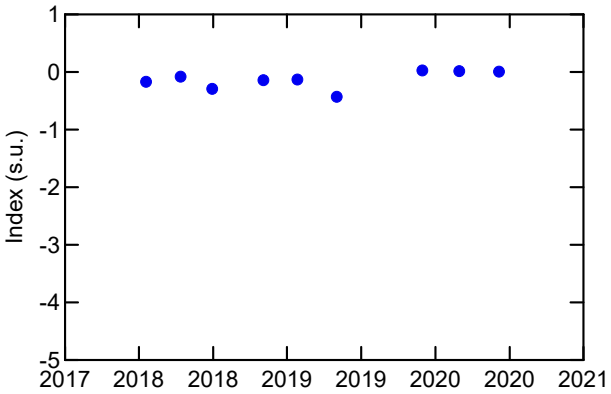
No trend identified

Nitrate



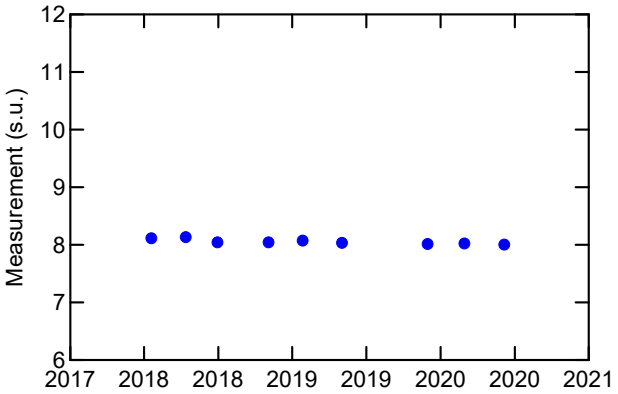
No detected results

Langelier Index (@ 20C)



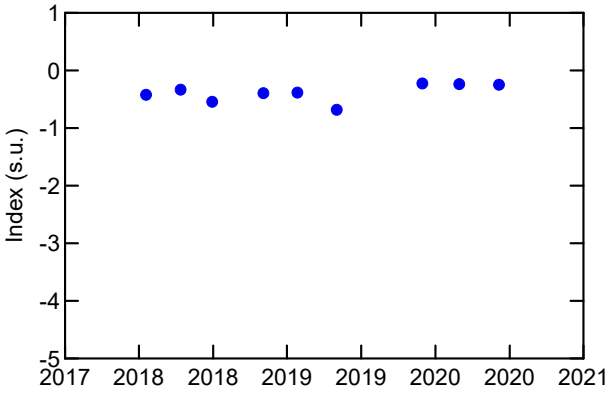
No trend identified

Saturation pH (@ 20C)



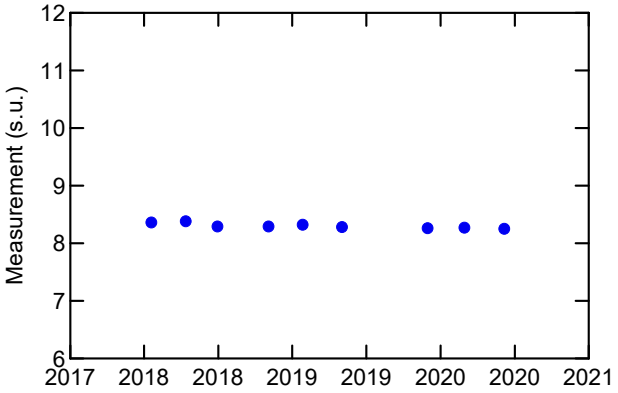
Decreasing Trend

Langelier Index (@ 4C)



No trend identified

Saturation pH (@ 4C)



Decreasing Trend

Legend:

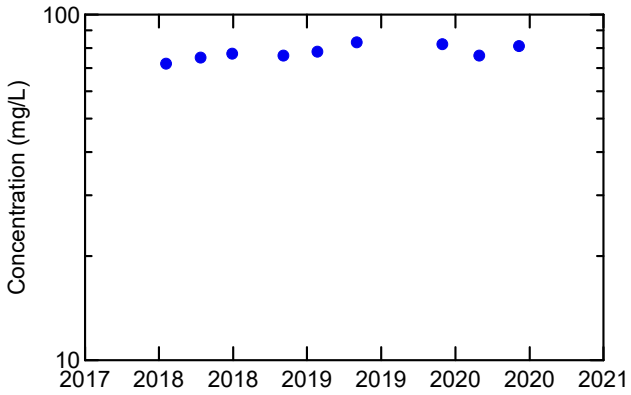
● Detected result ○ Non-Detect

— — Canadian Drinking Water Quality Guidelines: Maximum Acceptable

WELL MW-09B
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

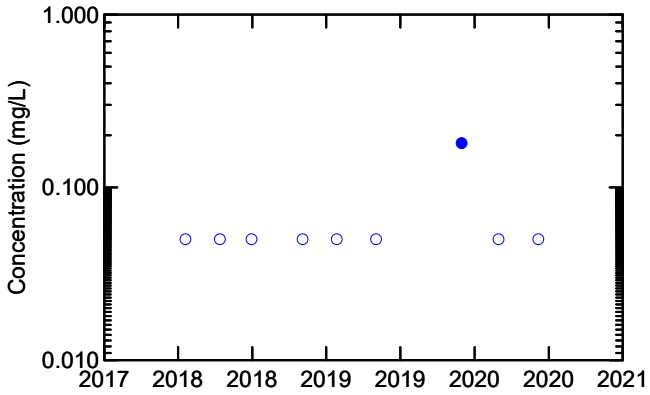
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Total Alkalinity (Total as CaCO3)



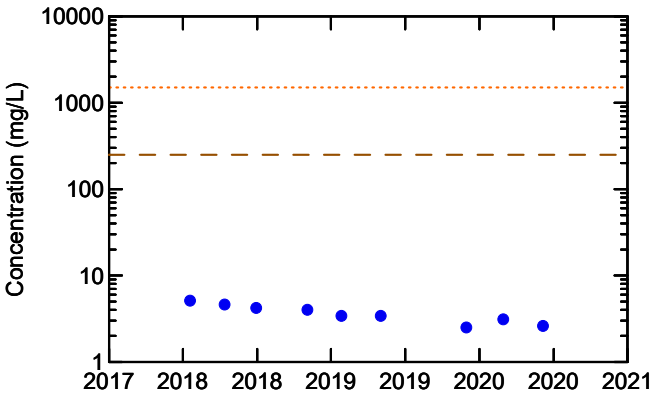
Probably Increasing

Nitrogen (Ammonia Nitrogen)



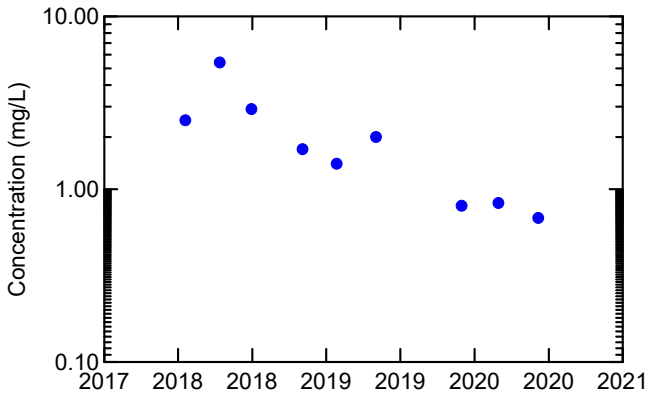
Over 50% non-detects

Dissolved Chloride



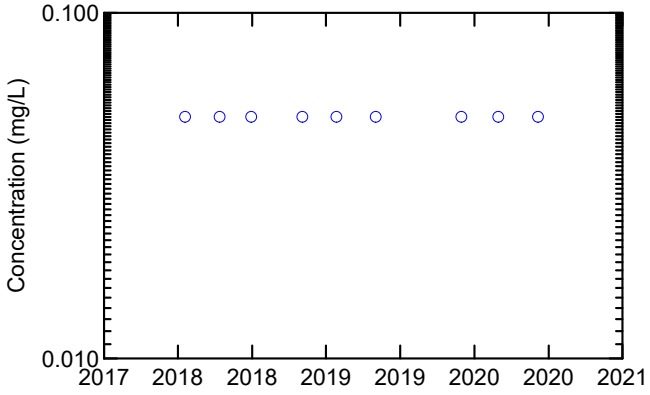
Decreasing Trend

Total Organic Carbon



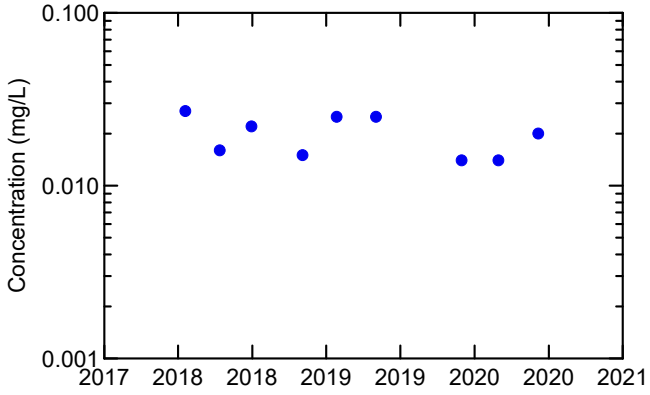
Decreasing Trend

Nitrate + Nitrite



No detected results

Orthophosphate



Stable

Legend:

- ● Detected result ○ Non-Detect
- ····· Nova Scotia (2014) Pathway-Specific Standard for Groundwater
- — — - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:
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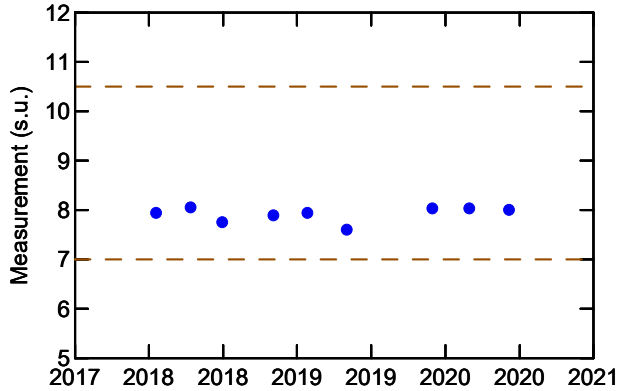
Non-detects are plotted at the reporting limit.

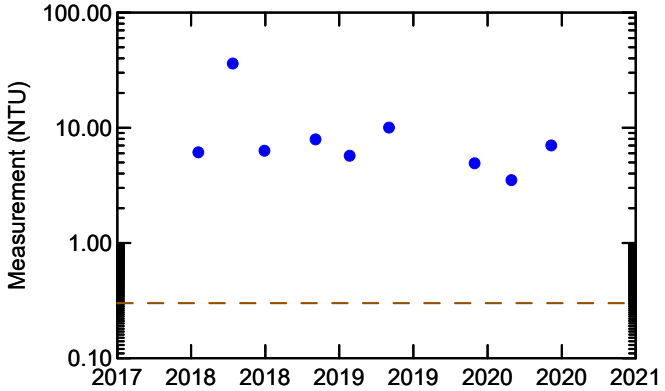
WELL MW-09B
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

pH



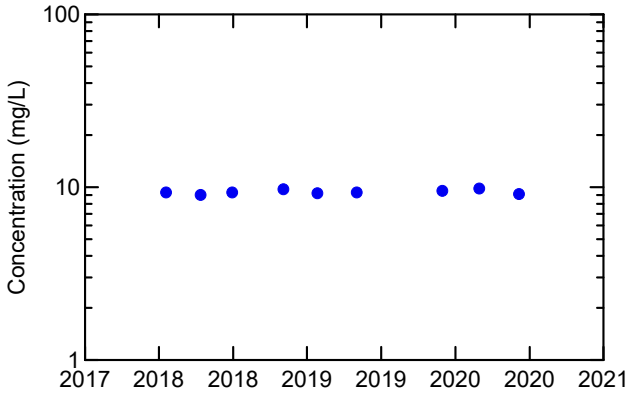
Stable

Turbidity



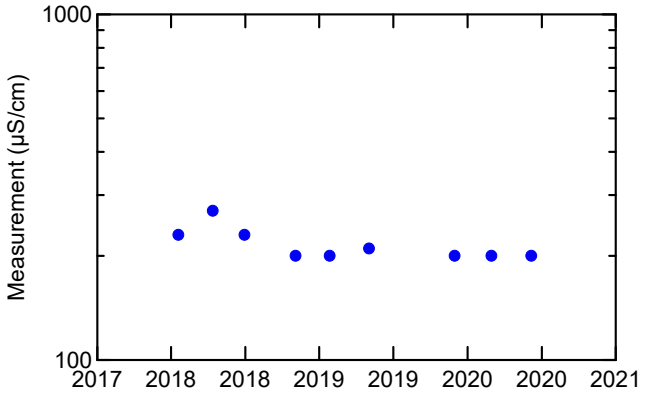
No trend identified

Reactive Silica (SiO2)



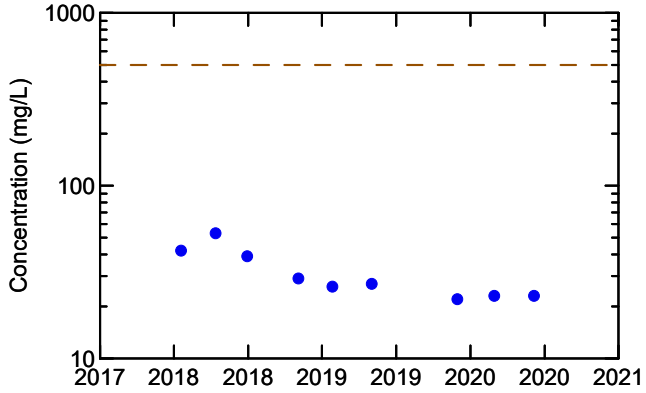
Stable

Conductivity



Probably Decreasing

Dissolved Sulphate (SO4)



Stable

Legend:

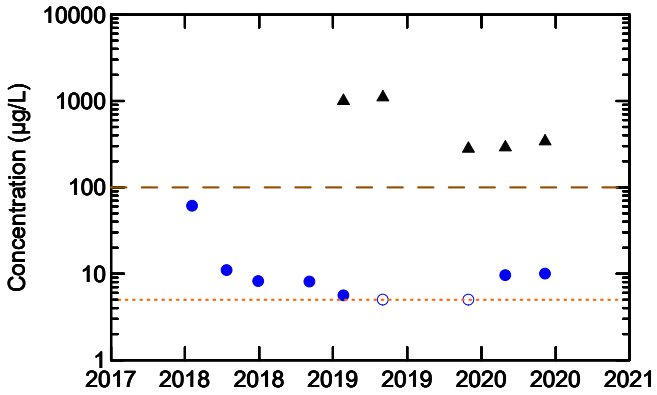
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines: Aesthetic

WELL MW-09B
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

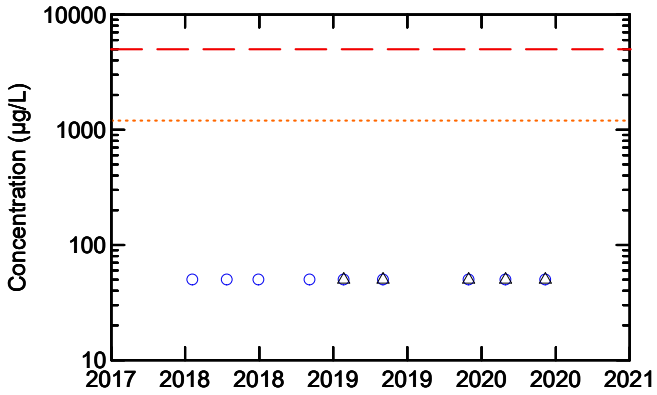
Aluminum



Total: Stable

Dissolved: No trend identified

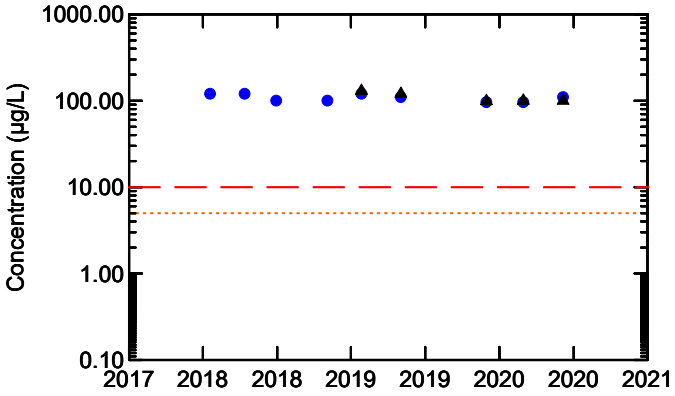
Boron



Total: No detected results

Dissolved: No detected results

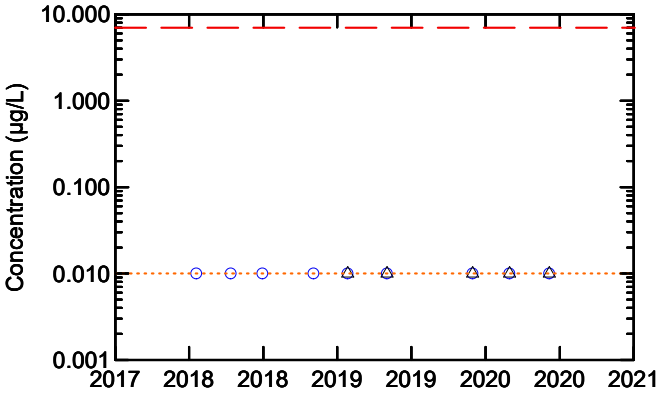
Arsenic



Total: Stable

Dissolved: Stable

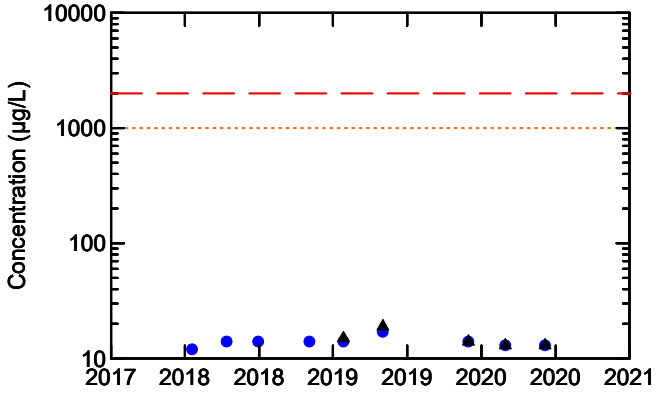
Cadmium



Total: No detected results

Dissolved: No detected results

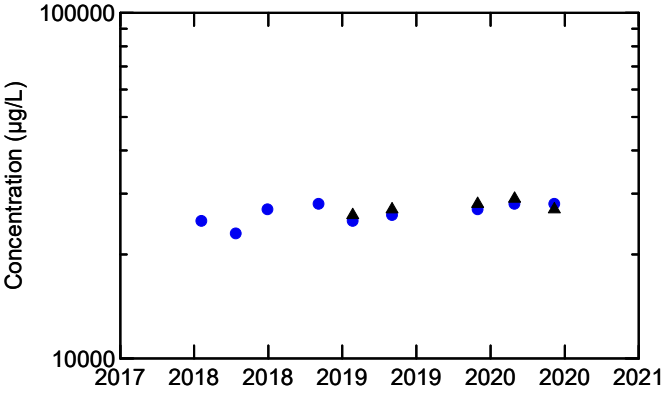
Barium



Total: Stable

Dissolved: Stable

Calcium



Total: No trend identified

Dissolved: Probably Increasing

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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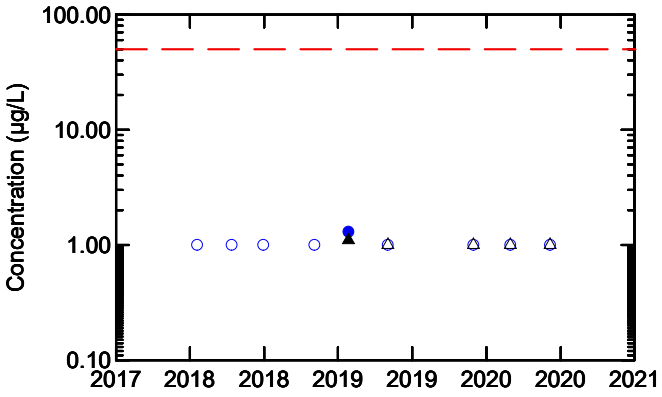
Non-detects are plotted at the reporting limit.

WELL MW-09B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

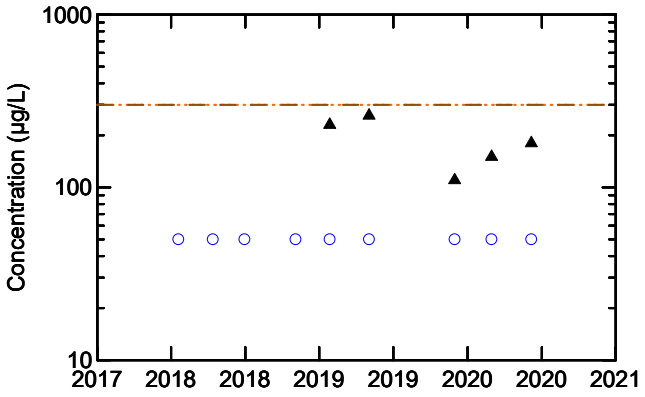
Chromium



Total: Over 50% non-detects

Dissolved: Over 50% non-detects

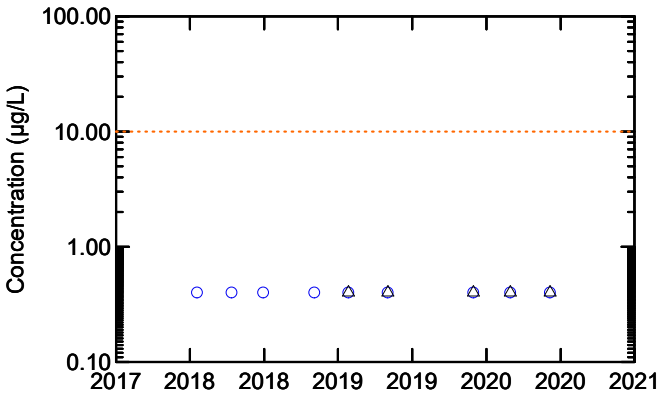
Iron



Total: Stable

Dissolved: No detected results

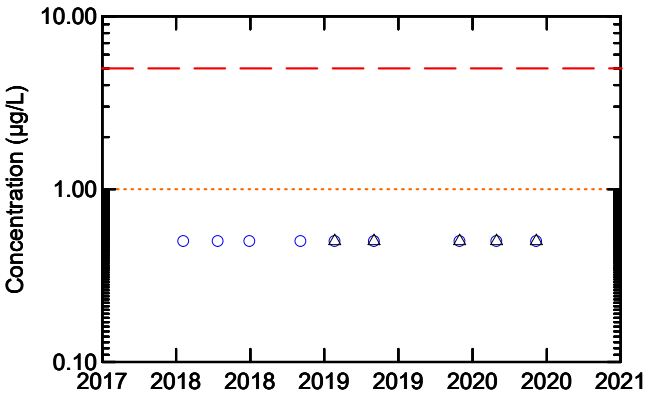
Cobalt



Total: No detected results

Dissolved: No detected results

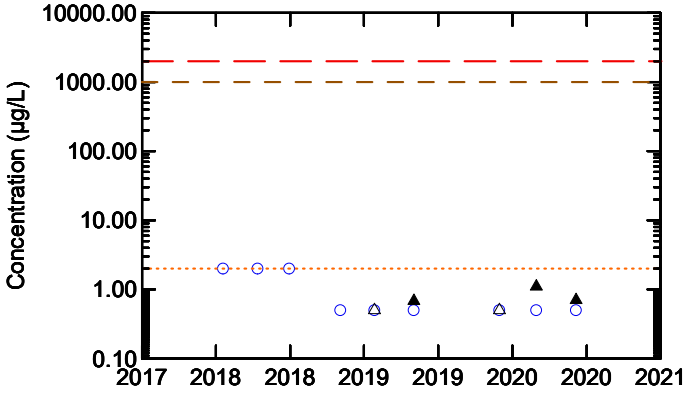
Lead



Total: No detected results

Dissolved: No detected results

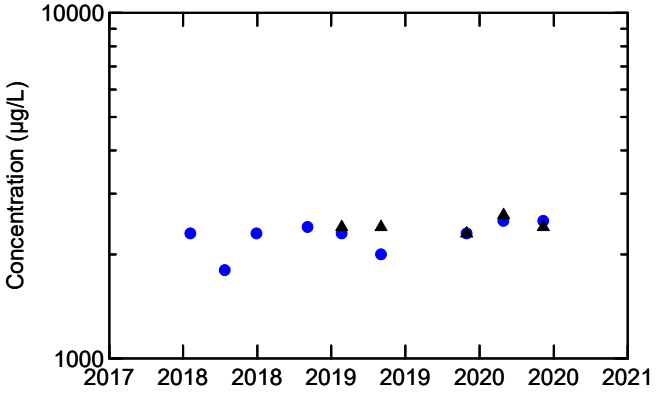
Copper



Total: No trend identified

Dissolved: No detected results

Magnesium



Total: No trend identified

Dissolved: No trend identified

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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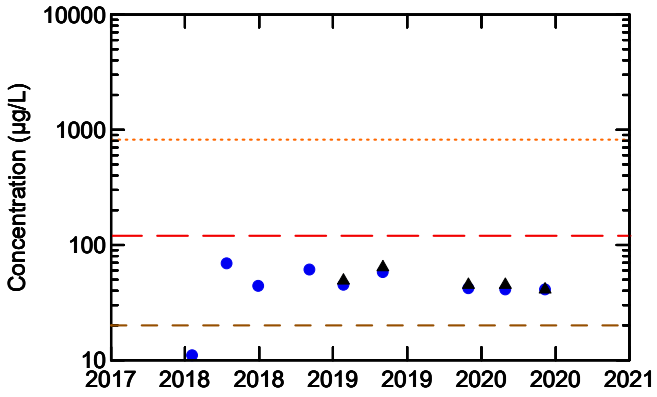
Non-detects are plotted at the reporting limit.

WELL MW-09B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

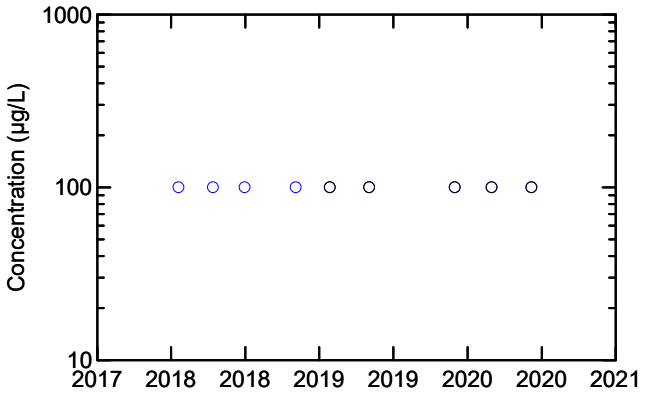
Manganese



Total: Stable

Dissolved: Stable

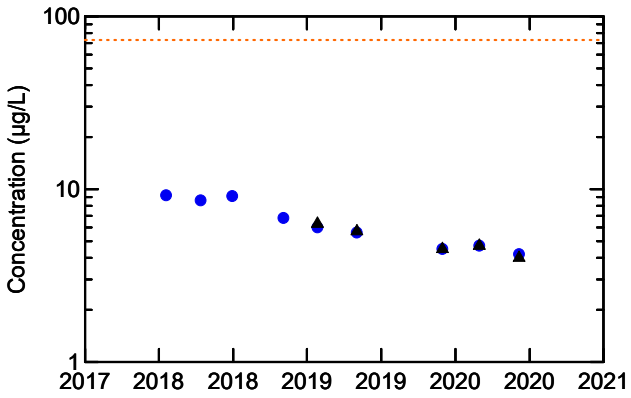
Phosphorus



Total: No detected results

Dissolved: No detected results

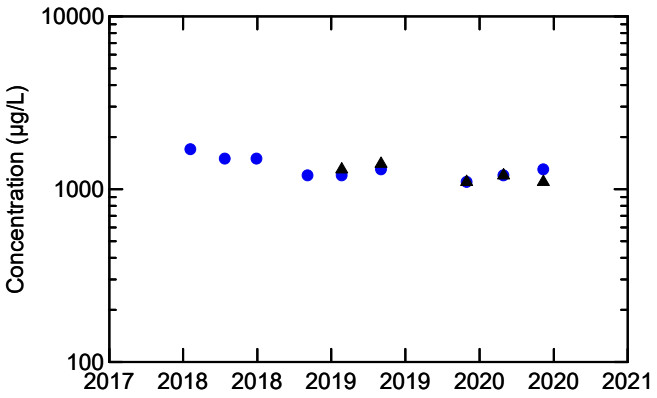
Molybdenum



Total: Probably Decreasing

Dissolved: Decreasing Trend

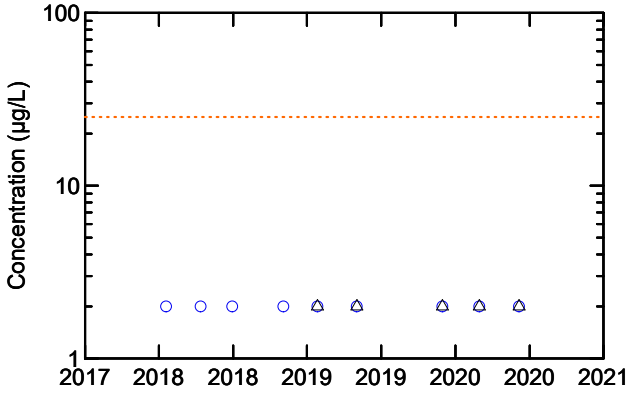
Potassium



Total: Stable

Dissolved: Probably Decreasing

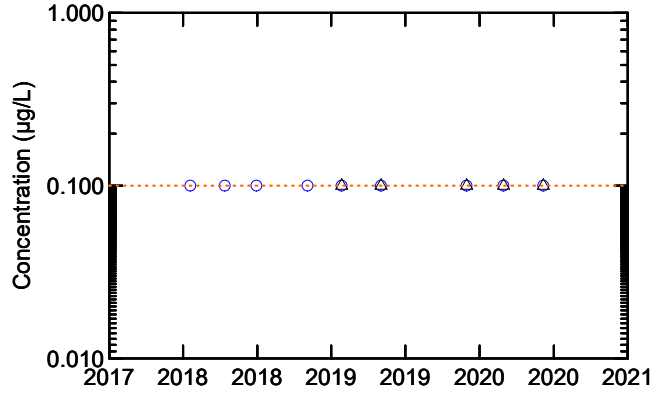
Nickel



Total: No detected results

Dissolved: No detected results

Silver



Total: No detected results

Dissolved: No detected results

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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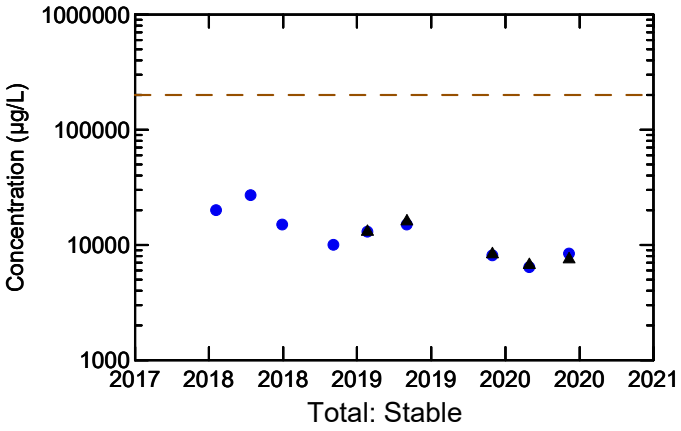
Non-detects are plotted at the reporting limit.

WELL MW-09B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

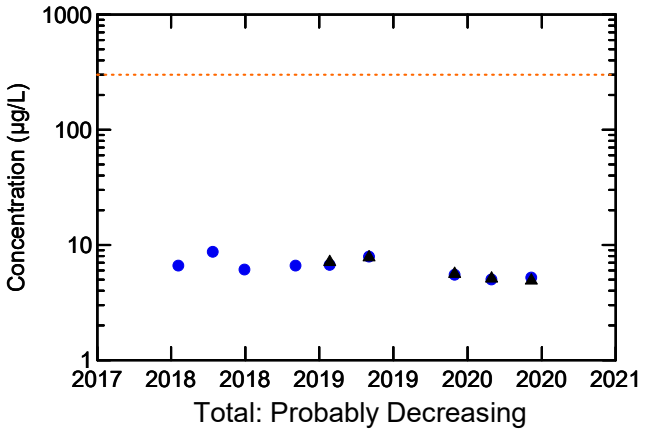
Sodium



Total: Stable

Dissolved: Decreasing Trend

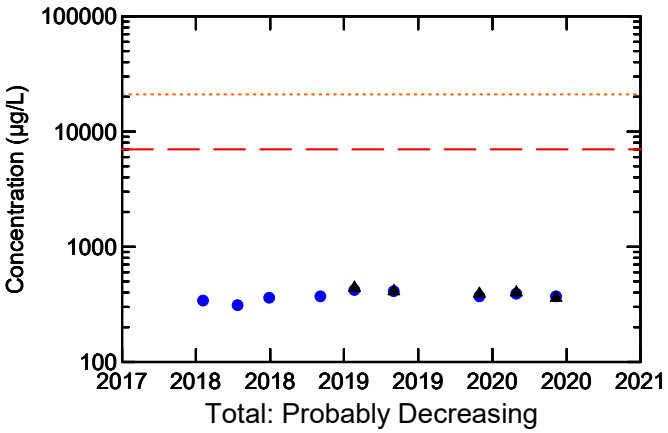
Uranium



Total: Probably Decreasing

Dissolved: Stable

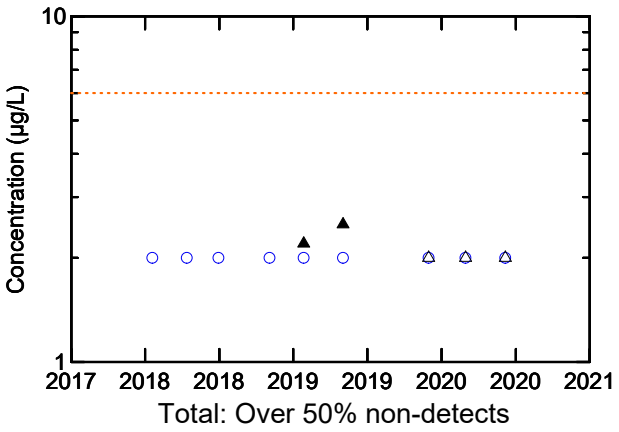
Strontium



Total: Probably Decreasing

Dissolved: No trend identified

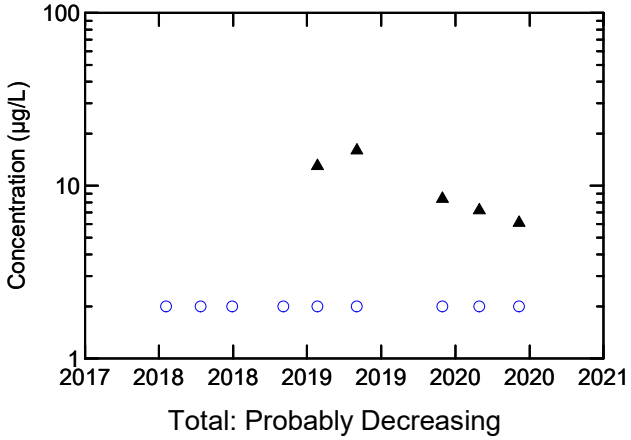
Vanadium



Total: Over 50% non-detects

Dissolved: No detected results

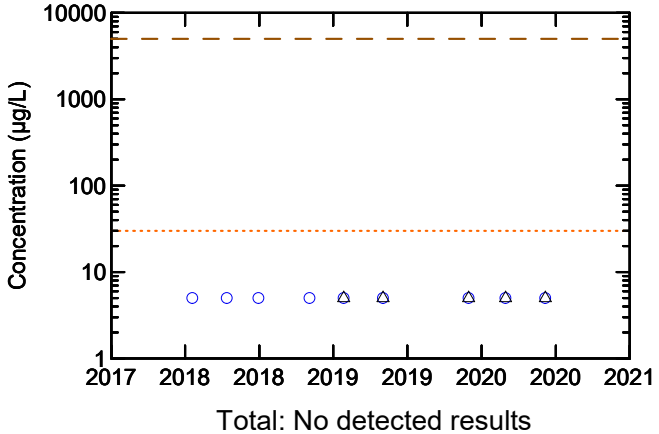
Titanium



Total: Probably Decreasing

Dissolved: No detected results

Zinc



Total: No detected results

Dissolved: No detected results

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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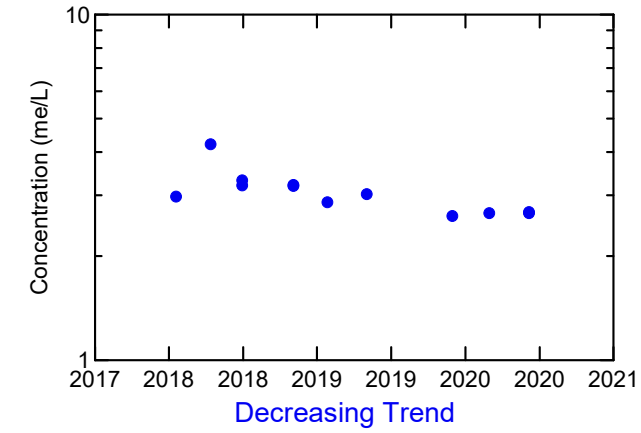
Non-detects are plotted at the reporting limit.

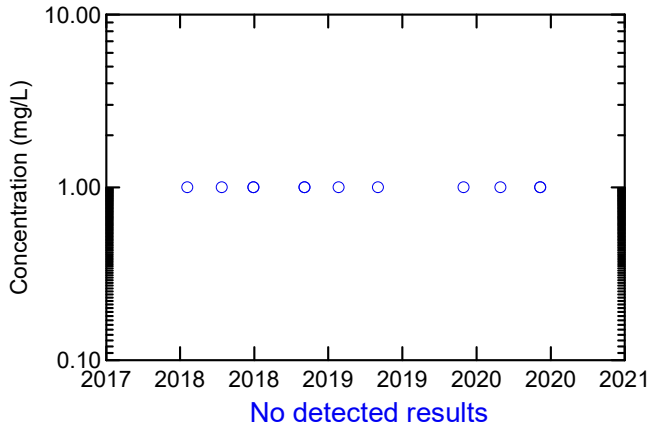
WELL MW-09B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Anion Sum



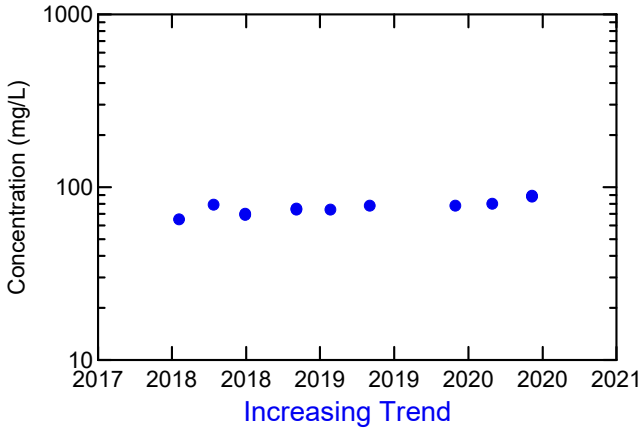
Decreasing Trend

Carb. Alkalinity (calc. as CaCO3)



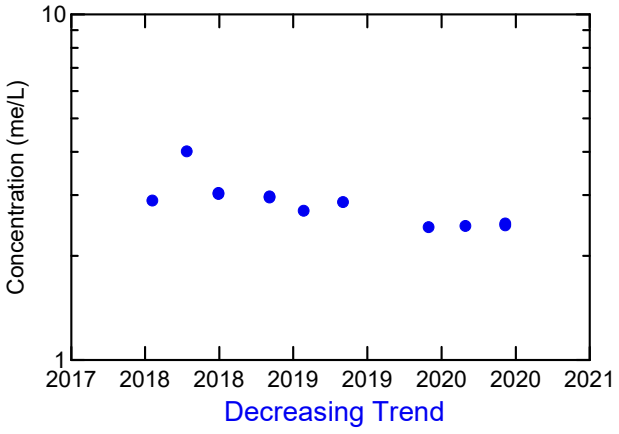
No detected results

Bicarb. Alkalinity (calc. as CaCO3)



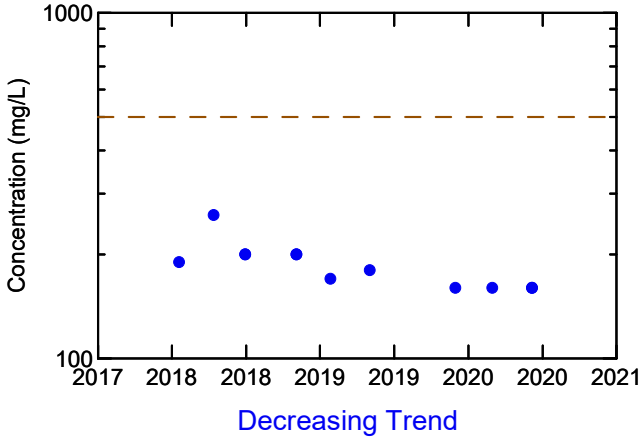
Increasing Trend

Cation Sum



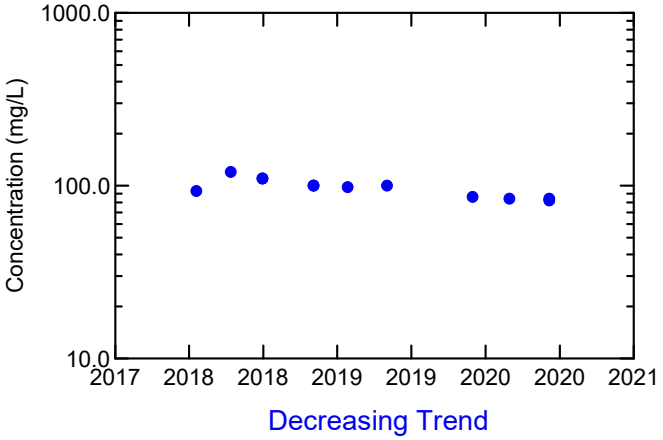
Decreasing Trend

Calculated TDS



Decreasing Trend

Hardness (CaCO3)



Decreasing Trend

Legend:

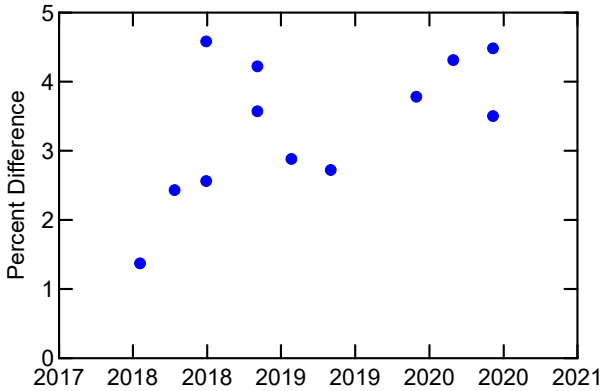
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines - Aesthetic

WELL MW-09D
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

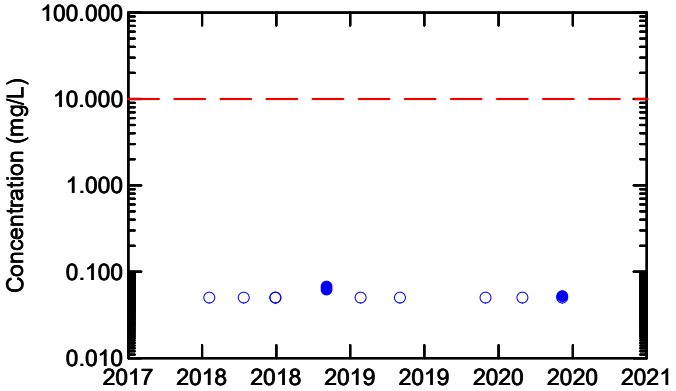
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Ion Balance



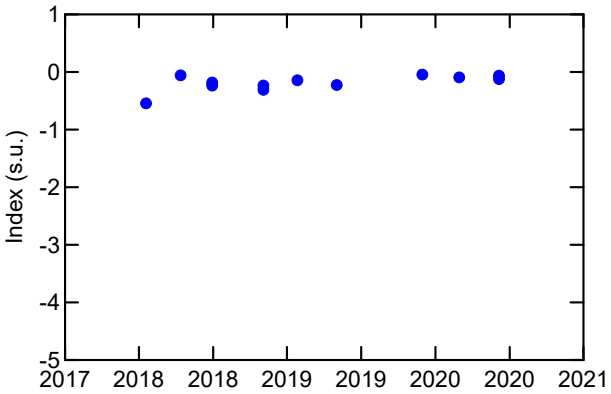
Increasing Trend

Nitrate



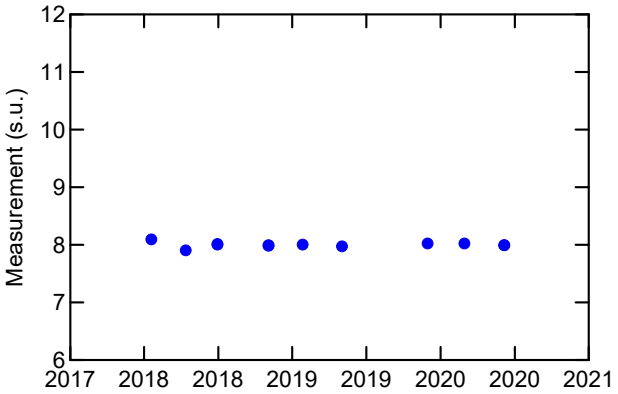
Over 50% non-detects

Langelier Index (@ 20C)



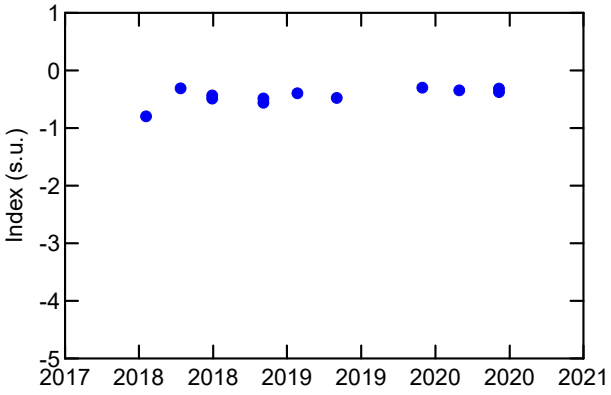
No trend identified

Saturation pH (@ 20C)



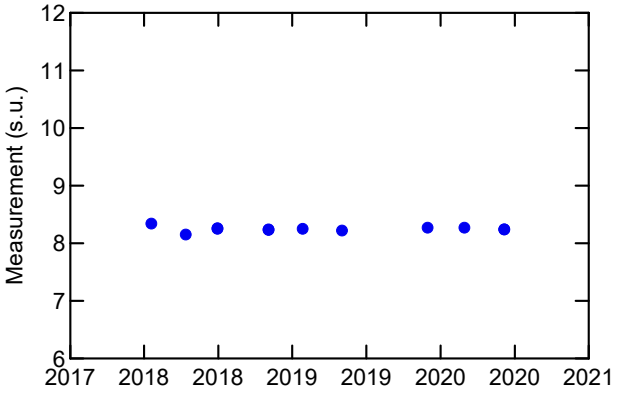
No trend identified

Langelier Index (@ 4C)



No trend identified

Saturation pH (@ 4C)



No trend identified

Legend:

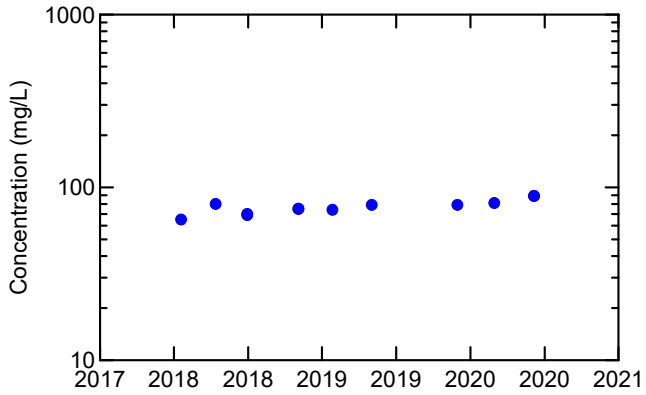
● Detected result ○ Non-Detect

— — Canadian Drinking Water Quality Guidelines: Maximum Acceptable

WELL MW-09D
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

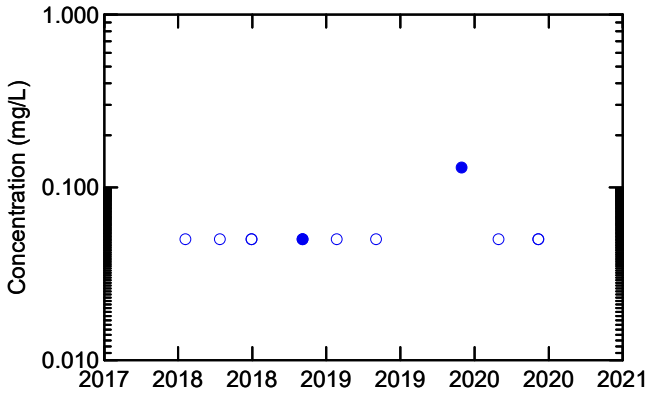
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Total Alkalinity (Total as CaCO3)



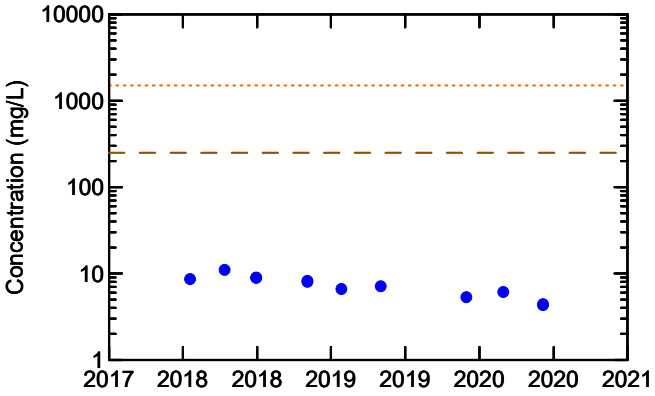
Increasing Trend

Nitrogen (Ammonia Nitrogen)



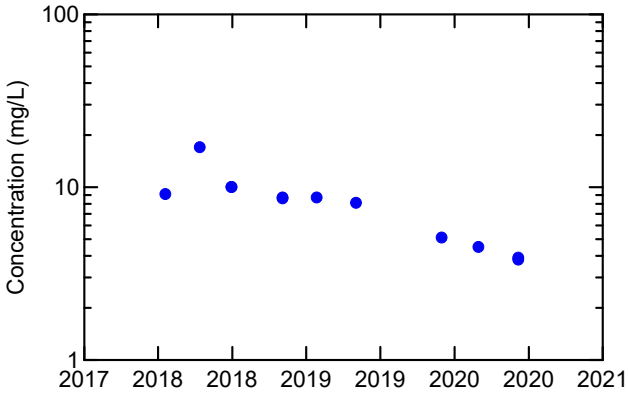
Over 50% non-detects

Dissolved Chloride



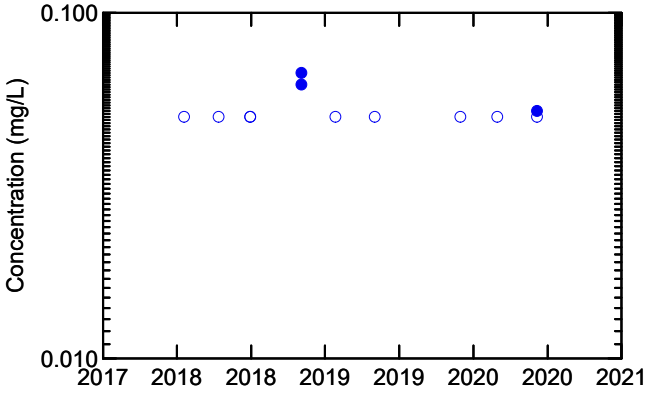
Decreasing Trend

Total Organic Carbon



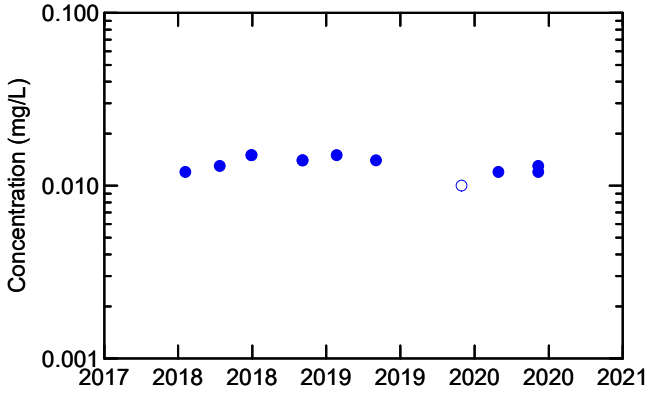
Decreasing Trend

Nitrate + Nitrite



Over 50% non-detects

Orthophosphate



Stable

Legend:

● Detected result ○ Non-Detect

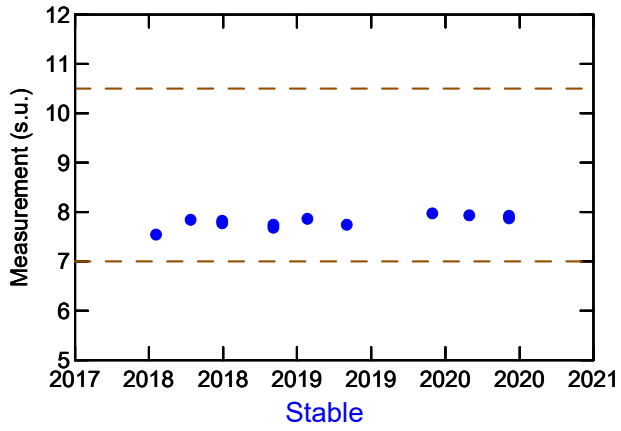
Nova Scotia (2014) Pathway-Specific Standard for Groundwater

Canadian Drinking Water Quality Guideline: Aesthetic

Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

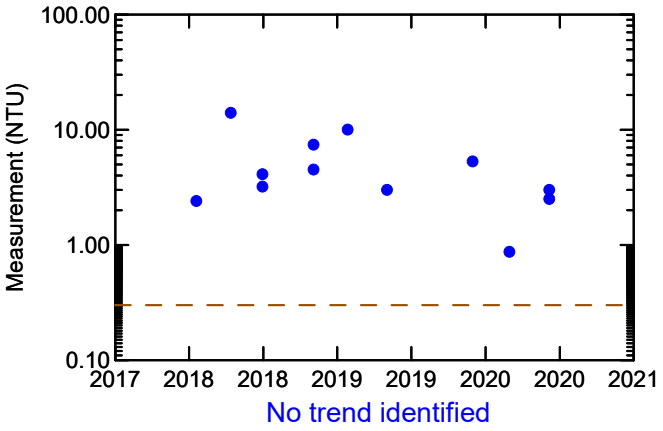
WELL MW-09D
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

pH



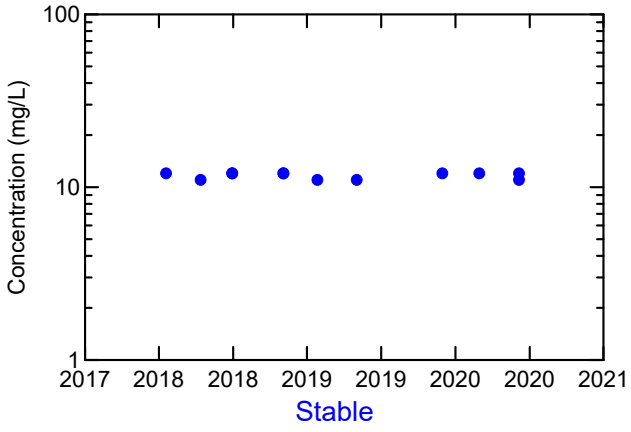
Stable

Turbidity



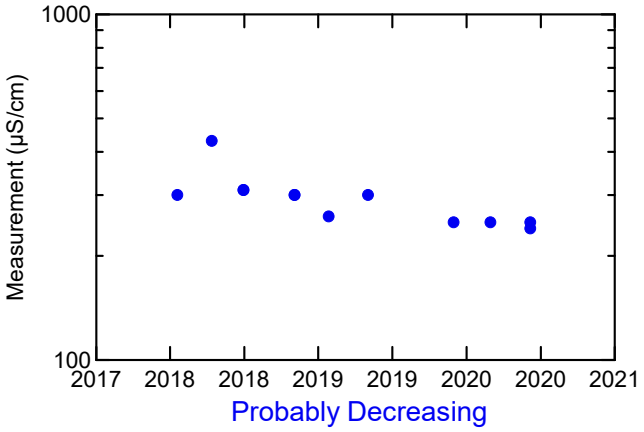
No trend identified

Reactive Silica (SiO2)



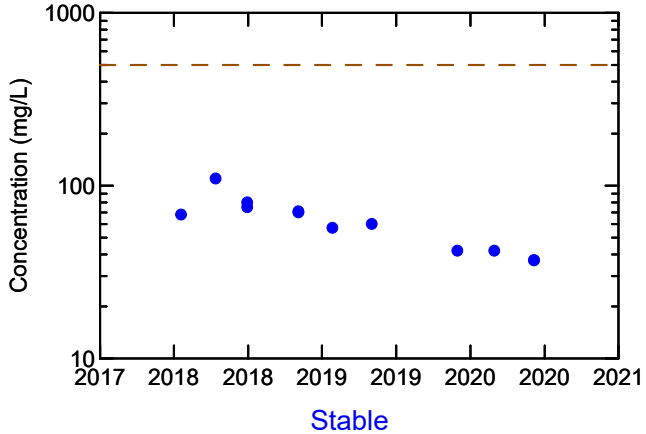
Stable

Conductivity



Probably Decreasing

Dissolved Sulphate (SO4)



Stable

Legend:

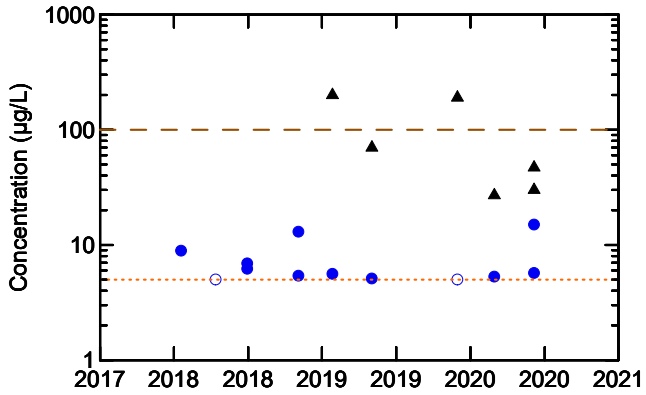
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines: Aesthetic

WELL MW-09D
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

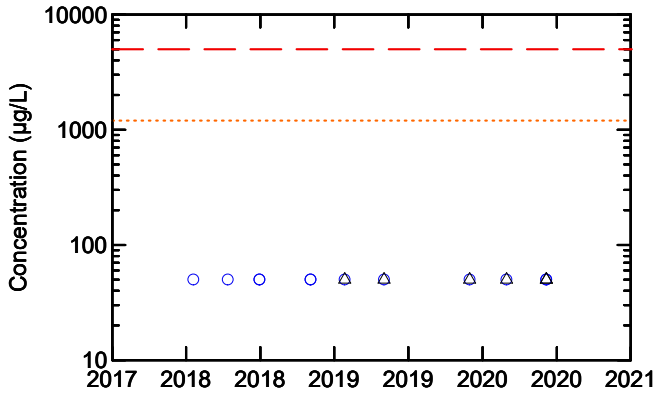
Aluminum



Total: Stable

Dissolved: Stable

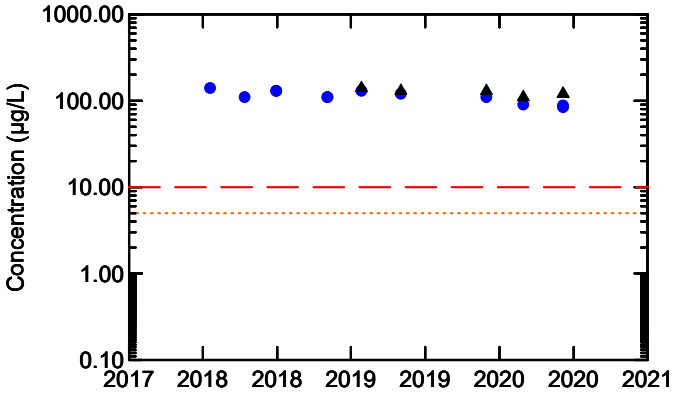
Boron



Total: No detected results

Dissolved: No detected results

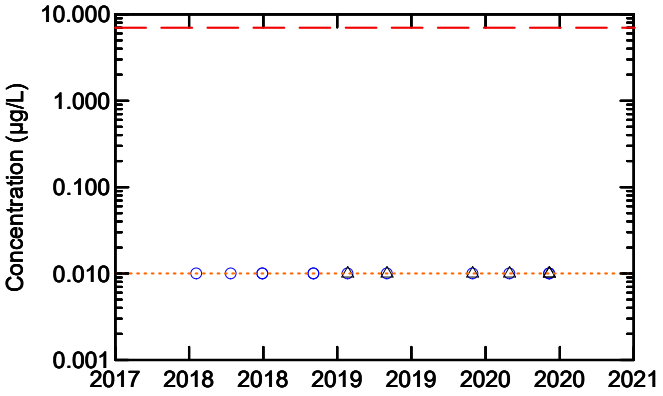
Arsenic



Total: Stable

Dissolved: Decreasing Trend

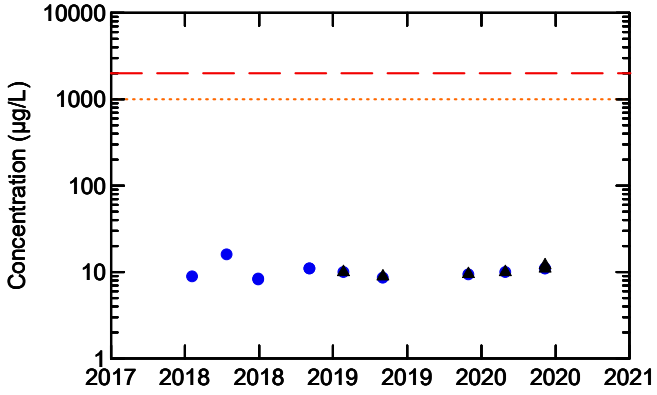
Cadmium



Total: No detected results

Dissolved: No detected results

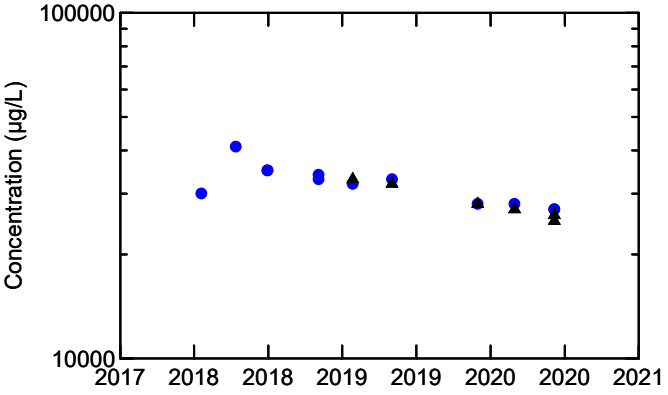
Barium



Total: No trend identified

Dissolved: No trend identified

Calcium



Total: Decreasing Trend

Dissolved: Decreasing Trend

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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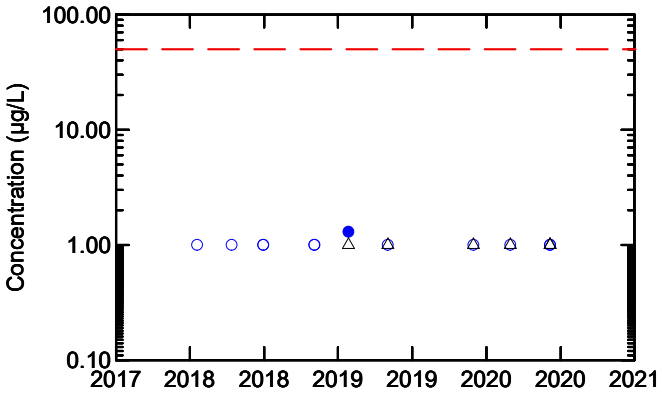
Non-detects are plotted at the reporting limit.

WELL MW-09D
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

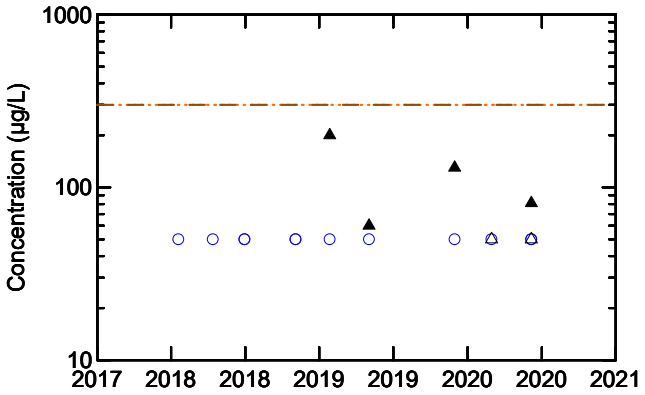
Chromium



Total: No detected results

Dissolved: Over 50% non-detects

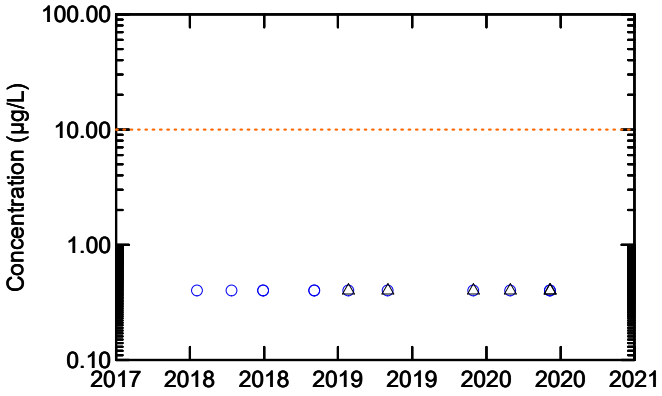
Iron



Total: Stable

Dissolved: No detected results

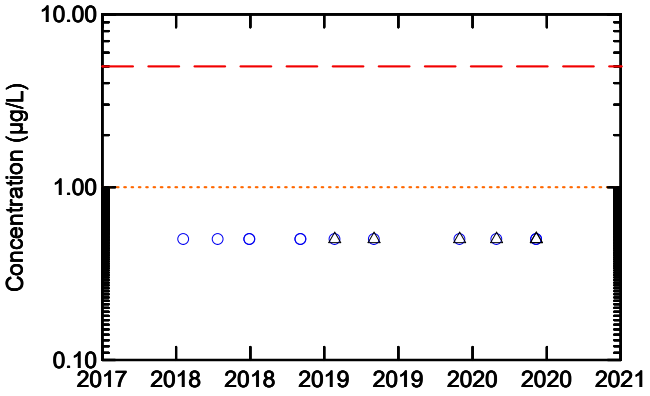
Cobalt



Total: No detected results

Dissolved: No detected results

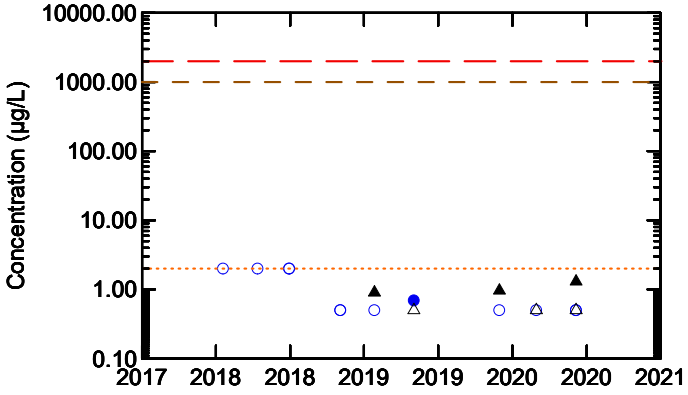
Lead



Total: No detected results

Dissolved: No detected results

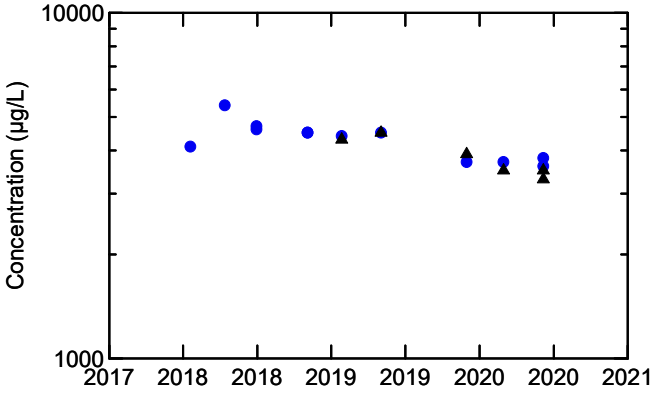
Copper



Total: No trend identified

Dissolved: Over 50% non-detects

Magnesium



Total: Probably Decreasing

Dissolved: Decreasing Trend

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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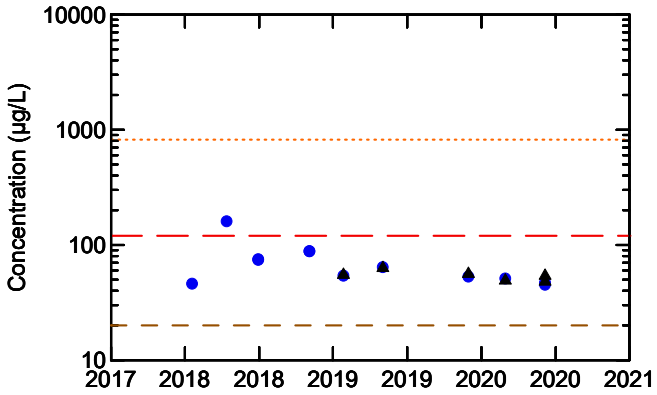
Non-detects are plotted at the reporting limit.

WELL MW-09D
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

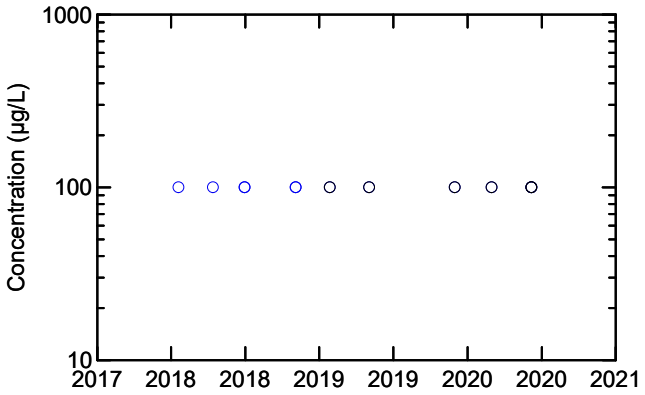
Manganese



Total: Stable

Dissolved: Probably Decreasing

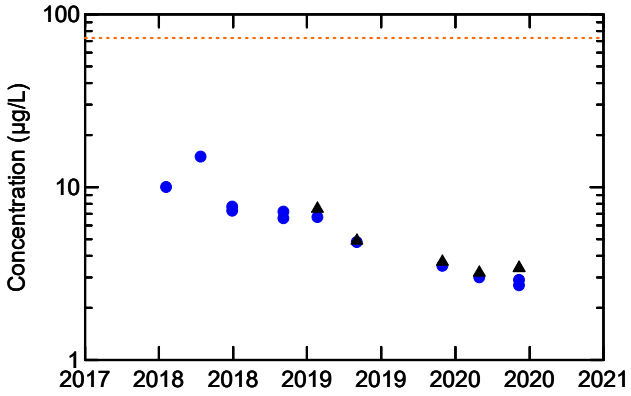
Phosphorus



Total: No detected results

Dissolved: No detected results

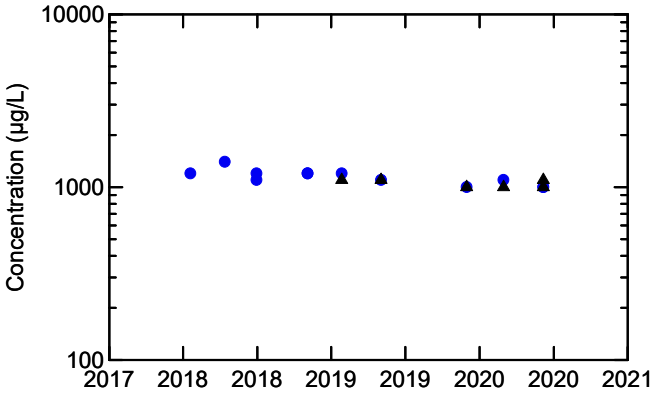
Molybdenum



Total: Probably Decreasing

Dissolved: Decreasing Trend

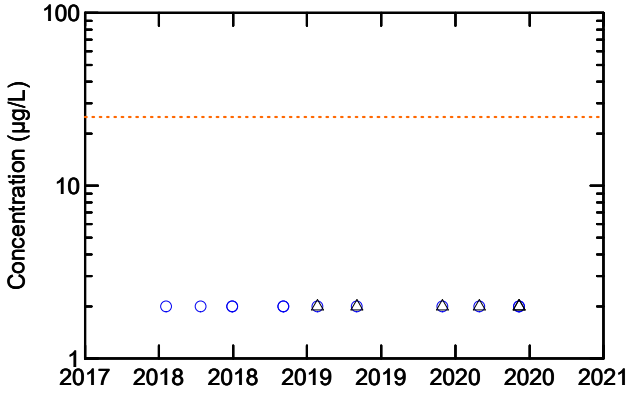
Potassium



Total: Stable

Dissolved: Decreasing Trend

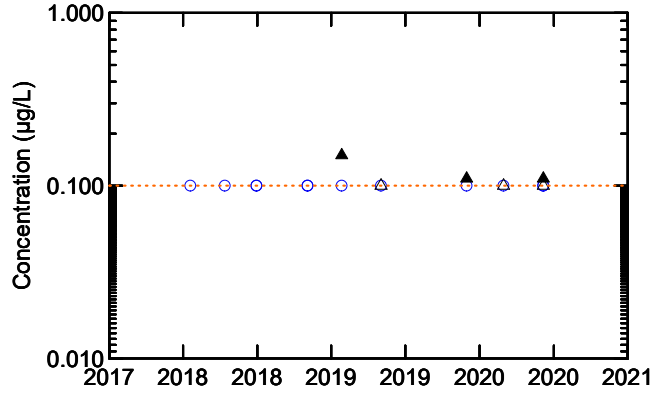
Nickel



Total: No detected results

Dissolved: No detected results

Silver



Total: Stable

Dissolved: No detected results

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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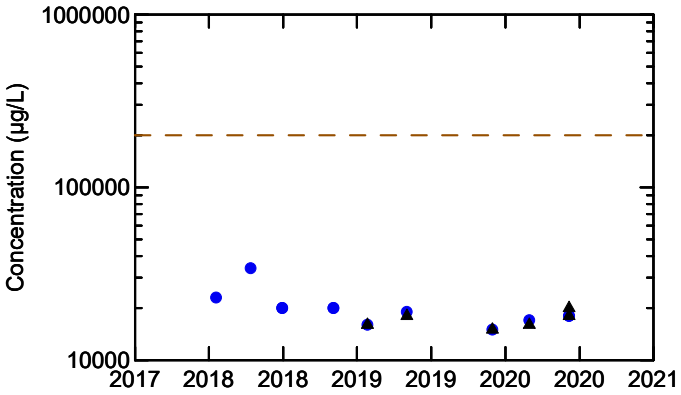
Non-detects are plotted at the reporting limit.

WELL MW-09D
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

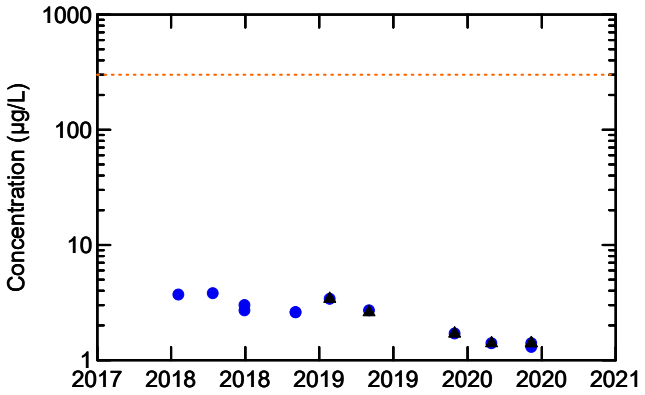
Sodium



Total: No trend identified

Dissolved: Decreasing Trend

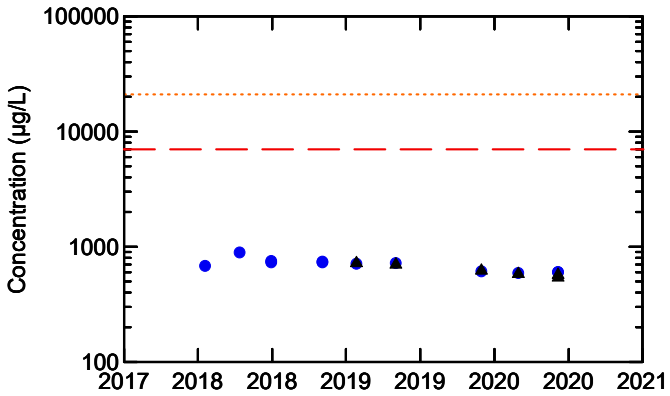
Uranium



Total: Decreasing Trend

Dissolved: Decreasing Trend

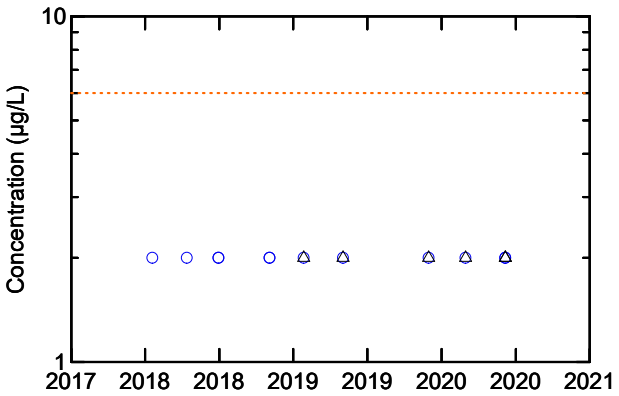
Strontium



Total: Decreasing Trend

Dissolved: Decreasing Trend

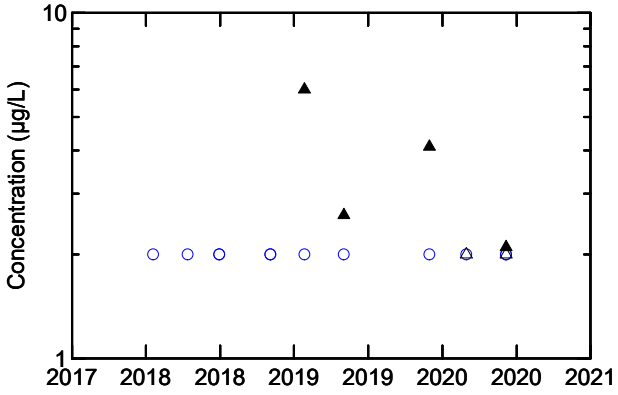
Vanadium



Total: No detected results

Dissolved: No detected results

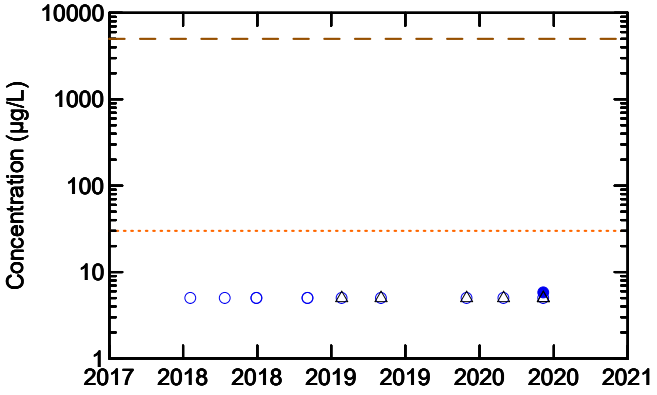
Titanium



Total: Stable

Dissolved: No detected results

Zinc



Total: No detected results

Dissolved: Over 50% non-detects

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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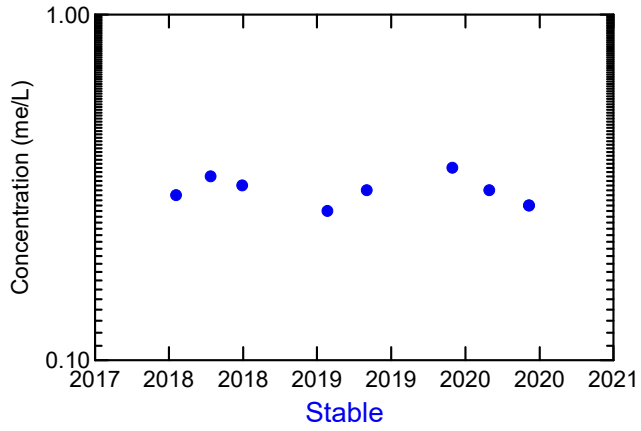
Non-detects are plotted at the reporting limit.

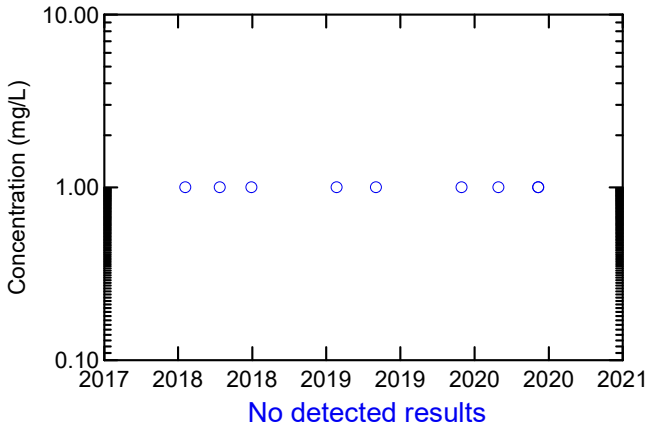
WELL MW-09D
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Anion Sum



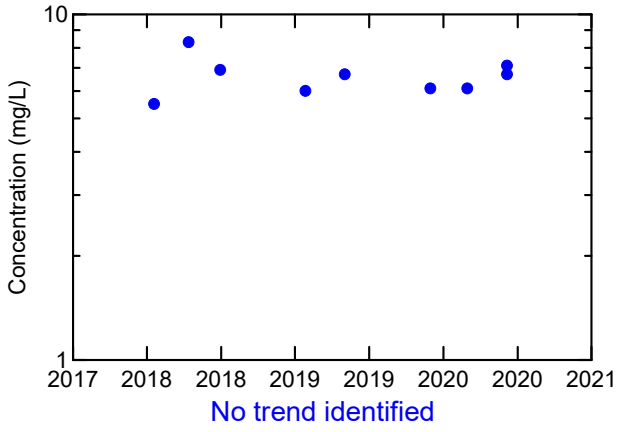
Stable

Carb. Alkalinity (calc. as CaCO3)



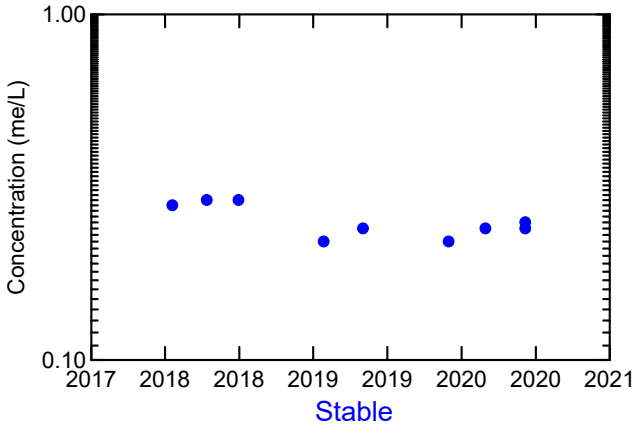
No detected results

Bicarb. Alkalinity (calc. as CaCO3)



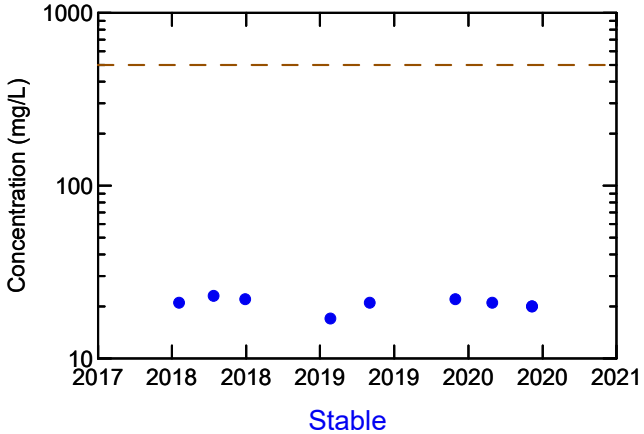
No trend identified

Cation Sum



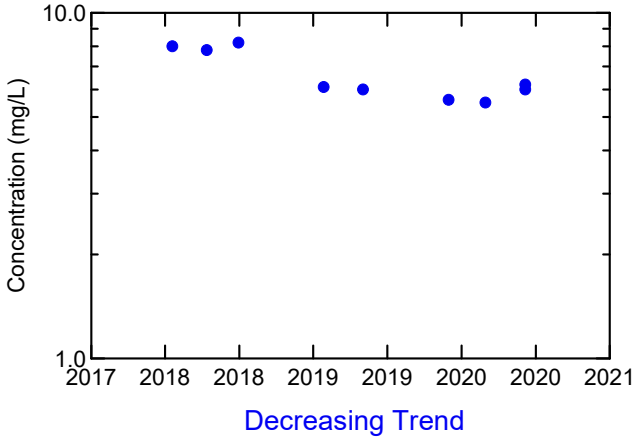
Stable

Calculated TDS



Stable

Hardness (CaCO3)



Decreasing Trend

Legend:

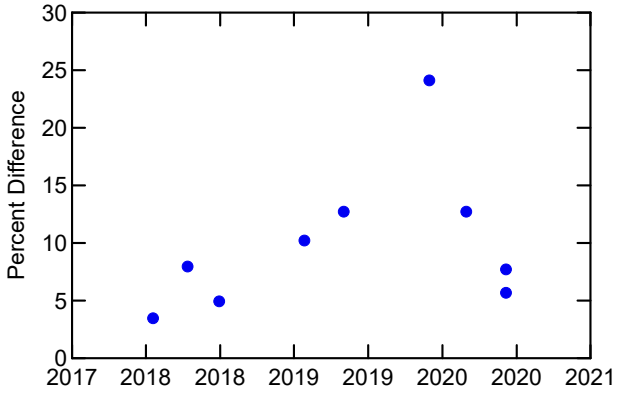
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines - Aesthetic

WELL MW-11A
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

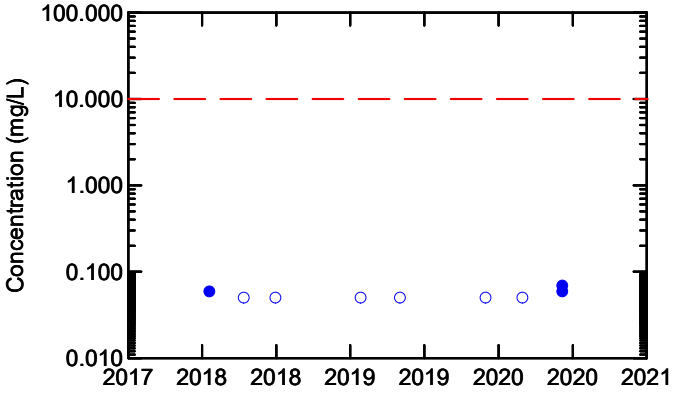
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Ion Balance



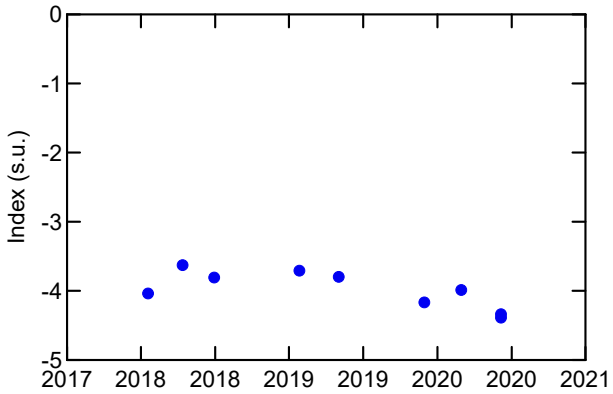
No trend identified

Nitrate



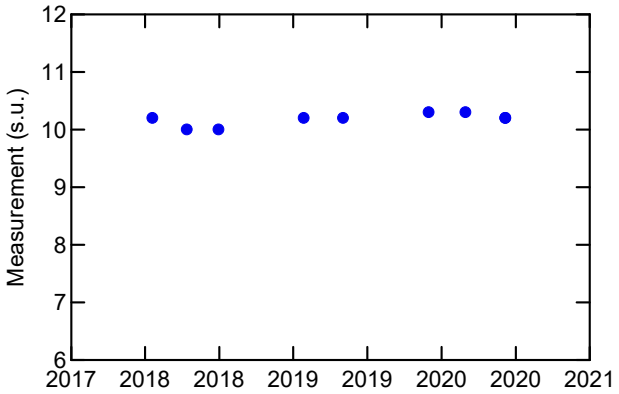
Over 50% non-detects

Langelier Index (@ 20C)



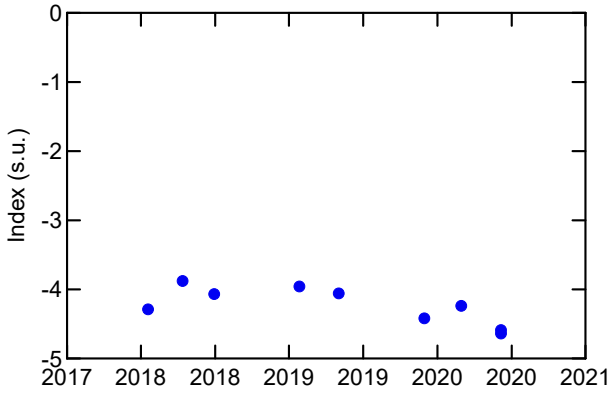
Stable

Saturation pH (@ 20C)



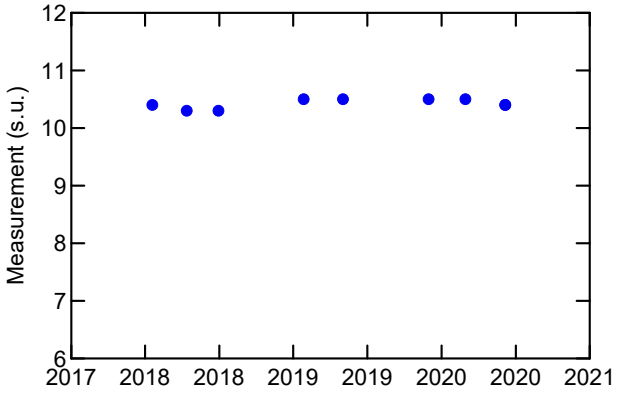
No trend identified

Langelier Index (@ 4C)



Stable

Saturation pH (@ 4C)



No trend identified

Legend:

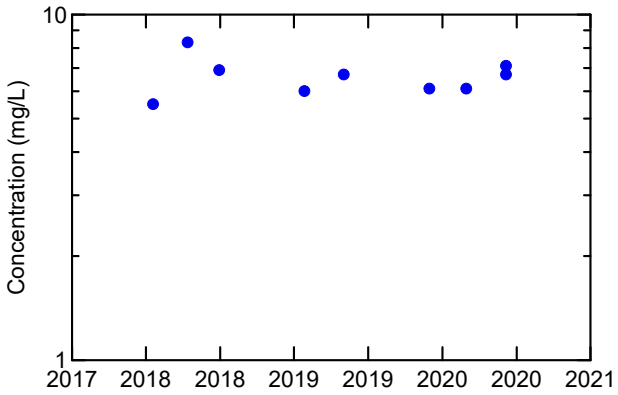
● Detected result ○ Non-Detect

— — Canadian Drinking Water Quality Guidelines: Maximum Acceptable

WELL MW-11A
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

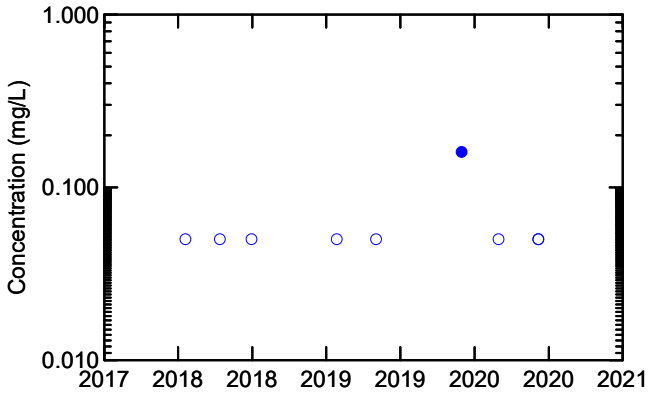
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Total Alkalinity (Total as CaCO3)



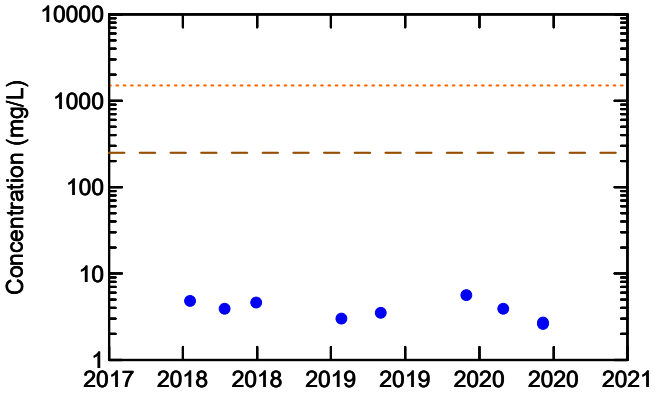
No trend identified

Nitrogen (Ammonia Nitrogen)



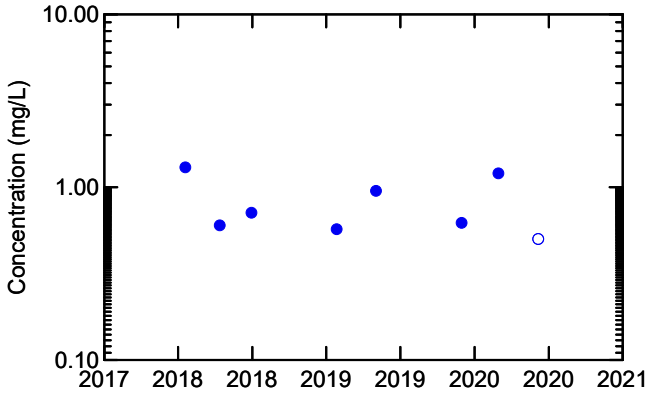
Over 50% non-detects

Dissolved Chloride



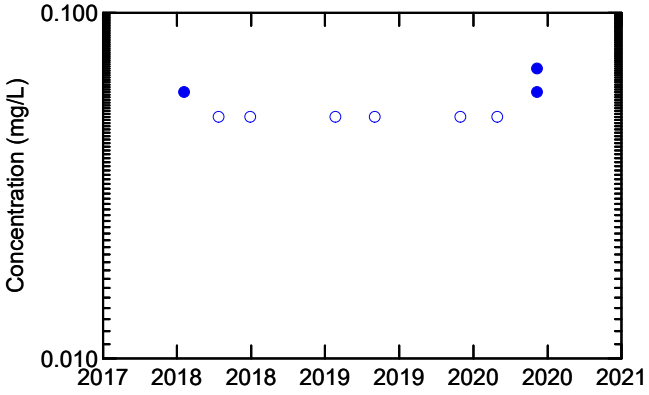
Stable

Total Organic Carbon



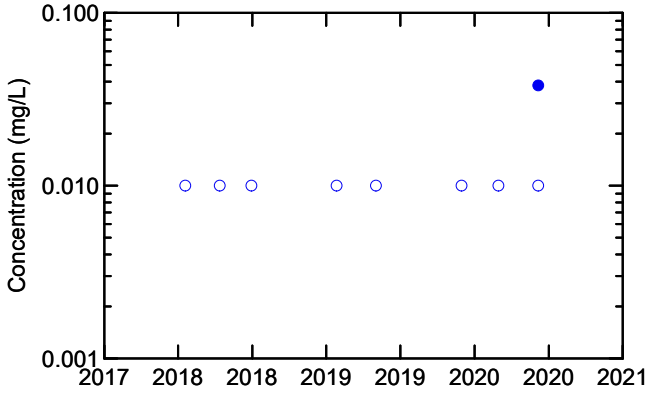
Stable

Nitrate + Nitrite



Over 50% non-detects

Orthophosphate



Over 50% non-detects

Legend:

● Detected result ○ Non-Detect

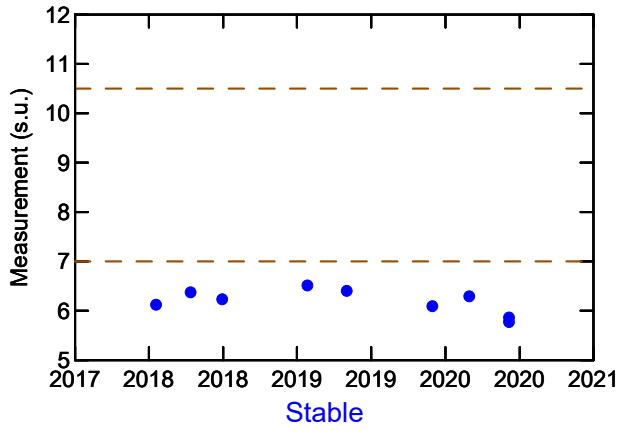
Nova Scotia (2014) Pathway-Specific Standard for Groundwater

Canadian Drinking Water Quality Guideline: Aesthetic

WELL MW-11A
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

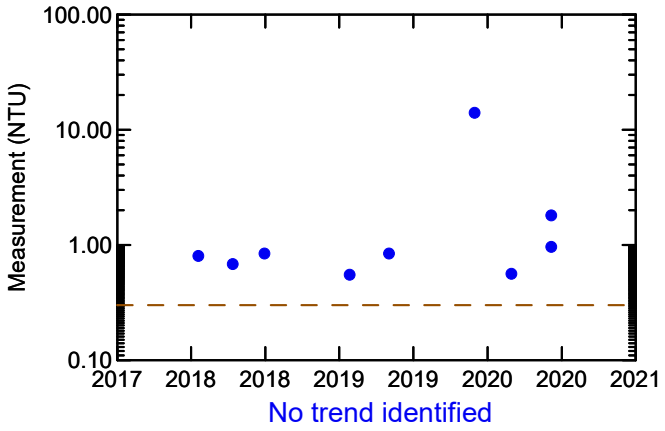
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

pH



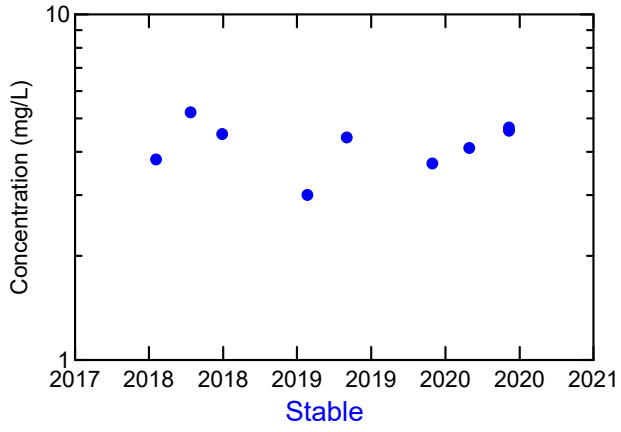
Stable

Turbidity



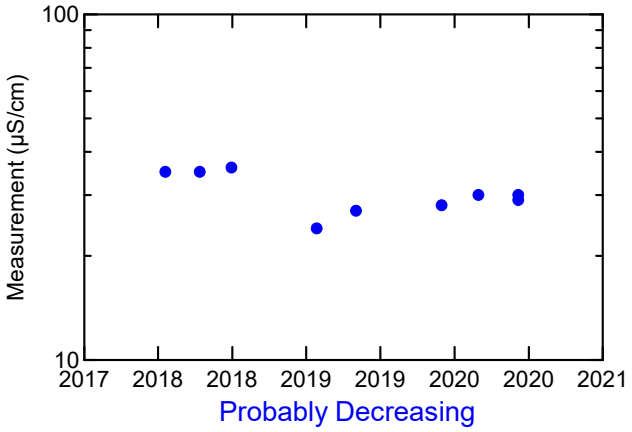
No trend identified

Reactive Silica (SiO2)



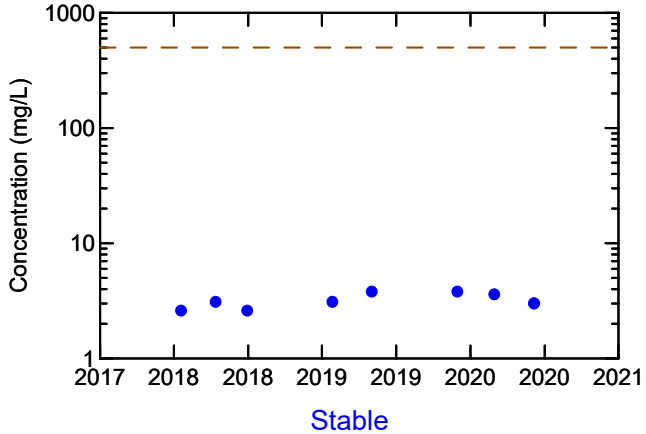
Stable

Conductivity



Probably Decreasing

Dissolved Sulphate (SO4)



Stable

Legend:

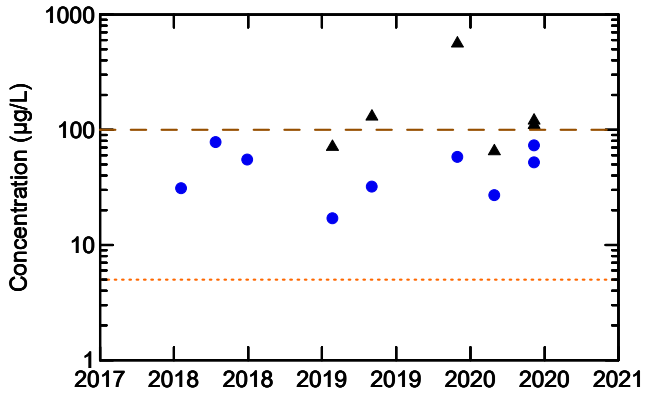
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines: Aesthetic

WELL MW-11A
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

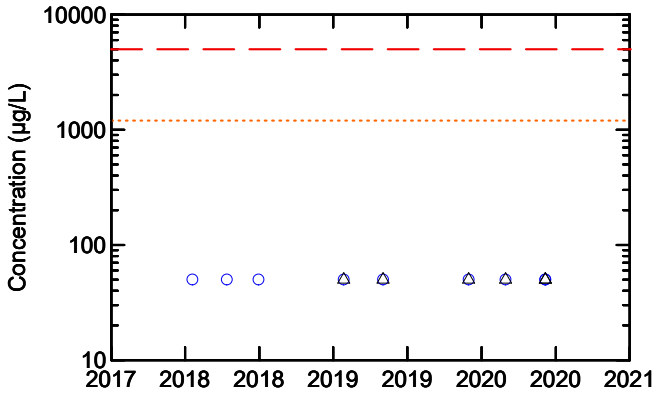
Aluminum



Total: No trend identified

Dissolved: No trend identified

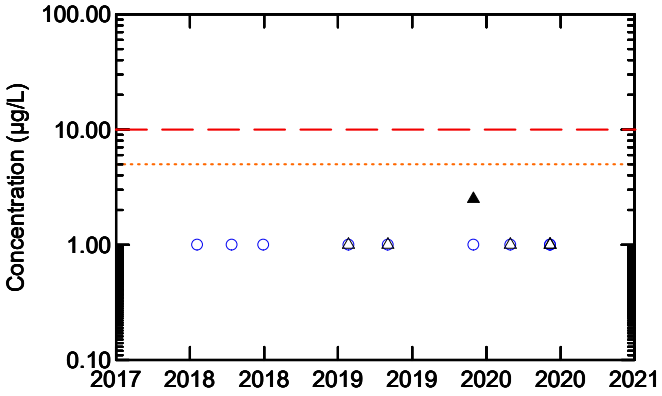
Boron



Total: No detected results

Dissolved: No detected results

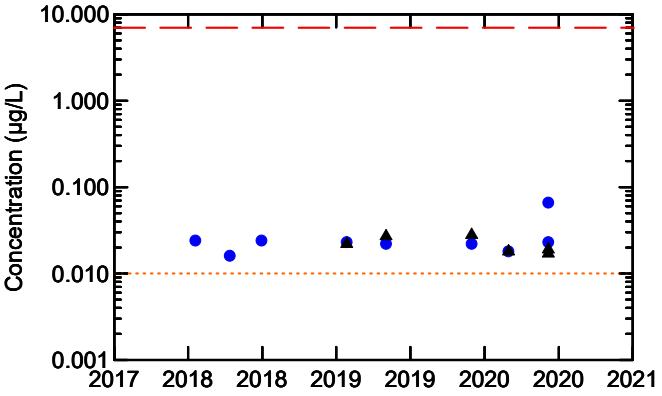
Arsenic



Total: Over 50% non-detects

Dissolved: No detected results

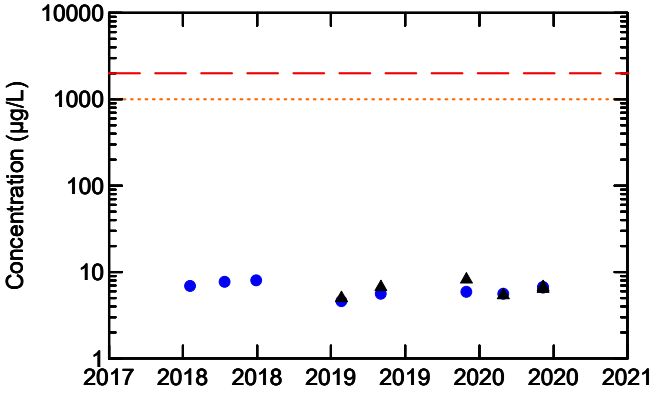
Cadmium



Total: Stable

Dissolved: Stable

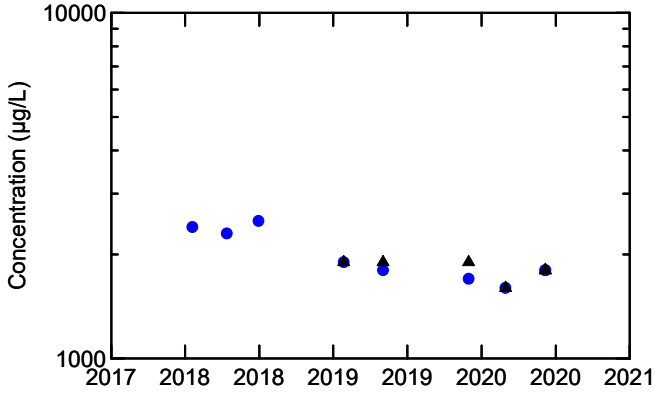
Barium



Total: No trend identified

Dissolved: Stable

Calcium



Total: Stable

Dissolved: Decreasing Trend

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

Nova Scotia (2014) Pathway-Specific Standard for Groundwater

Canadian Drinking Water Quality Guideline: Maximum Acceptable

Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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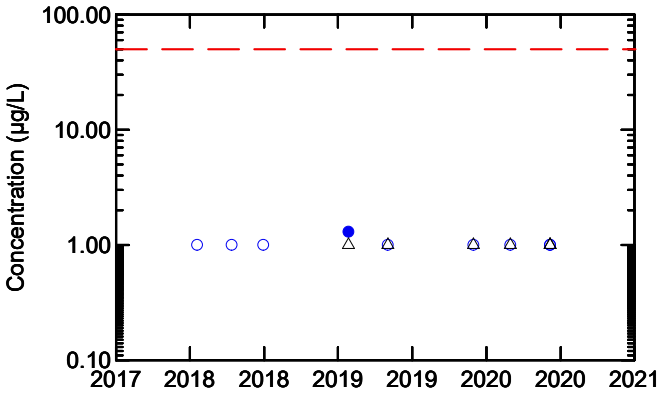
Non-detects are plotted at the reporting limit.

WELL MW-11A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

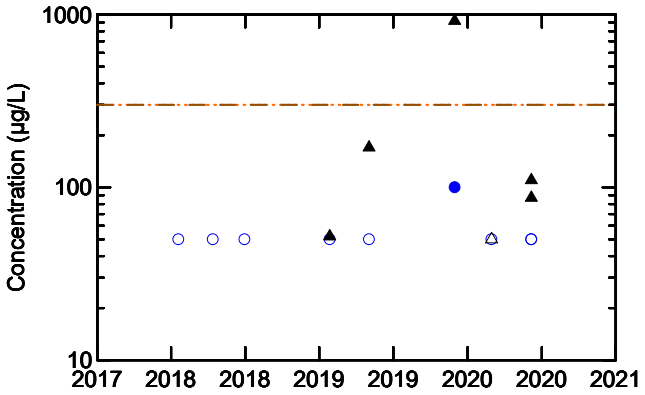
Chromium



Total: No detected results

Dissolved: Over 50% non-detects

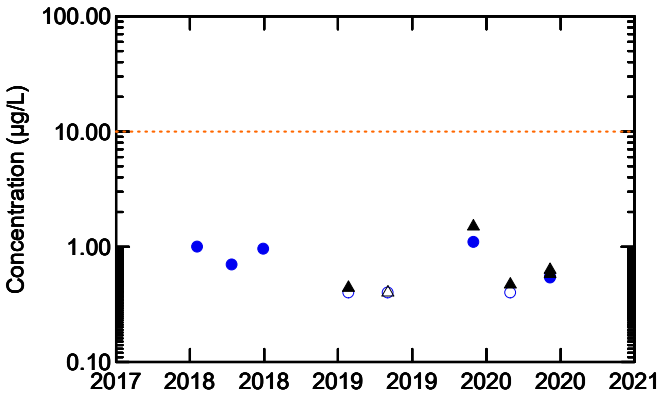
Iron



Total: No trend identified

Dissolved: Over 50% non-detects

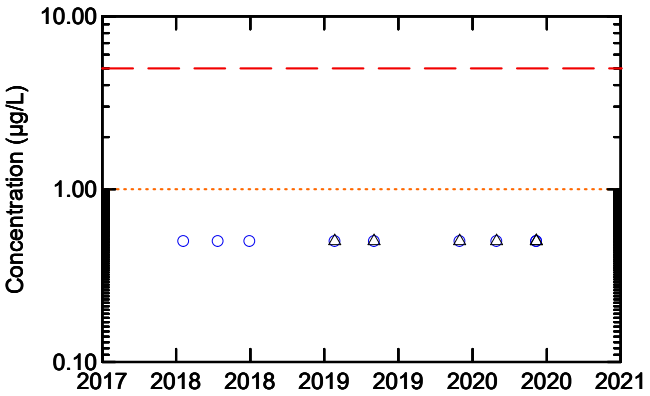
Cobalt



Total: No trend identified

Dissolved: Stable

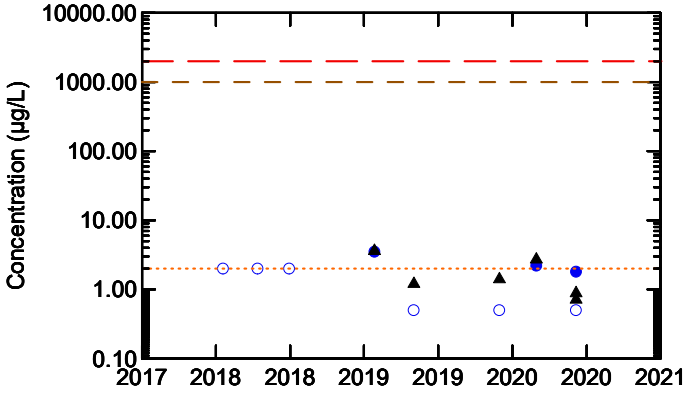
Lead



Total: No detected results

Dissolved: No detected results

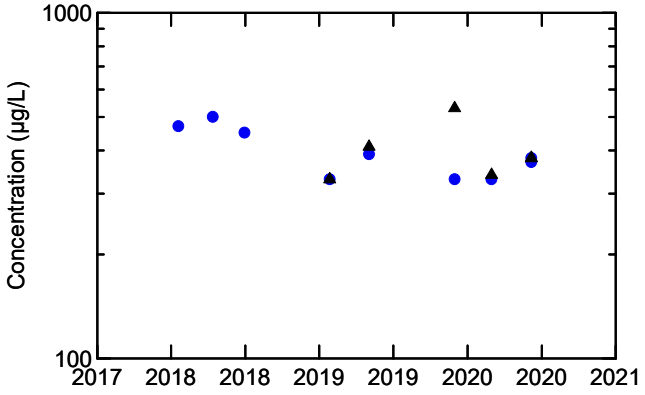
Copper



Total: Stable

Dissolved: Over 50% non-detects

Magnesium



Total: No trend identified

Dissolved: Probably Decreasing

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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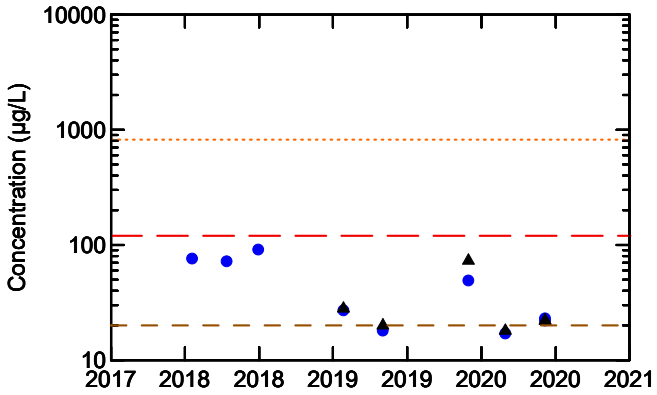
Non-detects are plotted at the reporting limit.

WELL MW-11A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

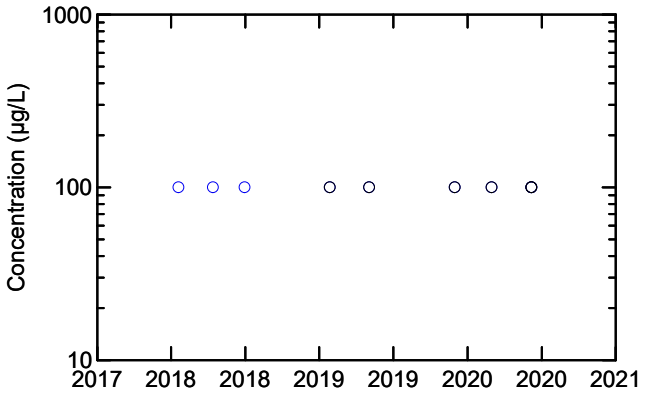
Manganese



Total: Stable

Dissolved: Probably Decreasing

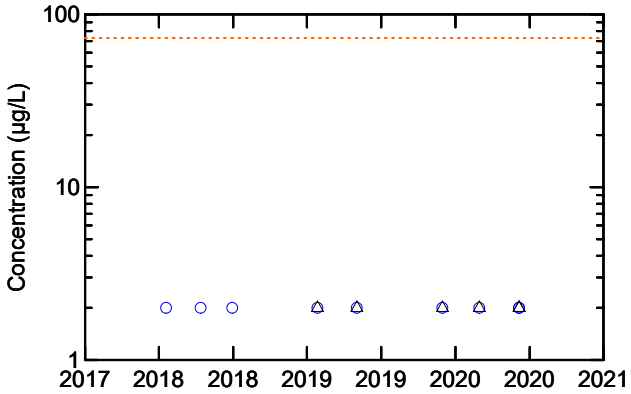
Phosphorus



Total: No detected results

Dissolved: No detected results

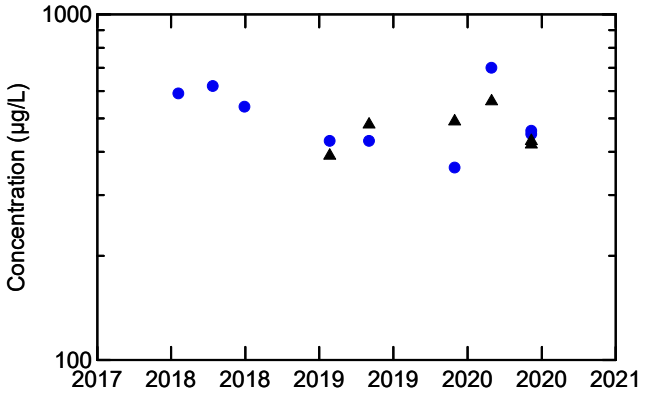
Molybdenum



Total: No detected results

Dissolved: No detected results

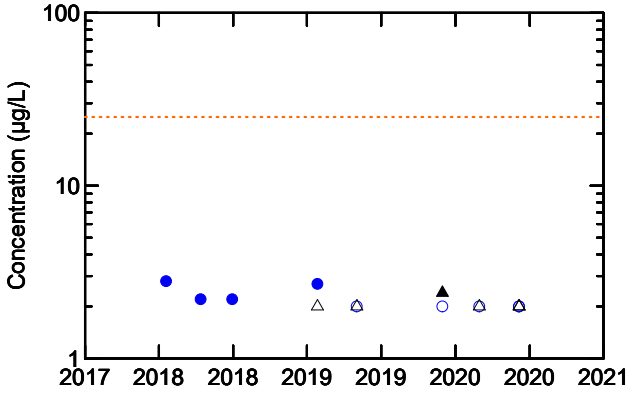
Potassium



Total: No trend identified

Dissolved: Stable

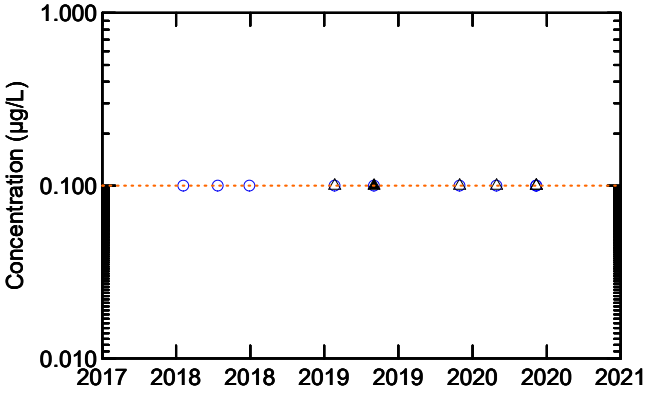
Nickel



Total: Over 50% non-detects

Dissolved: Decreasing Trend

Silver



Total: Over 50% non-detects

Dissolved: No detected results

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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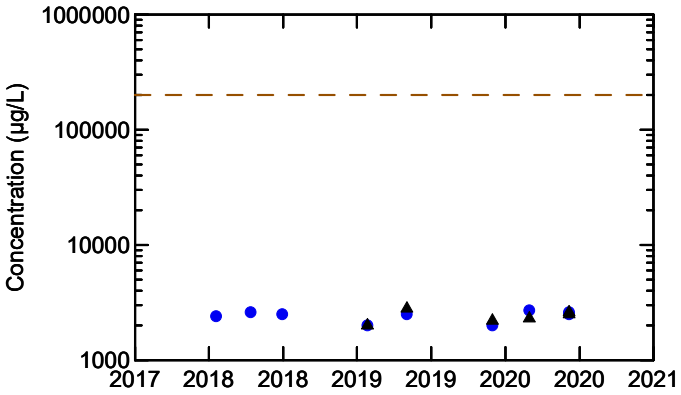
Non-detects are plotted at the reporting limit.

WELL MW-11A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

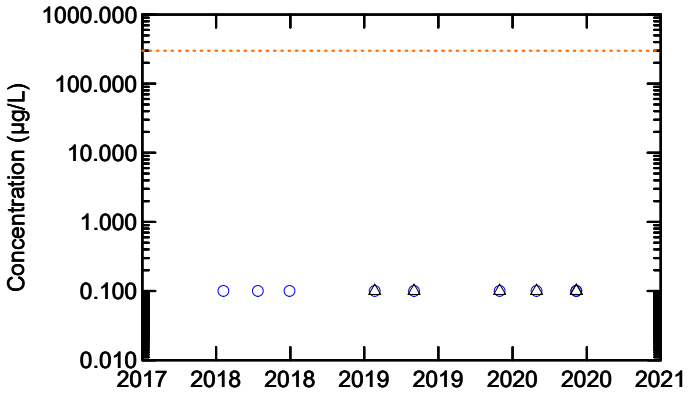
Sodium



Total: No trend identified

Dissolved: No trend identified

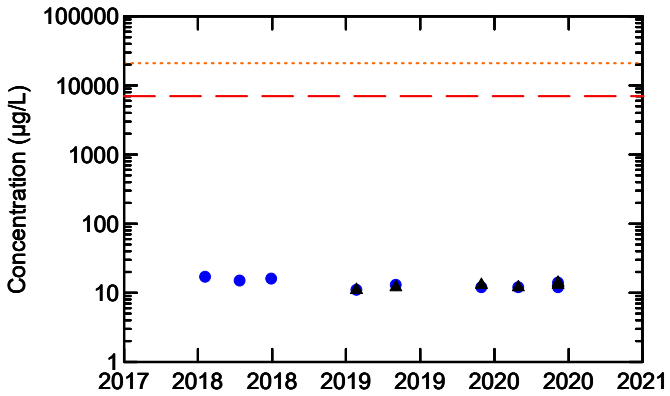
Uranium



Total: No detected results

Dissolved: No detected results

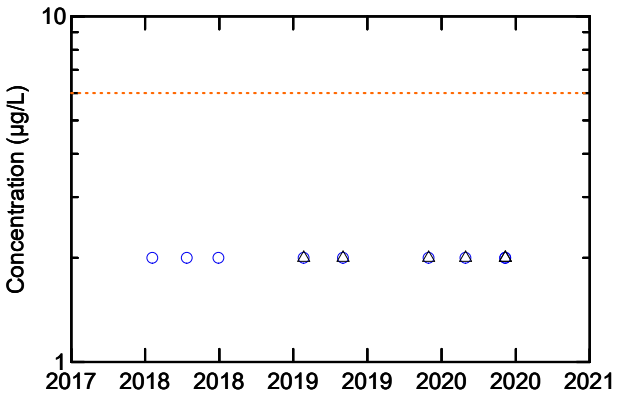
Strontium



Total: No trend identified

Dissolved: Stable

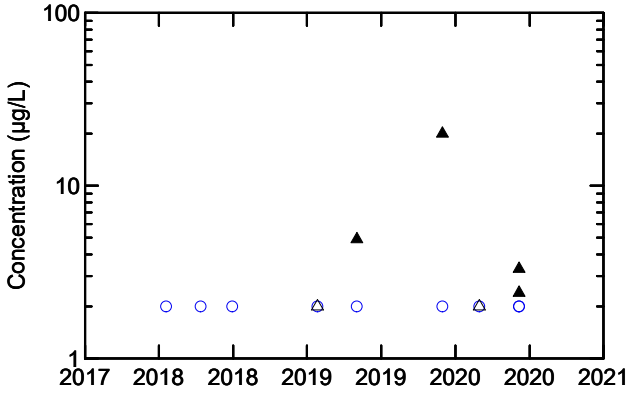
Vanadium



Total: No detected results

Dissolved: No detected results

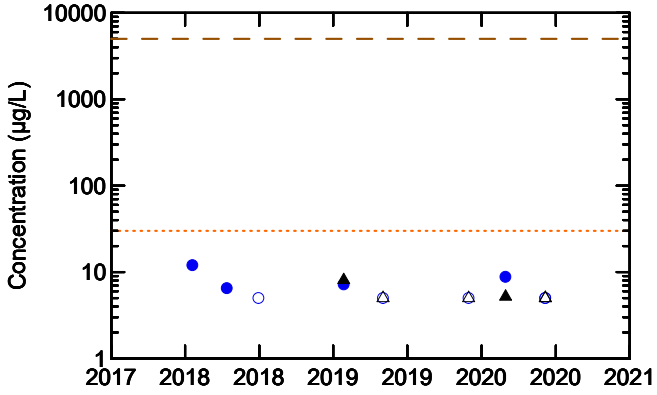
Titanium



Total: No trend identified

Dissolved: No detected results

Zinc



Total: Over 50% non-detects

Dissolved: Stable

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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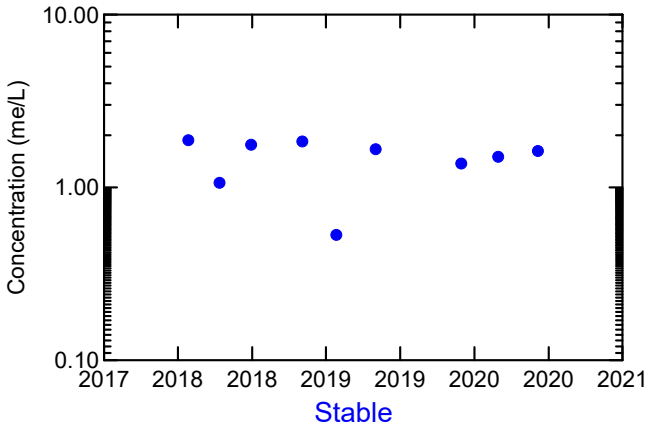
Non-detects are plotted at the reporting limit.

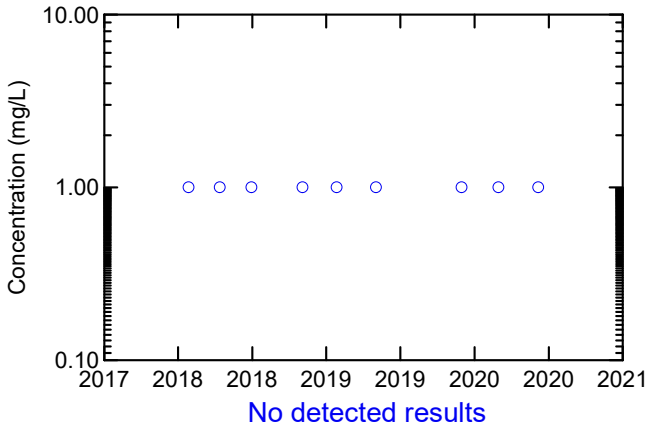
WELL MW-11A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Anion Sum



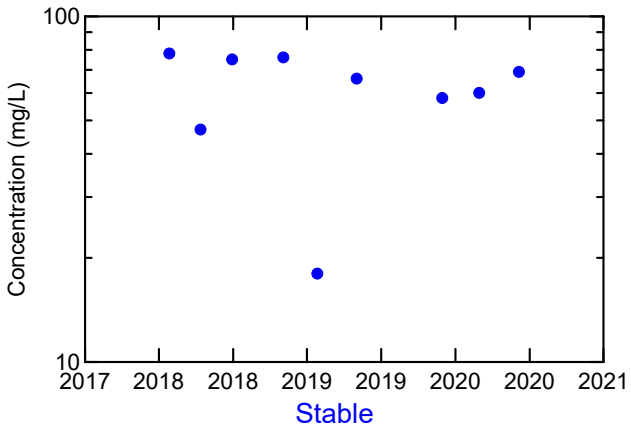
Stable

Carb. Alkalinity (calc. as CaCO3)



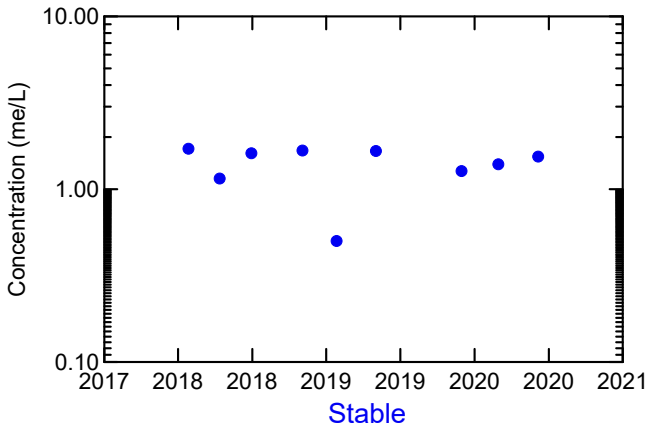
No detected results

Bicarb. Alkalinity (calc. as CaCO3)



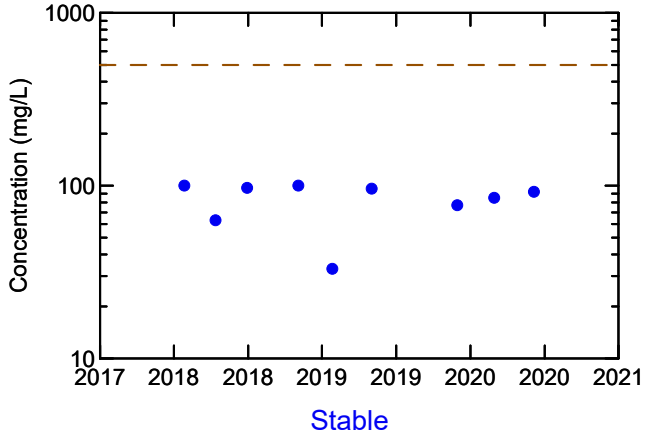
Stable

Cation Sum



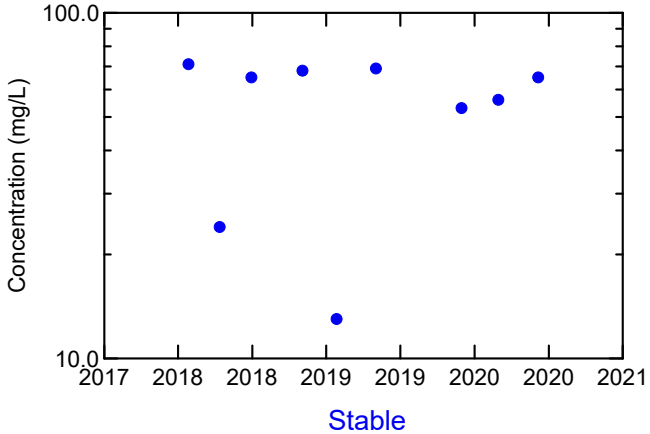
Stable

Calculated TDS



Stable

Hardness (CaCO3)



Stable

Legend:

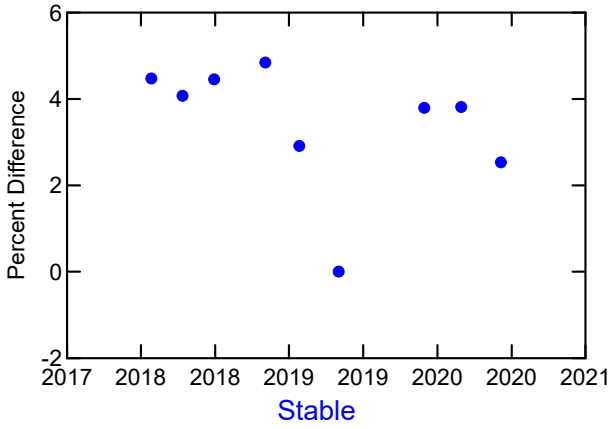
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines - Aesthetic

WELL MW-11B
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

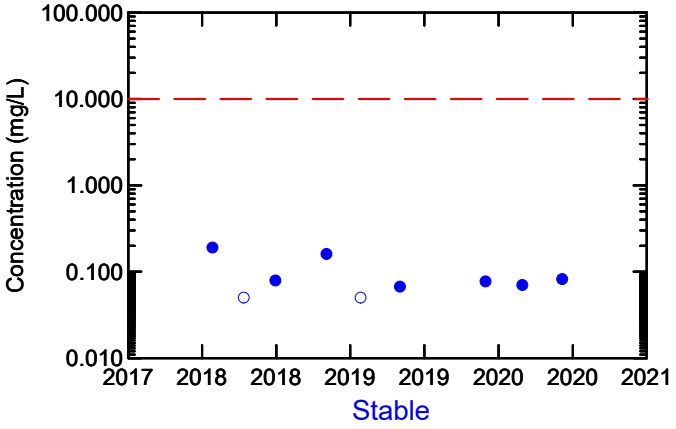
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Ion Balance



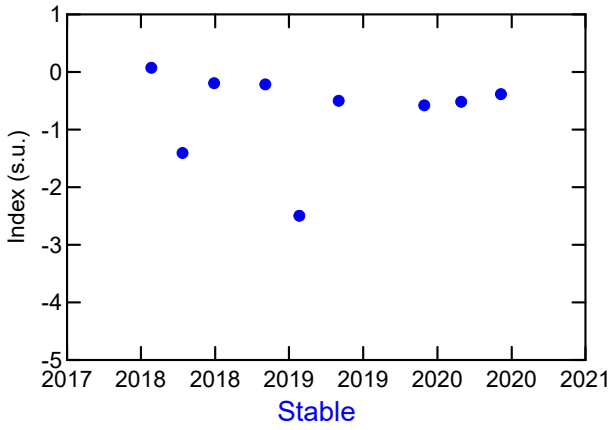
Stable

Nitrate



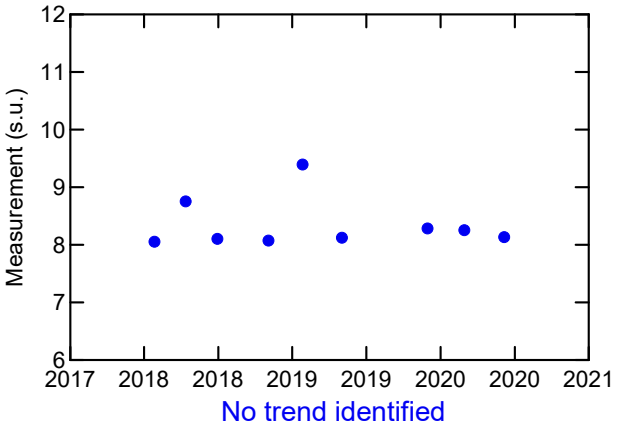
Stable

Langelier Index (@ 20C)



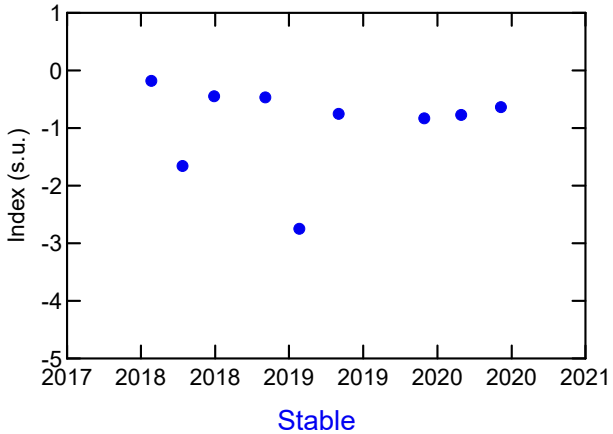
Stable

Saturation pH (@ 20C)



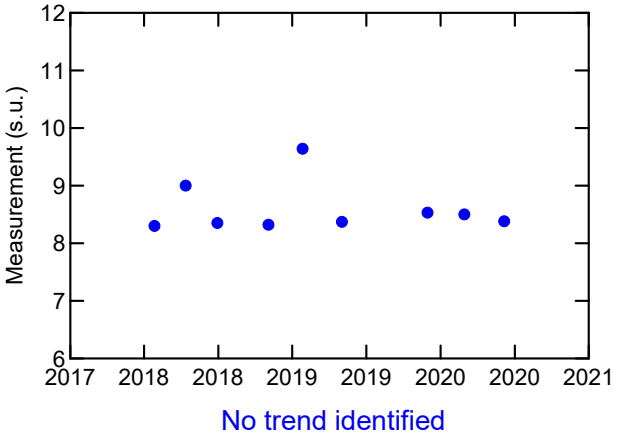
No trend identified

Langelier Index (@ 4C)



Stable

Saturation pH (@ 4C)



No trend identified

Legend:

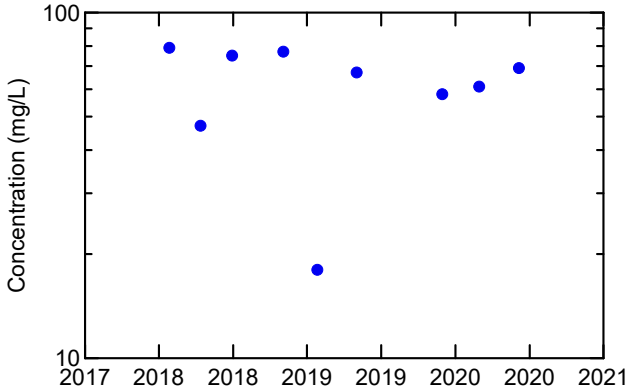
● Detected result ○ Non-Detect

— — Canadian Drinking Water Quality Guidelines: Maximum Acceptable

WELL MW-11B
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

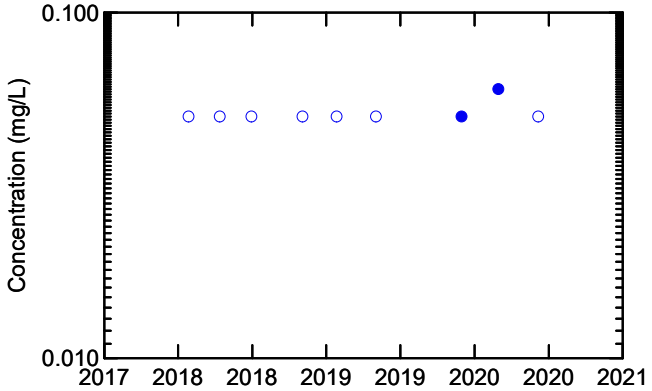
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Total Alkalinity (Total as CaCO3)



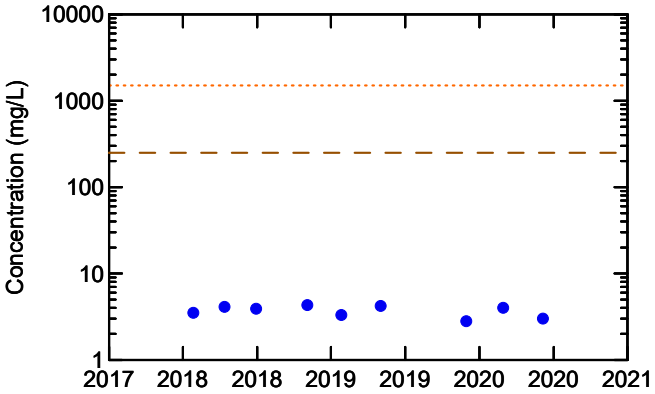
Stable

Nitrogen (Ammonia Nitrogen)



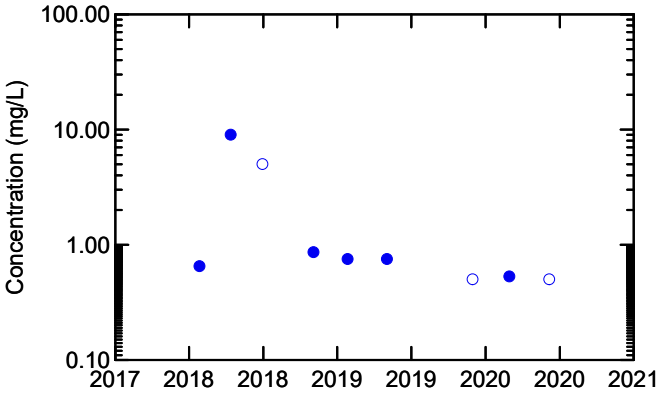
Over 50% non-detects

Dissolved Chloride



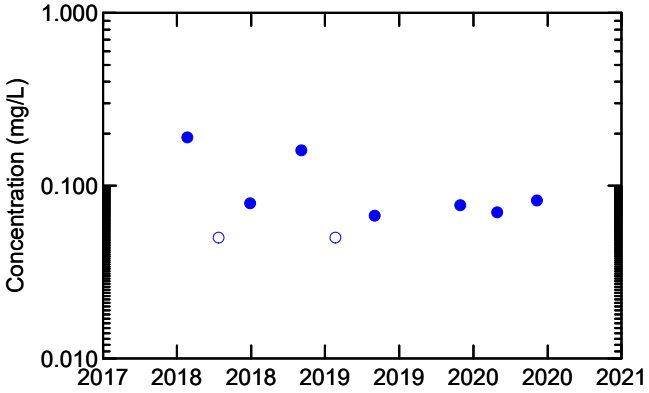
Stable

Total Organic Carbon



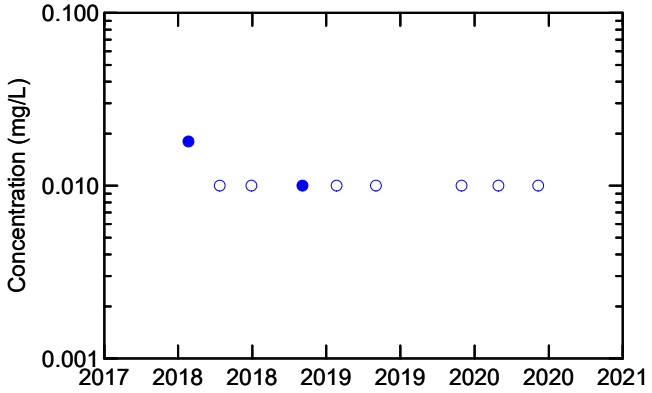
Probably Decreasing

Nitrate + Nitrite



Stable

Orthophosphate



Over 50% non-detects

Legend:

● Detected result ○ Non-Detect

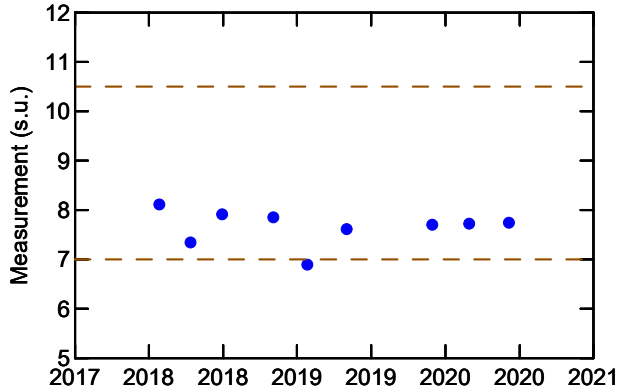
Nova Scotia (2014) Pathway-Specific Standard for Groundwater

Canadian Drinking Water Quality Guideline: Aesthetic

WELL MW-11B
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

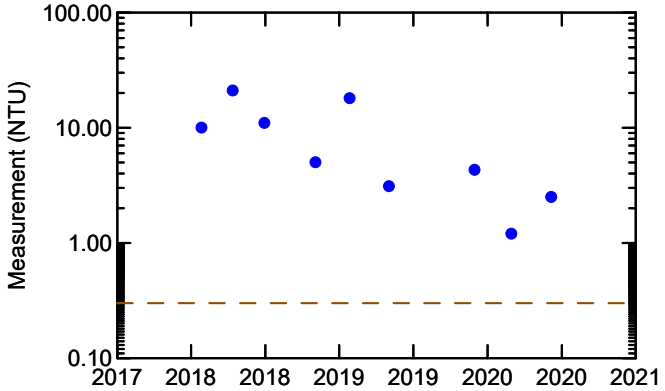
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

pH



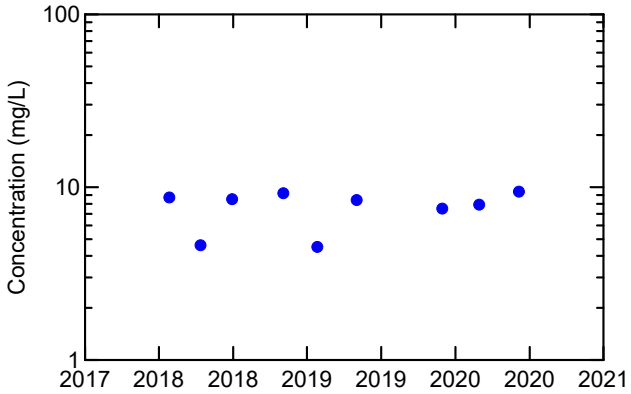
Stable

Turbidity



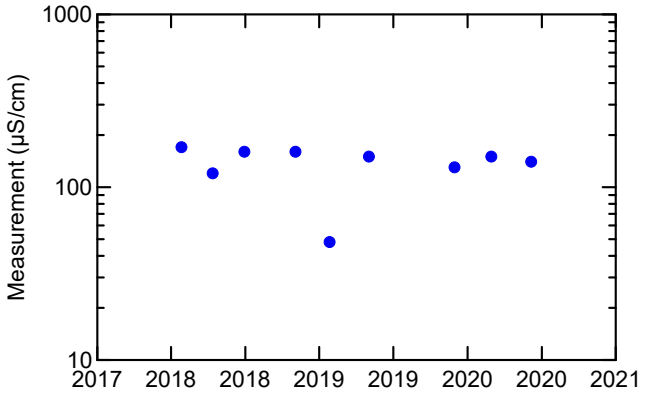
No trend identified

Reactive Silica (SiO2)



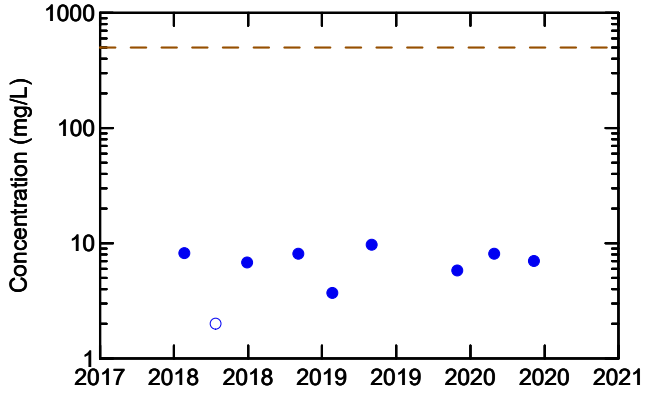
Stable

Conductivity



Probably Decreasing

Dissolved Sulphate (SO4)



Stable

Legend:

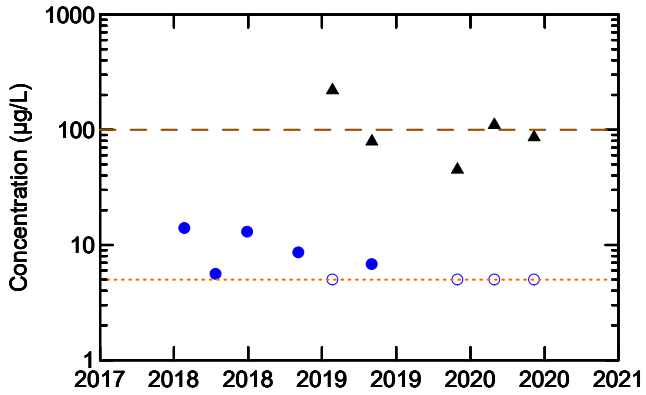
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines: Aesthetic

WELL MW-11B
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

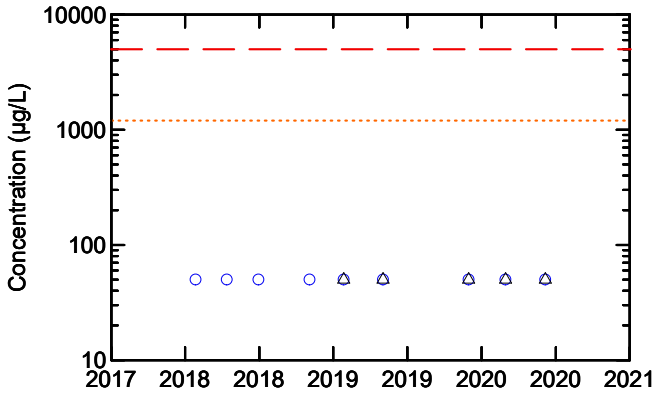
Aluminum



Total: Stable

Dissolved: Decreasing Trend

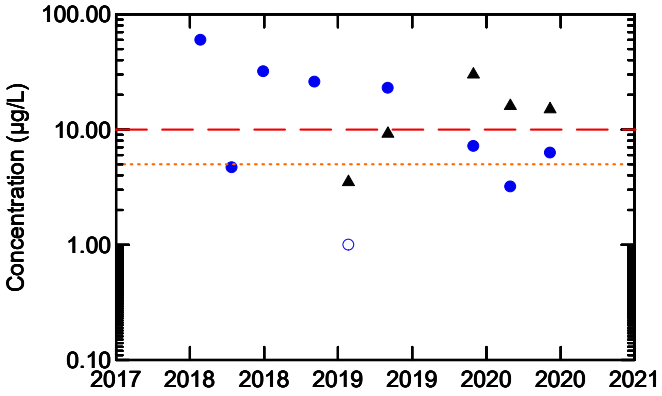
Boron



Total: No detected results

Dissolved: No detected results

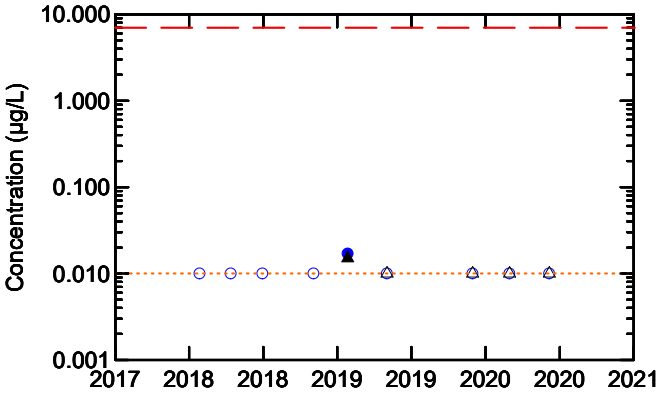
Arsenic



Total: No trend identified

Dissolved: No trend identified

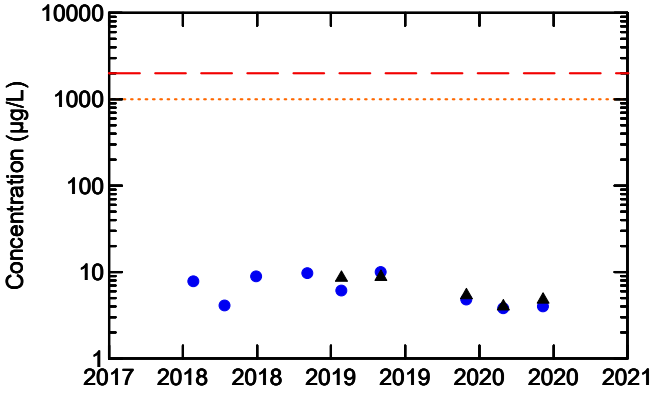
Cadmium



Total: Over 50% non-detects

Dissolved: Over 50% non-detects

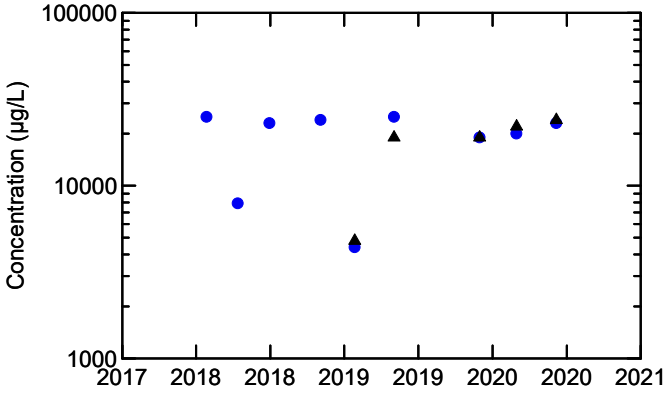
Barium



Total: Stable

Dissolved: Stable

Calcium



Total: Increasing Trend

Dissolved: Stable

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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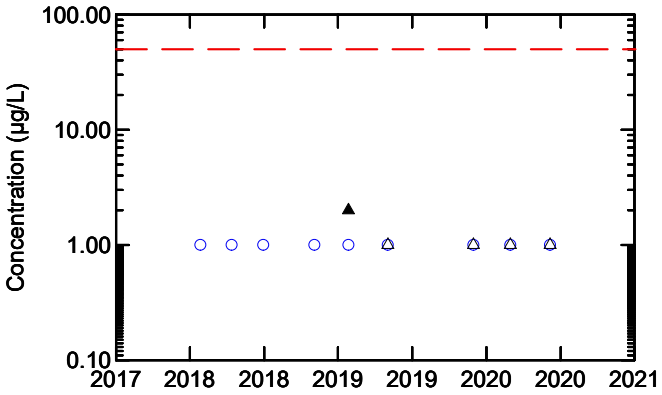
WELL MW-11B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

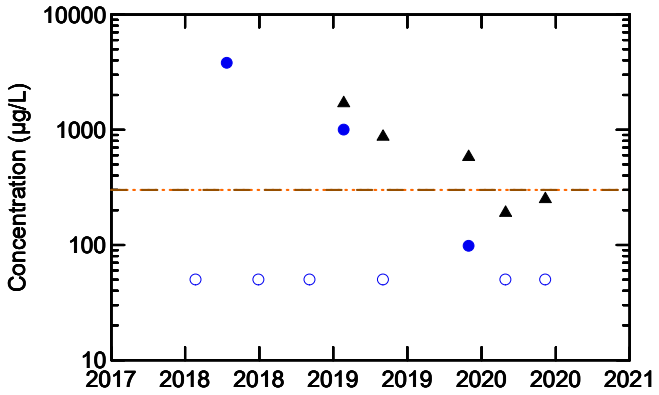
Chromium



Total: Over 50% non-detects

Dissolved: No detected results

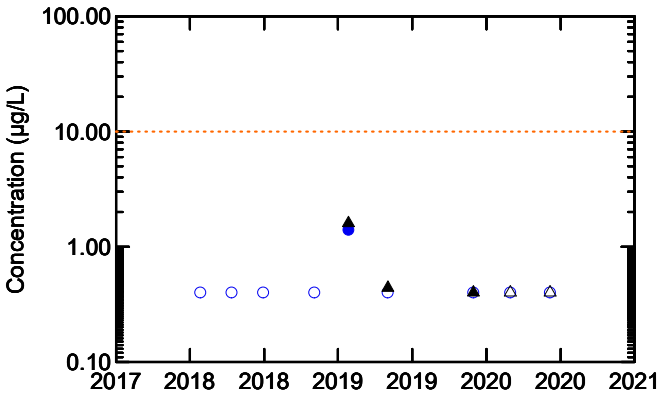
Iron



Total: Probably Decreasing

Dissolved: Over 50% non-detects

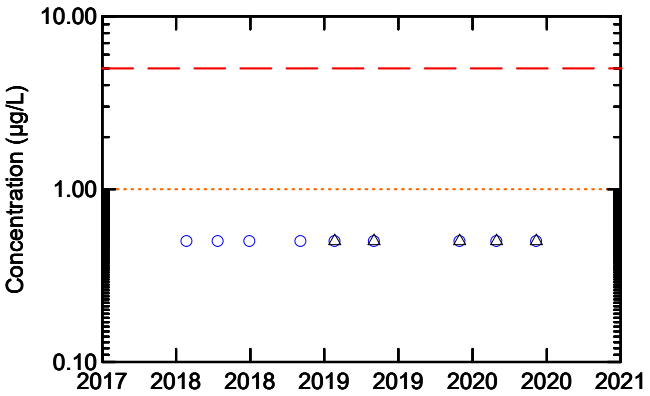
Cobalt



Total: Decreasing Trend

Dissolved: Over 50% non-detects

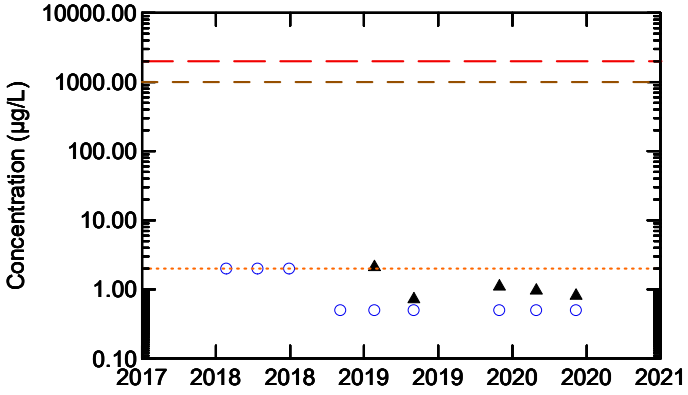
Lead



Total: No detected results

Dissolved: No detected results

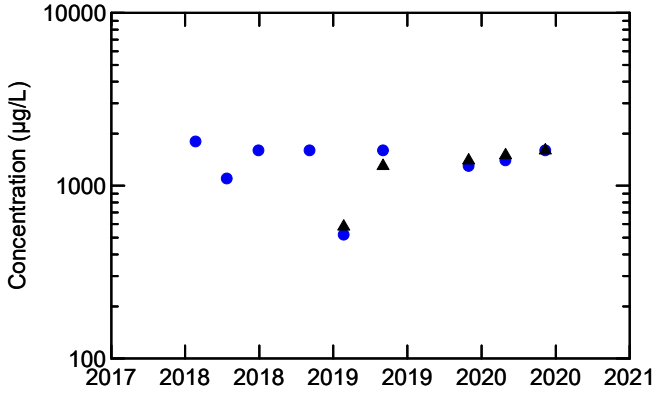
Copper



Total: Stable

Dissolved: No detected results

Magnesium



Total: Increasing Trend

Dissolved: Stable

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

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Notes:

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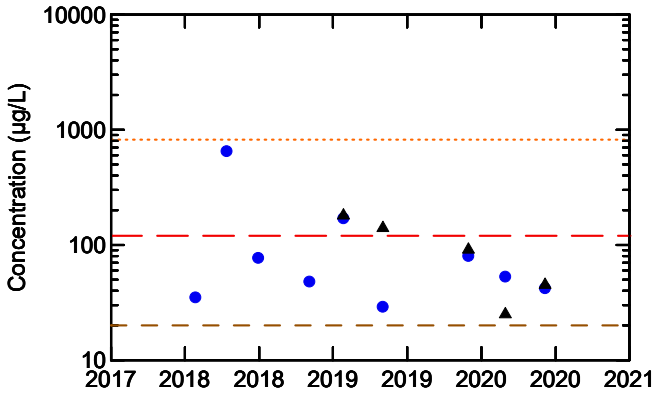
WELL MW-11B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

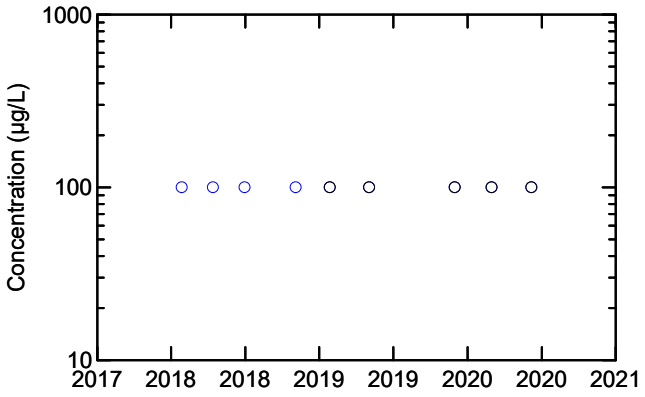
Manganese



Total: Probably Decreasing

Dissolved: No trend identified

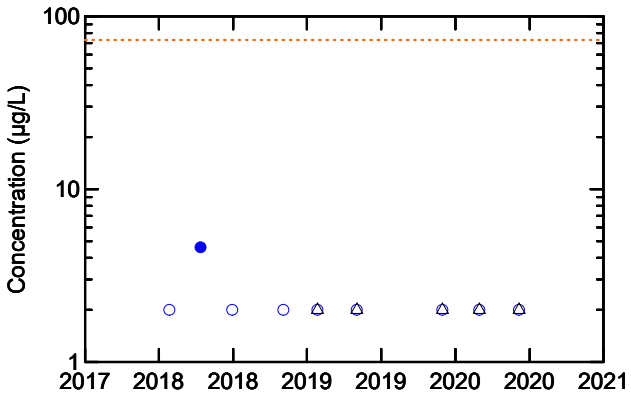
Phosphorus



Total: No detected results

Dissolved: No detected results

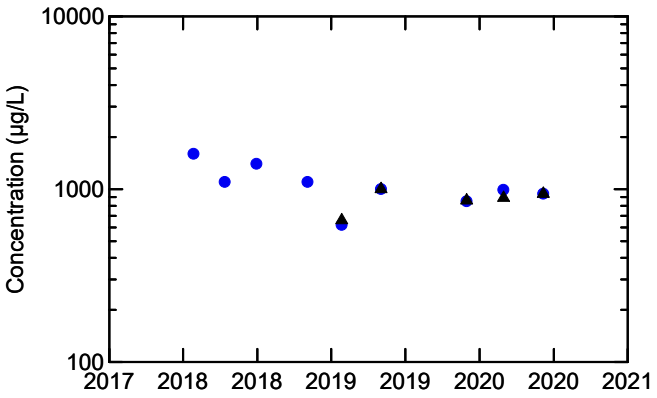
Molybdenum



Total: No detected results

Dissolved: Over 50% non-detects

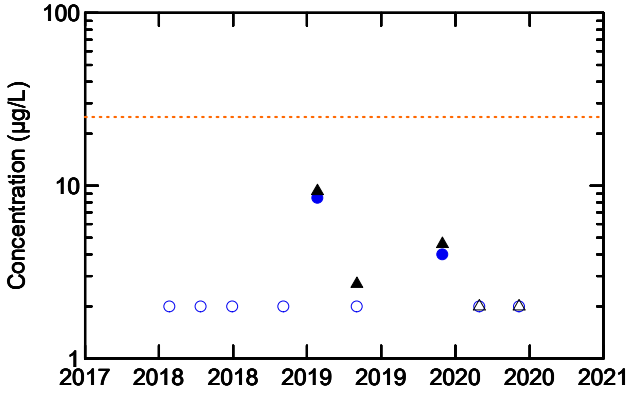
Potassium



Total: No trend identified

Dissolved: Decreasing Trend

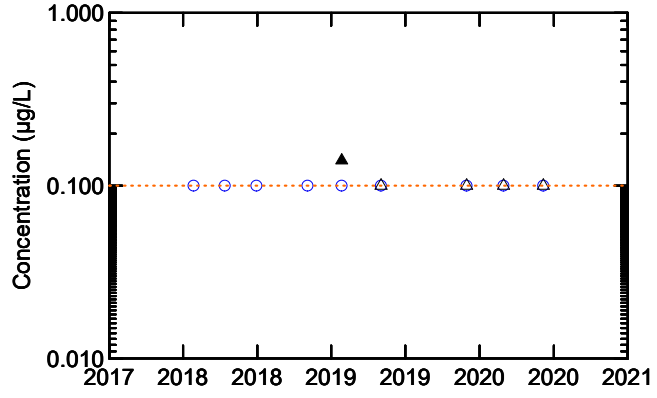
Nickel



Total: Stable

Dissolved: Over 50% non-detects

Silver



Total: Over 50% non-detects

Dissolved: No detected results

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

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Notes:

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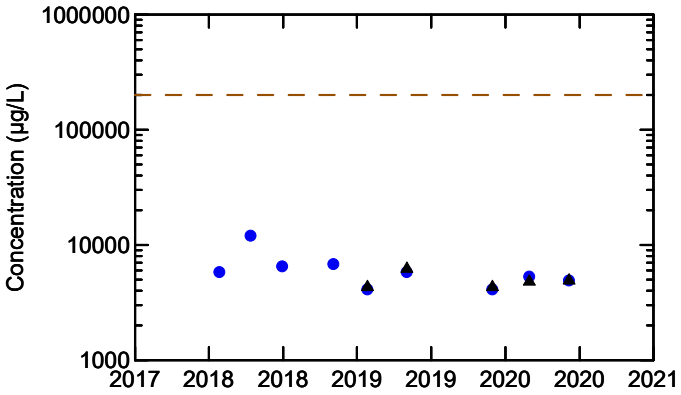
WELL MW-11B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

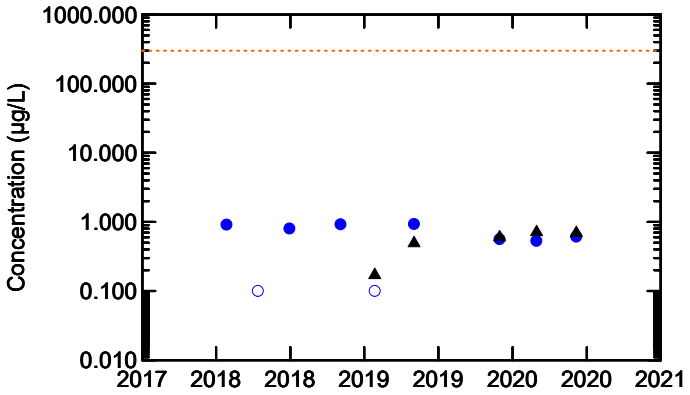
Sodium



Total: No trend identified

Dissolved: Stable

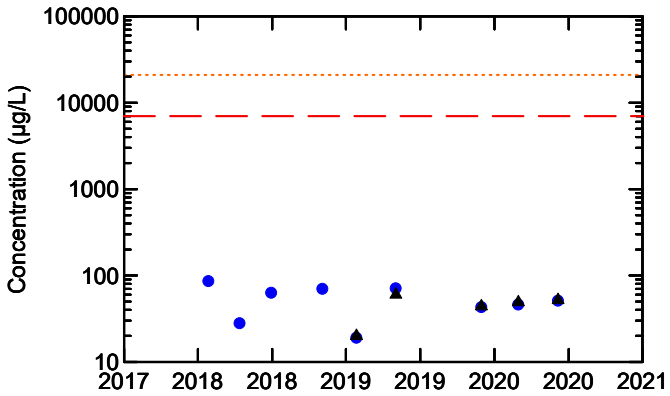
Uranium



Total: Probably Increasing

Dissolved: Stable

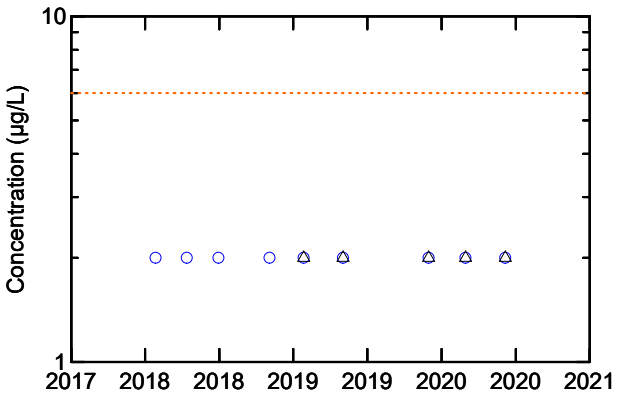
Strontium



Total: No trend identified

Dissolved: Stable

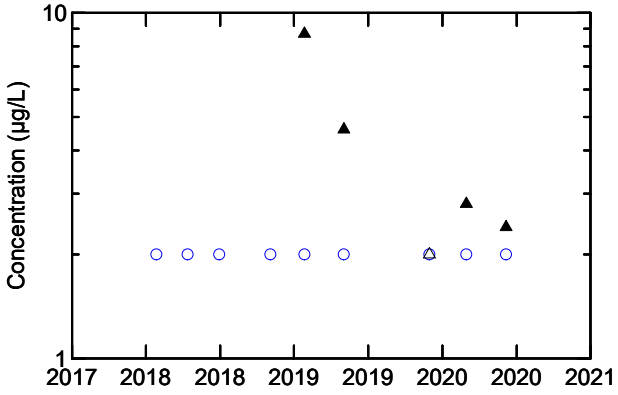
Vanadium



Total: No detected results

Dissolved: No detected results

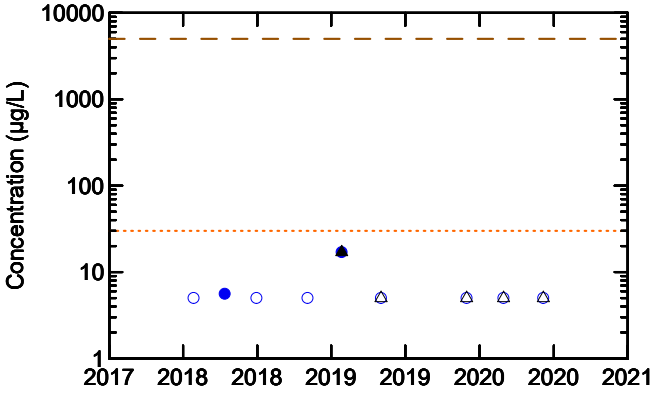
Titanium



Total: Stable

Dissolved: No detected results

Zinc



Total: Over 50% non-detects

Dissolved: Over 50% non-detects

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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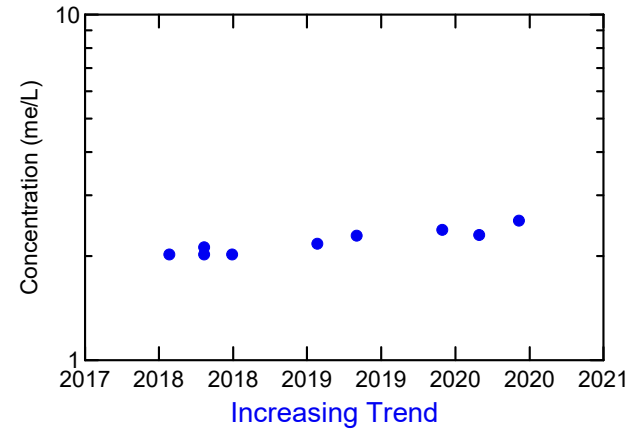
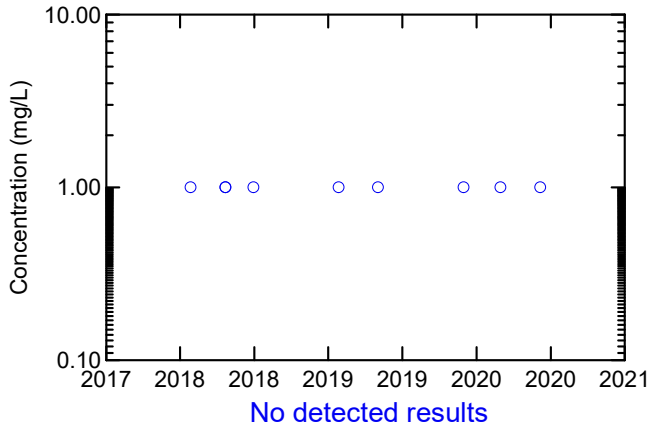
WELL MW-11B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Anion Sum



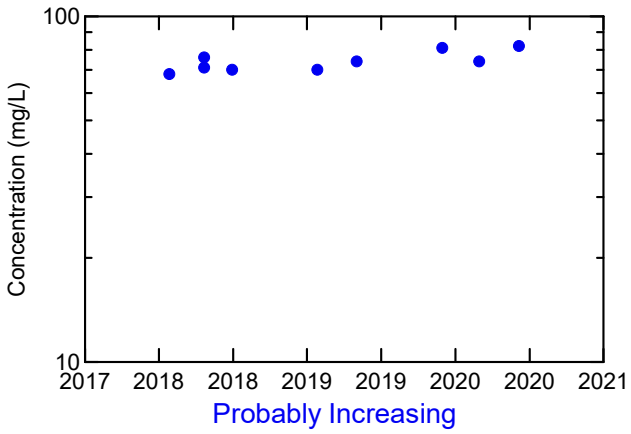
Increasing Trend

Carb. Alkalinity (calc. as CaCO3)



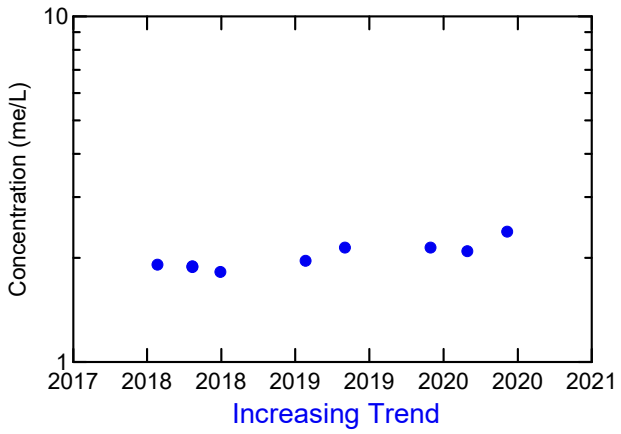
No detected results

Bicarb. Alkalinity (calc. as CaCO3)



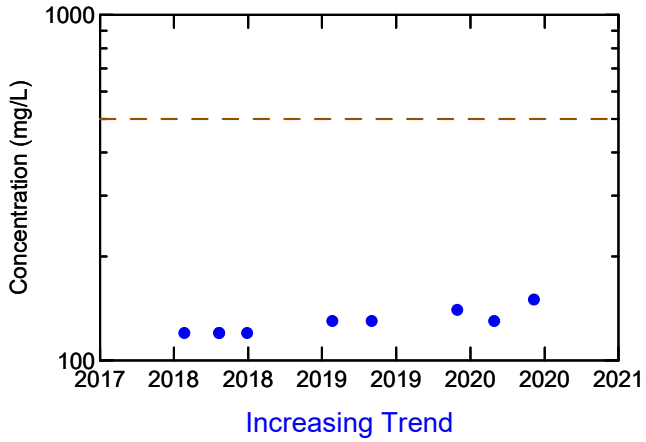
Probably Increasing

Cation Sum



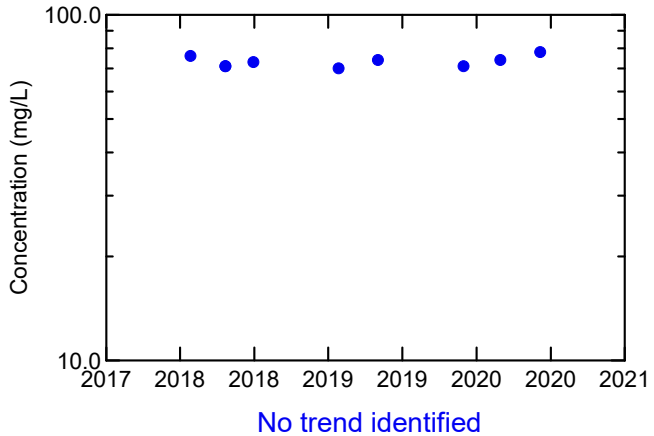
Increasing Trend

Calculated TDS



Increasing Trend

Hardness (CaCO3)



No trend identified

Legend:

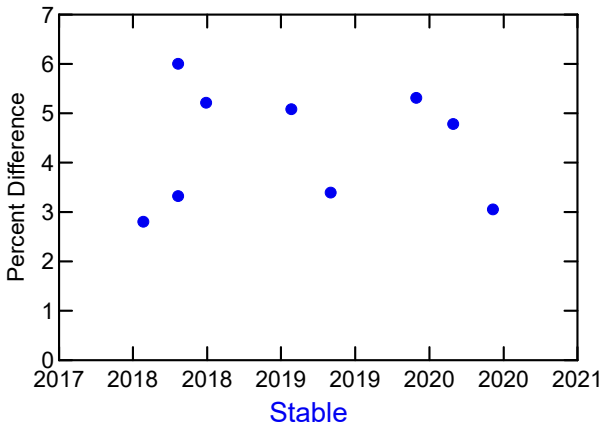
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines - Aesthetic

WELL MW-11C
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

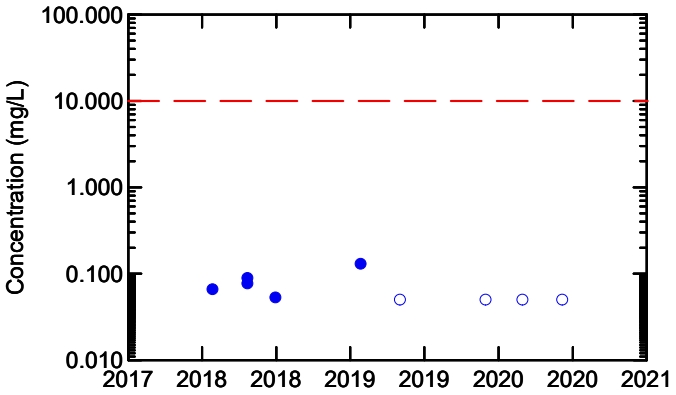
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Ion Balance



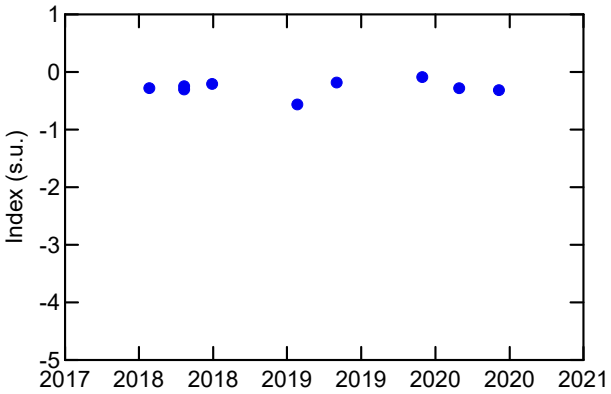
Stable

Nitrate



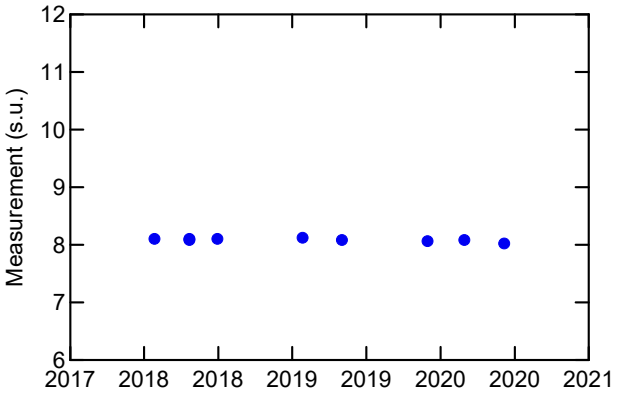
Stable

Langelier Index (@ 20C)



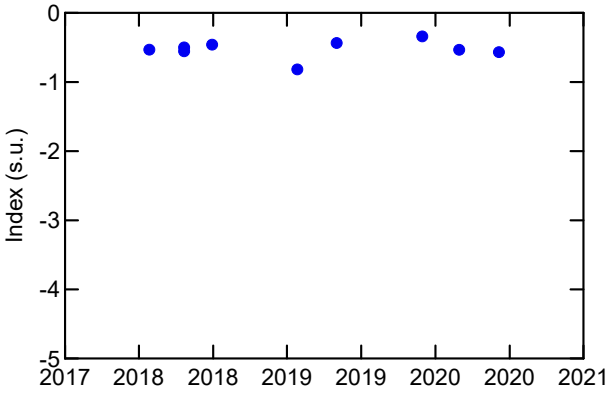
No trend identified

Saturation pH (@ 20C)



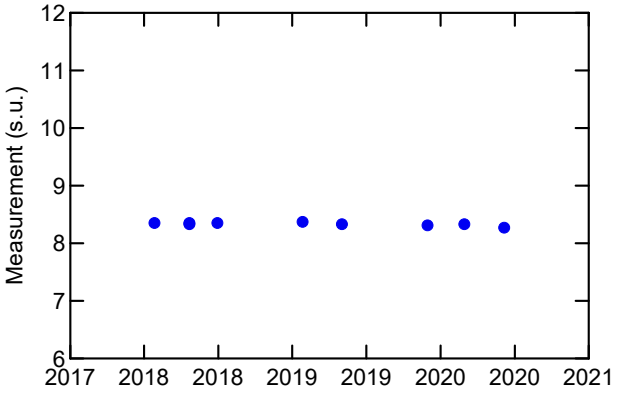
Stable

Langelier Index (@ 4C)



No trend identified

Saturation pH (@ 4C)



Stable

Legend:

● Detected result ○ Non-Detect

— — Canadian Drinking Water Quality Guidelines: Maximum Acceptable

WELL MW-11C
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Notes:
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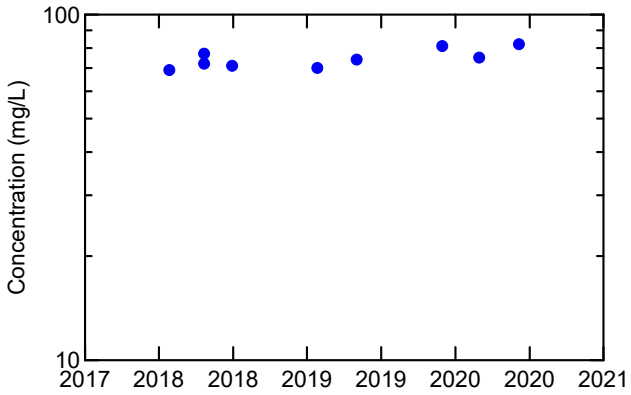
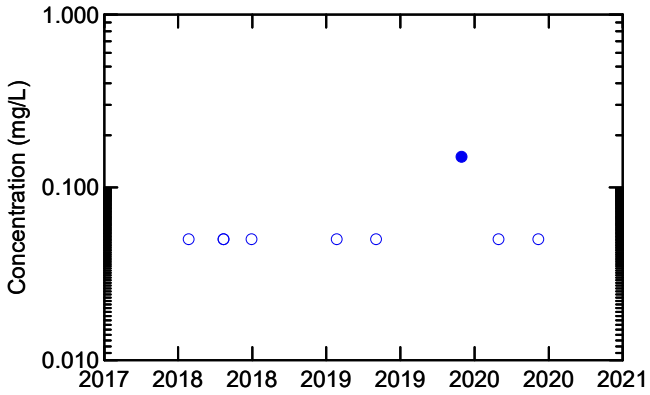
Non-detects are plotted at the reporting limit.

Total Alkalinity (Total as CaCO3)



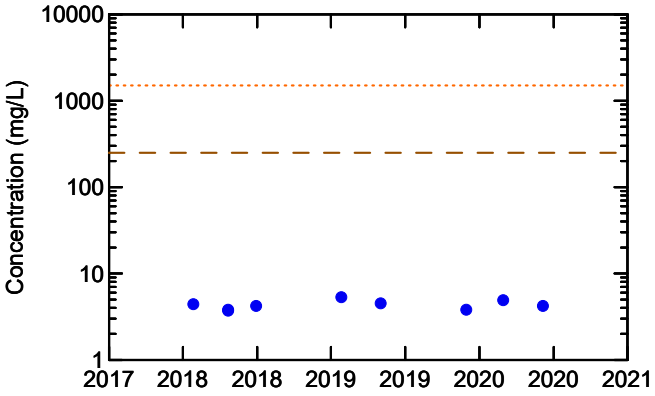
Probably Increasing

Nitrogen (Ammonia Nitrogen)



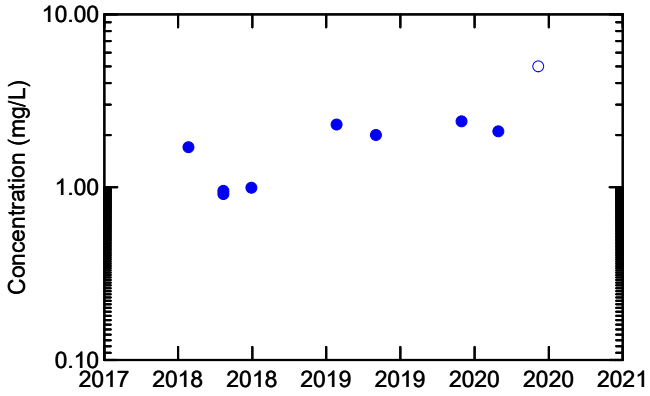
Over 50% non-detects

Dissolved Chloride



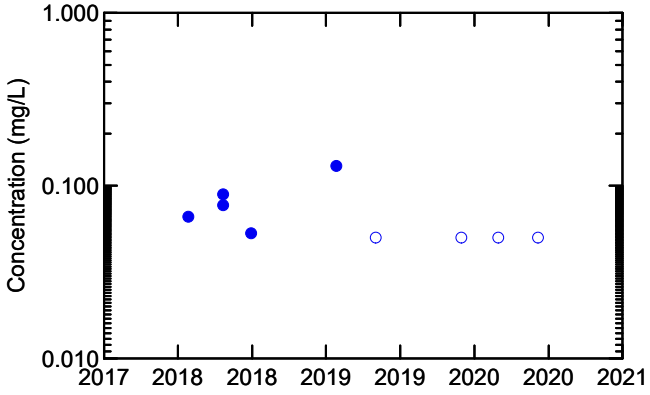
No trend identified

Total Organic Carbon



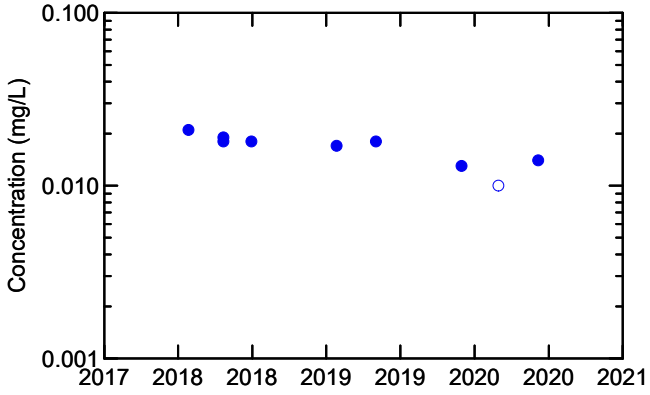
No trend identified

Nitrate + Nitrite



Stable

Orthophosphate



Decreasing Trend

Legend:

● Detected result ○ Non-Detect

Nova Scotia (2014) Pathway-Specific Standard for Groundwater

Canadian Drinking Water Quality Guideline: Aesthetic

Notes:
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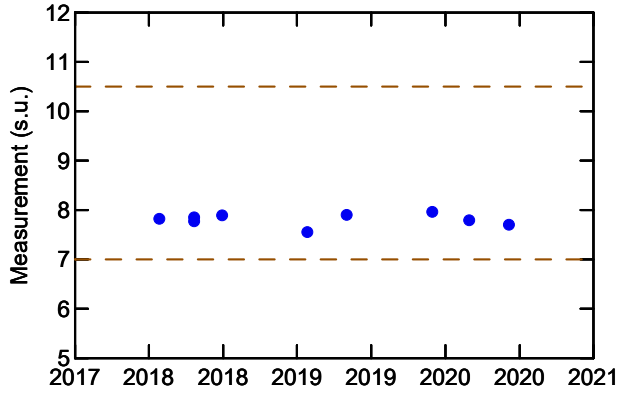
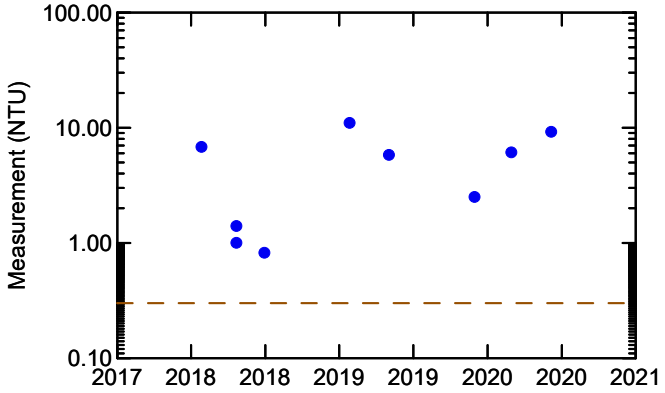
WELL MW-11C
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

pH



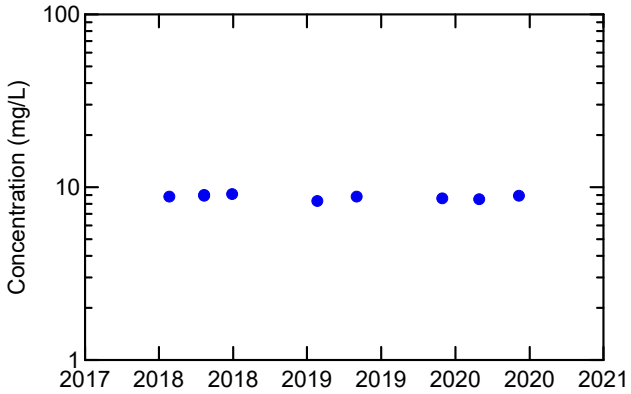
Stable

Turbidity



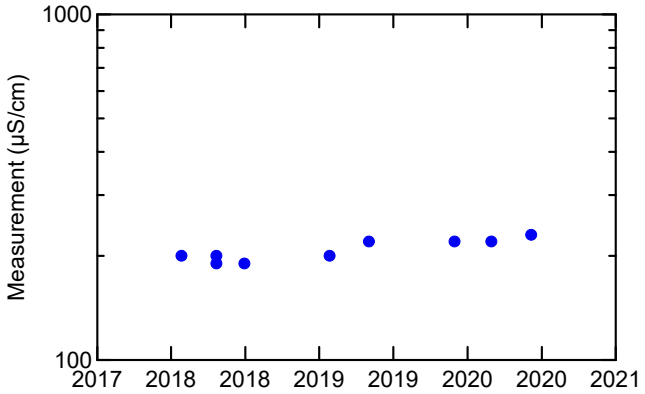
No trend identified

Reactive Silica (SiO2)



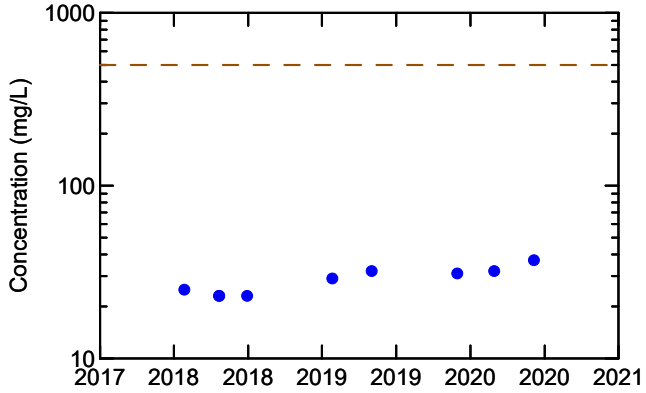
Stable

Conductivity



Probably Decreasing

Dissolved Sulphate (SO4)



Stable

Legend:

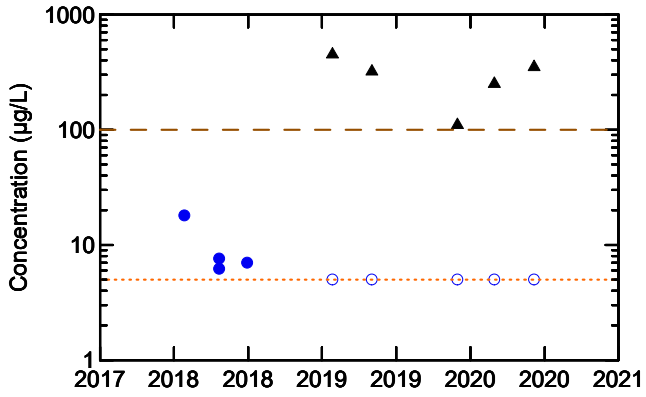
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines: Aesthetic

WELL MW-11C
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

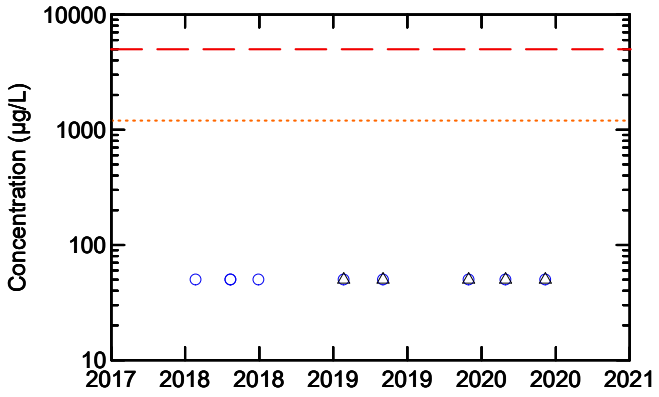
Aluminum



Total: Stable

Dissolved: Over 50% non-detects

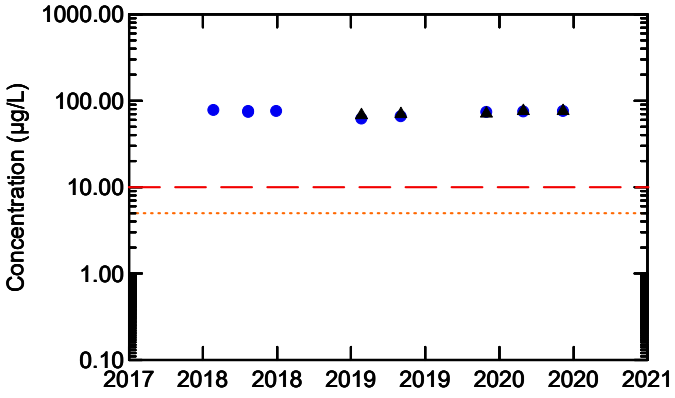
Boron



Total: No detected results

Dissolved: No detected results

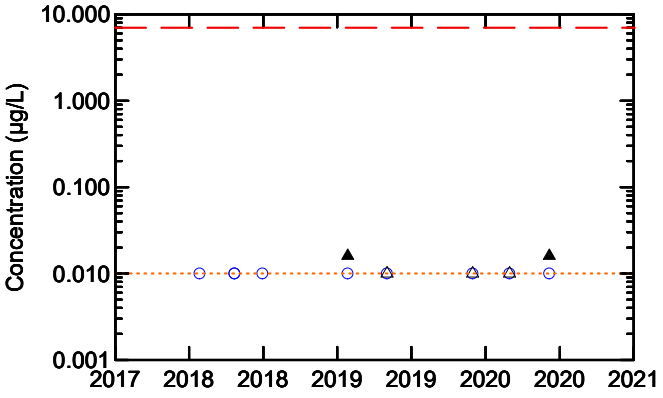
Arsenic



Total: Increasing Trend

Dissolved: Stable

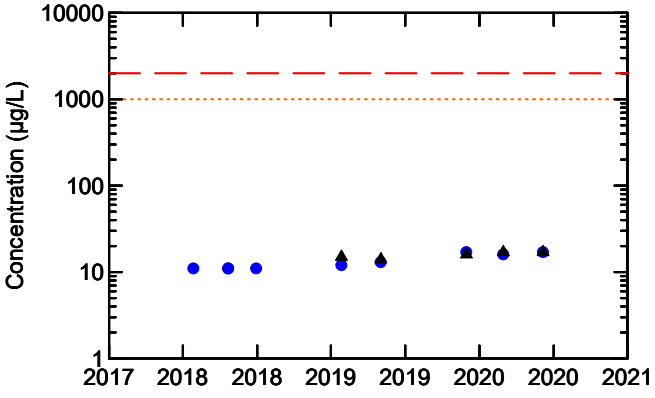
Cadmium



Total: Over 50% non-detects

Dissolved: No detected results

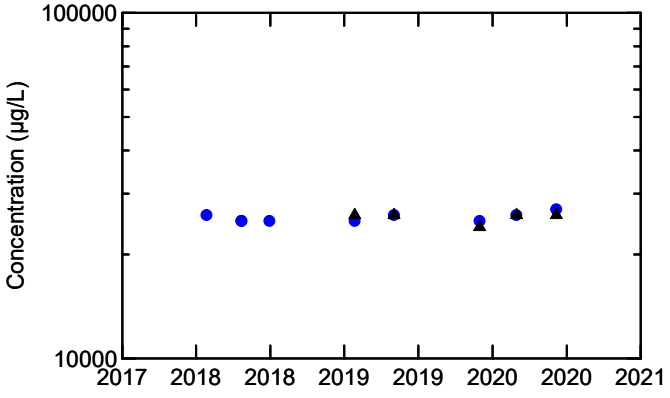
Barium



Total: No trend identified

Dissolved: Increasing Trend

Calcium



Total: Stable

Dissolved: No trend identified

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

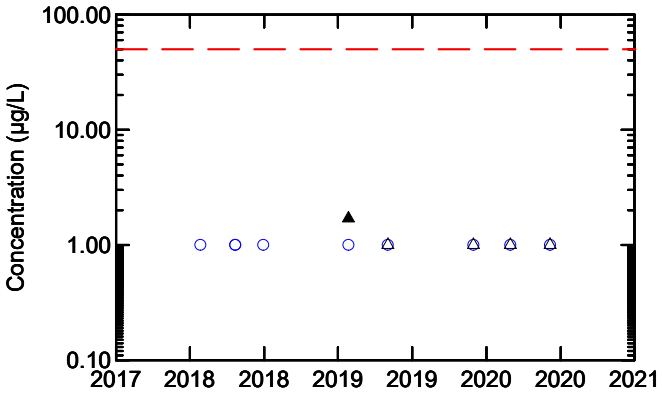
– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

WELL MW-11C
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

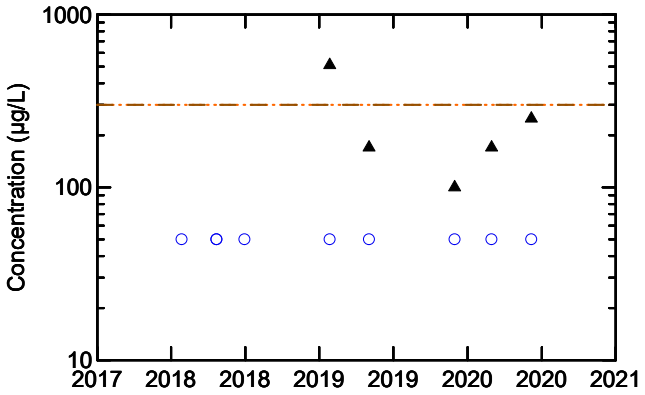
Chromium



Total: Over 50% non-detects

Dissolved: No detected results

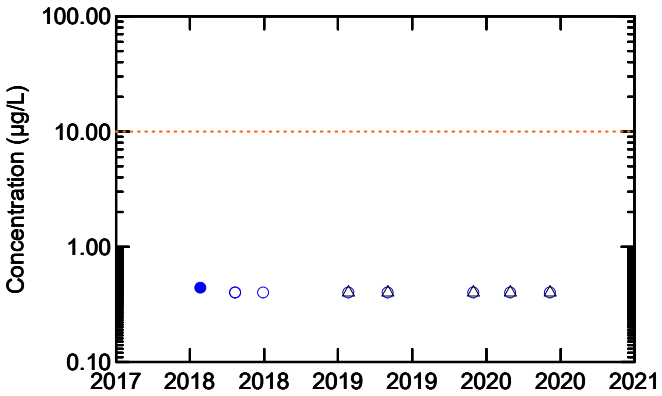
Iron



Total: Stable

Dissolved: No detected results

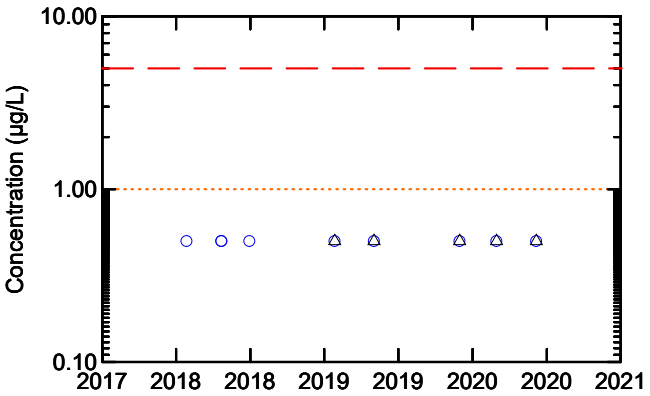
Cobalt



Total: No detected results

Dissolved: Over 50% non-detects

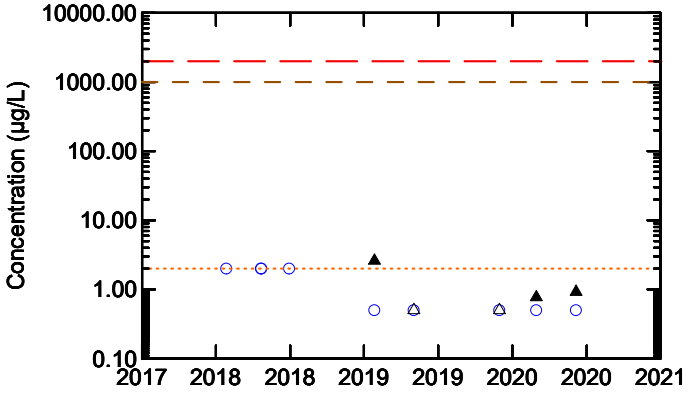
Lead



Total: No detected results

Dissolved: No detected results

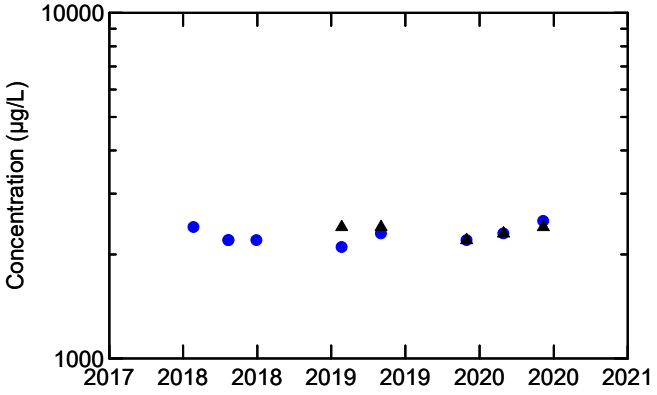
Copper



Total: No trend identified

Dissolved: No detected results

Magnesium



Total: Stable

Dissolved: No trend identified

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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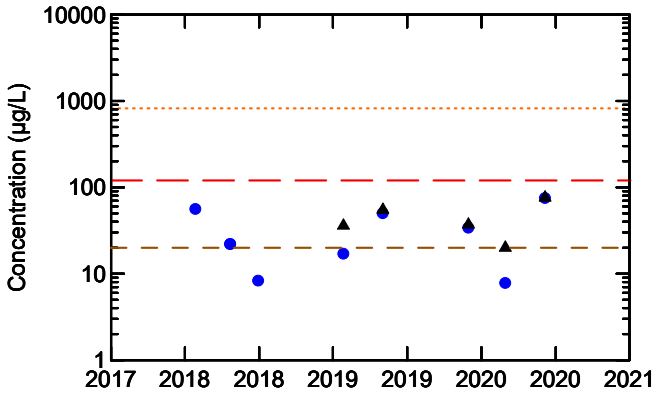
WELL MW-11C
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

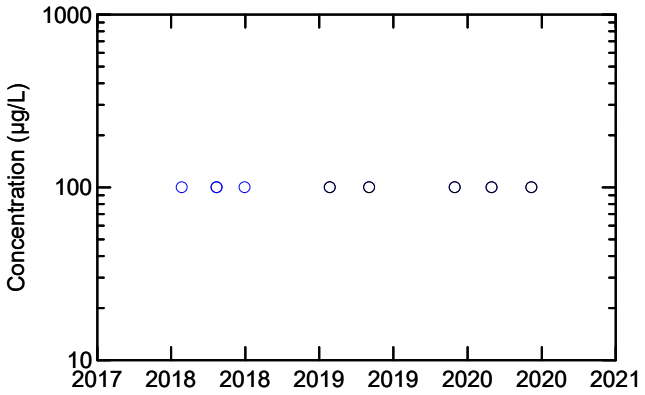
Manganese



Total: No trend identified

Dissolved: Stable

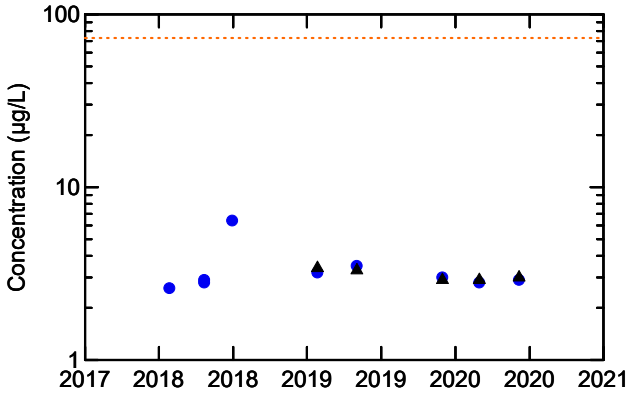
Phosphorus



Total: No detected results

Dissolved: No detected results

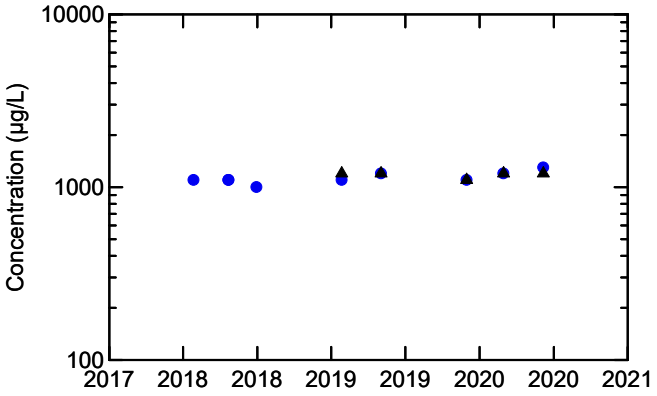
Molybdenum



Total: Stable

Dissolved: No trend identified

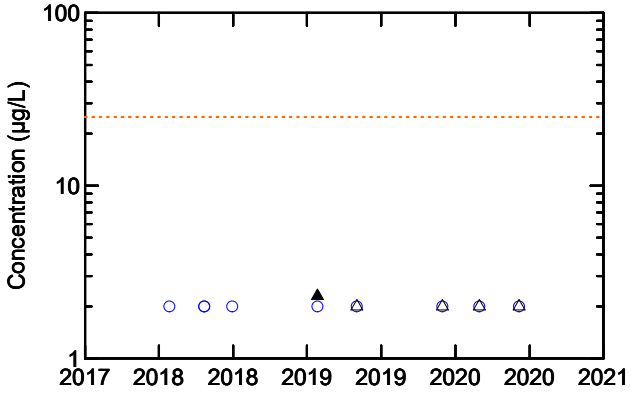
Potassium



Total: Stable

Dissolved: Probably Increasing

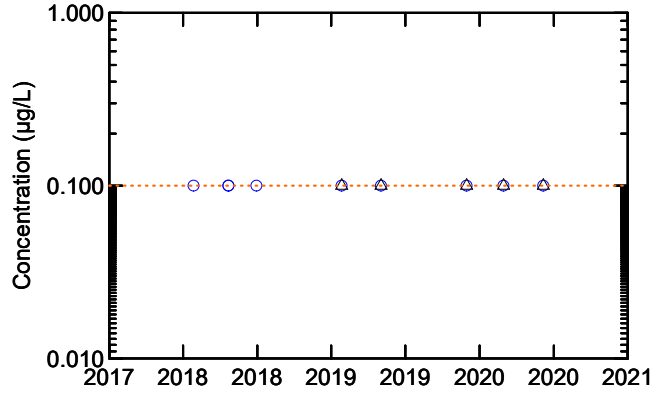
Nickel



Total: Over 50% non-detects

Dissolved: No detected results

Silver



Total: No detected results

Dissolved: No detected results

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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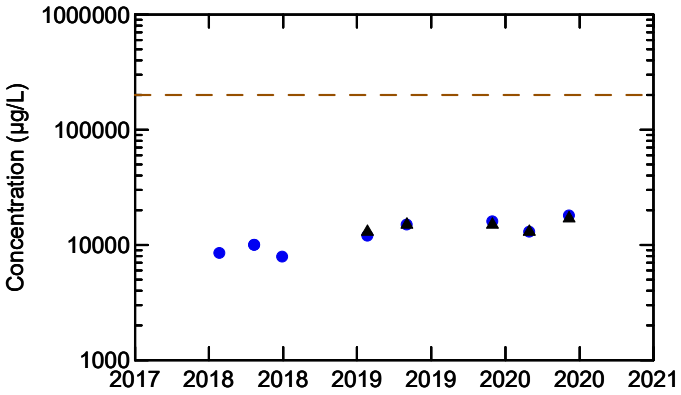
Non-detects are plotted at the reporting limit.

WELL MW-11C
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

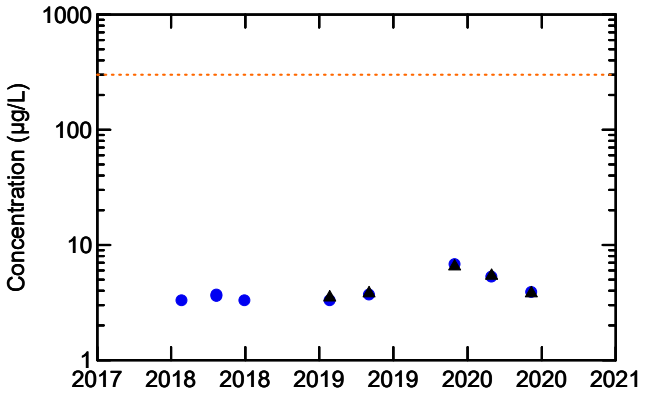
Sodium



Total: No trend identified

Dissolved: Increasing Trend

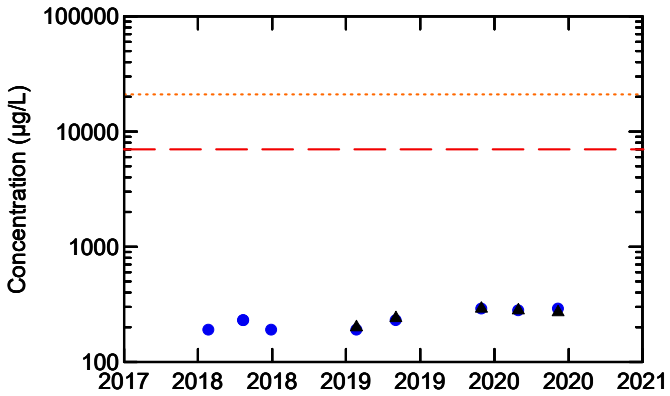
Uranium



Total: No trend identified

Dissolved: No trend identified

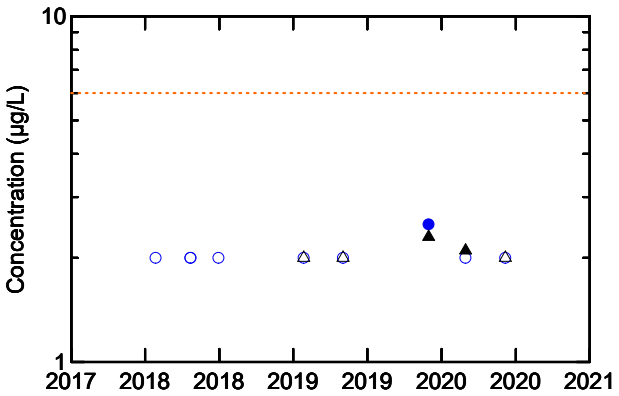
Strontium



Total: No trend identified

Dissolved: Probably Increasing

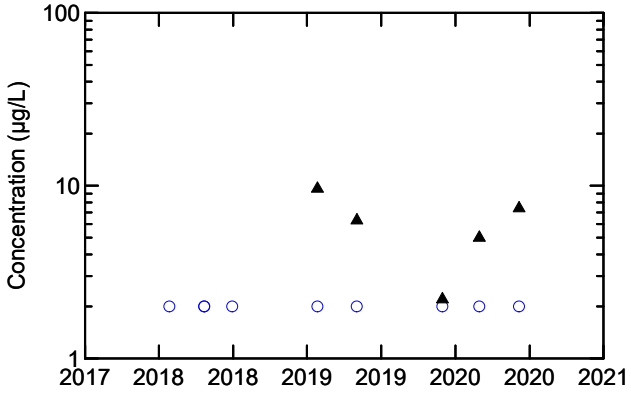
Vanadium



Total: Over 50% non-detects

Dissolved: Over 50% non-detects

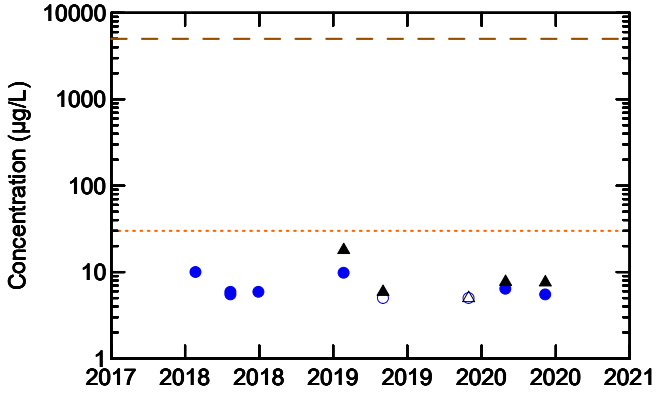
Titanium



Total: Stable

Dissolved: No detected results

Zinc



Total: Stable

Dissolved: Stable

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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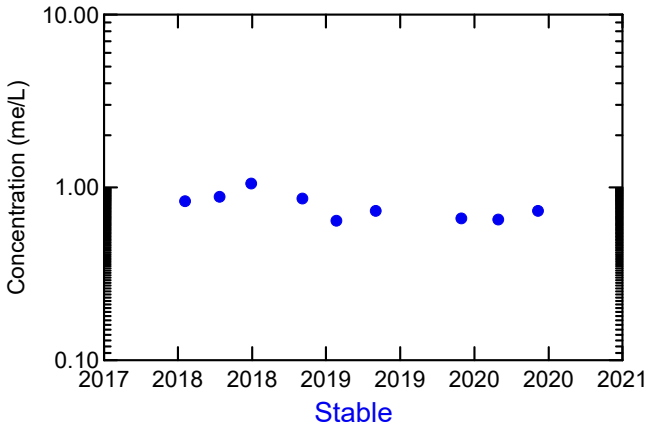
Non-detects are plotted at the reporting limit.

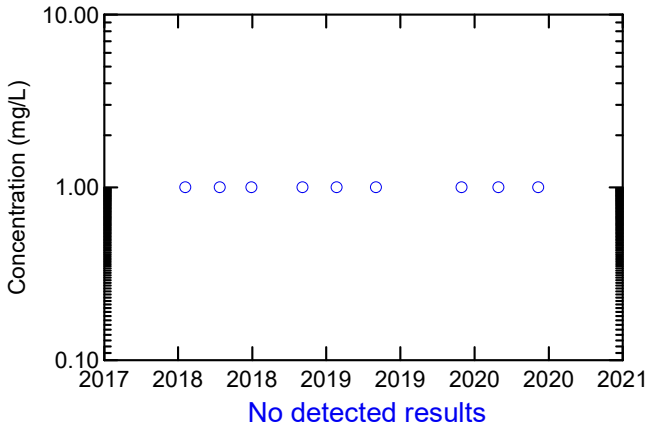
WELL MW-11C
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Anion Sum



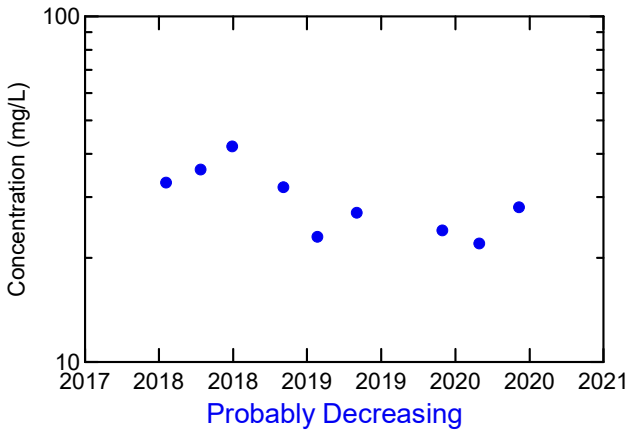
Stable

Carb. Alkalinity (calc. as CaCO3)



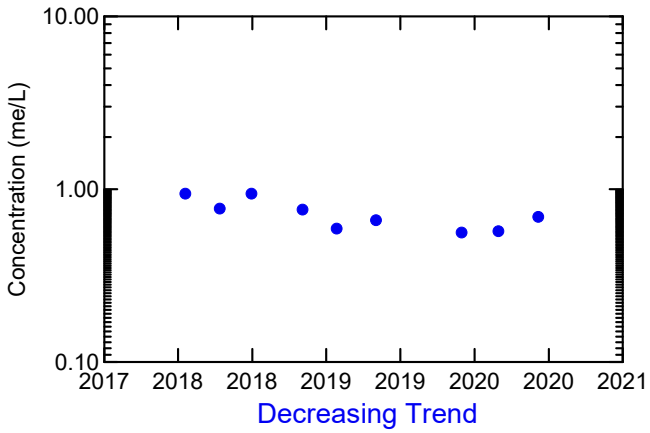
No detected results

Bicarb. Alkalinity (calc. as CaCO3)



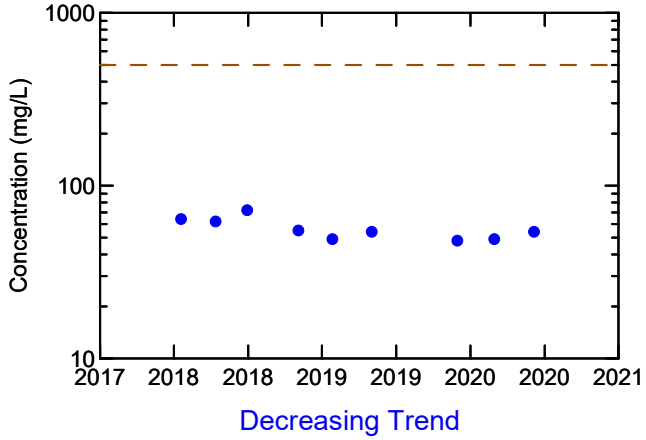
Probably Decreasing

Cation Sum



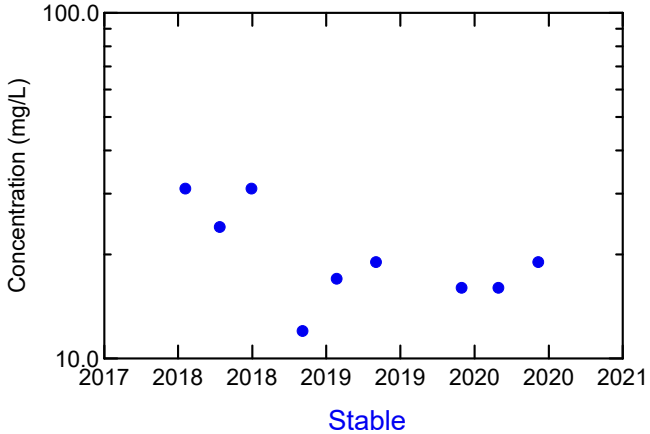
Decreasing Trend

Calculated TDS



Decreasing Trend

Hardness (CaCO3)



Stable

Legend:

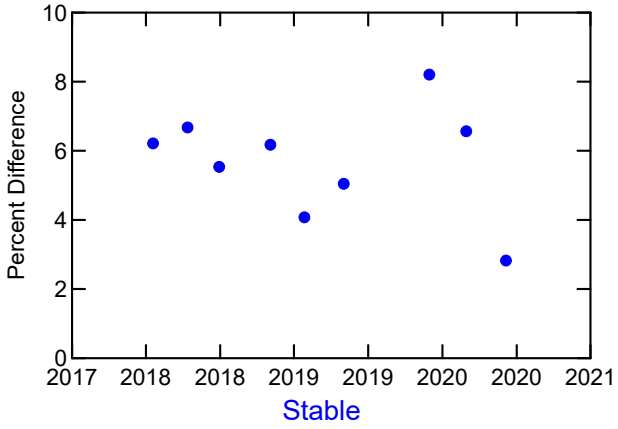
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines - Aesthetic

WELL MW-12A
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

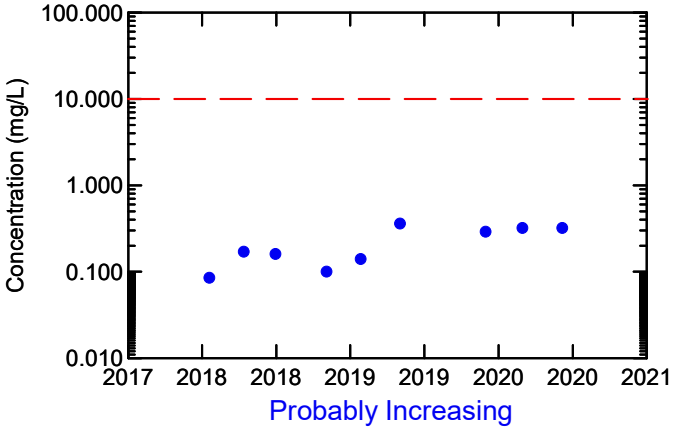
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Ion Balance



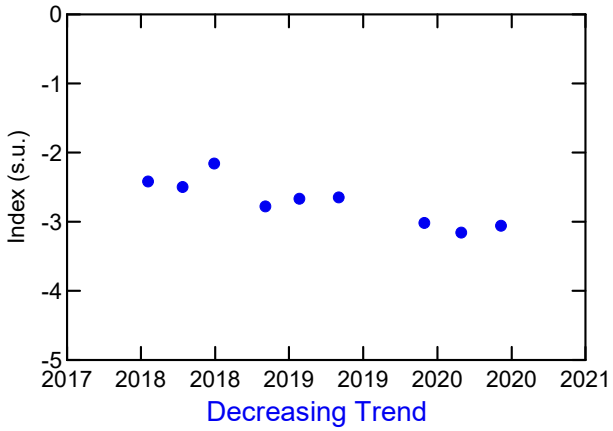
Stable

Nitrate



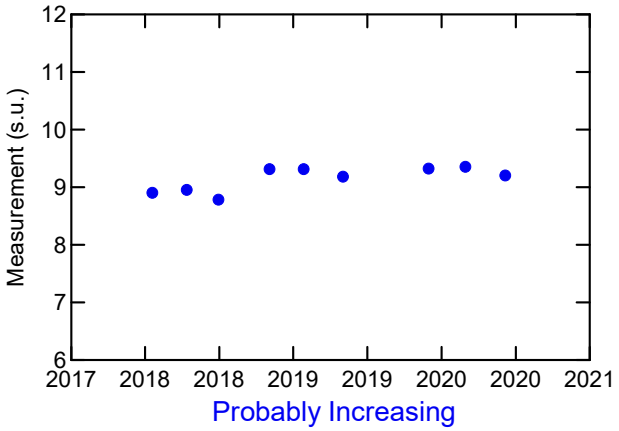
Probably Increasing

Langelier Index (@ 20C)



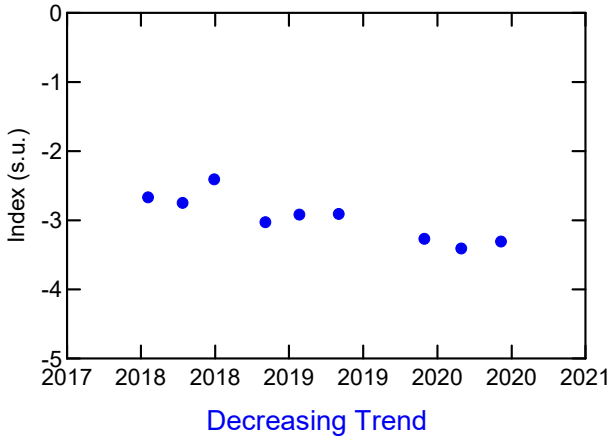
Decreasing Trend

Saturation pH (@ 20C)



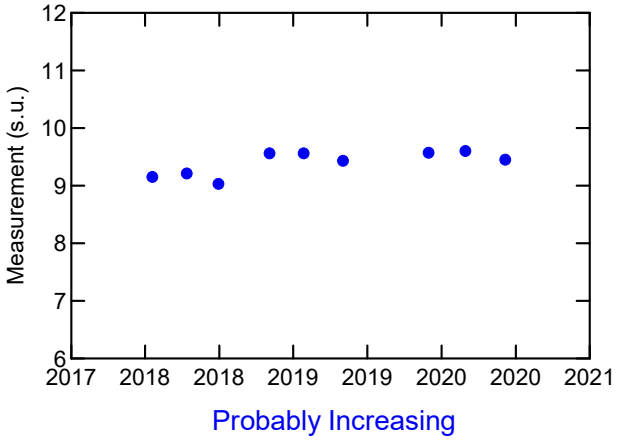
Probably Increasing

Langelier Index (@ 4C)



Decreasing Trend

Saturation pH (@ 4C)



Probably Increasing

Legend:

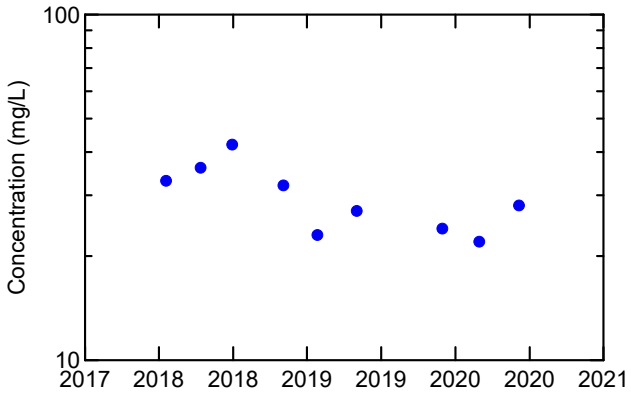
● Detected result ○ Non-Detect

— — Canadian Drinking Water Quality Guidelines: Maximum Acceptable

WELL MW-12A
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

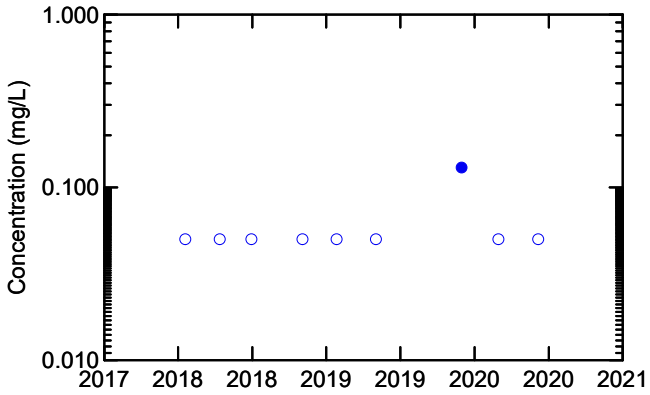
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Total Alkalinity (Total as CaCO3)



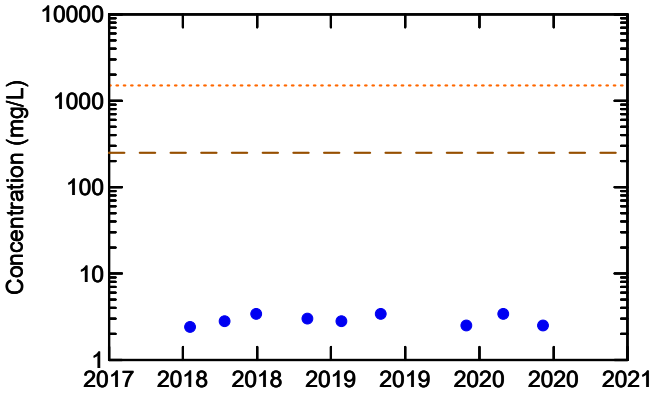
Probably Decreasing

Nitrogen (Ammonia Nitrogen)



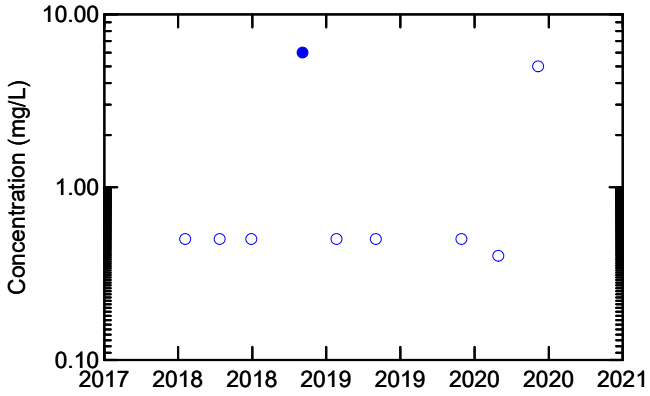
Over 50% non-detects

Dissolved Chloride



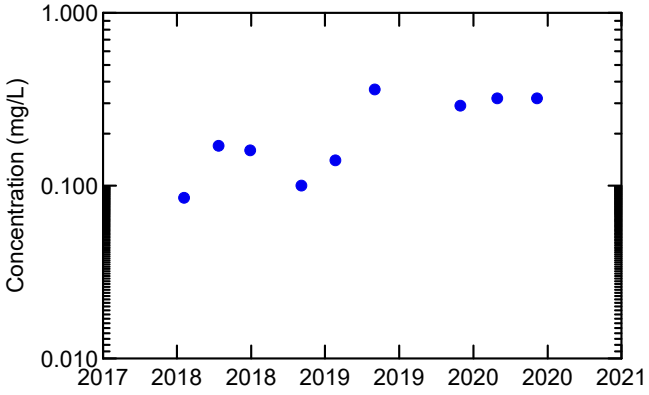
No trend identified

Total Organic Carbon



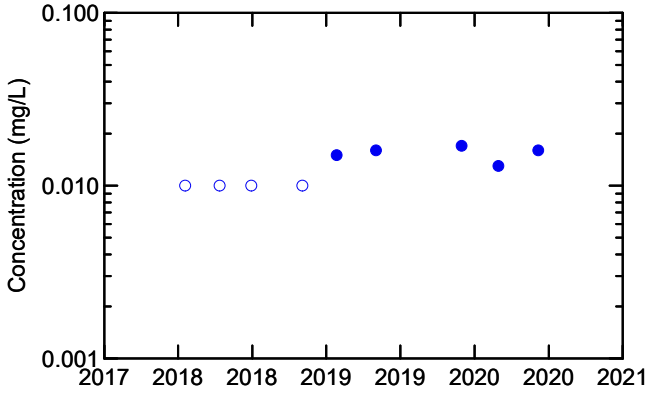
Over 50% non-detects

Nitrate + Nitrite



Probably Increasing

Orthophosphate



Increasing Trend

Legend:

● Detected result ○ Non-Detect

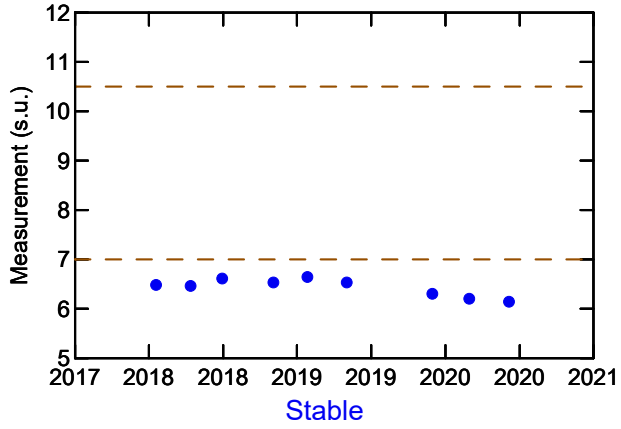
Nova Scotia (2014) Pathway-Specific Standard for Groundwater

Canadian Drinking Water Quality Guideline: Aesthetic

Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

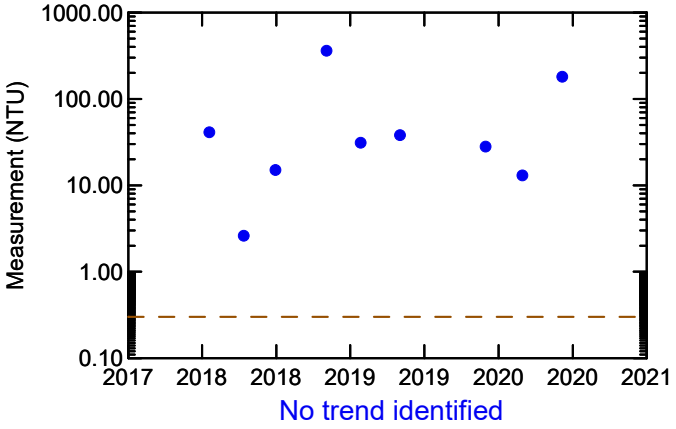
WELL MW-12A
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

pH



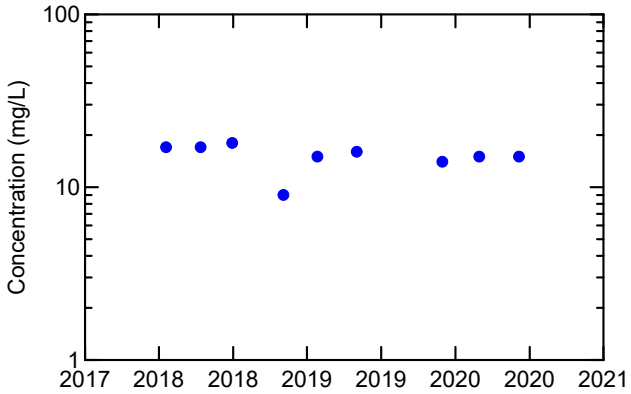
Stable

Turbidity



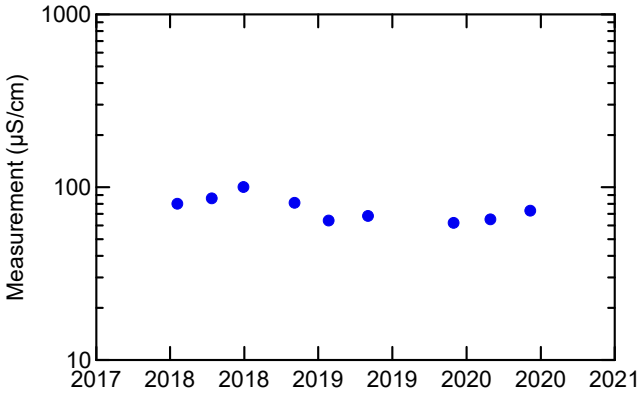
No trend identified

Reactive Silica (SiO2)



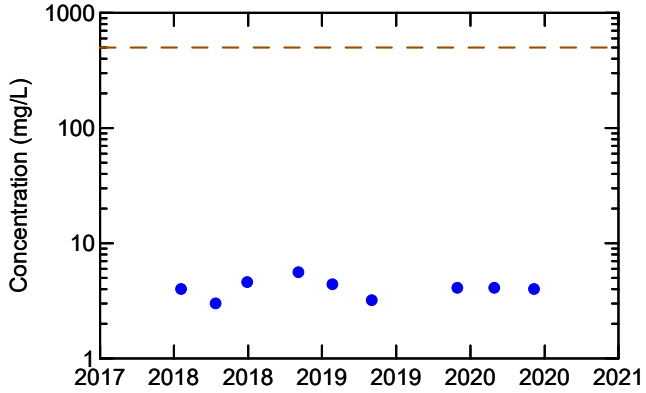
Stable

Conductivity



Probably Decreasing

Dissolved Sulphate (SO4)



Stable

Legend:

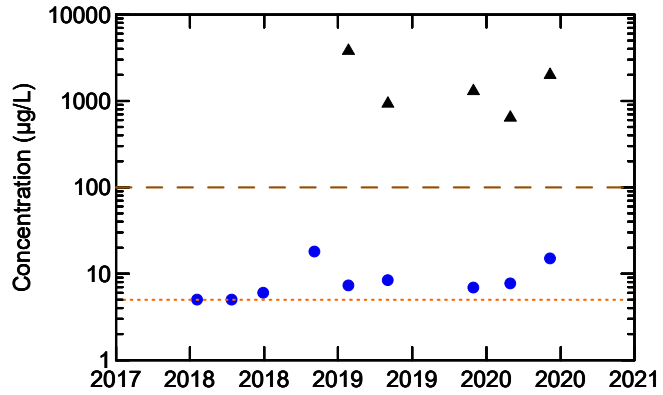
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines: Aesthetic

WELL MW-12A
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

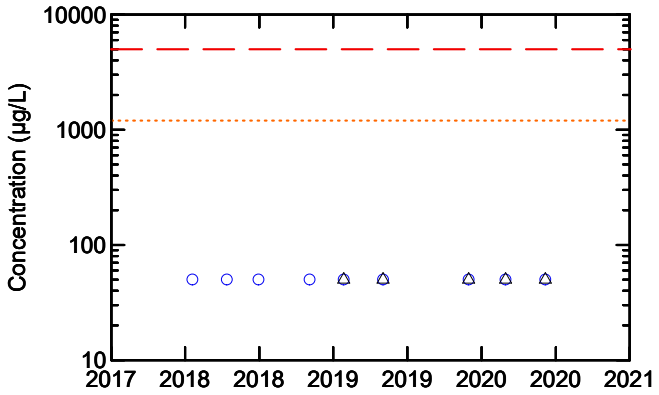
Aluminum



Total: Stable

Dissolved: Probably Increasing

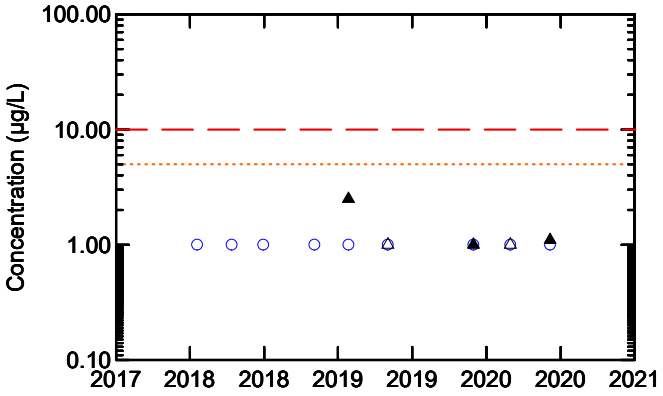
Boron



Total: No detected results

Dissolved: No detected results

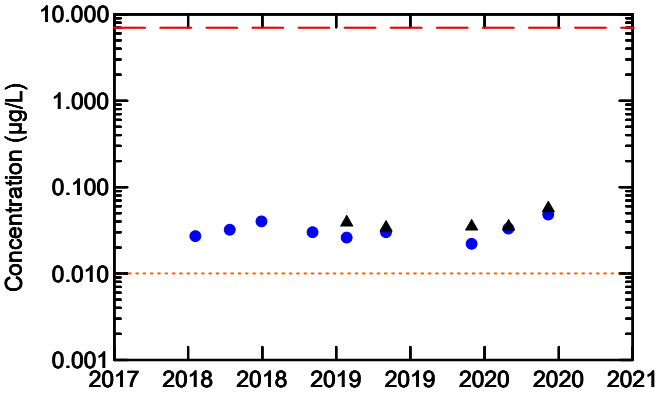
Arsenic



Total: Stable

Dissolved: No detected results

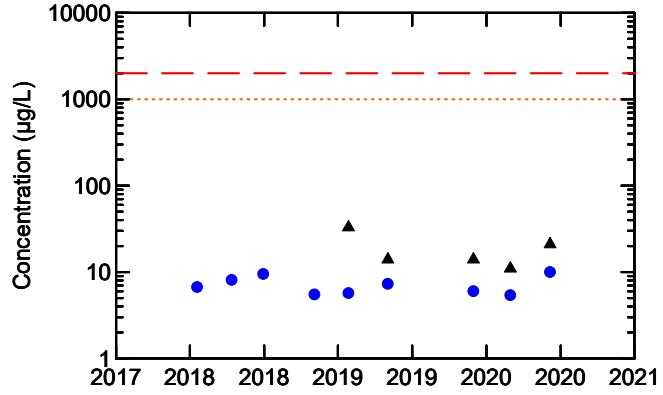
Cadmium



Total: No trend identified

Dissolved: No trend identified

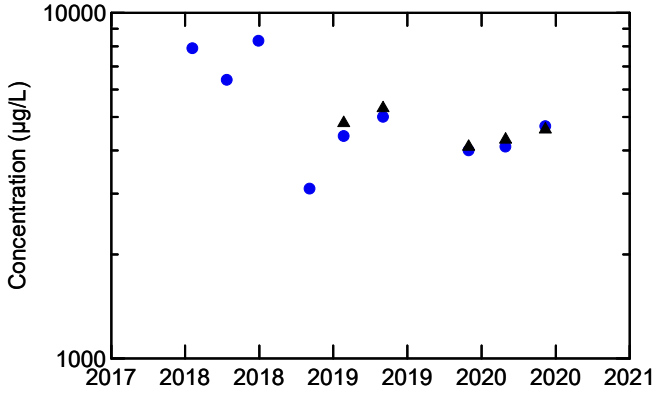
Barium



Total: Stable

Dissolved: Stable

Calcium



Total: Stable

Dissolved: Stable

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

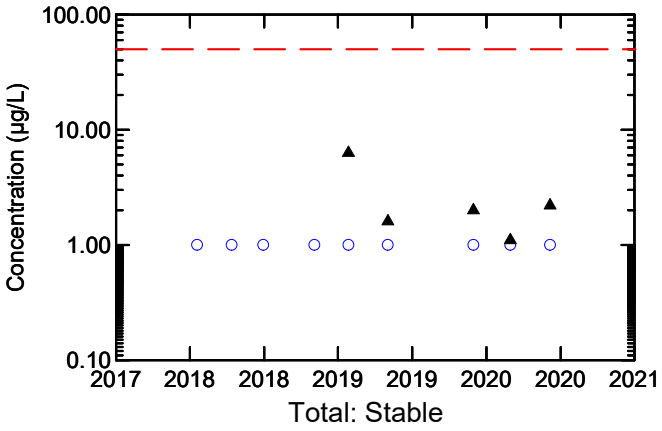
– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

WELL MW-12A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

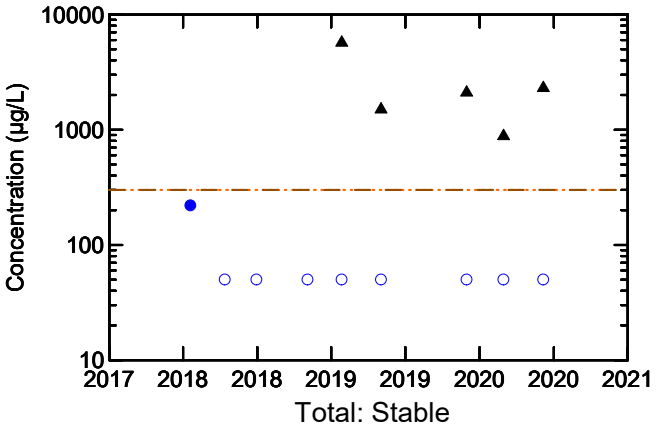
Chromium



Total: Stable

Dissolved: No detected results

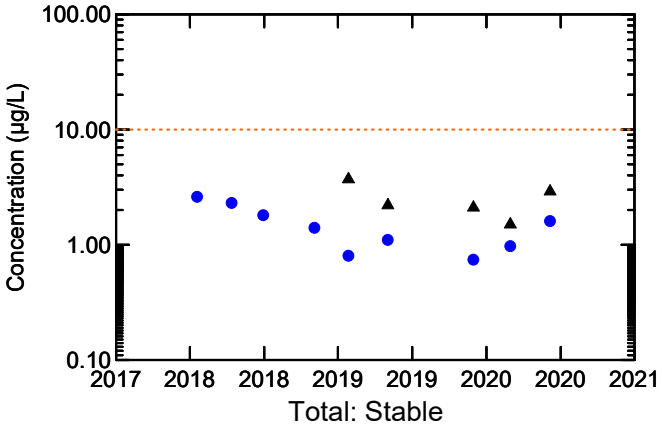
Iron



Total: Stable

Dissolved: Over 50% non-detects

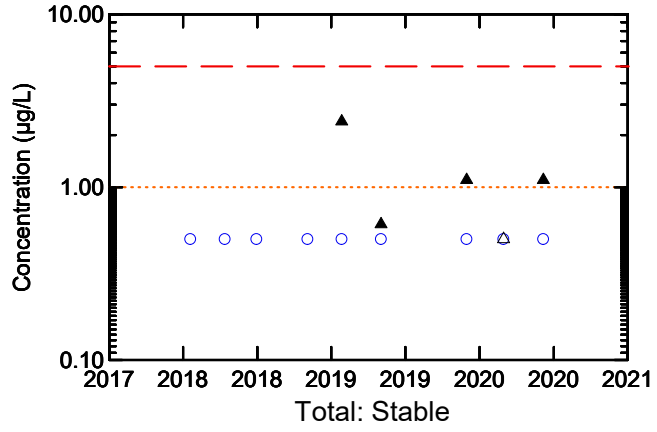
Cobalt



Total: Stable

Dissolved: Decreasing Trend

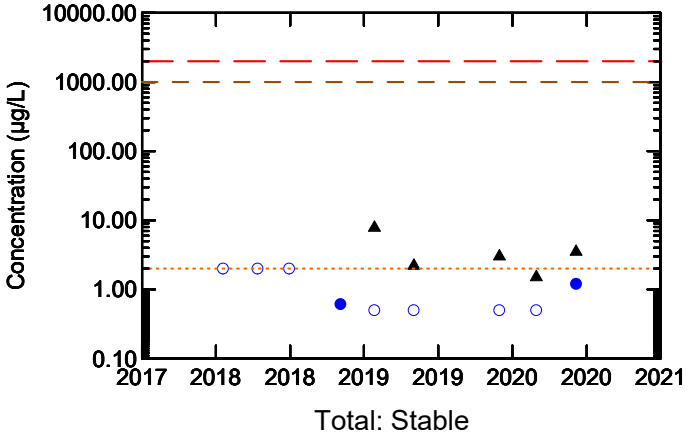
Lead



Total: Stable

Dissolved: No detected results

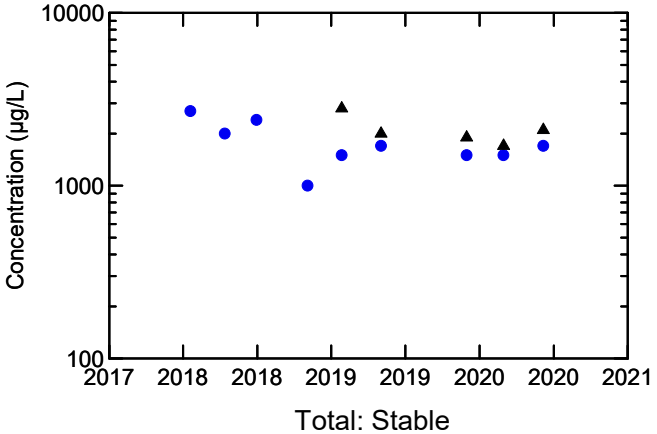
Copper



Total: Stable

Dissolved: Over 50% non-detects

Magnesium



Total: Stable

Dissolved: Stable

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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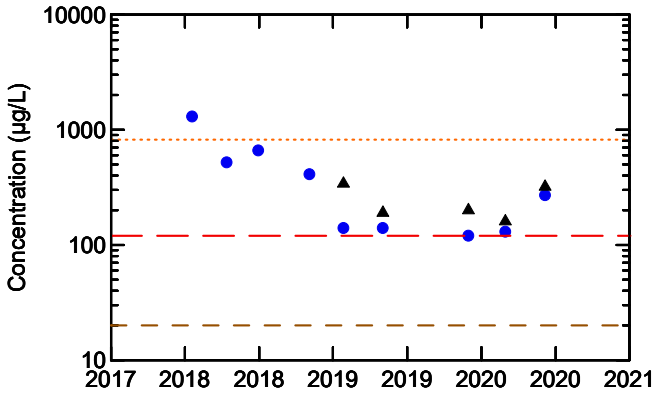
Non-detects are plotted at the reporting limit.

WELL MW-12A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

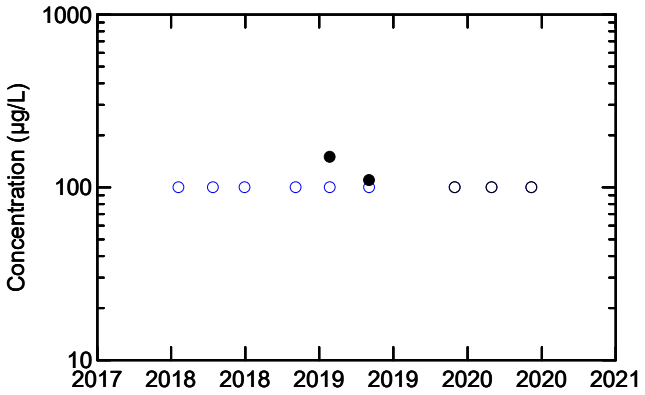
Manganese



Total: Stable

Dissolved: Decreasing Trend

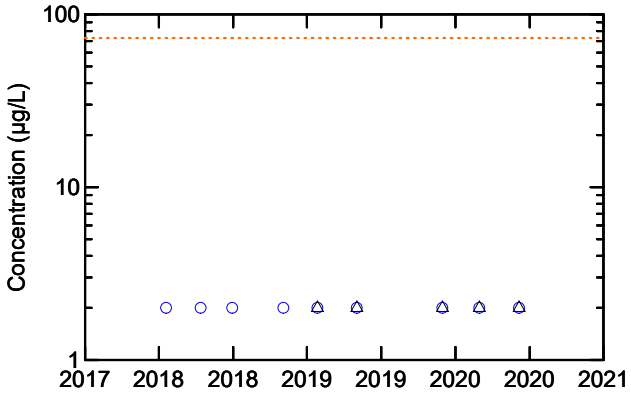
Phosphorus



Total: Over 50% non-detects

Dissolved: No detected results

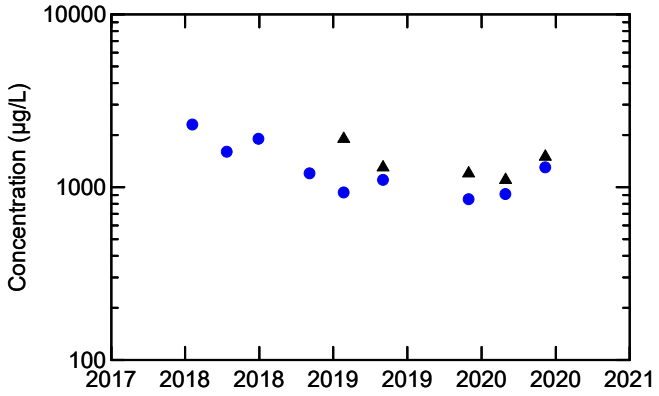
Molybdenum



Total: No detected results

Dissolved: No detected results

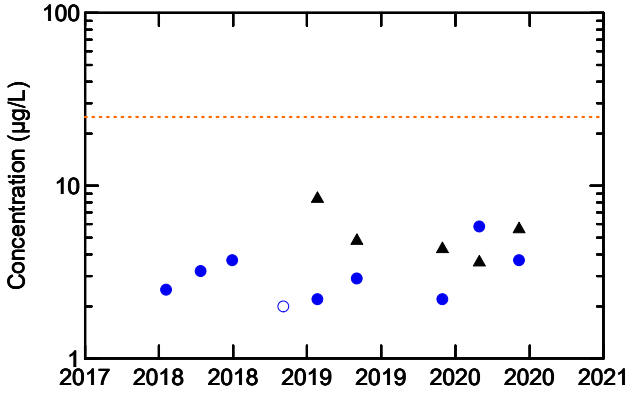
Potassium



Total: Stable

Dissolved: Decreasing Trend

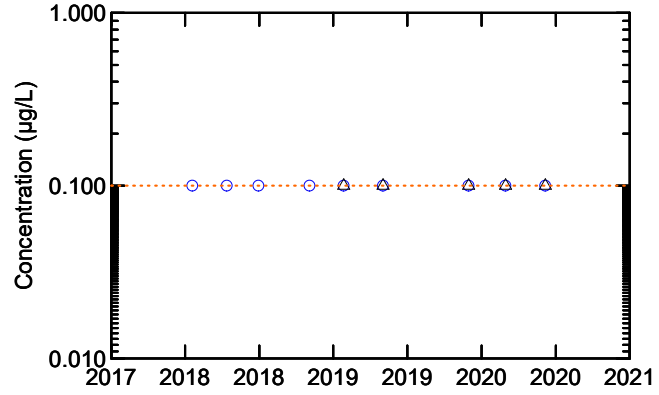
Nickel



Total: Stable

Dissolved: No trend identified

Silver



Total: No detected results

Dissolved: No detected results

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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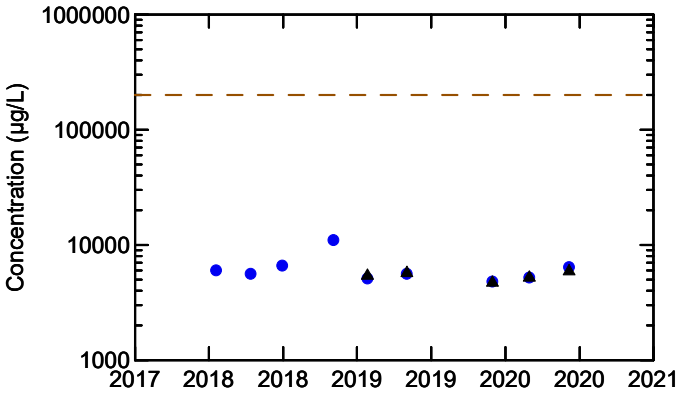
WELL MW-12A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

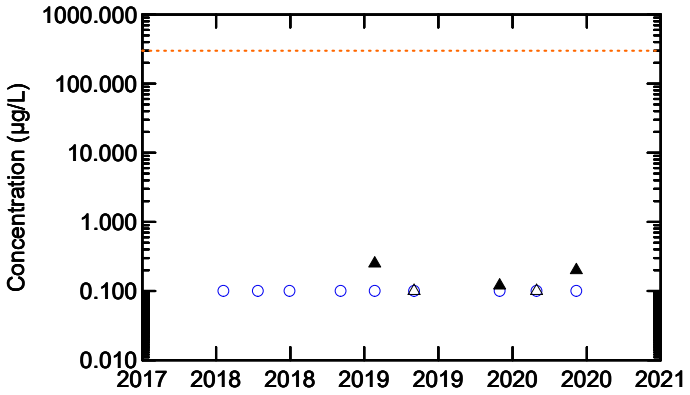
Sodium



Total: No trend identified

Dissolved: Stable

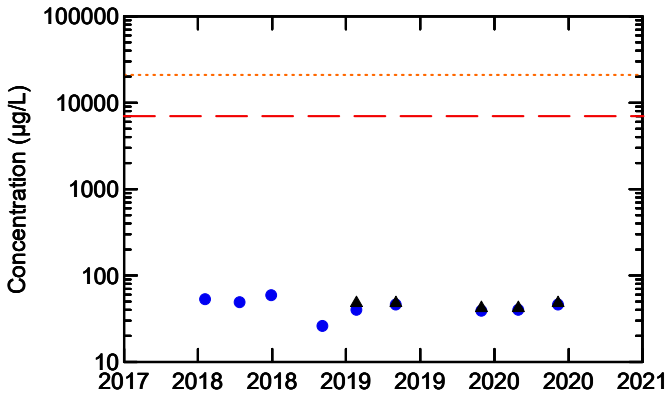
Uranium



Total: Stable

Dissolved: No detected results

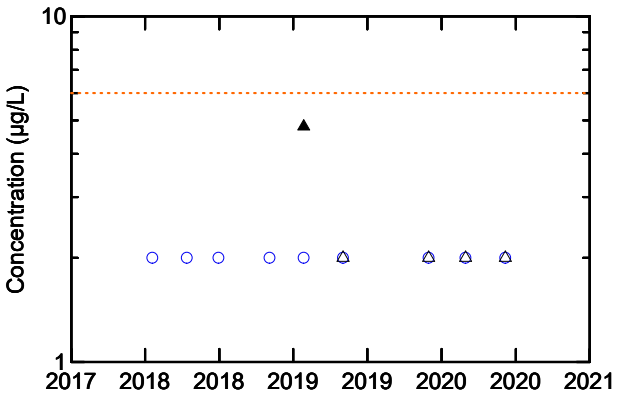
Strontium



Total: Stable

Dissolved: Stable

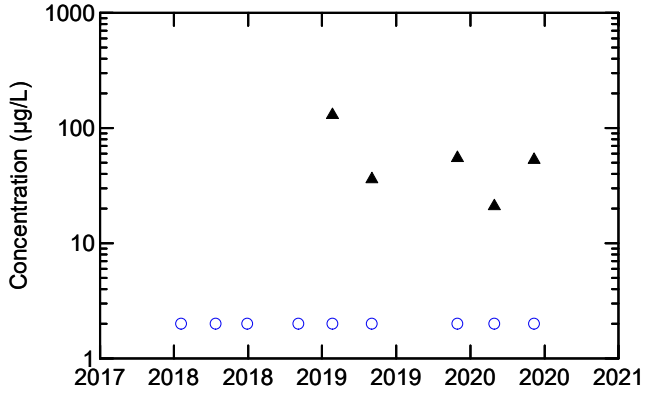
Vanadium



Total: Over 50% non-detects

Dissolved: No detected results

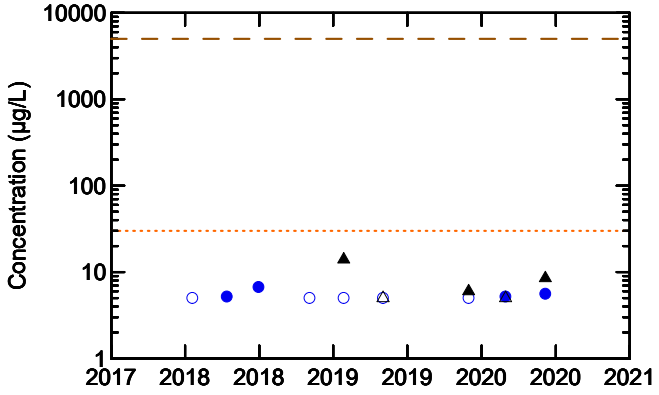
Titanium



Total: Stable

Dissolved: No detected results

Zinc



Total: Stable

Dissolved: Over 50% non-detects

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

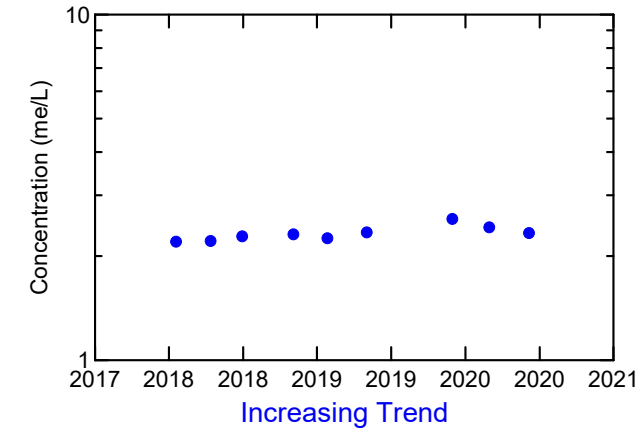
– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

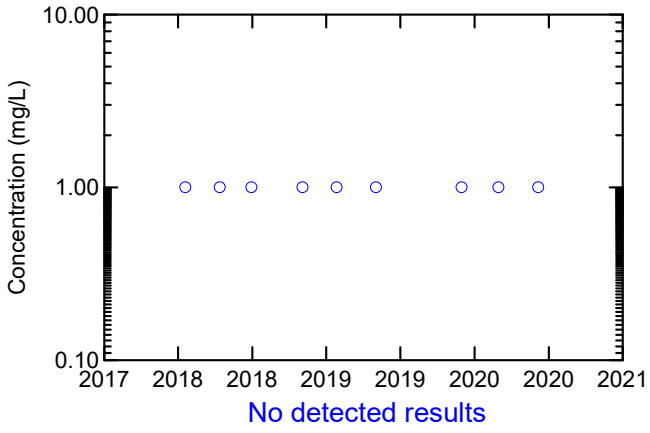
WELL MW-12A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Anion Sum



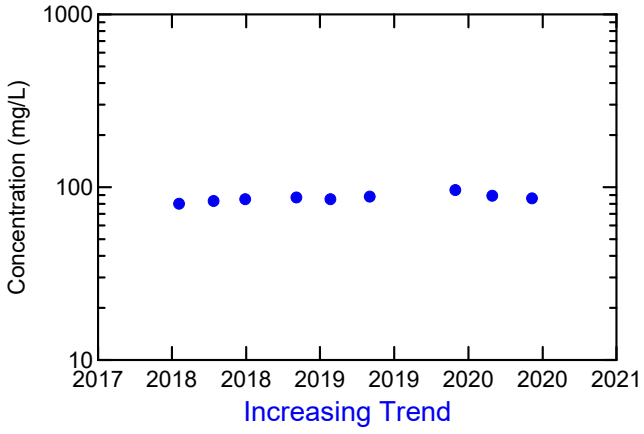
Increasing Trend

Carb. Alkalinity (calc. as CaCO3)



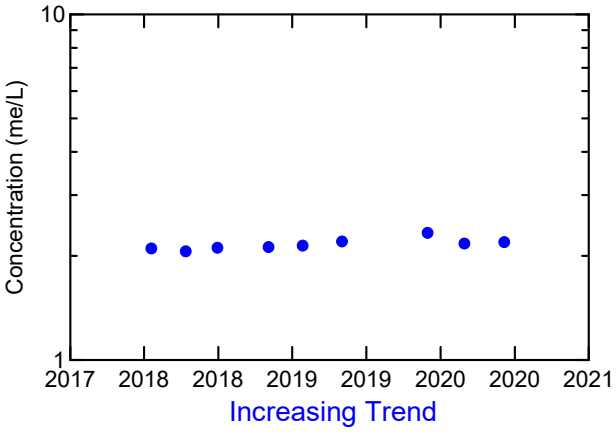
No detected results

Bicarb. Alkalinity (calc. as CaCO3)



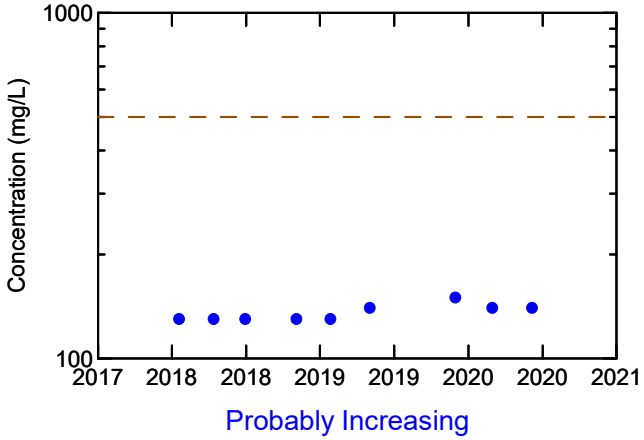
Increasing Trend

Cation Sum



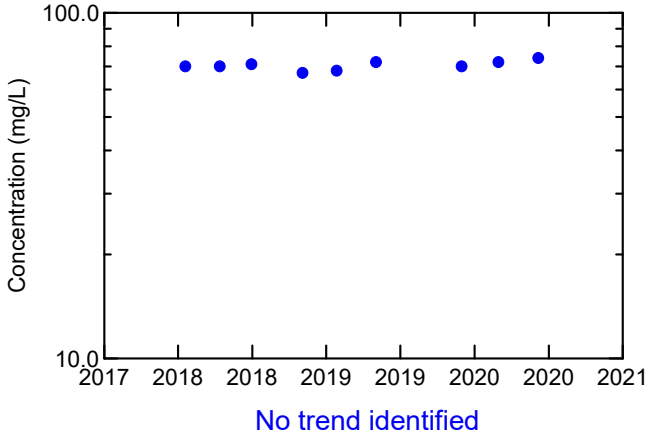
Increasing Trend

Calculated TDS



Probably Increasing

Hardness (CaCO3)



No trend identified

Legend:

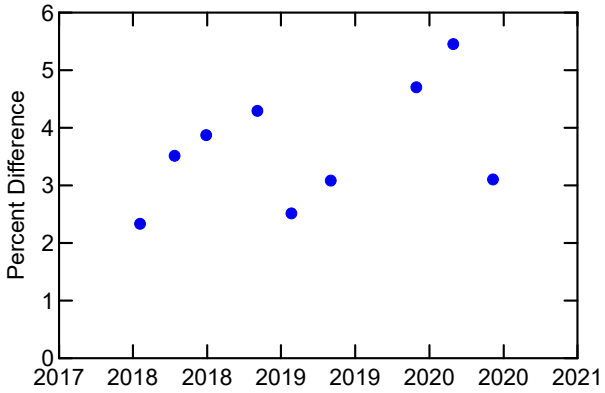
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines - Aesthetic

WELL MW-12B
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

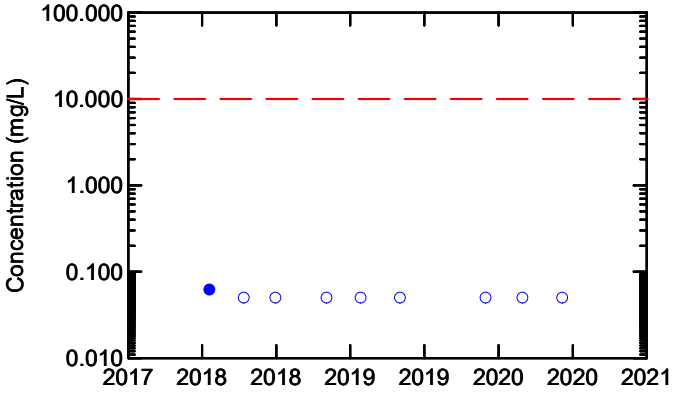
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Ion Balance



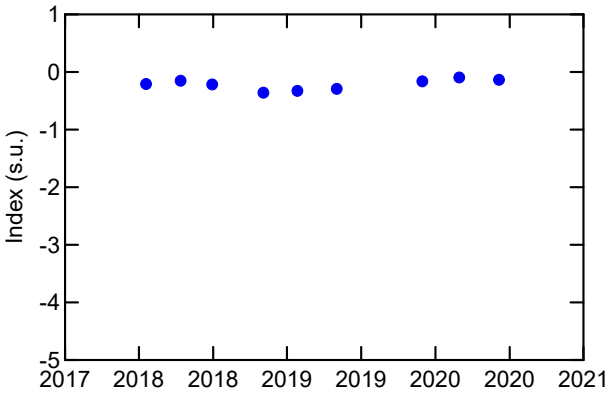
No trend identified

Nitrate



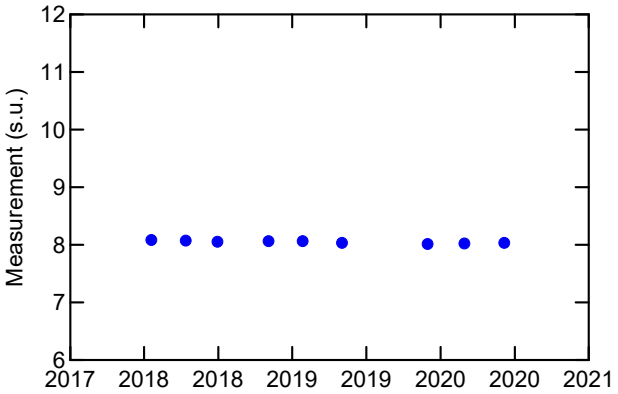
Over 50% non-detects

Langelier Index (@ 20C)



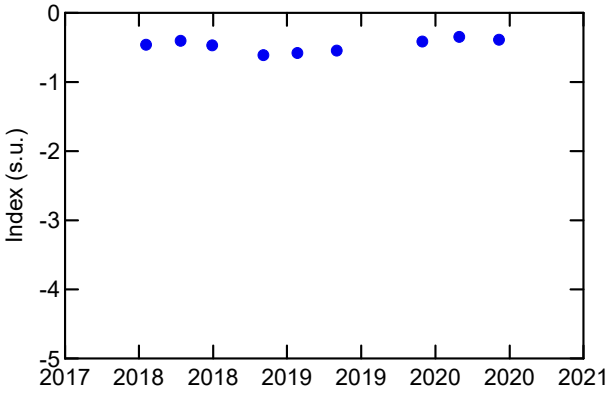
No trend identified

Saturation pH (@ 20C)



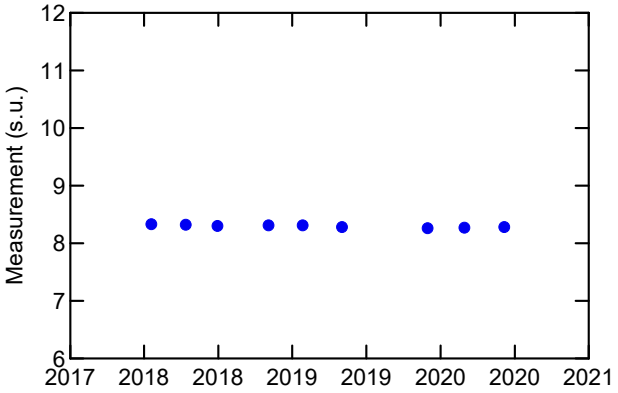
Decreasing Trend

Langelier Index (@ 4C)



No trend identified

Saturation pH (@ 4C)



Decreasing Trend

Legend:

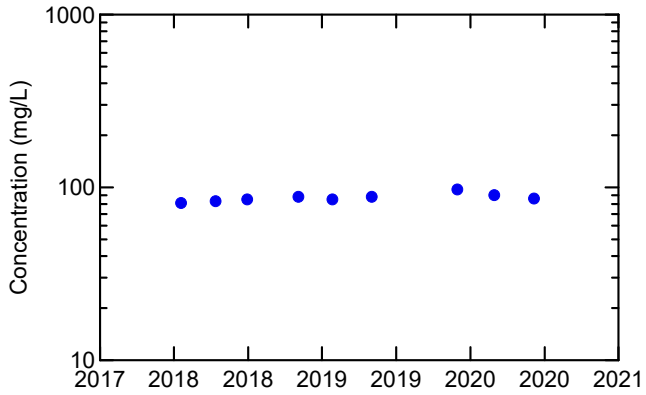
● Detected result ○ Non-Detect

— — Canadian Drinking Water Quality Guidelines: Maximum Acceptable

WELL MW-12B
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

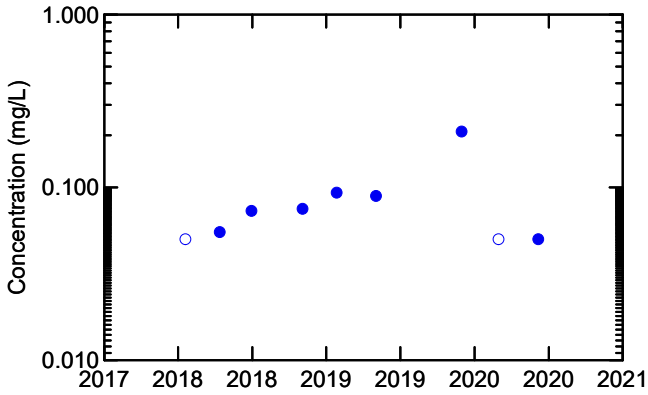
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Total Alkalinity (Total as CaCO3)



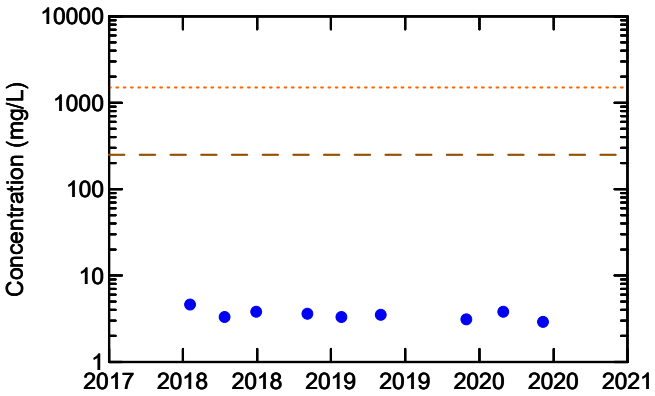
Increasing Trend

Nitrogen (Ammonia Nitrogen)



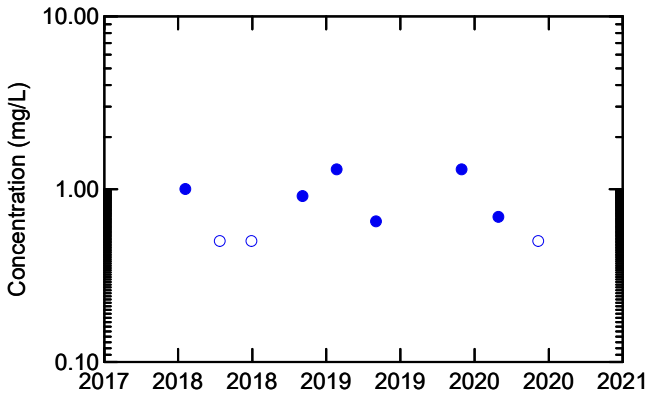
No trend identified

Dissolved Chloride



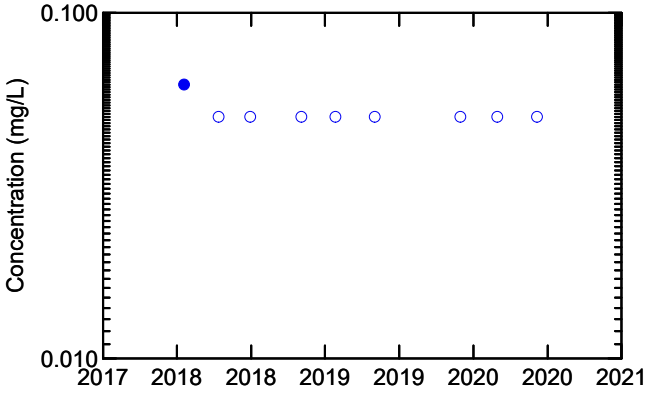
Stable

Total Organic Carbon



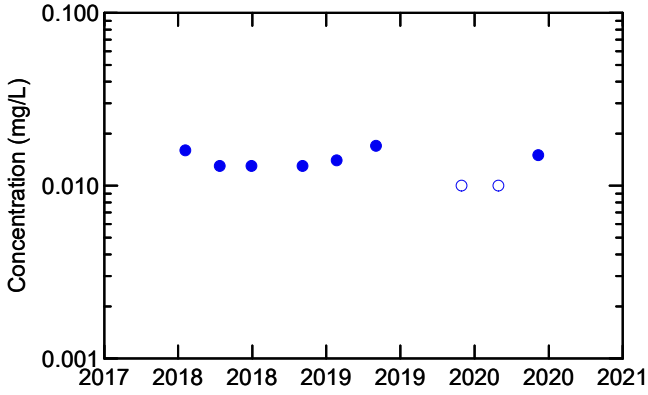
Stable

Nitrate + Nitrite



Over 50% non-detects

Orthophosphate



Stable

Legend:

● Detected result ○ Non-Detect

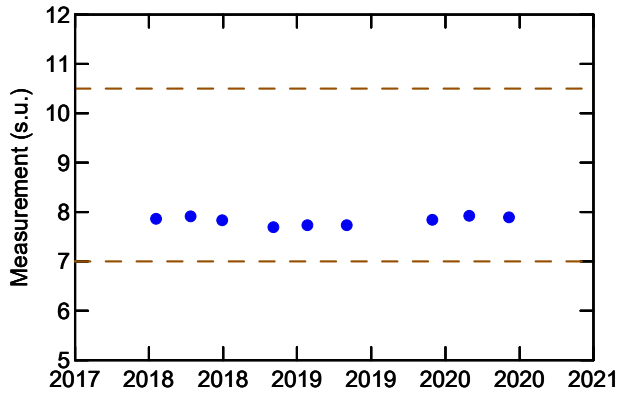
Nova Scotia (2014) Pathway-Specific Standard for Groundwater

Canadian Drinking Water Quality Guideline: Aesthetic

WELL MW-12B
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

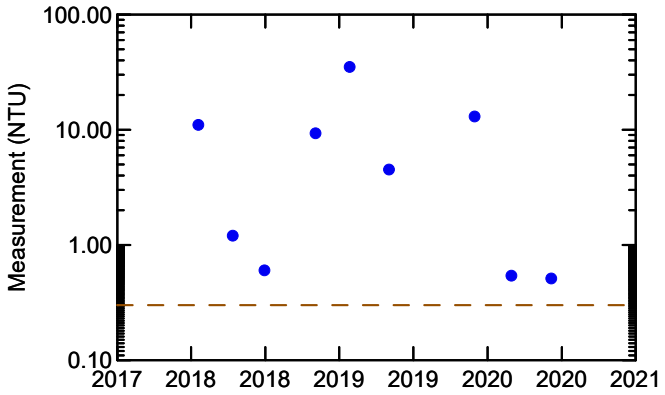
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

pH



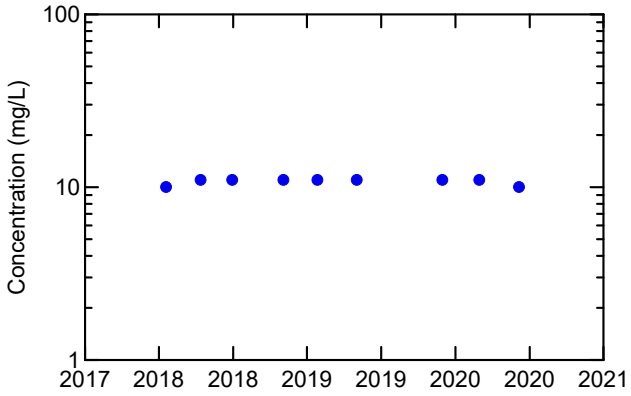
Stable

Turbidity



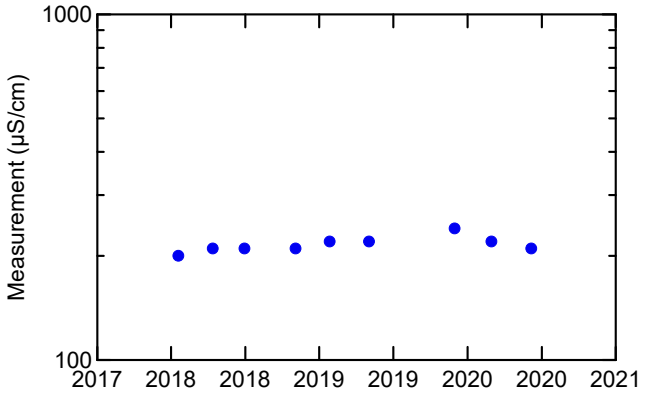
No trend identified

Reactive Silica (SiO2)



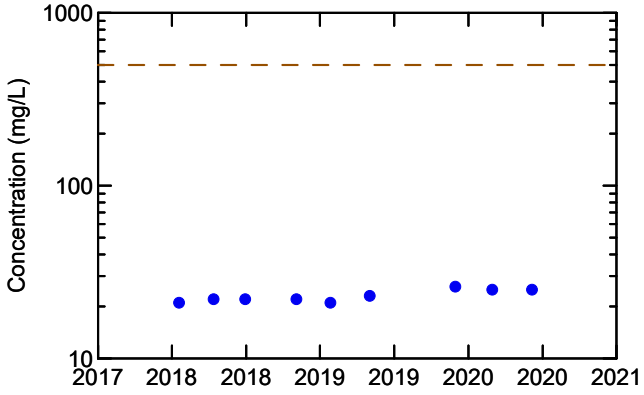
Stable

Conductivity



Probably Decreasing

Dissolved Sulphate (SO4)



Stable

Legend:

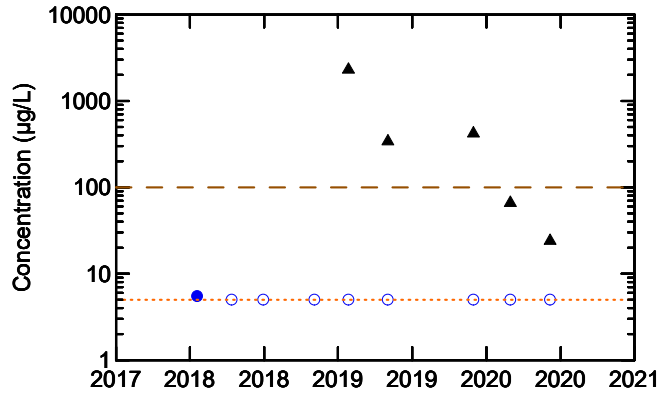
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines: Aesthetic

WELL MW-12B
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

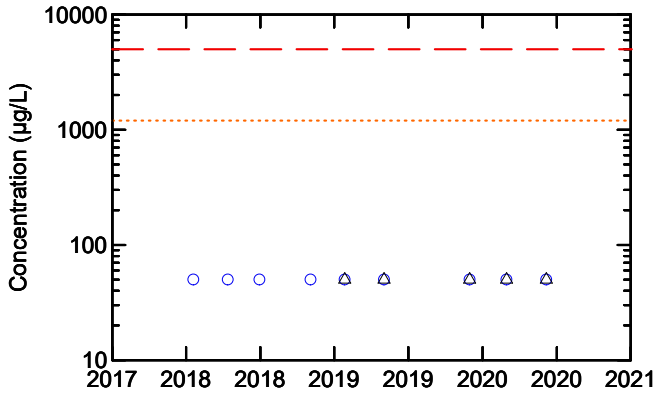
Aluminum



Total: Probably Decreasing

Dissolved: Over 50% non-detects

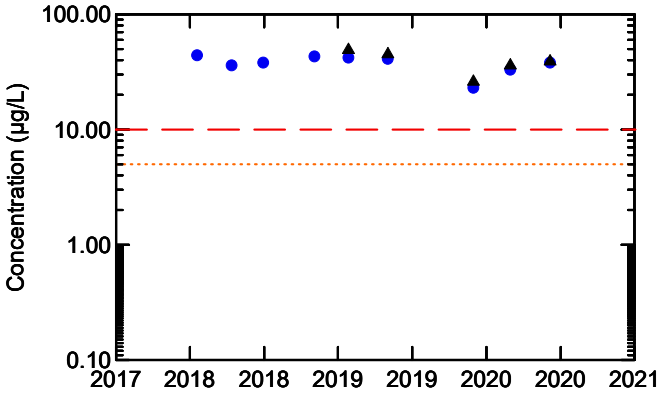
Boron



Total: No detected results

Dissolved: No detected results

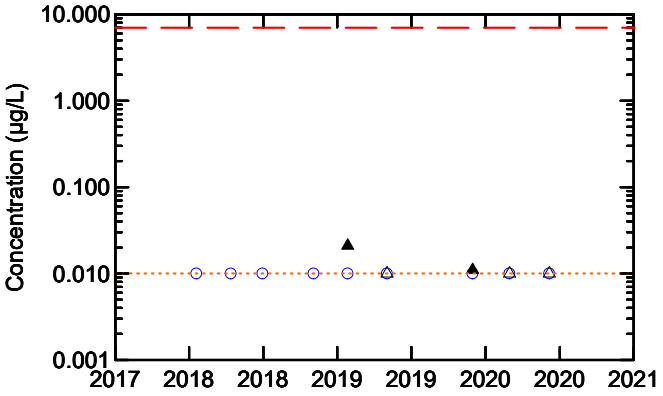
Arsenic



Total: Stable

Dissolved: Stable

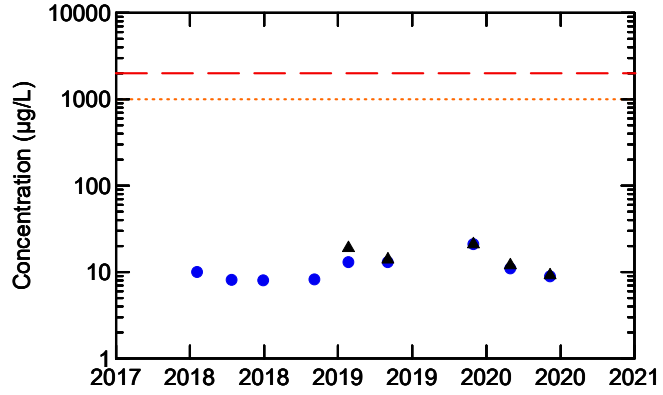
Cadmium



Total: Over 50% non-detects

Dissolved: No detected results

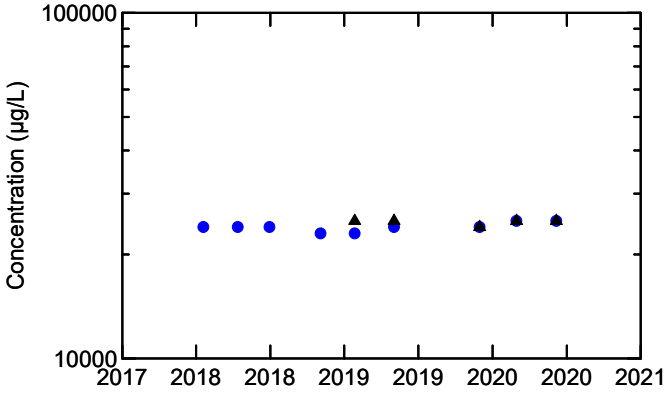
Barium



Total: Stable

Dissolved: No trend identified

Calcium



Total: Stable

Dissolved: No trend identified

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

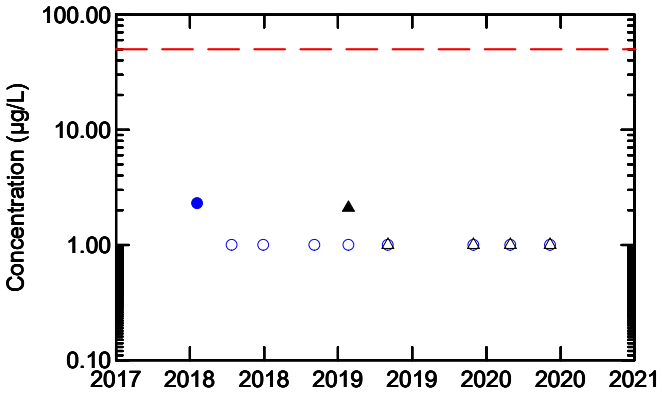
– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

WELL MW-12B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

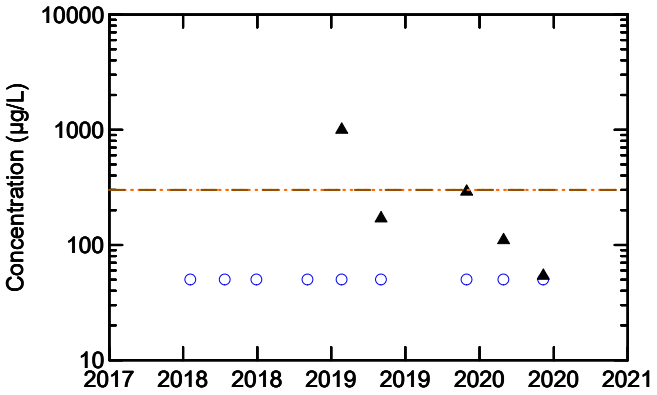
Chromium



Total: Over 50% non-detects

Dissolved: Over 50% non-detects

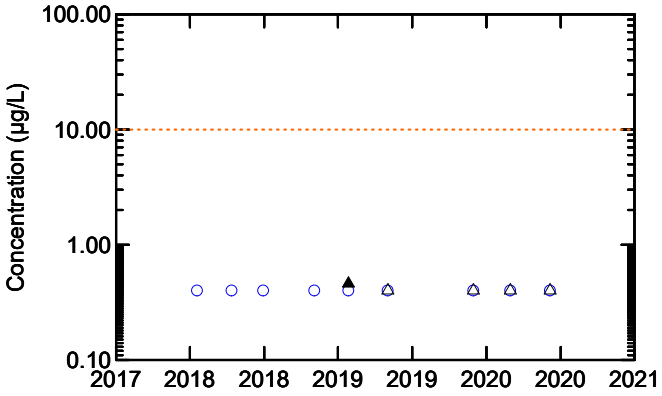
Iron



Total: Probably Decreasing

Dissolved: No detected results

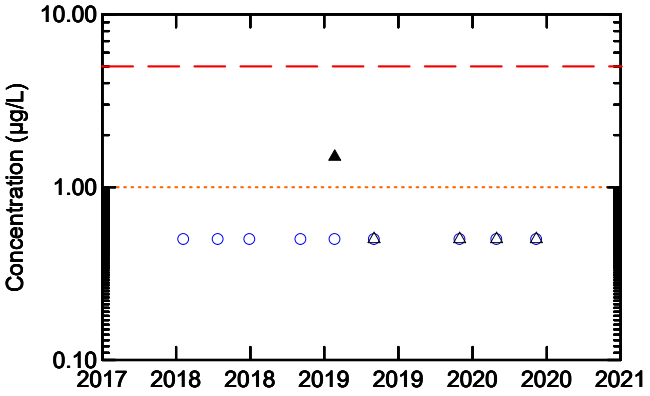
Cobalt



Total: Over 50% non-detects

Dissolved: No detected results

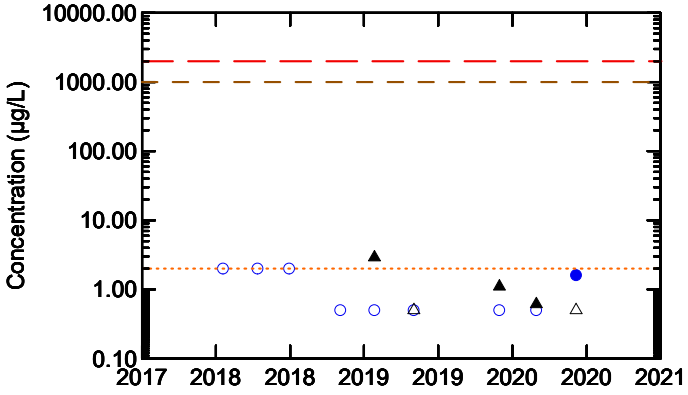
Lead



Total: Over 50% non-detects

Dissolved: No detected results

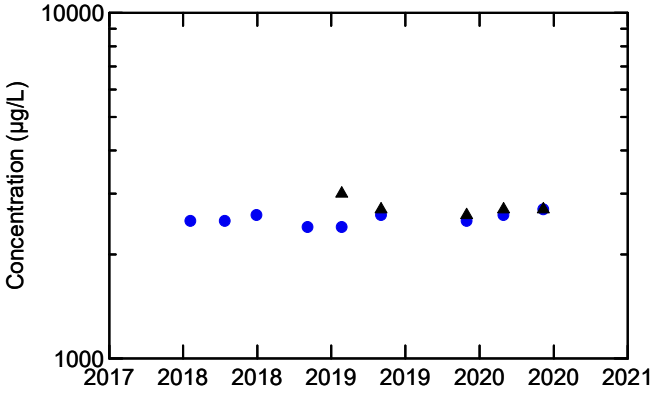
Copper



Total: No trend identified

Dissolved: Over 50% non-detects

Magnesium



Total: Stable

Dissolved: No trend identified

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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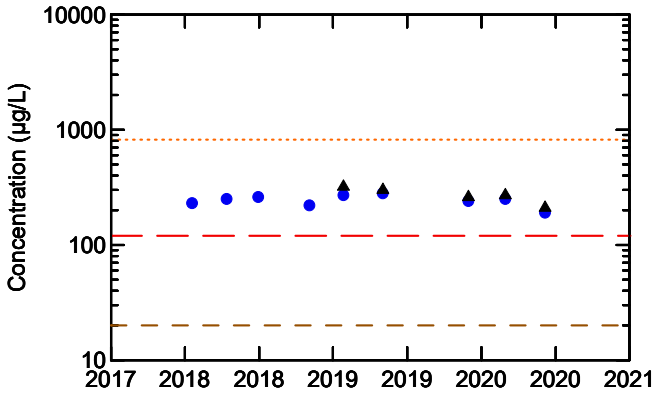
Non-detects are plotted at the reporting limit.

WELL MW-12B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

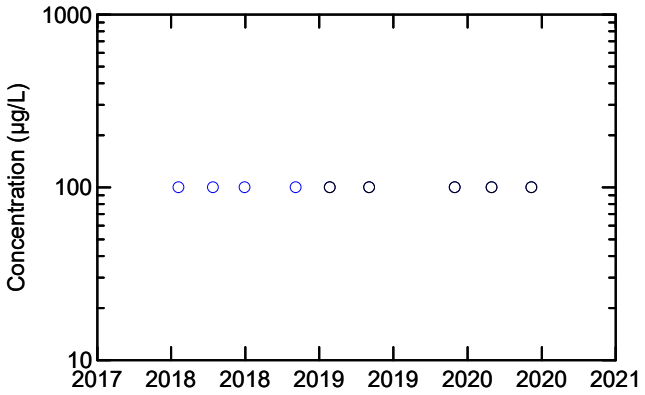
Manganese



Total: Probably Decreasing

Dissolved: Stable

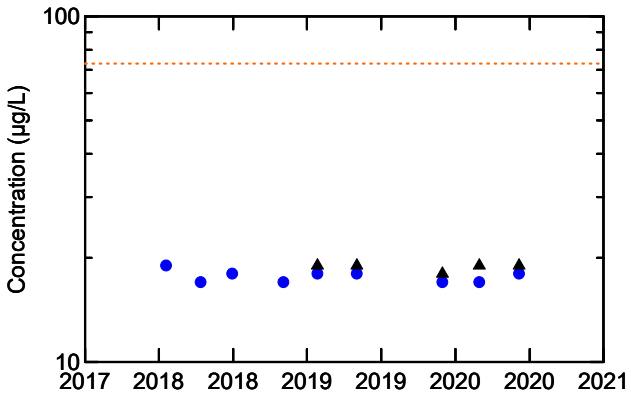
Phosphorus



Total: No detected results

Dissolved: No detected results

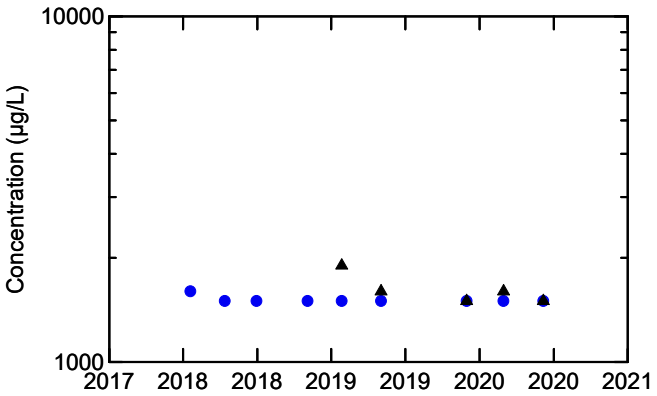
Molybdenum



Total: Stable

Dissolved: Stable

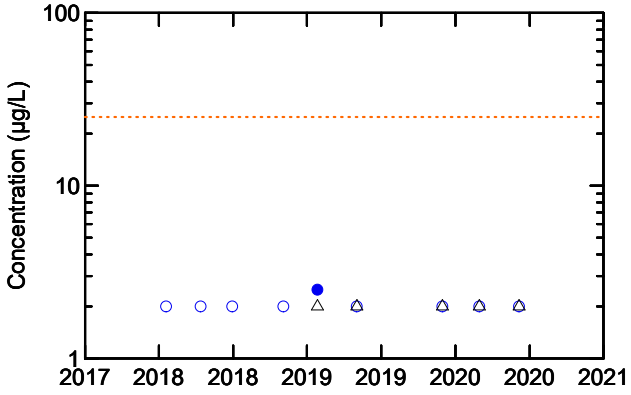
Potassium



Total: Stable

Dissolved: Stable

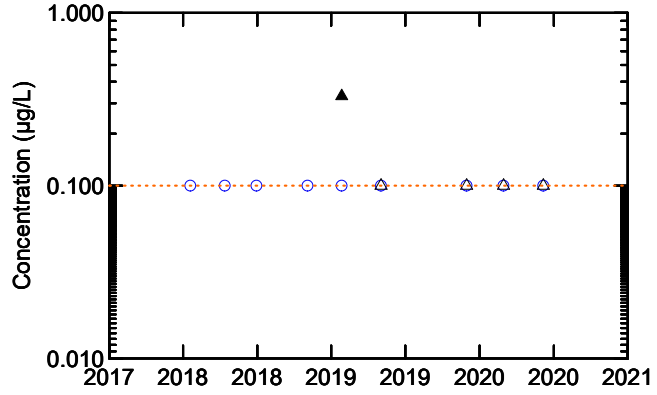
Nickel



Total: No detected results

Dissolved: Over 50% non-detects

Silver



Total: Over 50% non-detects

Dissolved: No detected results

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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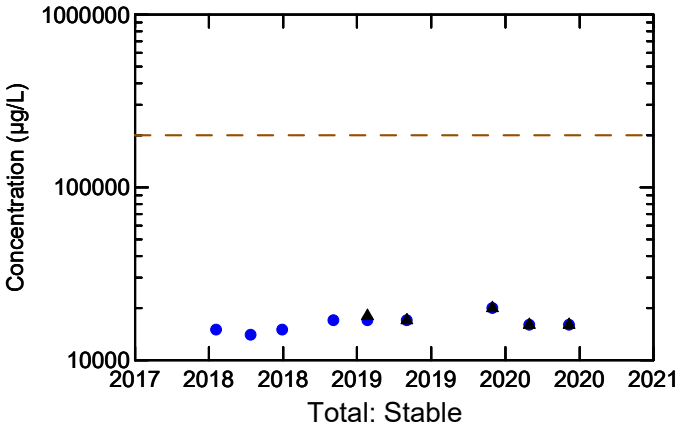
Non-detects are plotted at the reporting limit.

WELL MW-12B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

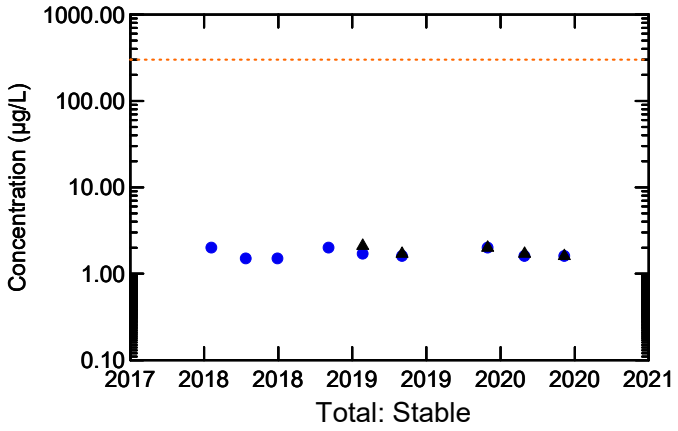
Sodium



Total: Stable

Dissolved: No trend identified

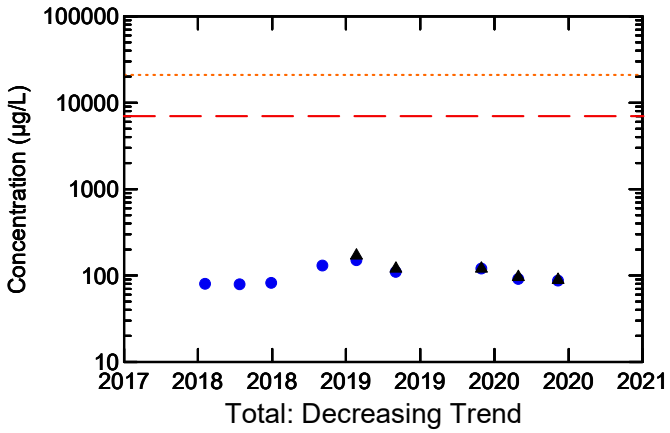
Uranium



Total: Stable

Dissolved: Stable

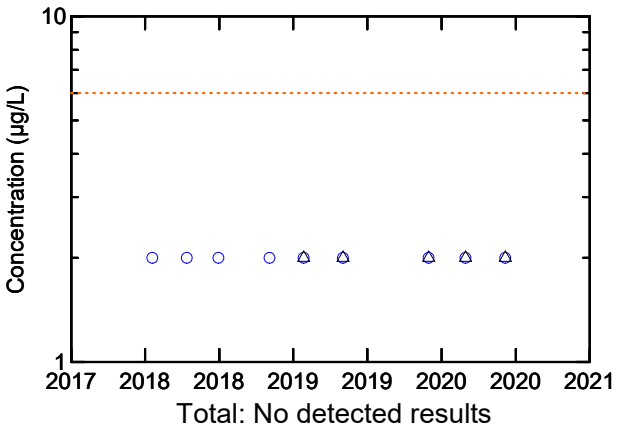
Strontium



Total: Decreasing Trend

Dissolved: No trend identified

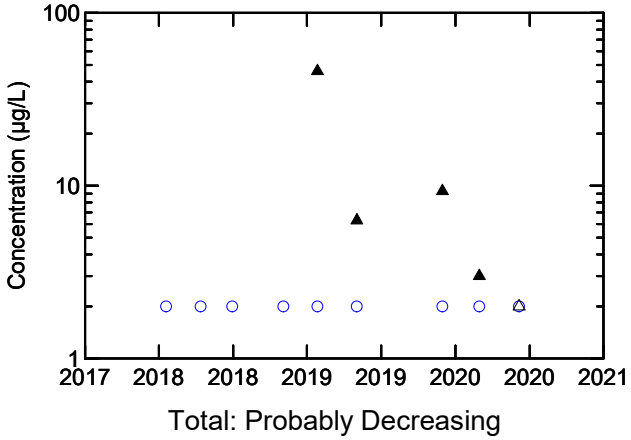
Vanadium



Total: No detected results

Dissolved: No detected results

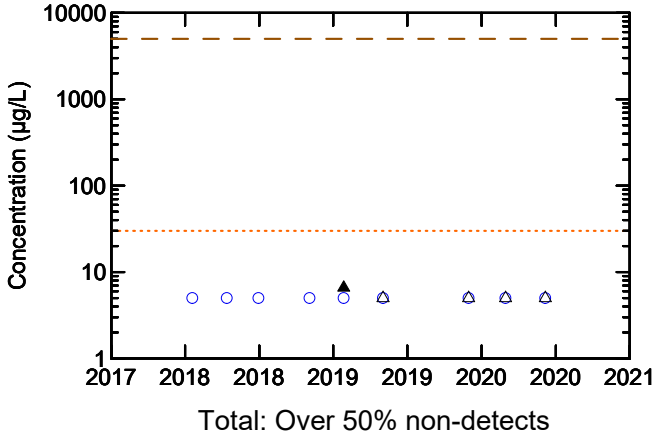
Titanium



Total: Probably Decreasing

Dissolved: No detected results

Zinc



Total: Over 50% non-detects

Dissolved: No detected results

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

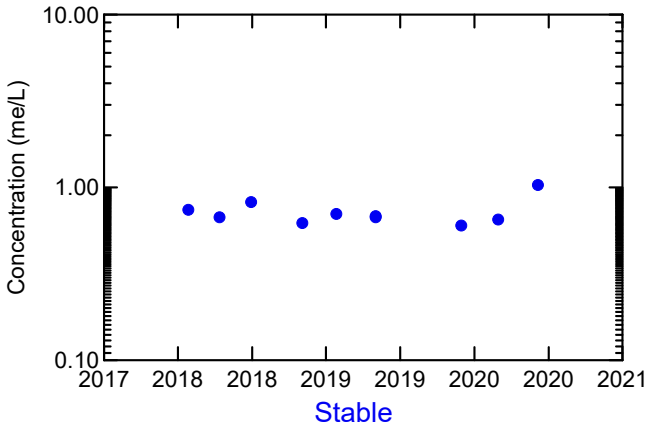
– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

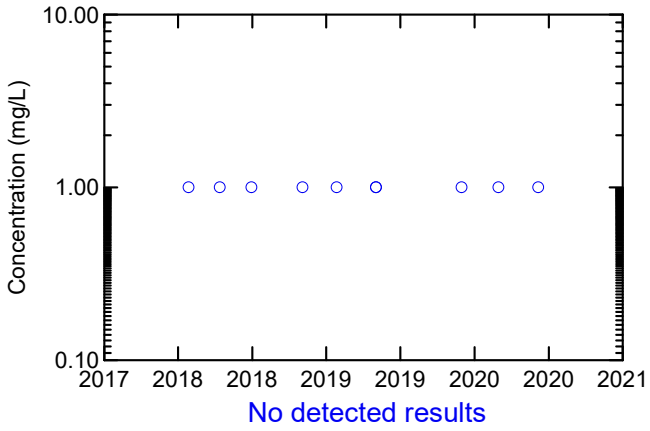
WELL MW-12B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Anion Sum



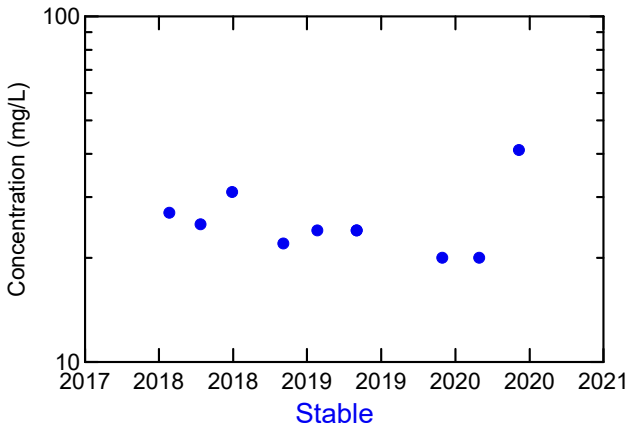
Stable

Carb. Alkalinity (calc. as CaCO3)



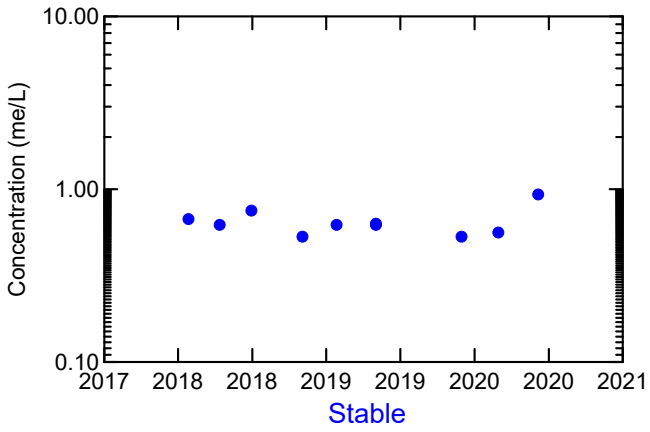
No detected results

Bicarb. Alkalinity (calc. as CaCO3)



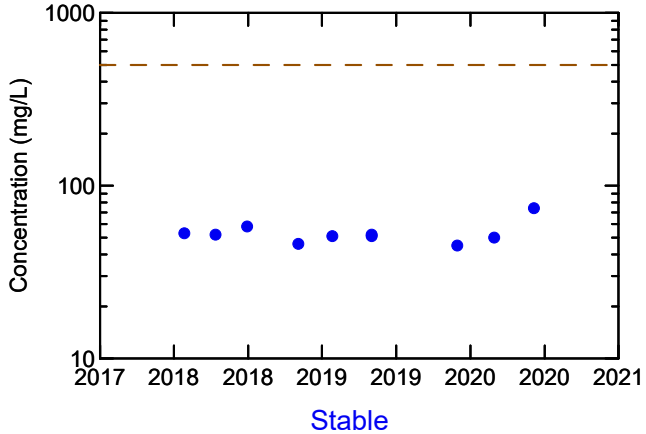
Stable

Cation Sum



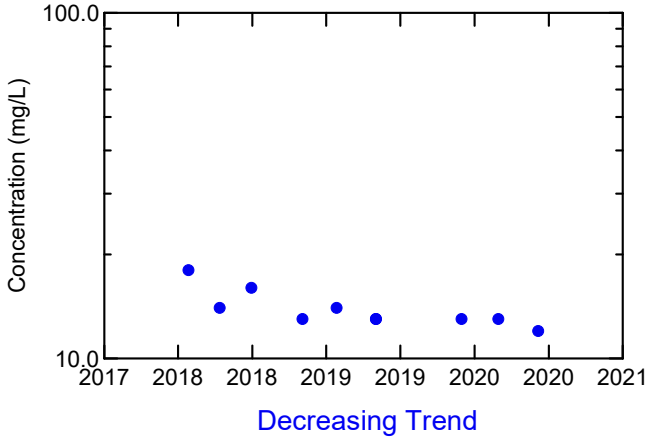
Stable

Calculated TDS



Stable

Hardness (CaCO3)



Decreasing Trend

Legend:

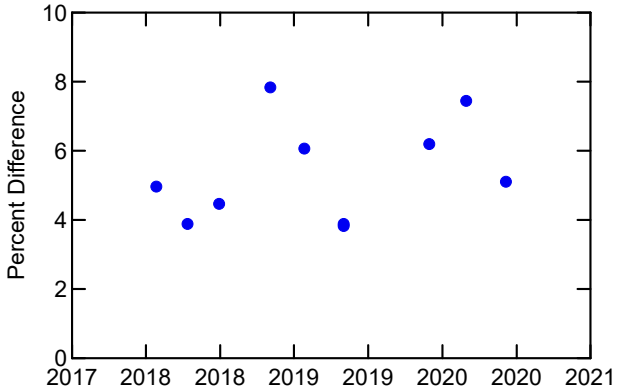
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines - Aesthetic

WELL MW-14A
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

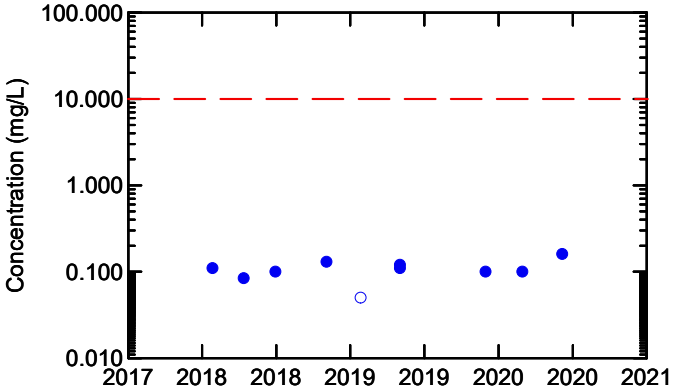
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Ion Balance



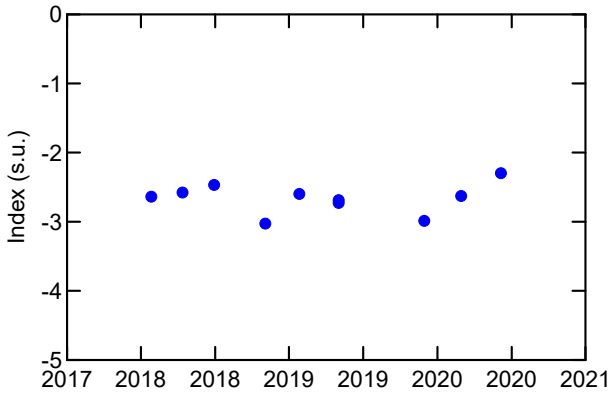
No trend identified

Nitrate



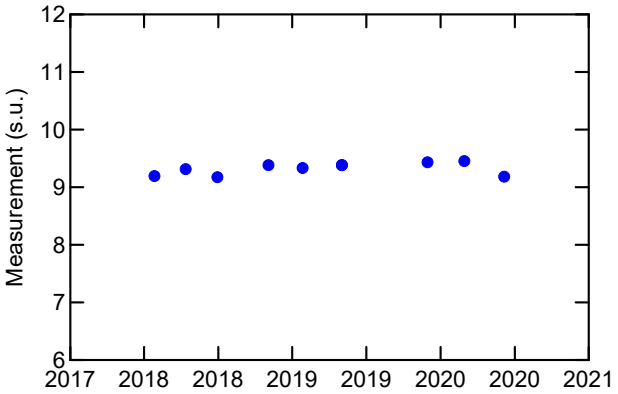
No trend identified

Langelier Index (@ 20C)



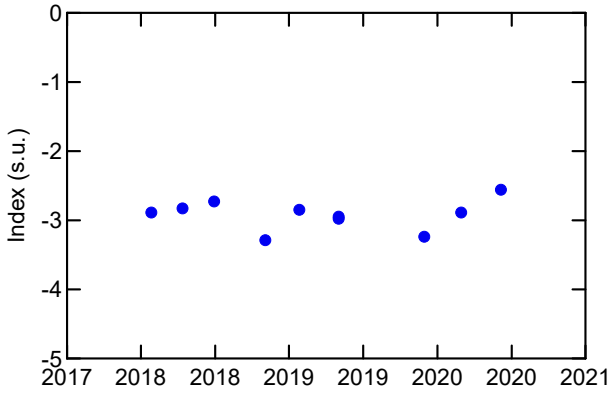
No trend identified

Saturation pH (@ 20C)



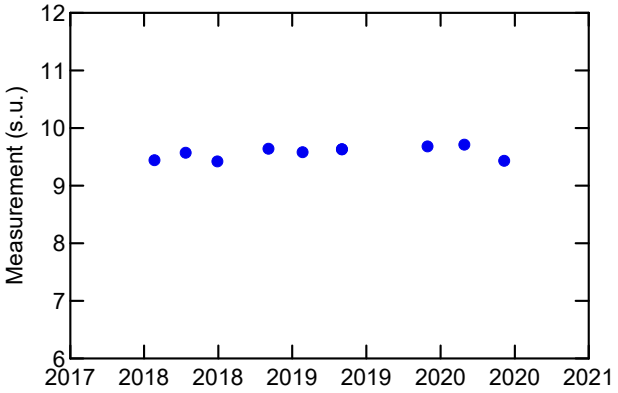
No trend identified

Langelier Index (@ 4C)



No trend identified

Saturation pH (@ 4C)



No trend identified

Legend:

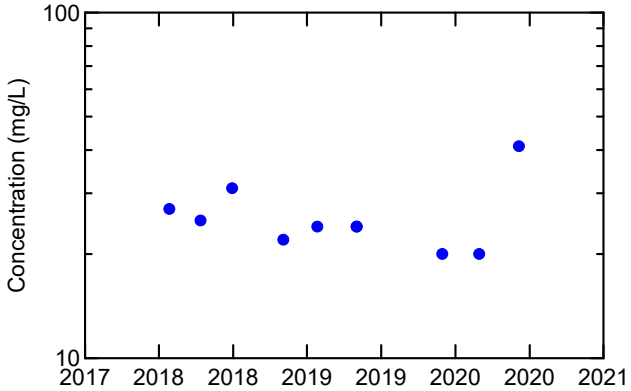
● Detected result ○ Non-Detect

— — Canadian Drinking Water Quality Guidelines: Maximum Acceptable

WELL MW-14A
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

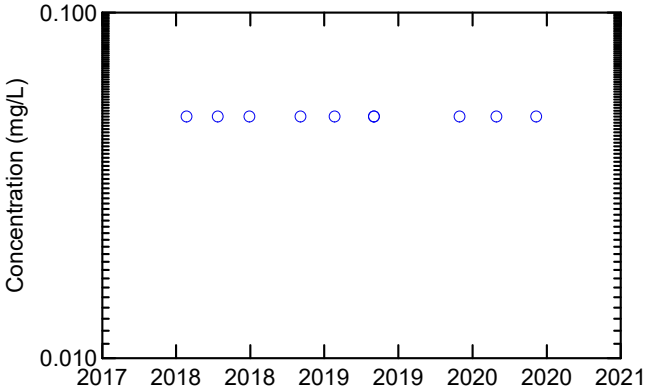
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Total Alkalinity (Total as CaCO3)



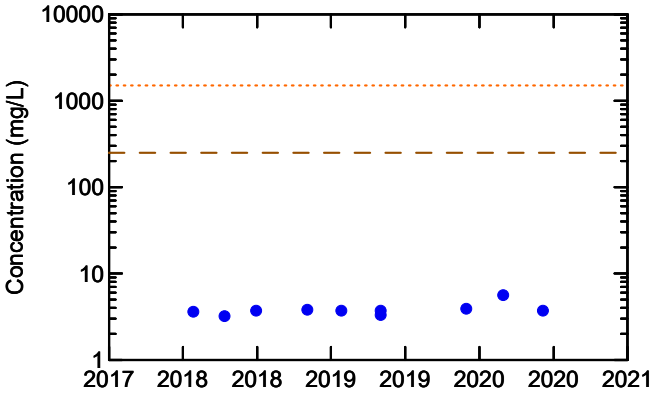
Stable

Nitrogen (Ammonia Nitrogen)



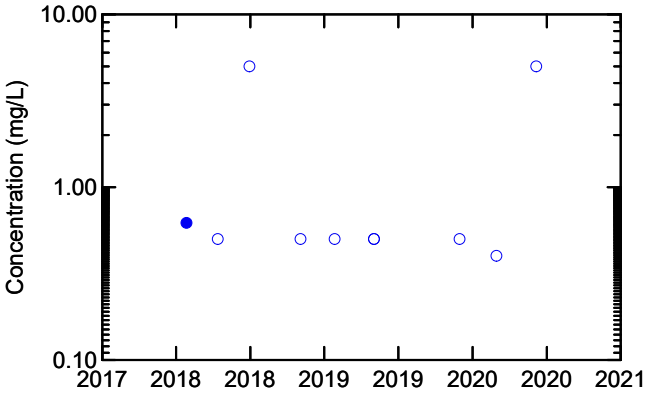
No detected results

Dissolved Chloride



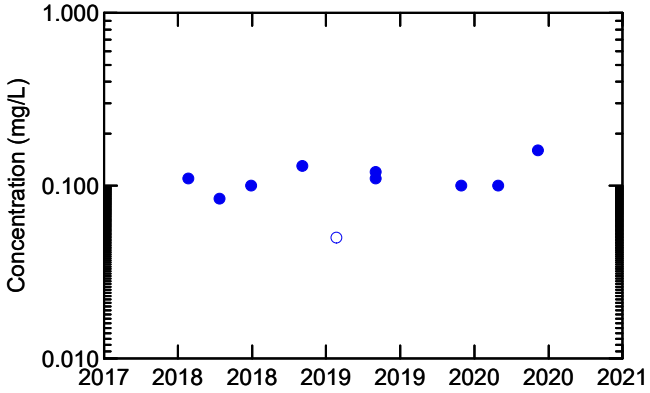
No trend identified

Total Organic Carbon



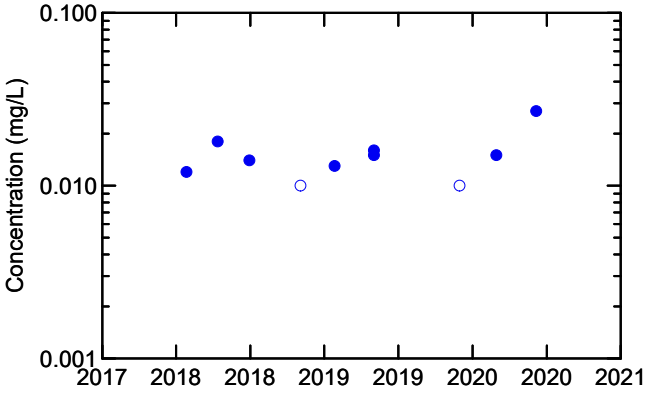
Over 50% non-detects

Nitrate + Nitrite



No trend identified

Orthophosphate



No trend identified

Legend:

● Detected result ○ Non-Detect

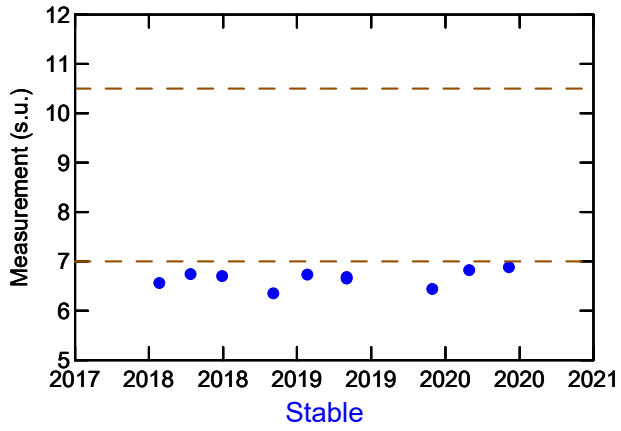
Nova Scotia (2014) Pathway-Specific Standard for Groundwater

Canadian Drinking Water Quality Guideline: Aesthetic

WELL MW-14A
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

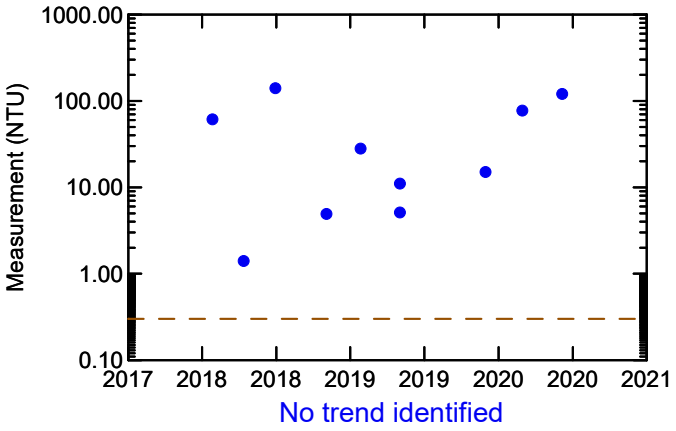
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

pH



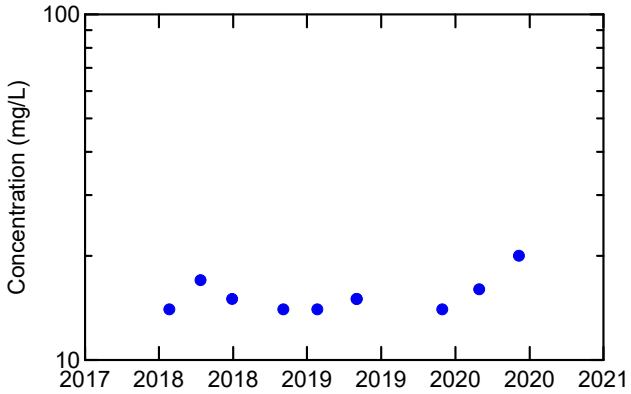
Stable

Turbidity



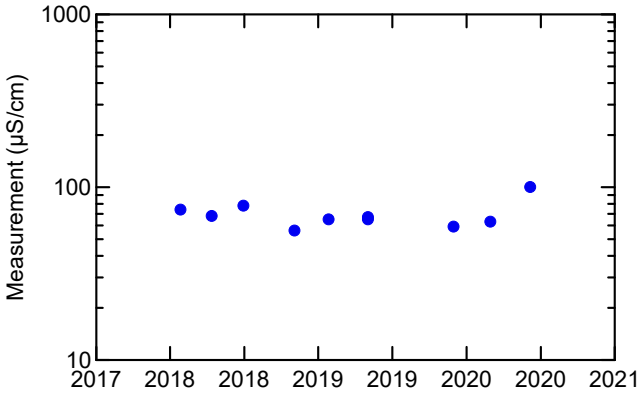
No trend identified

Reactive Silica (SiO2)



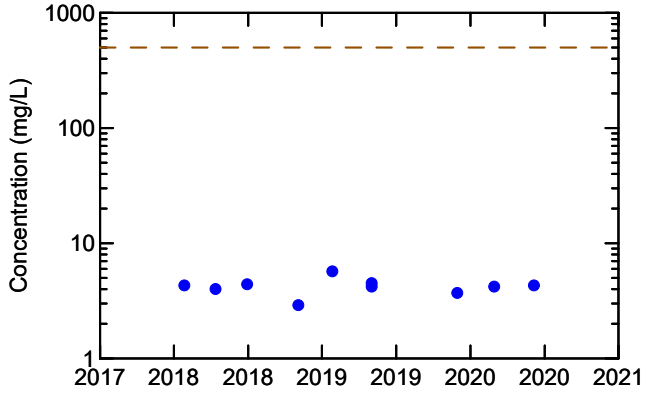
Stable

Conductivity



Probably Decreasing

Dissolved Sulphate (SO4)



Stable

Legend:

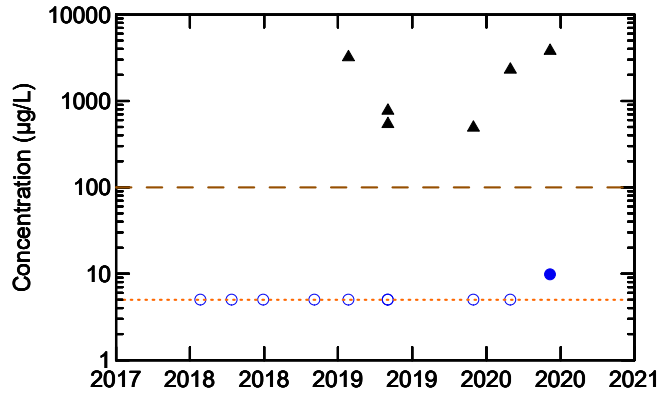
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines: Aesthetic

WELL MW-14A
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

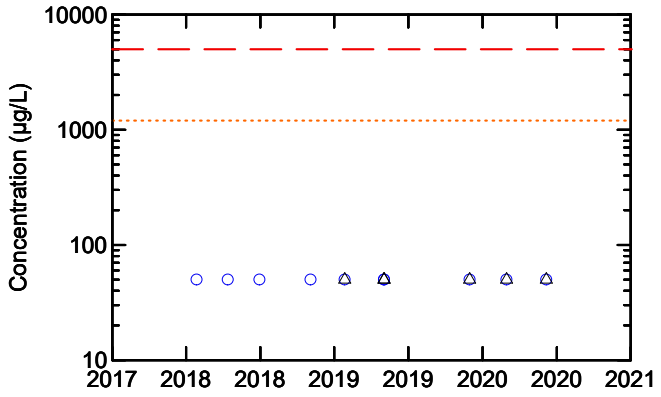
Aluminum



Total: No trend identified

Dissolved: Over 50% non-detects

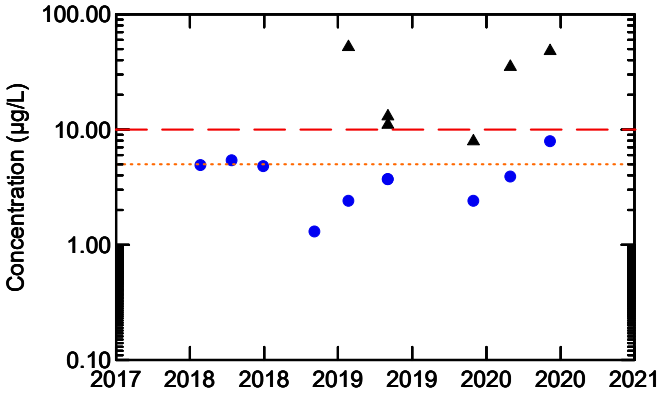
Boron



Total: No detected results

Dissolved: No detected results

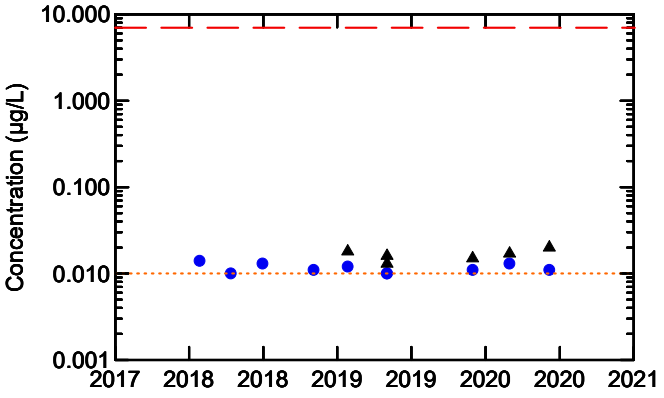
Arsenic



Total: Stable

Dissolved: Stable

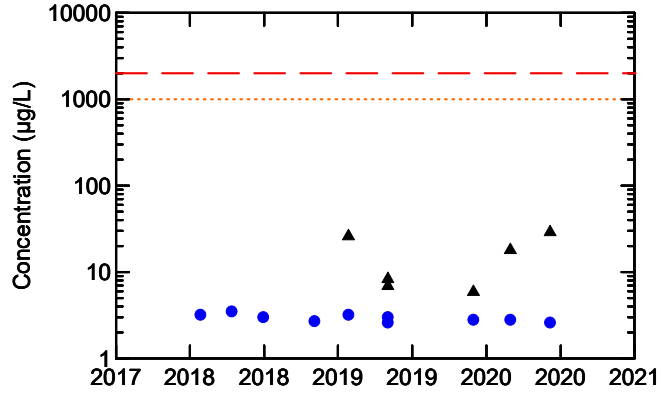
Cadmium



Total: No trend identified

Dissolved: Stable

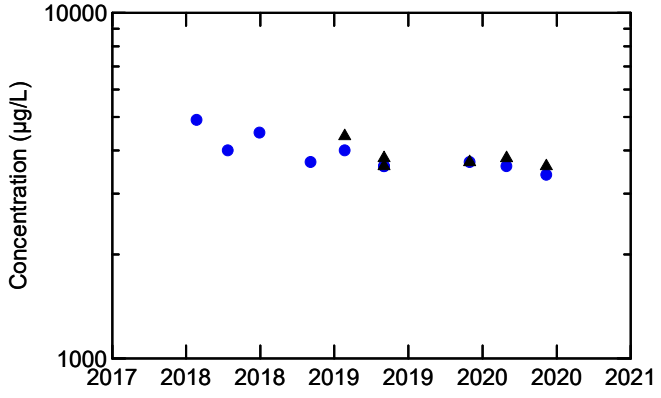
Barium



Total: No trend identified

Dissolved: Decreasing Trend

Calcium



Total: Stable

Dissolved: Decreasing Trend

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

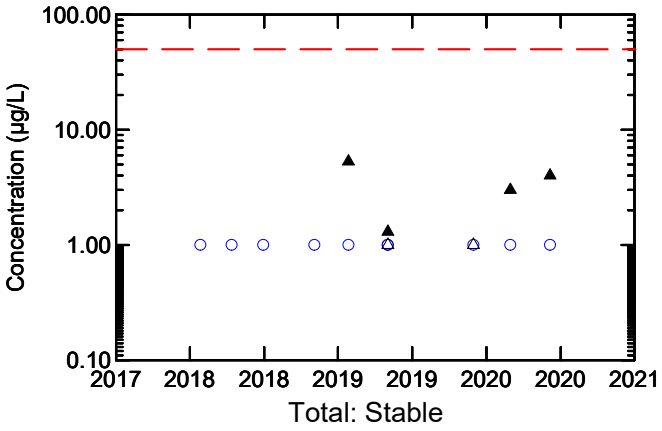
– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

WELL MW-14A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

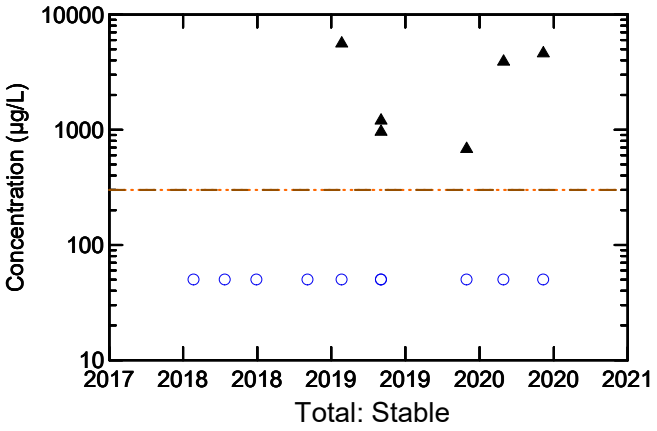
Chromium



Total: Stable

Dissolved: No detected results

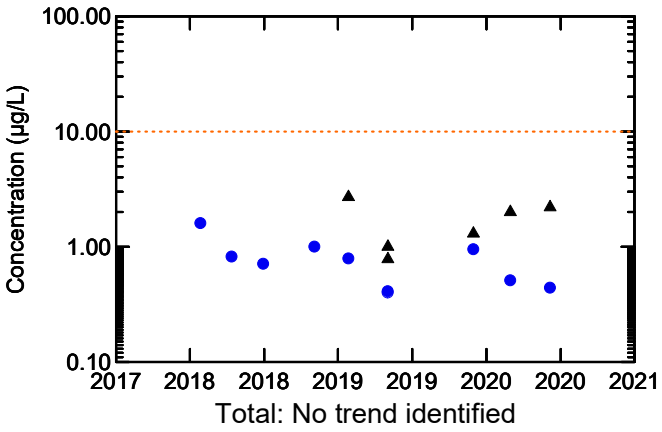
Iron



Total: Stable

Dissolved: No detected results

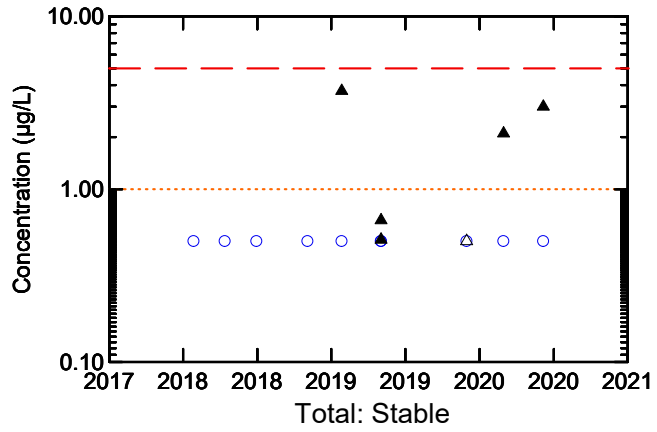
Cobalt



Total: No trend identified

Dissolved: Probably Decreasing

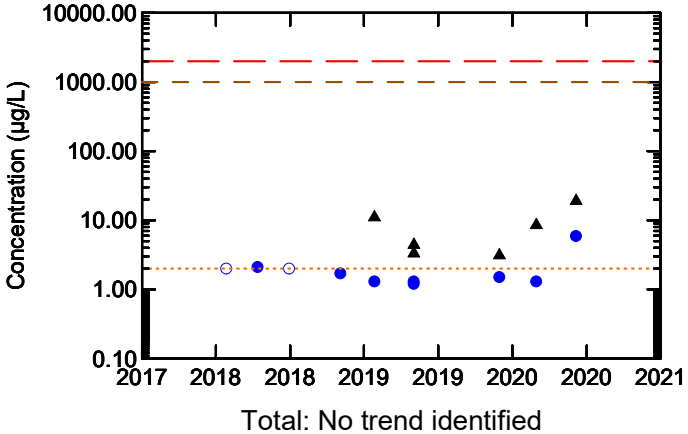
Lead



Total: Stable

Dissolved: No detected results

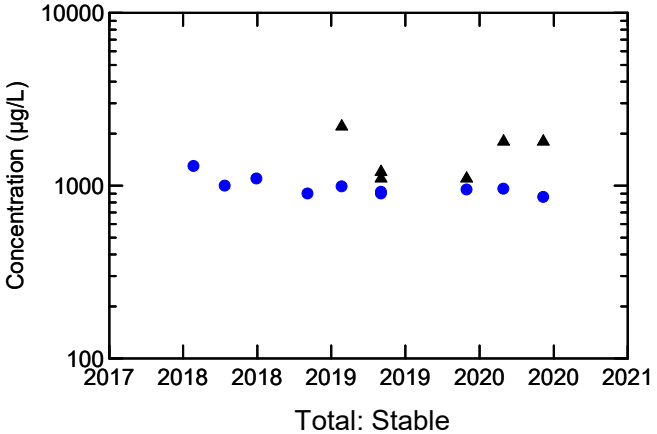
Copper



Total: No trend identified

Dissolved: Stable

Magnesium



Total: Stable

Dissolved: Decreasing Trend

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

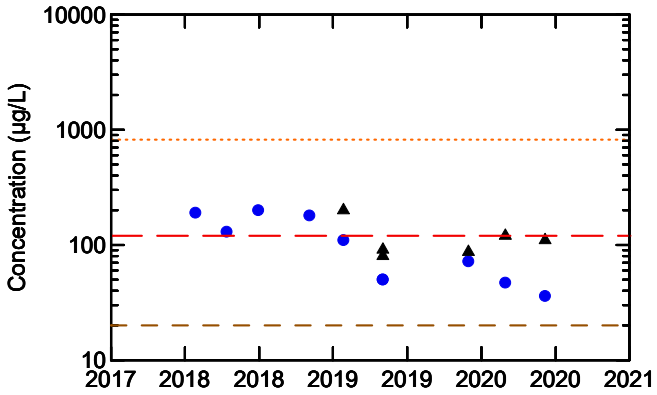
– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

WELL MW-14A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

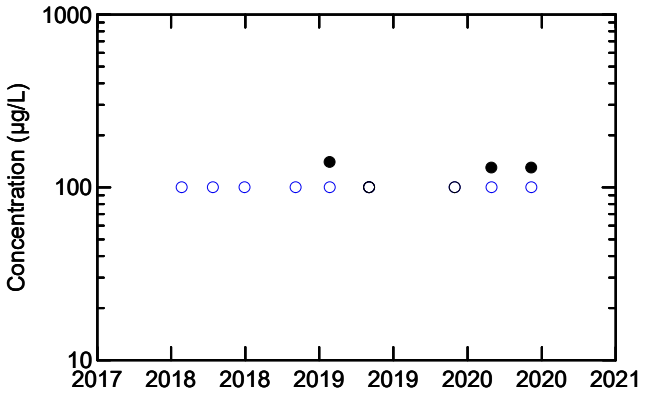
Manganese



Total: Stable

Dissolved: Decreasing Trend

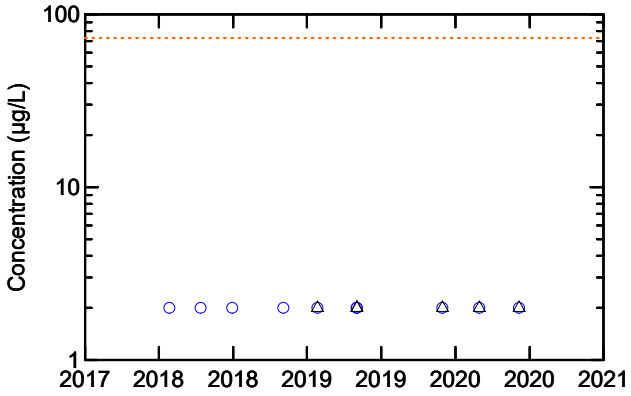
Phosphorus



Total: Stable

Dissolved: No detected results

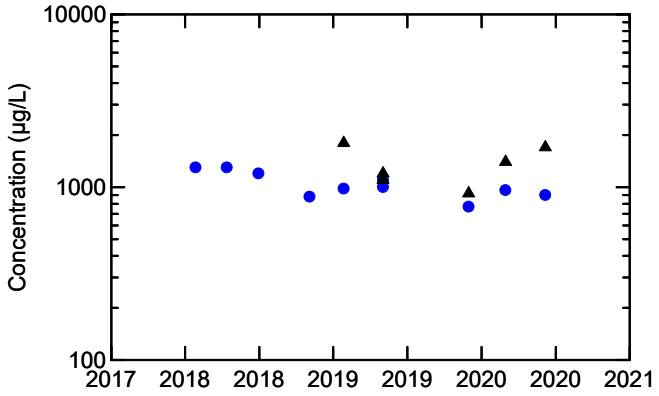
Molybdenum



Total: No detected results

Dissolved: No detected results

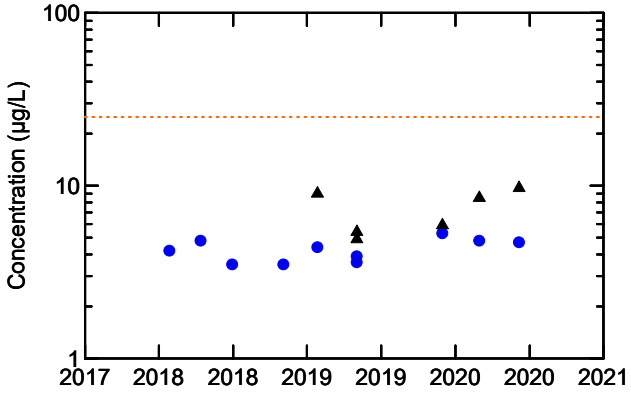
Potassium



Total: Stable

Dissolved: Decreasing Trend

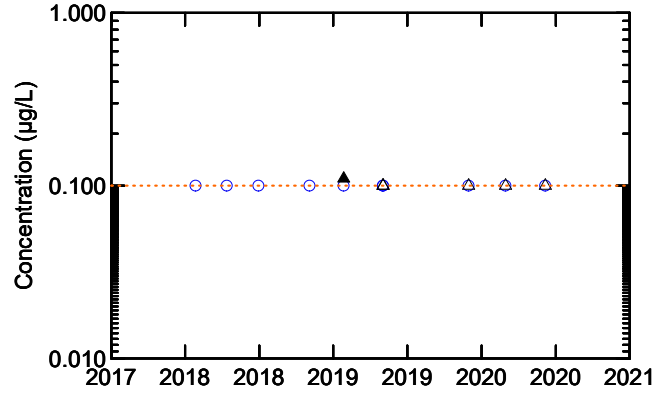
Nickel



Total: No trend identified

Dissolved: No trend identified

Silver



Total: Over 50% non-detects

Dissolved: No detected results

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

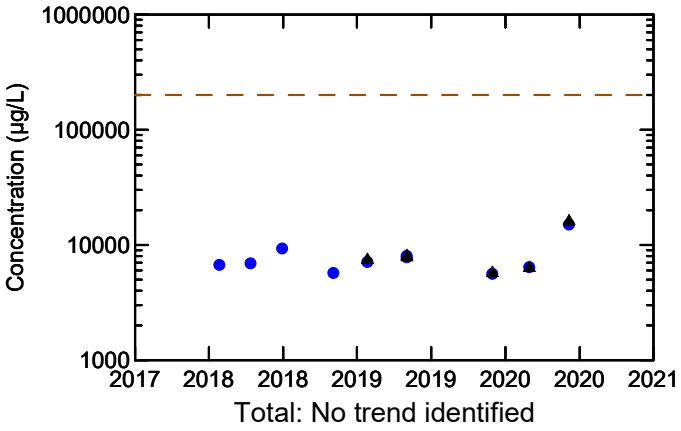
– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

WELL MW-14A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

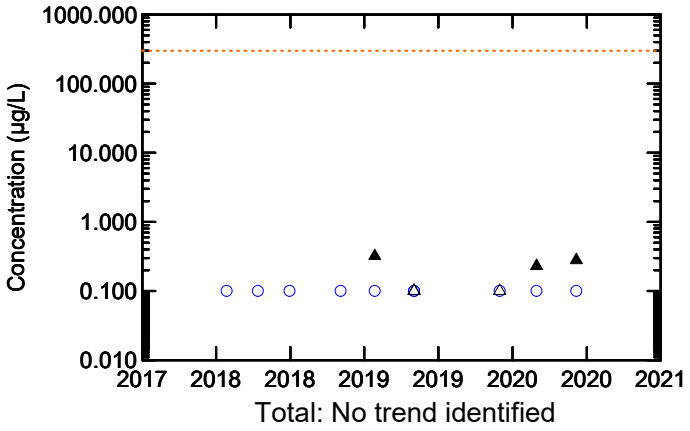
Sodium



Total: No trend identified

Dissolved: No trend identified

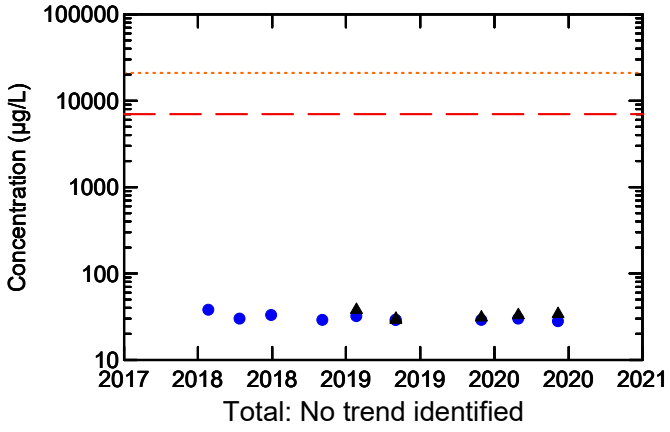
Uranium



Total: No trend identified

Dissolved: No detected results

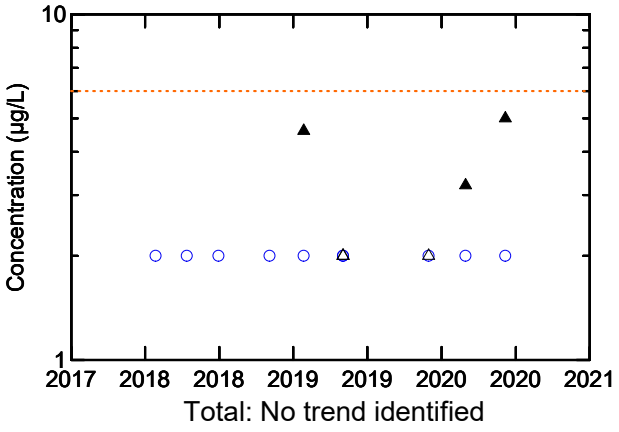
Strontium



Total: No trend identified

Dissolved: Decreasing Trend

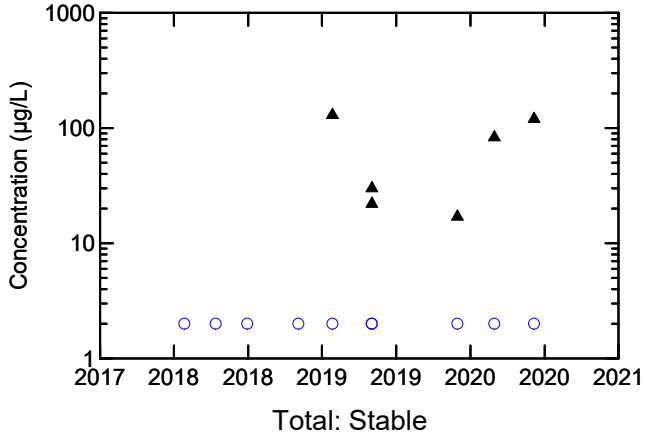
Vanadium



Total: No trend identified

Dissolved: No detected results

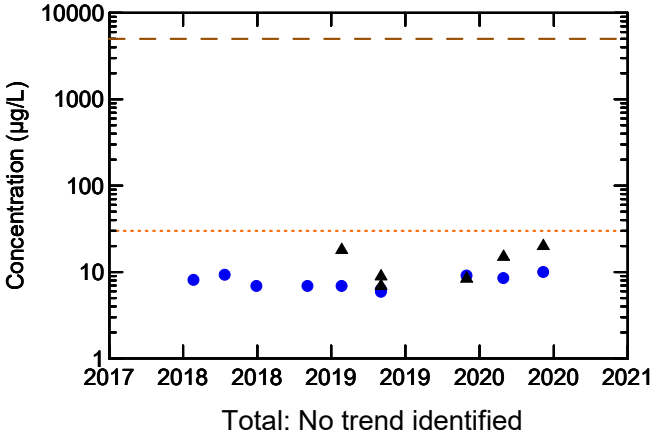
Titanium



Total: Stable

Dissolved: No detected results

Zinc



Total: No trend identified

Dissolved: No trend identified

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

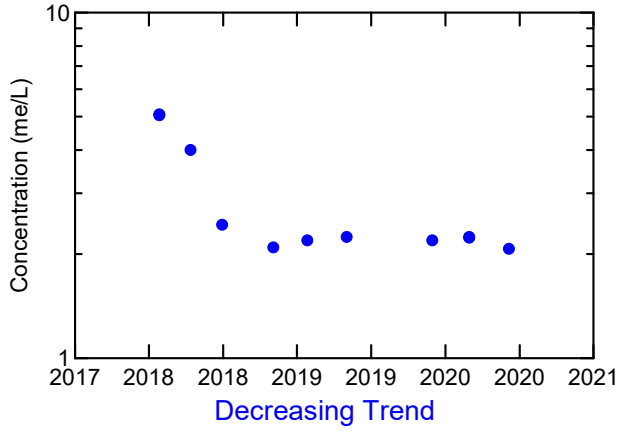
– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

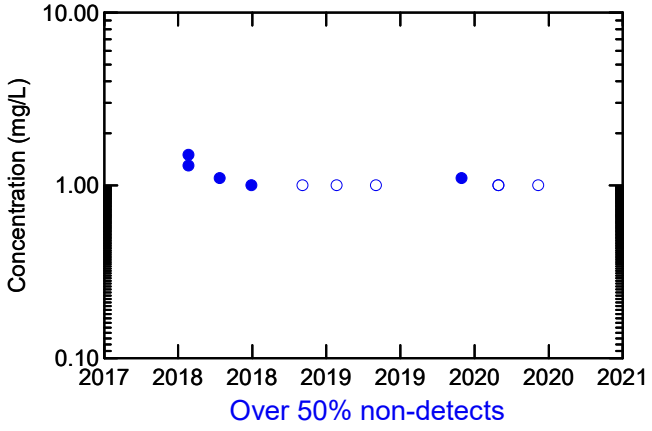
WELL MW-14A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Anion Sum



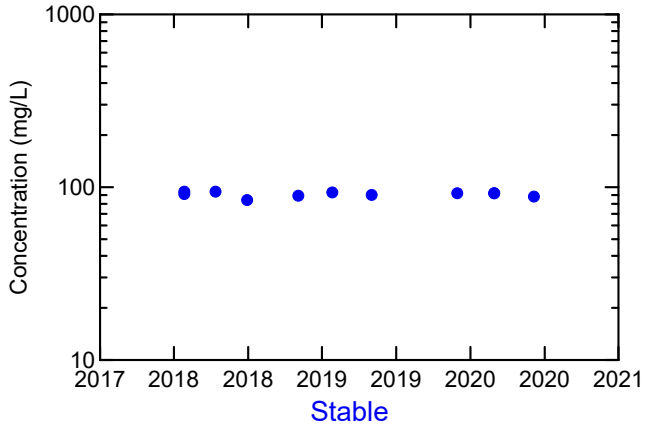
Decreasing Trend

Carb. Alkalinity (calc. as CaCO3)



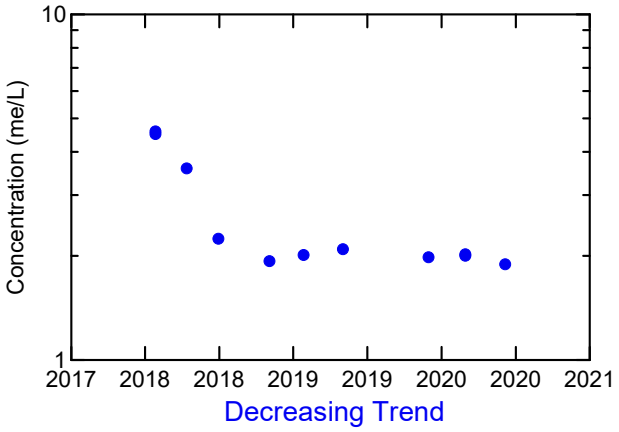
Over 50% non-detects

Bicarb. Alkalinity (calc. as CaCO3)



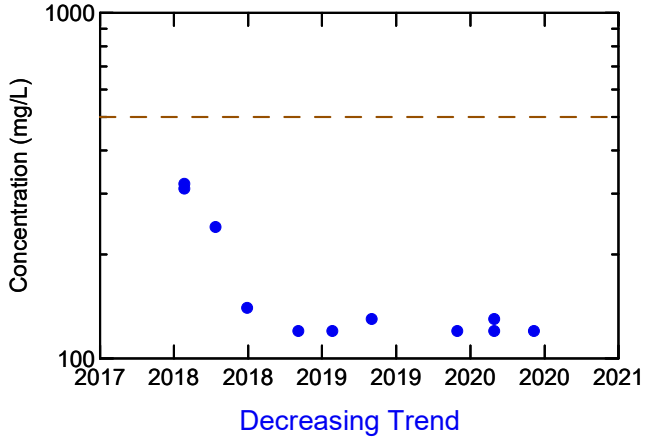
Stable

Cation Sum



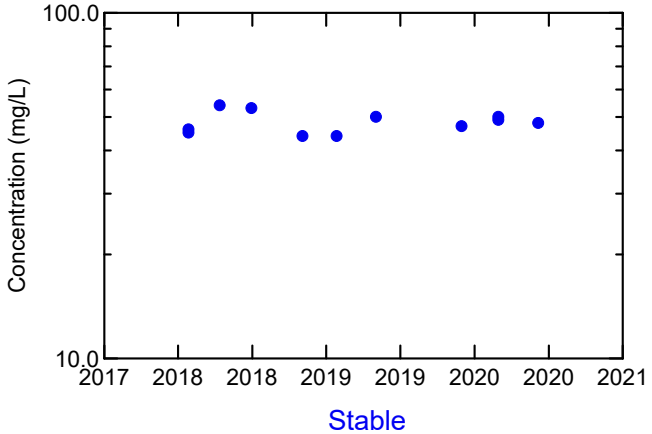
Decreasing Trend

Calculated TDS



Decreasing Trend

Hardness (CaCO3)



Stable

Legend:

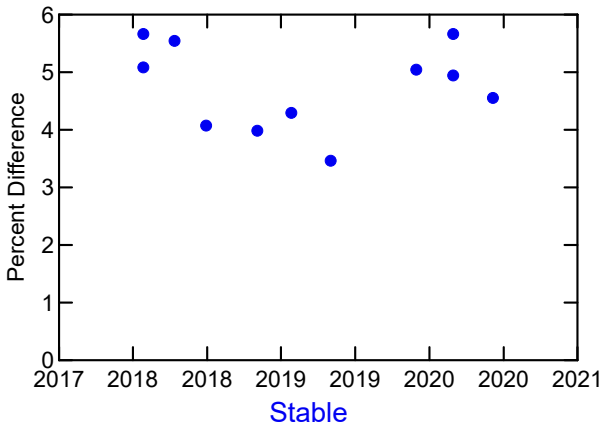
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines - Aesthetic

WELL MW-14B
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

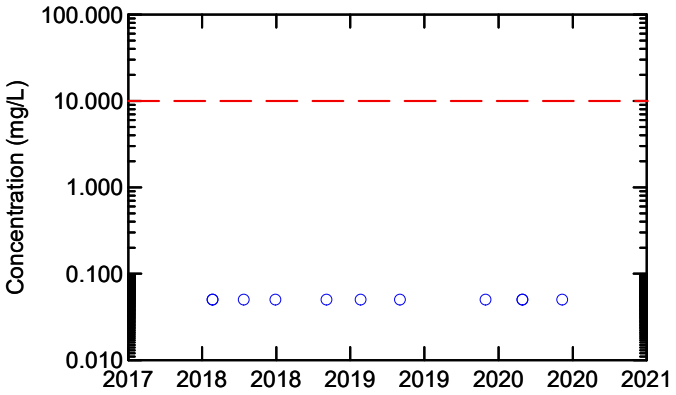
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Ion Balance



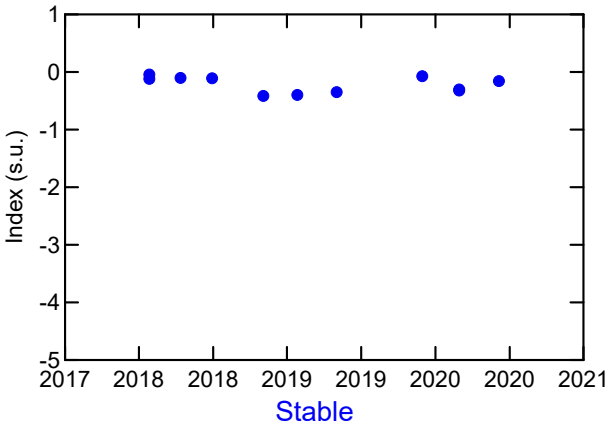
Stable

Nitrate



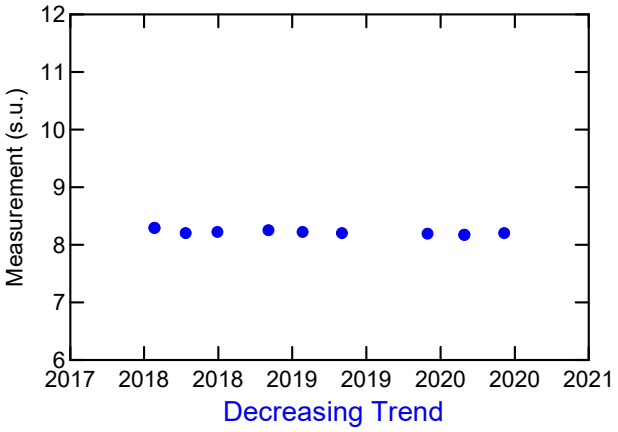
No detected results

Langelier Index (@ 20C)



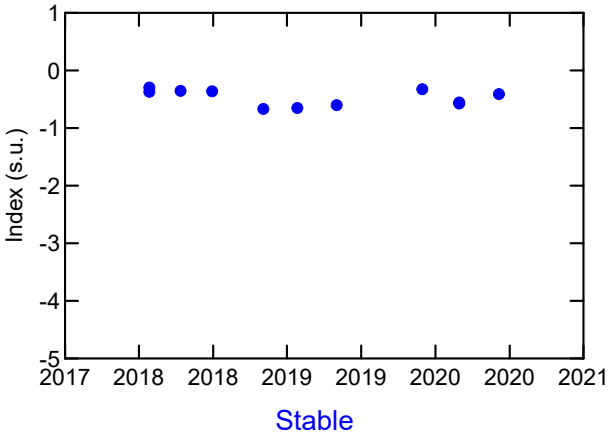
Stable

Saturation pH (@ 20C)



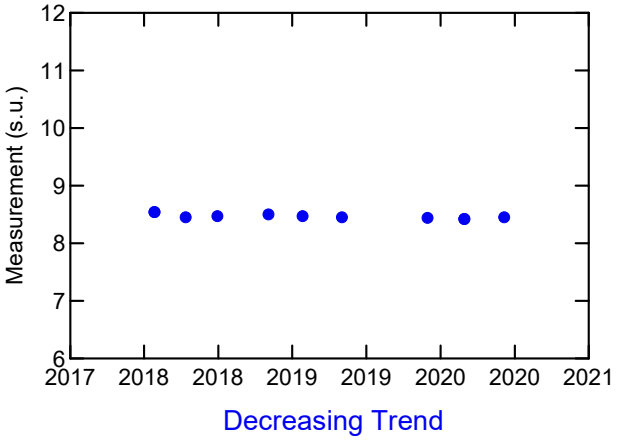
Decreasing Trend

Langelier Index (@ 4C)



Stable

Saturation pH (@ 4C)



Decreasing Trend

Legend:

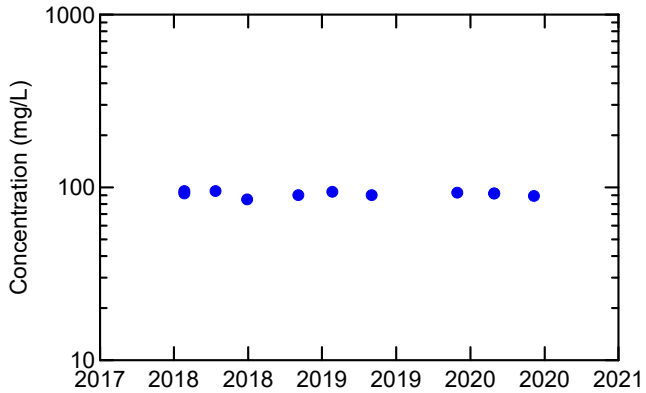
● Detected result ○ Non-Detect

— — Canadian Drinking Water Quality Guidelines: Maximum Acceptable

WELL MW-14B
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

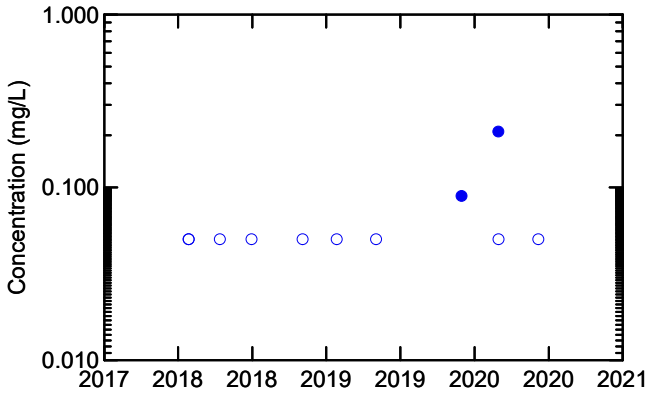
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Total Alkalinity (Total as CaCO3)



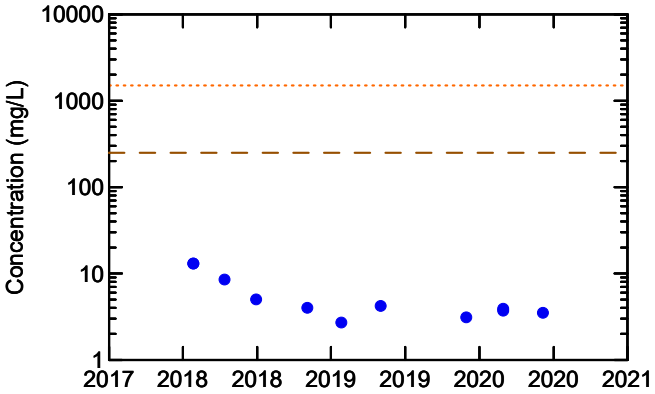
Stable

Nitrogen (Ammonia Nitrogen)



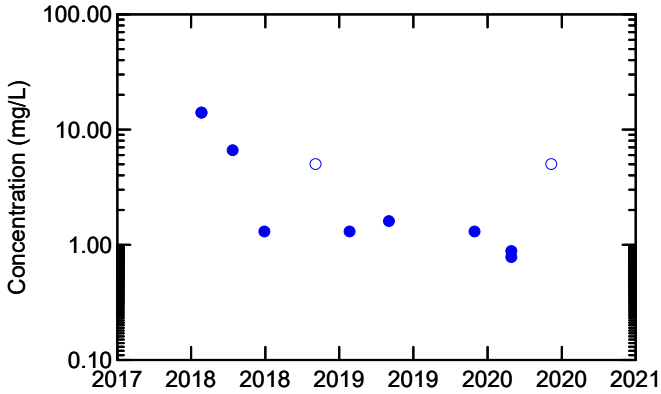
Over 50% non-detects

Dissolved Chloride



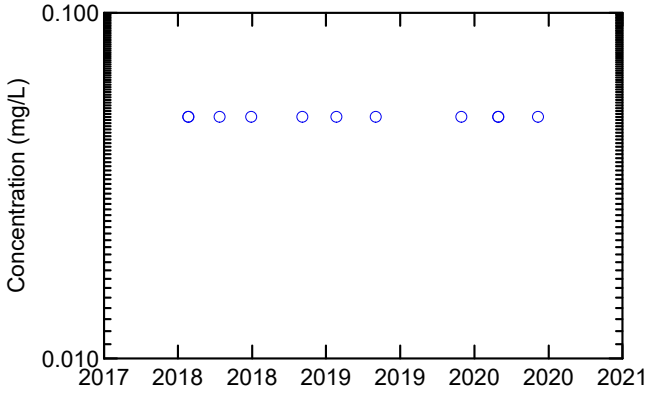
Decreasing Trend

Total Organic Carbon



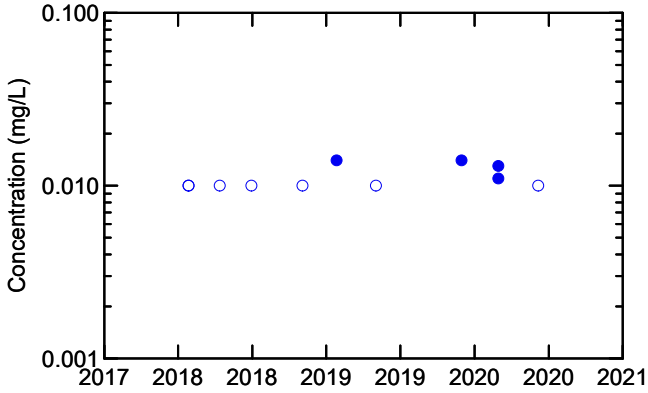
Decreasing Trend *

Nitrate + Nitrite



No detected results

Orthophosphate



Over 50% non-detects

Legend:

● Detected result ○ Non-Detect

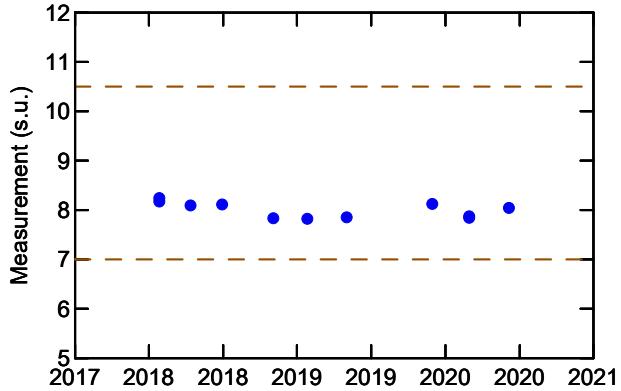
Nova Scotia (2014) Pathway-Specific Standard for Groundwater

Canadian Drinking Water Quality Guideline: Aesthetic

WELL MW-14B
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

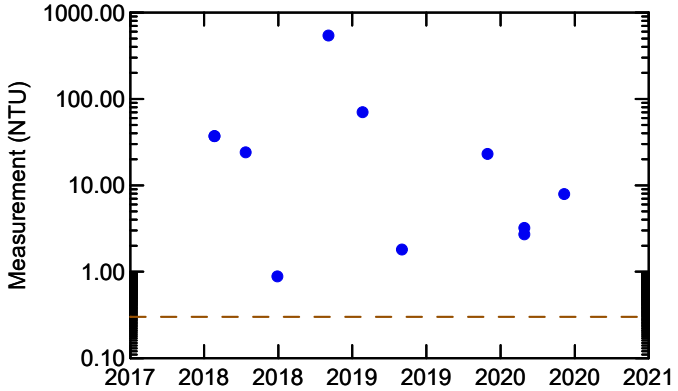
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

pH



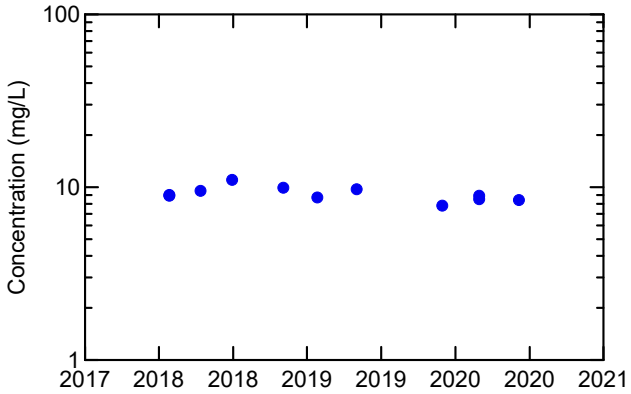
Stable

Turbidity



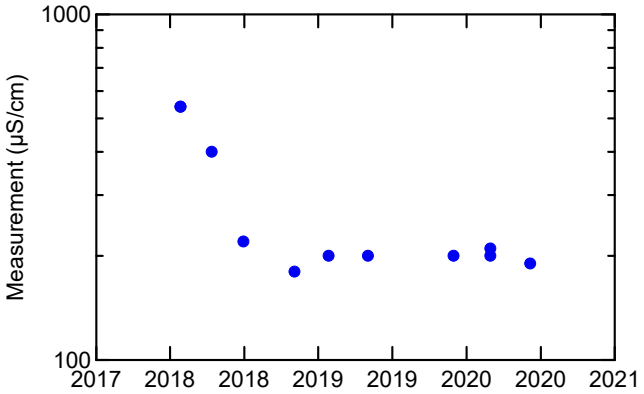
No trend identified

Reactive Silica (SiO2)



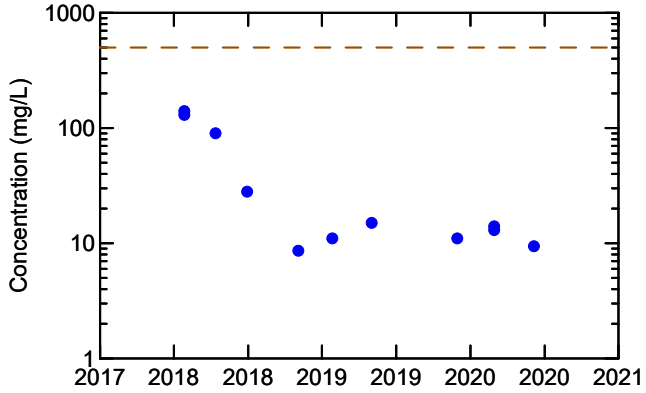
Stable

Conductivity



Probably Decreasing

Dissolved Sulphate (SO4)



Stable

Legend:

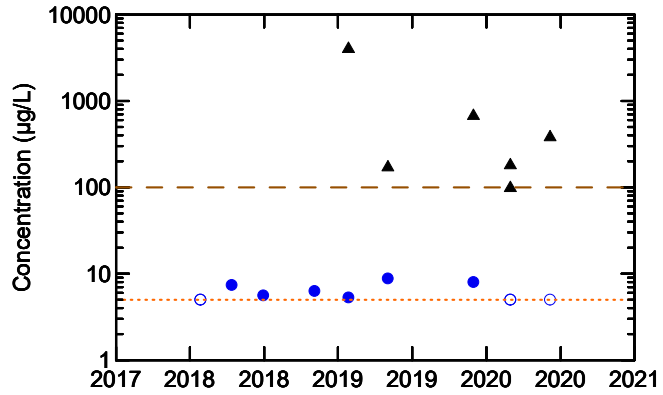
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines: Aesthetic

WELL MW-14B
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

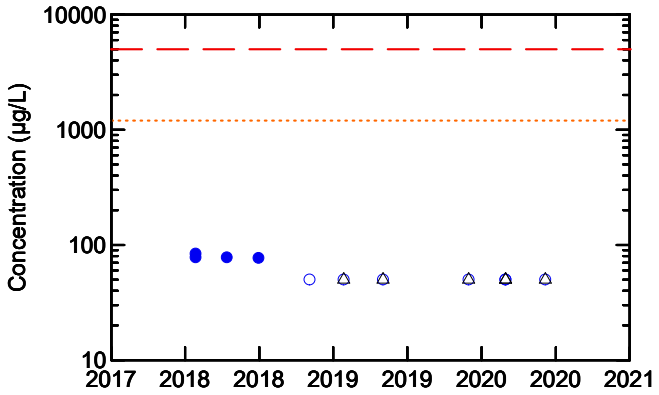
Aluminum



Total: No trend identified

Dissolved: Stable

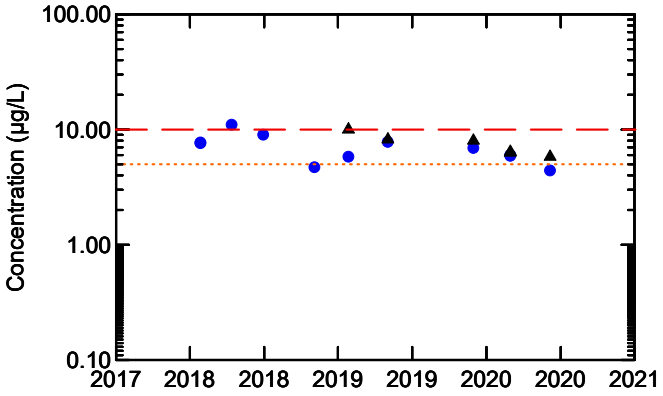
Boron



Total: No detected results

Dissolved: Over 50% non-detects

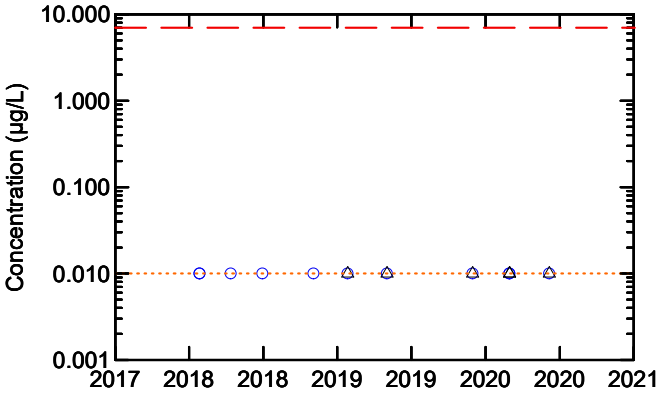
Arsenic



Total: Decreasing Trend

Dissolved: Stable

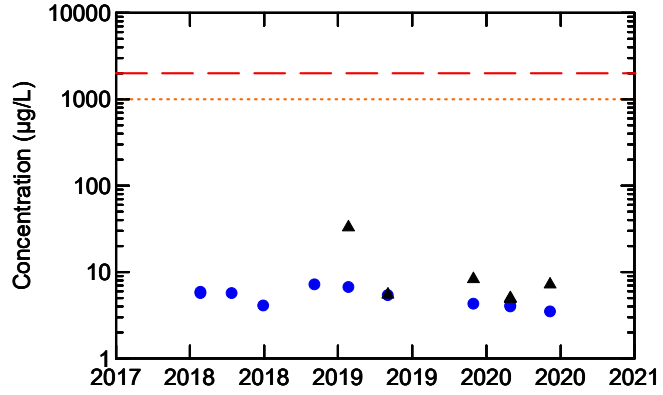
Cadmium



Total: No detected results

Dissolved: No detected results

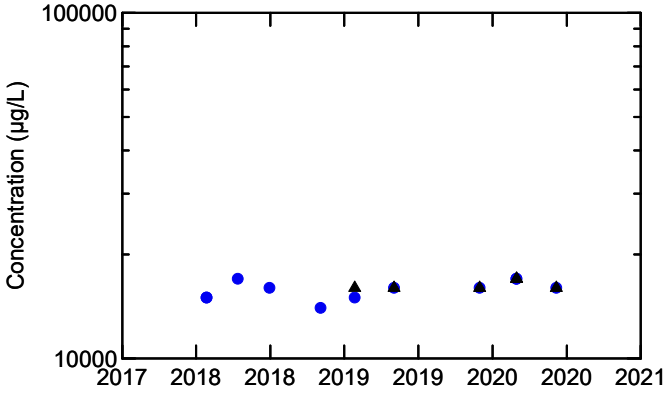
Barium



Total: No trend identified

Dissolved: Decreasing Trend

Calcium



Total: No trend identified

Dissolved: No trend identified

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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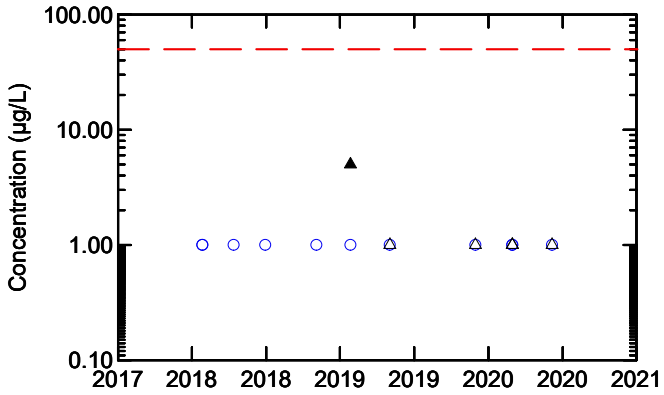
Non-detects are plotted at the reporting limit.

WELL MW-14B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

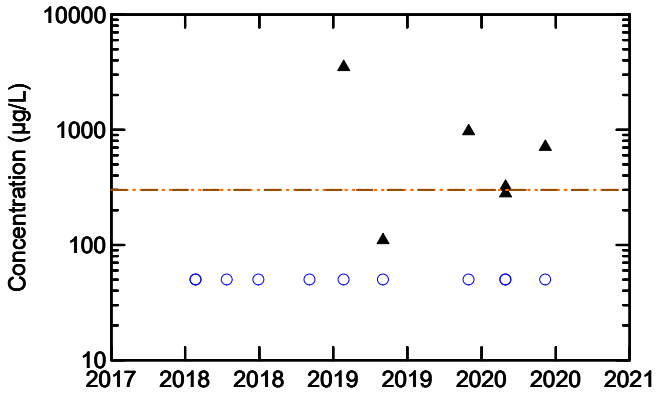
Chromium



Total: Over 50% non-detects

Dissolved: No detected results

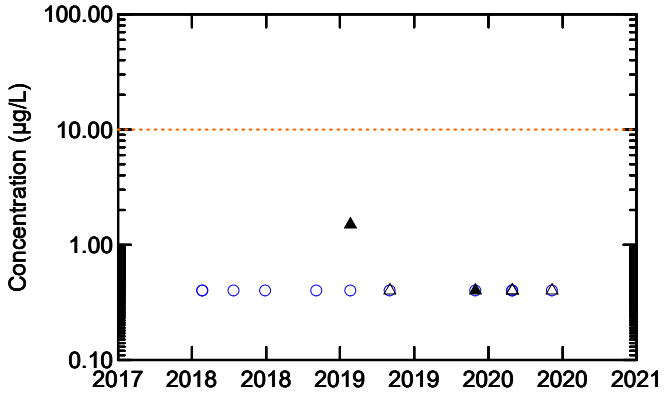
Iron



Total: No trend identified

Dissolved: No detected results

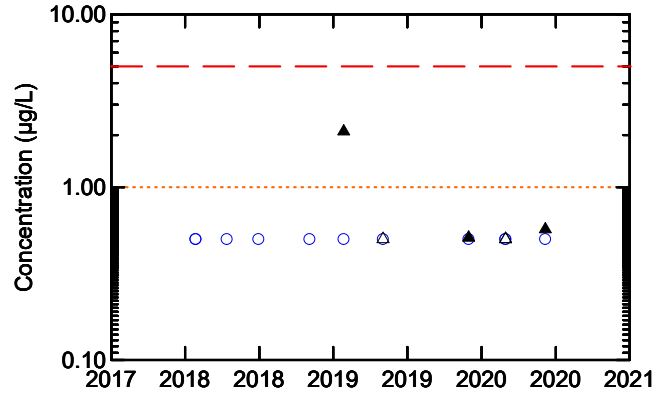
Cobalt



Total: Over 50% non-detects

Dissolved: No detected results

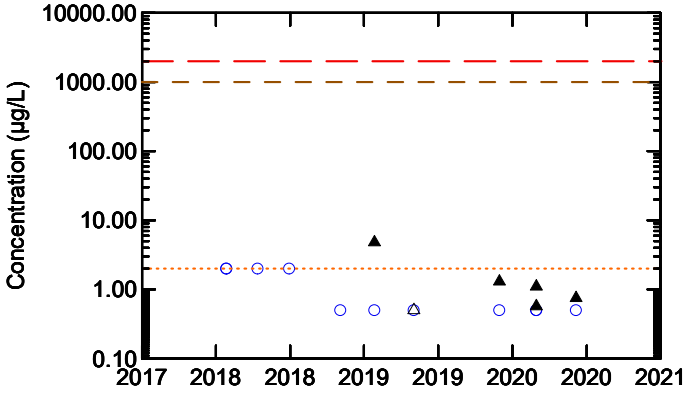
Lead



Total: No trend identified

Dissolved: No detected results

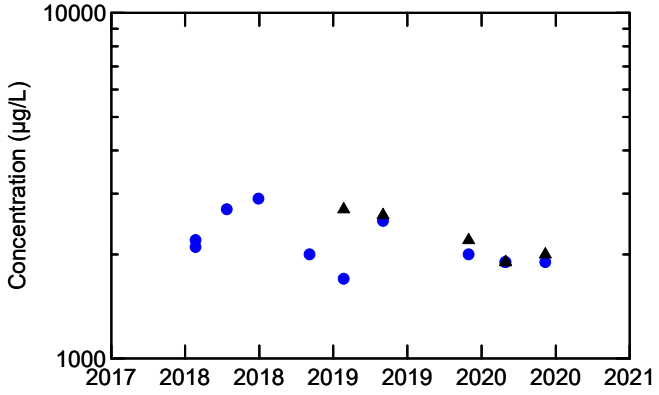
Copper



Total: No trend identified

Dissolved: No detected results

Magnesium



Total: Probably Decreasing

Dissolved: Stable

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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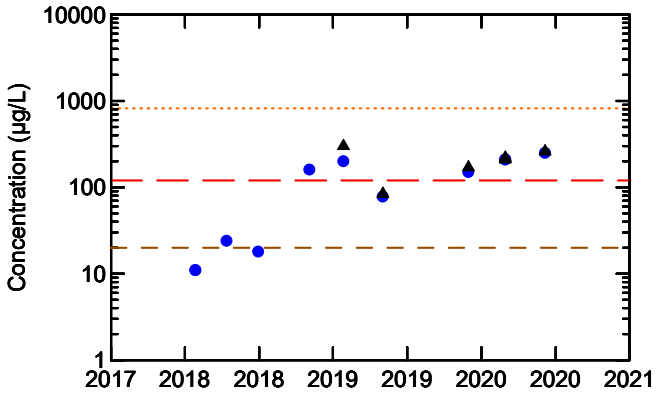
Non-detects are plotted at the reporting limit.

WELL MW-14B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

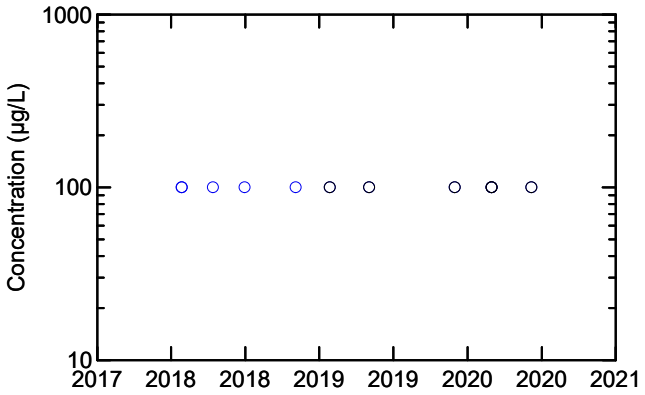
Manganese



Total: No trend identified

Dissolved: Increasing Trend

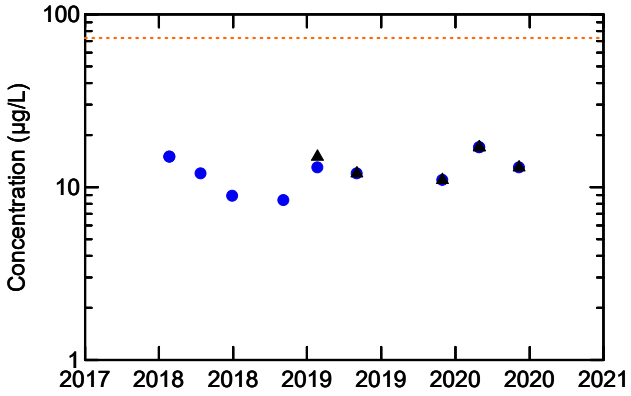
Phosphorus



Total: No detected results

Dissolved: No detected results

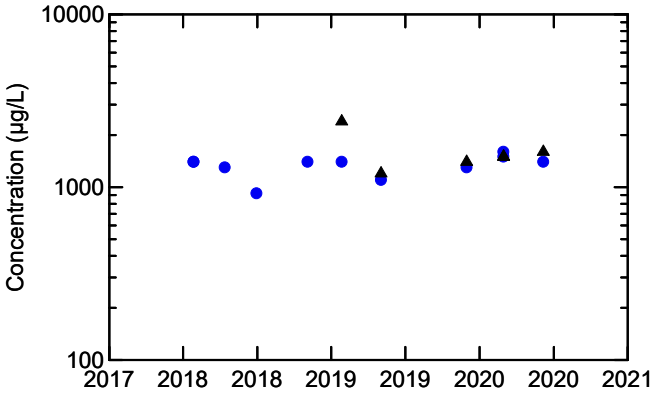
Molybdenum



Total: Stable

Dissolved: No trend identified

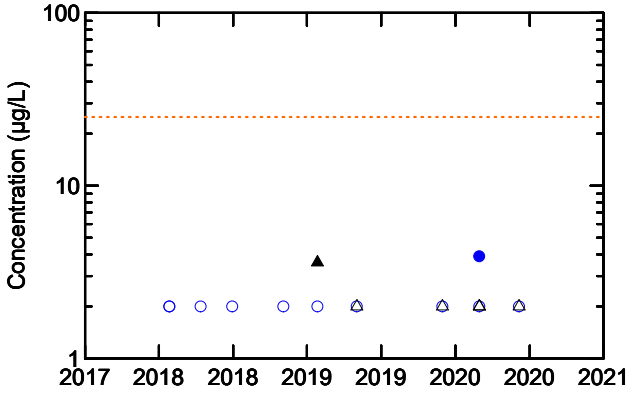
Potassium



Total: No trend identified

Dissolved: No trend identified

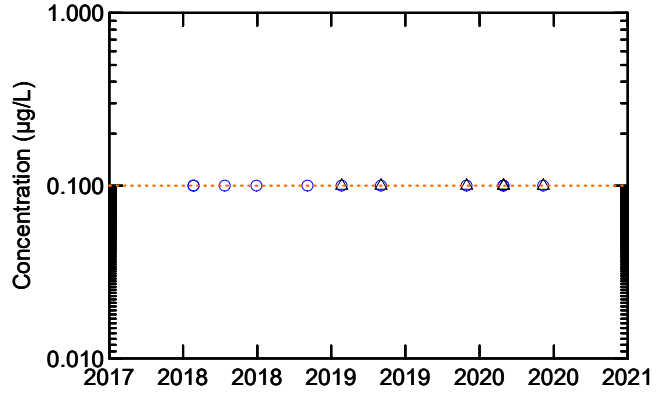
Nickel



Total: Over 50% non-detects

Dissolved: Over 50% non-detects

Silver



Total: No detected results

Dissolved: No detected results

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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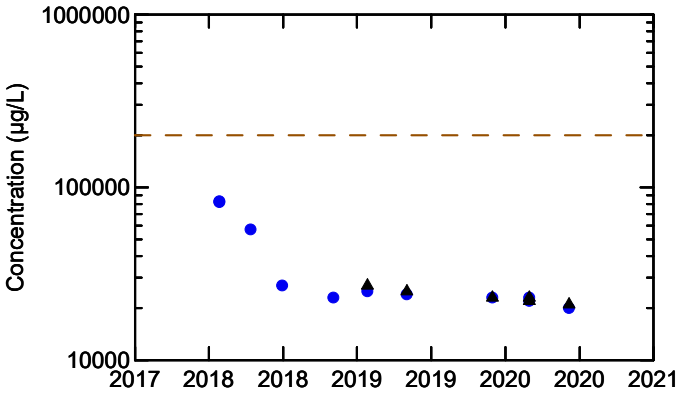
WELL MW-14B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

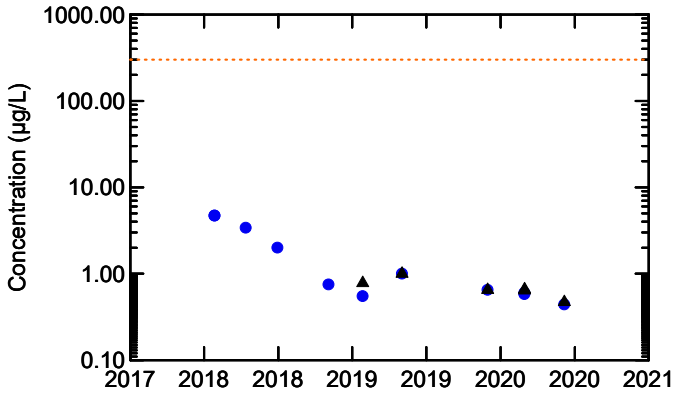
Sodium



Total: Decreasing Trend

Dissolved: Decreasing Trend

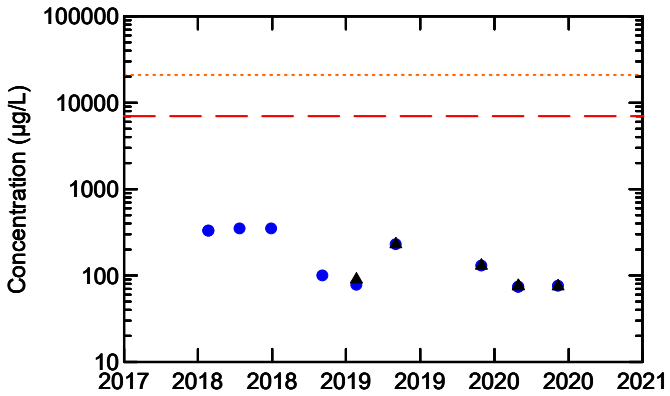
Uranium



Total: Stable

Dissolved: Decreasing Trend

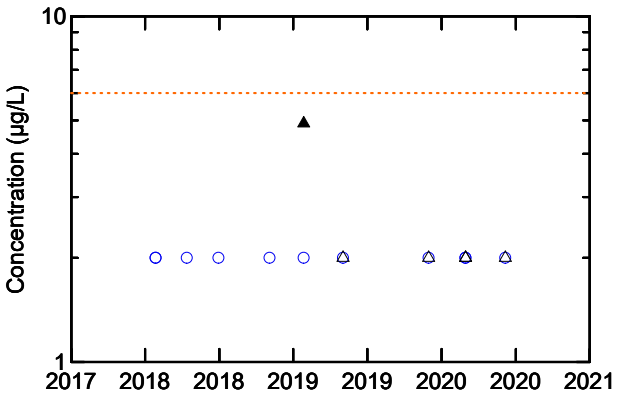
Strontium



Total: Stable

Dissolved: Decreasing Trend

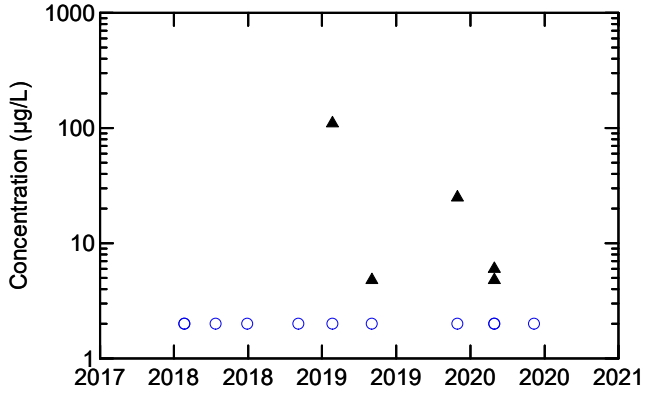
Vanadium



Total: Over 50% non-detects

Dissolved: No detected results

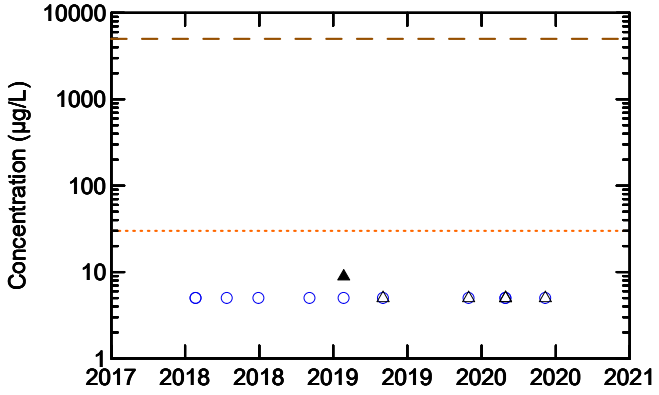
Titanium



Total: No trend identified *

Dissolved: No detected results

Zinc



Total: Over 50% non-detects

Dissolved: No detected results

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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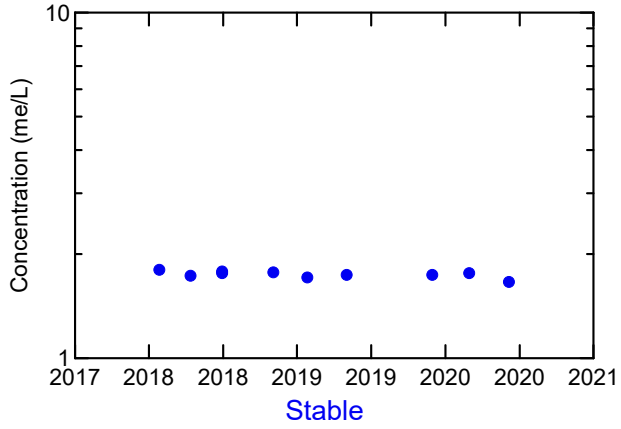
Non-detects are plotted at the reporting limit.

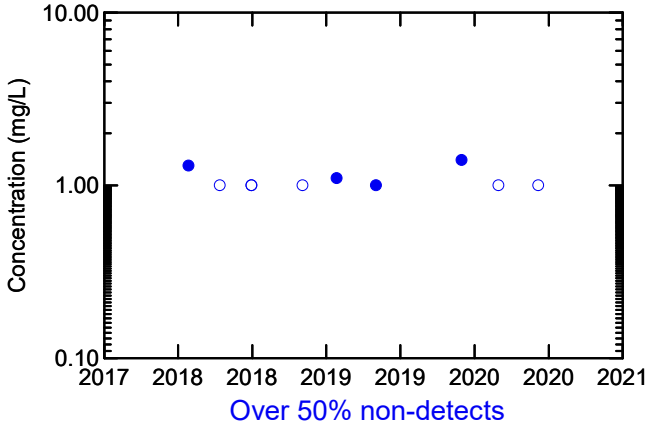
WELL MW-14B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Anion Sum



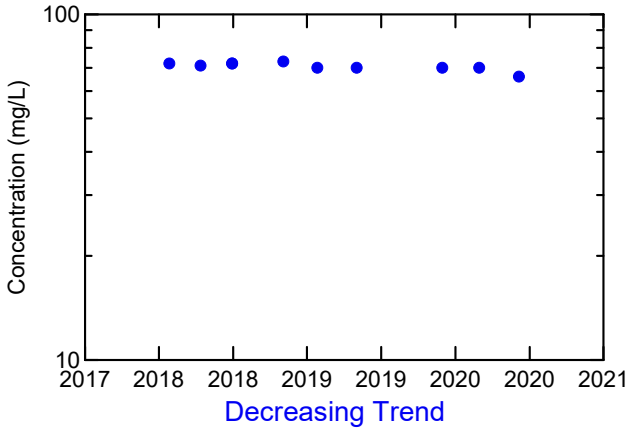
Stable

Carb. Alkalinity (calc. as CaCO3)



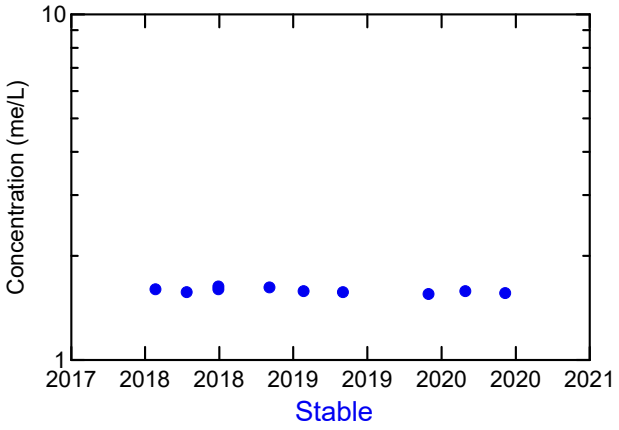
Over 50% non-detects

Bicarb. Alkalinity (calc. as CaCO3)



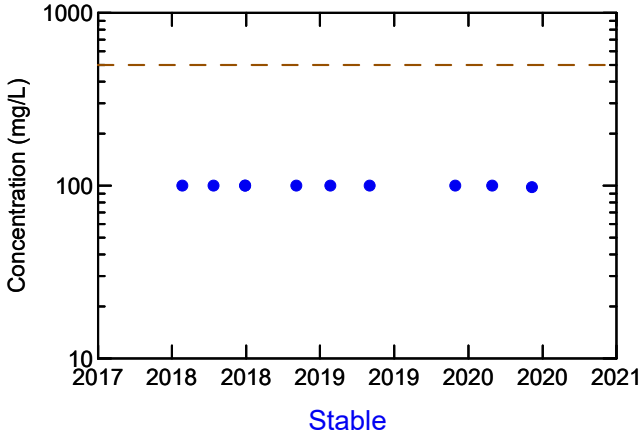
Decreasing Trend

Cation Sum



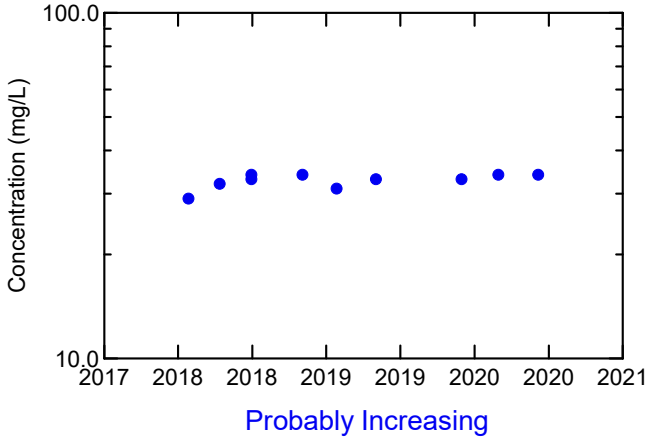
Stable

Calculated TDS



Stable

Hardness (CaCO3)



Probably Increasing

Legend:

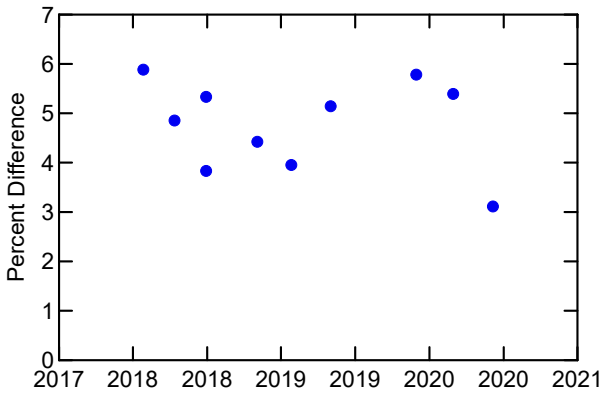
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines - Aesthetic

WELL MW-14C
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

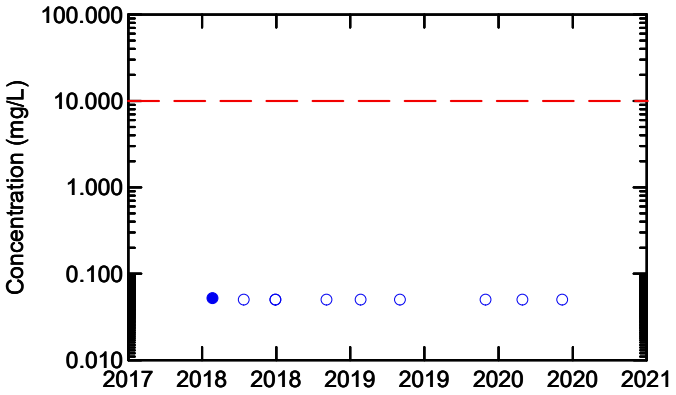
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Ion Balance



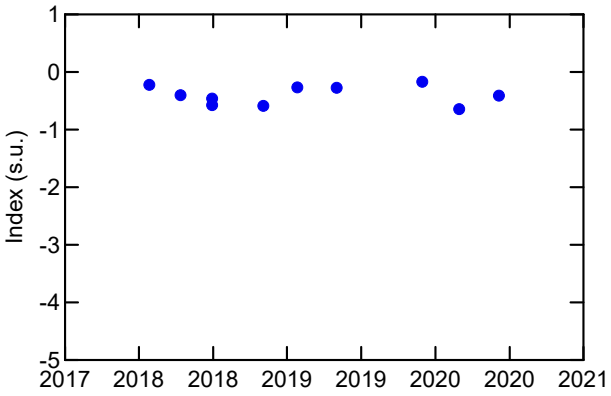
Stable

Nitrate



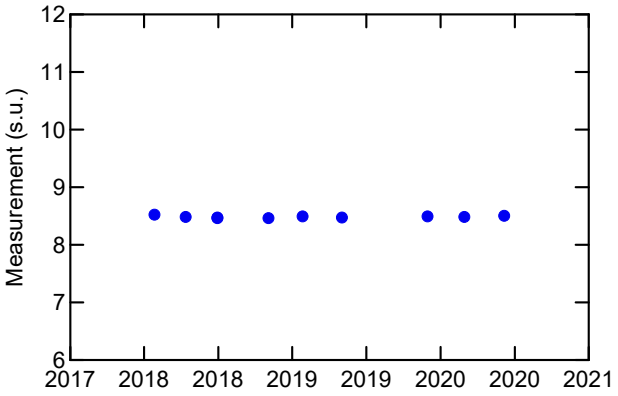
Over 50% non-detects

Langelier Index (@ 20C)



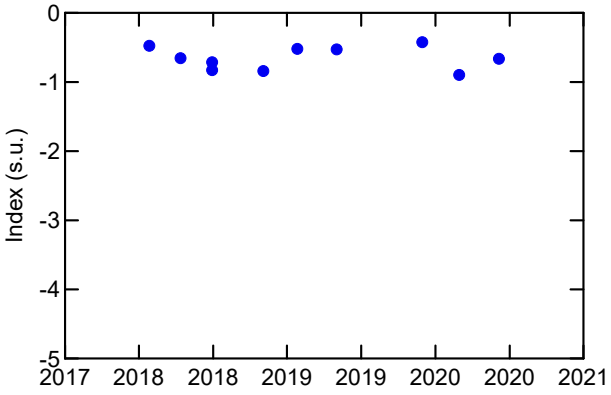
Stable

Saturation pH (@ 20C)



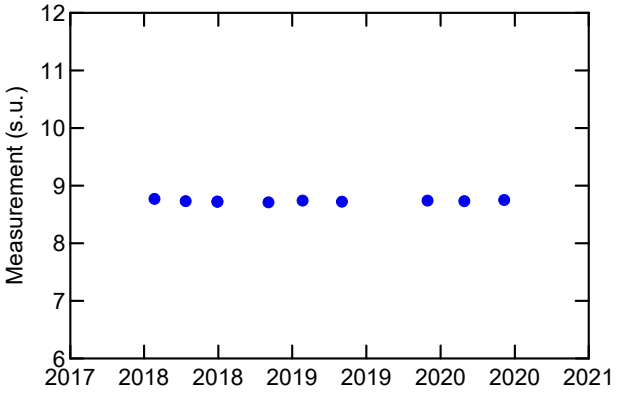
No trend identified

Langelier Index (@ 4C)



Stable

Saturation pH (@ 4C)



No trend identified

Legend:

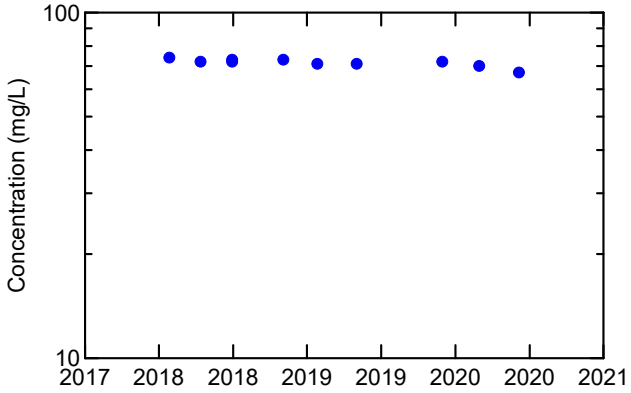
● Detected result ○ Non-Detect

— — Canadian Drinking Water Quality Guidelines: Maximum Acceptable

WELL MW-14C
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

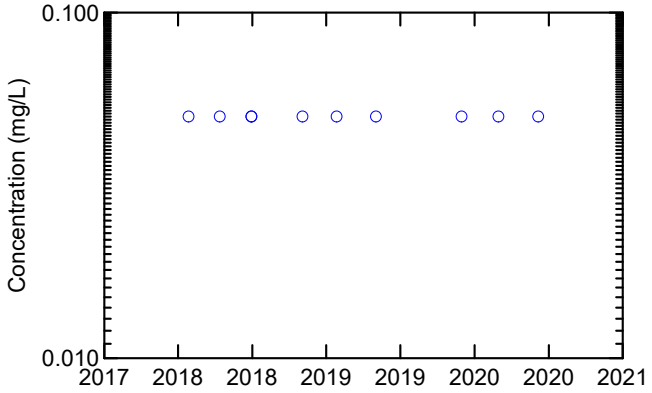
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Total Alkalinity (Total as CaCO3)



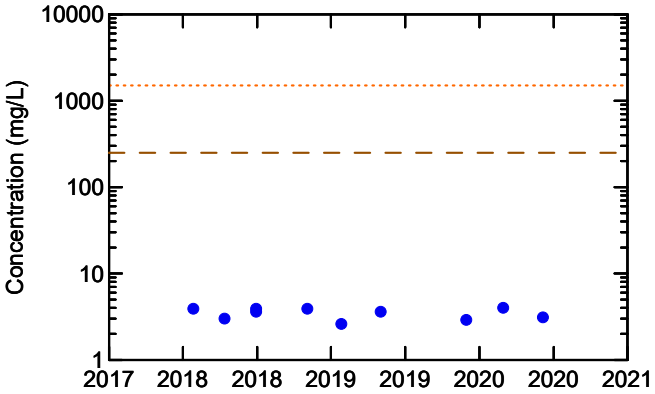
Decreasing Trend

Nitrogen (Ammonia Nitrogen)



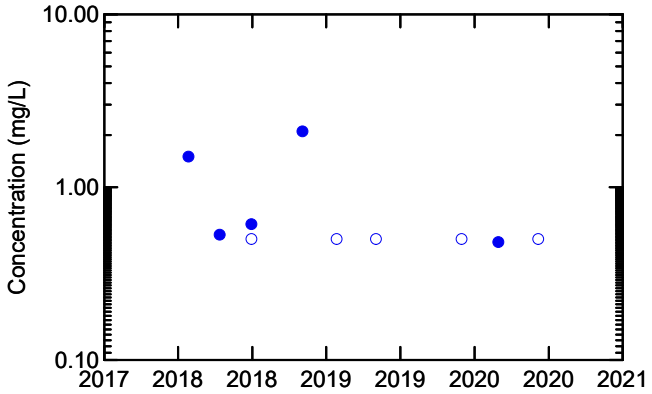
No detected results

Dissolved Chloride



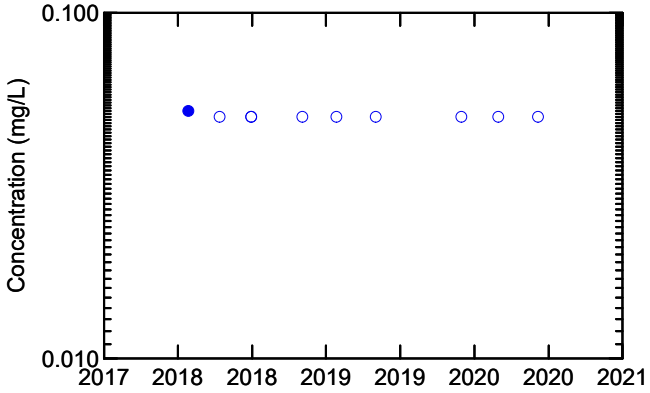
Stable

Total Organic Carbon



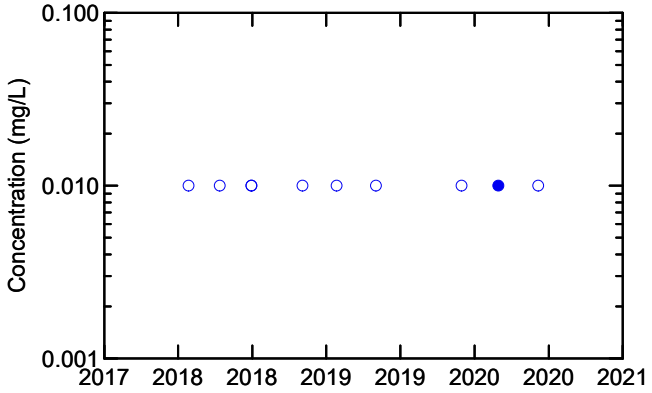
Over 50% non-detects

Nitrate + Nitrite



Over 50% non-detects

Orthophosphate



Over 50% non-detects

Legend:

● Detected result ○ Non-Detect

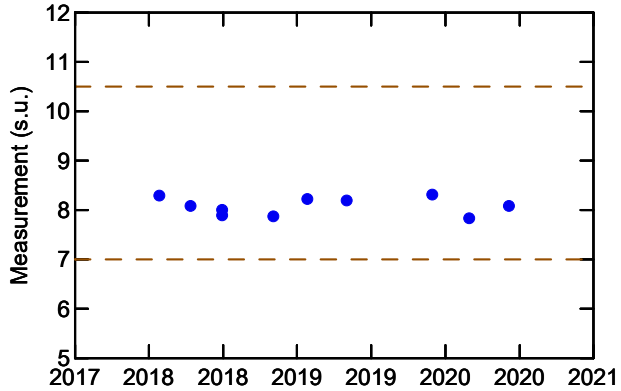
Nova Scotia (2014) Pathway-Specific Standard for Groundwater

Canadian Drinking Water Quality Guideline: Aesthetic

WELL MW-14C
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

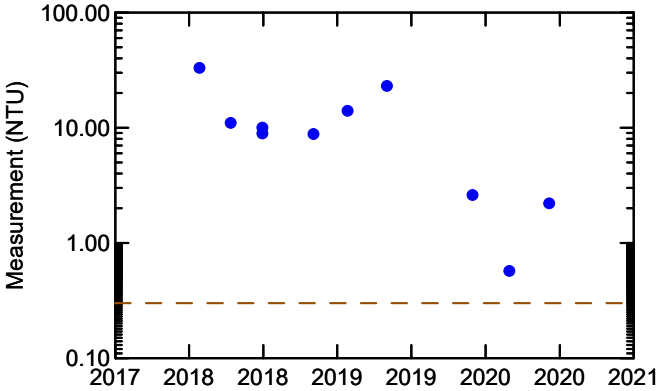
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

pH



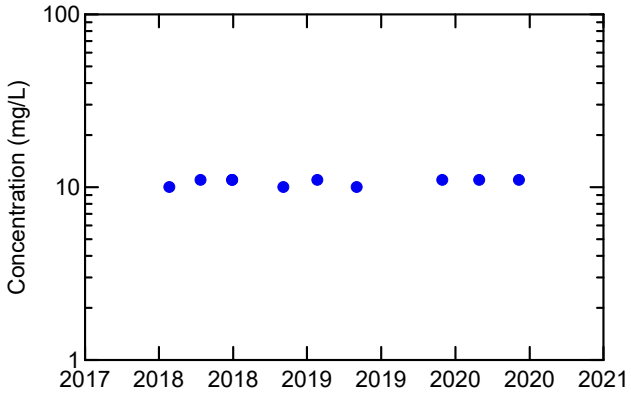
Stable

Turbidity



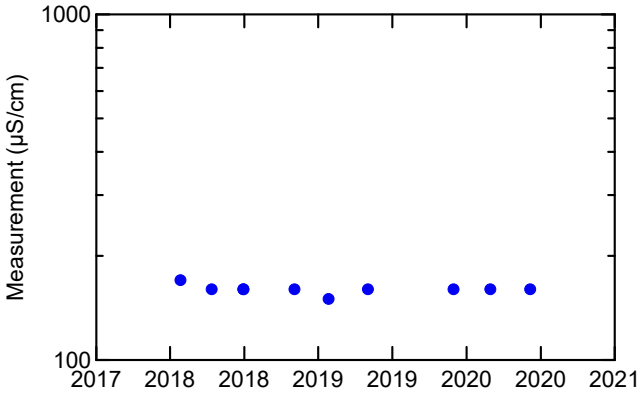
No trend identified

Reactive Silica (SiO2)



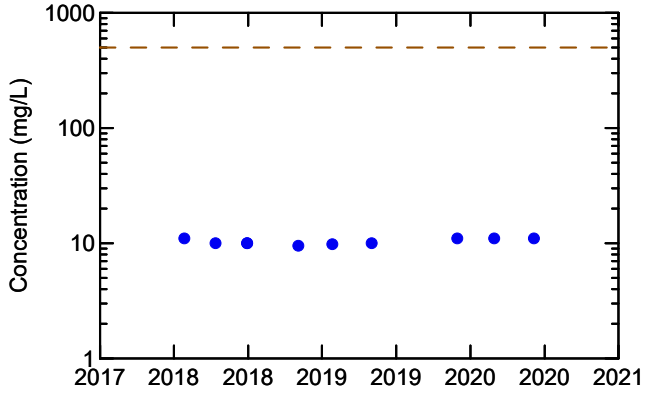
Stable

Conductivity



Probably Decreasing

Dissolved Sulphate (SO4)



Stable

Legend:

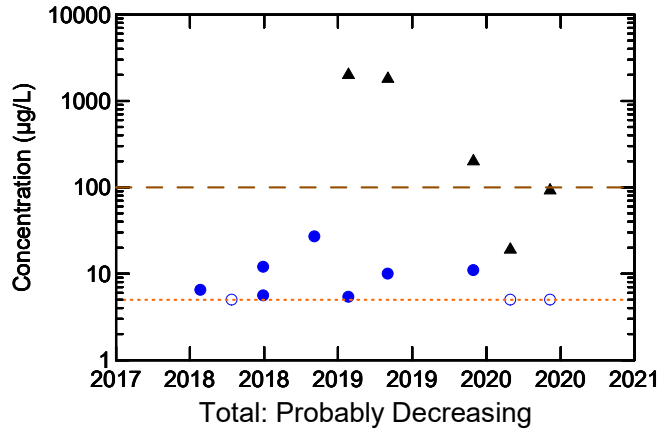
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines: Aesthetic

WELL MW-14C
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

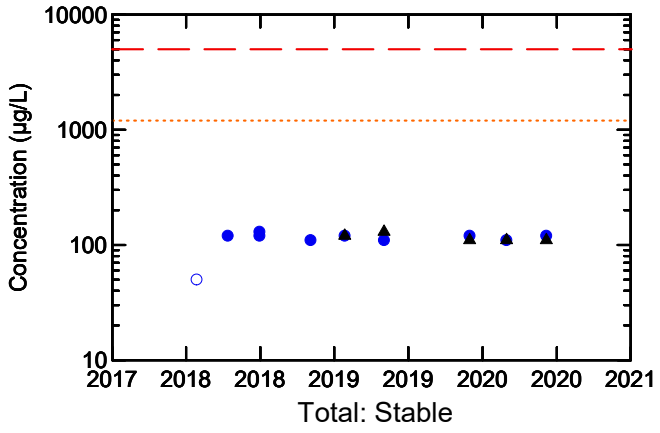
Aluminum



Total: Probably Decreasing

Dissolved: Stable

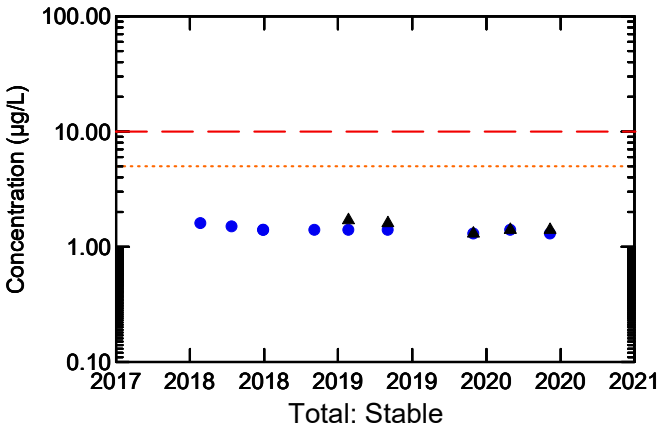
Boron



Total: Stable

Dissolved: No trend identified

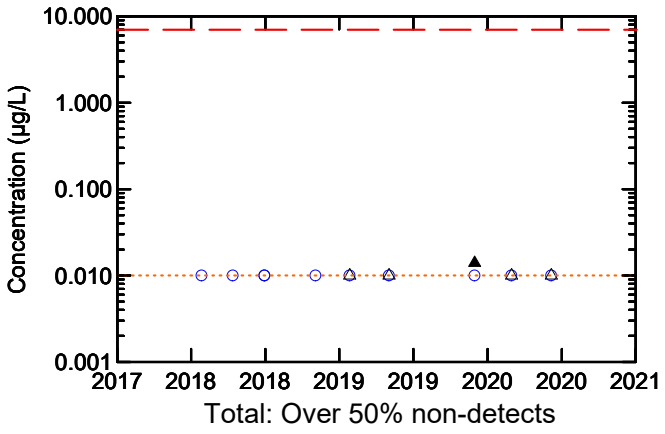
Arsenic



Total: Stable

Dissolved: Decreasing Trend

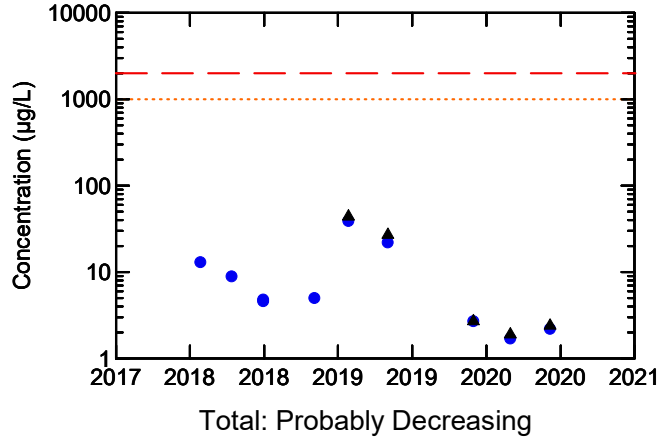
Cadmium



Total: Over 50% non-detects

Dissolved: No detected results

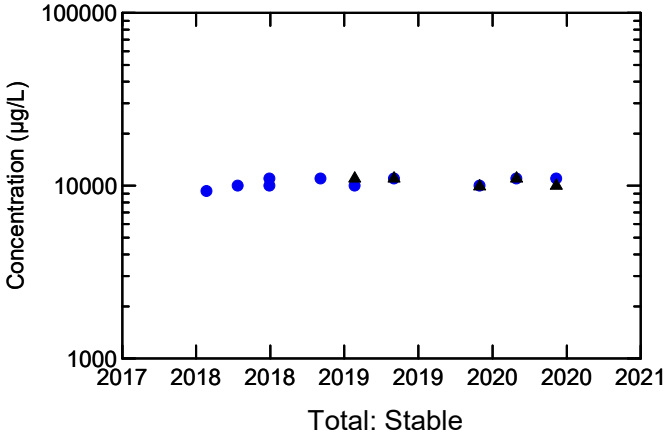
Barium



Total: Probably Decreasing

Dissolved: No trend identified

Calcium



Total: Stable

Dissolved: Probably Increasing

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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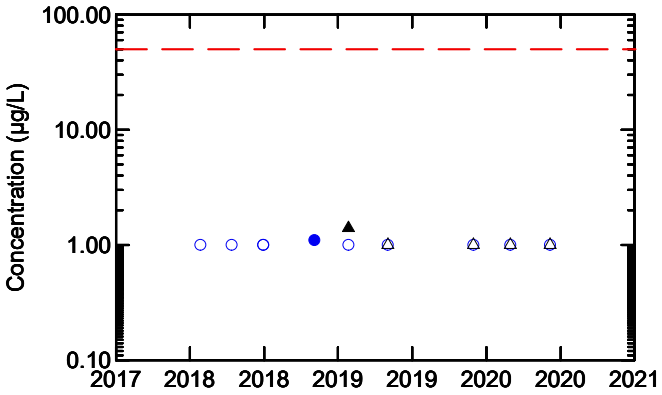
Non-detects are plotted at the reporting limit.

WELL MW-14C
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

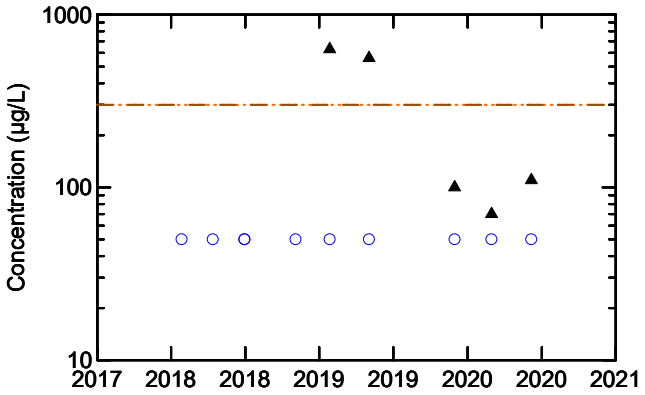
Chromium



Total: Over 50% non-detects

Dissolved: Over 50% non-detects

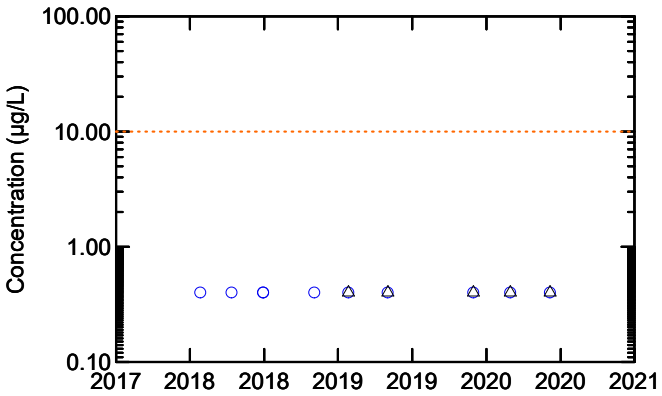
Iron



Total: Stable

Dissolved: No detected results

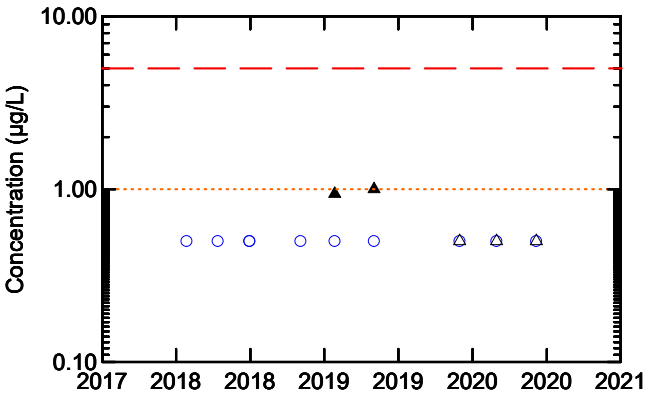
Cobalt



Total: No detected results

Dissolved: No detected results

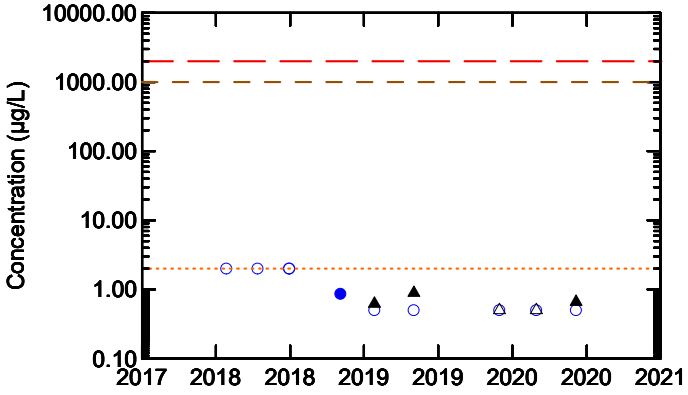
Lead



Total: Over 50% non-detects

Dissolved: No detected results

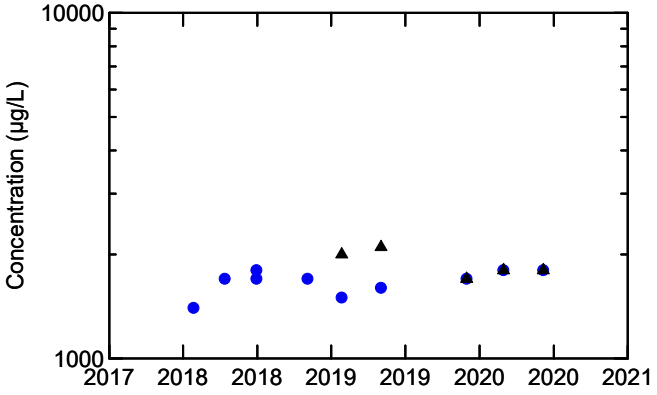
Copper



Total: Stable

Dissolved: Over 50% non-detects

Magnesium



Total: Stable

Dissolved: No trend identified

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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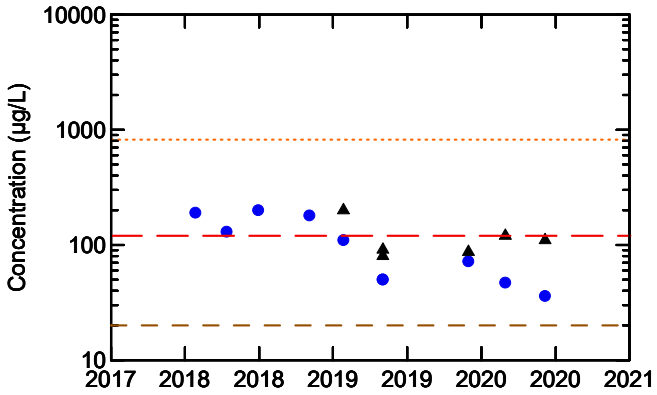
WELL MW-14C
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

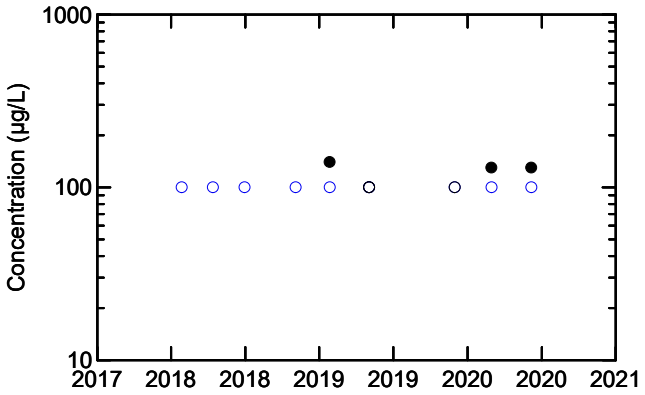
Manganese



Total: Stable

Dissolved: Decreasing Trend

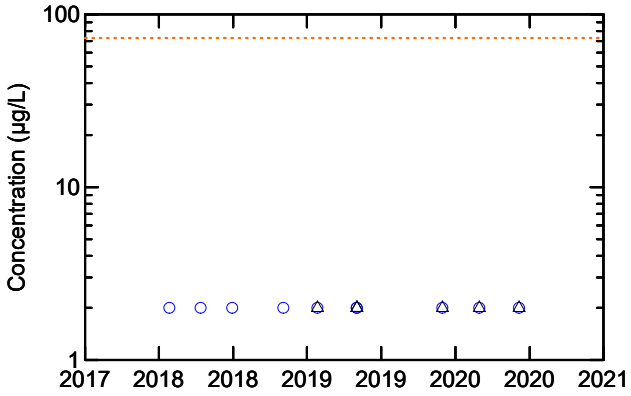
Phosphorus



Total: Stable

Dissolved: No detected results

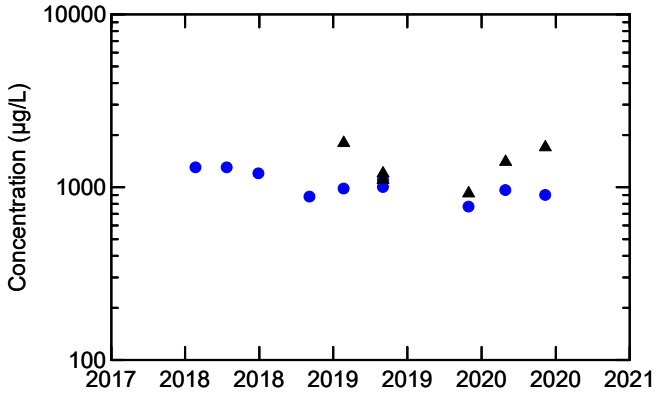
Molybdenum



Total: No detected results

Dissolved: No detected results

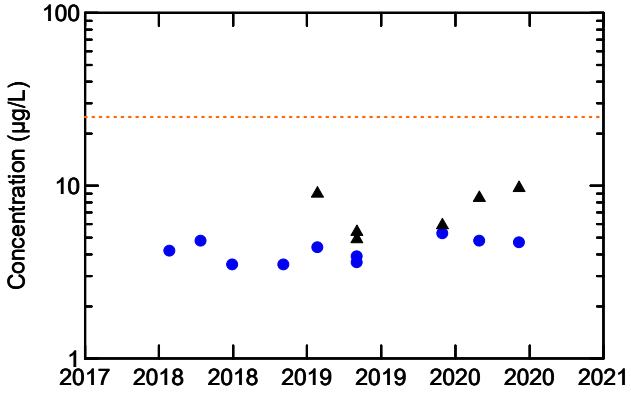
Potassium



Total: Stable

Dissolved: Decreasing Trend

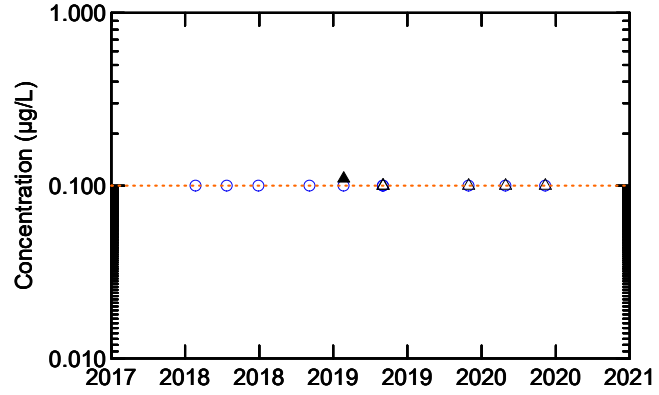
Nickel



Total: No trend identified

Dissolved: No trend identified

Silver



Total: Over 50% non-detects

Dissolved: No detected results

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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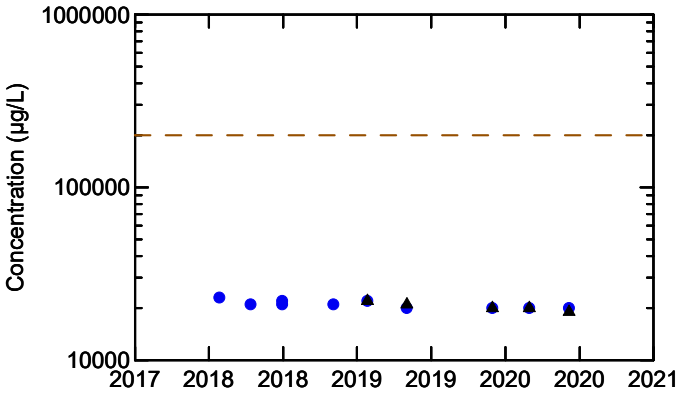
WELL MW-14A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

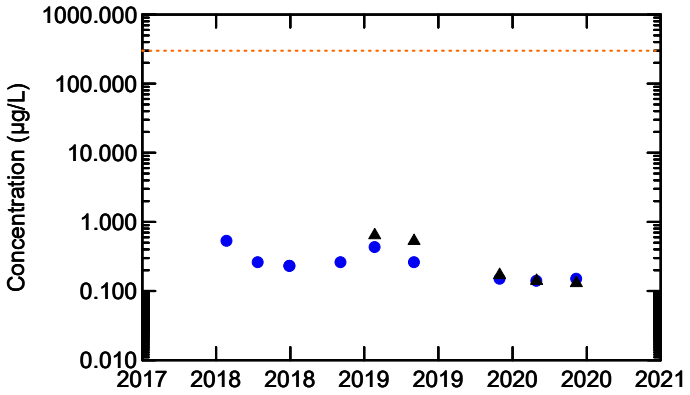
Sodium



Total: Decreasing Trend

Dissolved: Decreasing Trend

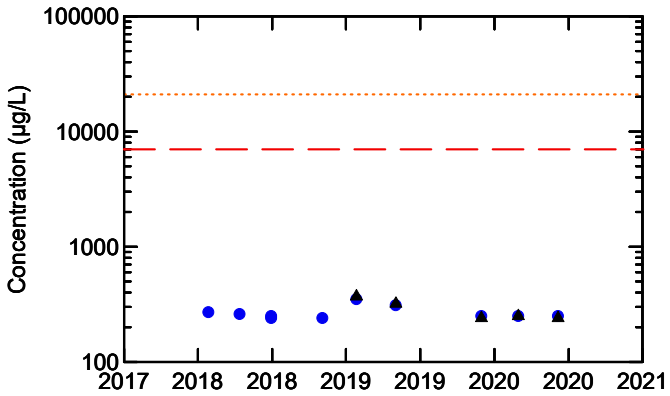
Uranium



Total: Decreasing Trend

Dissolved: Decreasing Trend

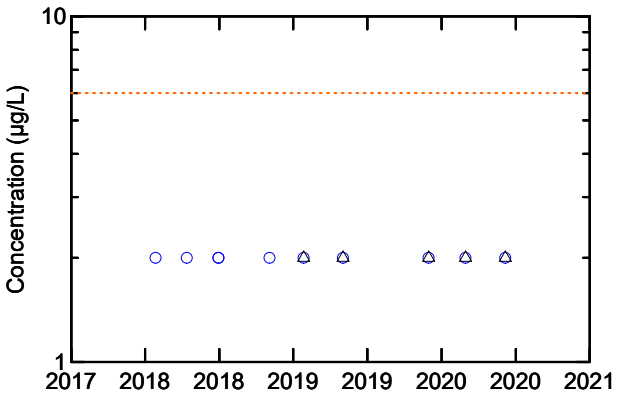
Strontium



Total: Stable

Dissolved: Stable

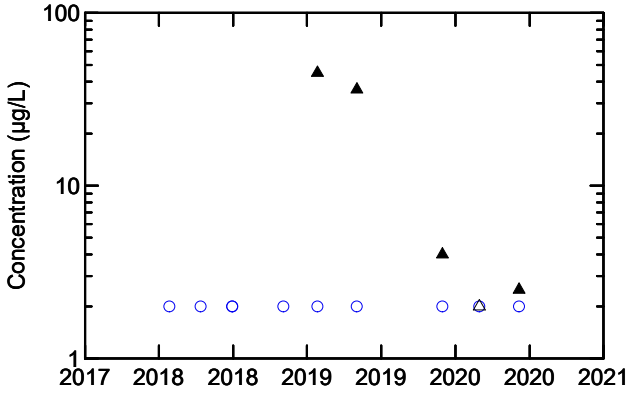
Vanadium



Total: No detected results

Dissolved: No detected results

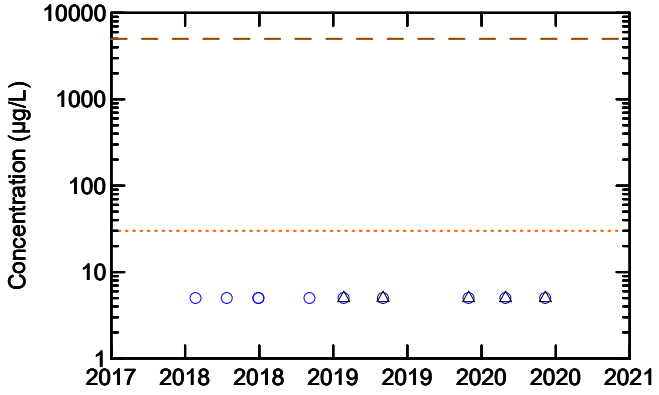
Titanium



Total: Probably Decreasing

Dissolved: No detected results

Zinc



Total: No detected results

Dissolved: No detected results

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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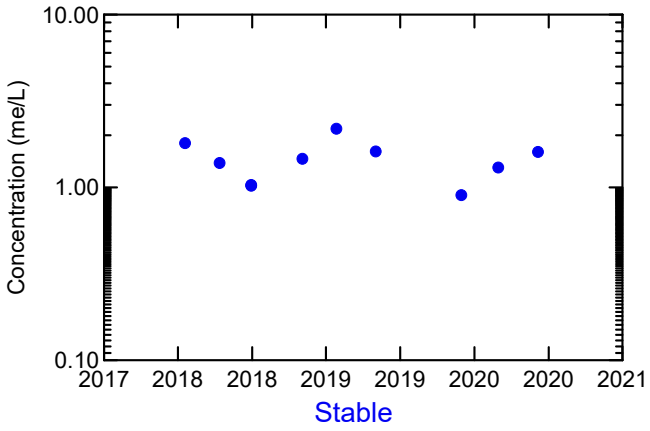
Non-detects are plotted at the reporting limit.

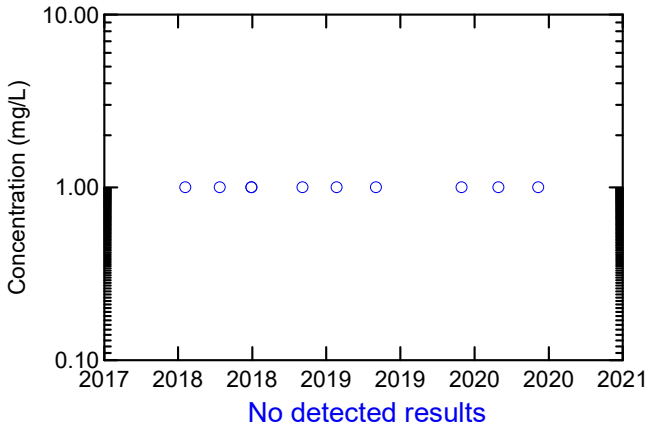
WELL MW-14C
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Anion Sum



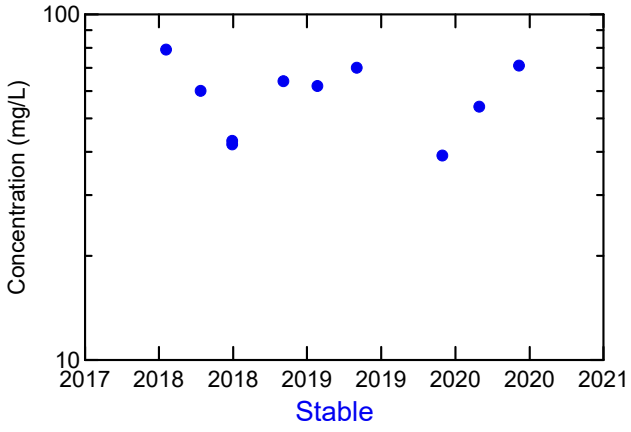
Stable

Carb. Alkalinity (calc. as CaCO3)



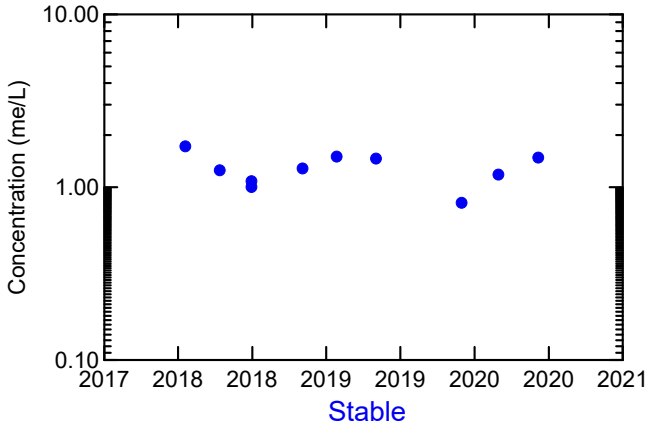
No detected results

Bicarb. Alkalinity (calc. as CaCO3)



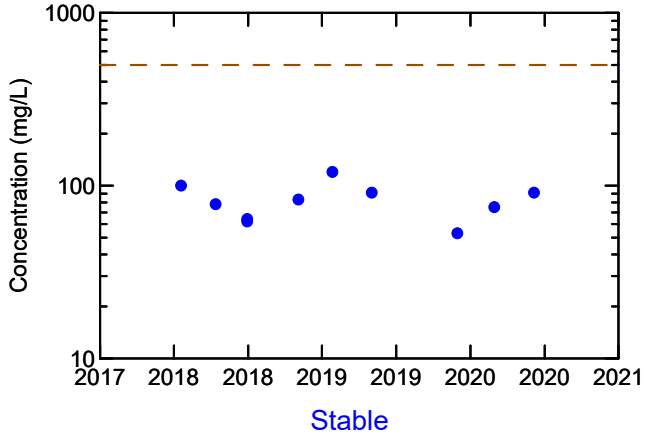
Stable

Cation Sum



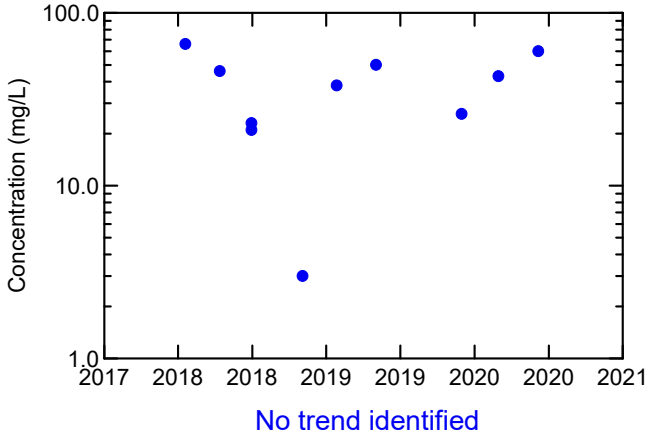
Stable

Calculated TDS



Stable

Hardness (CaCO3)



No trend identified

Legend:

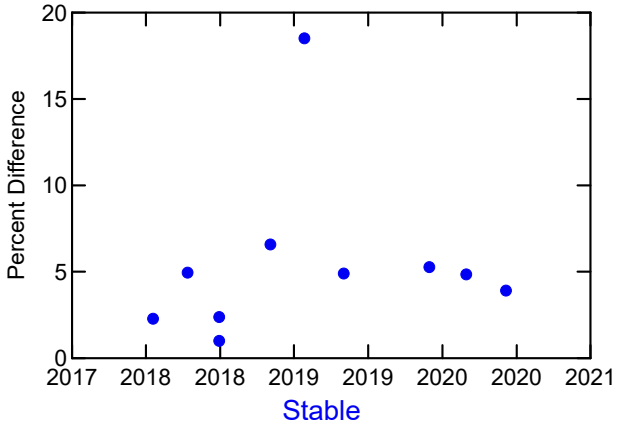
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines - Aesthetic

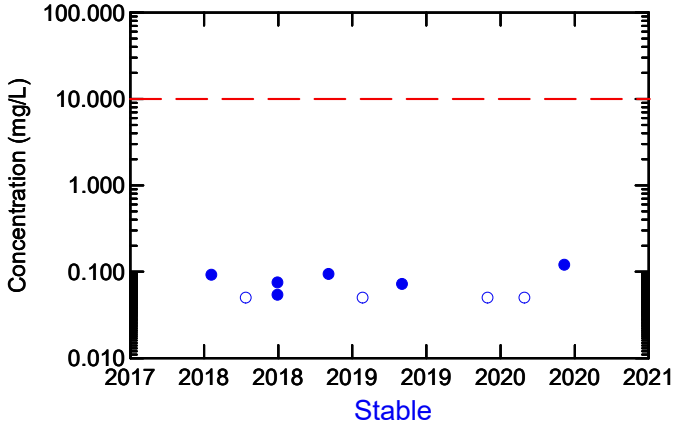
WELL MW-16A
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

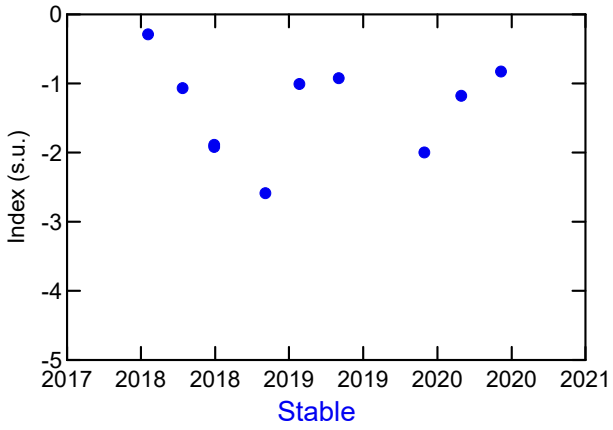
Ion Balance



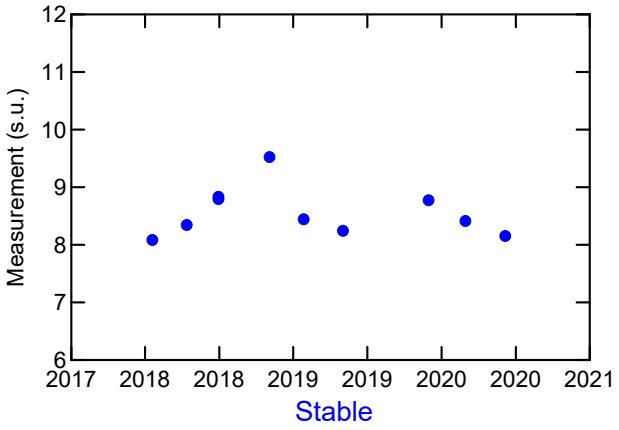
Nitrate



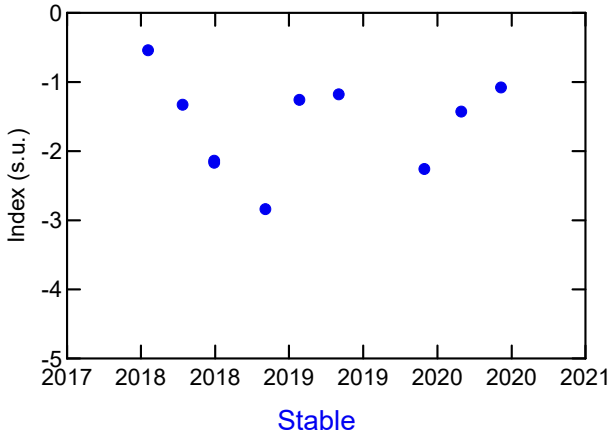
Langelier Index (@ 20C)



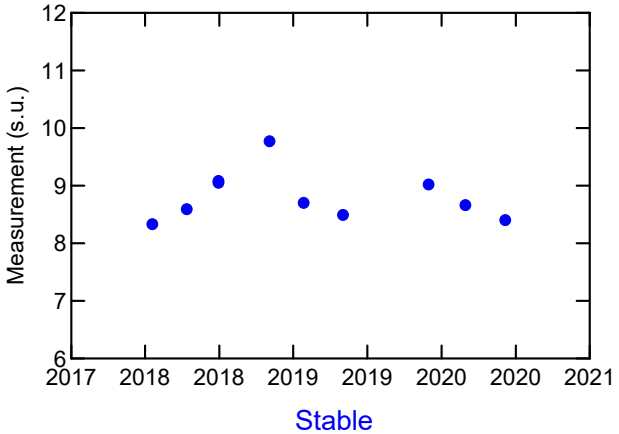
Saturation pH (@ 20C)



Langelier Index (@ 4C)



Saturation pH (@ 4C)



Legend:

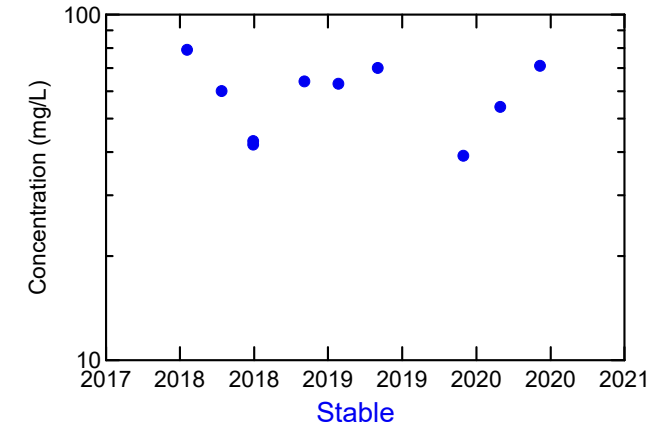
● Detected result ○ Non-Detect

— — Canadian Drinking Water Quality Guidelines: Maximum Acceptable

WELL MW-16A
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

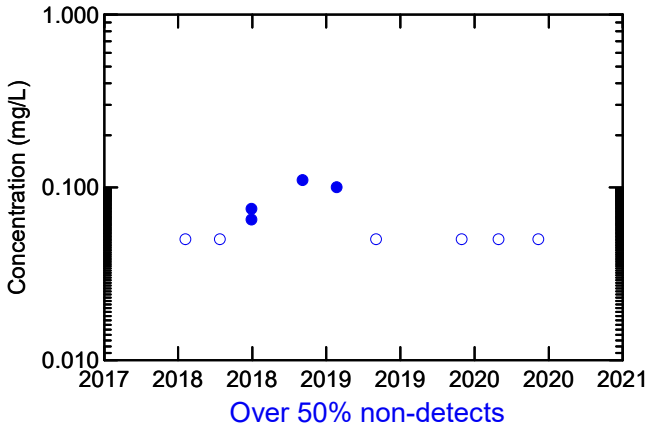
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Total Alkalinity (Total as CaCO3)



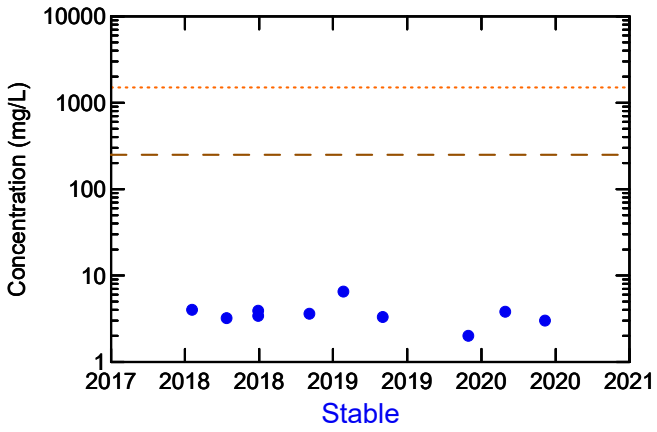
Stable

Nitrogen (Ammonia Nitrogen)



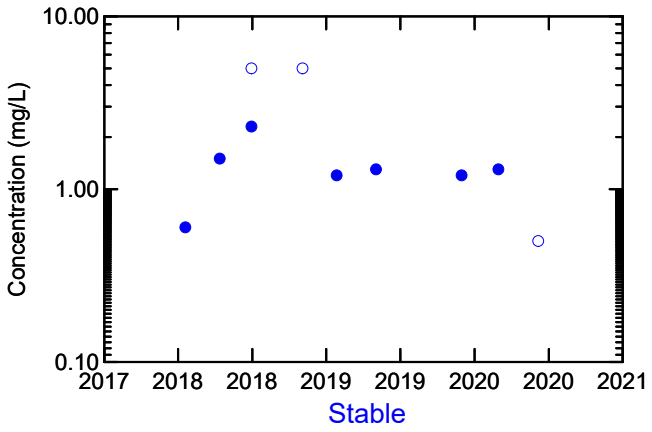
Over 50% non-detects

Dissolved Chloride



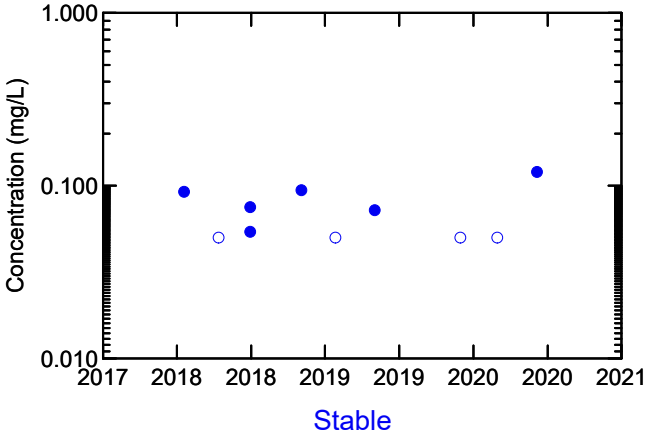
Stable

Total Organic Carbon



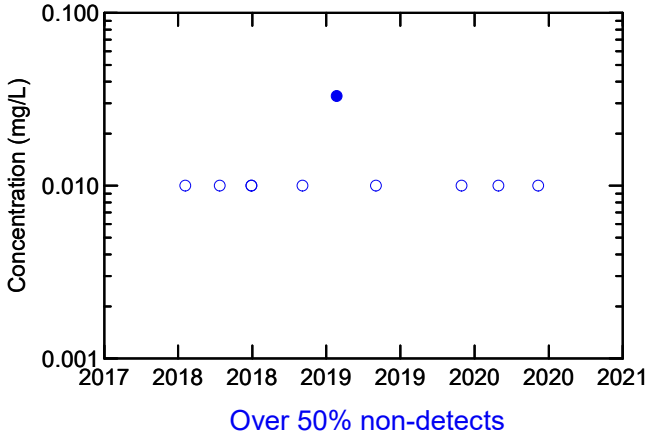
Stable

Nitrate + Nitrite



Stable

Orthophosphate



Over 50% non-detects

Legend:

● Detected result ○ Non-Detect

Nova Scotia (2014) Pathway-Specific Standard for Groundwater

Canadian Drinking Water Quality Guideline: Aesthetic

Notes:
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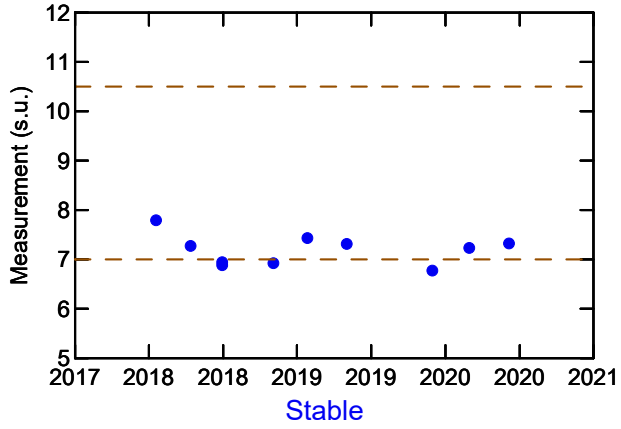
Non-detects are plotted at the reporting limit.

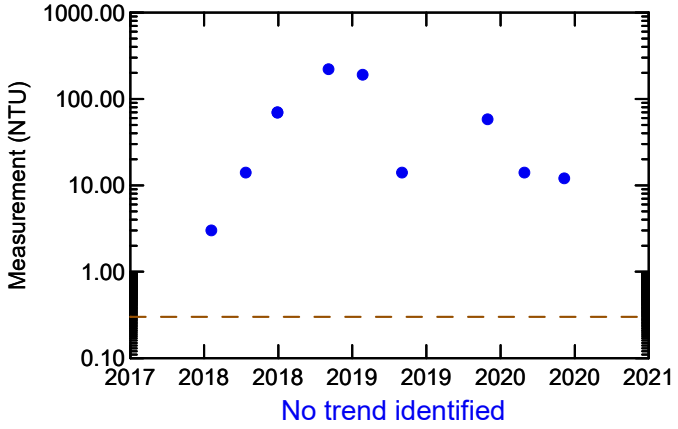
WELL MW-16A
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

pH



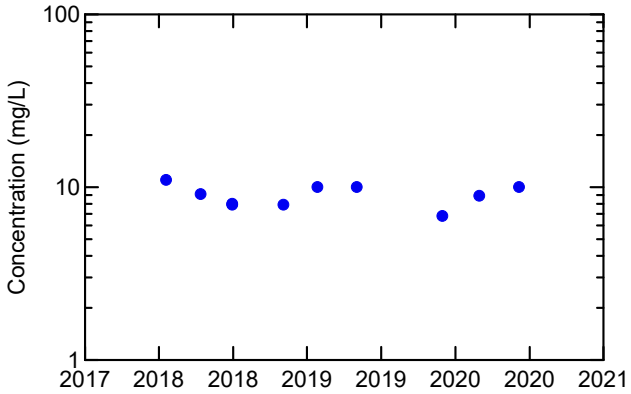
Stable

Turbidity



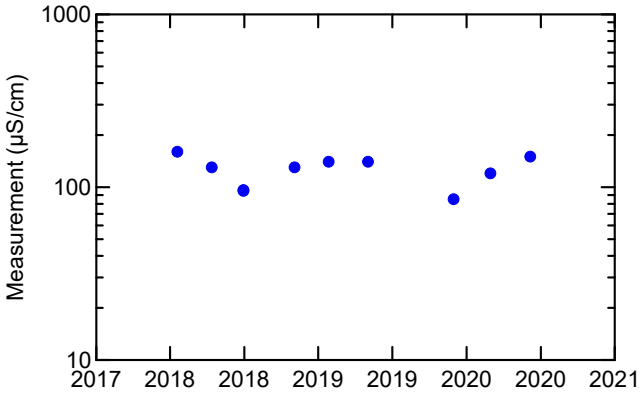
No trend identified

Reactive Silica (SiO2)



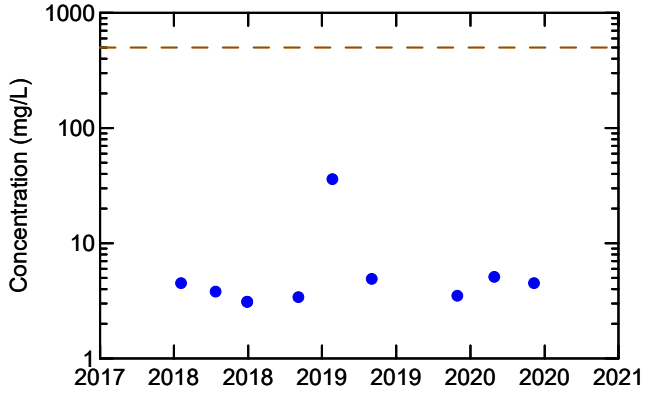
Stable

Conductivity



Probably Decreasing

Dissolved Sulphate (SO4)



Stable

Legend:

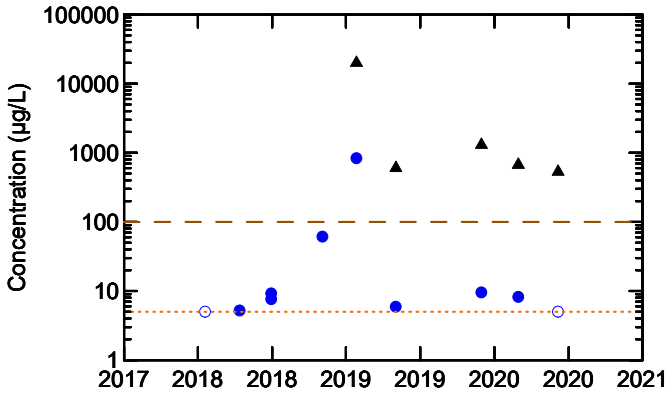
● Detected result ○ Non-Detect

– – - Canadian Drinking Water Quality Guidelines: Aesthetic

WELL MW-16A
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

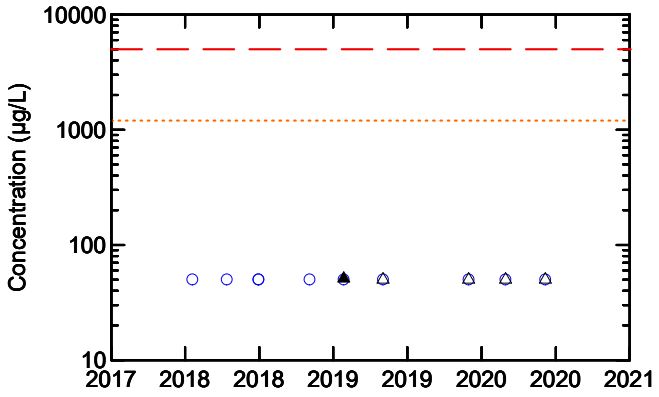
Aluminum



Total: No trend identified

Dissolved: No trend identified

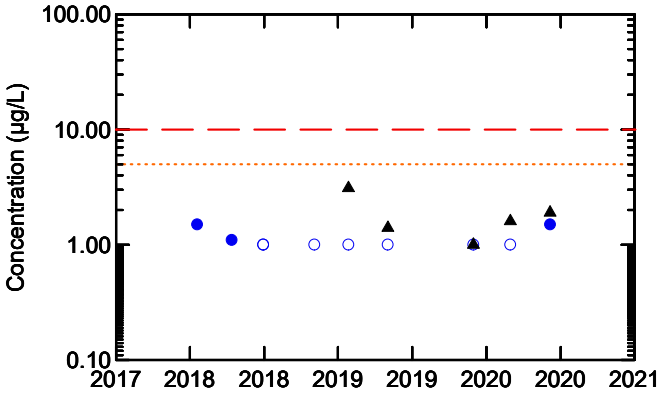
Boron



Total: Over 50% non-detects

Dissolved: No detected results

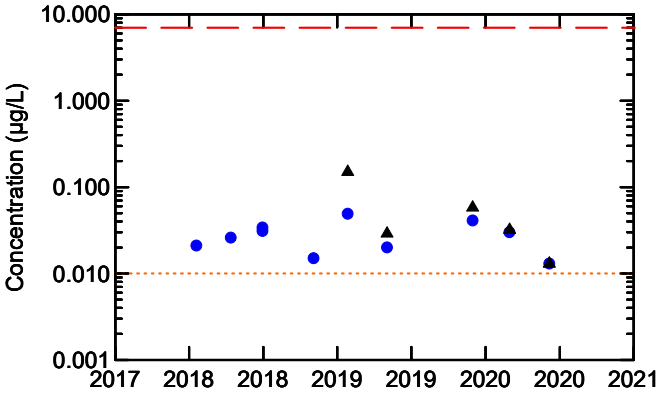
Arsenic



Total: Stable

Dissolved: Over 50% non-detects

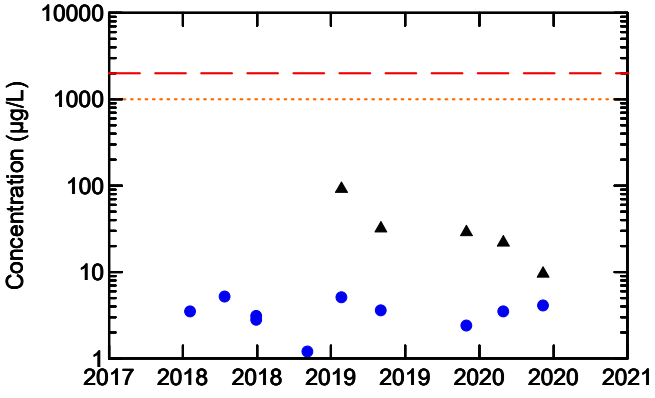
Cadmium



Total: Stable

Dissolved: Stable

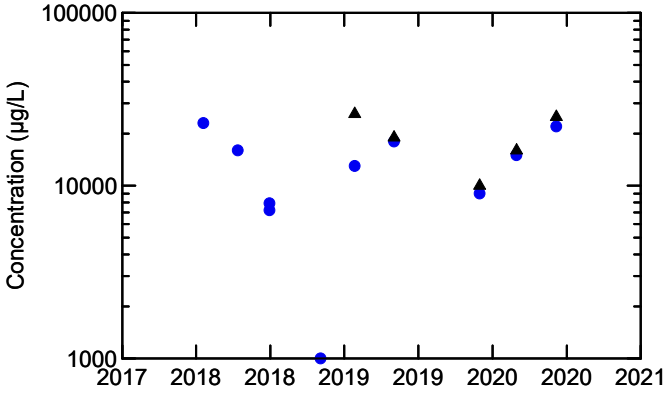
Barium



Total: Decreasing Trend

Dissolved: Stable

Calcium



Total: Stable

Dissolved: No trend identified

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

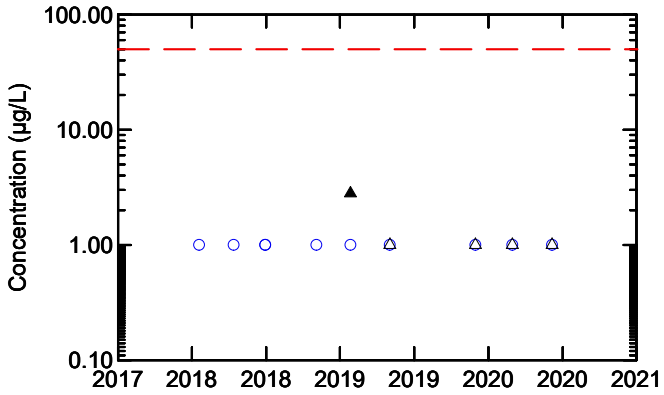
– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

WELL MW-16A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

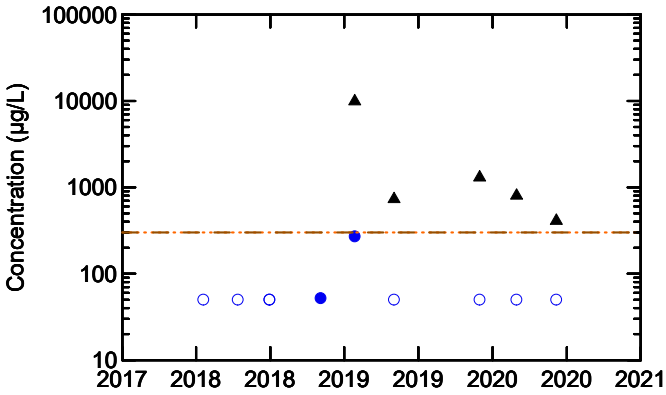
Chromium



Total: Over 50% non-detects

Dissolved: No detected results

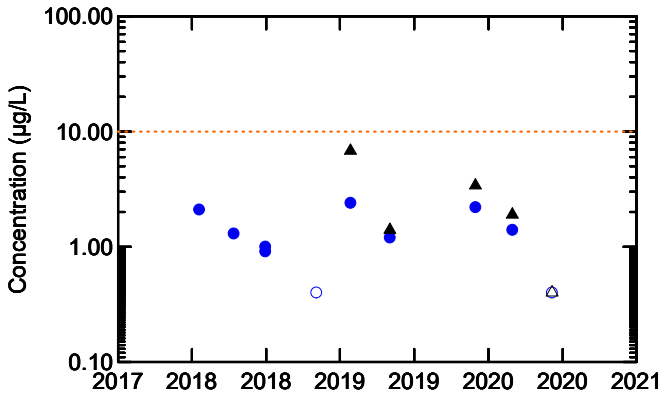
Iron



Total: No trend identified

Dissolved: Over 50% non-detects

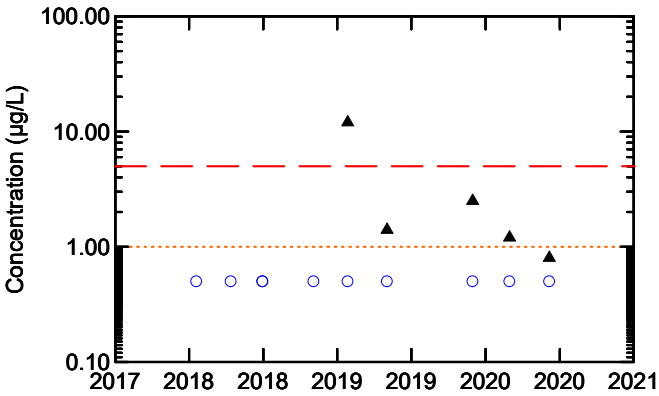
Cobalt



Total: Stable

Dissolved: Stable

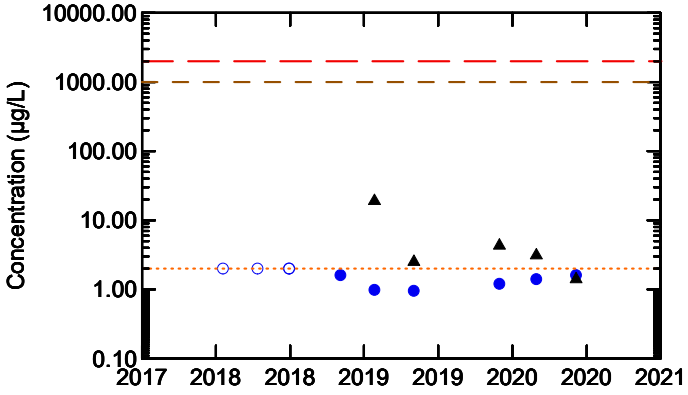
Lead



Total: Probably Decreasing

Dissolved: No detected results

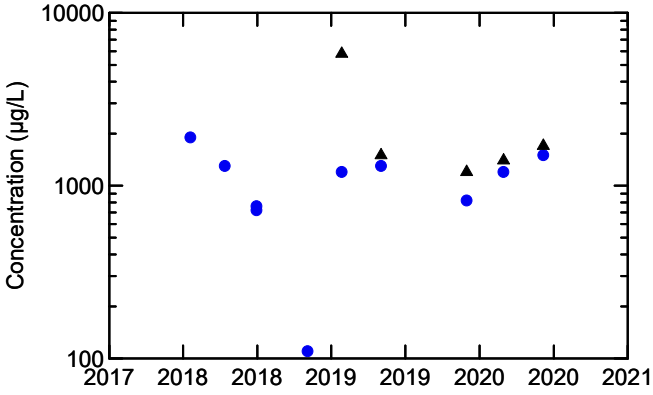
Copper



Total: No trend identified

Dissolved: No trend identified

Magnesium



Total: Stable

Dissolved: Stable

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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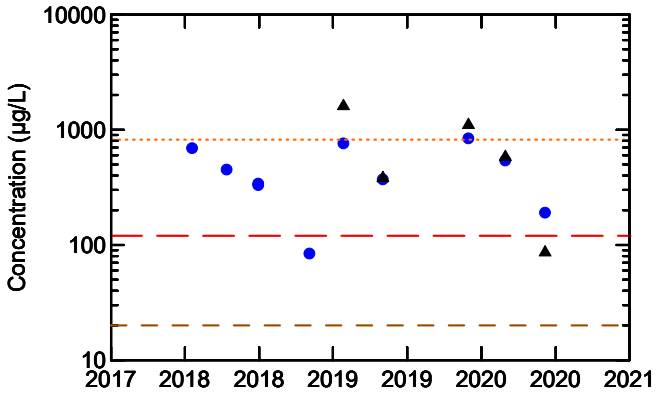
WELL MW-16A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

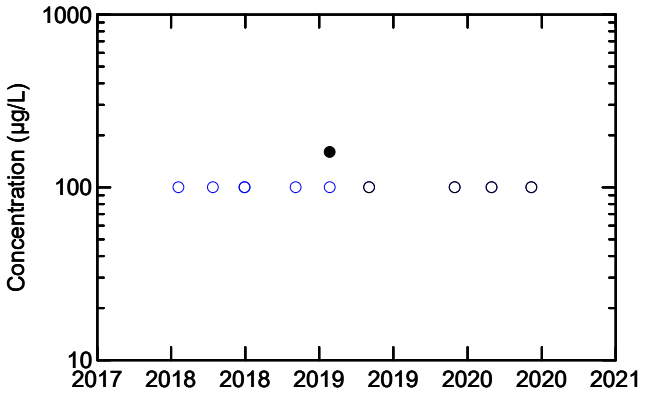
Manganese



Total: Stable

Dissolved: Stable

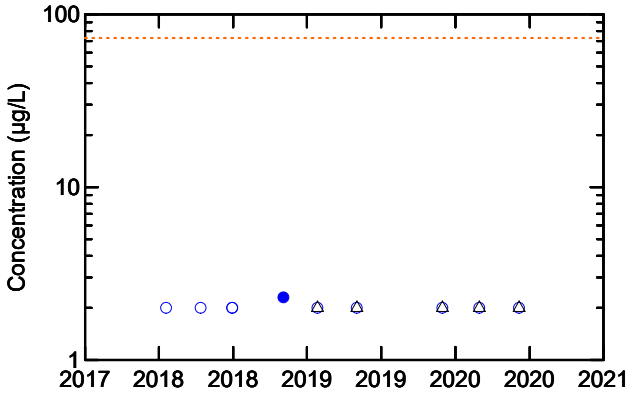
Phosphorus



Total: Over 50% non-detects

Dissolved: No detected results

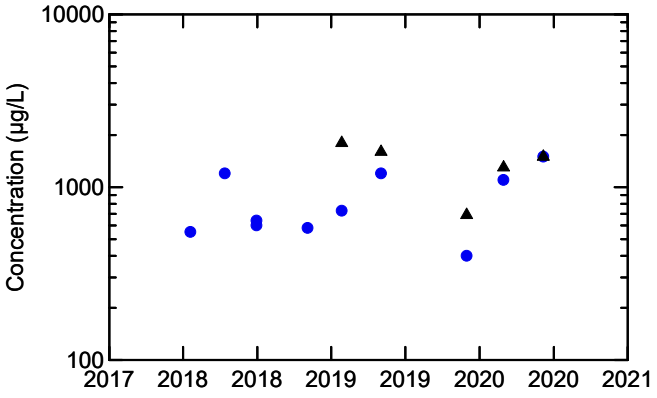
Molybdenum



Total: No detected results

Dissolved: Over 50% non-detects

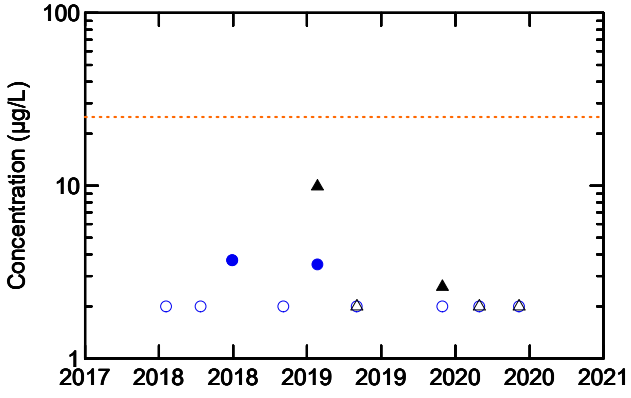
Potassium



Total: Stable

Dissolved: No trend identified

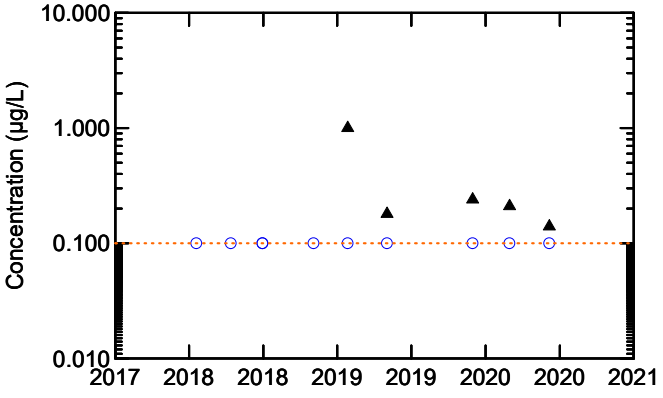
Nickel



Total: Over 50% non-detects

Dissolved: Over 50% non-detects

Silver



Total: No trend identified

Dissolved: No detected results

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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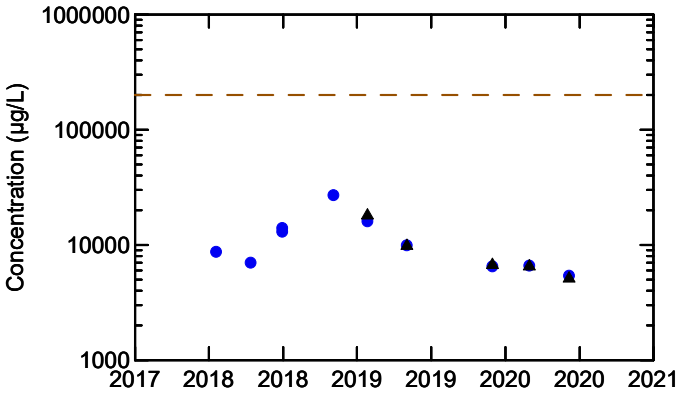
WELL MW-16A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

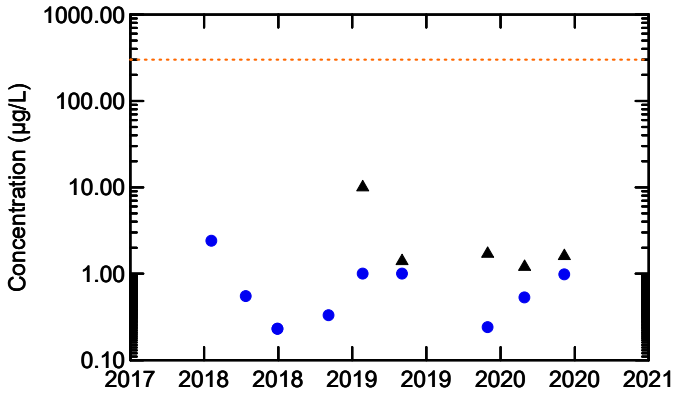
Sodium



Total: Decreasing Trend

Dissolved: Stable

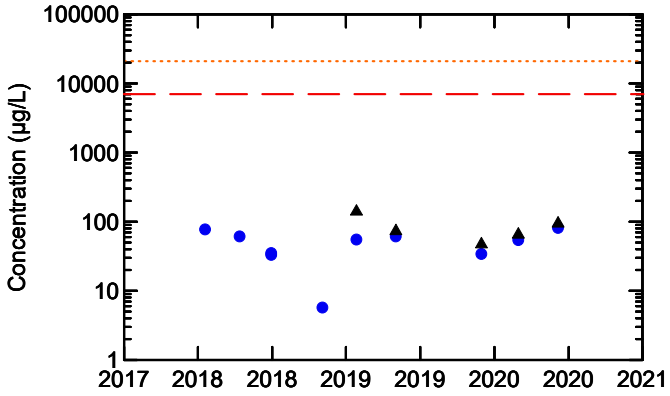
Uranium



Total: No trend identified

Dissolved: Stable

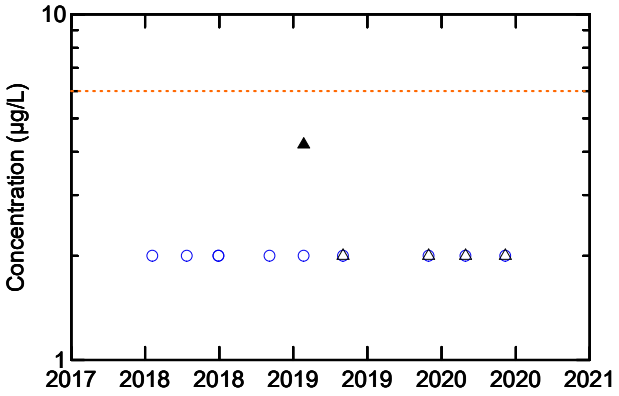
Strontium



Total: Stable

Dissolved: Stable

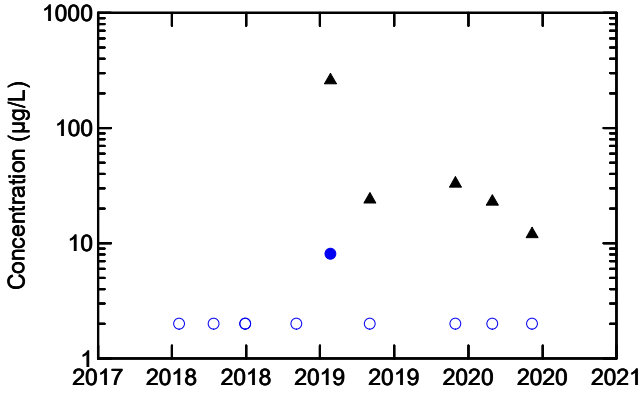
Vanadium



Total: Over 50% non-detects

Dissolved: No detected results

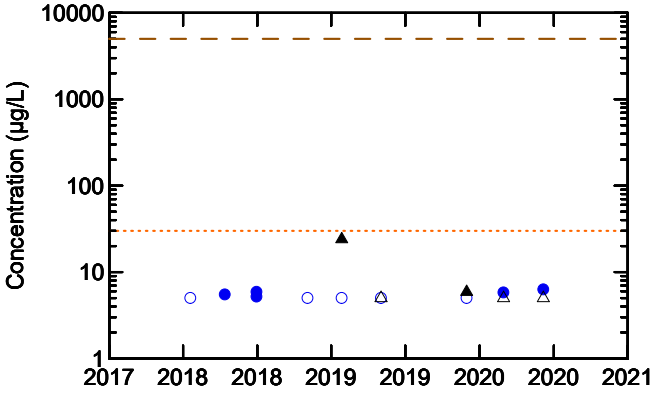
Titanium



Total: Probably Decreasing

Dissolved: Over 50% non-detects

Zinc



Total: Over 50% non-detects

Dissolved: Over 50% non-detects

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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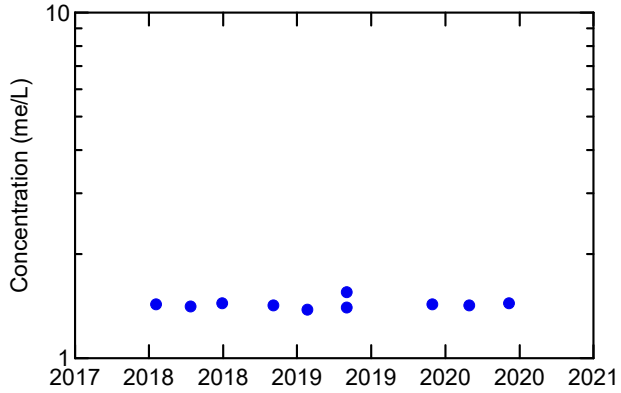
Non-detects are plotted at the reporting limit.

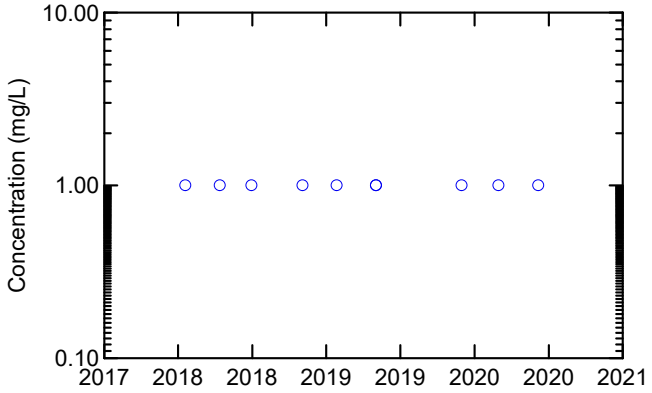
WELL MW-16A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Anion Sum



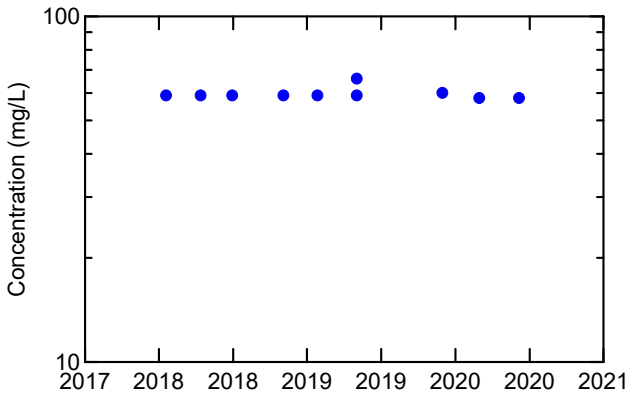
No trend identified

Carb. Alkalinity (calc. as CaCO3)



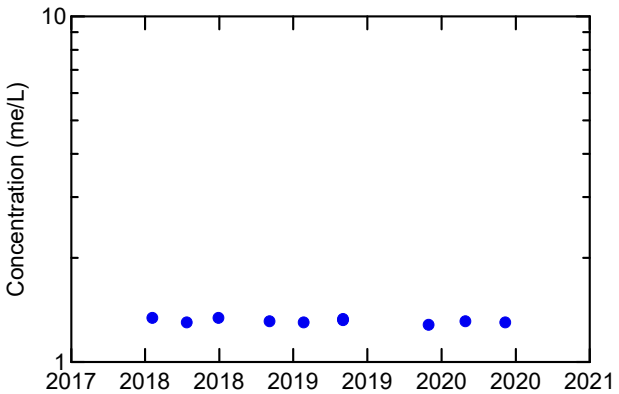
No detected results

Bicarb. Alkalinity (calc. as CaCO3)



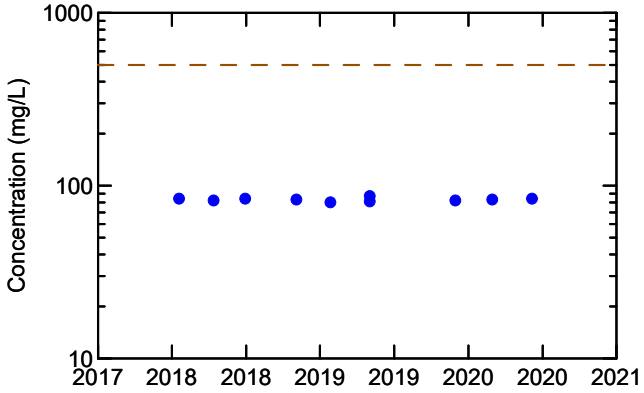
Stable

Cation Sum



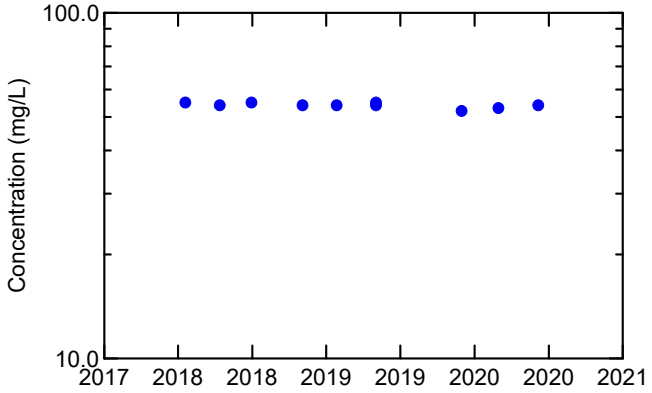
Stable

Calculated TDS



Stable

Hardness (CaCO3)



Stable

Legend:

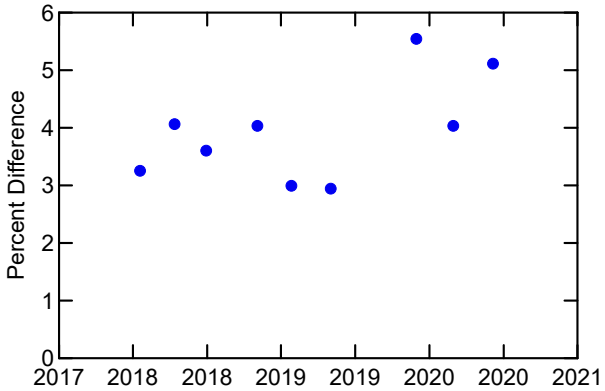
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines - Aesthetic

WELL MW-16B
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

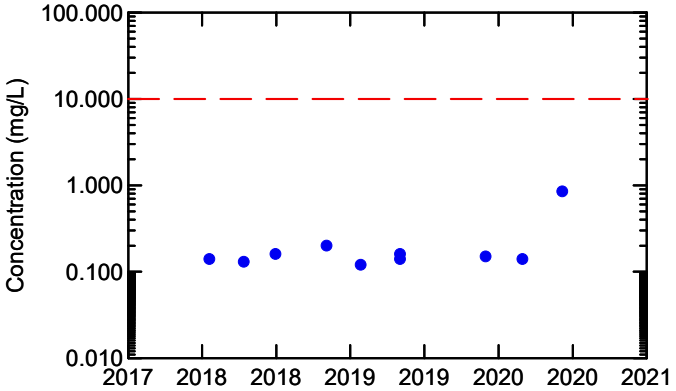
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Ion Balance



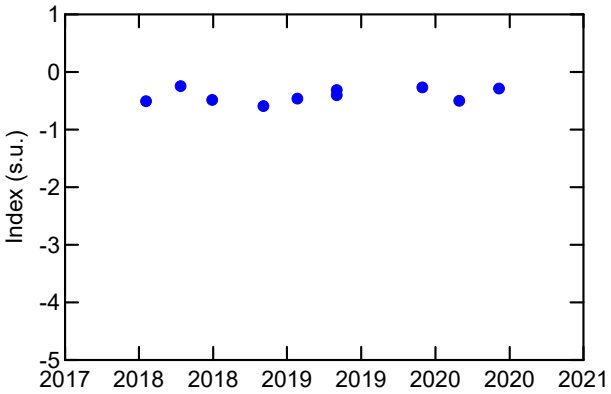
No trend identified

Nitrate



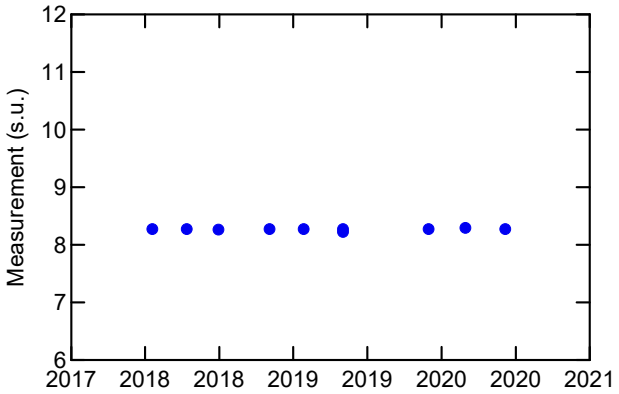
No trend identified

Langelier Index (@ 20C)



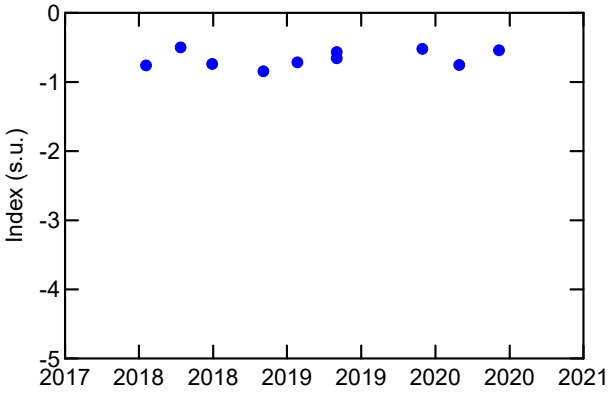
No trend identified

Saturation pH (@ 20C)



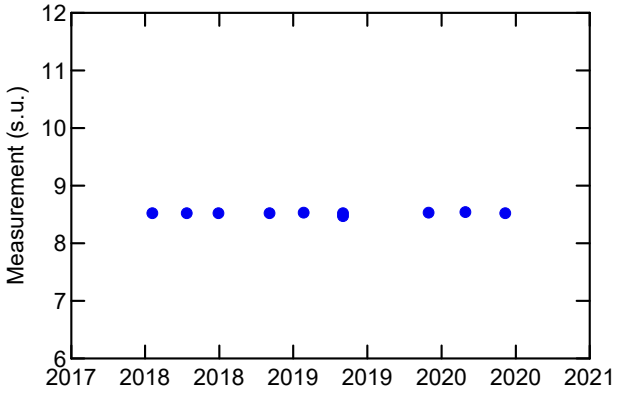
No trend identified

Langelier Index (@ 4C)



No trend identified

Saturation pH (@ 4C)



No trend identified

Legend:

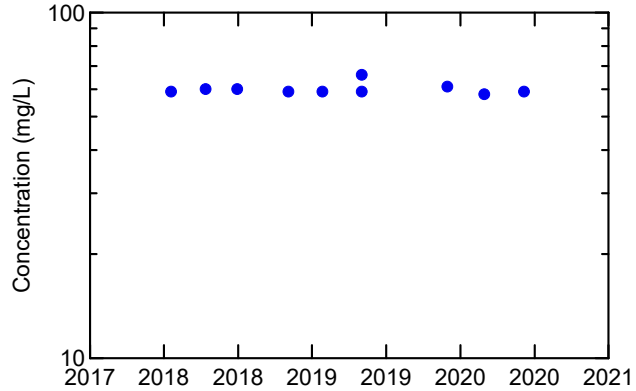
● Detected result ○ Non-Detect

— — Canadian Drinking Water Quality Guidelines: Maximum Acceptable

WELL MW-16B
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

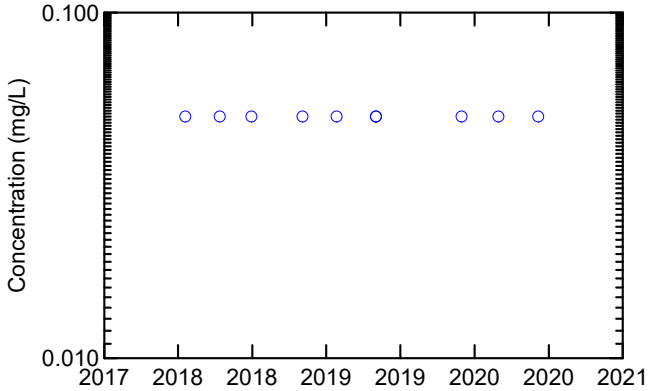
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Total Alkalinity (Total as CaCO3)



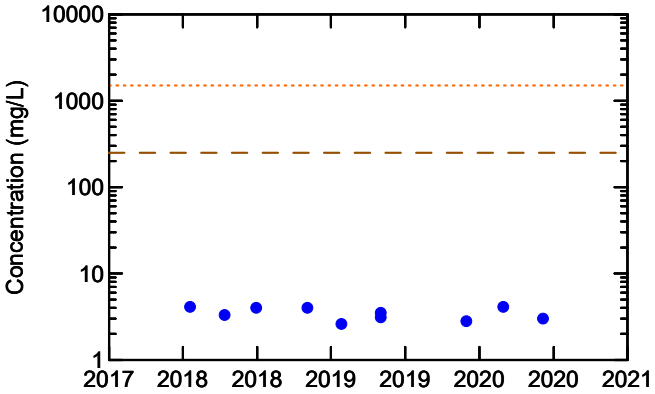
Stable

Nitrogen (Ammonia Nitrogen)



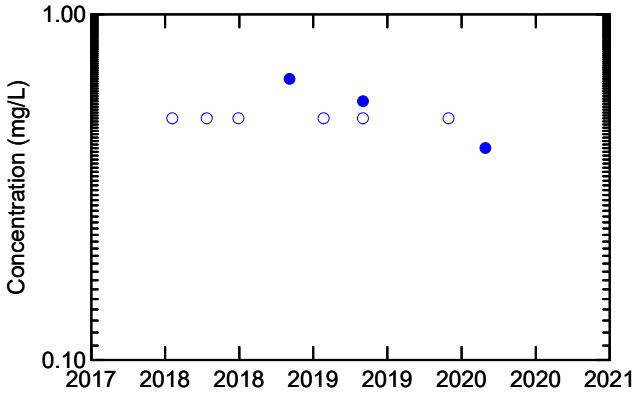
No detected results

Dissolved Chloride



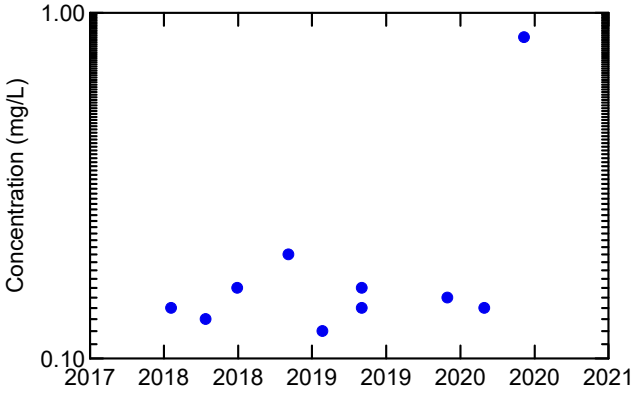
Stable

Total Organic Carbon



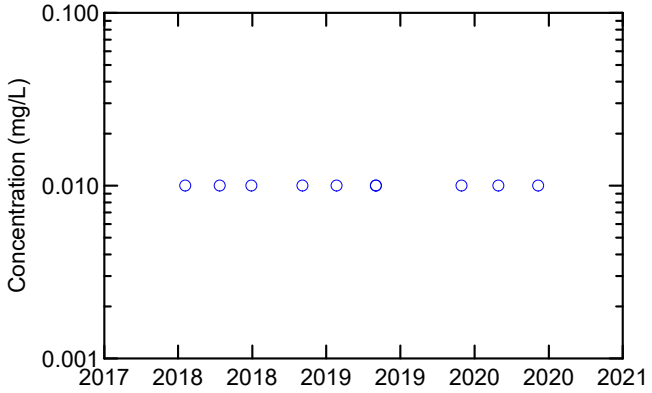
Over 50% non-detects

Nitrate + Nitrite



No trend identified

Orthophosphate



No detected results

Legend:

● Detected result ○ Non-Detect

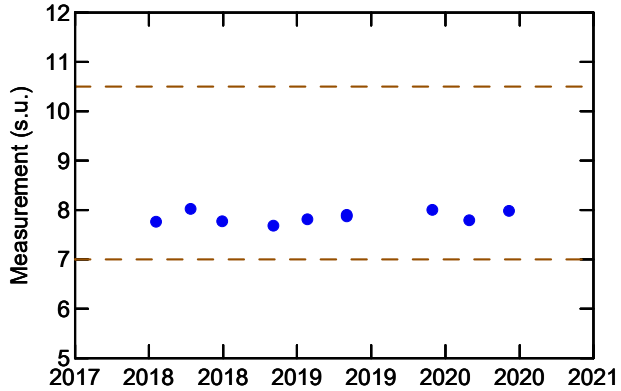
Nova Scotia (2014) Pathway-Specific Standard for Groundwater

Canadian Drinking Water Quality Guideline: Aesthetic

WELL MW-16B
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

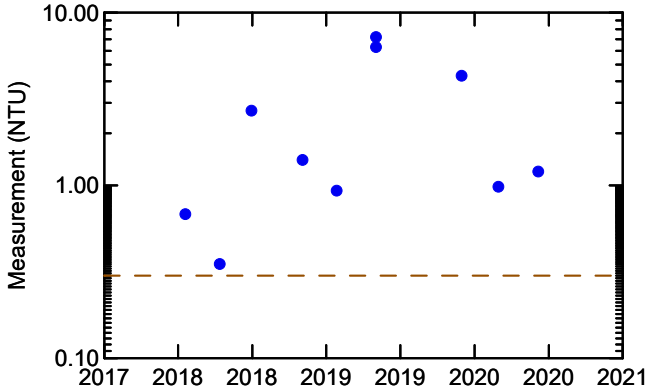
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

pH



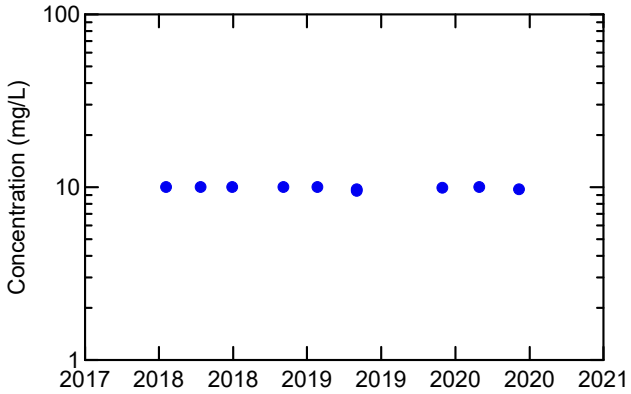
Stable

Turbidity



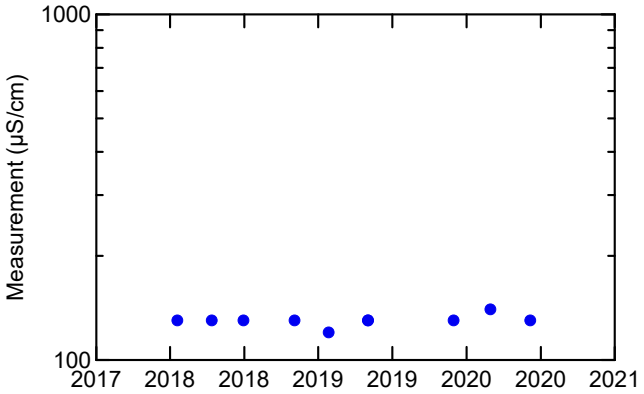
No trend identified

Reactive Silica (SiO2)



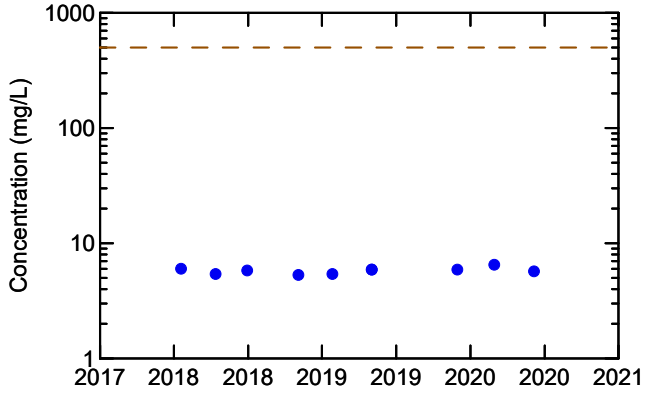
Stable

Conductivity



Probably Decreasing

Dissolved Sulphate (SO4)



Stable

Legend:

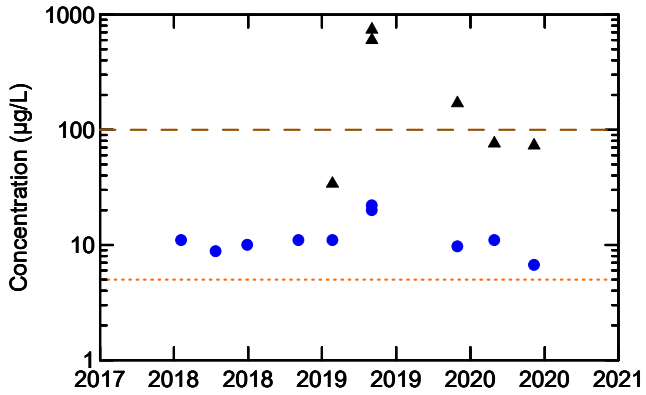
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines: Aesthetic

WELL MW-16B
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

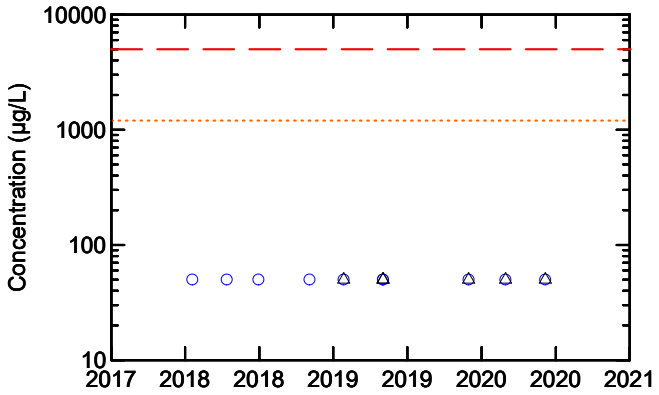
Aluminum



Total: No trend identified

Dissolved: Stable

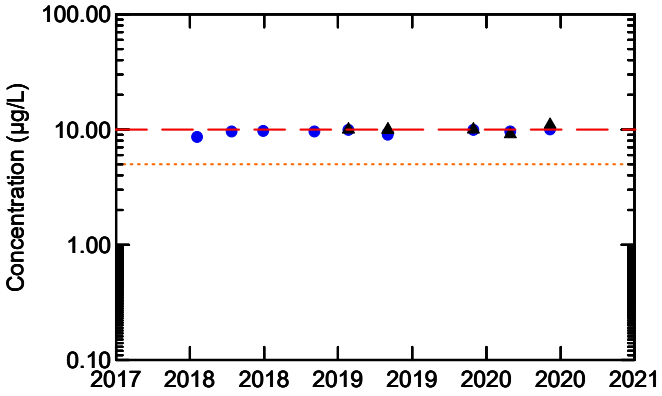
Boron



Total: No detected results

Dissolved: No detected results

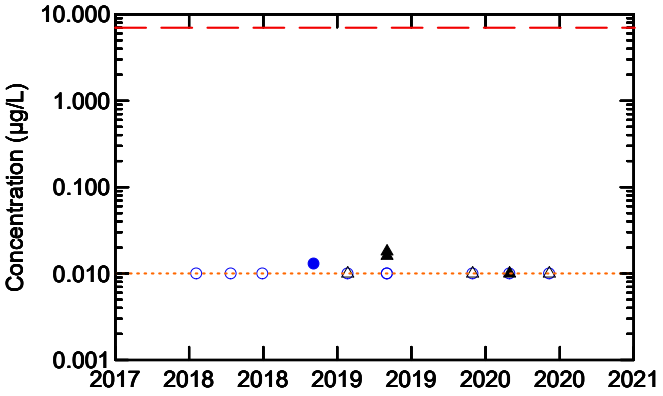
Arsenic



Total: No trend identified

Dissolved: No trend identified

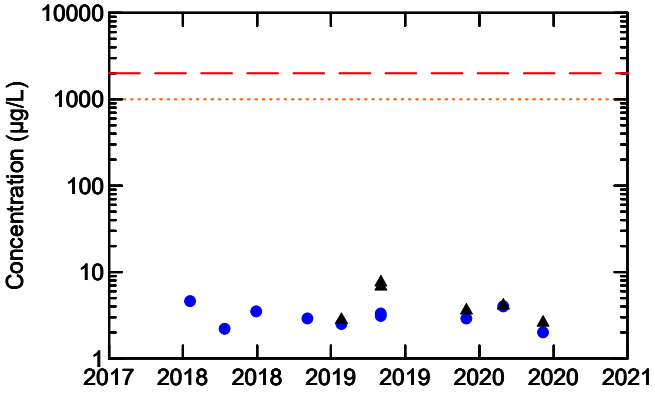
Cadmium



Total: Over 50% non-detects

Dissolved: Over 50% non-detects

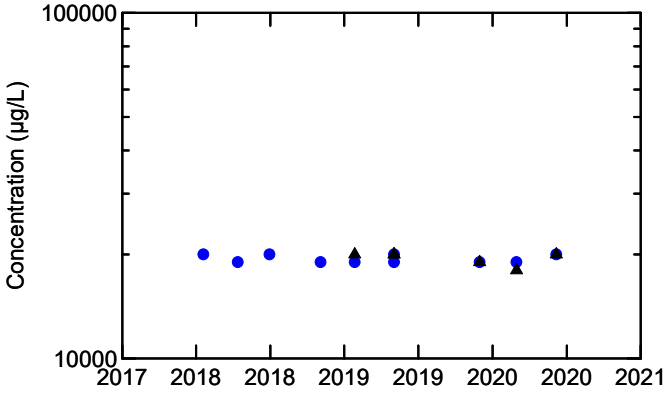
Barium



Total: Stable

Dissolved: Stable

Calcium



Total: Stable

Dissolved: Stable

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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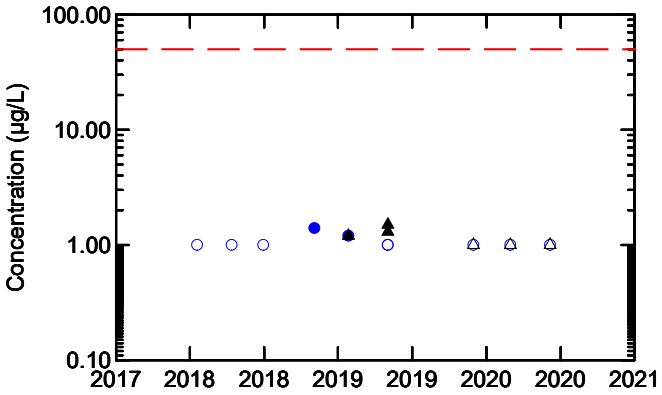
Non-detects are plotted at the reporting limit.

WELL MW-16B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

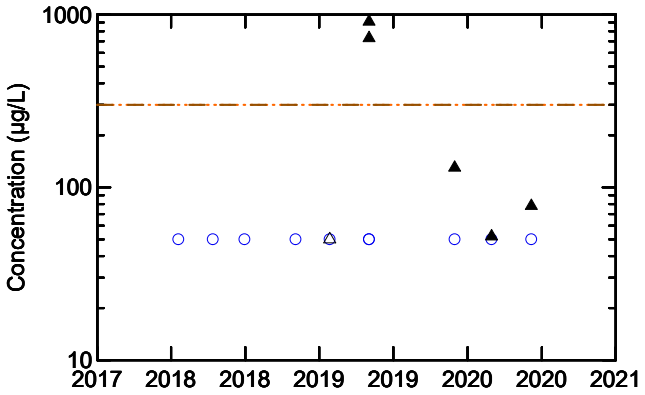
Chromium



Total: Over 50% non-detects

Dissolved: Over 50% non-detects

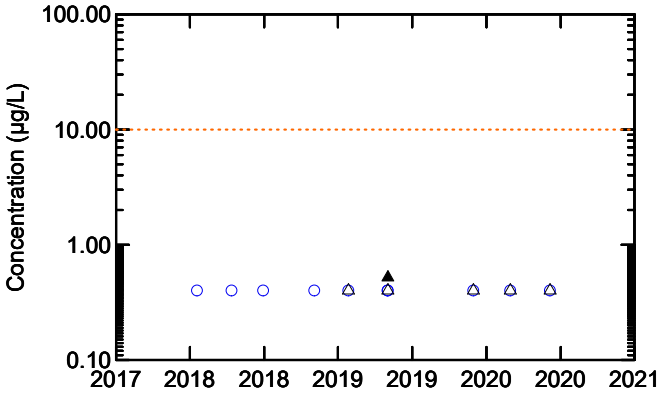
Iron



Total: No trend identified

Dissolved: No detected results

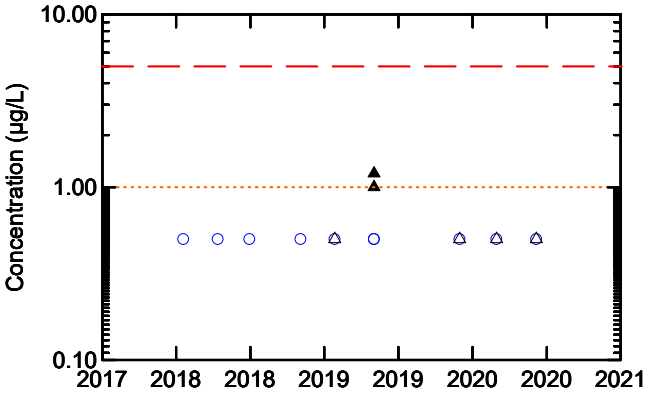
Cobalt



Total: Over 50% non-detects

Dissolved: No detected results

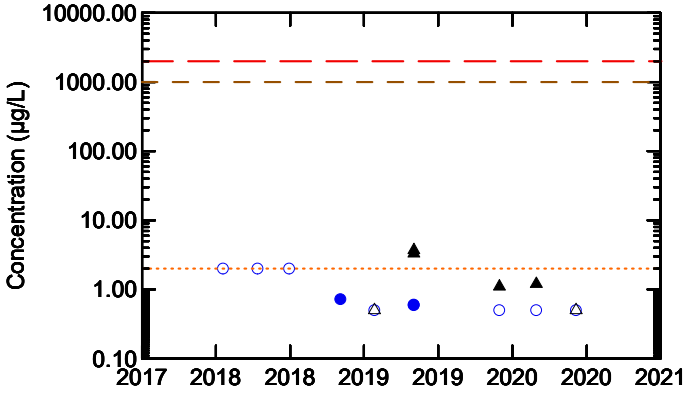
Lead



Total: Over 50% non-detects

Dissolved: No detected results

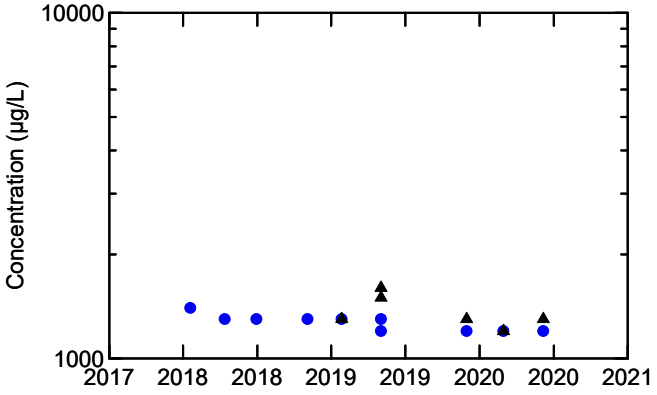
Copper



Total: No trend identified

Dissolved: Over 50% non-detects

Magnesium



Total: Stable

Dissolved: Decreasing Trend

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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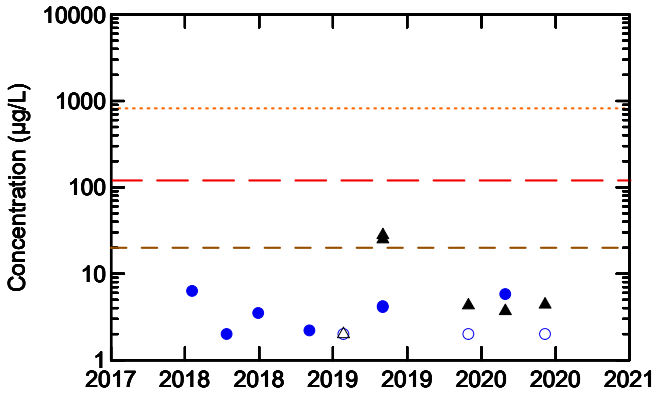
WELL MW-16B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

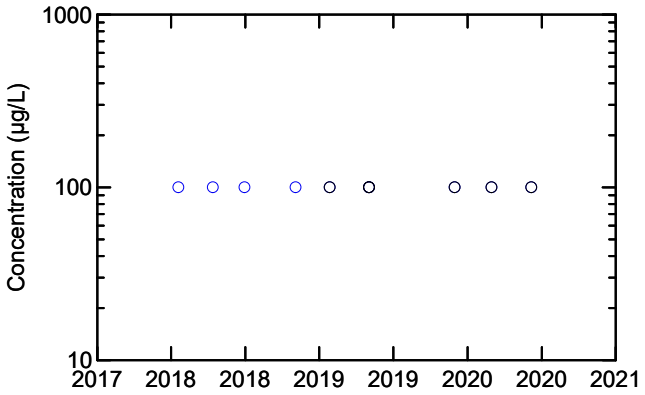
Manganese



Total: No trend identified

Dissolved: Stable

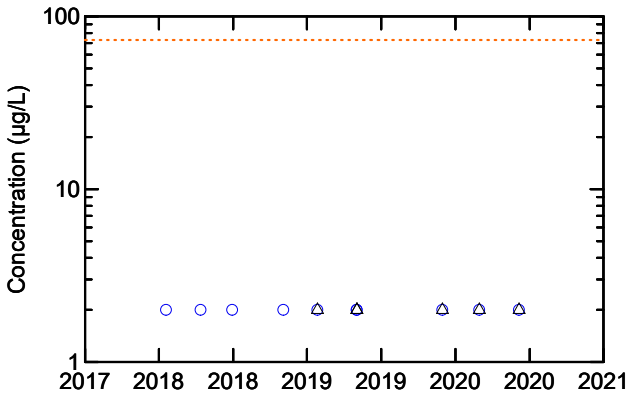
Phosphorus



Total: No detected results

Dissolved: No detected results

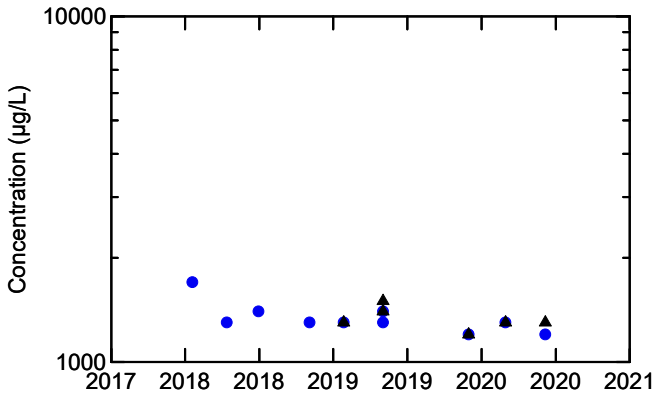
Molybdenum



Total: No detected results

Dissolved: No detected results

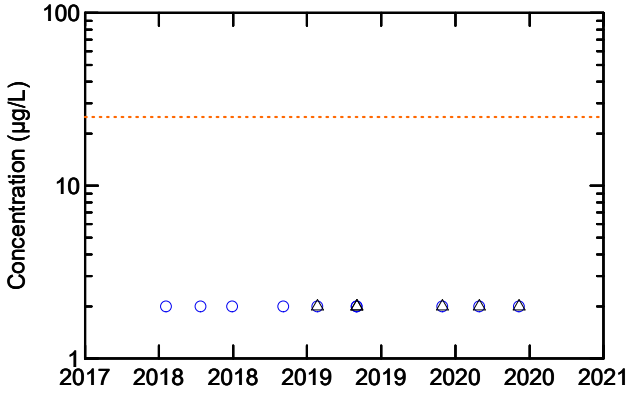
Potassium



Total: Stable

Dissolved: Probably Decreasing

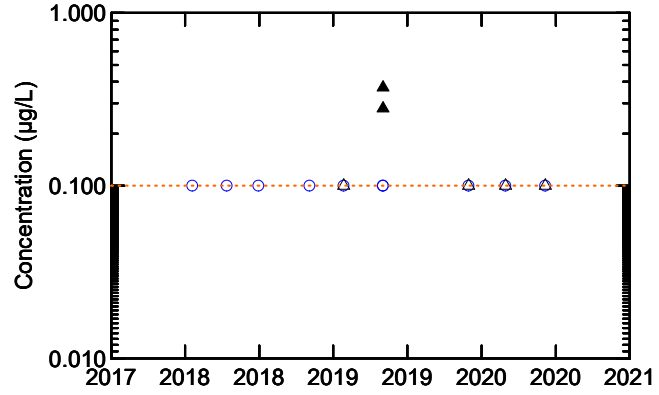
Nickel



Total: No detected results

Dissolved: No detected results

Silver



Total: Over 50% non-detects

Dissolved: No detected results

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

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Notes:

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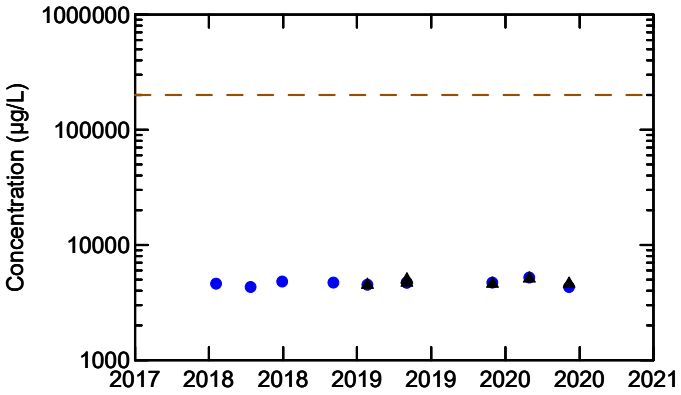
WELL MW-16B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

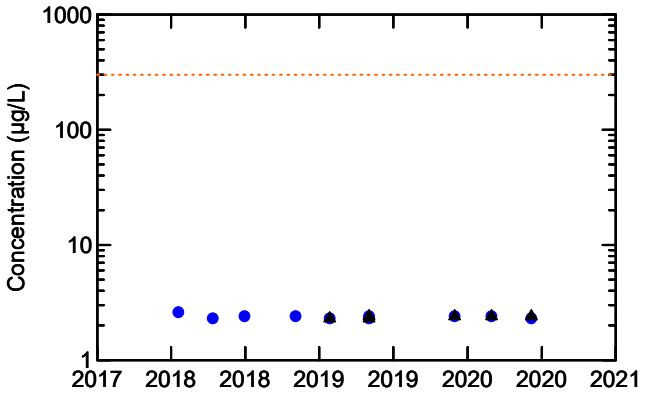
Sodium



Total: No trend identified

Dissolved: No trend identified

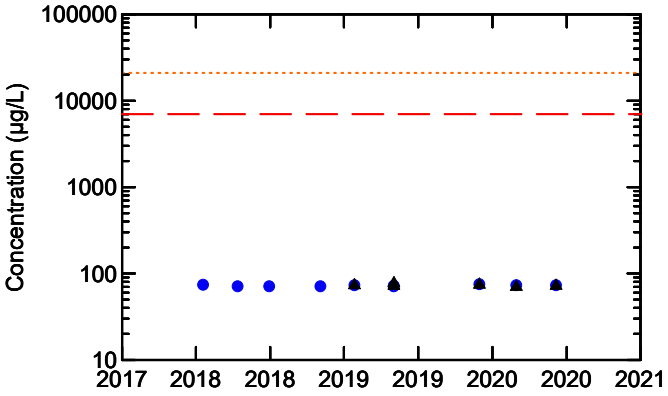
Uranium



Total: No trend identified

Dissolved: Stable

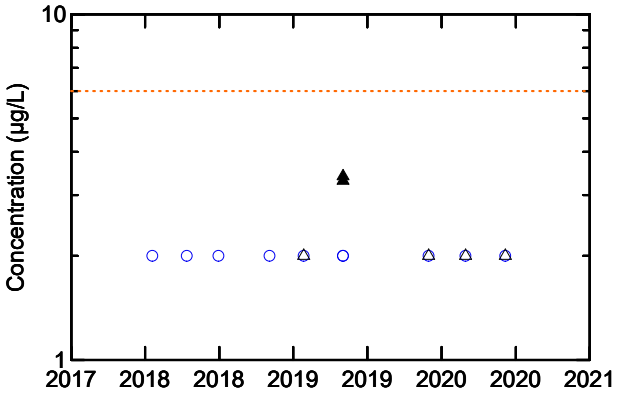
Strontium



Total: Stable

Dissolved: No trend identified

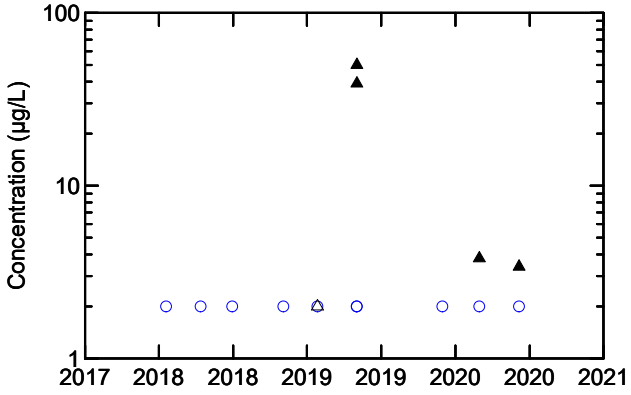
Vanadium



Total: Over 50% non-detects

Dissolved: No detected results

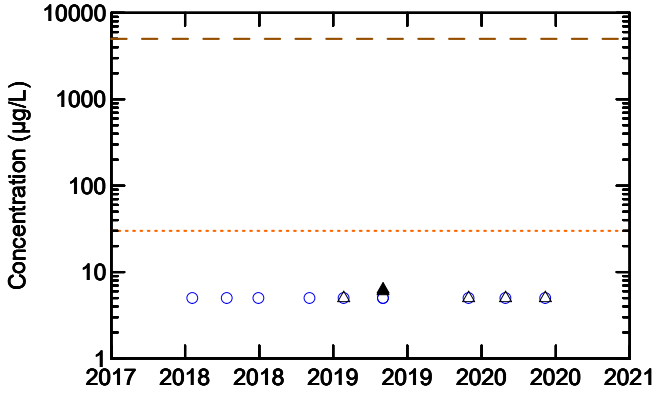
Titanium



Total: No trend identified

Dissolved: No detected results

Zinc



Total: Over 50% non-detects

Dissolved: No detected results

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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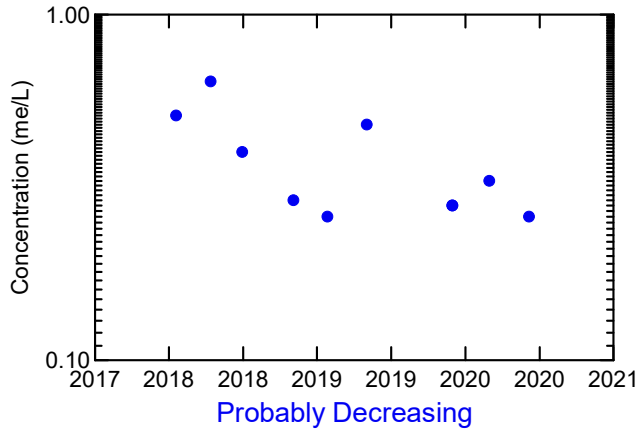
Non-detects are plotted at the reporting limit.

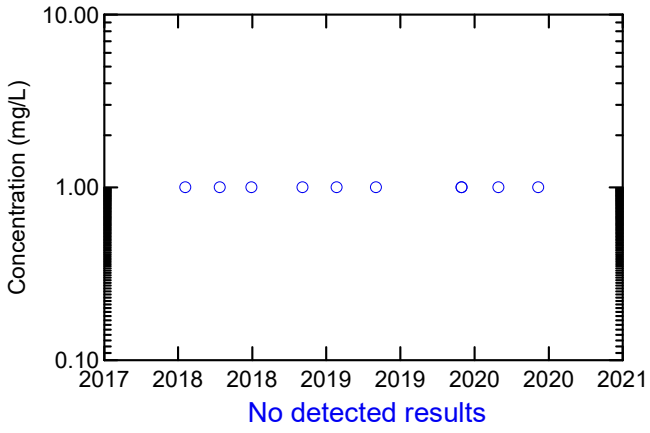
WELL MW-16B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Anion Sum



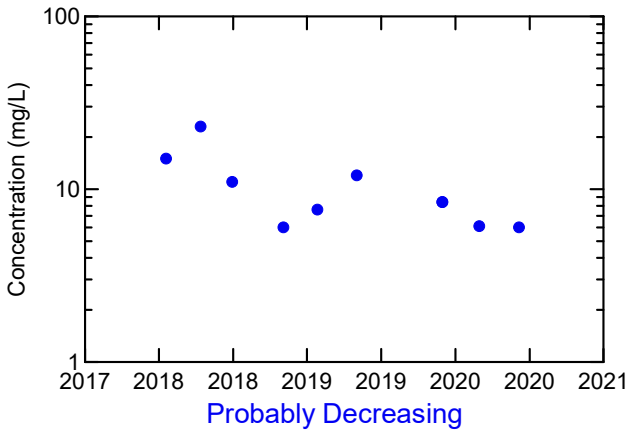
Probably Decreasing

Carb. Alkalinity (calc. as CaCO3)



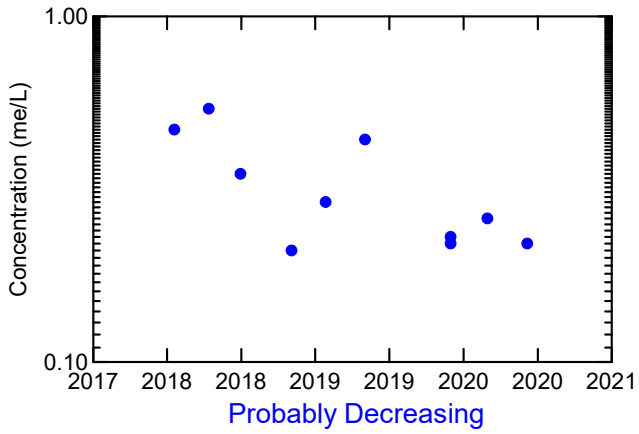
No detected results

Bicarb. Alkalinity (calc. as CaCO3)



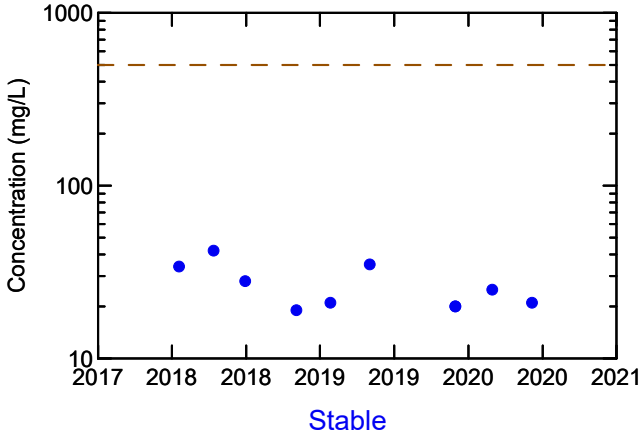
Probably Decreasing

Cation Sum



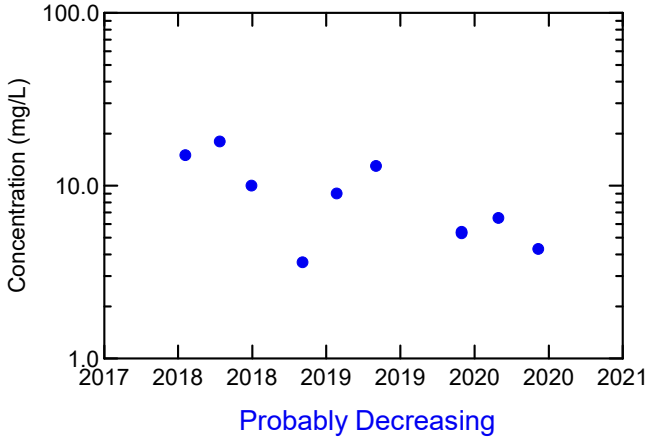
Probably Decreasing

Calculated TDS



Stable

Hardness (CaCO3)



Probably Decreasing

Legend:

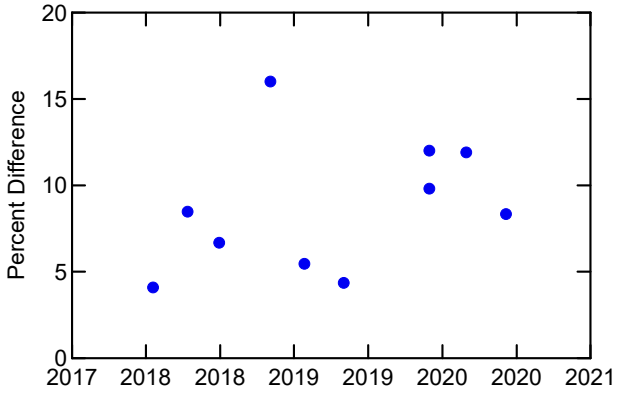
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines - Aesthetic

WELL MW-17A
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

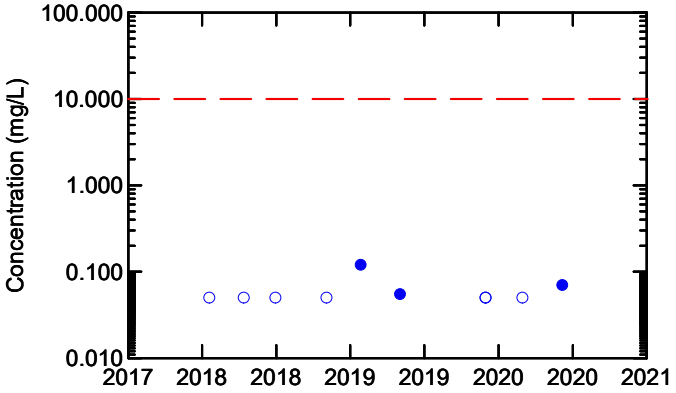
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Ion Balance



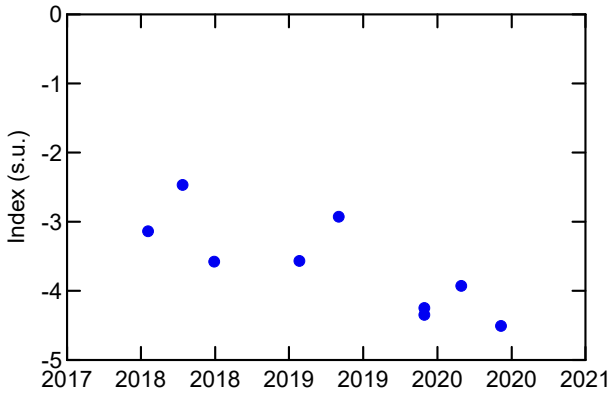
No trend identified

Nitrate



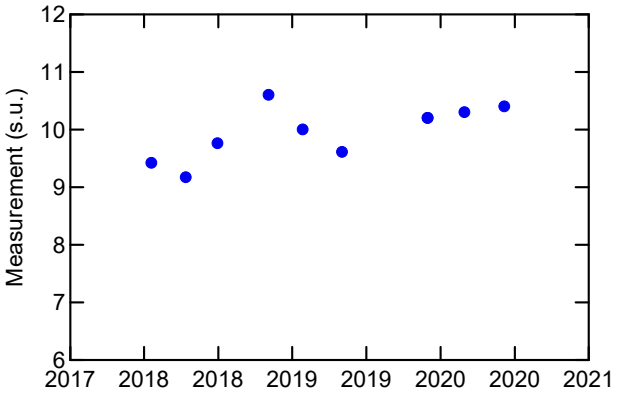
Over 50% non-detects

Langelier Index (@ 20C)



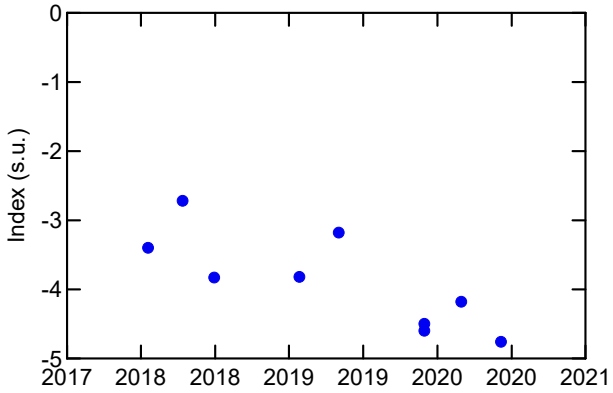
Stable

Saturation pH (@ 20C)



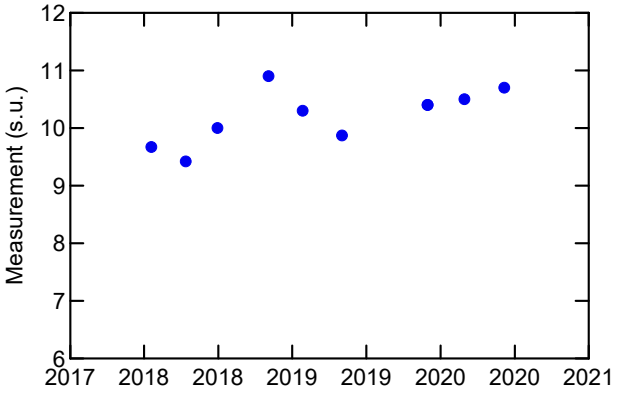
Increasing Trend

Langelier Index (@ 4C)



Stable

Saturation pH (@ 4C)



Increasing Trend

Legend:

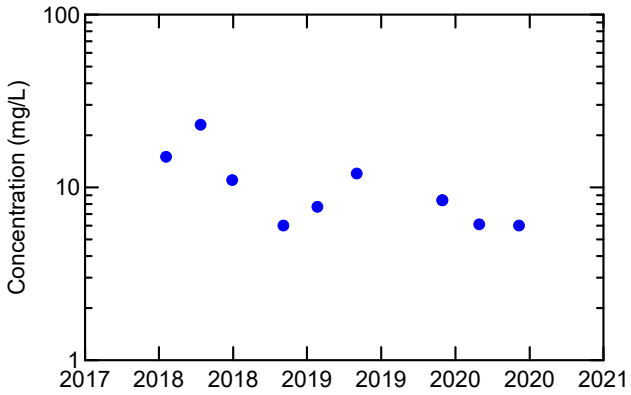
● Detected result ○ Non-Detect

— — Canadian Drinking Water Quality Guidelines: Maximum Acceptable

WELL MW-17A
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

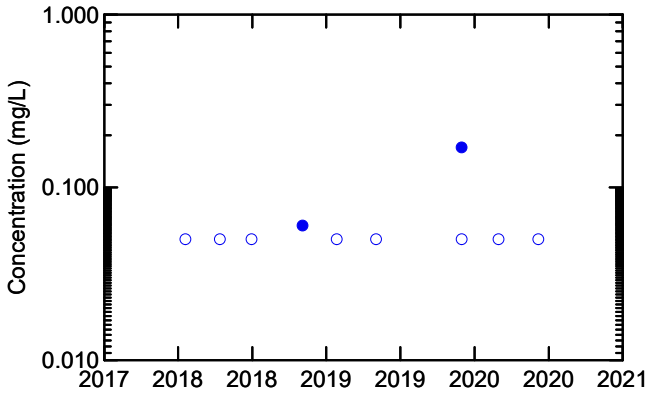
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Total Alkalinity (Total as CaCO3)



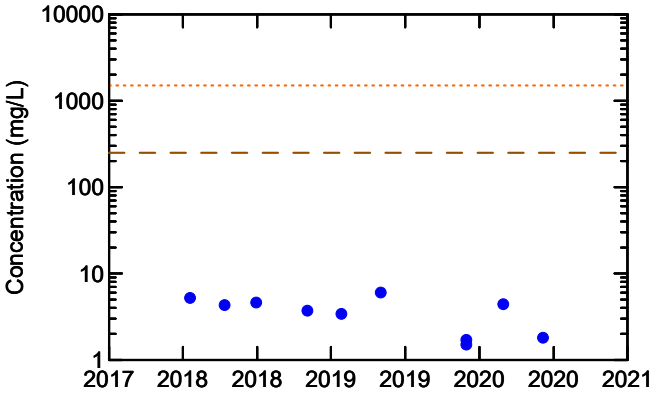
Probably Decreasing

Nitrogen (Ammonia Nitrogen)



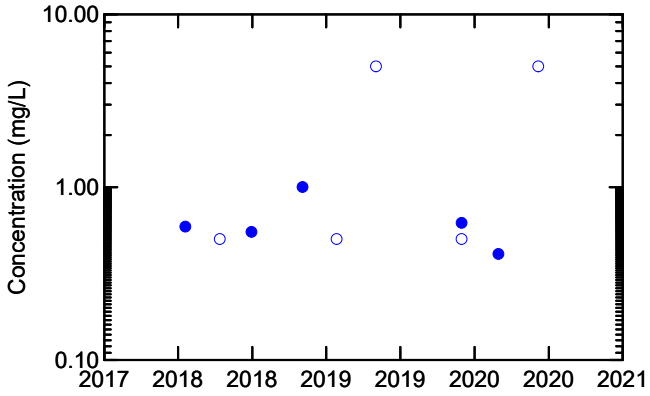
Over 50% non-detects

Dissolved Chloride



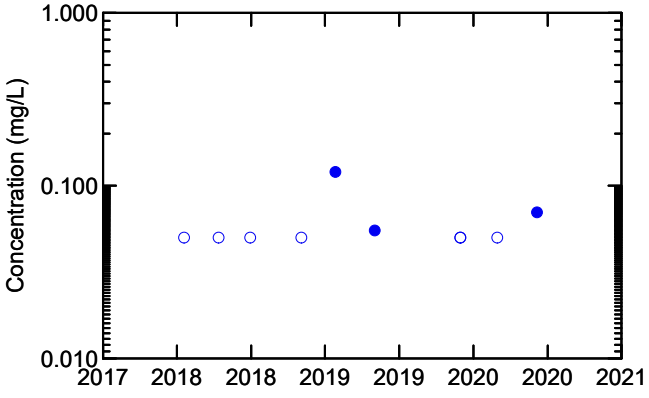
Stable

Total Organic Carbon



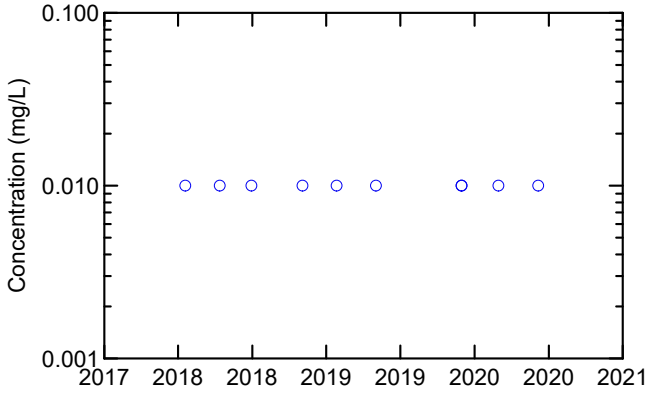
Stable

Nitrate + Nitrite



Over 50% non-detects

Orthophosphate



No detected results

Legend:

● Detected result ○ Non-Detect

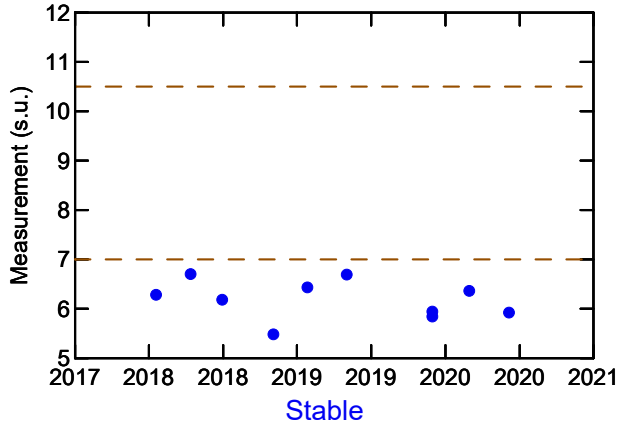
····· Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — - Canadian Drinking Water Quality Guideline: Aesthetic

WELL MW-17A
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

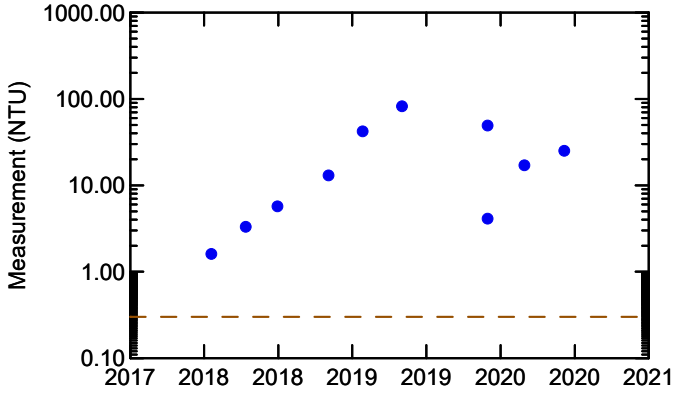
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

pH



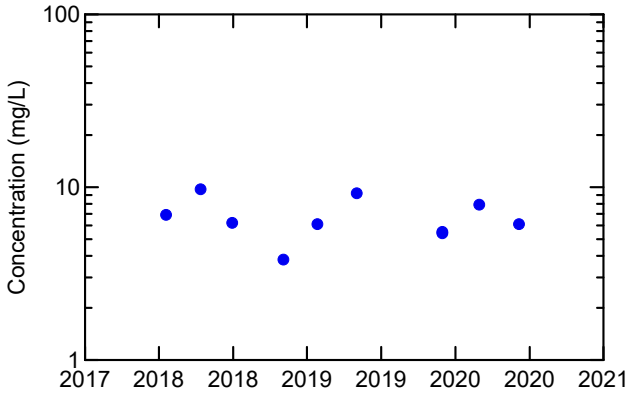
Stable

Turbidity



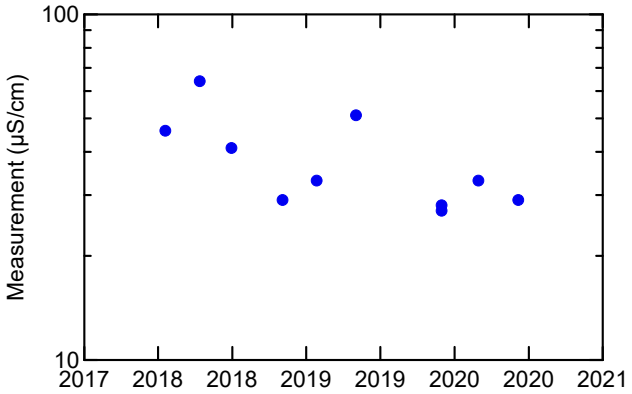
No trend identified

Reactive Silica (SiO2)



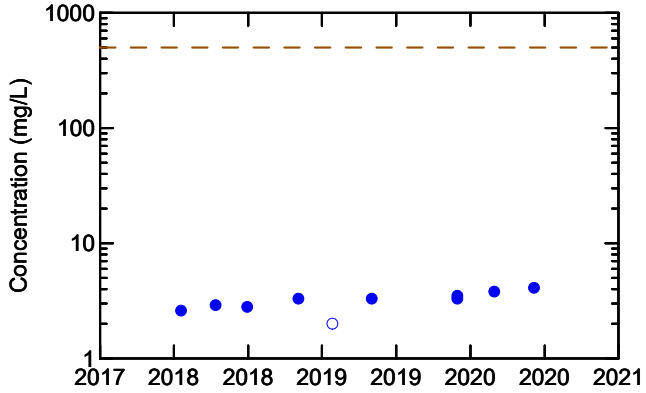
Stable

Conductivity



Probably Decreasing

Dissolved Sulphate (SO4)



Stable

Legend:

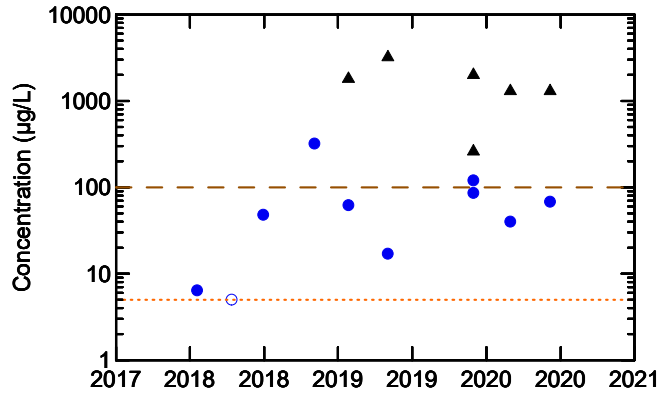
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines: Aesthetic

WELL MW-17A
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

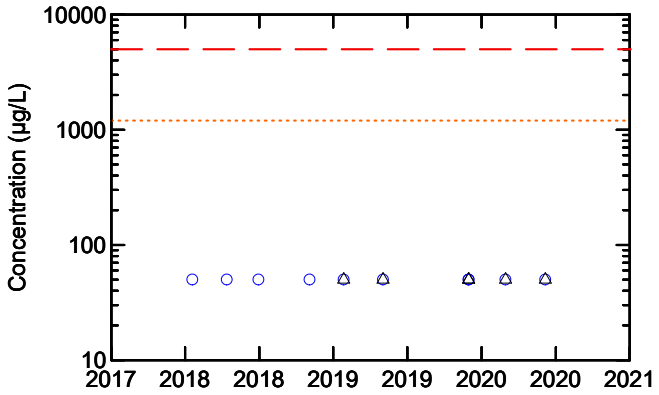
Aluminum



Total: Stable

Dissolved: No trend identified

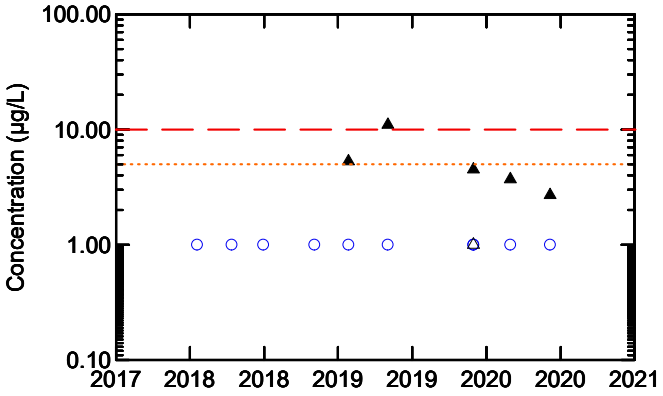
Boron



Total: No detected results

Dissolved: No detected results

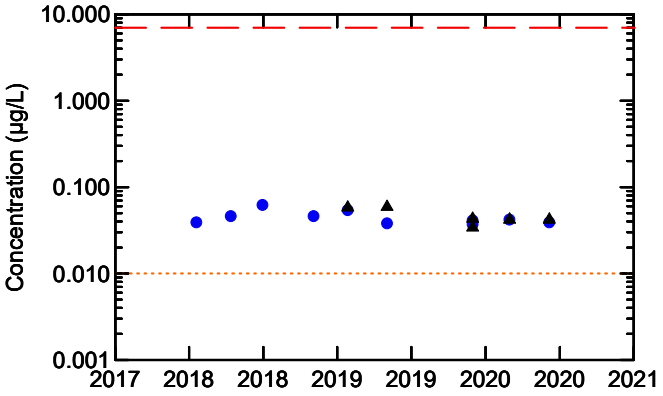
Arsenic



Total: Probably Decreasing

Dissolved: No detected results

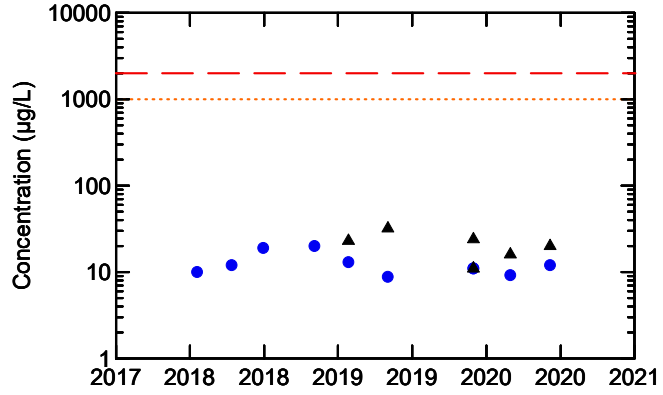
Cadmium



Total: Stable

Dissolved: Stable

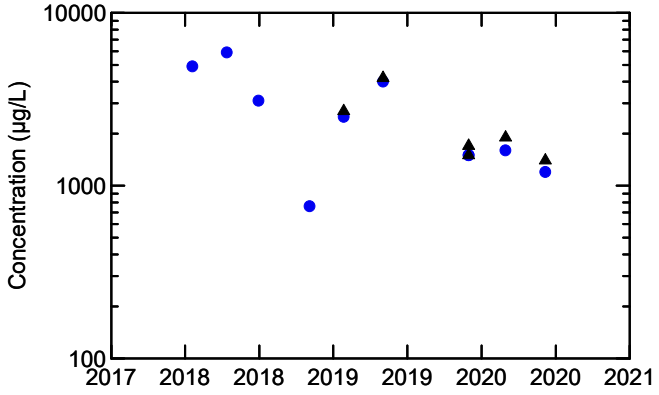
Barium



Total: Stable

Dissolved: Stable

Calcium



Total: Stable

Dissolved: Probably Decreasing

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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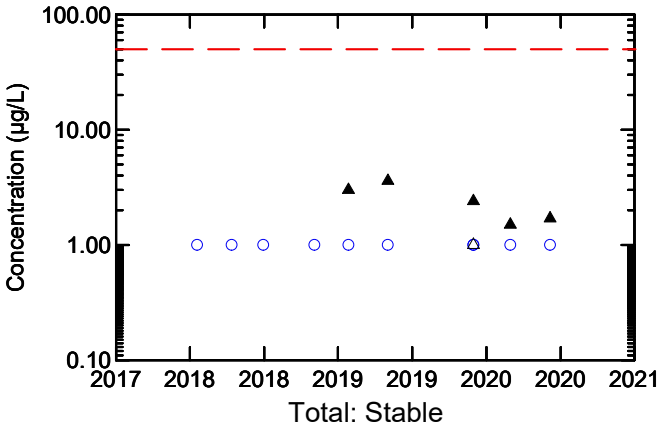
Non-detects are plotted at the reporting limit.

WELL MW-17A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

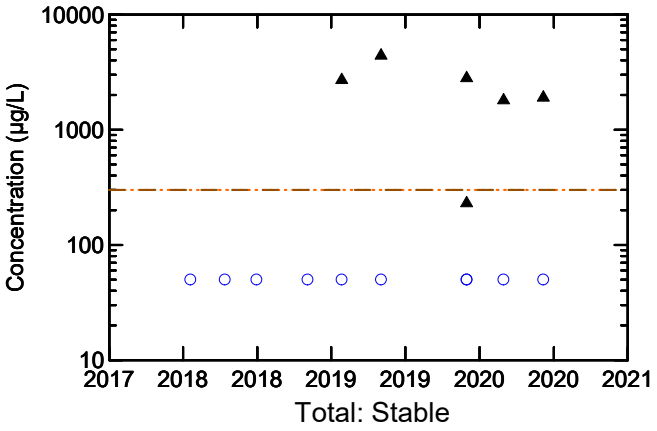
Chromium



Total: Stable

Dissolved: No detected results

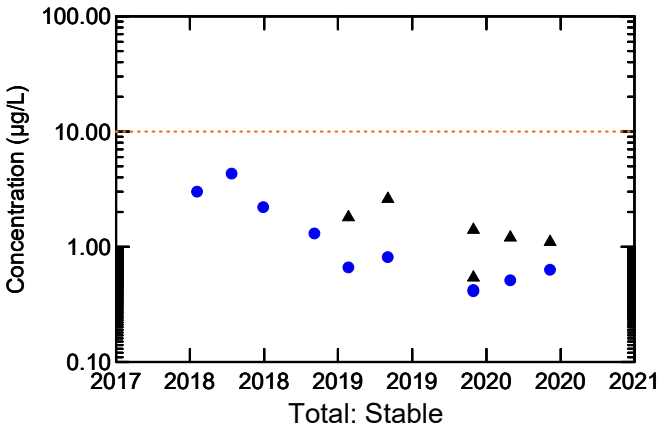
Iron



Total: Stable

Dissolved: No detected results

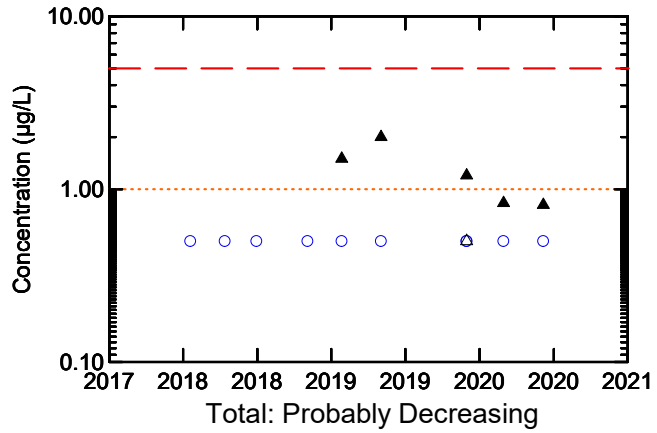
Cobalt



Total: Stable

Dissolved: Decreasing Trend

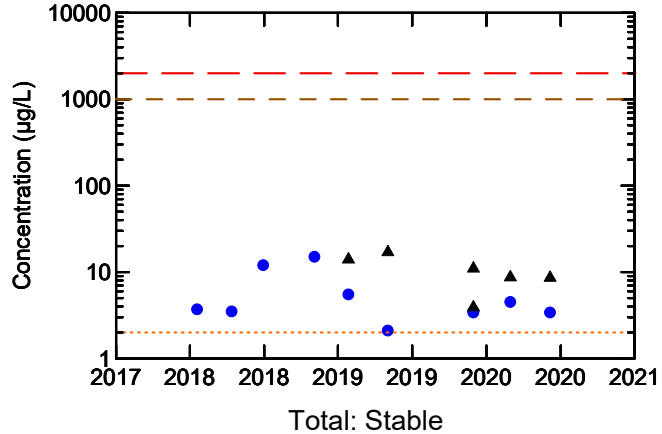
Lead



Total: Probably Decreasing

Dissolved: No detected results

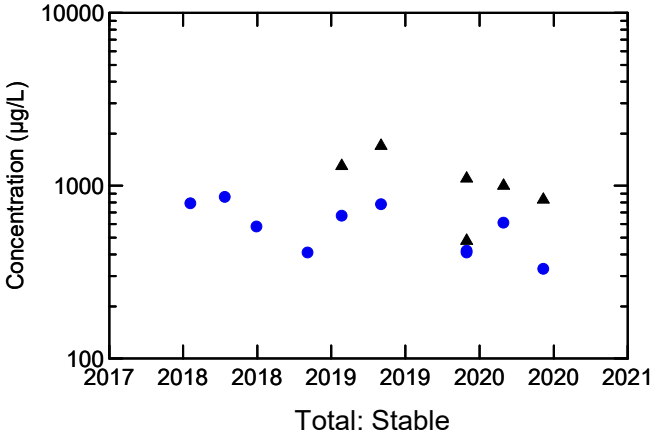
Copper



Total: Stable

Dissolved: Stable

Magnesium



Total: Stable

Dissolved: Stable

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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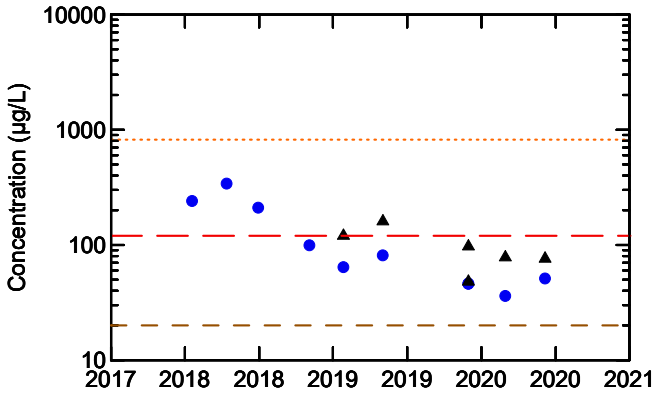
Non-detects are plotted at the reporting limit.

WELL MW-17A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

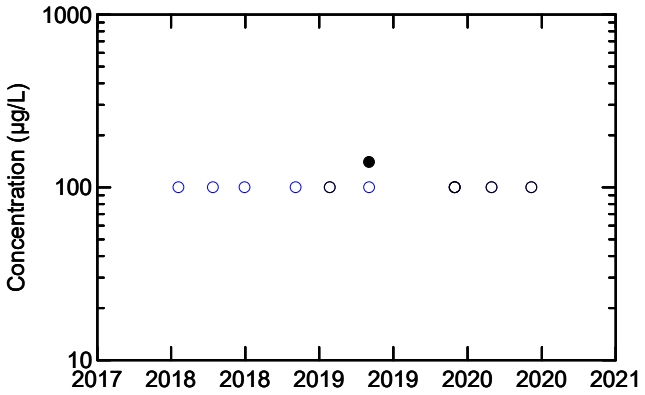
Manganese



Total: Stable

Dissolved: Decreasing Trend

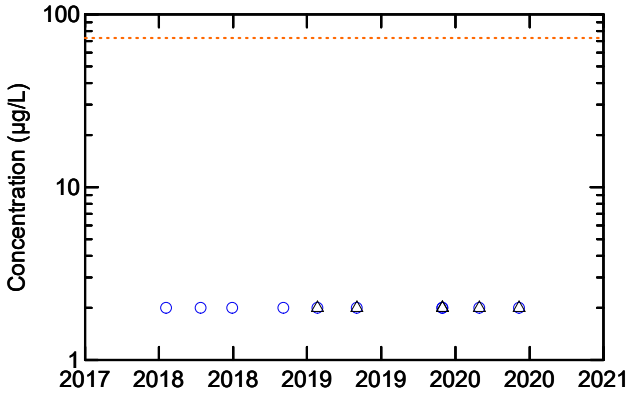
Phosphorus



Total: Over 50% non-detects

Dissolved: No detected results

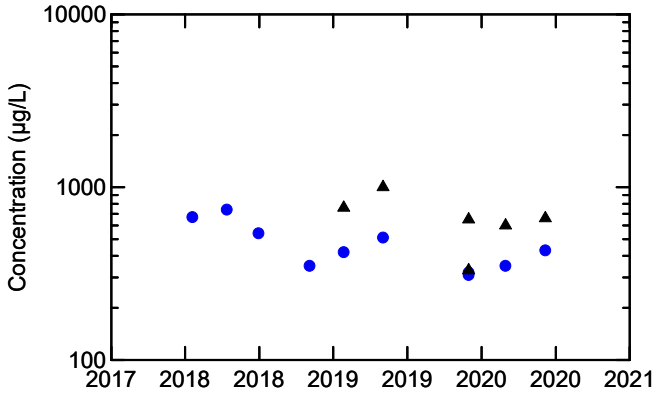
Molybdenum



Total: No detected results

Dissolved: No detected results

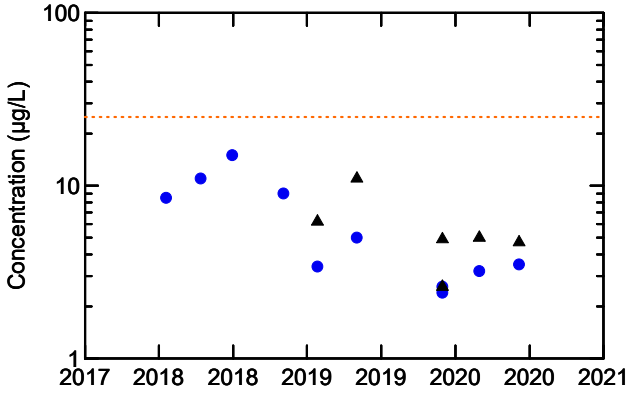
Potassium



Total: Stable

Dissolved: Probably Decreasing

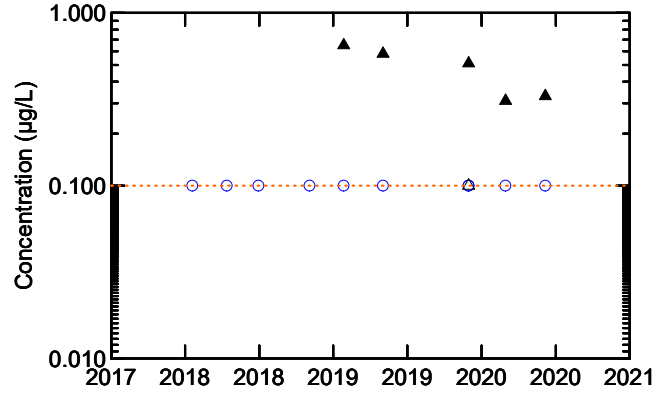
Nickel



Total: Stable

Dissolved: Probably Decreasing

Silver



Total: Probably Decreasing

Dissolved: No detected results

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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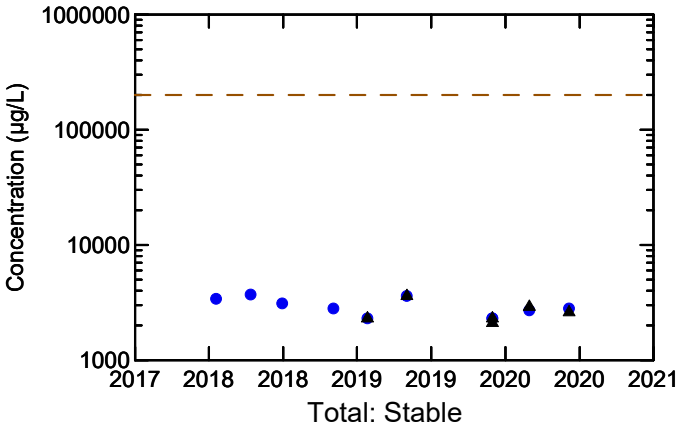
WELL MW-17A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

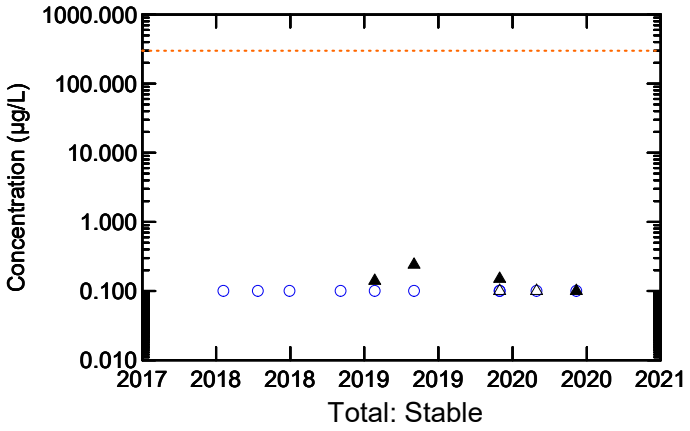
Sodium



Total: Stable

Dissolved: Stable

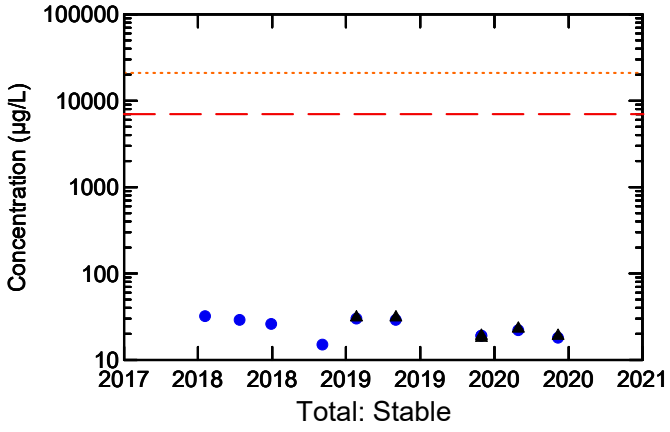
Uranium



Total: Stable

Dissolved: No detected results

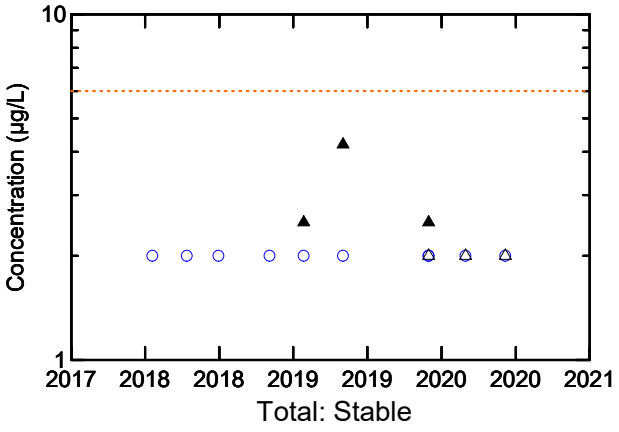
Strontium



Total: Stable

Dissolved: Probably Decreasing

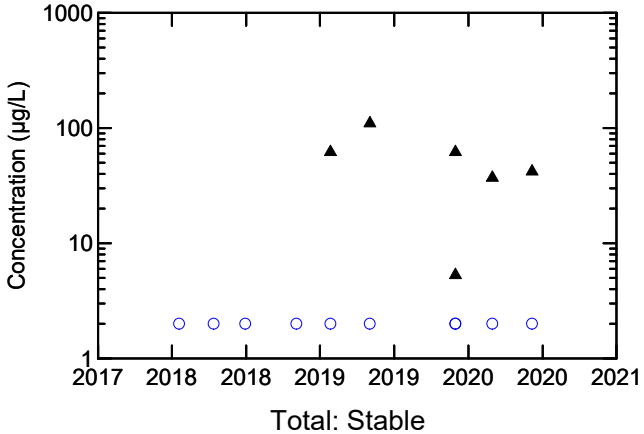
Vanadium



Total: Stable

Dissolved: No detected results

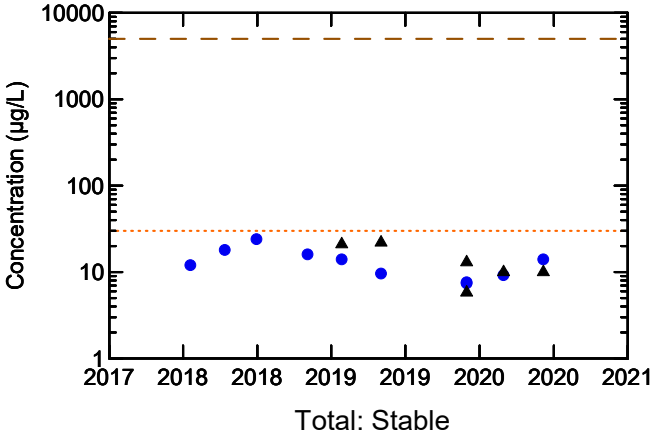
Titanium



Total: Stable

Dissolved: No detected results

Zinc



Total: Stable

Dissolved: Stable

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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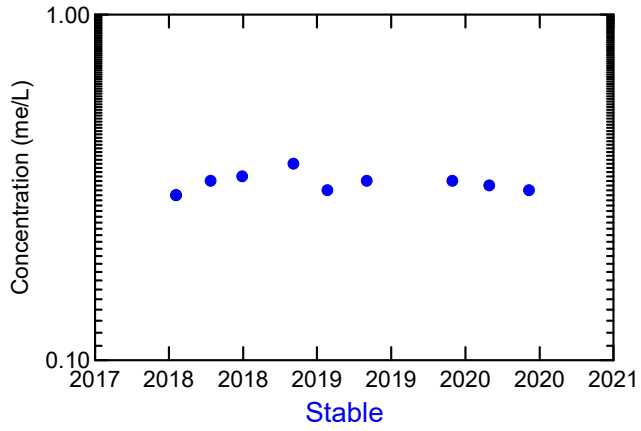
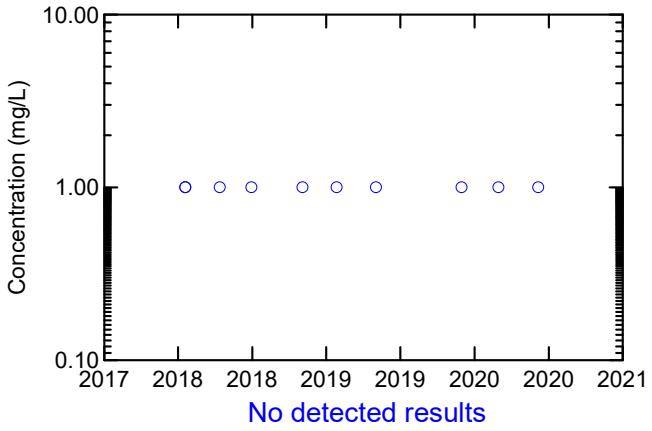
WELL MW-17A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Anion Sum



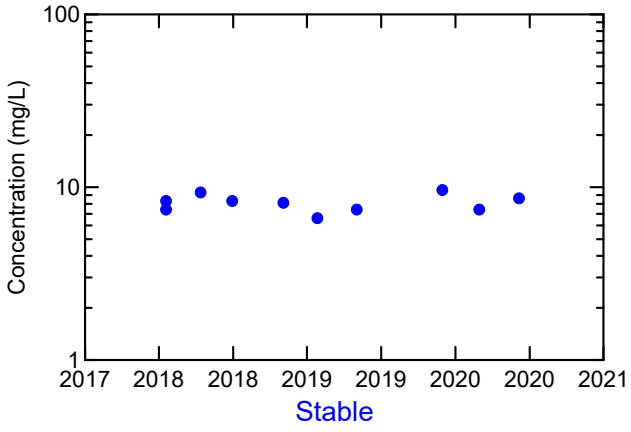
Stable

Carb. Alkalinity (calc. as CaCO3)



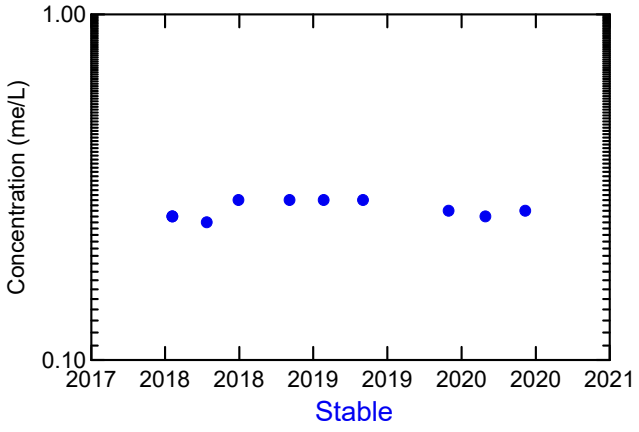
No detected results

Bicarb. Alkalinity (calc. as CaCO3)



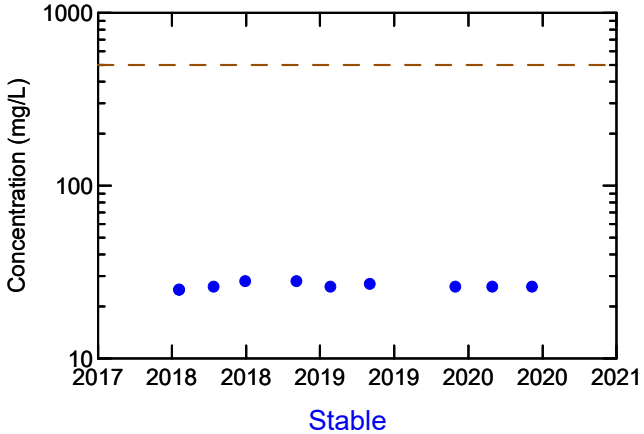
Stable

Cation Sum



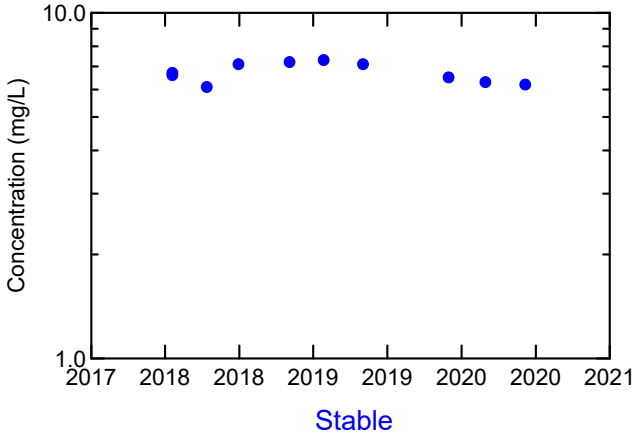
Stable

Calculated TDS



Stable

Hardness (CaCO3)



Stable

Legend:

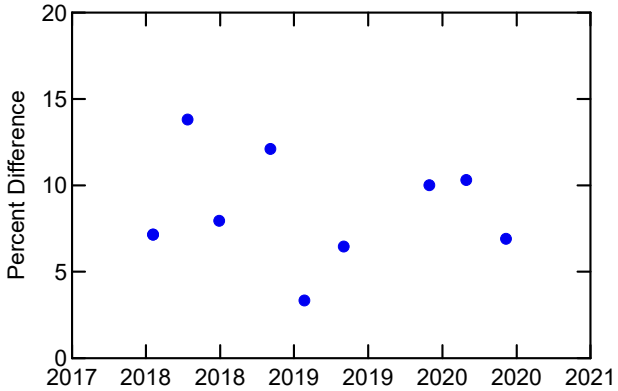
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines - Aesthetic

WELL MW-17B
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

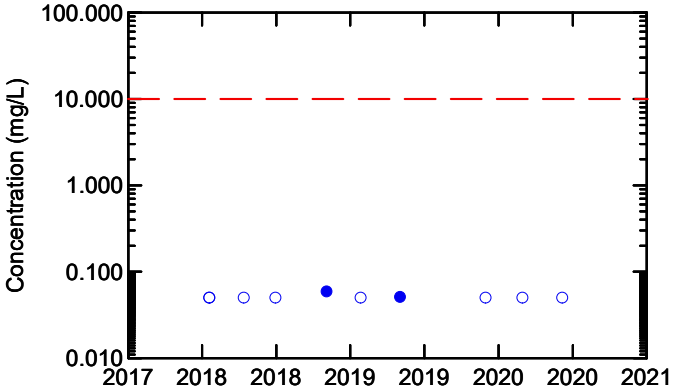
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Ion Balance



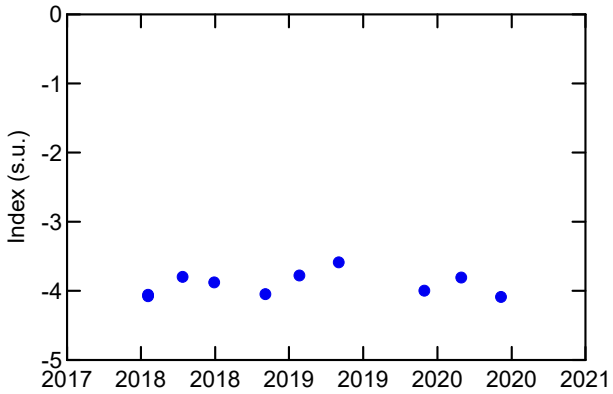
Stable

Nitrate



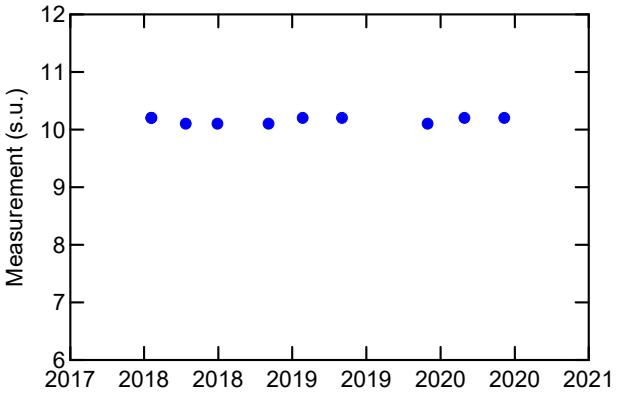
Over 50% non-detects

Langelier Index (@ 20C)



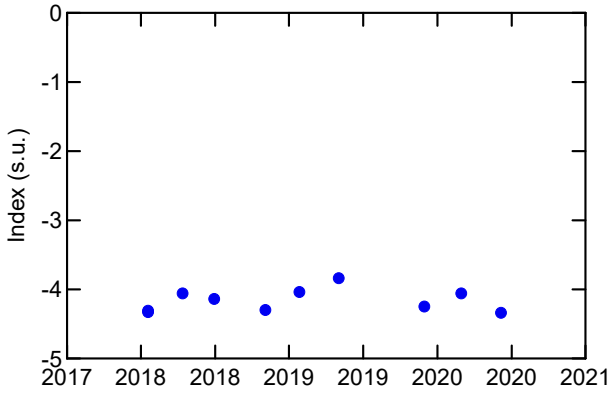
Stable

Saturation pH (@ 20C)



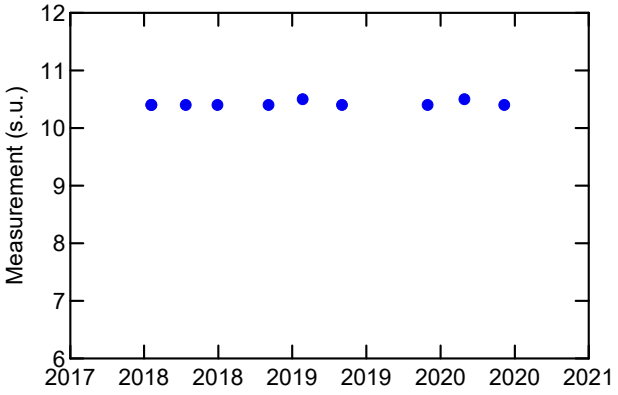
No trend identified

Langelier Index (@ 4C)



No trend identified

Saturation pH (@ 4C)



No trend identified

Legend:

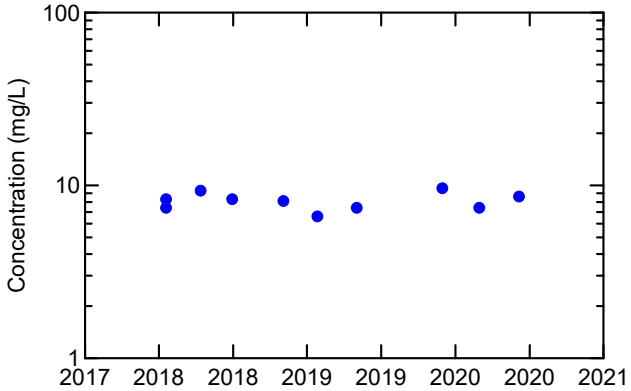
● Detected result ○ Non-Detect

— — Canadian Drinking Water Quality Guidelines: Maximum Acceptable

WELL MW-17B
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

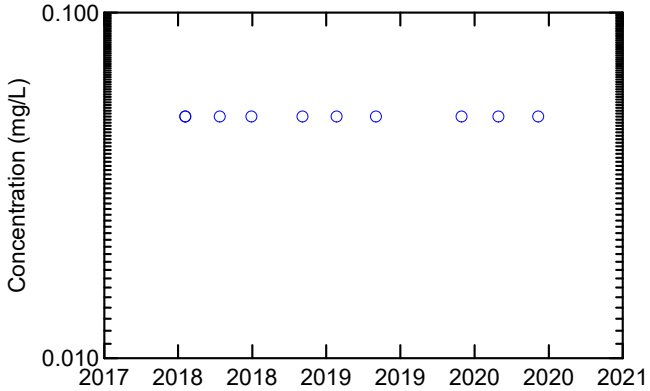
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Total Alkalinity (Total as CaCO3)



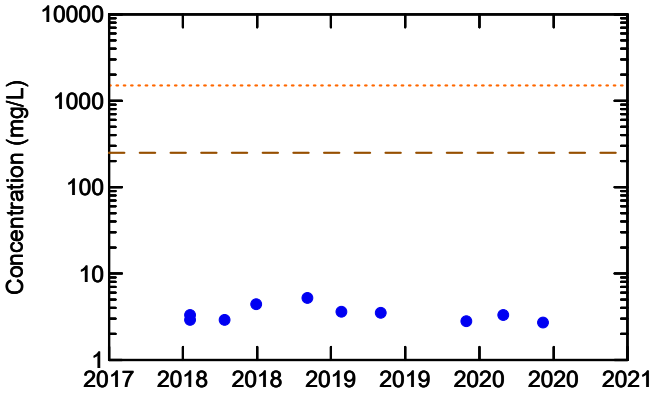
Stable

Nitrogen (Ammonia Nitrogen)



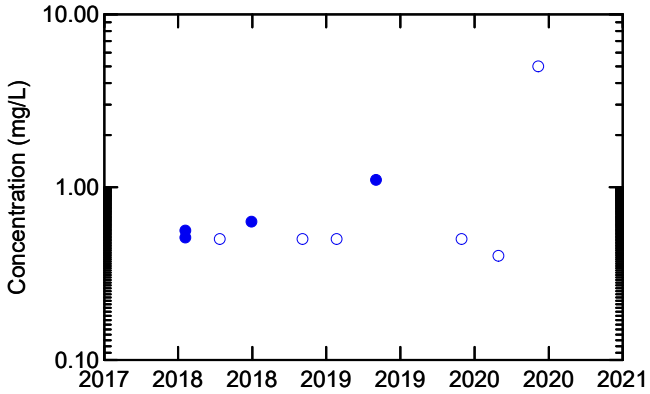
No detected results

Dissolved Chloride



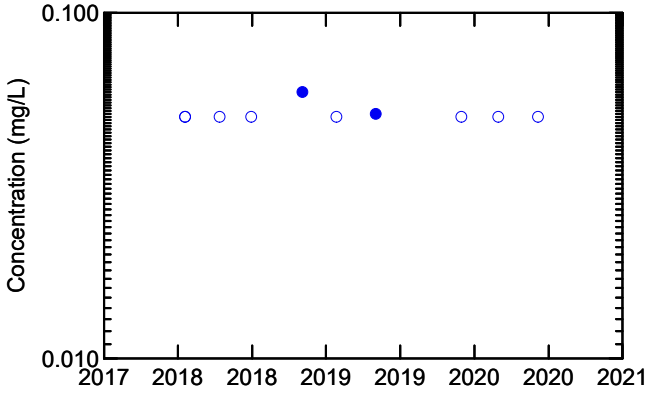
Stable

Total Organic Carbon



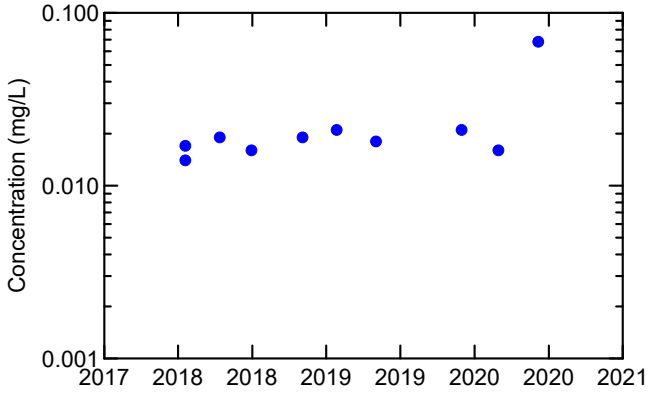
Over 50% non-detects

Nitrate + Nitrite



Over 50% non-detects

Orthophosphate



No trend identified

Legend:

● Detected result ○ Non-Detect

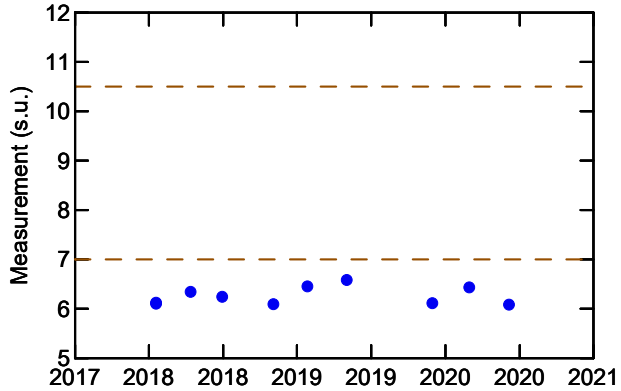
····· Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — - Canadian Drinking Water Quality Guideline: Aesthetic

WELL MW-17B
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

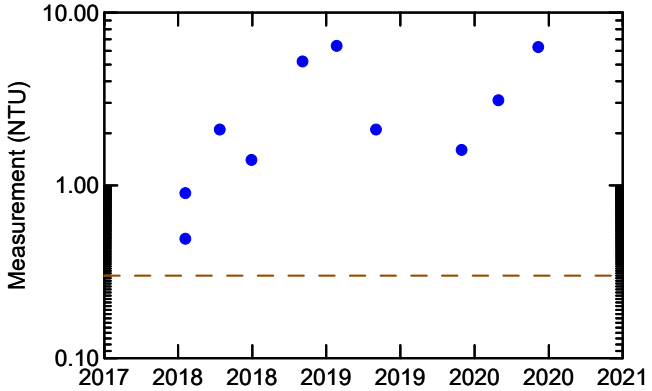
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

pH



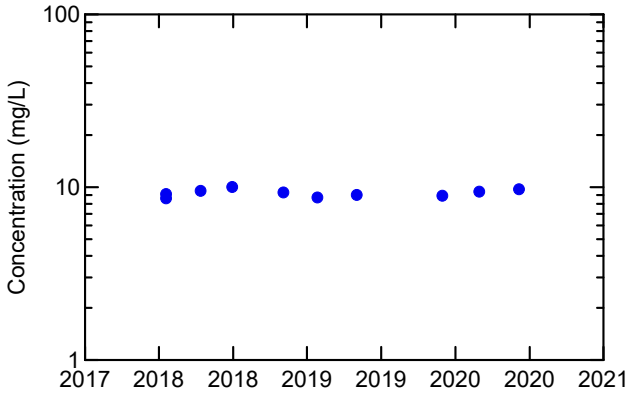
Stable

Turbidity



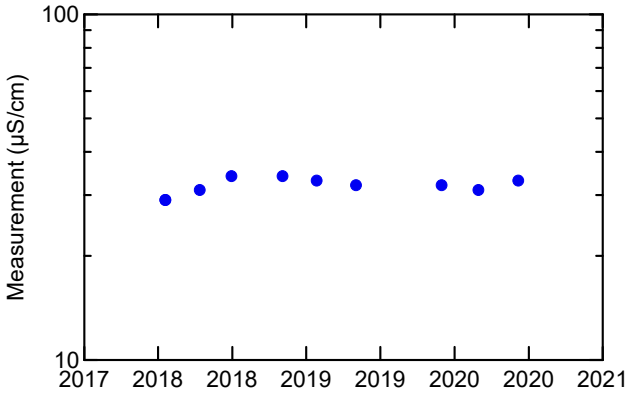
No trend identified

Reactive Silica (SiO2)



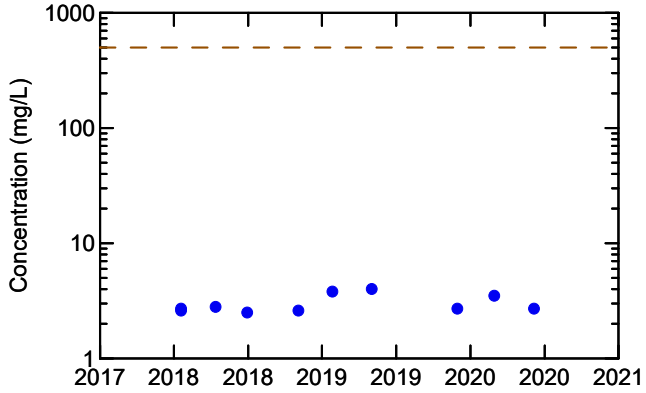
Stable

Conductivity



Probably Decreasing

Dissolved Sulphate (SO4)



Stable

Legend:

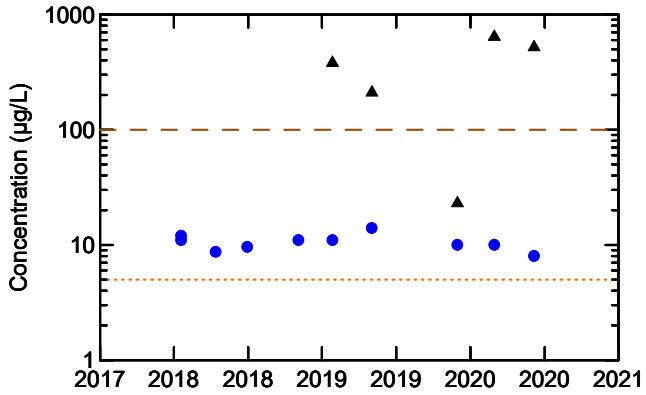
● Detected result ○ Non-Detect

– – - Canadian Drinking Water Quality Guidelines: Aesthetic

WELL MW-17B
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

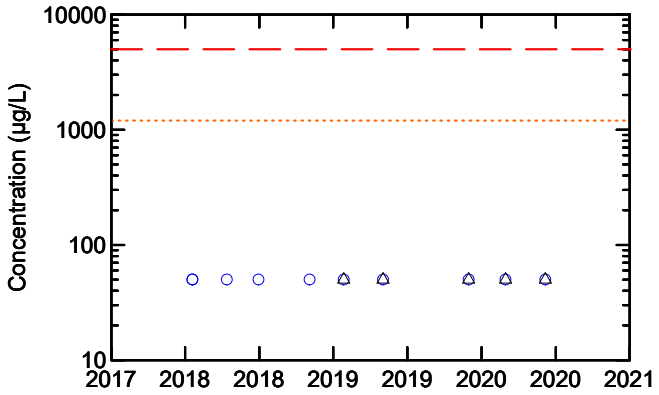
Aluminum



Total: No trend identified

Dissolved: Stable

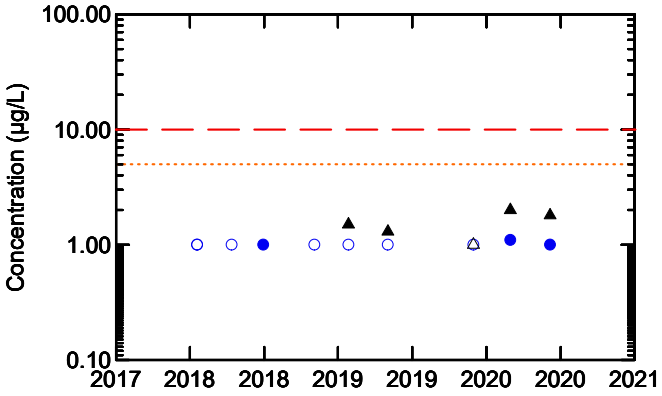
Boron



Total: No detected results

Dissolved: No detected results

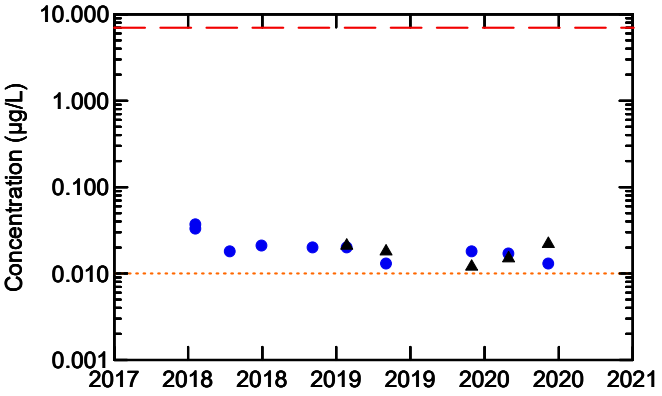
Arsenic



Total: No trend identified

Dissolved: Over 50% non-detects

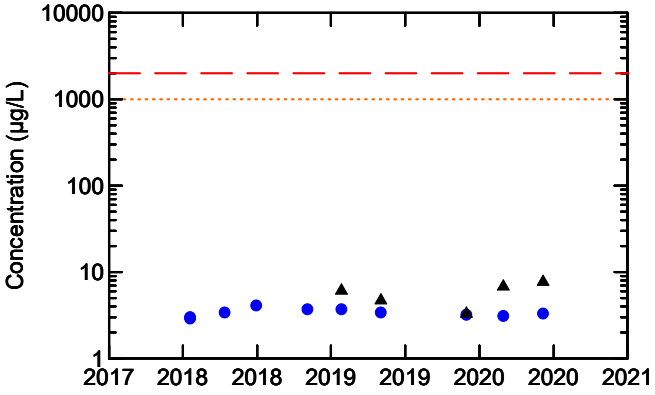
Cadmium



Total: Stable

Dissolved: Decreasing Trend

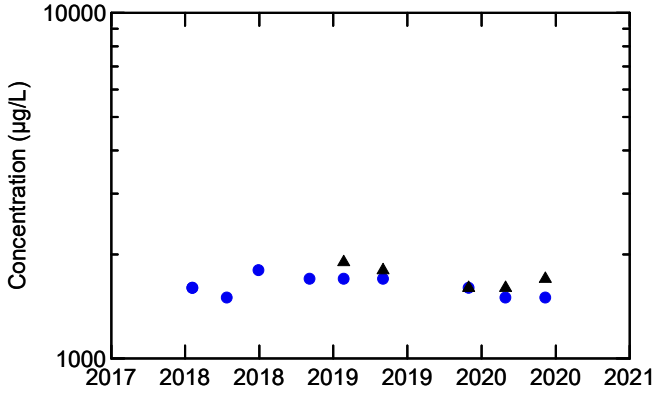
Barium



Total: No trend identified

Dissolved: Stable

Calcium



Total: Stable

Dissolved: Stable

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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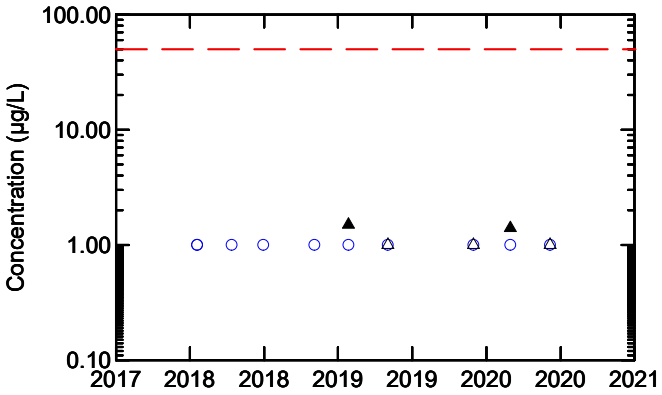
Non-detects are plotted at the reporting limit.

WELL MW-17B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

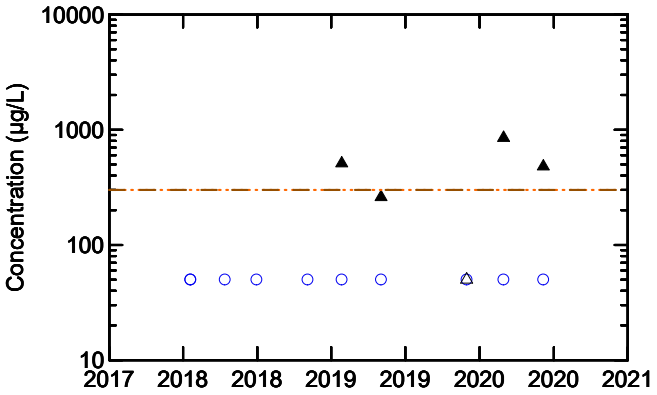
Chromium



Total: Over 50% non-detects

Dissolved: No detected results

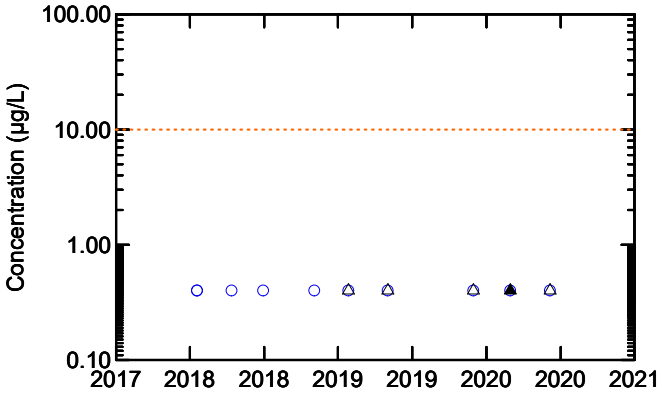
Iron



Total: Stable

Dissolved: No detected results

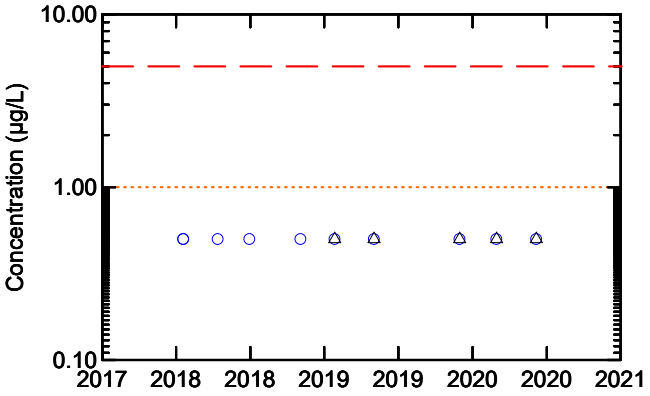
Cobalt



Total: Over 50% non-detects

Dissolved: No detected results

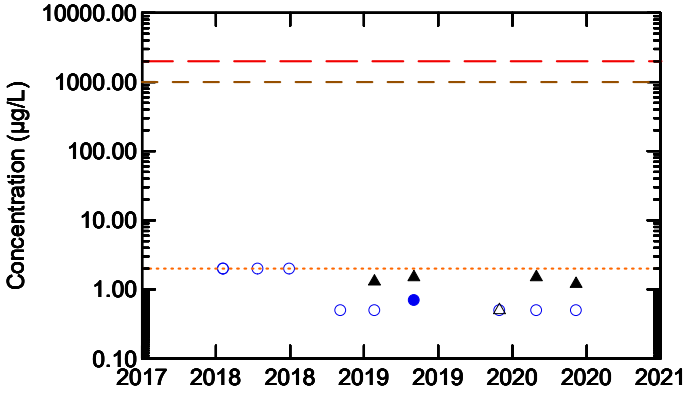
Lead



Total: No detected results

Dissolved: No detected results

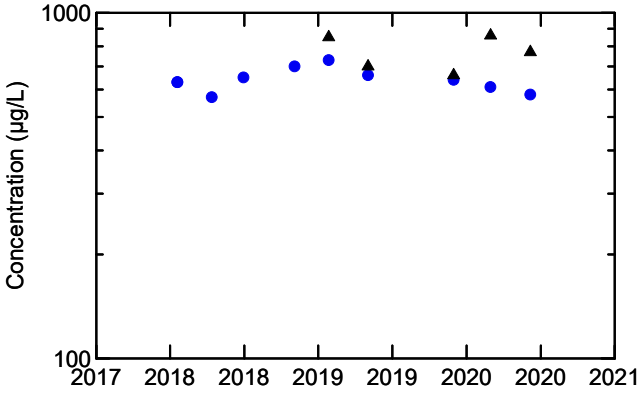
Copper



Total: Stable

Dissolved: Over 50% non-detects

Magnesium



Total: Stable

Dissolved: Stable

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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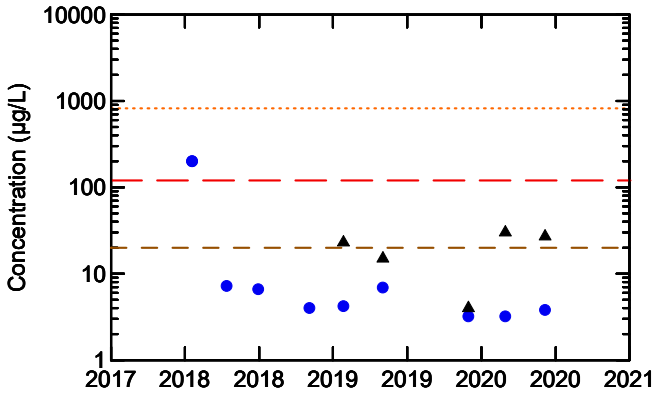
Non-detects are plotted at the reporting limit.

WELL MW-17B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

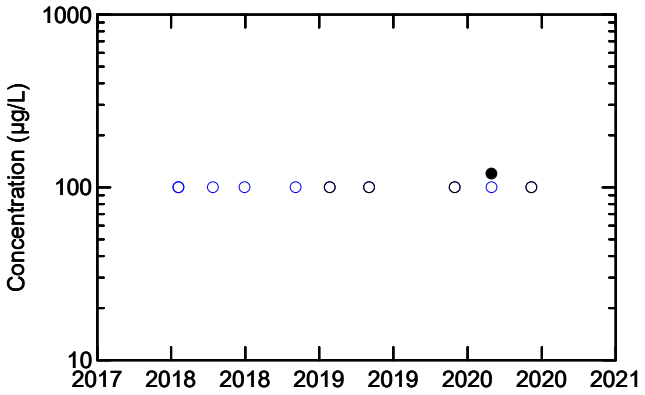
Manganese



Total: No trend identified

Dissolved: Decreasing Trend

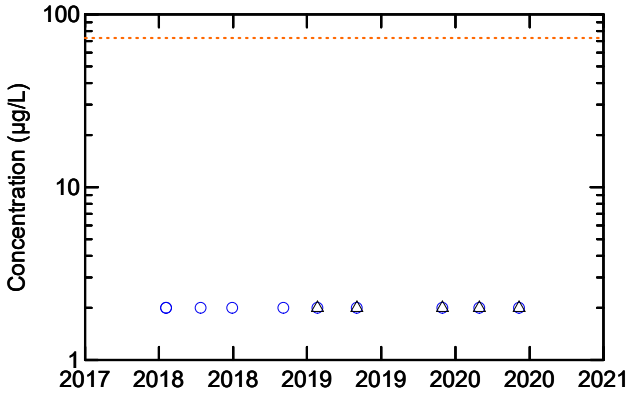
Phosphorus



Total: Over 50% non-detects

Dissolved: No detected results

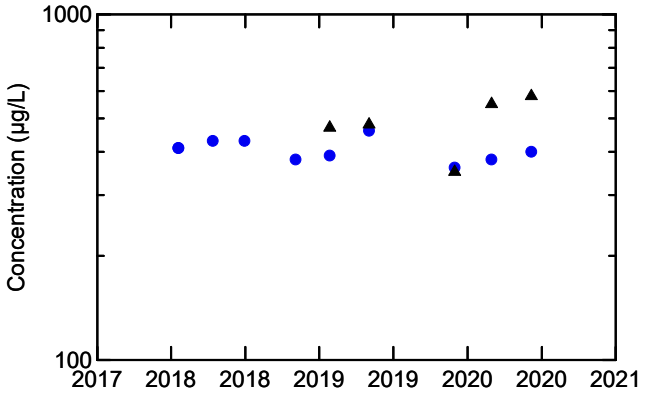
Molybdenum



Total: No detected results

Dissolved: No detected results

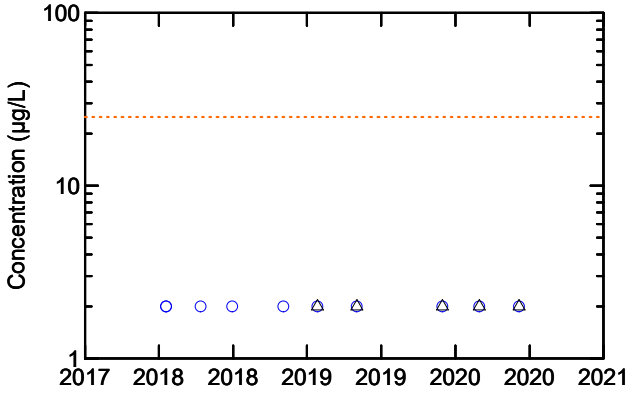
Potassium



Total: No trend identified

Dissolved: Stable

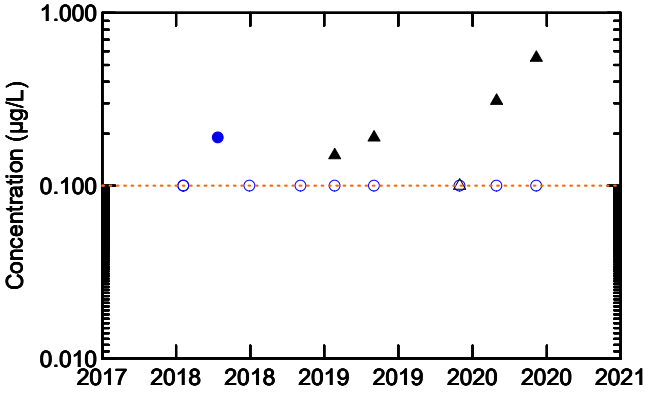
Nickel



Total: No detected results

Dissolved: No detected results

Silver



Total: No trend identified

Dissolved: Over 50% non-detects

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

Nova Scotia (2014) Pathway-Specific Standard for Groundwater

Canadian Drinking Water Quality Guideline: Maximum Acceptable

Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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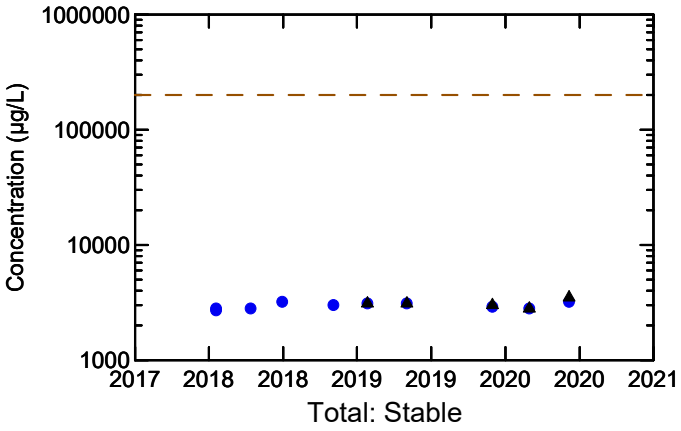
WELL MW-17B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

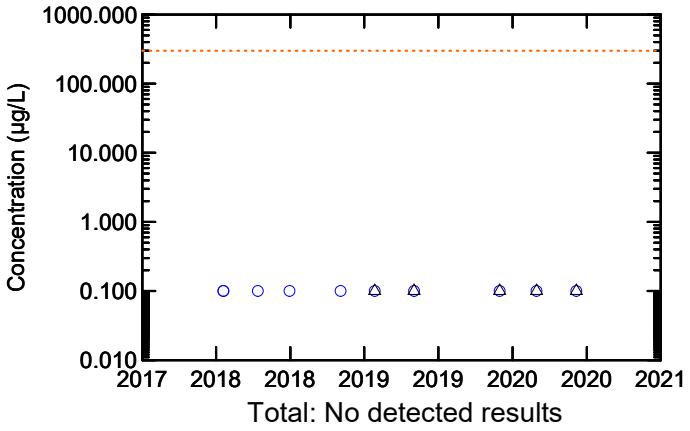
Sodium



Total: Stable

Dissolved: No trend identified

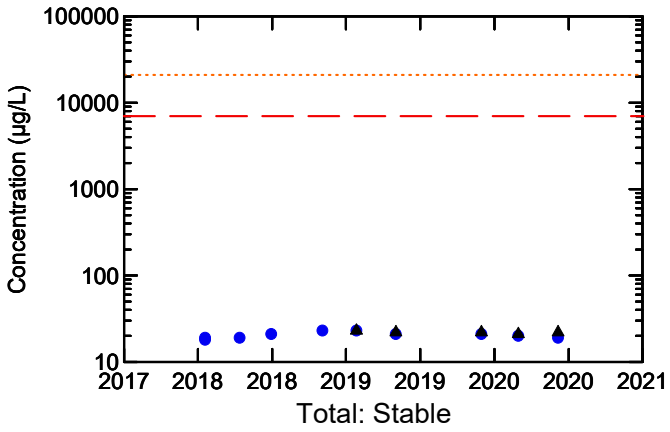
Uranium



Total: No detected results

Dissolved: No detected results

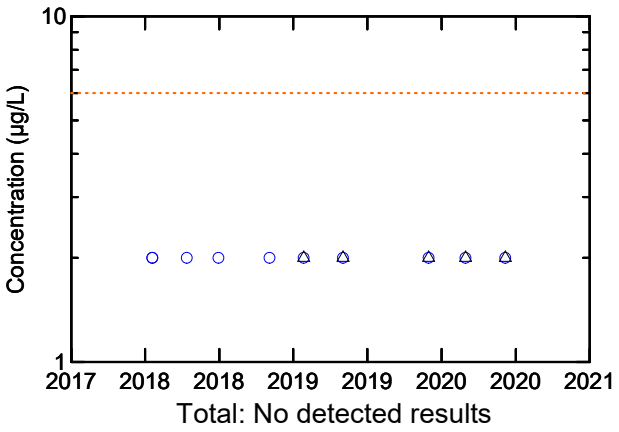
Strontium



Total: Stable

Dissolved: No trend identified

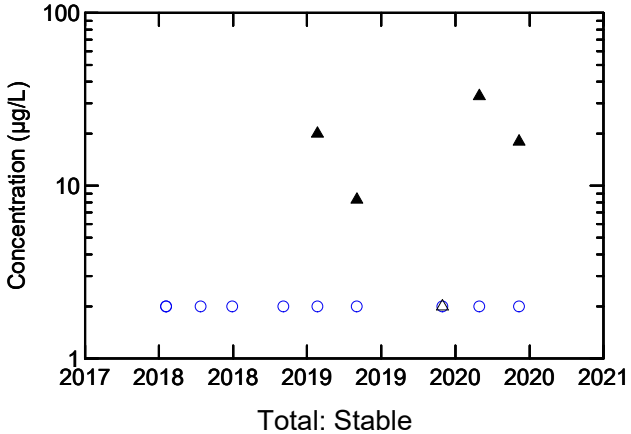
Vanadium



Total: No detected results

Dissolved: No detected results

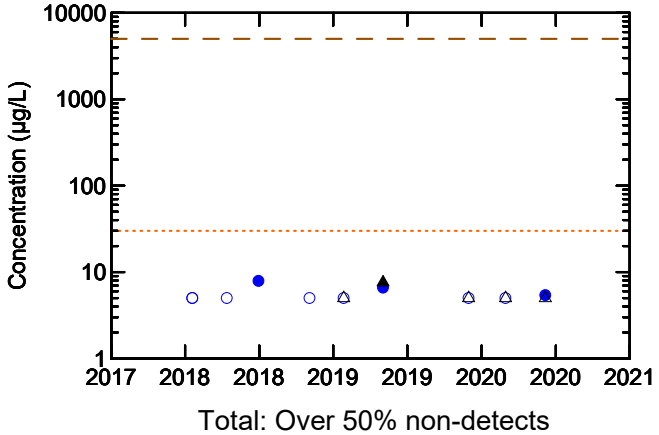
Titanium



Total: Stable

Dissolved: No detected results

Zinc



Total: Over 50% non-detects

Dissolved: Over 50% non-detects

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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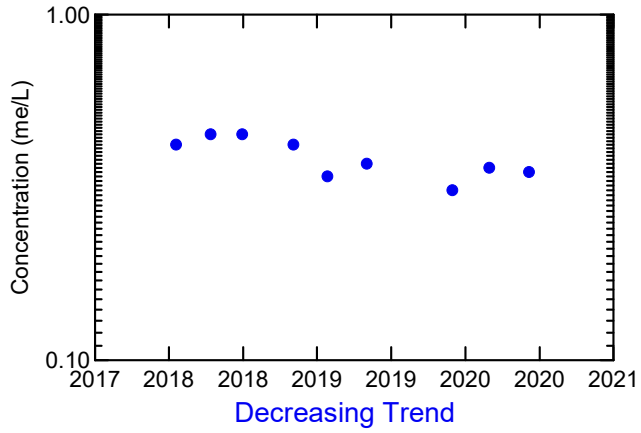
Non-detects are plotted at the reporting limit.

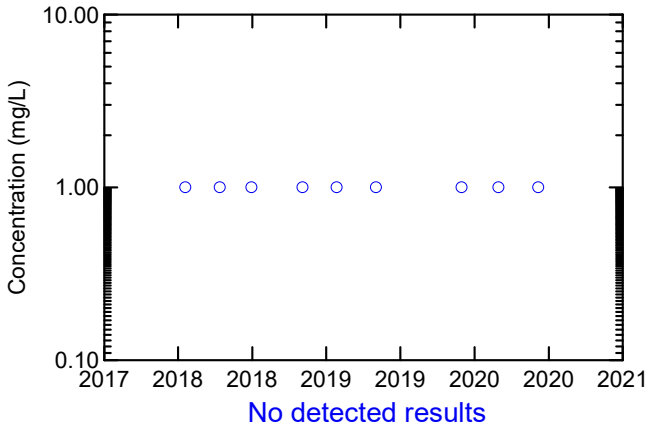
WELL MW-17B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Anion Sum



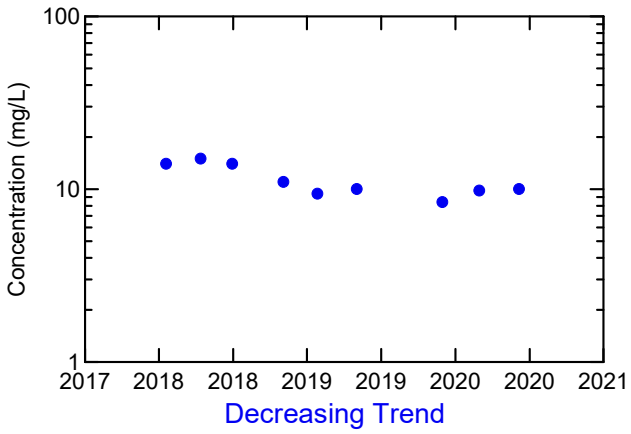
Decreasing Trend

Carb. Alkalinity (calc. as CaCO3)



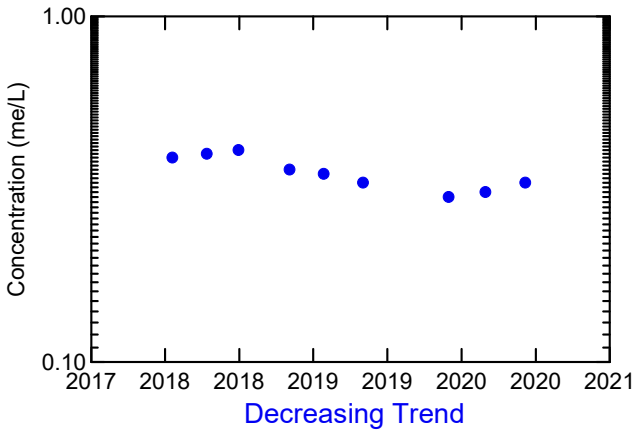
No detected results

Bicarb. Alkalinity (calc. as CaCO3)



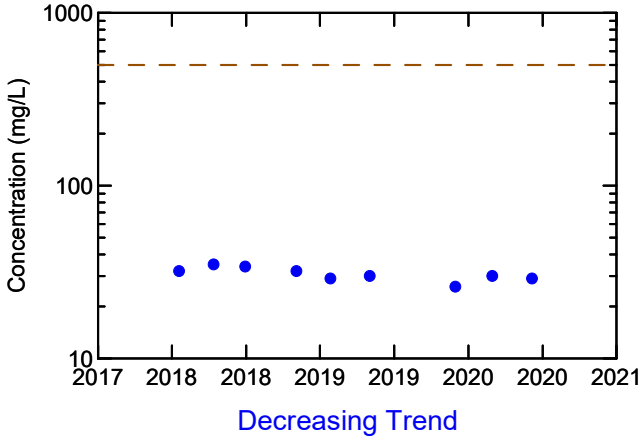
Decreasing Trend

Cation Sum



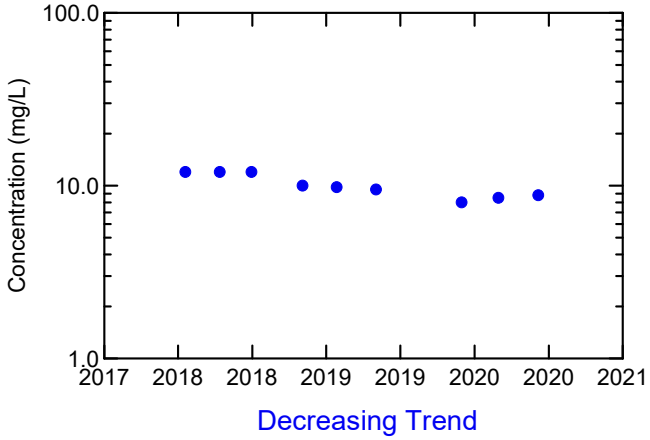
Decreasing Trend

Calculated TDS



Decreasing Trend

Hardness (CaCO3)



Decreasing Trend

Legend:

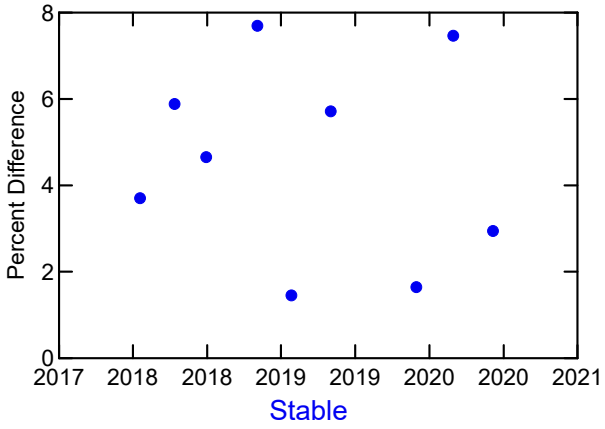
● Detected result ○ Non-Detect

— — - Canadian Drinking Water Quality Guidelines - Aesthetic

WELL MW-17C
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

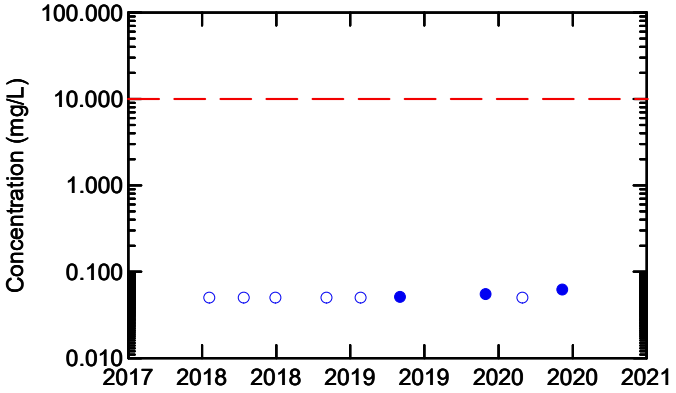
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Ion Balance



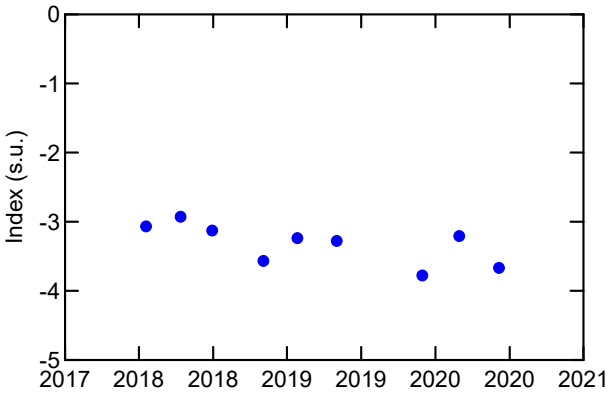
Stable

Nitrate



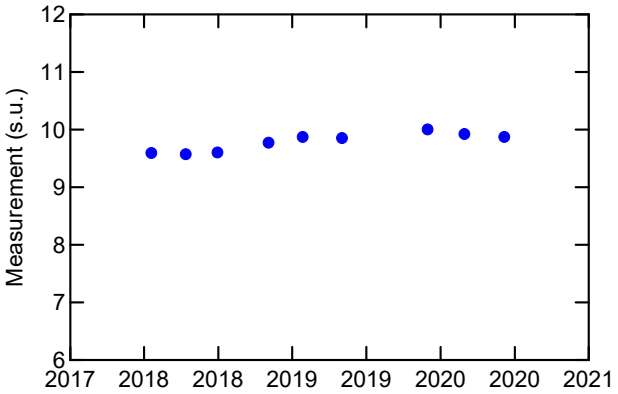
Over 50% non-detects

Langelier Index (@ 20C)



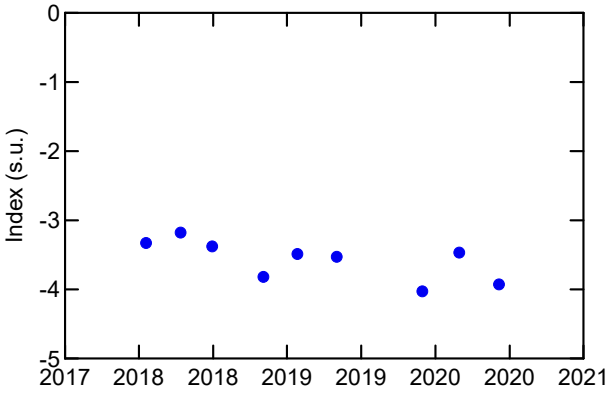
Decreasing Trend

Saturation pH (@ 20C)



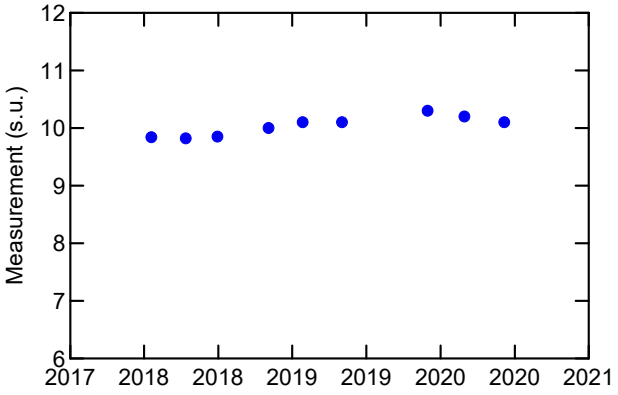
Increasing Trend

Langelier Index (@ 4C)



Decreasing Trend

Saturation pH (@ 4C)



Increasing Trend

Legend:

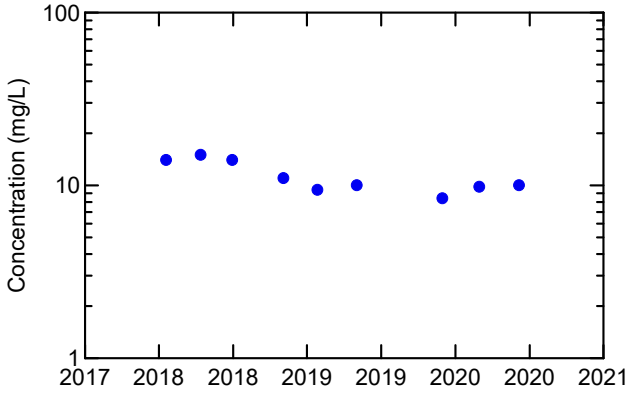
● Detected result ○ Non-Detect

— — Canadian Drinking Water Quality Guidelines: Maximum Acceptable

WELL MW-17C
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

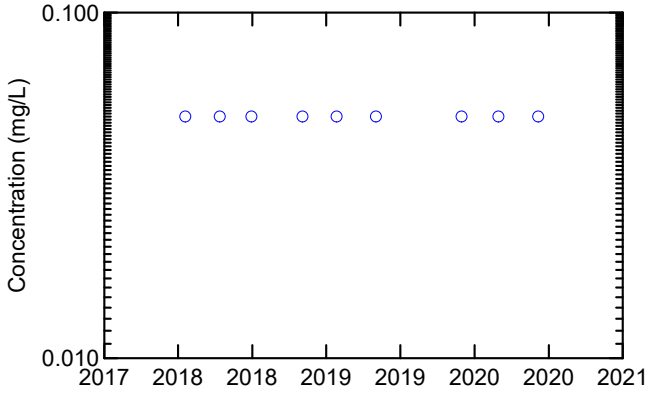
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Total Alkalinity (Total as CaCO3)



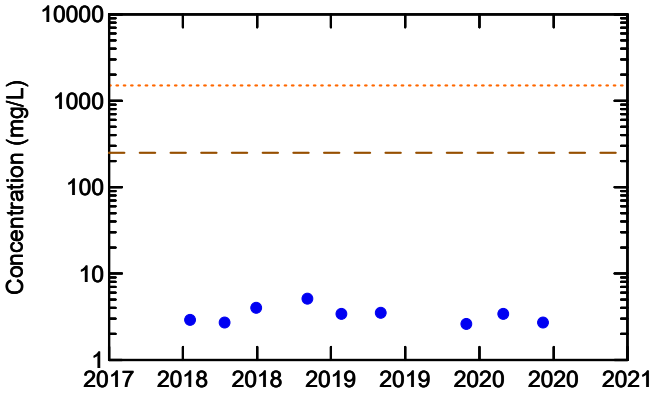
Decreasing Trend

Nitrogen (Ammonia Nitrogen)



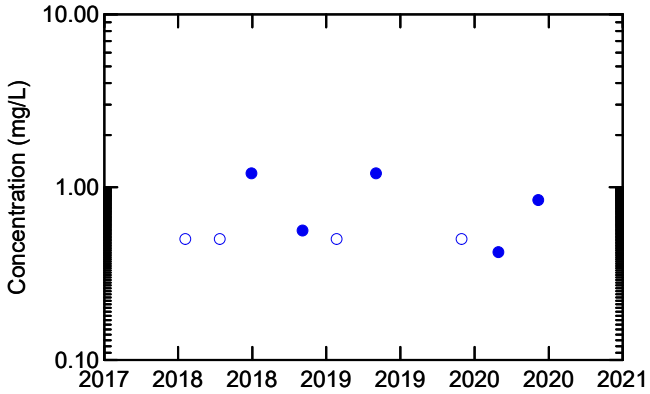
No detected results

Dissolved Chloride



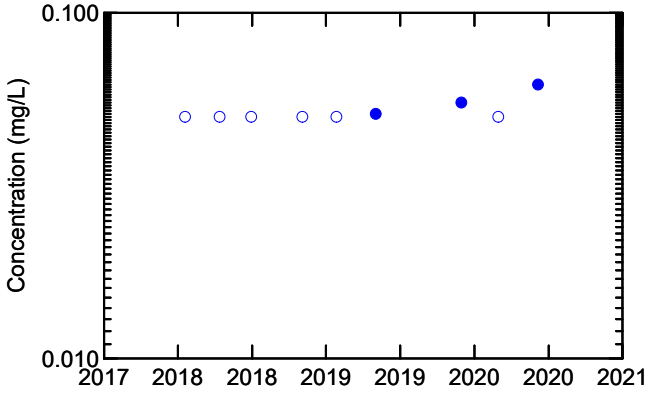
Stable

Total Organic Carbon



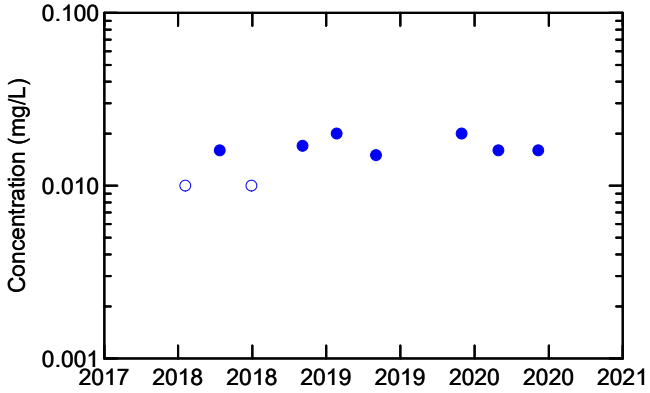
Over 50% non-detects

Nitrate + Nitrite



Over 50% non-detects

Orthophosphate



No trend identified

Legend:

● Detected result ○ Non-Detect

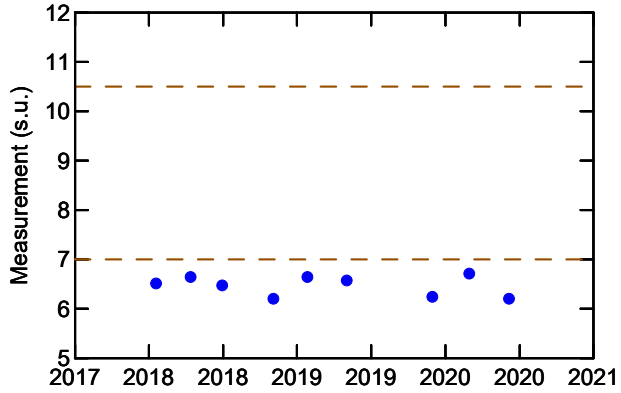
····· Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — - Canadian Drinking Water Quality Guideline: Aesthetic

WELL MW-17C
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

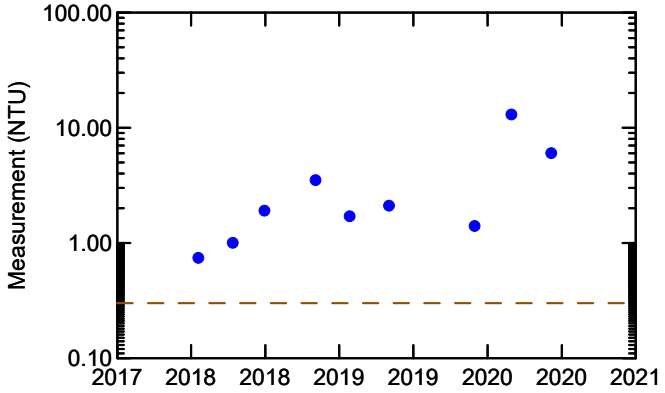
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

pH



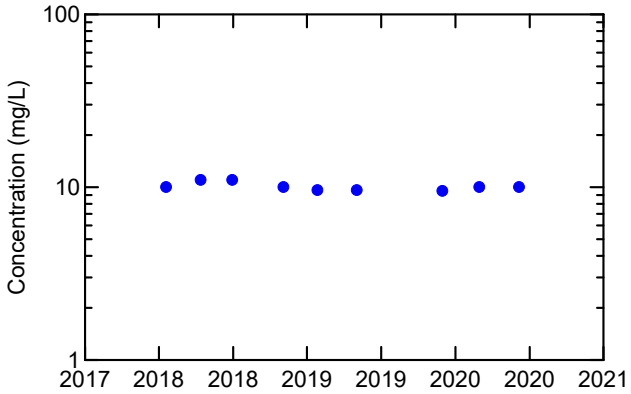
Stable

Turbidity



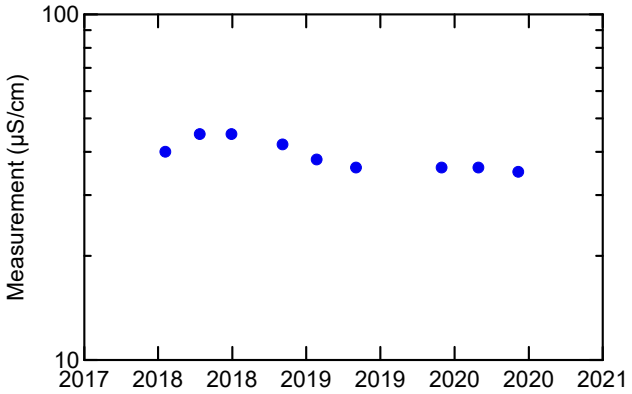
No trend identified

Reactive Silica (SiO2)



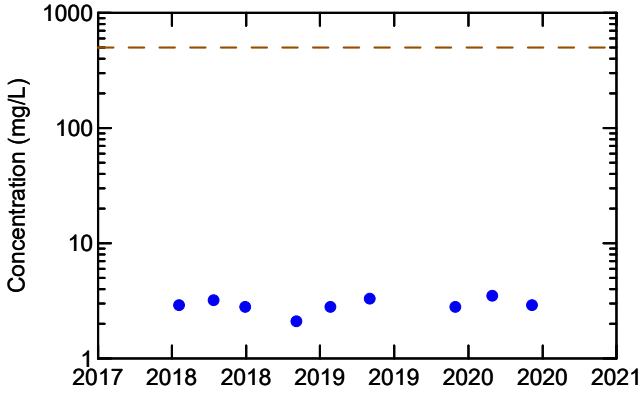
Stable

Conductivity



Probably Decreasing

Dissolved Sulphate (SO4)



Stable

Legend:

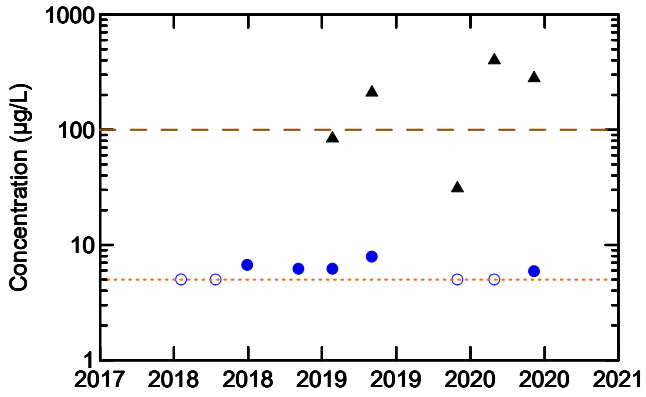
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines: Aesthetic

WELL MW-17C
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

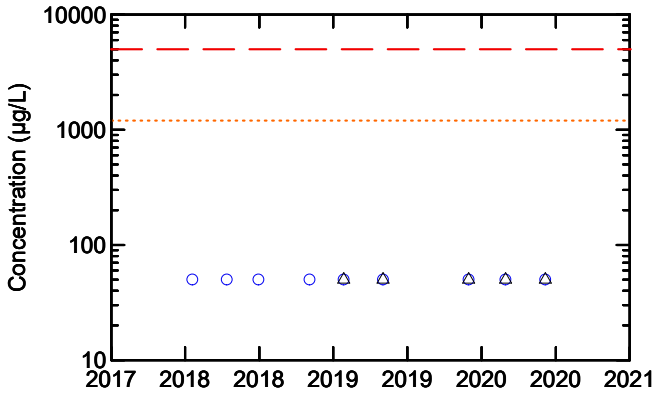
Aluminum



Total: No trend identified

Dissolved: No trend identified

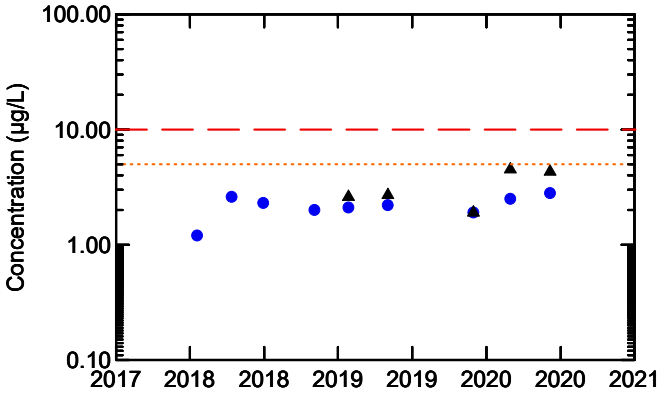
Boron



Total: No detected results

Dissolved: No detected results

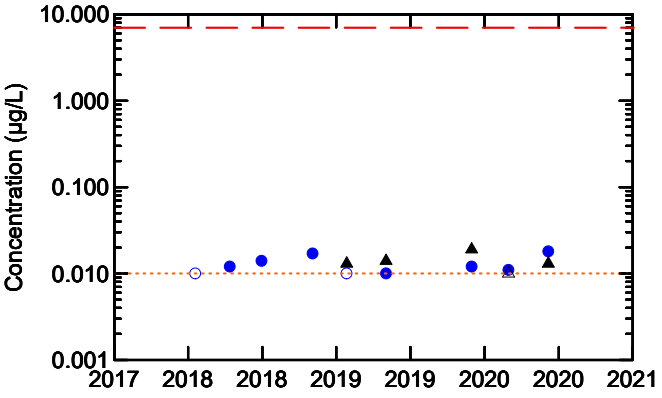
Arsenic



Total: No trend identified

Dissolved: No trend identified

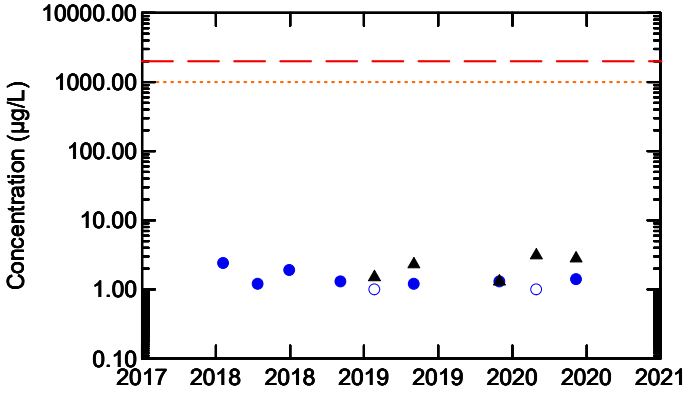
Cadmium



Total: Stable

Dissolved: No trend identified

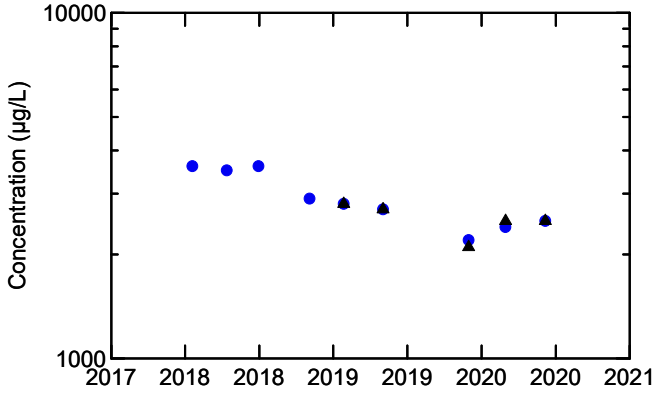
Barium



Total: No trend identified

Dissolved: Stable

Calcium



Total: Stable

Dissolved: Decreasing Trend

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

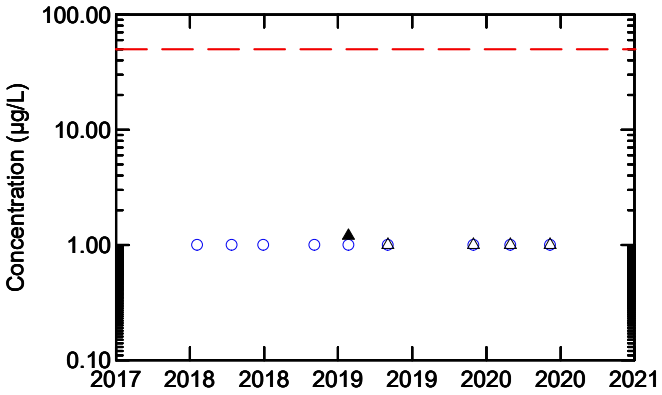
– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

WELL MW-17C
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

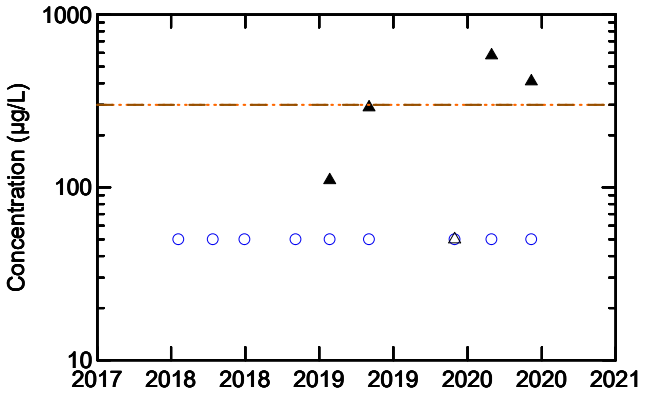
Chromium



Total: Over 50% non-detects

Dissolved: No detected results

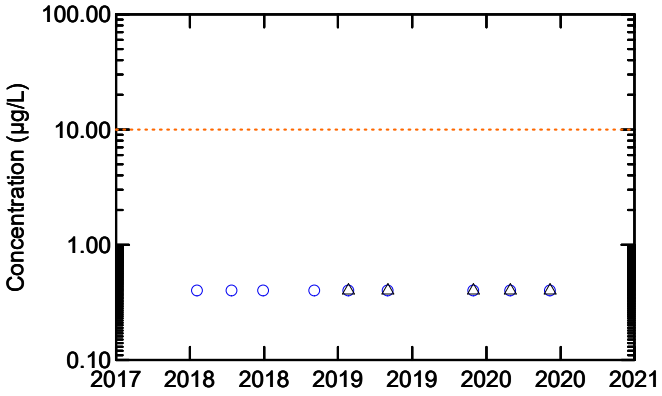
Iron



Total: No trend identified

Dissolved: No detected results

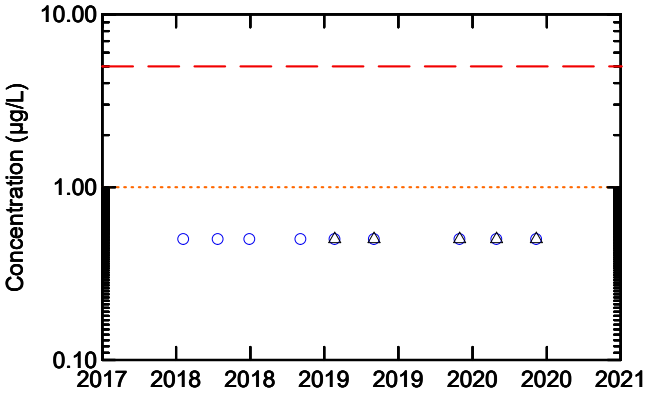
Cobalt



Total: No detected results

Dissolved: No detected results

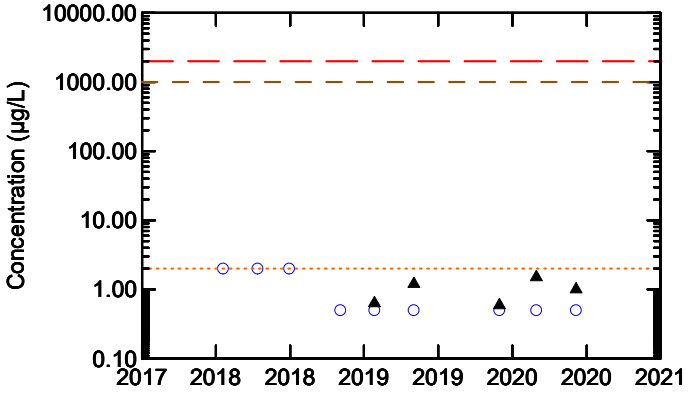
Lead



Total: No detected results

Dissolved: No detected results

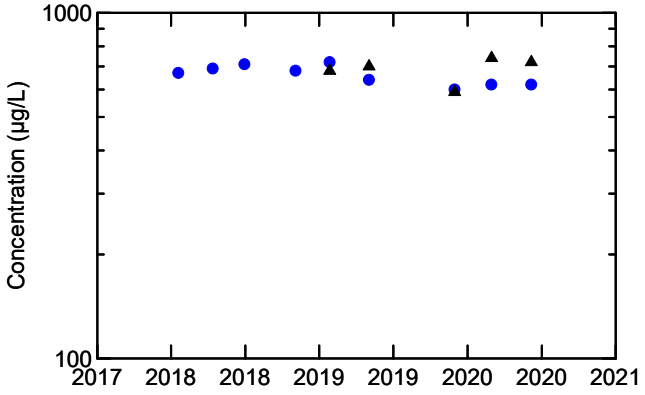
Copper



Total: No trend identified

Dissolved: No detected results

Magnesium



Total: No trend identified

Dissolved: Stable

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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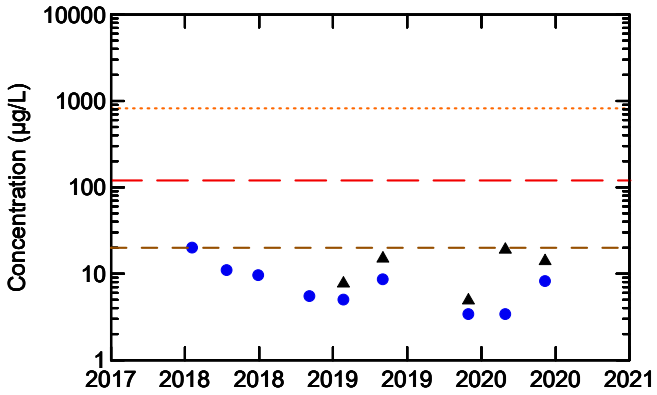
Non-detects are plotted at the reporting limit.

WELL MW-17C
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

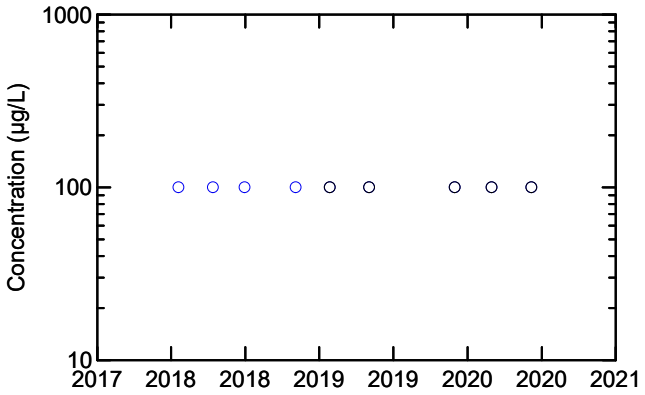
Manganese



Total: No trend identified

Dissolved: Decreasing Trend

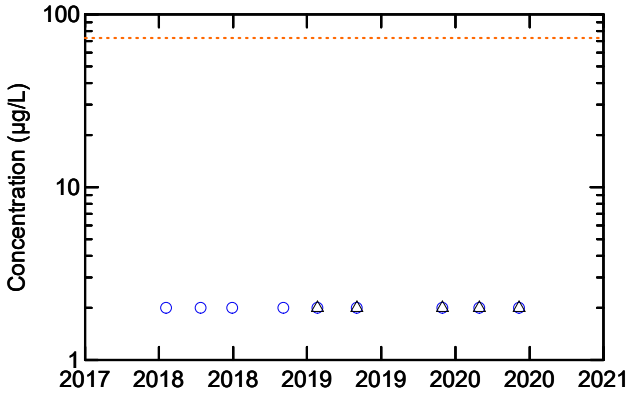
Phosphorus



Total: No detected results

Dissolved: No detected results

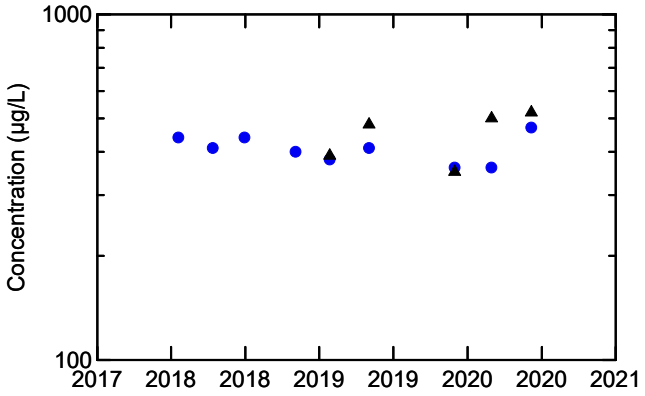
Molybdenum



Total: No detected results

Dissolved: No detected results

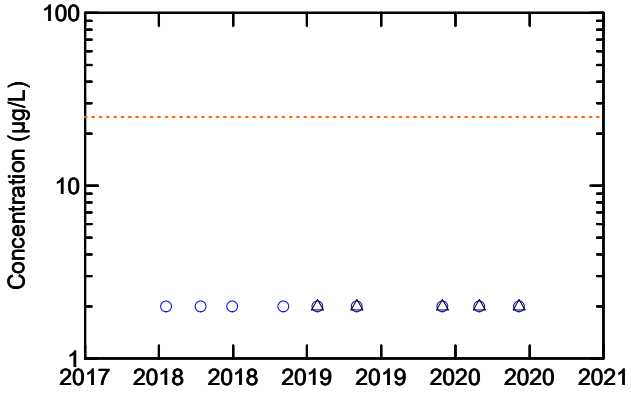
Potassium



Total: No trend identified

Dissolved: Stable

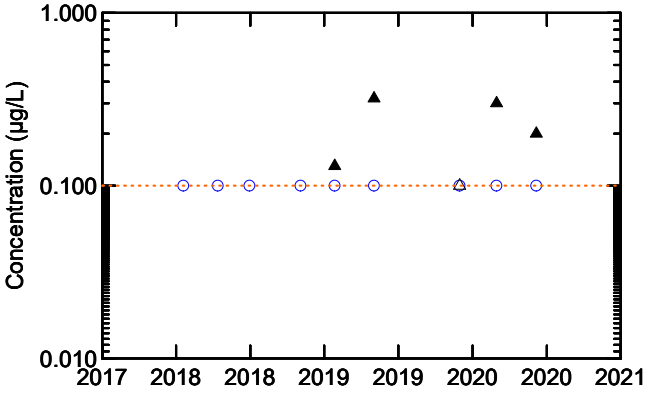
Nickel



Total: No detected results

Dissolved: No detected results

Silver



Total: Stable

Dissolved: No detected results

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

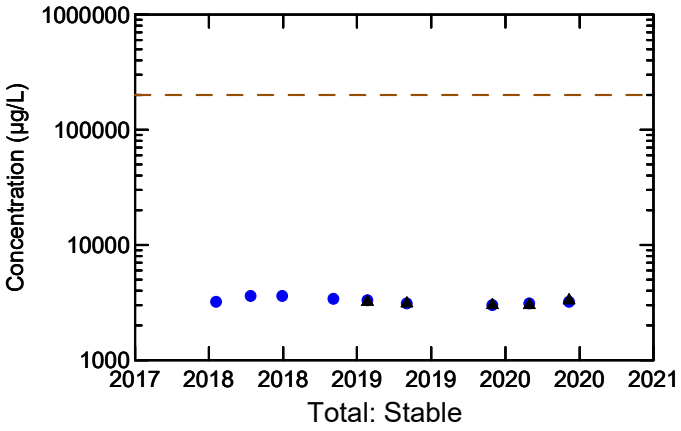
– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

WELL MW-17C
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

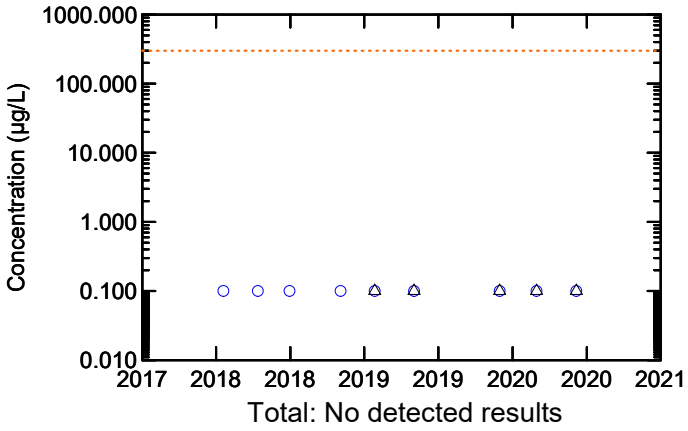
Sodium



Total: Stable

Dissolved: Probably Decreasing

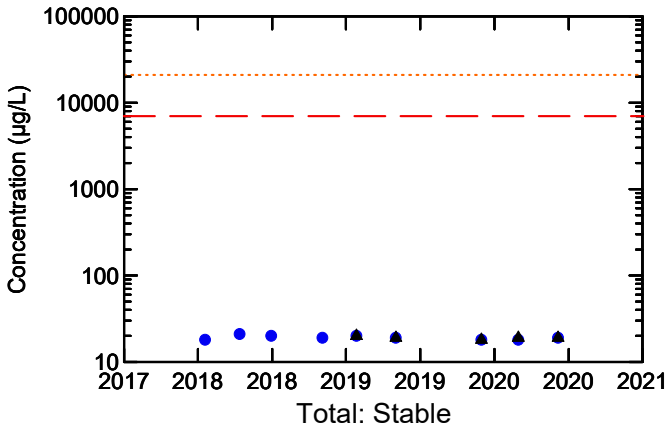
Uranium



Total: No detected results

Dissolved: No detected results

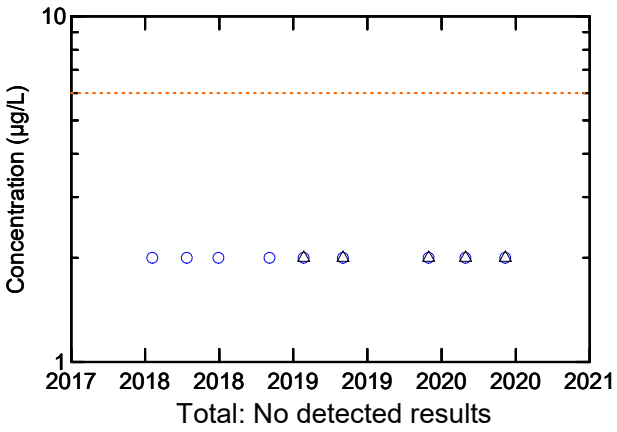
Strontium



Total: Stable

Dissolved: Stable

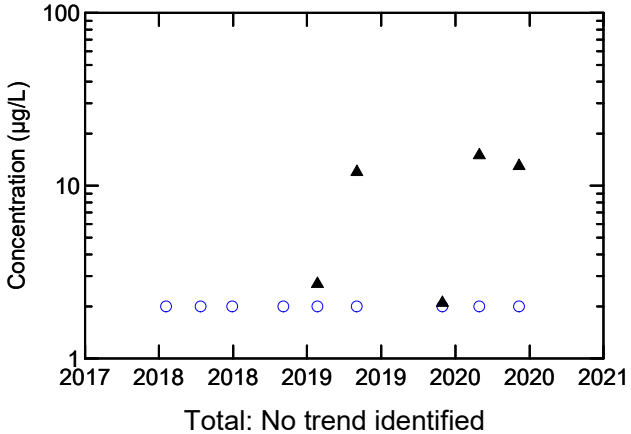
Vanadium



Total: No detected results

Dissolved: No detected results

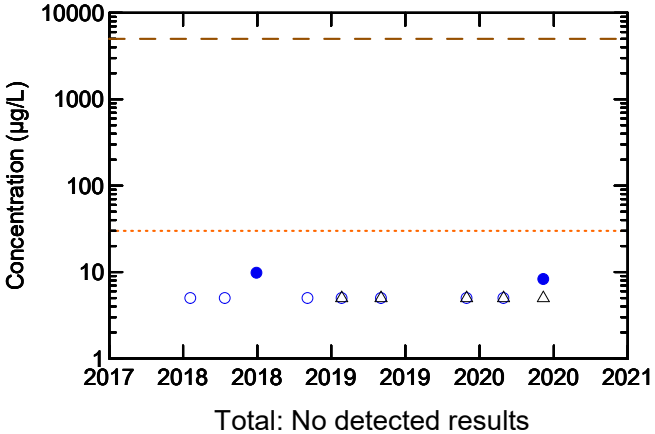
Titanium



Total: No trend identified

Dissolved: No detected results

Zinc



Total: No detected results

Dissolved: Over 50% non-detects

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

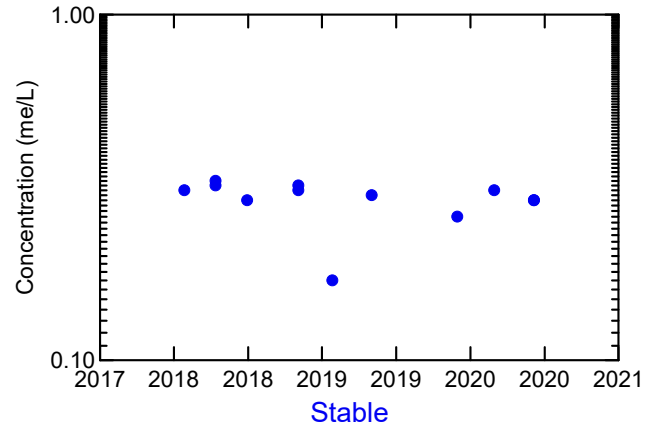
– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

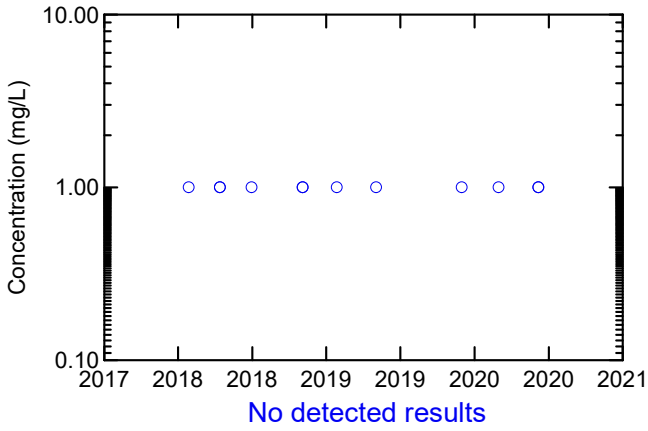
WELL MW-17C
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Anion Sum



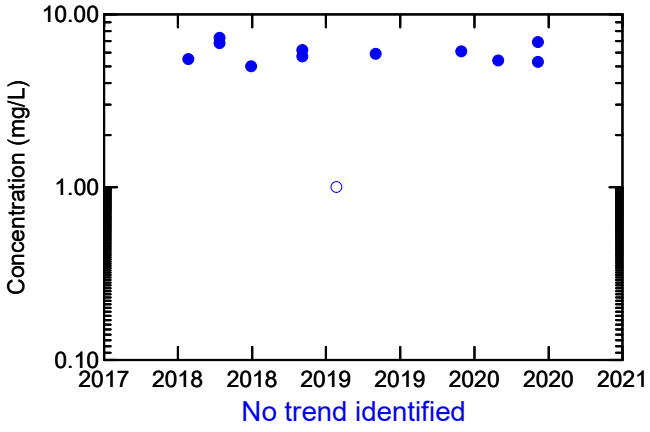
Stable

Carb. Alkalinity (calc. as CaCO3)



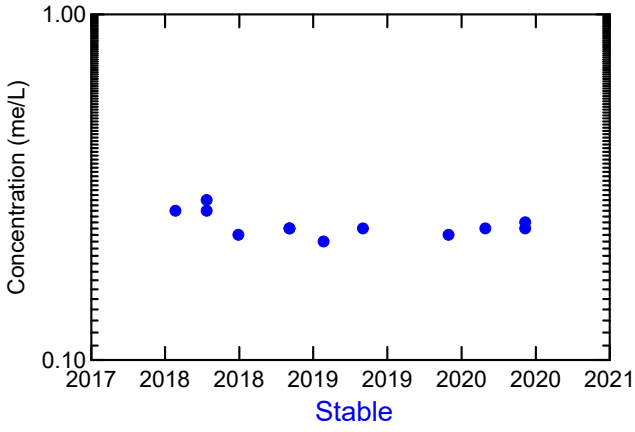
No detected results

Bicarb. Alkalinity (calc. as CaCO3)



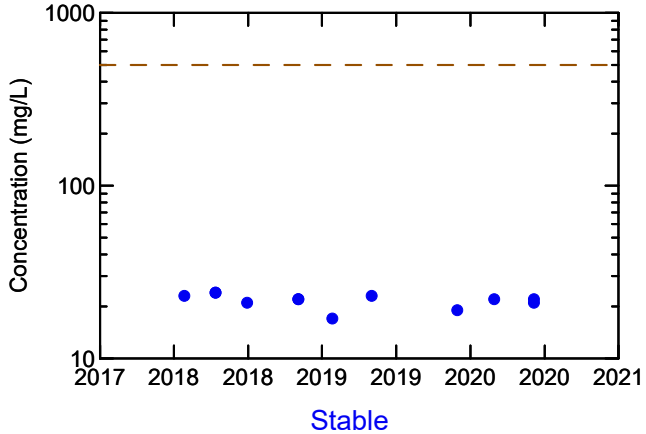
No trend identified

Cation Sum



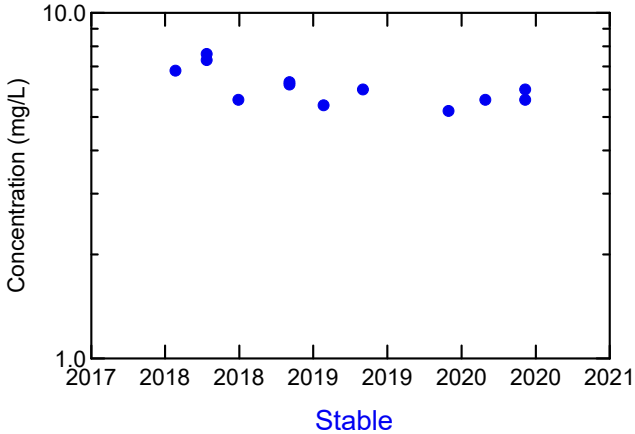
Stable

Calculated TDS



Stable

Hardness (CaCO3)



Stable

Legend:

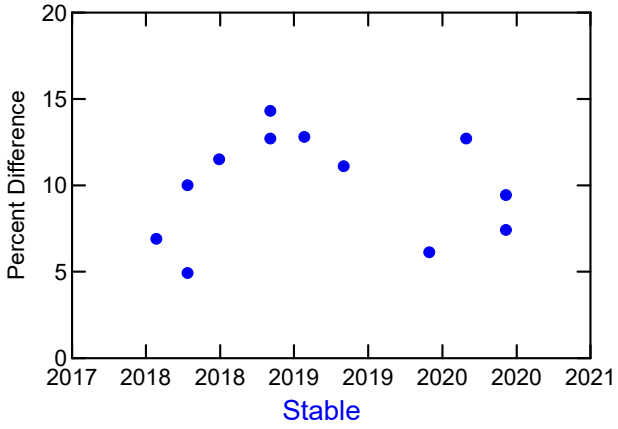
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines - Aesthetic

WELL MW-18A
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

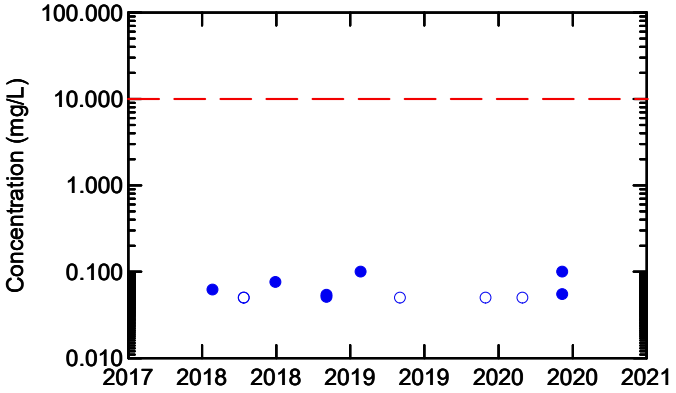
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Ion Balance



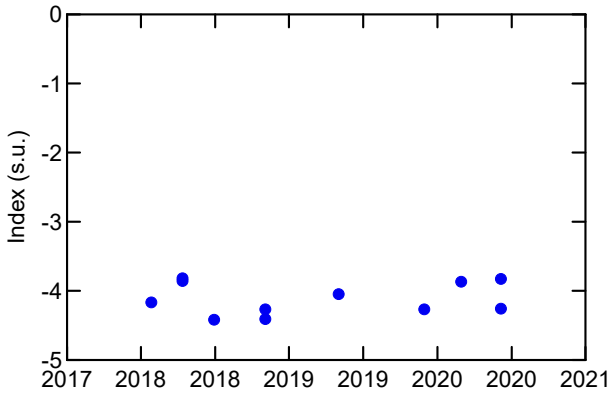
Stable

Nitrate



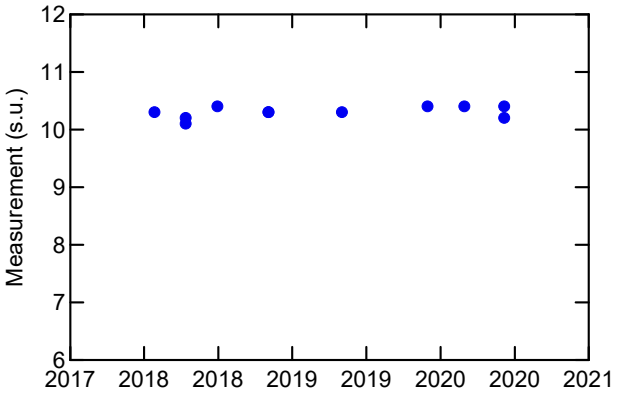
No trend identified

Langelier Index (@ 20C)



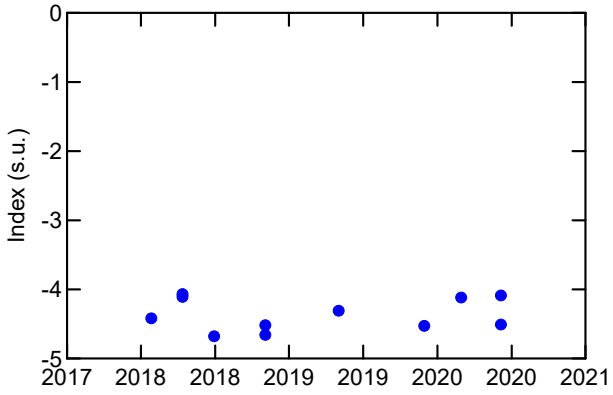
No trend identified

Saturation pH (@ 20C)



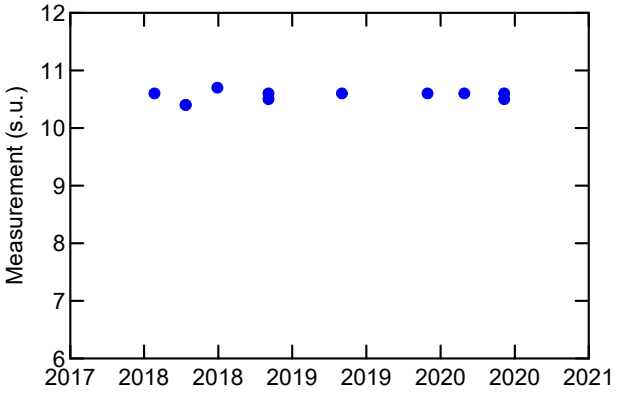
No trend identified

Langelier Index (@ 4C)



No trend identified

Saturation pH (@ 4C)



Stable

Legend:

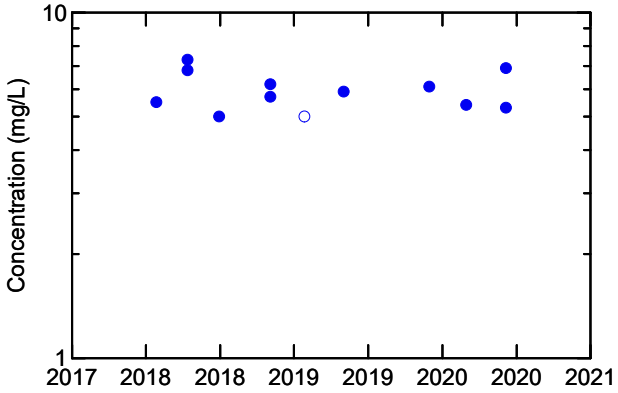
● Detected result ○ Non-Detect

— — Canadian Drinking Water Quality Guidelines: Maximum Acceptable

WELL MW-18A
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

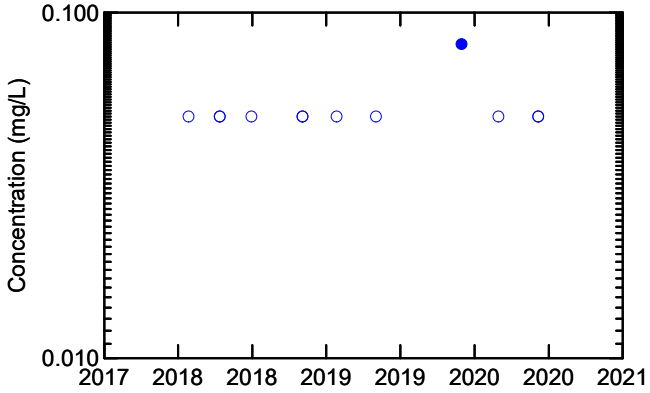
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Total Alkalinity (Total as CaCO3)



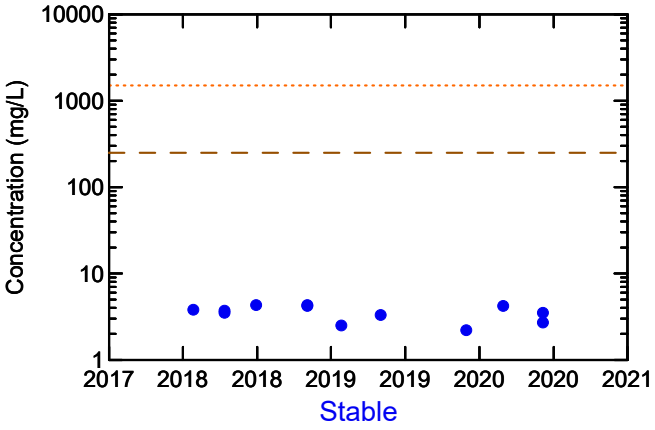
No trend identified

Nitrogen (Ammonia Nitrogen)



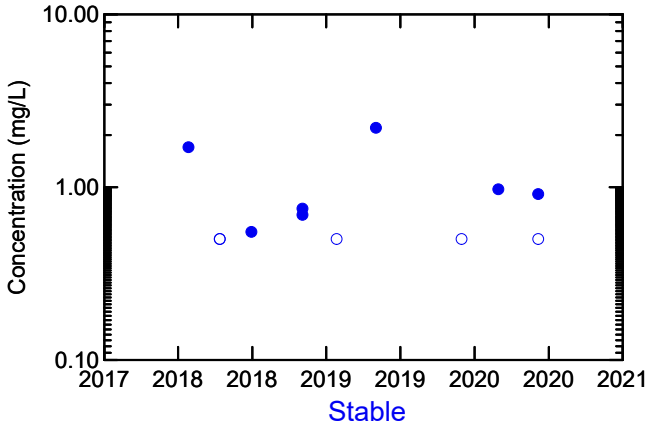
Over 50% non-detects

Dissolved Chloride



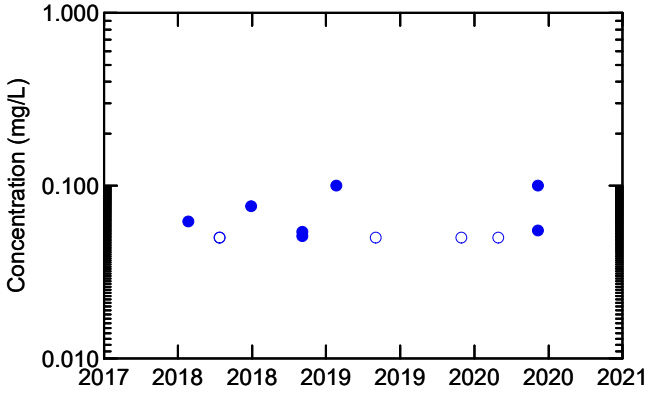
Stable

Total Organic Carbon



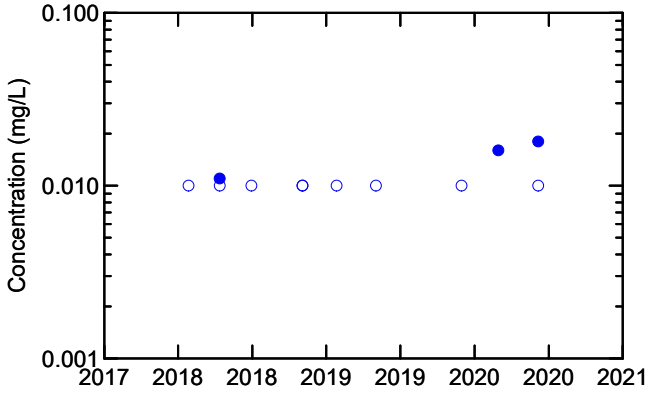
Stable

Nitrate + Nitrite



No trend identified

Orthophosphate



Over 50% non-detects

Legend:

● Detected result ○ Non-Detect

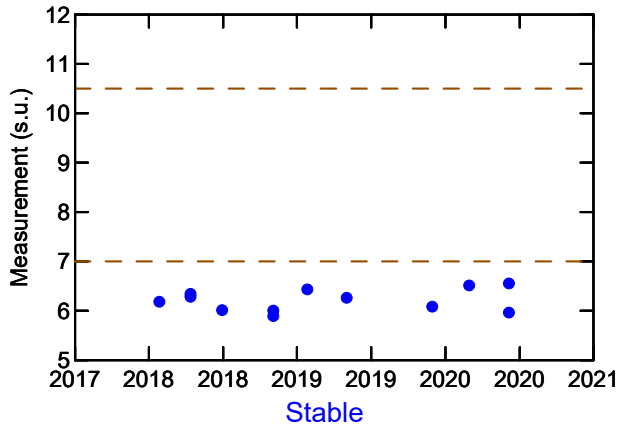
Nova Scotia (2014) Pathway-Specific Standard for Groundwater

Canadian Drinking Water Quality Guideline: Aesthetic

WELL MW-18A
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

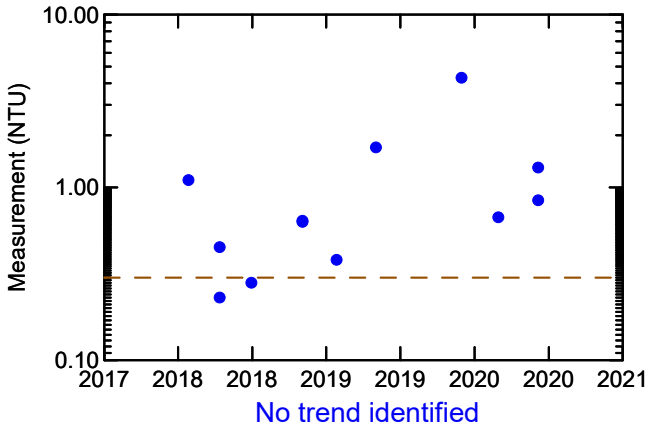
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

pH



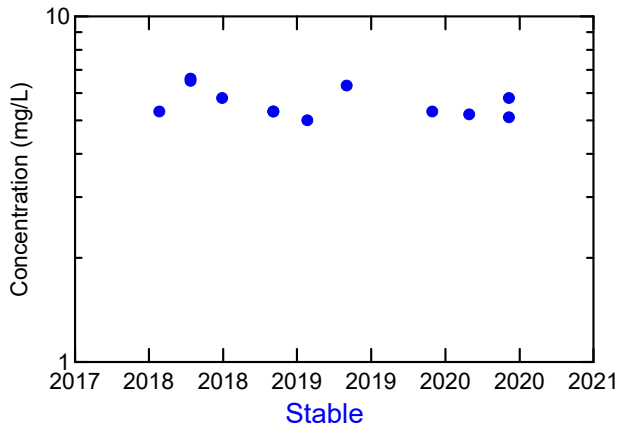
Stable

Turbidity



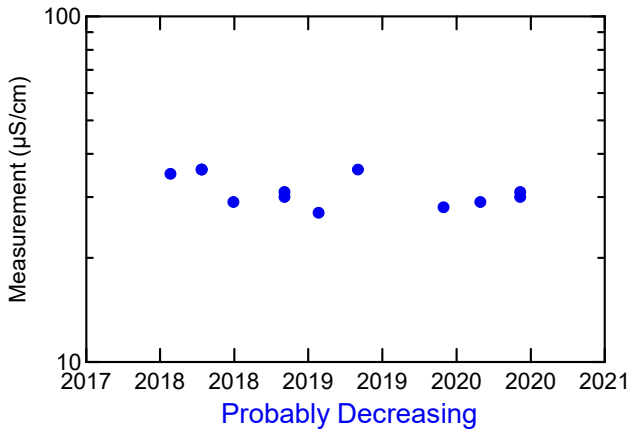
No trend identified

Reactive Silica (SiO2)



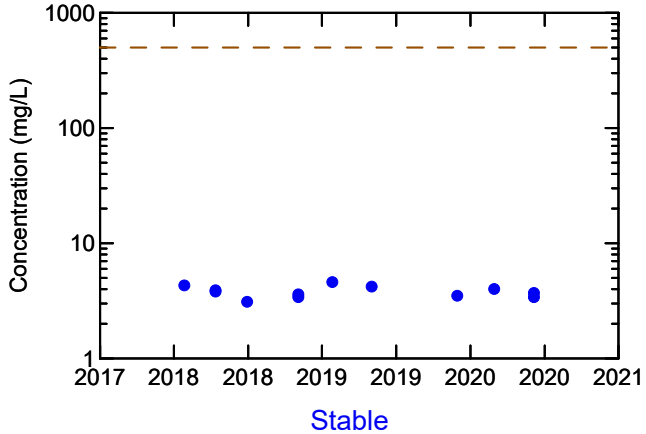
Stable

Conductivity



Probably Decreasing

Dissolved Sulphate (SO4)



Stable

Legend:

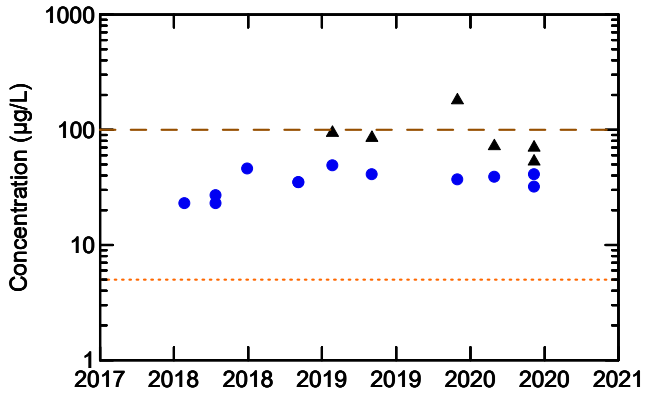
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines: Aesthetic

WELL MW-18A
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

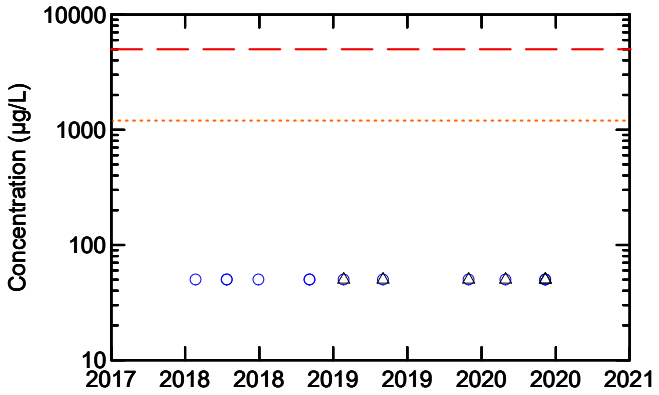
Aluminum



Total: Stable

Dissolved: No trend identified

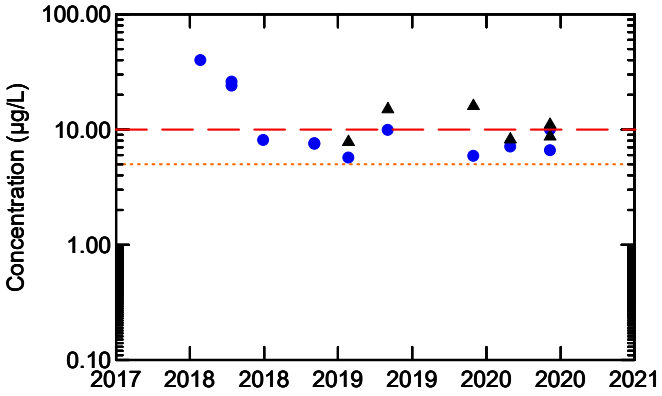
Boron



Total: No detected results

Dissolved: No detected results

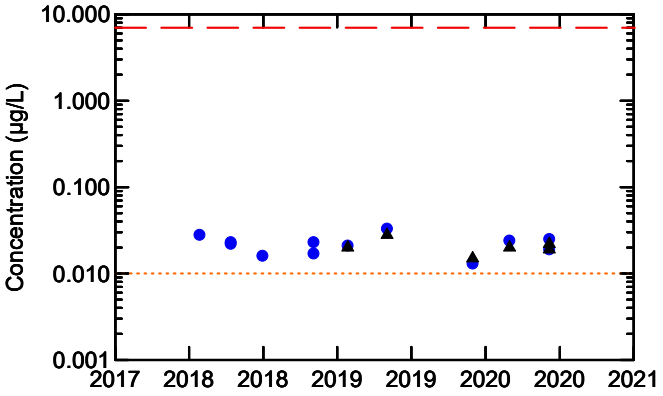
Arsenic



Total: No trend identified

Dissolved: Stable

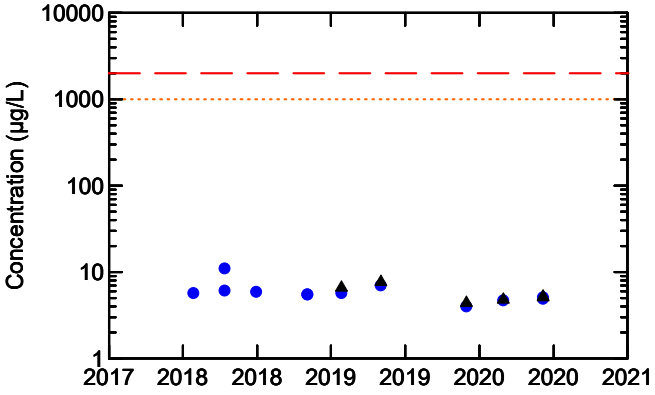
Cadmium



Total: Stable

Dissolved: Stable

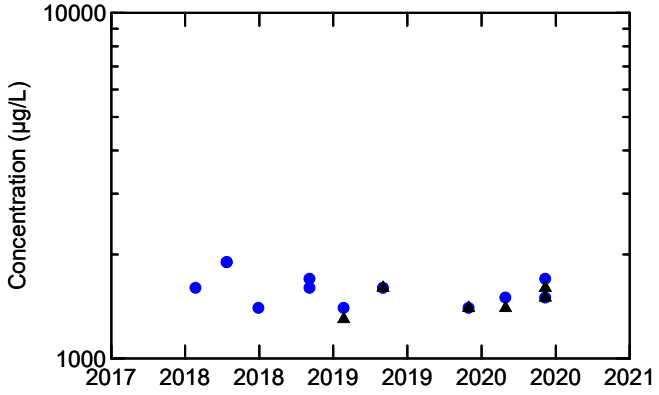
Barium



Total: Stable

Dissolved: Stable

Calcium



Total: No trend identified

Dissolved: Stable

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

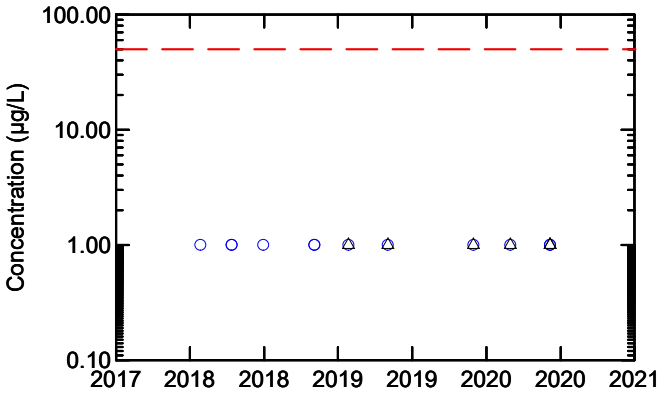
– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

WELL MW-18A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

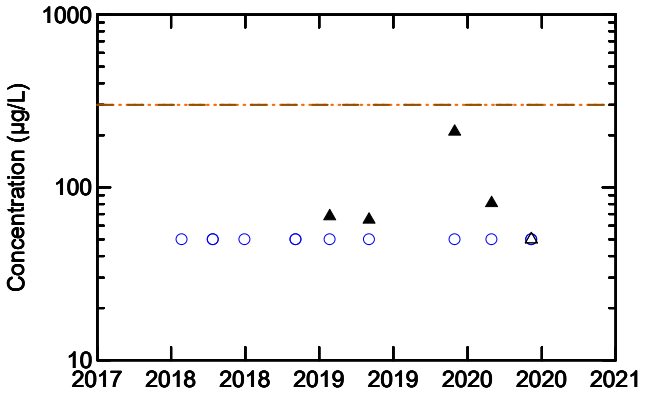
Chromium



Total: No detected results

Dissolved: No detected results

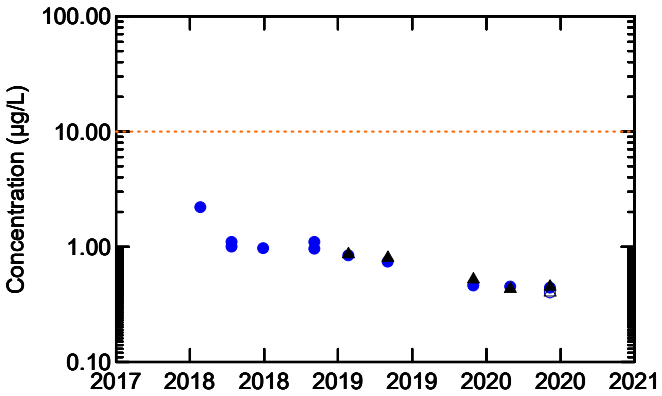
Iron



Total: Stable

Dissolved: No detected results

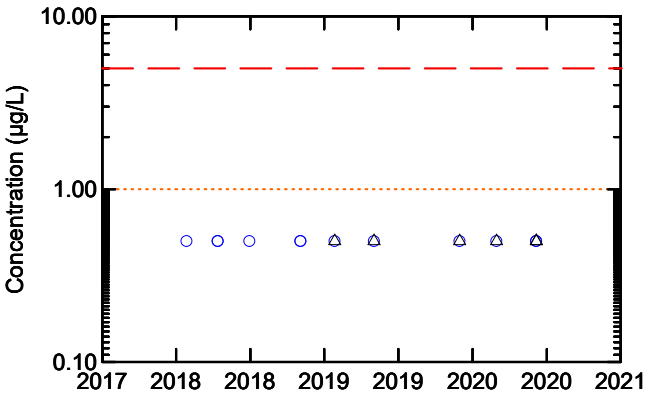
Cobalt



Total: Decreasing Trend

Dissolved: Decreasing Trend

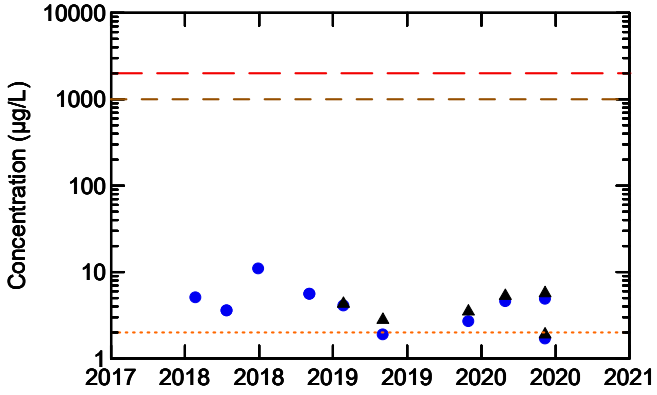
Lead



Total: No detected results

Dissolved: No detected results

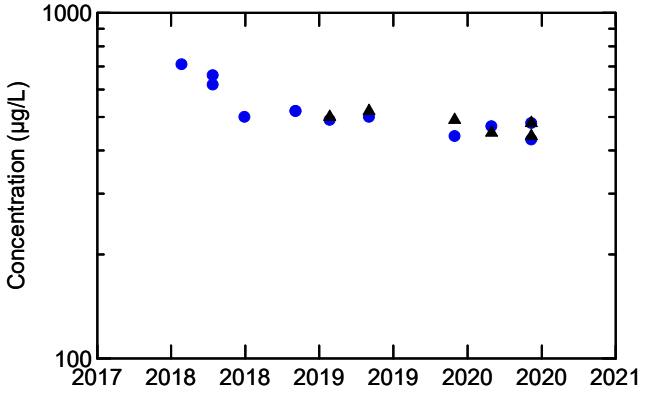
Copper



Total: Stable

Dissolved: Stable

Magnesium



Total: Probably Decreasing

Dissolved: Decreasing Trend

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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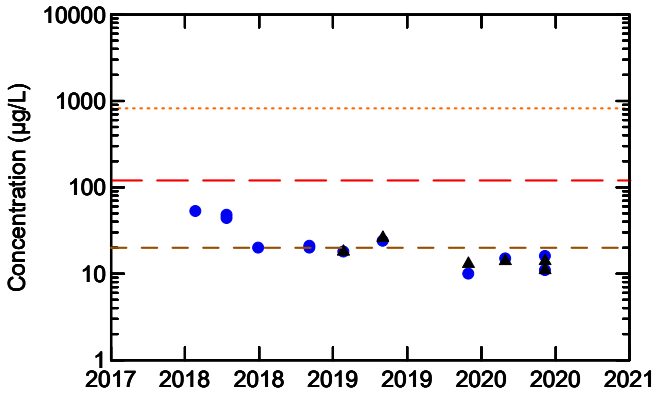
Non-detects are plotted at the reporting limit.

WELL MW-18A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

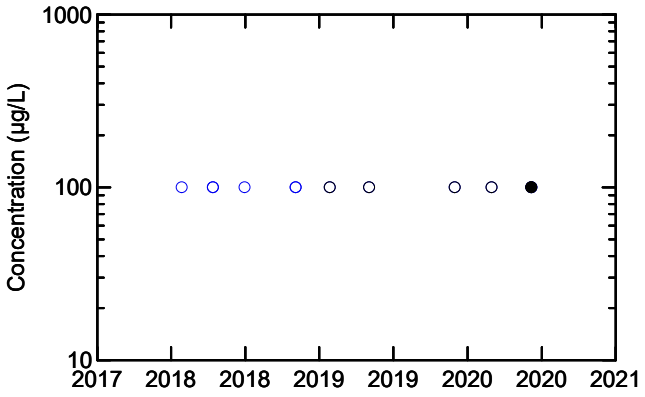
Manganese



Total: Stable

Dissolved: Decreasing Trend

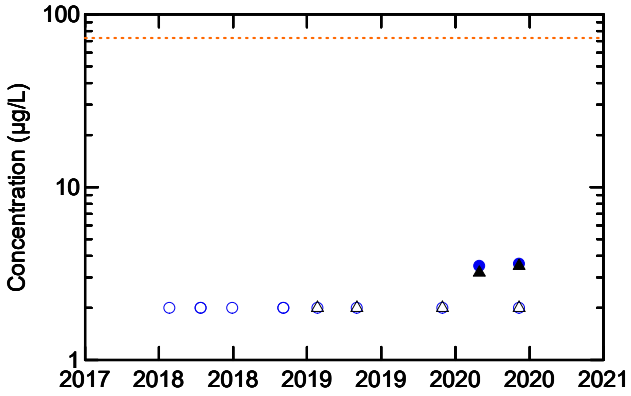
Phosphorus



Total: Over 50% non-detects

Dissolved: No detected results

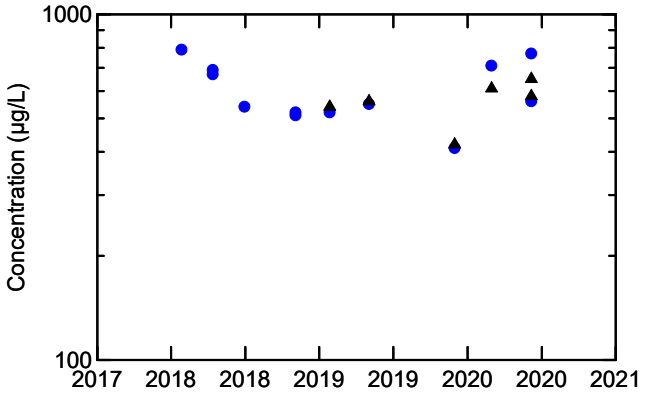
Molybdenum



Total: Over 50% non-detects

Dissolved: Over 50% non-detects

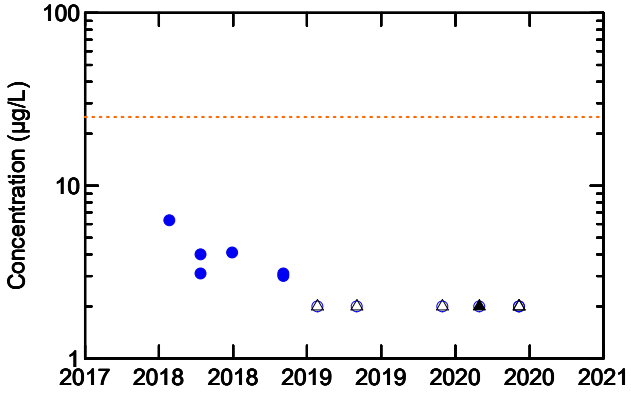
Potassium



Total: No trend identified

Dissolved: Stable

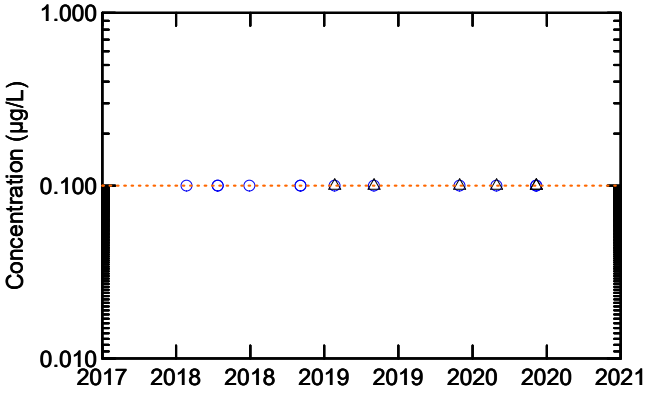
Nickel



Total: Over 50% non-detects

Dissolved: Over 50% non-detects

Silver



Total: No detected results

Dissolved: No detected results

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

Nova Scotia (2014) Pathway-Specific Standard for Groundwater

Canadian Drinking Water Quality Guideline: Maximum Acceptable

Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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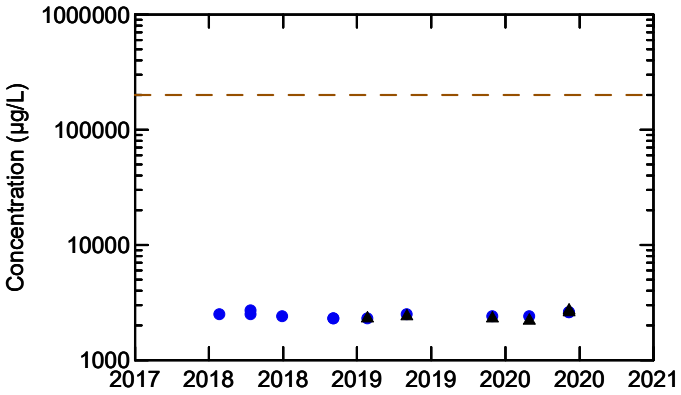
Non-detects are plotted at the reporting limit.

WELL MW-18A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

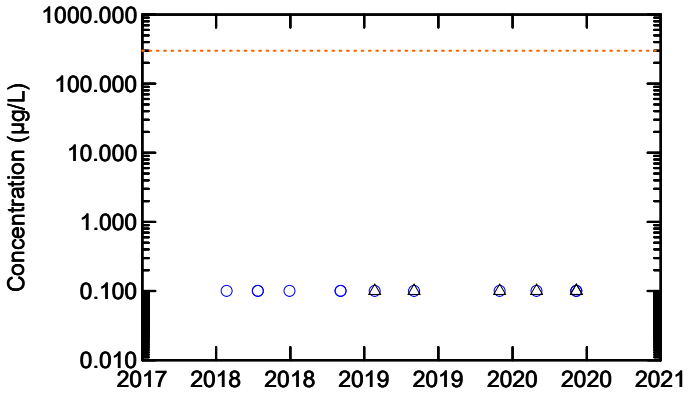
Sodium



Total: No trend identified

Dissolved: No trend identified

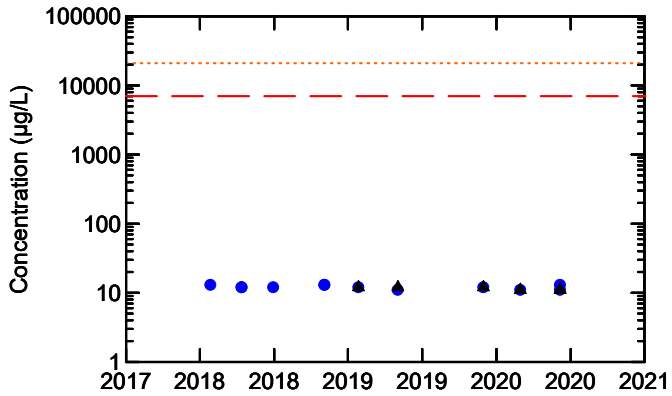
Uranium



Total: No detected results

Dissolved: No detected results

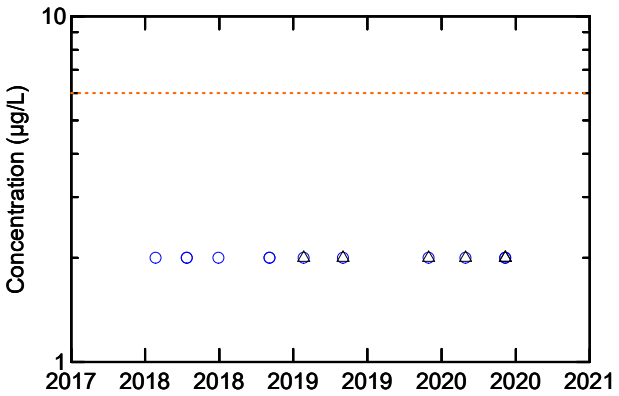
Strontium



Total: Stable

Dissolved: Stable

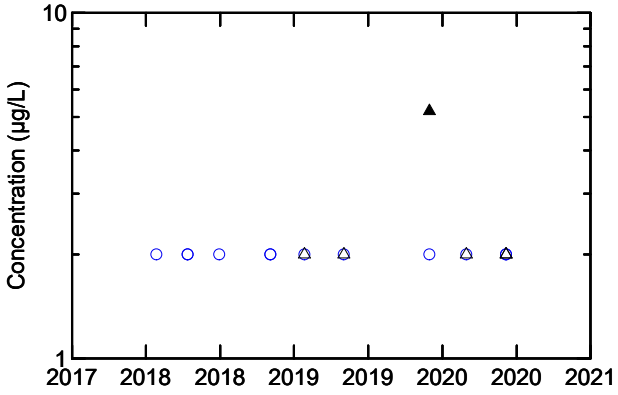
Vanadium



Total: No detected results

Dissolved: No detected results

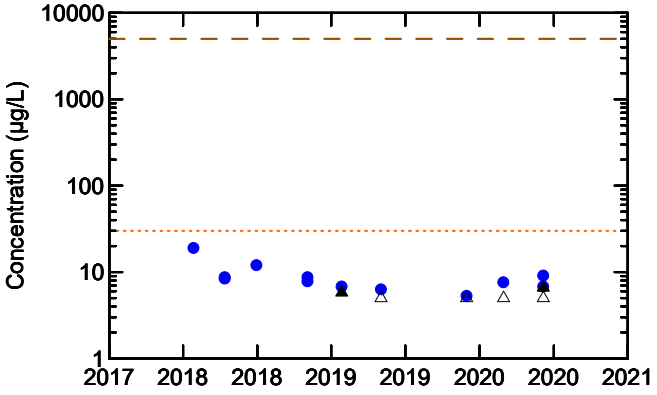
Titanium



Total: Over 50% non-detects

Dissolved: No detected results

Zinc



Total: Over 50% non-detects

Dissolved: Decreasing Trend

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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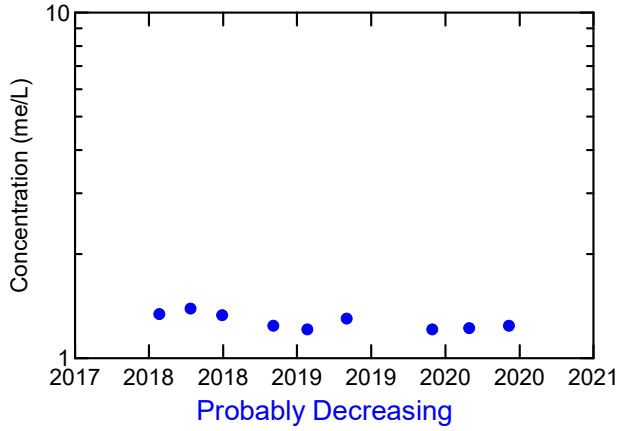
Non-detects are plotted at the reporting limit.

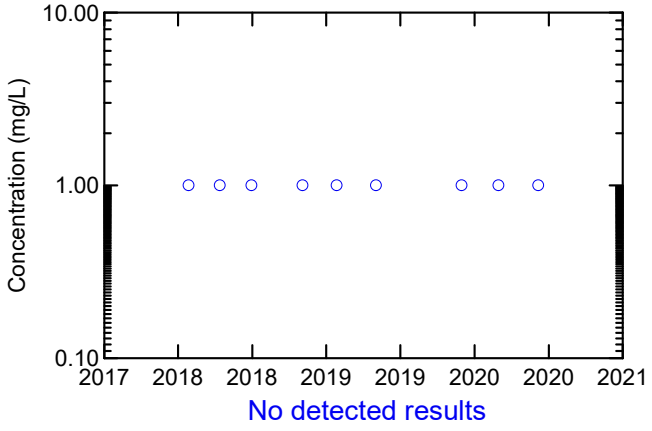
WELL MW-18A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Anion Sum



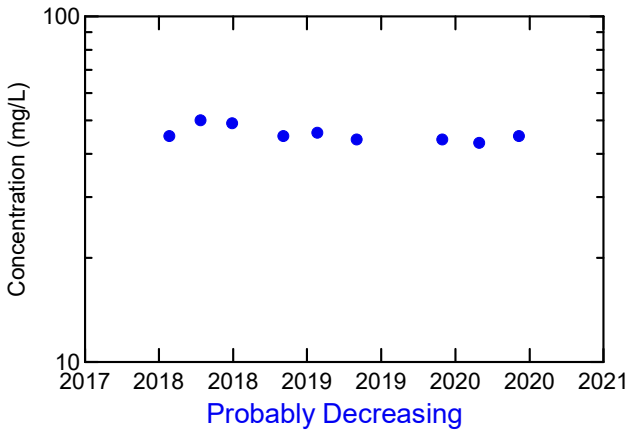
Probably Decreasing

Carb. Alkalinity (calc. as CaCO3)



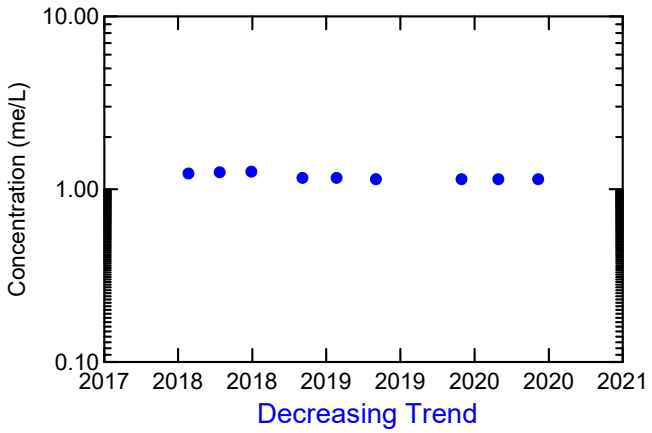
No detected results

Bicarb. Alkalinity (calc. as CaCO3)



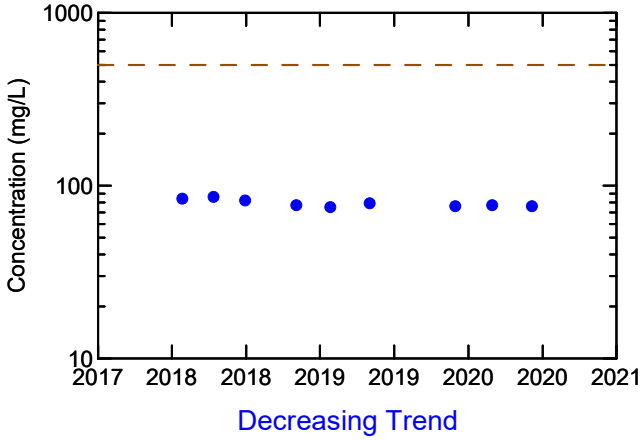
Probably Decreasing

Cation Sum



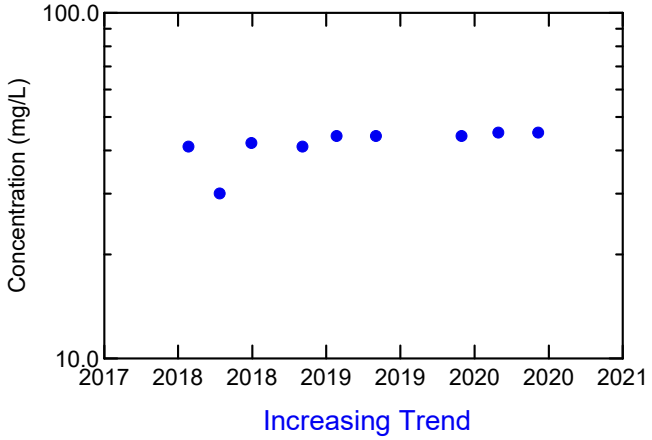
Decreasing Trend

Calculated TDS



Decreasing Trend

Hardness (CaCO3)



Increasing Trend

Legend:

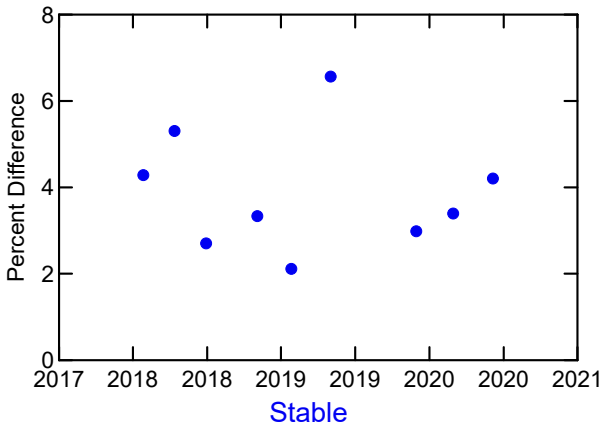
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines - Aesthetic

WELL MW-18B
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

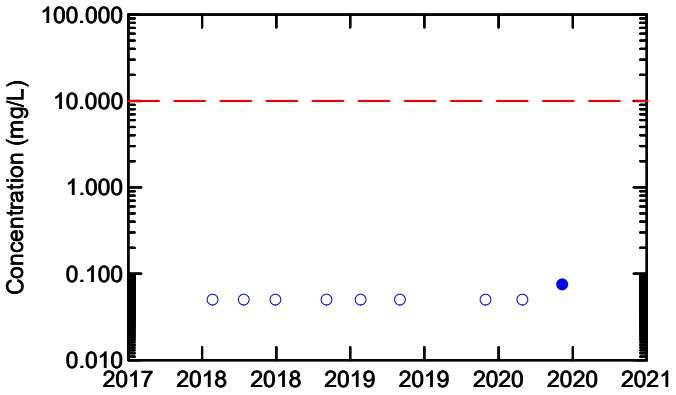
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Ion Balance



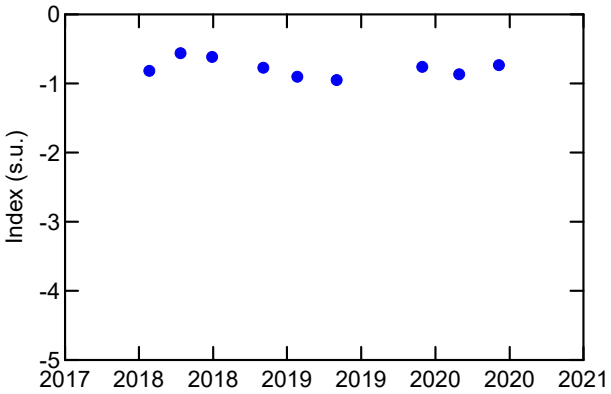
Stable

Nitrate



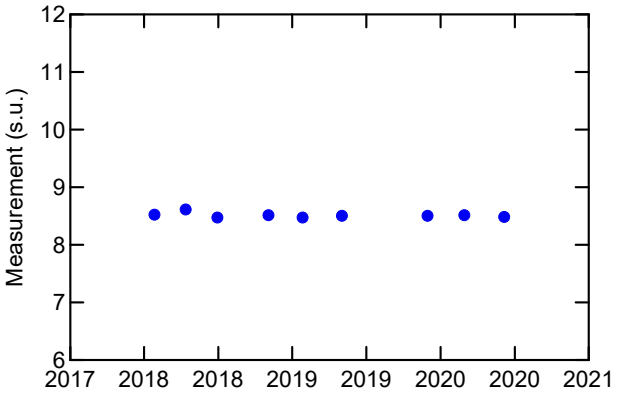
Over 50% non-detects

Langelier Index (@ 20C)



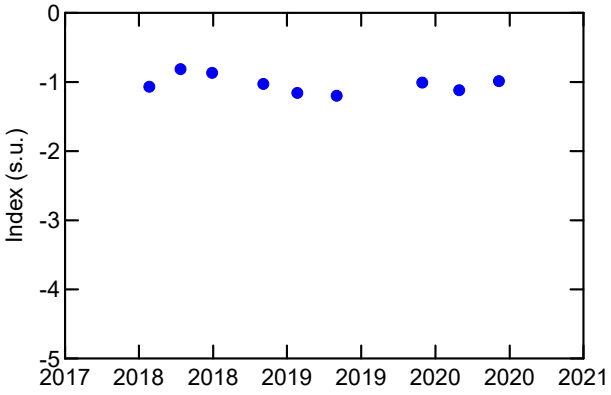
Stable

Saturation pH (@ 20C)



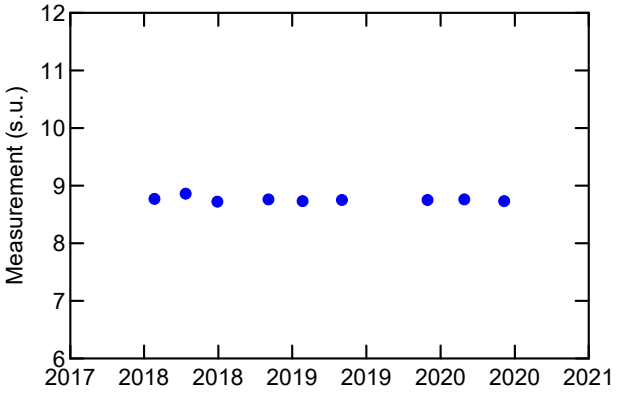
Stable

Langelier Index (@ 4C)



Stable

Saturation pH (@ 4C)



Stable

Legend:

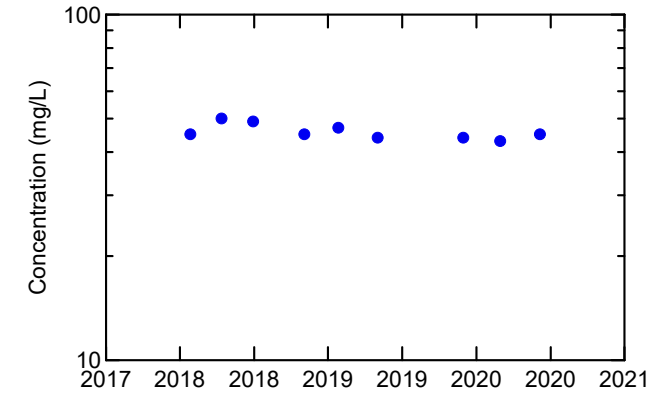
● Detected result ○ Non-Detect

— — Canadian Drinking Water Quality Guidelines: Maximum Acceptable

WELL MW-18B
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

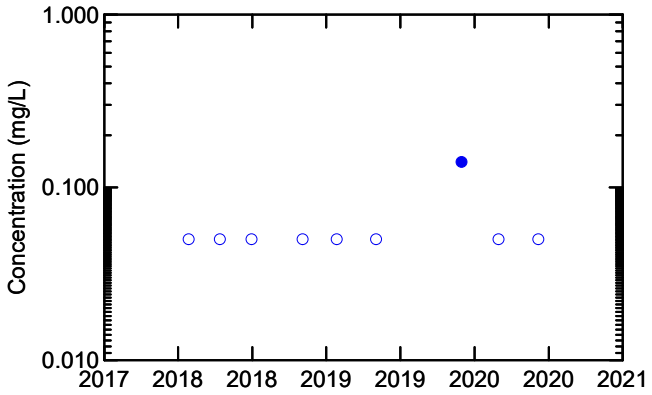
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Total Alkalinity (Total as CaCO3)



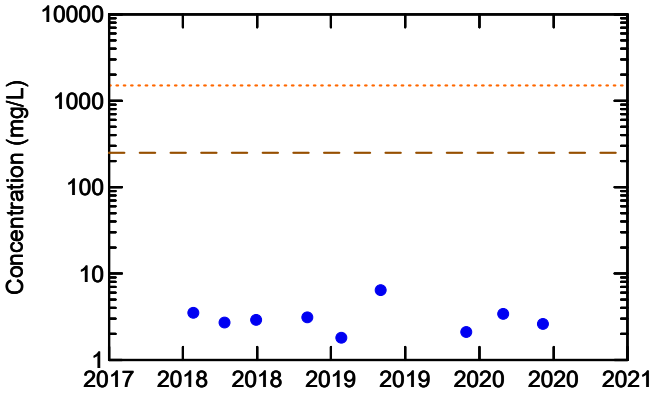
Probably Decreasing

Nitrogen (Ammonia Nitrogen)



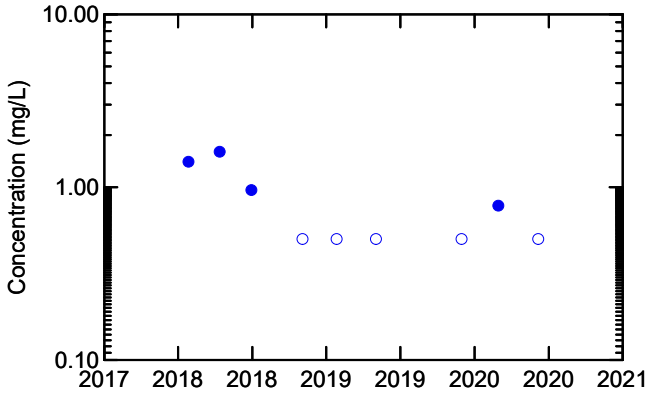
Over 50% non-detects

Dissolved Chloride



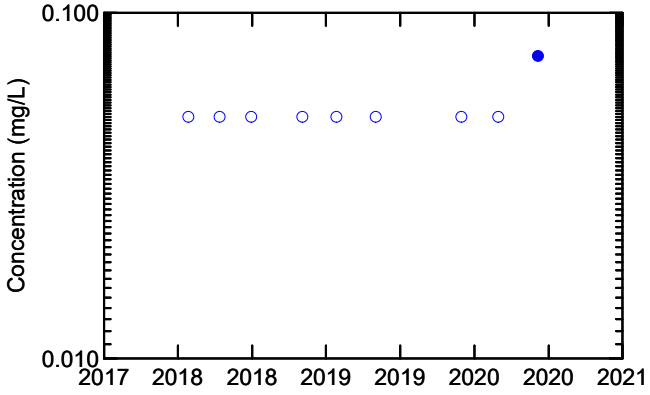
Stable

Total Organic Carbon



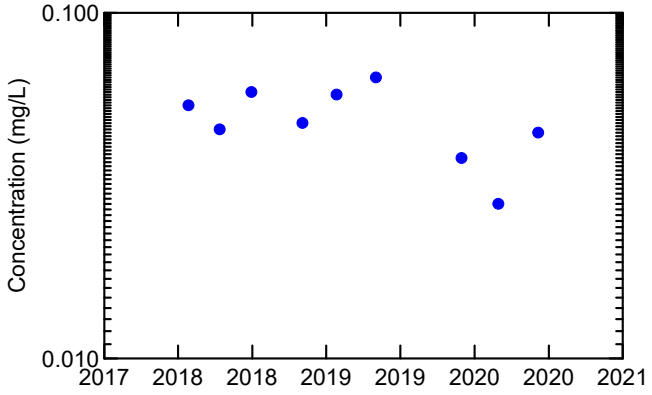
Over 50% non-detects

Nitrate + Nitrite



Over 50% non-detects

Orthophosphate



Stable

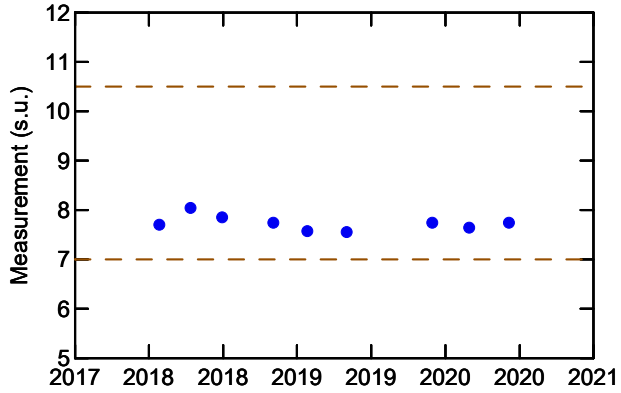
Legend:

- ● Detected result ○ Non-Detect
- ····· Nova Scotia (2014) Pathway-Specific Standard for Groundwater
- — — - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

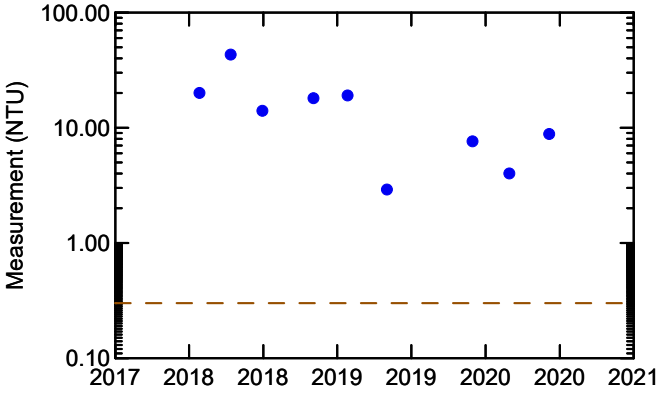
WELL MW-18B
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

pH



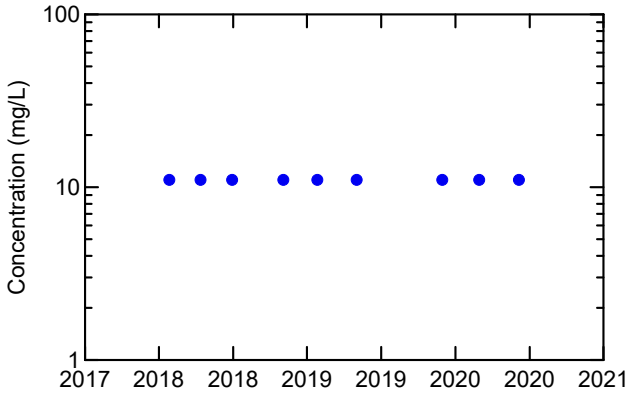
Stable

Turbidity



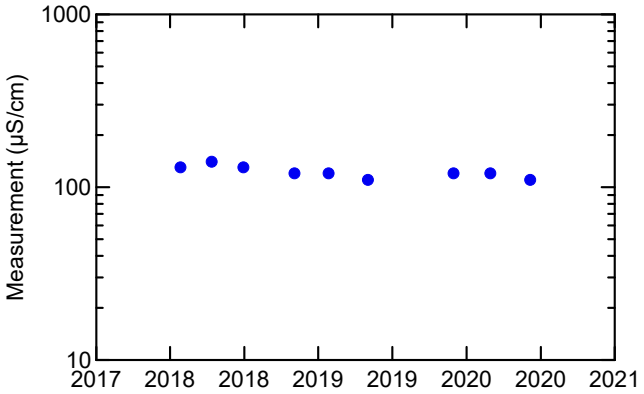
No trend identified

Reactive Silica (SiO2)



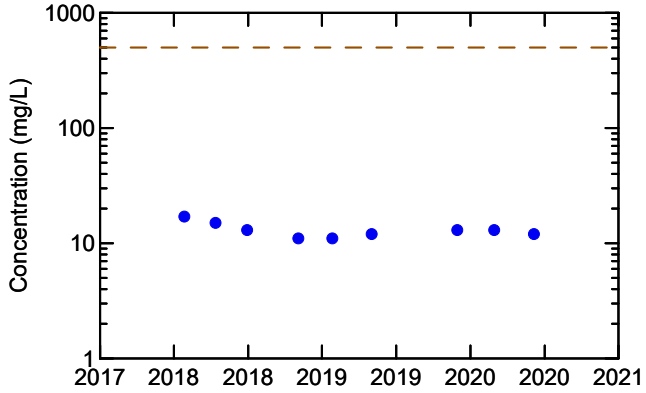
Stable

Conductivity



Probably Decreasing

Dissolved Sulphate (SO4)



Stable

Legend:

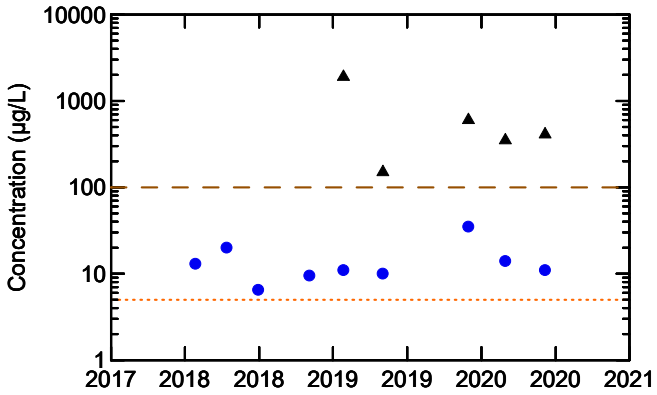
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines: Aesthetic

WELL MW-18B
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

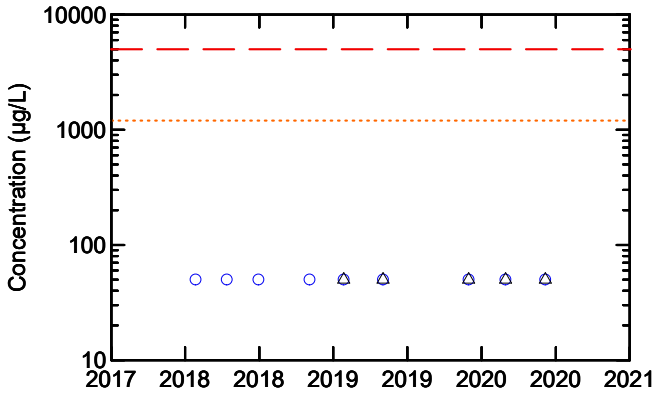
Aluminum



Total: No trend identified

Dissolved: No trend identified

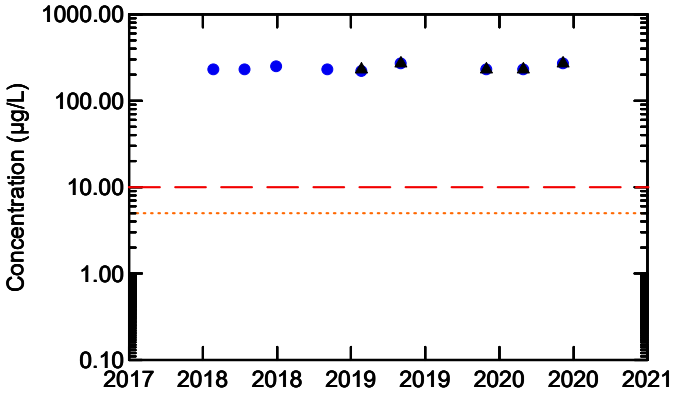
Boron



Total: No detected results

Dissolved: No detected results

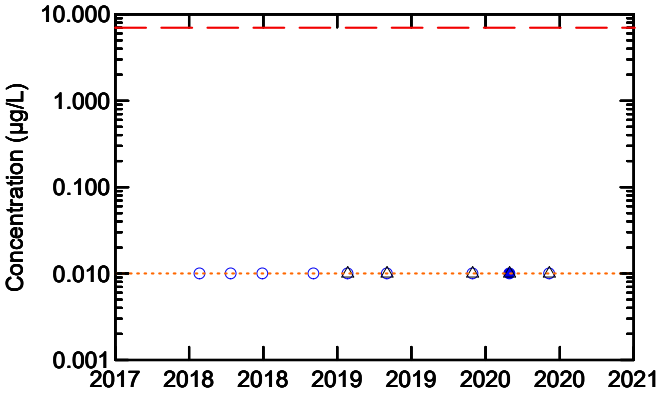
Arsenic



Total: No trend identified

Dissolved: No trend identified

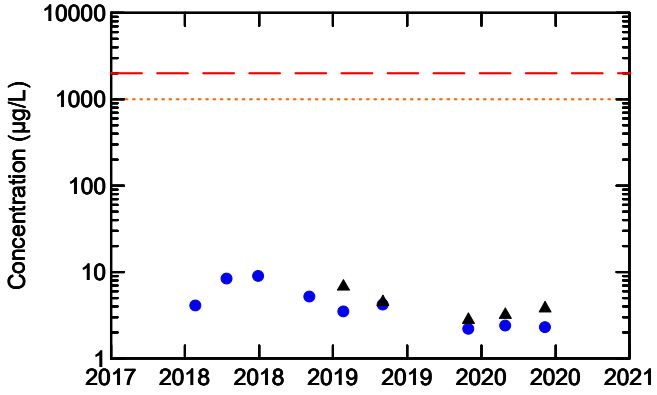
Cadmium



Total: No detected results

Dissolved: Over 50% non-detects

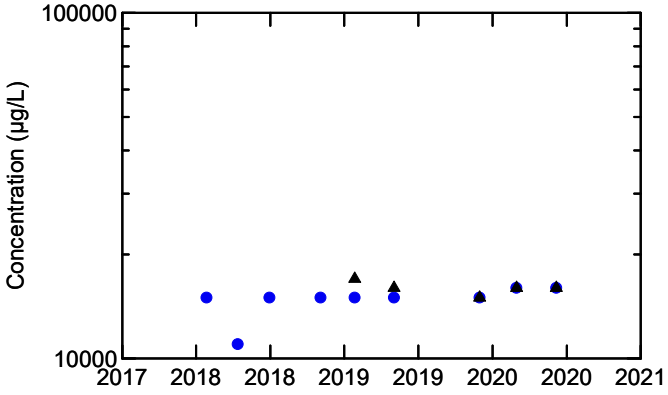
Barium



Total: Stable

Dissolved: Decreasing Trend

Calcium



Total: Stable

Dissolved: Probably Increasing

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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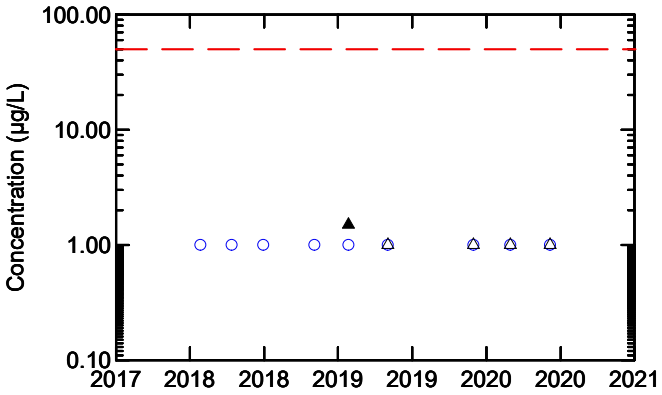
Non-detects are plotted at the reporting limit.

WELL MW-18B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

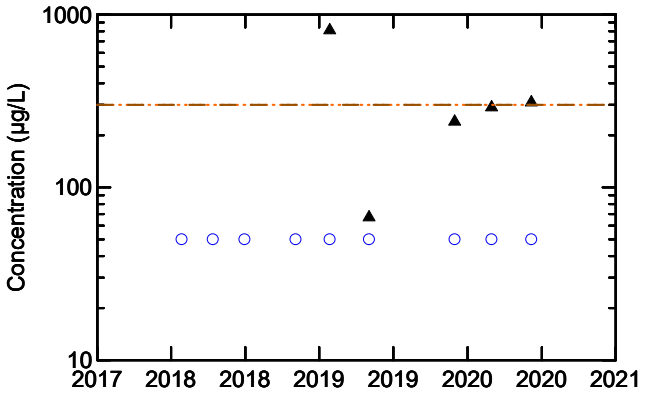
Chromium



Total: Over 50% non-detects

Dissolved: No detected results

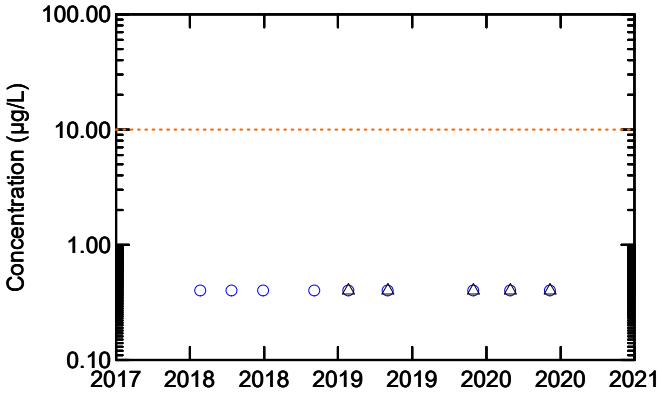
Iron



Total: No trend identified

Dissolved: No detected results

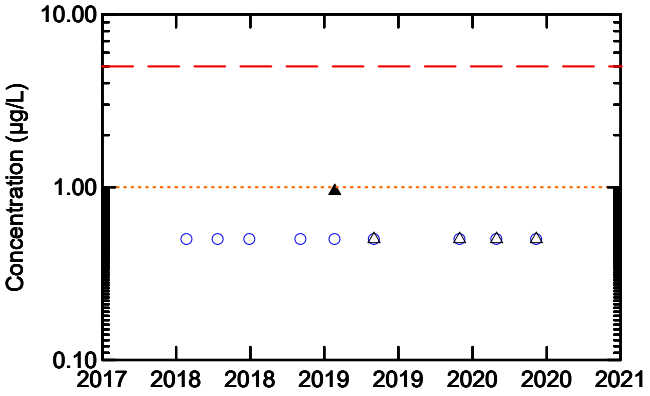
Cobalt



Total: No detected results

Dissolved: No detected results

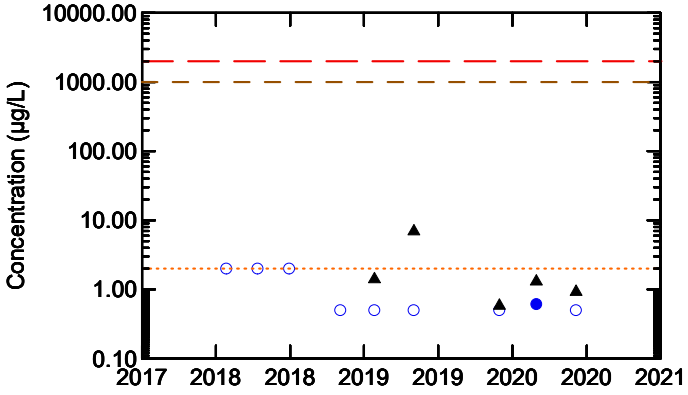
Lead



Total: Over 50% non-detects

Dissolved: No detected results

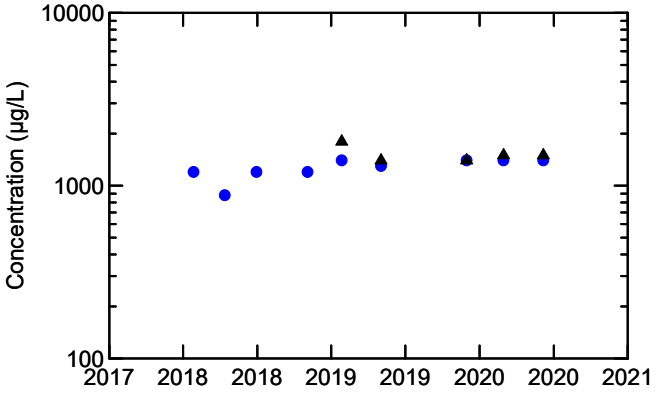
Copper



Total: No trend identified

Dissolved: Over 50% non-detects

Magnesium



Total: Stable

Dissolved: Increasing Trend

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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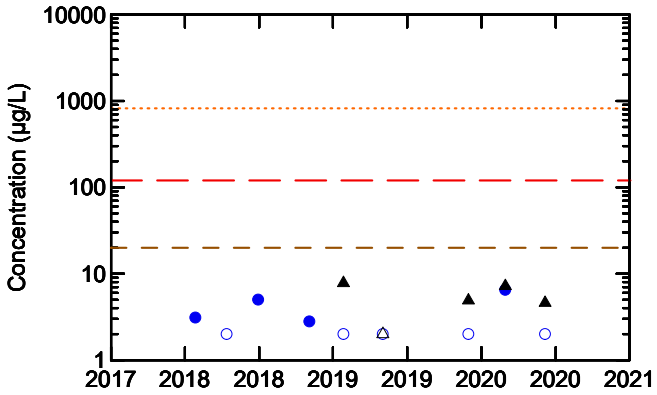
Non-detects are plotted at the reporting limit.

WELL MW-18B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

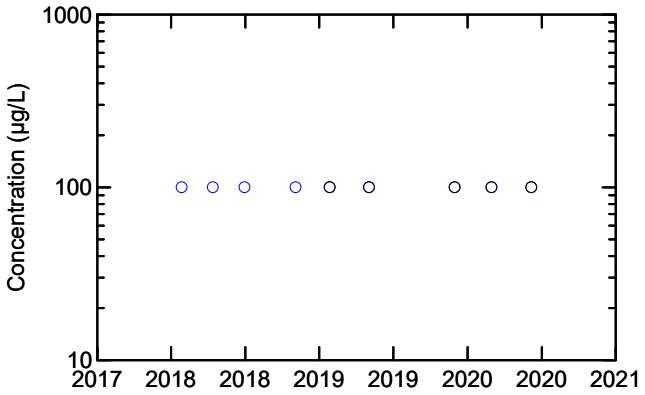
Manganese



Total: Stable

Dissolved: Over 50% non-detects

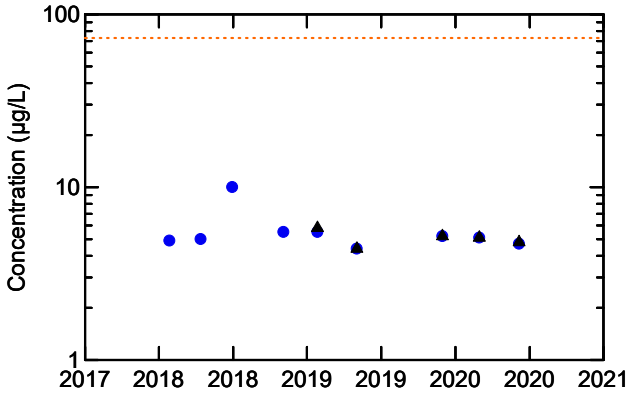
Phosphorus



Total: No detected results

Dissolved: No detected results

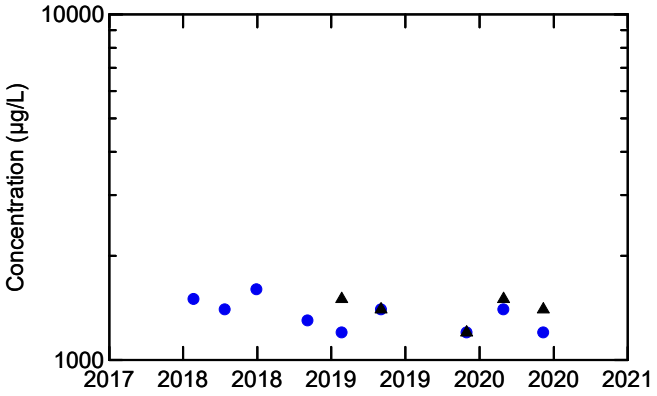
Molybdenum



Total: Stable

Dissolved: Stable

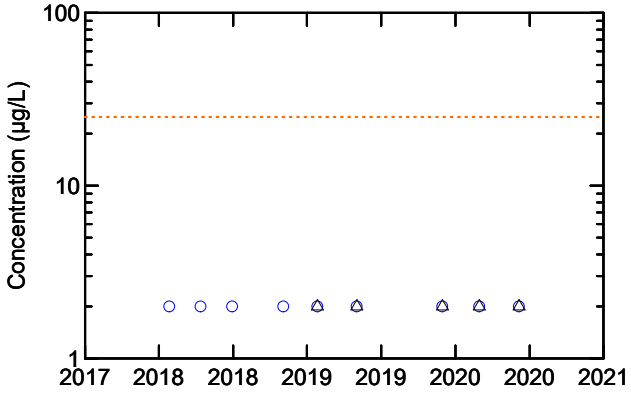
Potassium



Total: Stable

Dissolved: Stable

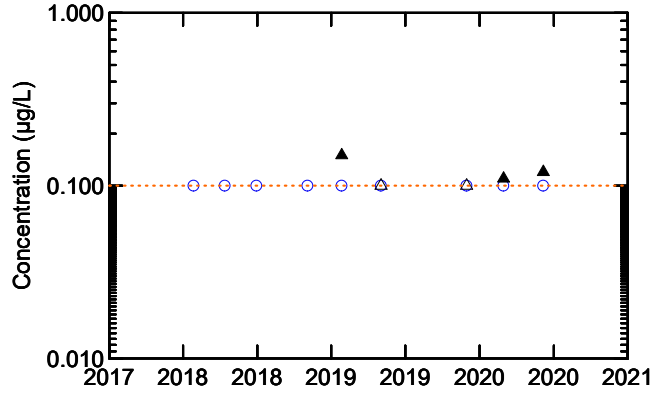
Nickel



Total: No detected results

Dissolved: No detected results

Silver



Total: No trend identified

Dissolved: No detected results

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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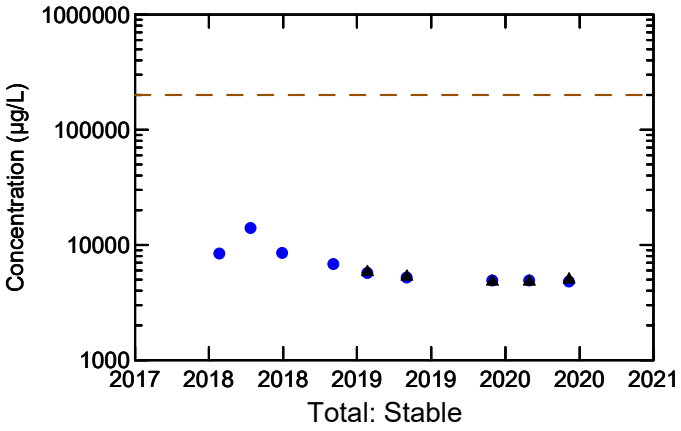
Non-detects are plotted at the reporting limit.

WELL MW-18B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

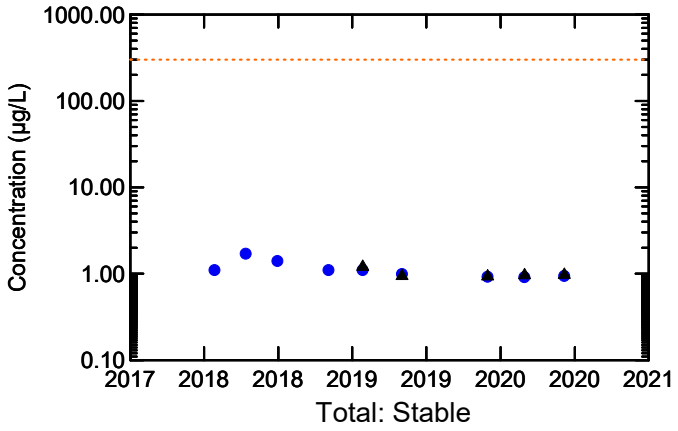
Sodium



Total: Stable

Dissolved: Decreasing Trend

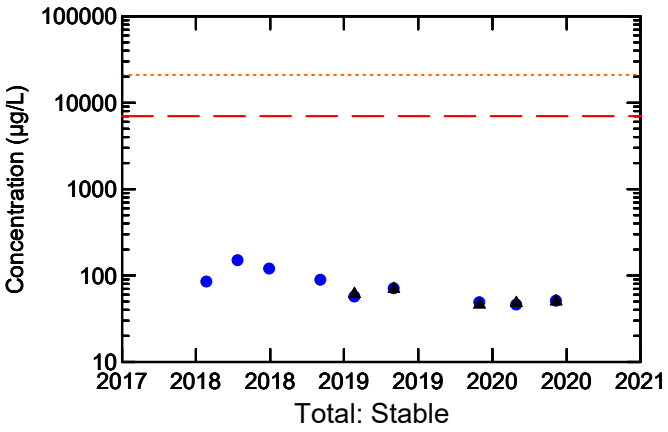
Uranium



Total: Stable

Dissolved: Decreasing Trend

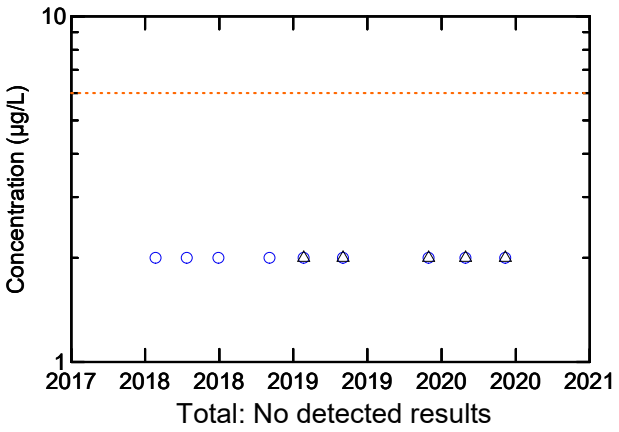
Strontium



Total: Stable

Dissolved: Decreasing Trend

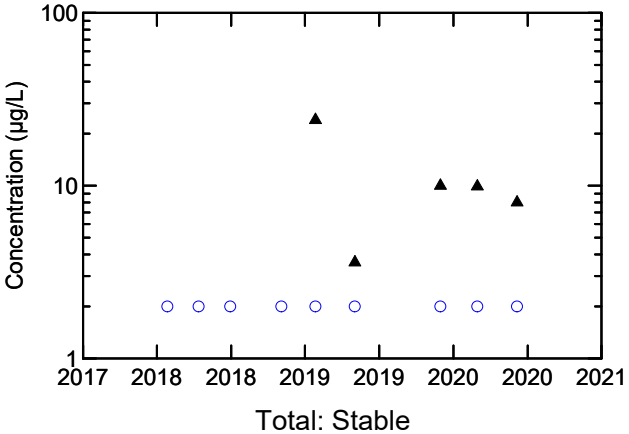
Vanadium



Total: No detected results

Dissolved: No detected results

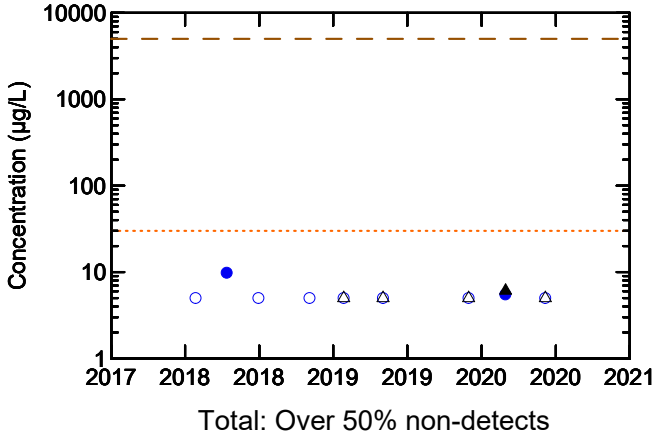
Titanium



Total: Stable

Dissolved: No detected results

Zinc



Total: Over 50% non-detects

Dissolved: Over 50% non-detects

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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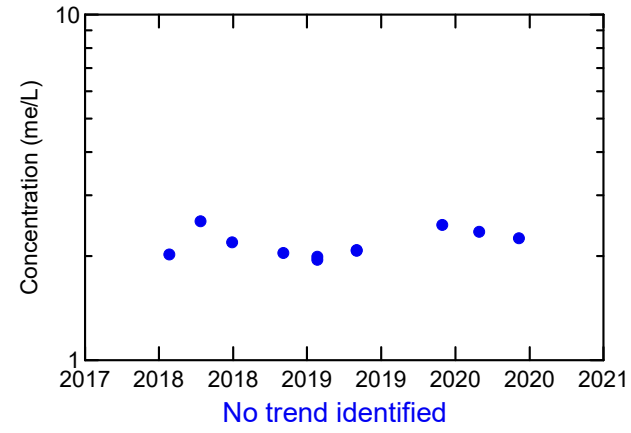
Non-detects are plotted at the reporting limit.

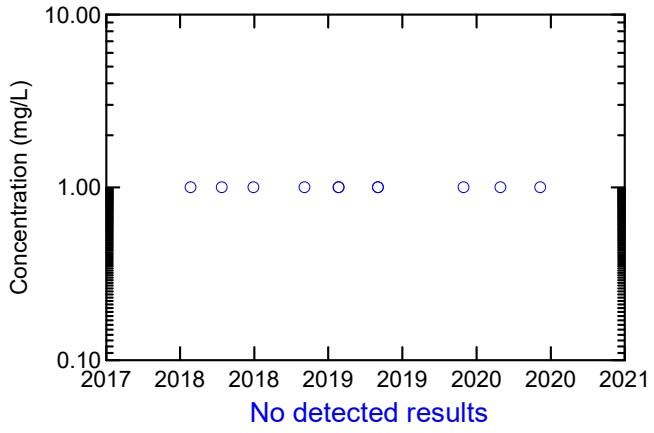
WELL MW-18B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Anion Sum



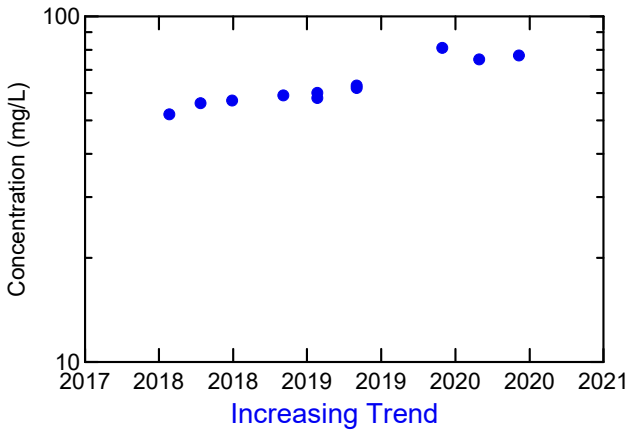
No trend identified

Carb. Alkalinity (calc. as CaCO3)



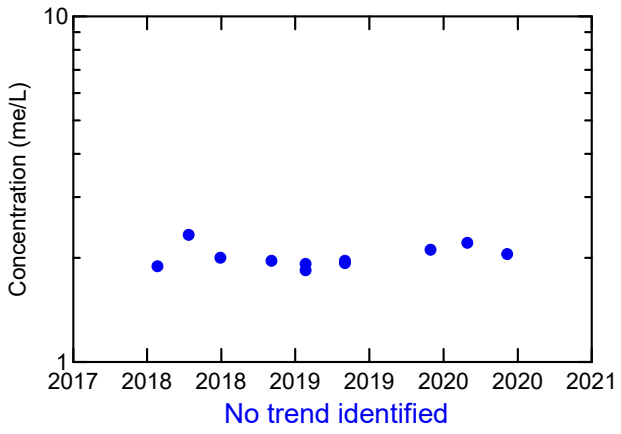
No detected results

Bicarb. Alkalinity (calc. as CaCO3)



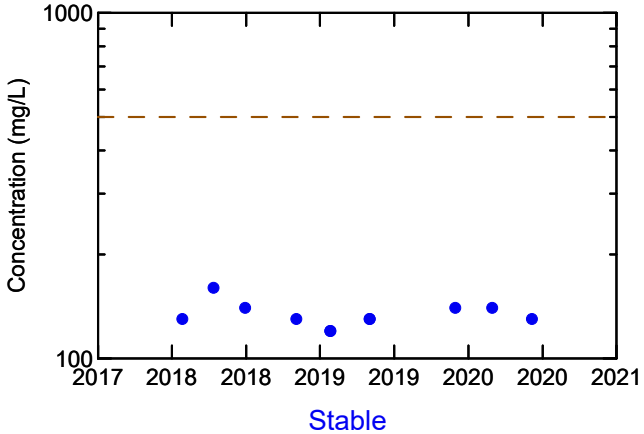
Increasing Trend

Cation Sum



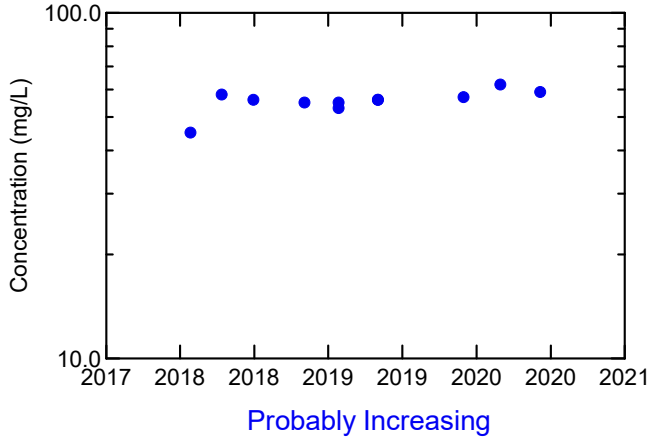
No trend identified

Calculated TDS



Stable

Hardness (CaCO3)



Probably Increasing

Legend:

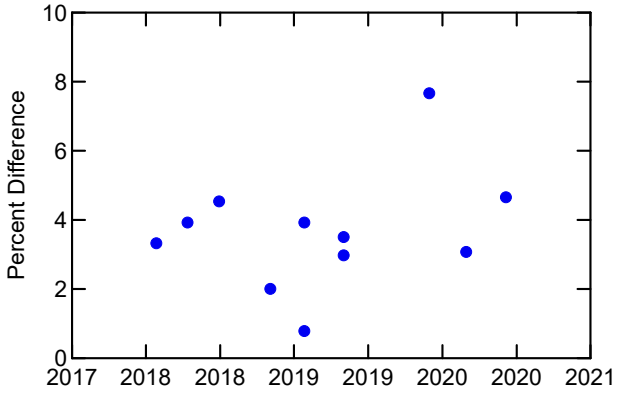
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines - Aesthetic

WELL MW-18C
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

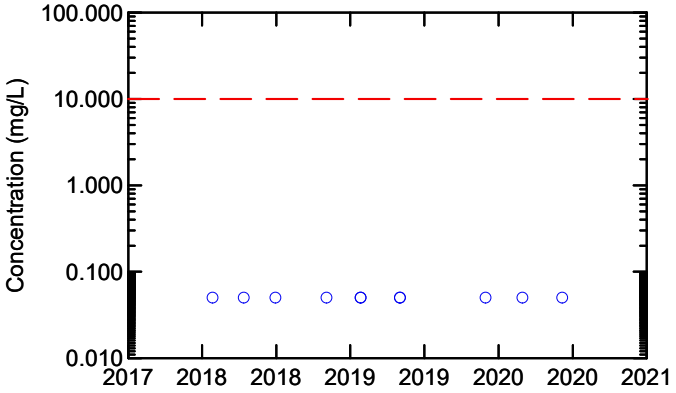
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Ion Balance



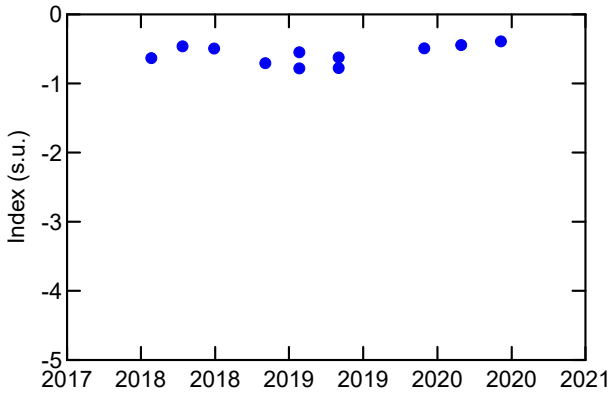
No trend identified

Nitrate



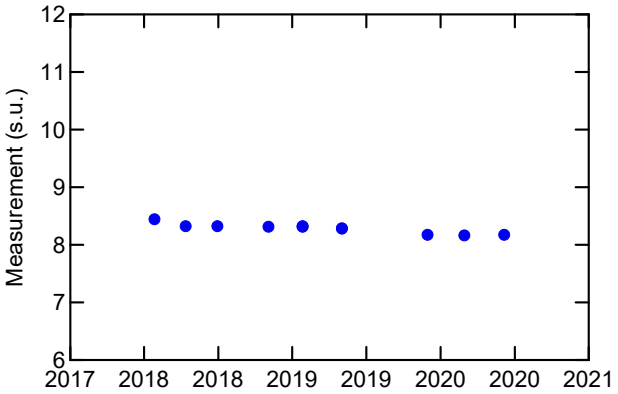
No detected results

Langelier Index (@ 20C)



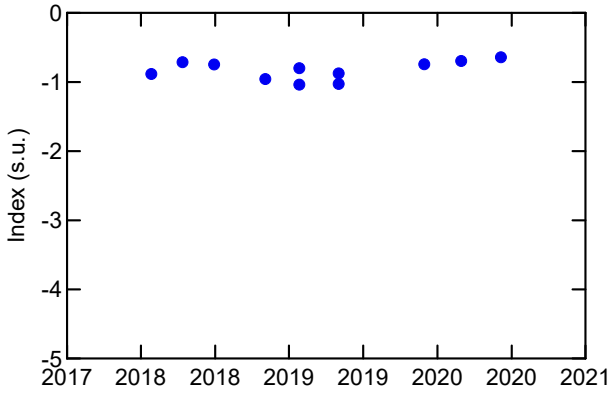
No trend identified

Saturation pH (@ 20C)



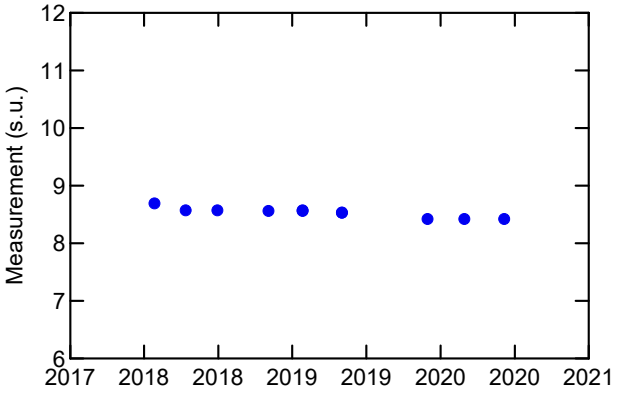
Decreasing Trend

Langelier Index (@ 4C)



No trend identified

Saturation pH (@ 4C)



Decreasing Trend

Legend:

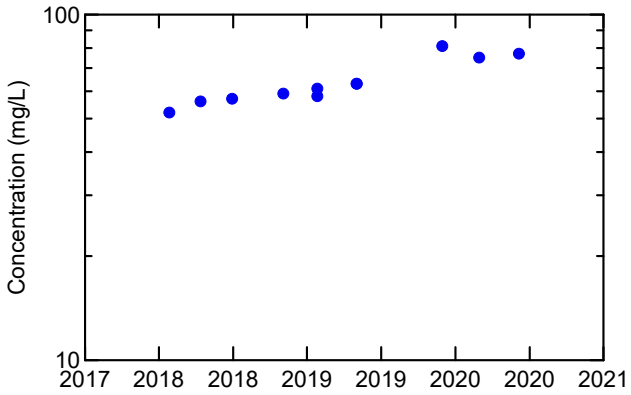
● Detected result ○ Non-Detect

— — Canadian Drinking Water Quality Guidelines: Maximum Acceptable

WELL MW-18C
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

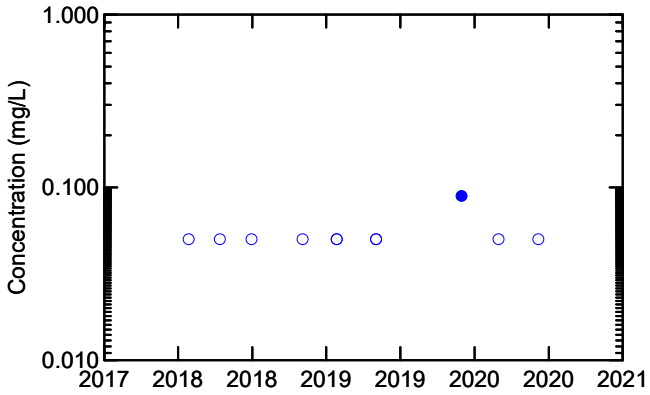
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Total Alkalinity (Total as CaCO3)



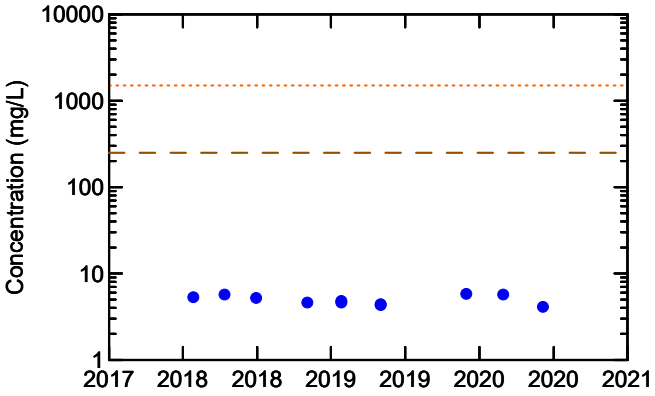
Increasing Trend

Nitrogen (Ammonia Nitrogen)



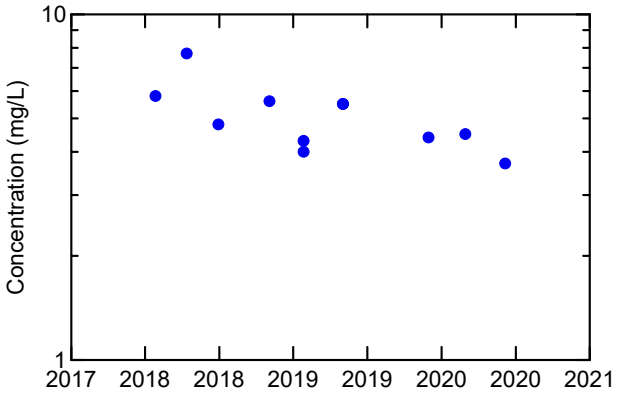
Over 50% non-detects

Dissolved Chloride



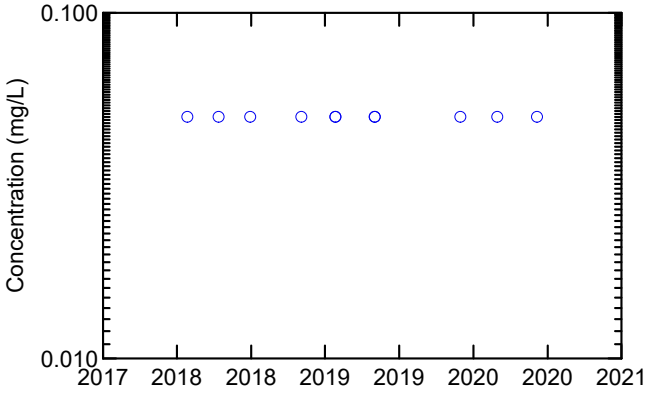
Stable

Total Organic Carbon



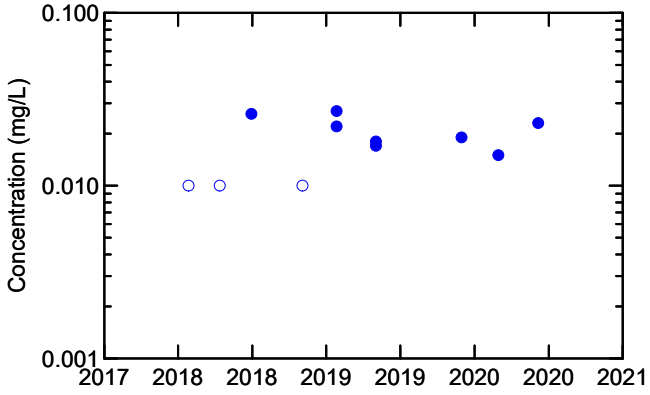
Decreasing Trend

Nitrate + Nitrite



No detected results

Orthophosphate



No trend identified

Legend:

● Detected result ○ Non-Detect

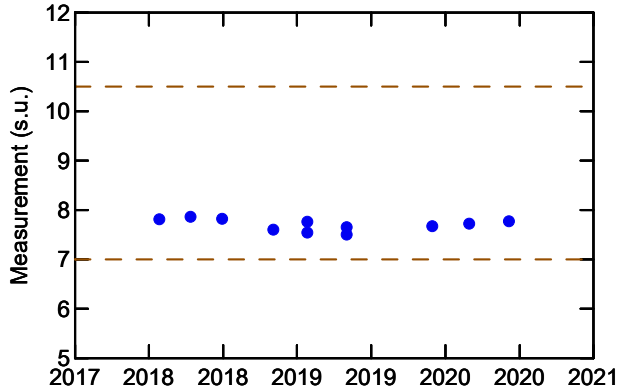
Nova Scotia (2014) Pathway-Specific Standard for Groundwater

Canadian Drinking Water Quality Guideline: Aesthetic

Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

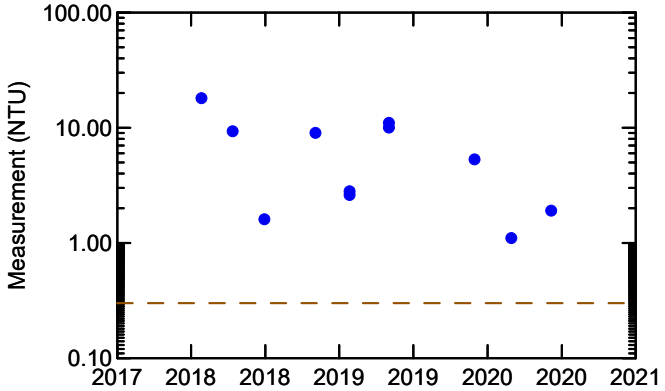
WELL MW-18C
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

pH



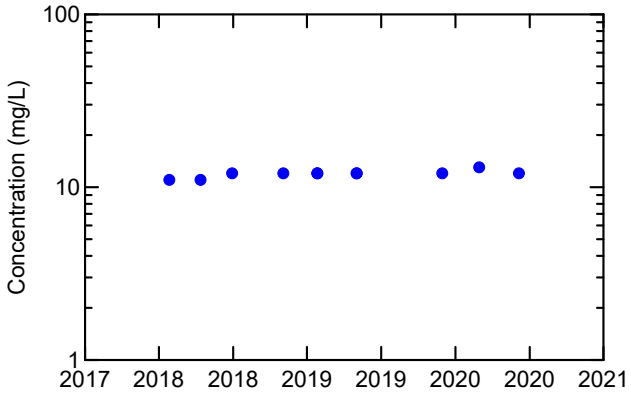
Stable

Turbidity



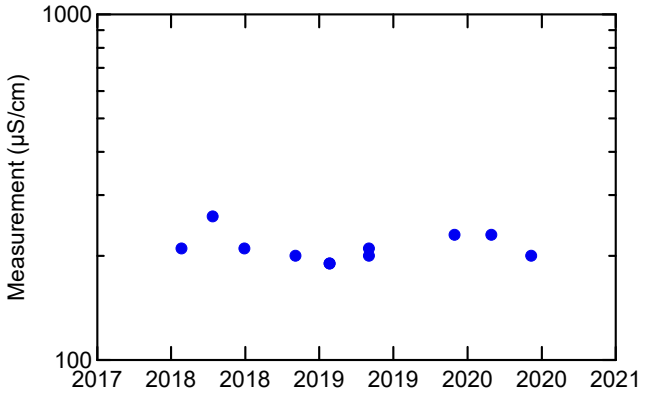
No trend identified

Reactive Silica (SiO2)



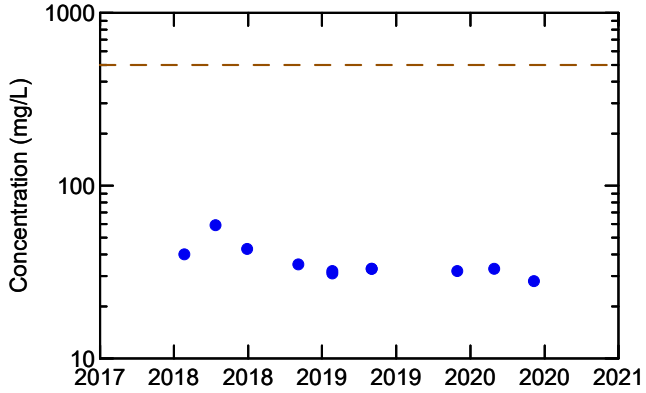
Stable

Conductivity



Probably Decreasing

Dissolved Sulphate (SO4)



Stable

Legend:

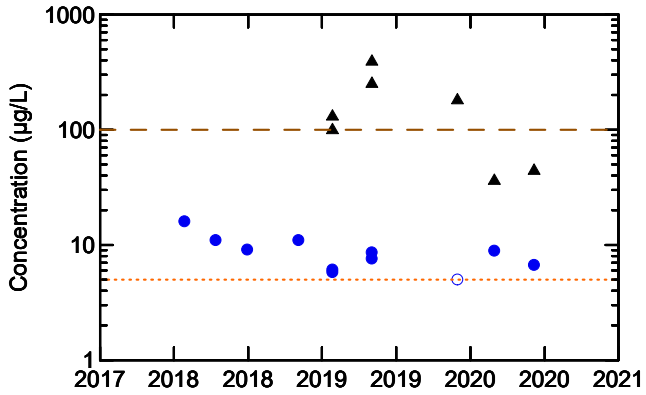
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines: Aesthetic

WELL MW-18C
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

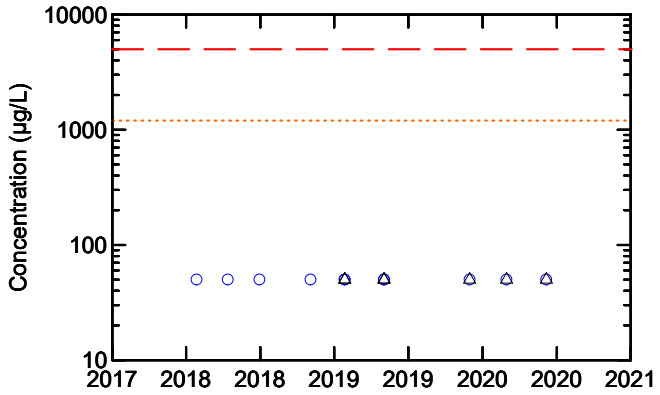
Aluminum



Total: Stable

Dissolved: Decreasing Trend

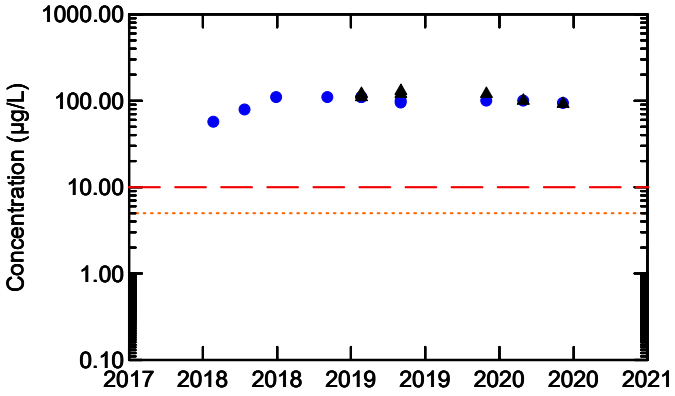
Boron



Total: No detected results

Dissolved: No detected results

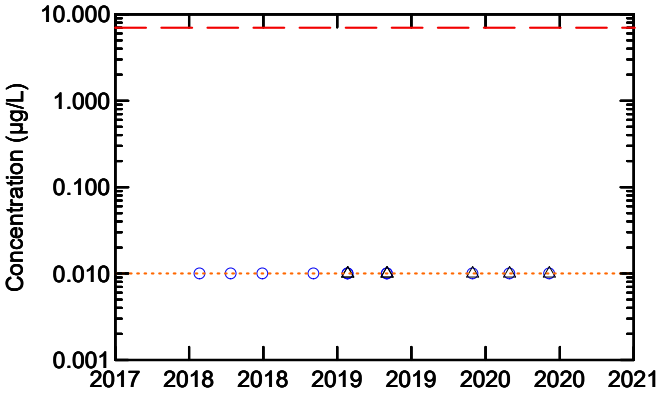
Arsenic



Total: Stable

Dissolved: No trend identified

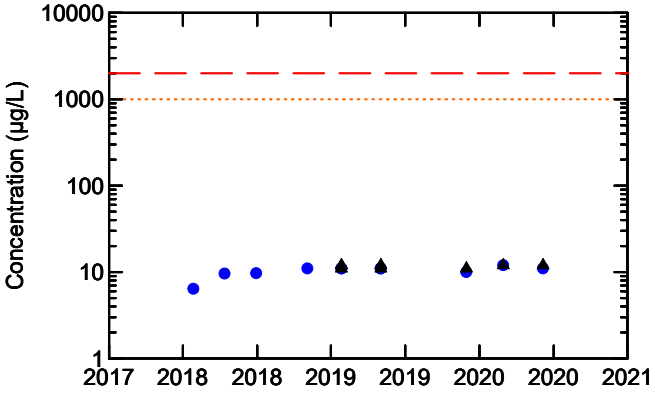
Cadmium



Total: No detected results

Dissolved: No detected results

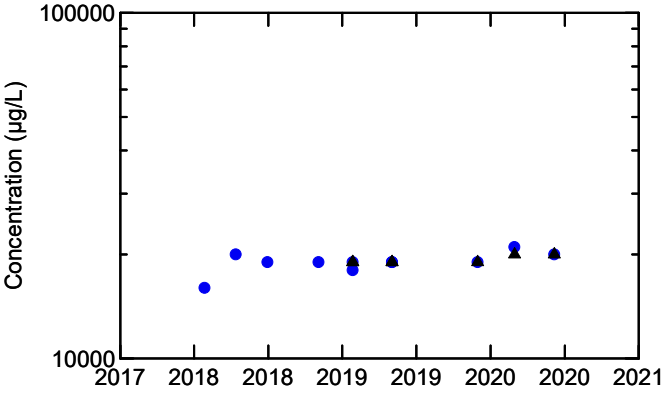
Barium



Total: No trend identified

Dissolved: Increasing Trend

Calcium



Total: No trend identified

Dissolved: No trend identified

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

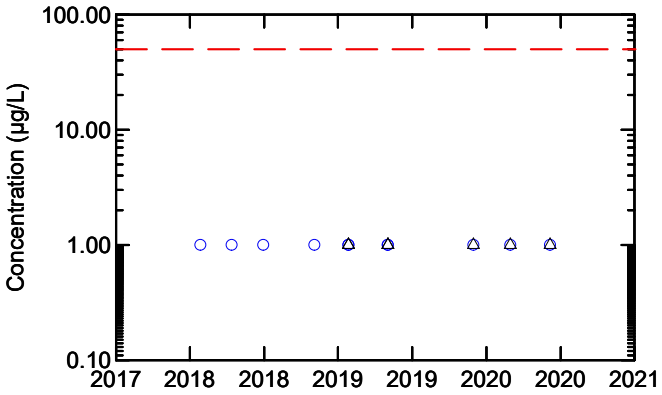
– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

WELL MW-18C
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

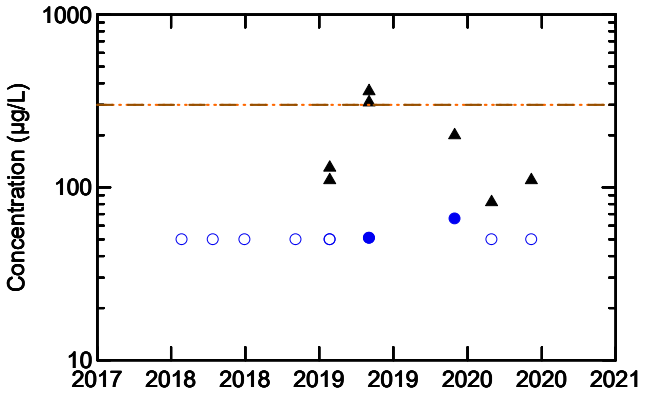
Chromium



Total: No detected results

Dissolved: No detected results

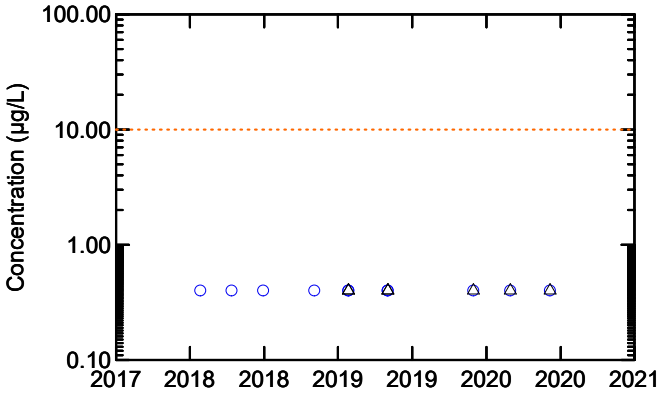
Iron



Total: Stable

Dissolved: Over 50% non-detects

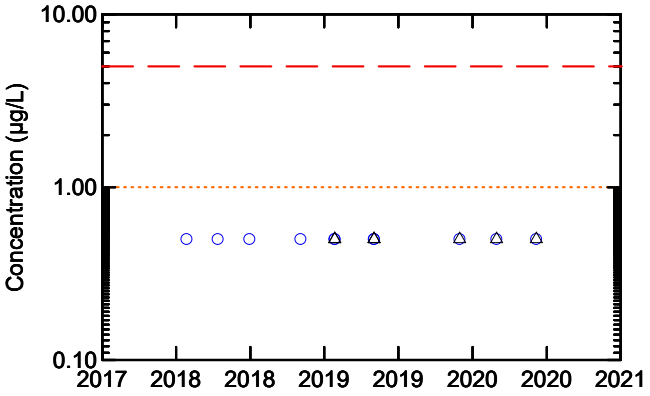
Cobalt



Total: No detected results

Dissolved: No detected results

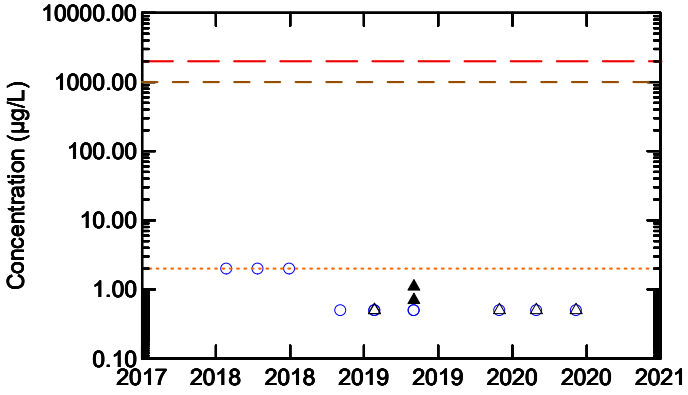
Lead



Total: No detected results

Dissolved: No detected results

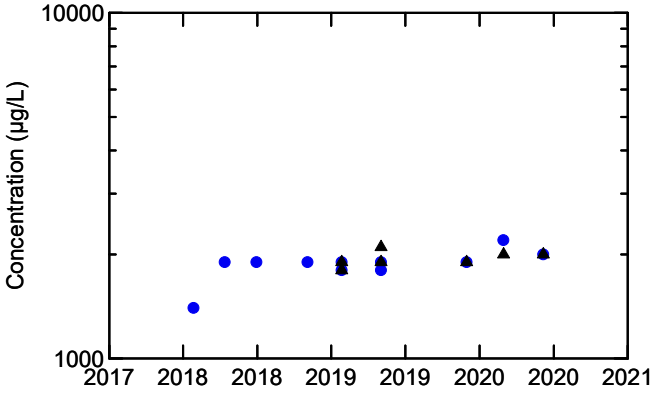
Copper



Total: Over 50% non-detects

Dissolved: No detected results

Magnesium



Total: No trend identified

Dissolved: No trend identified

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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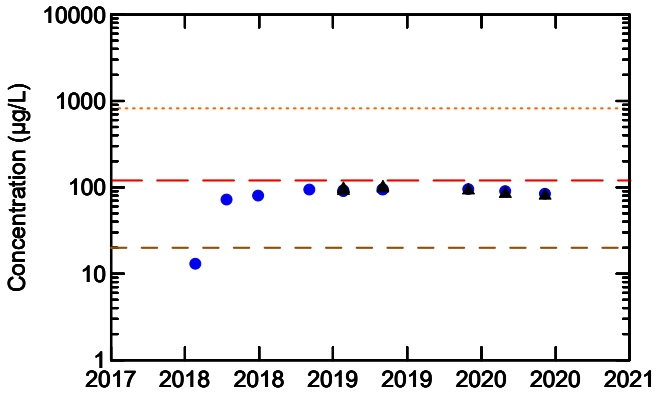
Non-detects are plotted at the reporting limit.

WELL MW-18C
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

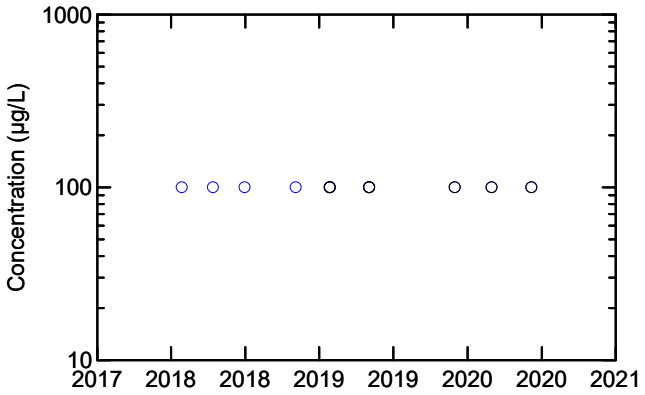
Manganese



Total: Probably Decreasing

Dissolved: No trend identified

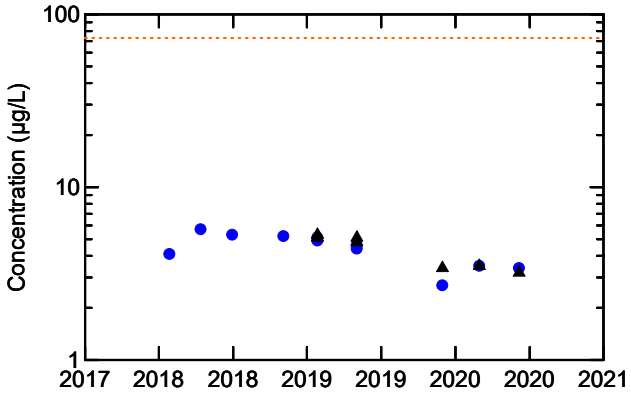
Phosphorus



Total: No detected results

Dissolved: No detected results

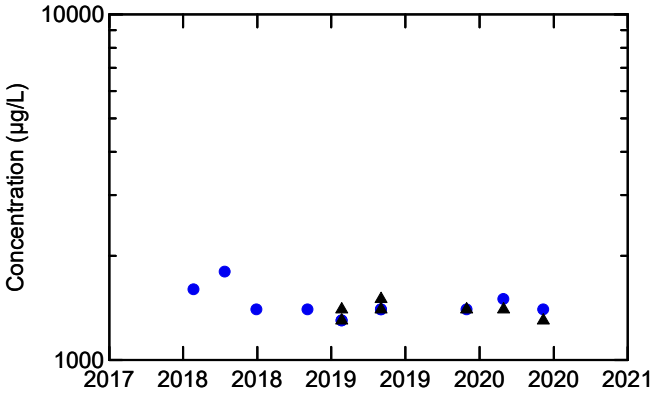
Molybdenum



Total: Probably Decreasing

Dissolved: Decreasing Trend

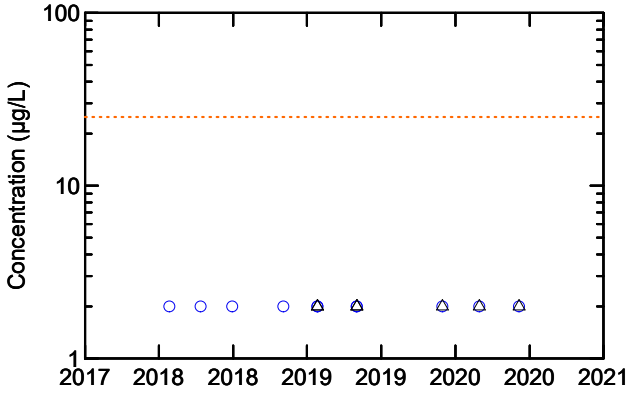
Potassium



Total: Stable

Dissolved: Stable

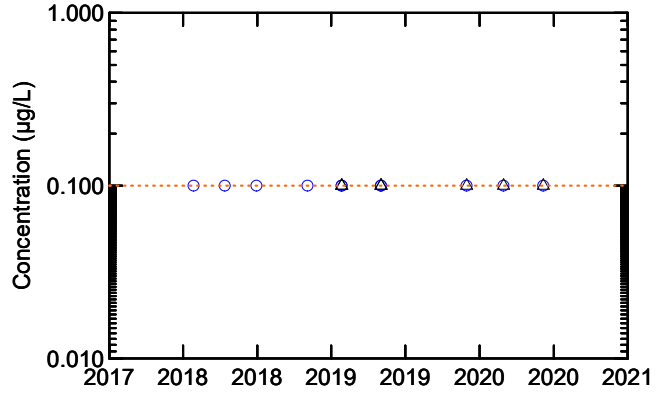
Nickel



Total: No detected results

Dissolved: No detected results

Silver



Total: No detected results

Dissolved: No detected results

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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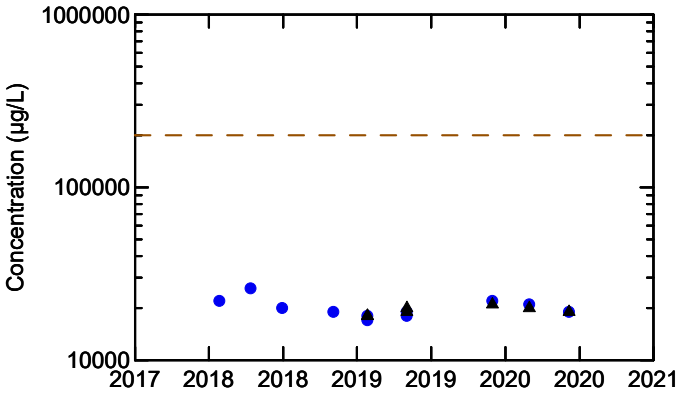
WELL MW-18C
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

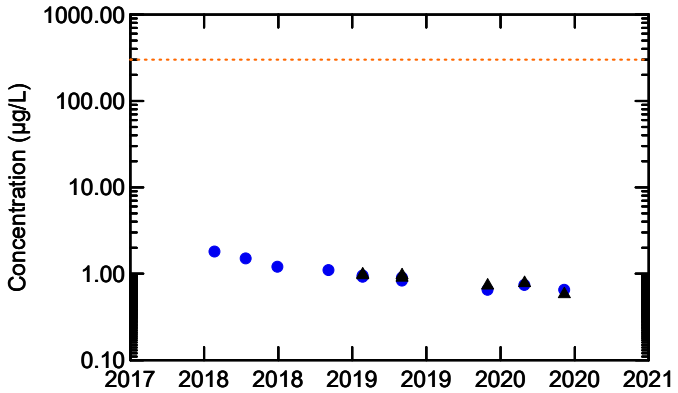
Sodium



Total: No trend identified

Dissolved: Stable

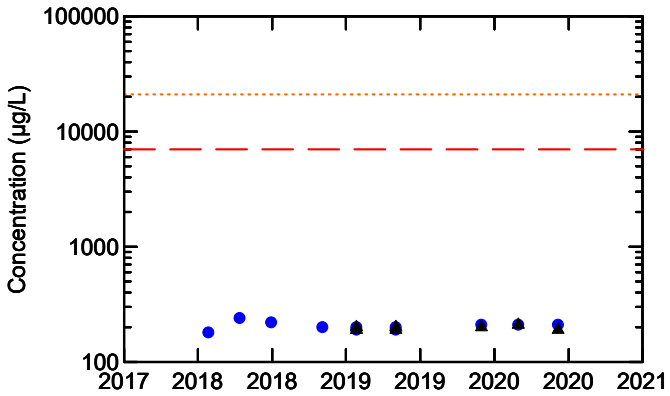
Uranium



Total: Probably Decreasing

Dissolved: Decreasing Trend

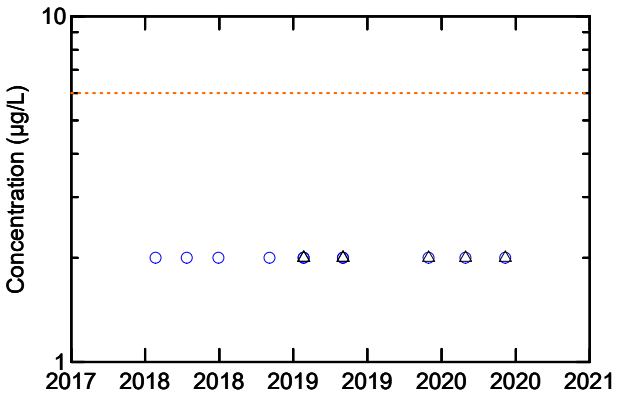
Strontium



Total: No trend identified

Dissolved: No trend identified

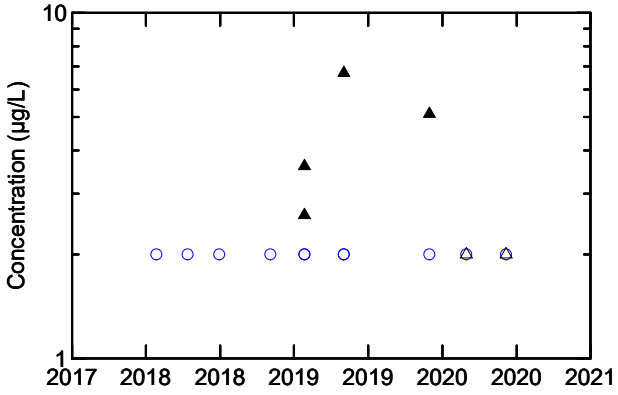
Vanadium



Total: No detected results

Dissolved: No detected results

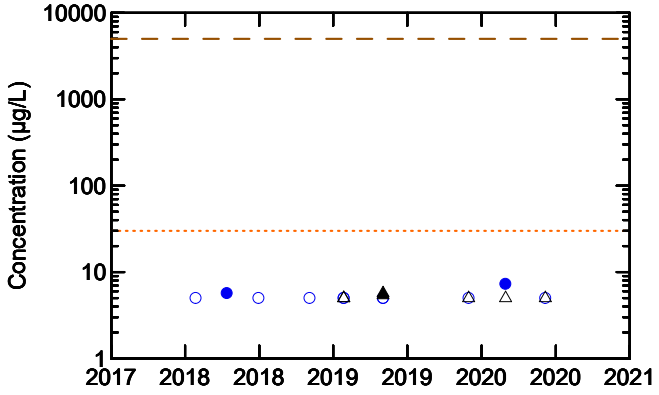
Titanium



Total: Stable

Dissolved: No detected results

Zinc



Total: Over 50% non-detects

Dissolved: Over 50% non-detects

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

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– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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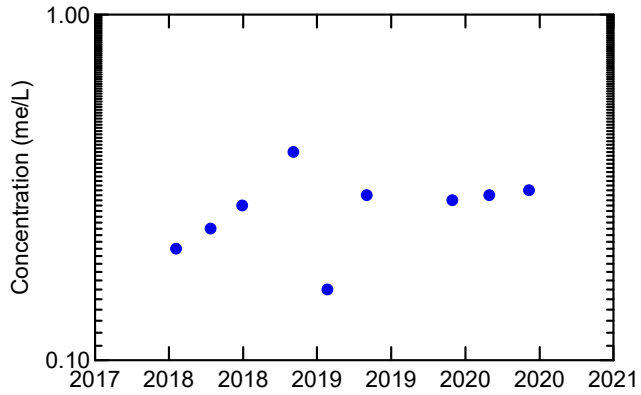
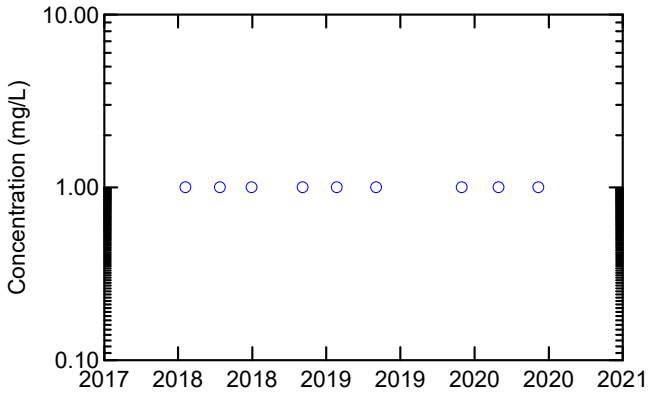
WELL MW-18C
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Anion Sum



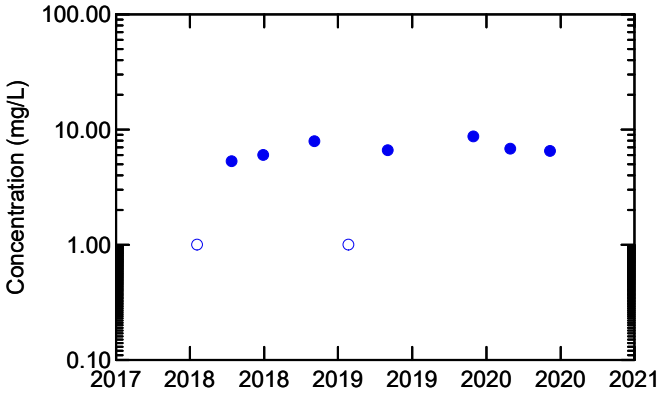
Probably Increasing

Carb. Alkalinity (calc. as CaCO3)



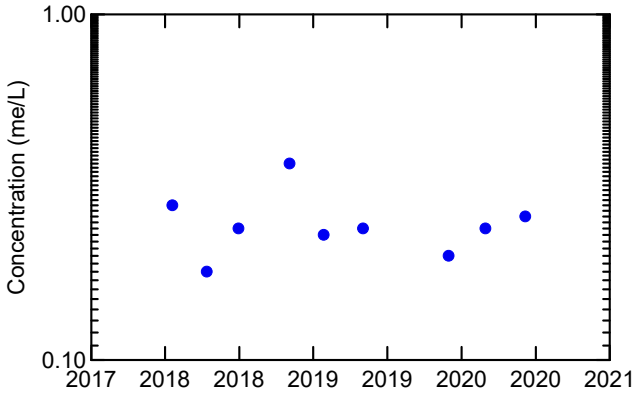
No detected results

Bicarb. Alkalinity (calc. as CaCO3)



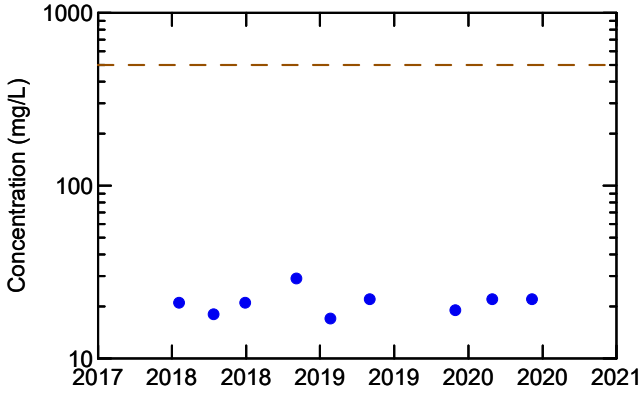
No trend identified

Cation Sum



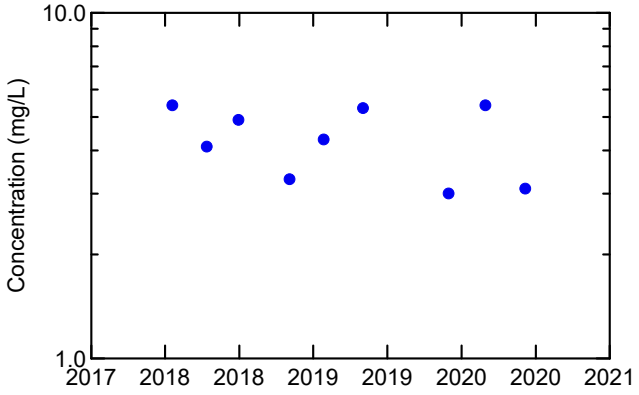
No trend identified

Calculated TDS



No trend identified

Hardness (CaCO3)



Stable

Legend:

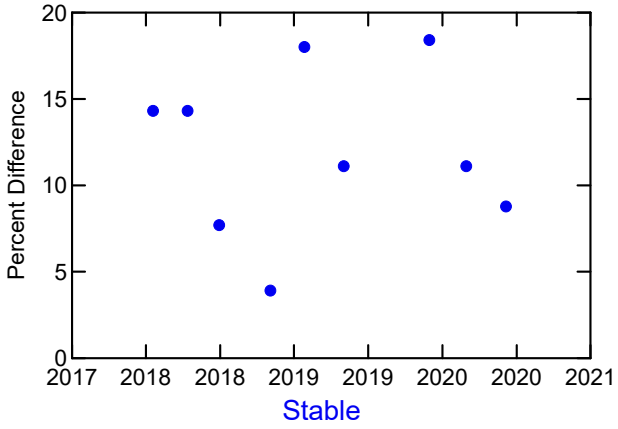
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines - Aesthetic

WELL MW-19A
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

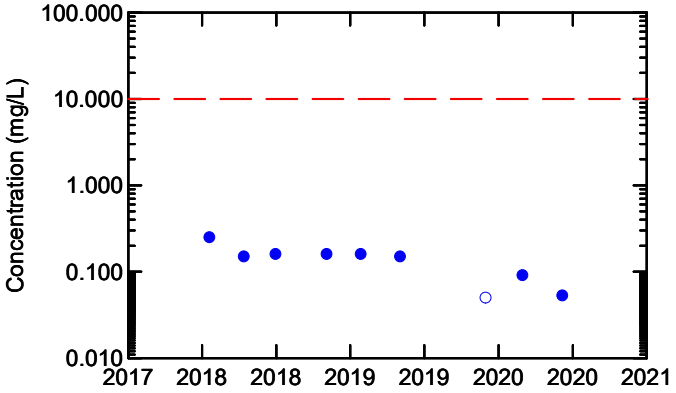
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Ion Balance



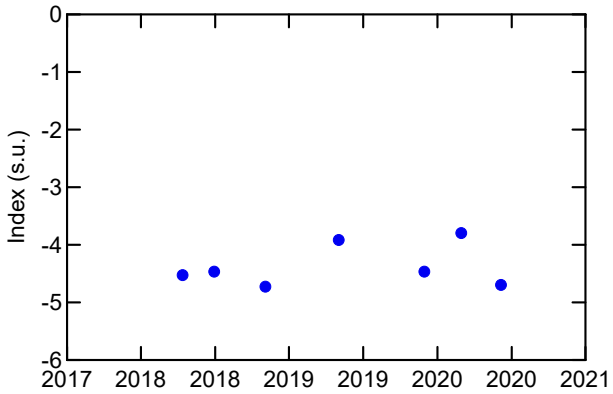
Stable

Nitrate



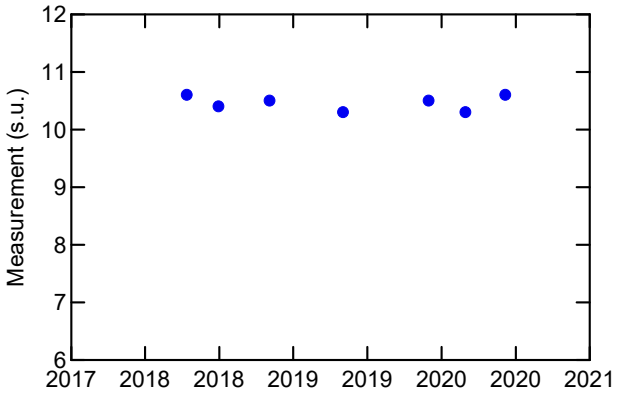
Decreasing Trend

Langelier Index (@ 20C)



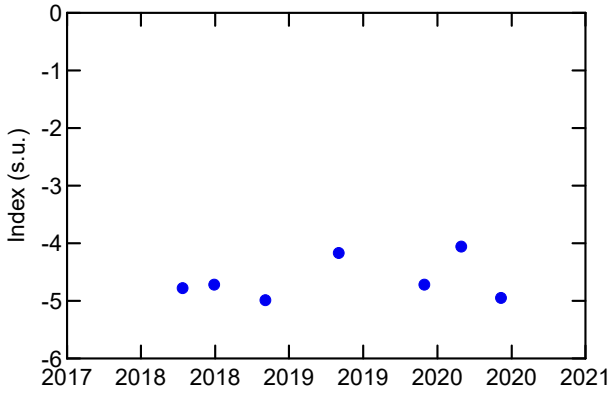
No trend identified

Saturation pH (@ 20C)



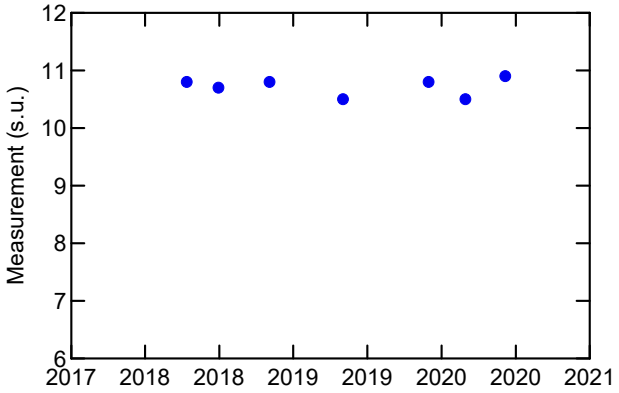
Stable

Langelier Index (@ 4C)



No trend identified

Saturation pH (@ 4C)



No trend identified

Legend:

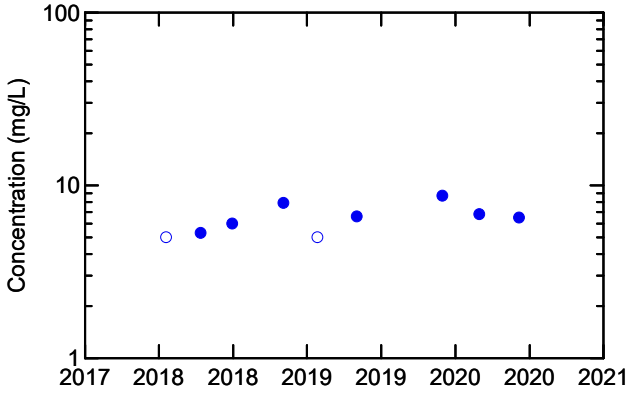
● Detected result ○ Non-Detect

— — Canadian Drinking Water Quality Guidelines: Maximum Acceptable

WELL MW-19A
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

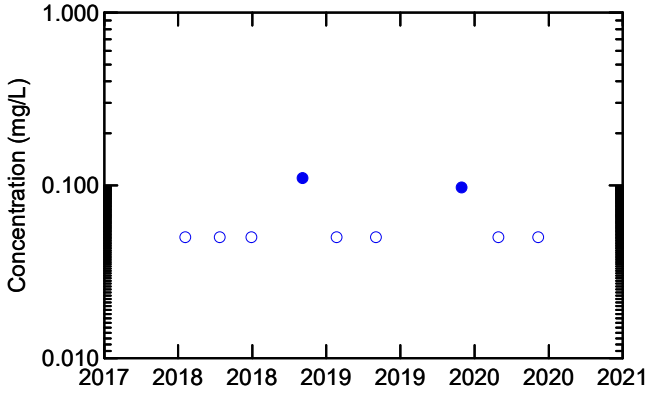
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Total Alkalinity (Total as CaCO3)



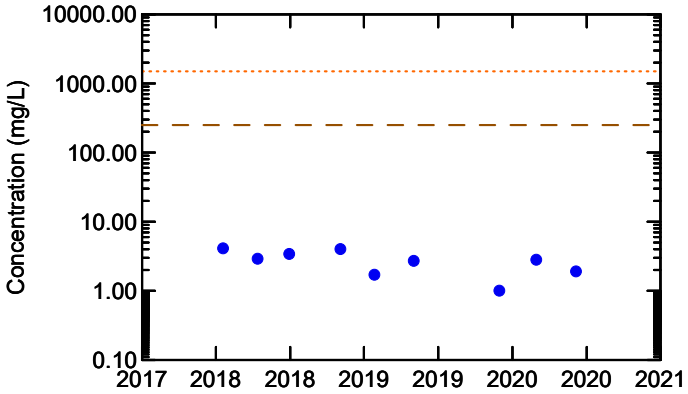
No trend identified

Nitrogen (Ammonia Nitrogen)



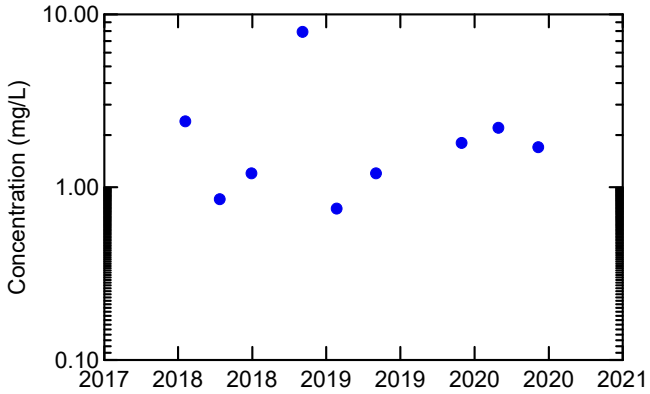
Over 50% non-detects

Dissolved Chloride



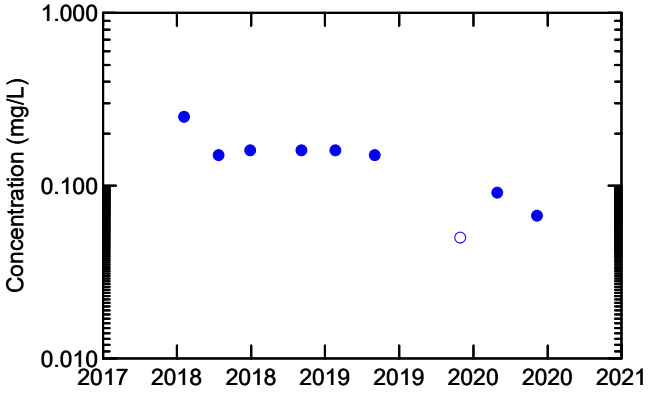
Probably Decreasing

Total Organic Carbon



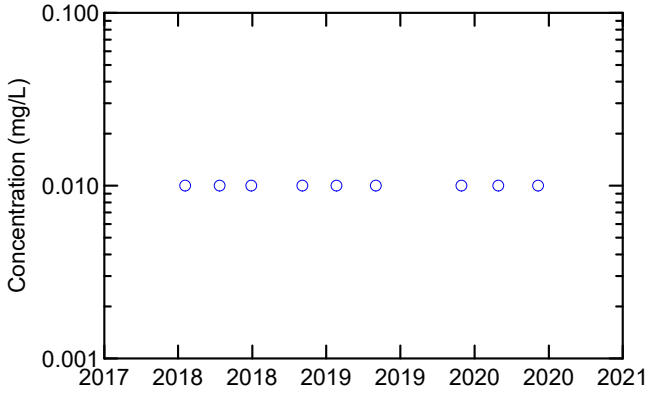
No trend identified

Nitrate + Nitrite



Decreasing Trend

Orthophosphate



No detected results

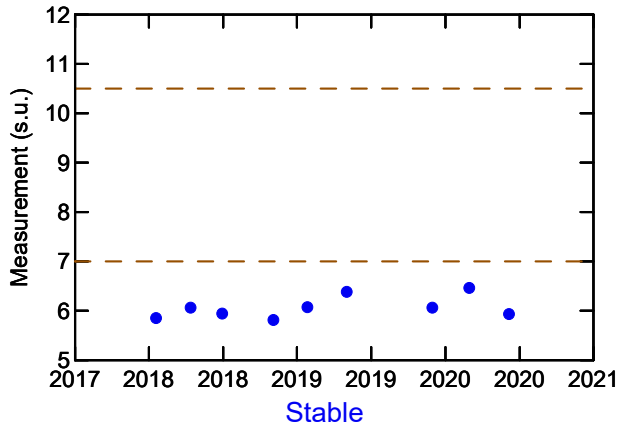
Legend:

- Detected result
- Non-Detect
- Nova Scotia (2014) Pathway-Specific Standard for Groundwater
- Canadian Drinking Water Quality Guideline: Aesthetic

WELL MW-19A
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

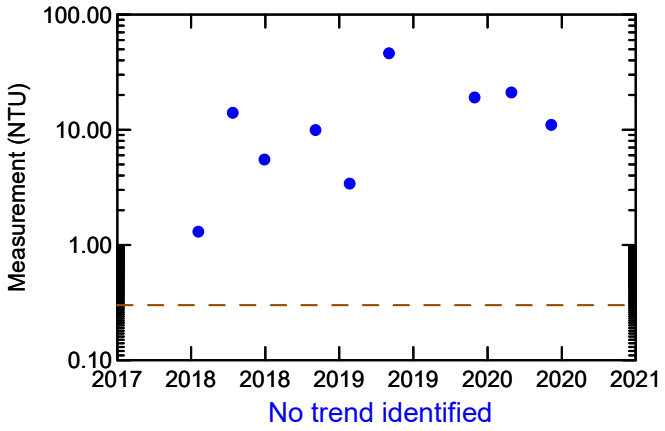
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

pH



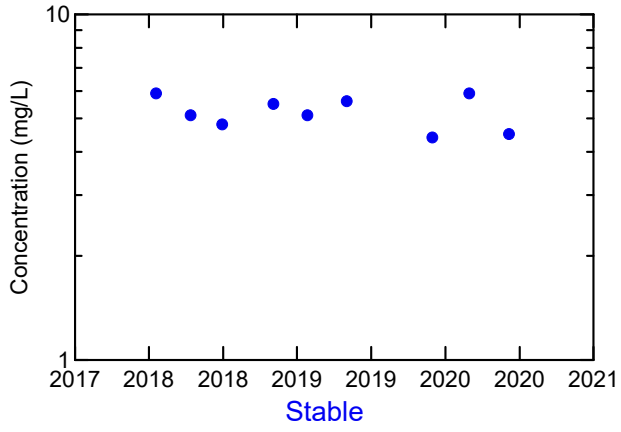
Stable

Turbidity



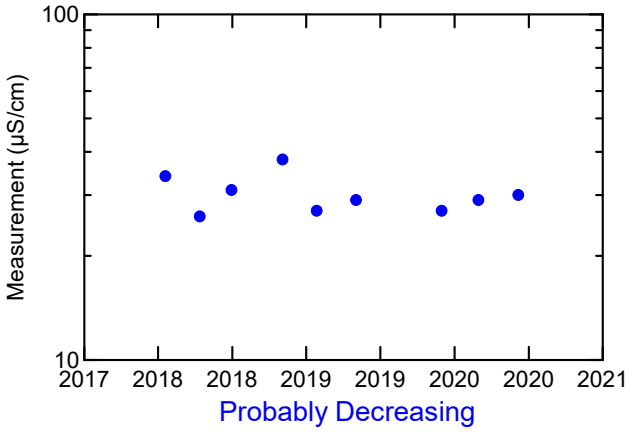
No trend identified

Reactive Silica (SiO2)



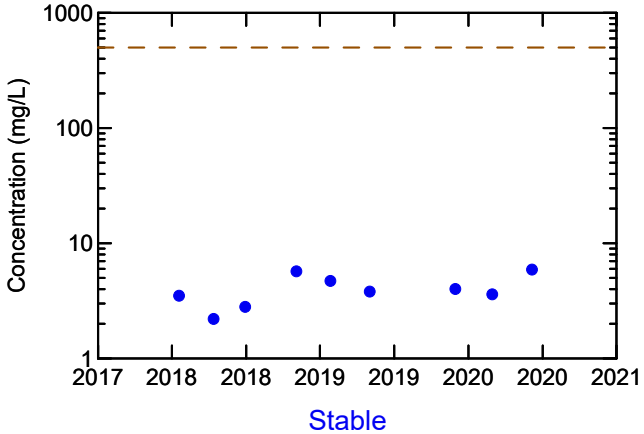
Stable

Conductivity



Probably Decreasing

Dissolved Sulphate (SO4)



Stable

Legend:

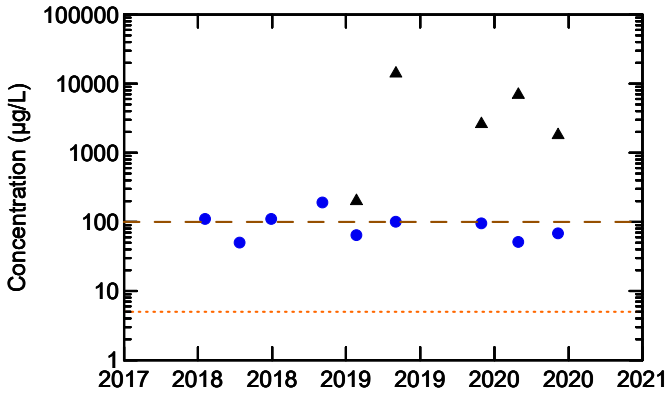
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines: Aesthetic

WELL MW-19A
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

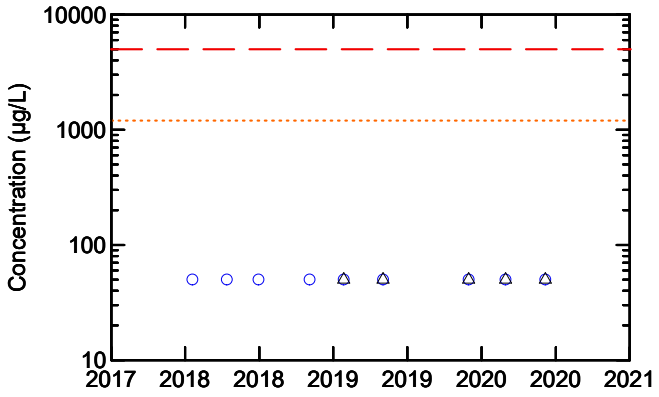
Aluminum



Total: No trend identified

Dissolved: Stable

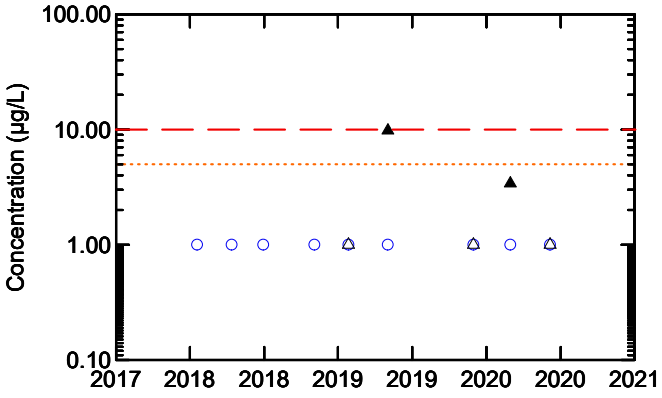
Boron



Total: No detected results

Dissolved: No detected results

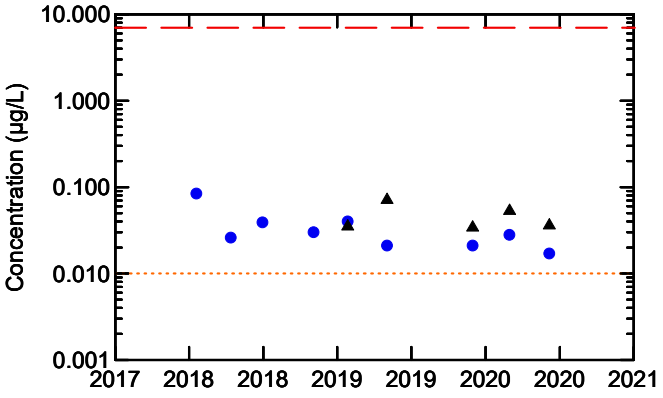
Arsenic



Total: Over 50% non-detects

Dissolved: No detected results

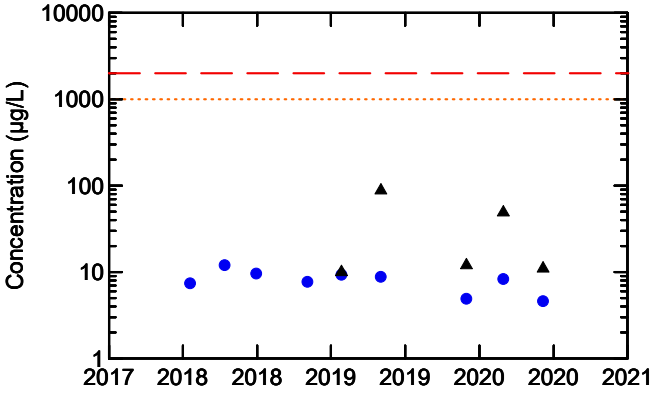
Cadmium



Total: Stable

Dissolved: Probably Decreasing

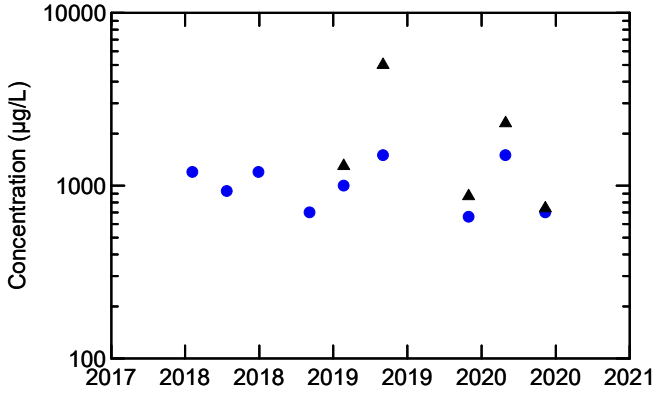
Barium



Total: No trend identified

Dissolved: Stable

Calcium



Total: Stable

Dissolved: Stable

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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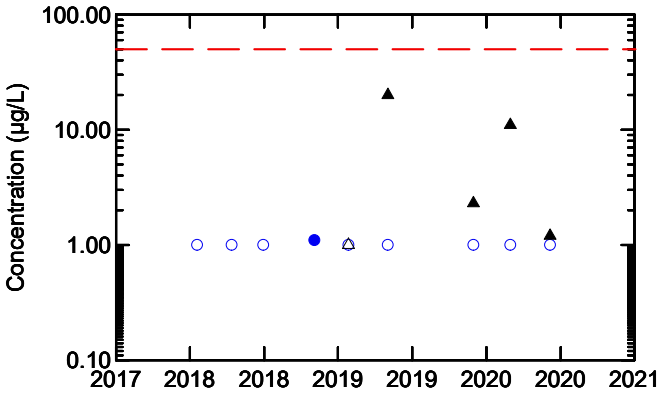
WELL MW-19A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

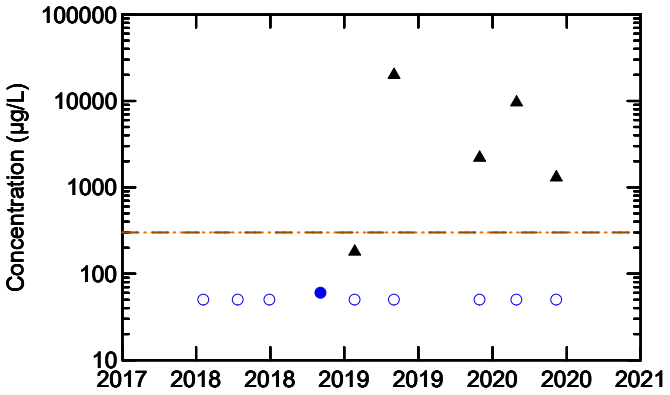
Chromium



Total: No trend identified

Dissolved: Over 50% non-detects

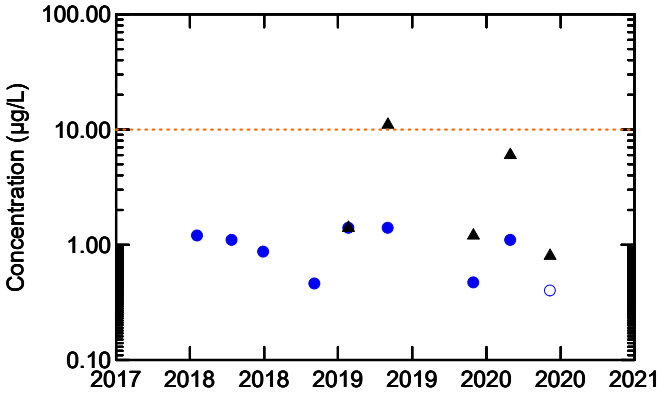
Iron



Total: No trend identified

Dissolved: Over 50% non-detects

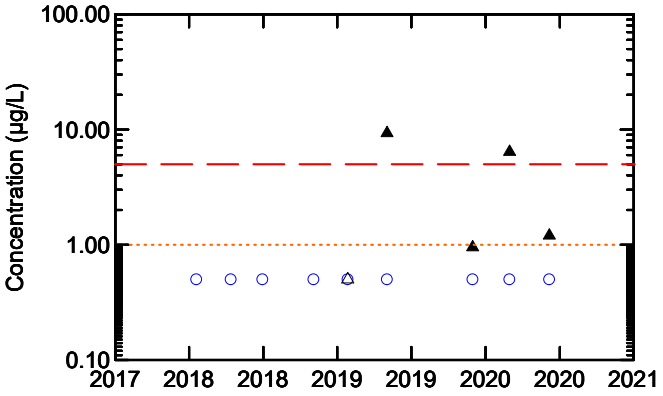
Cobalt



Total: No trend identified

Dissolved: Stable

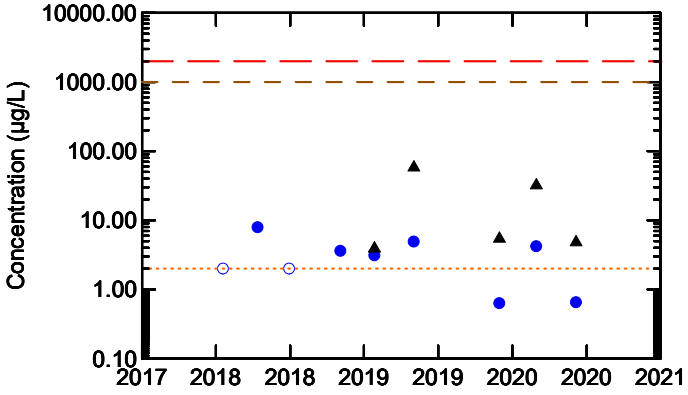
Lead



Total: No trend identified

Dissolved: No detected results

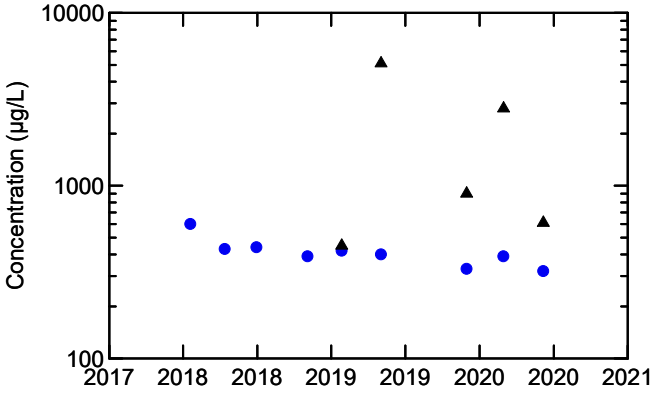
Copper



Total: No trend identified

Dissolved: Stable

Magnesium



Total: No trend identified

Dissolved: Decreasing Trend

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

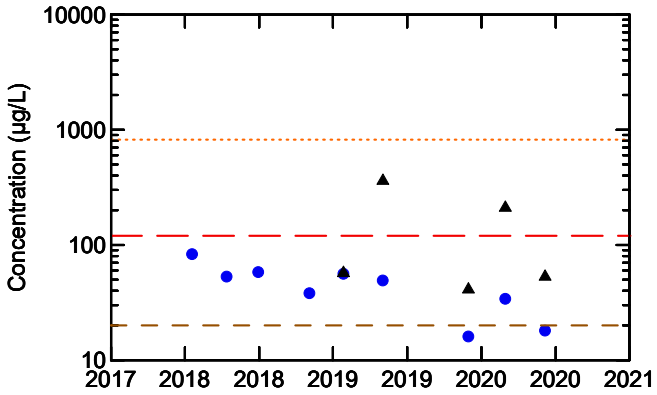
– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

WELL MW-19A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

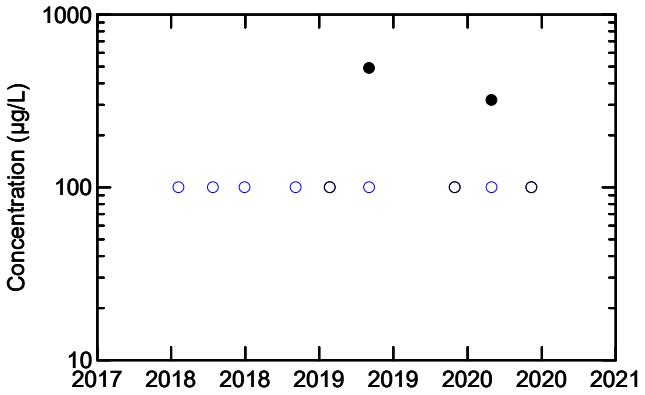
Manganese



Total: Stable

Dissolved: Decreasing Trend

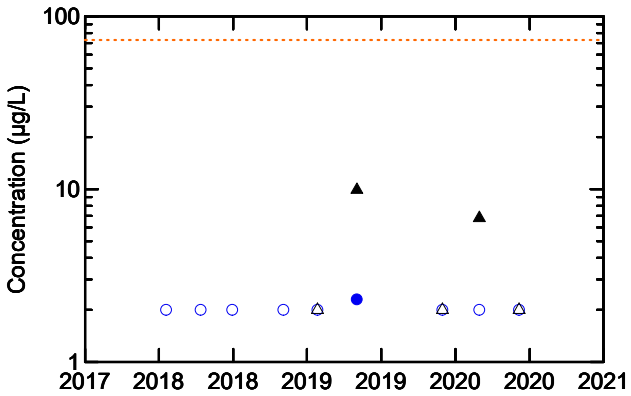
Phosphorus



Total: Over 50% non-detects

Dissolved: No detected results

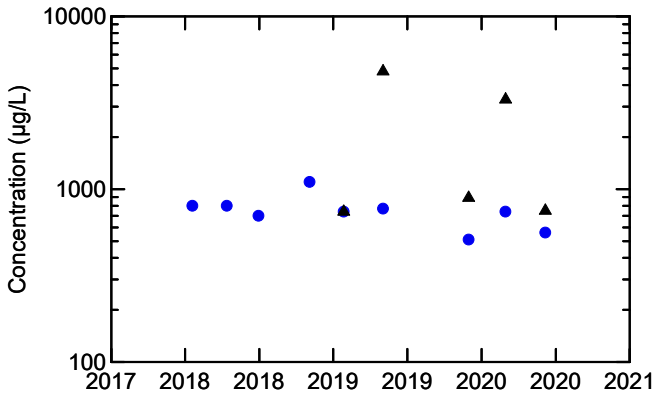
Molybdenum



Total: Over 50% non-detects

Dissolved: Over 50% non-detects

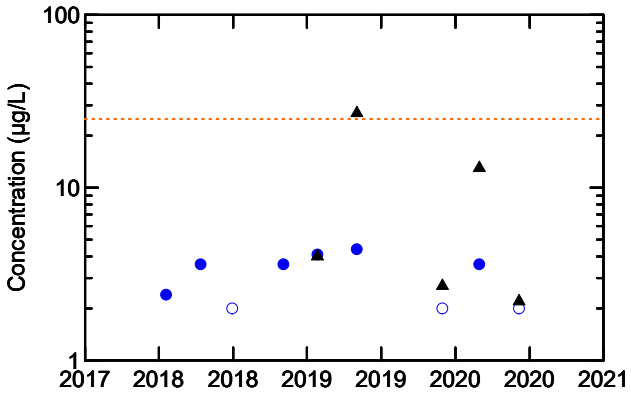
Potassium



Total: Stable

Dissolved: Stable

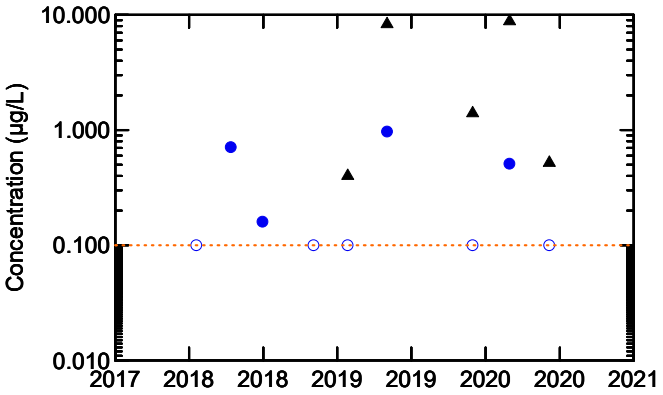
Nickel



Total: No trend identified

Dissolved: Stable

Silver



Total: No trend identified

Dissolved: Over 50% non-detects

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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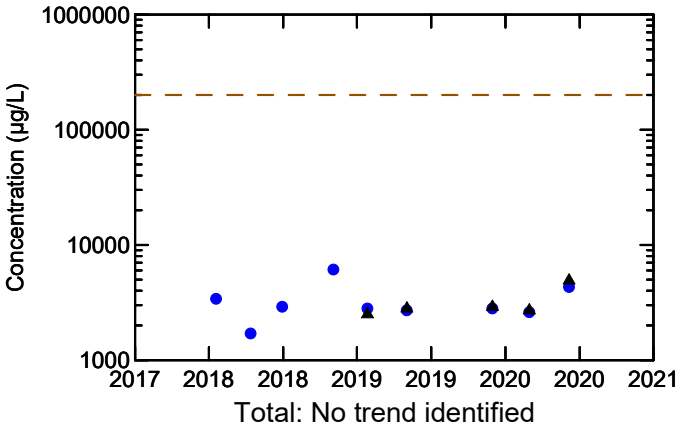
WELL MW-19A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

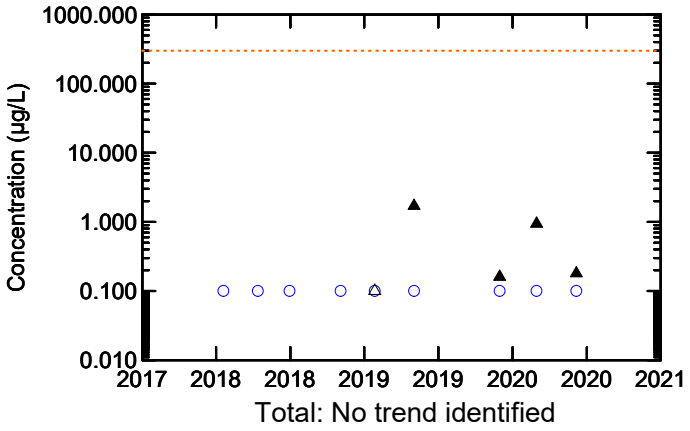
Sodium



Total: No trend identified

Dissolved: Stable

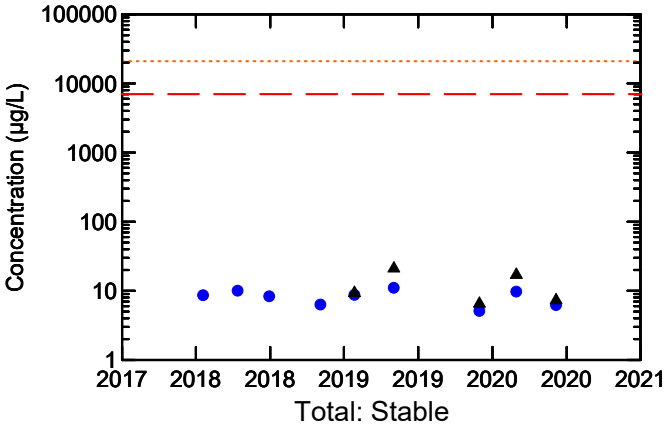
Uranium



Total: No trend identified

Dissolved: No detected results

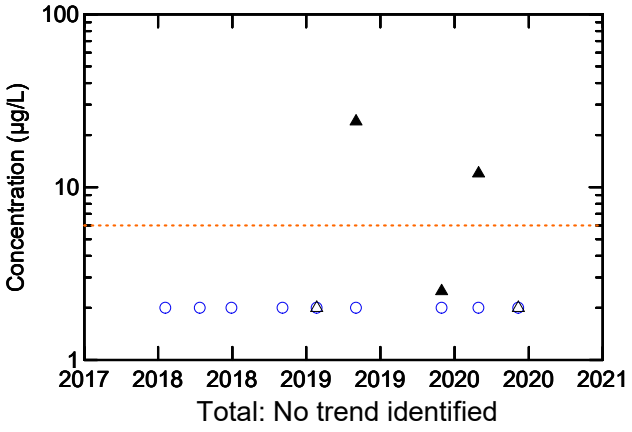
Strontium



Total: Stable

Dissolved: Stable

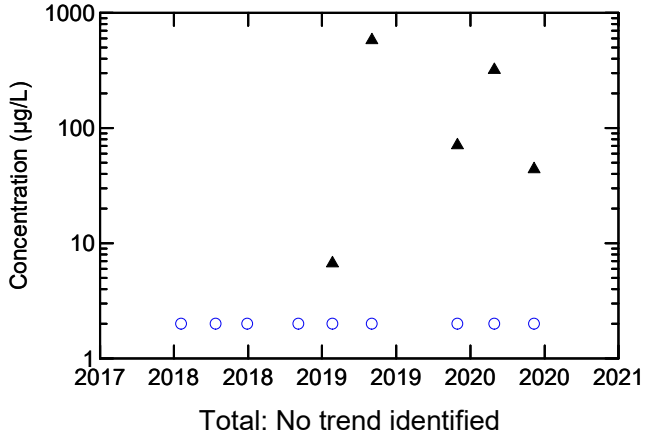
Vanadium



Total: No trend identified

Dissolved: No detected results

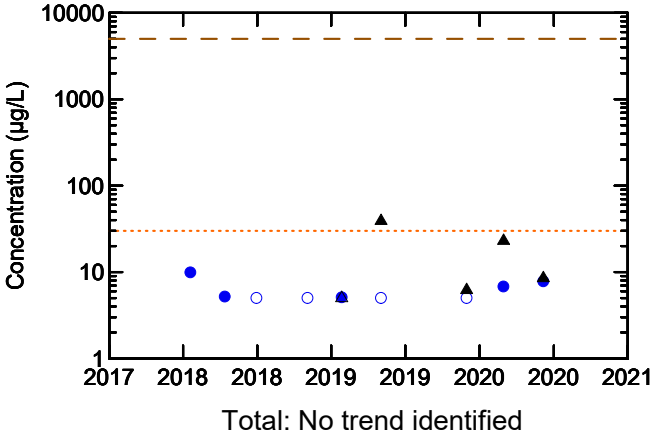
Titanium



Total: No trend identified

Dissolved: No detected results

Zinc



Total: No trend identified

Dissolved: Stable

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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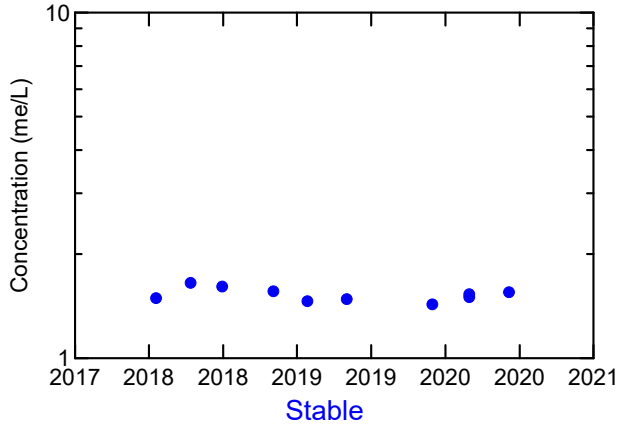
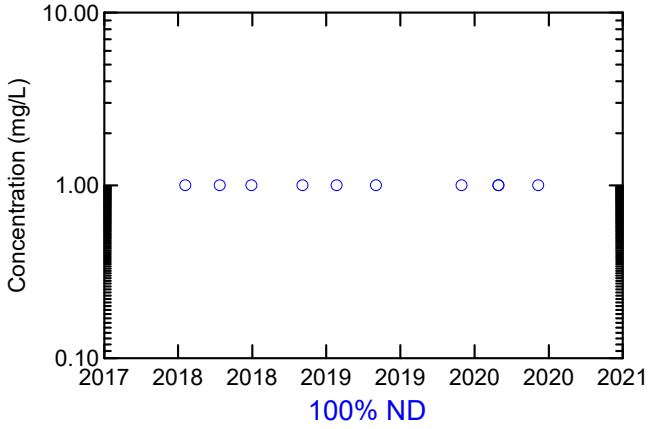
WELL MW-19A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Anion Sum



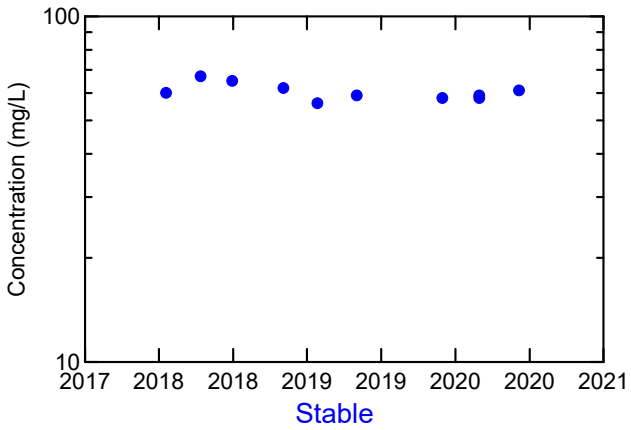
Stable

Carb. Alkalinity (calc. as CaCO3)



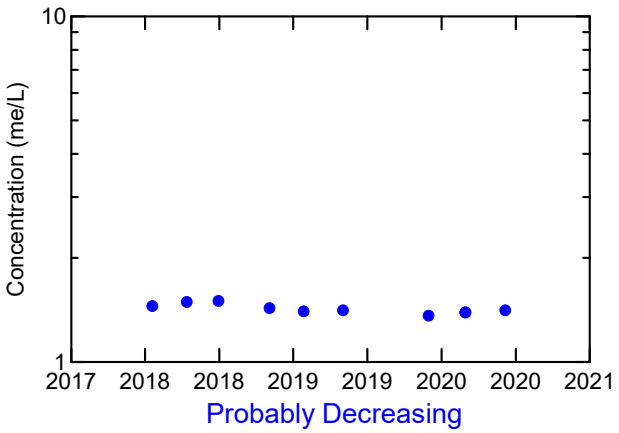
100% ND

Bicarb. Alkalinity (calc. as CaCO3)



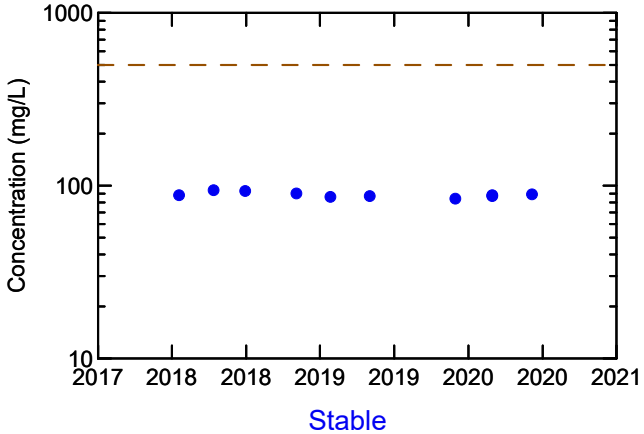
Stable

Cation Sum



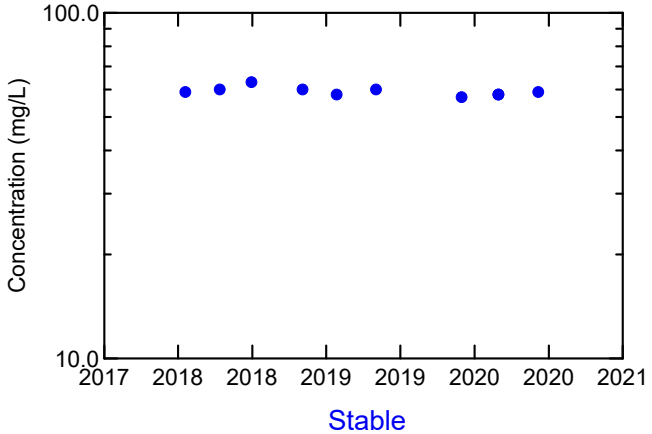
Probably Decreasing

Calculated TDS



Stable

Hardness (CaCO3)



Stable

Legend:

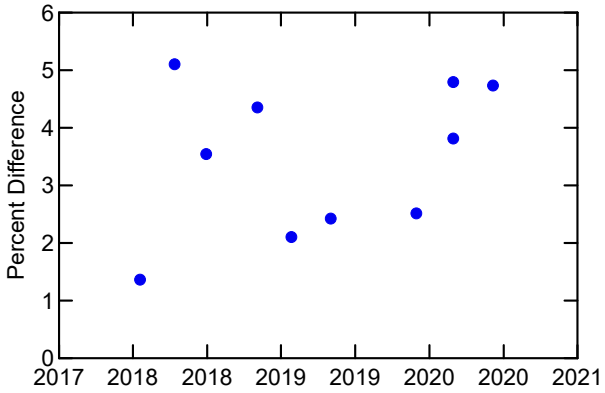
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines - Aesthetic

WELL MW-19B
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

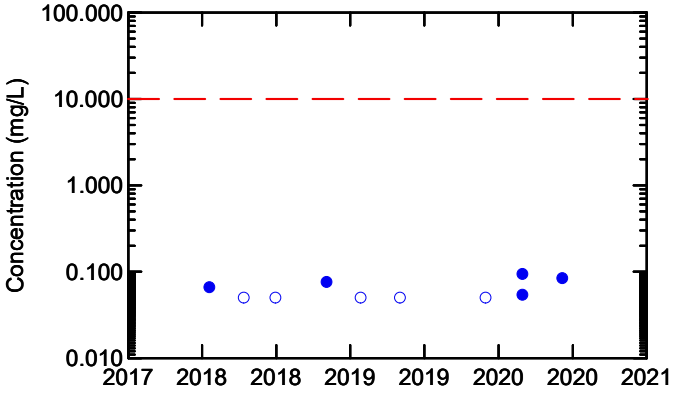
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Ion Balance



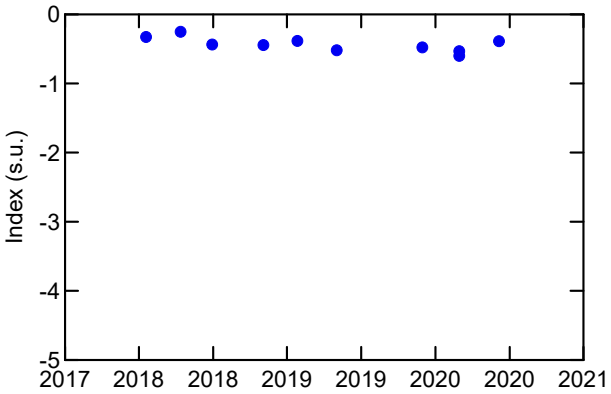
No trend identified

Nitrate



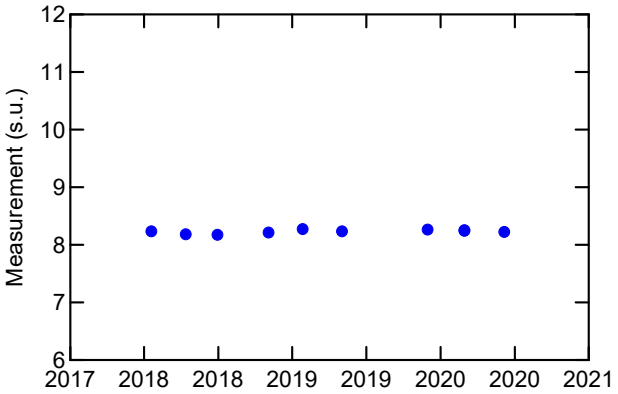
>50% ND

Langelier Index (@ 20C)



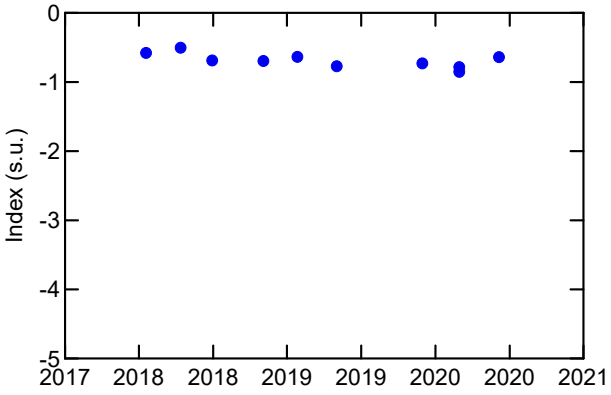
Probably Decreasing

Saturation pH (@ 20C)



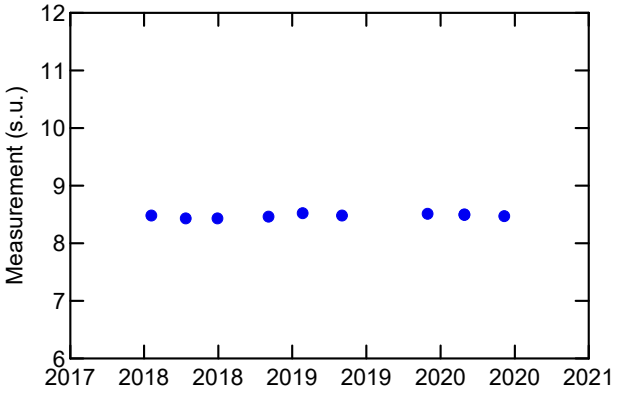
No trend identified

Langelier Index (@ 4C)



Probably Decreasing

Saturation pH (@ 4C)



No trend identified

Legend:

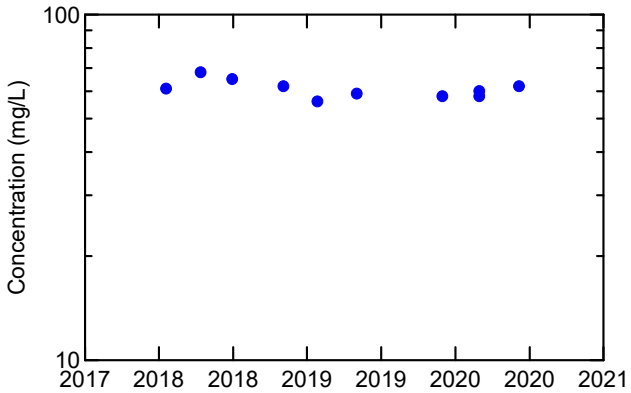
● Detected result ○ Non-Detect

— — Canadian Drinking Water Quality Guidelines: Maximum Acceptable

WELL MW-19B
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

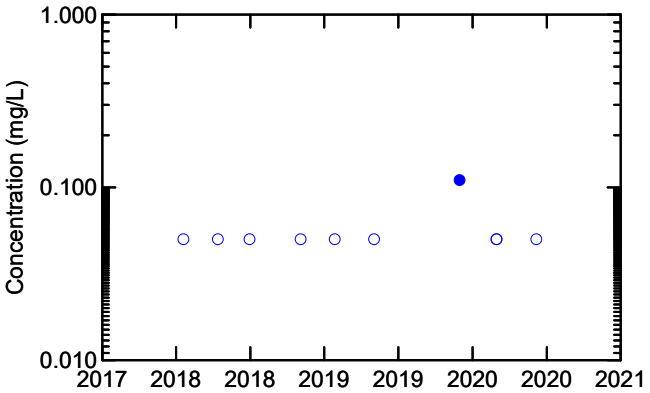
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Total Alkalinity (Total as CaCO3)



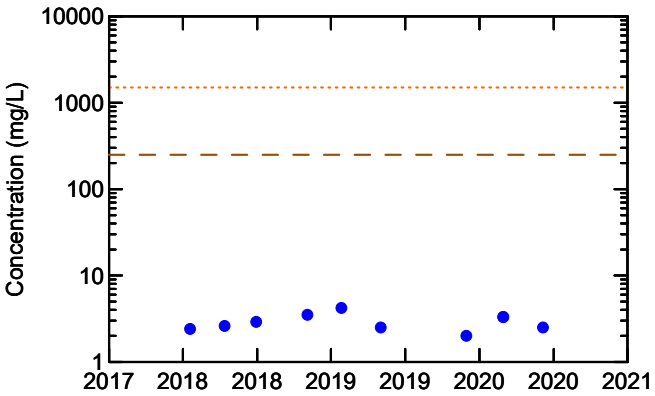
Stable

Nitrogen (Ammonia Nitrogen)



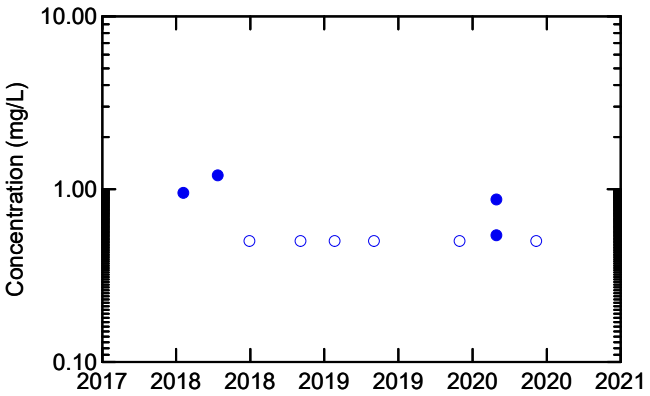
Over 50% non-detects

Dissolved Chloride



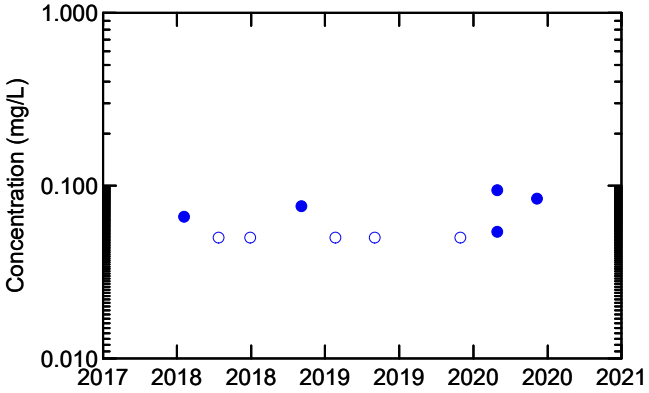
No trend identified

Total Organic Carbon



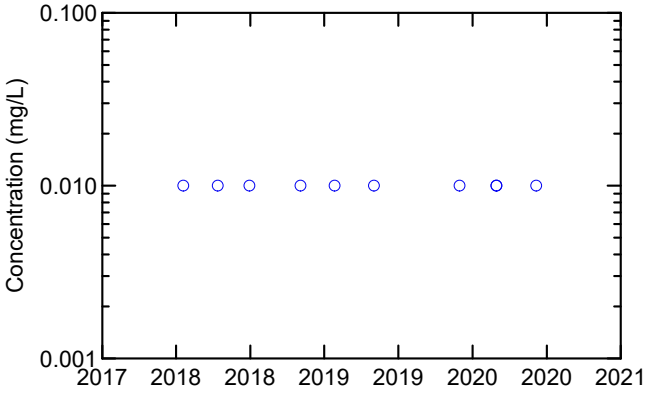
Over 50% non-detects

Nitrate + Nitrite



Over 50% non-detects

Orthophosphate



No detected results

Legend:

● Detected result ○ Non-Detect

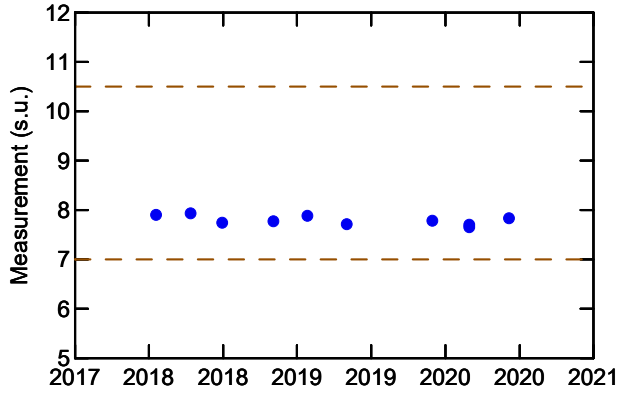
····· Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — - Canadian Drinking Water Quality Guideline: Aesthetic

WELL MW-19B
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

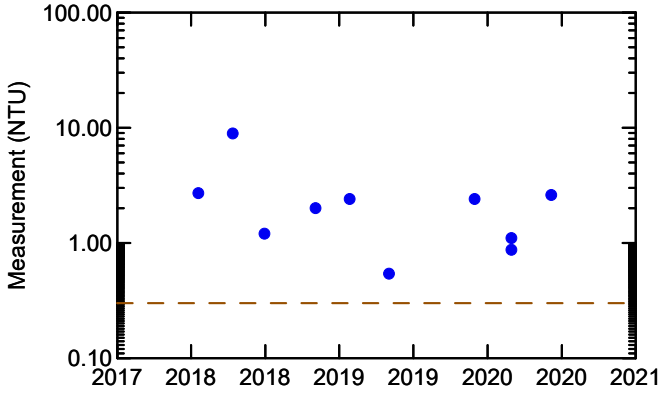
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

pH



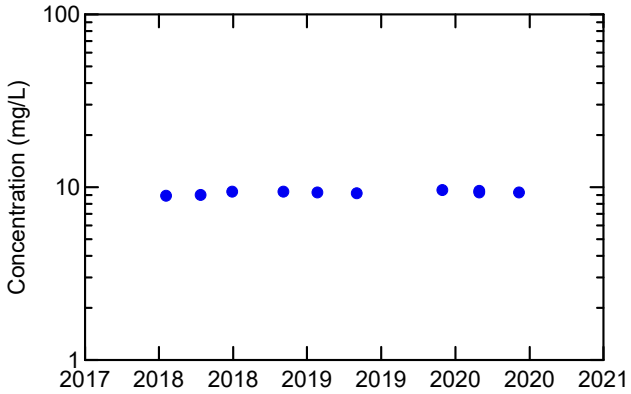
Stable

Turbidity



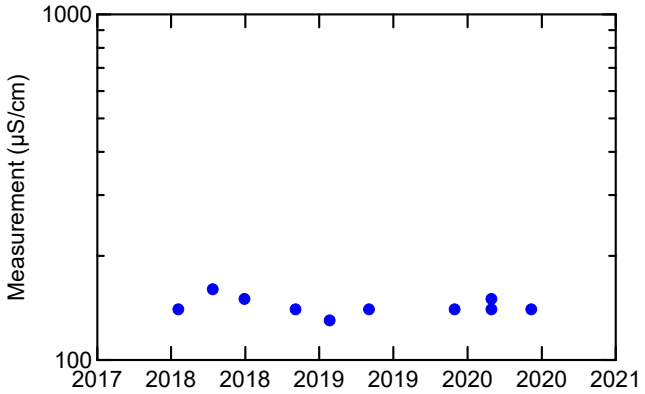
No trend identified

Reactive Silica (SiO2)



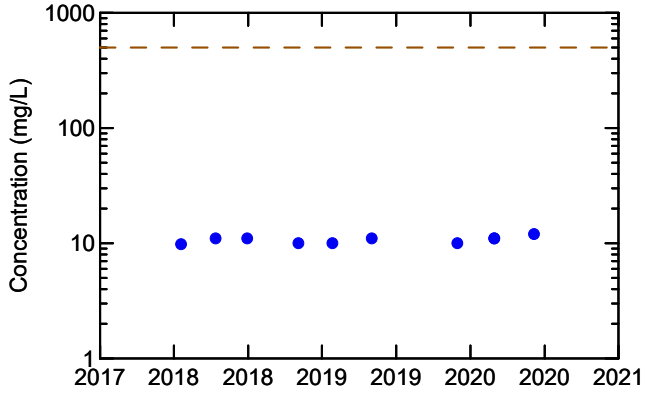
Stable

Conductivity



Probably Decreasing

Dissolved Sulphate (SO4)



Stable

Legend:

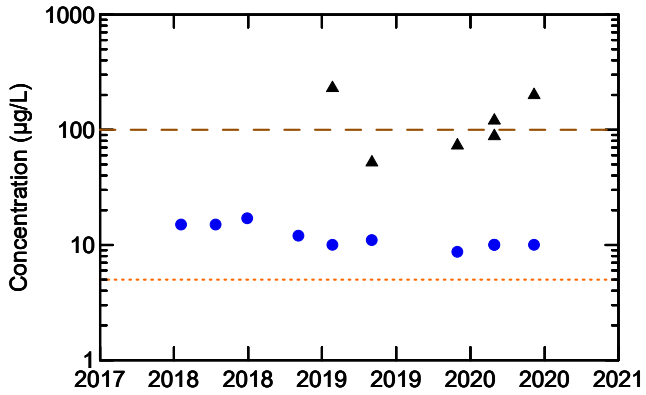
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines: Aesthetic

WELL MW-19B
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

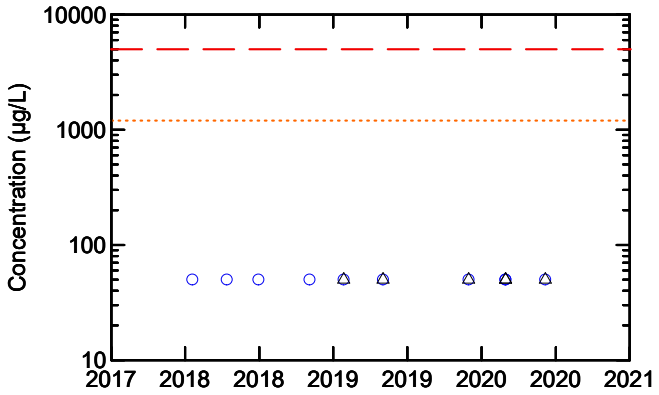
Aluminum



Total: No trend identified

Dissolved: Probably Decreasing

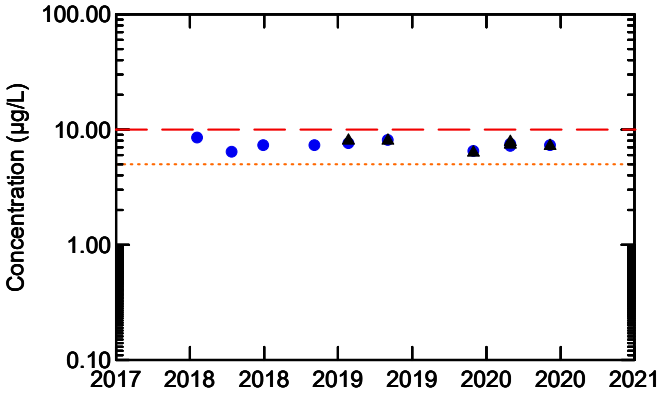
Boron



Total: No detected results

Dissolved: No detected results

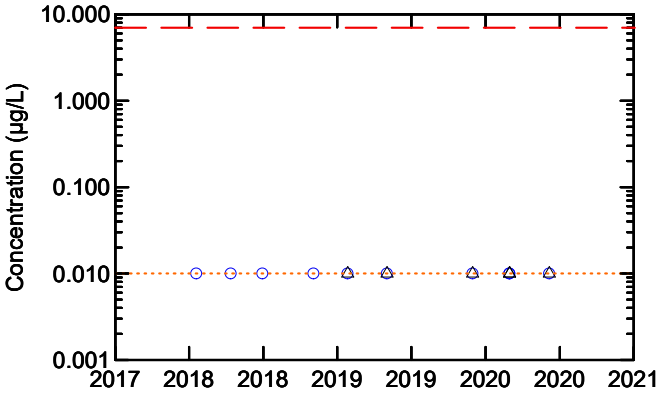
Arsenic



Total: Stable

Dissolved: Stable

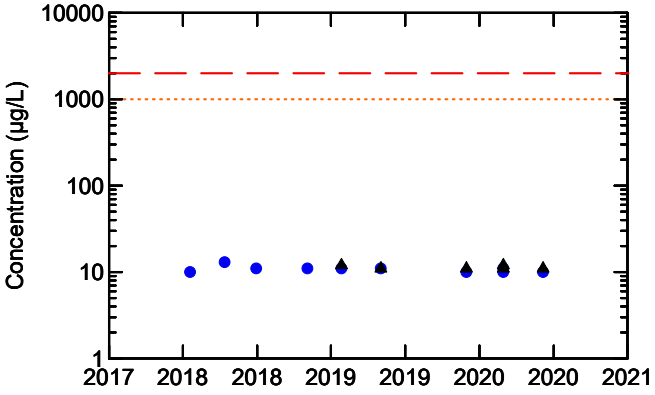
Cadmium



Total: No detected results

Dissolved: No detected results

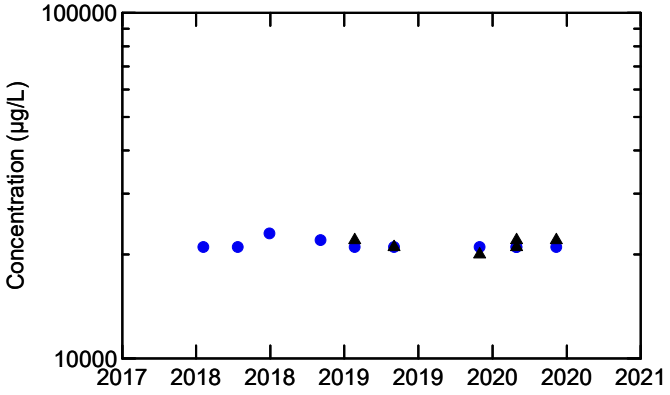
Barium



Total: Stable

Dissolved: Stable

Calcium



Total: No trend identified

Dissolved: Stable

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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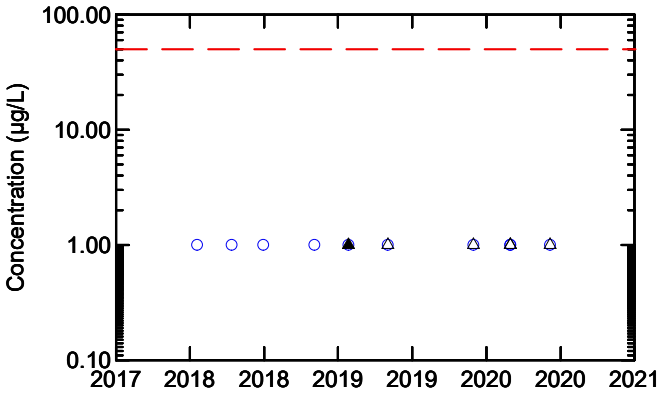
Non-detects are plotted at the reporting limit.

WELL MW-19B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

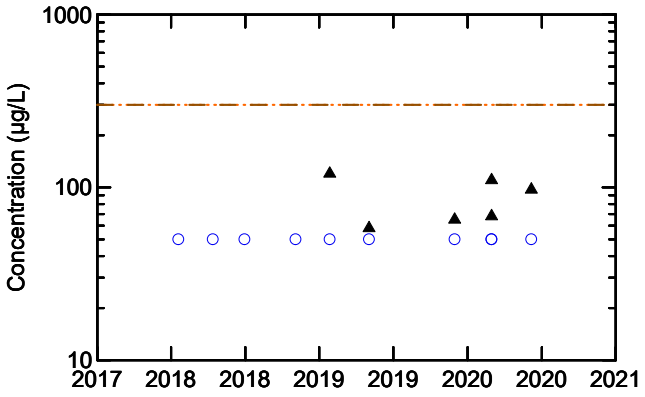
Chromium



Total: >50% ND

Dissolved: 100% ND

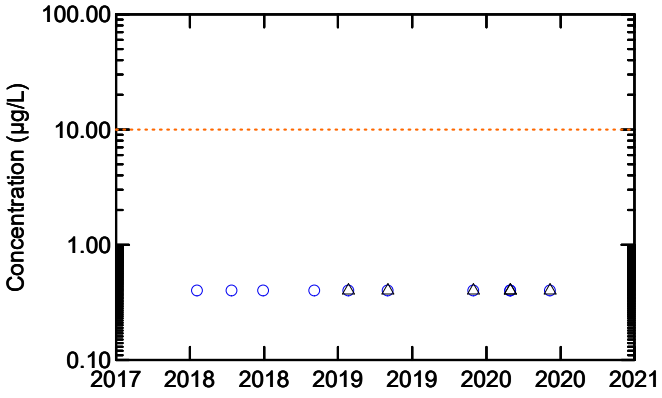
Iron



Total: No trend identified

Dissolved: 100% ND

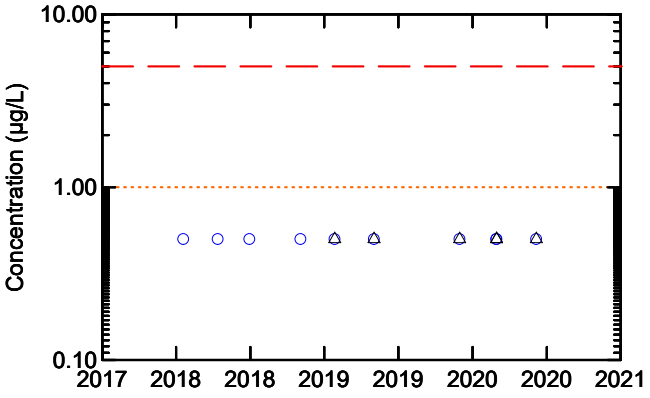
Cobalt



Total: 100% ND

Dissolved: 100% ND

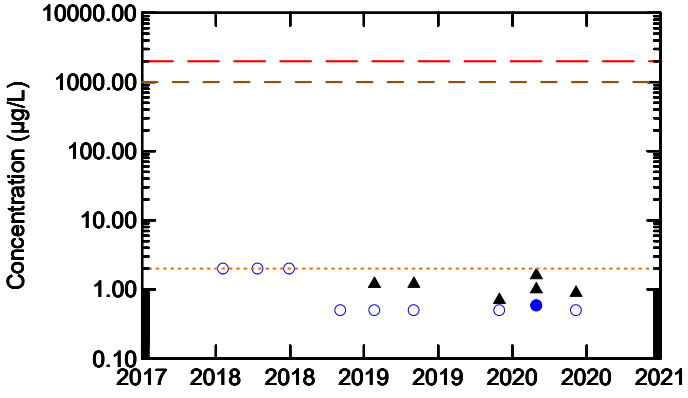
Lead



Total: 100% ND

Dissolved: 100% ND

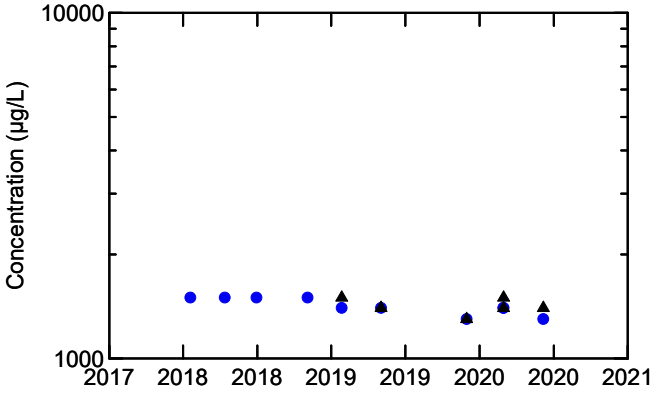
Copper



Total: Stable

Dissolved: >50% ND

Magnesium



Total: Stable

Dissolved: Decreasing Trend

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

Nova Scotia (2014) Pathway-Specific Standard for Groundwater

Canadian Drinking Water Quality Guideline: Maximum Acceptable

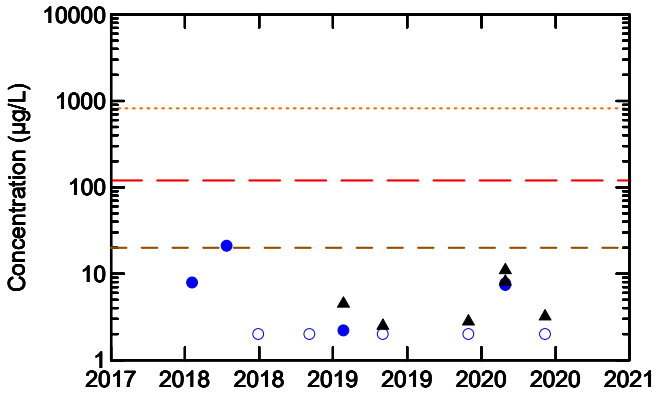
Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

WELL MW-19B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

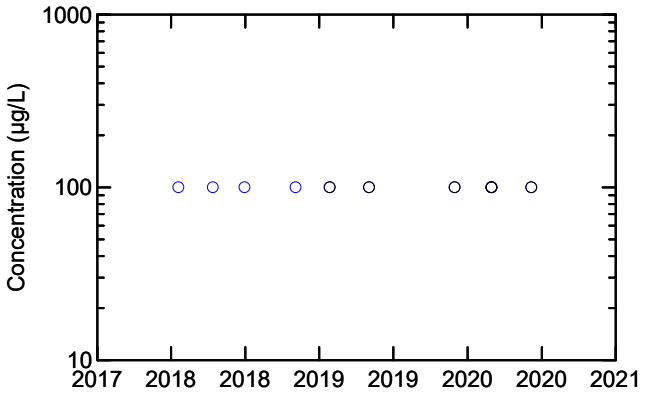
Manganese



Total: No trend identified

Dissolved: >50% ND

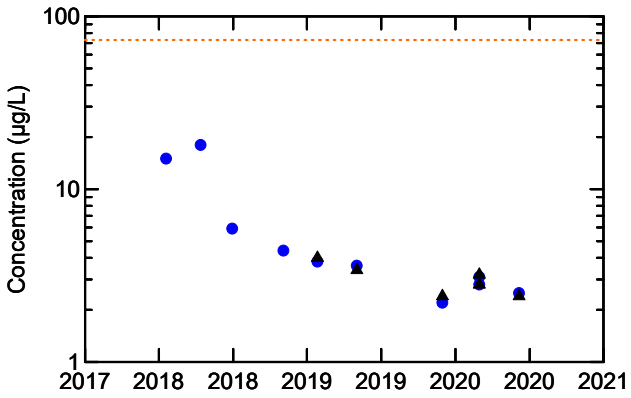
Phosphorus



Total: 100% ND

Dissolved: 100% ND

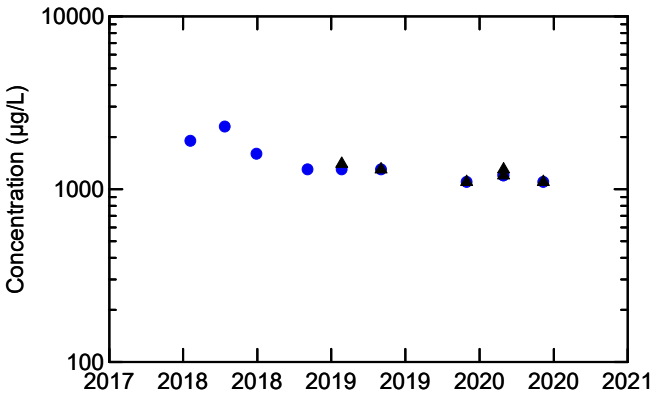
Molybdenum



Total: Stable

Dissolved: Decreasing Trend

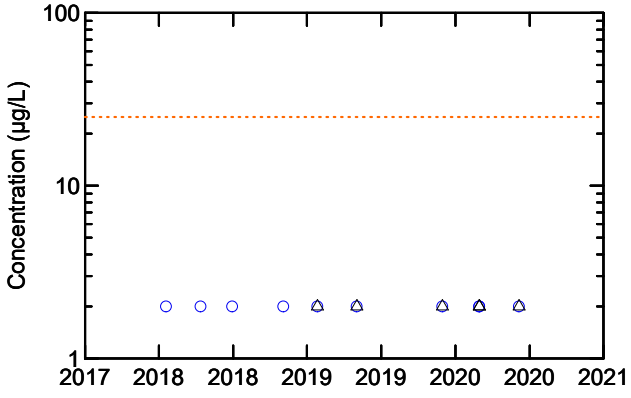
Potassium



Total: Stable

Dissolved: Decreasing Trend

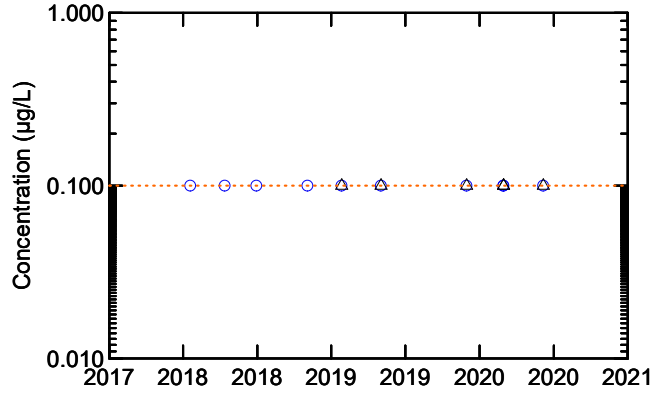
Nickel



Total: 100% ND

Dissolved: 100% ND

Silver



Total: 100% ND

Dissolved: 100% ND

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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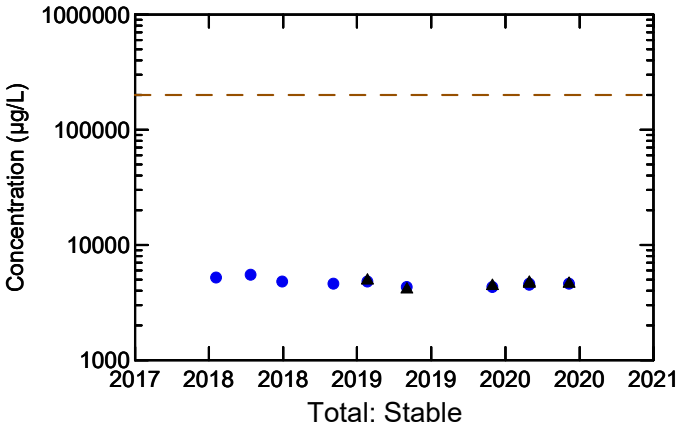
WELL MW-19B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

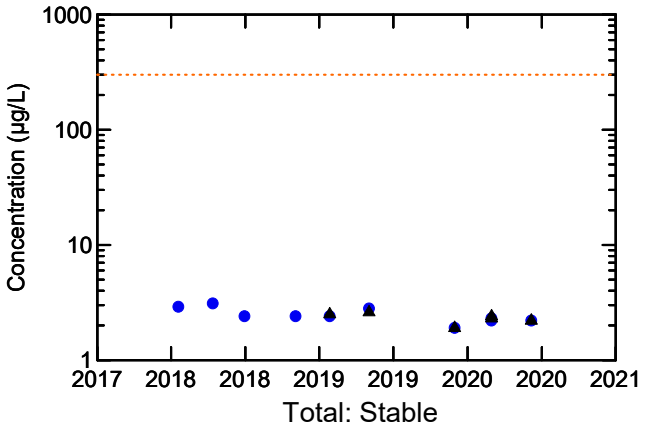
Sodium



Total: Stable

Dissolved: Probably Decreasing

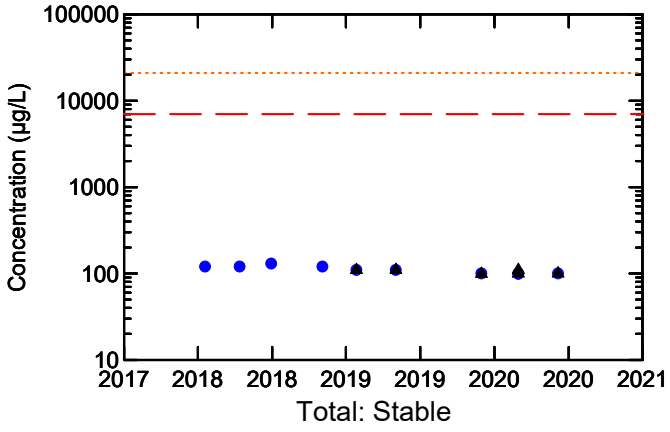
Uranium



Total: Stable

Dissolved: Decreasing Trend

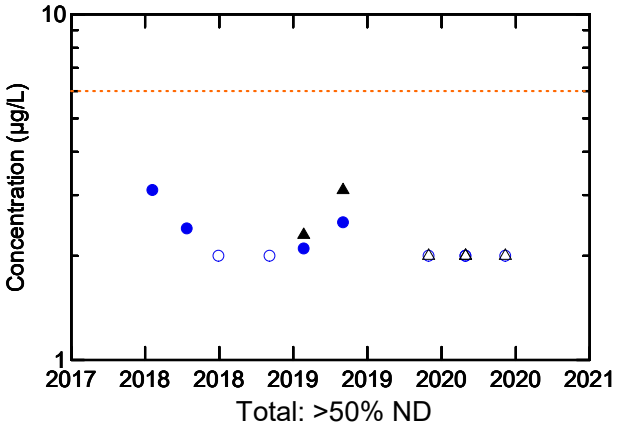
Strontium



Total: Stable

Dissolved: Decreasing Trend

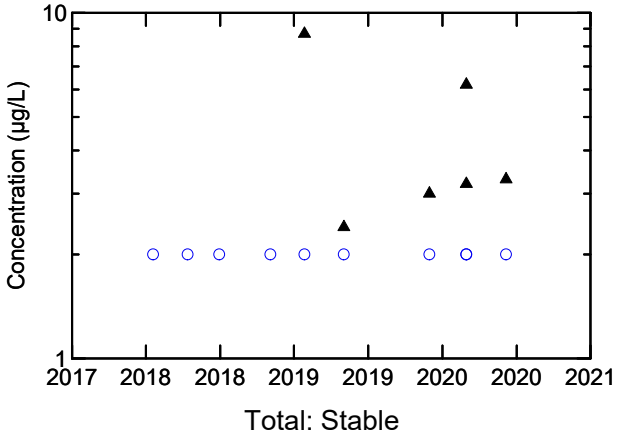
Vanadium



Total: >50% ND

Dissolved: >50% ND

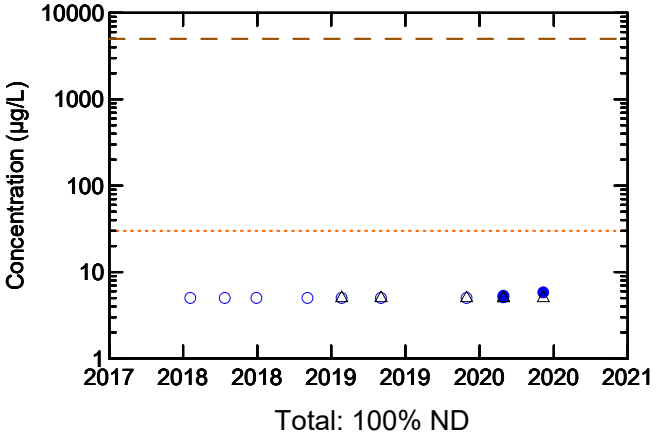
Titanium



Total: Stable

Dissolved: 100% ND

Zinc



Total: 100% ND

Dissolved: >50% ND

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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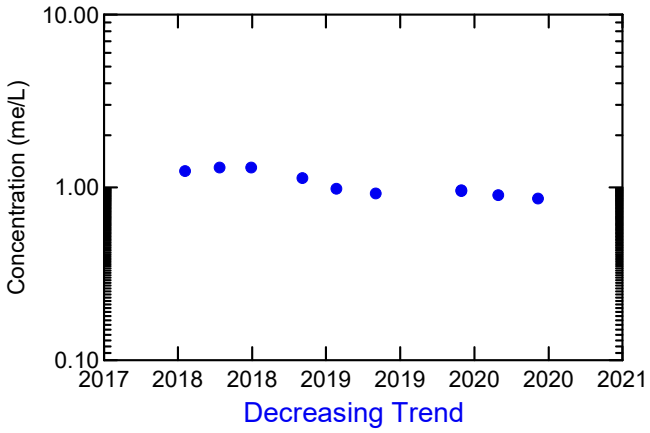
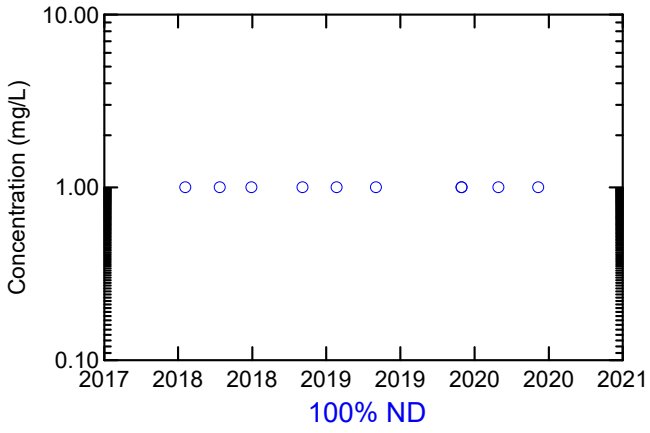
WELL MW-19B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Anion Sum



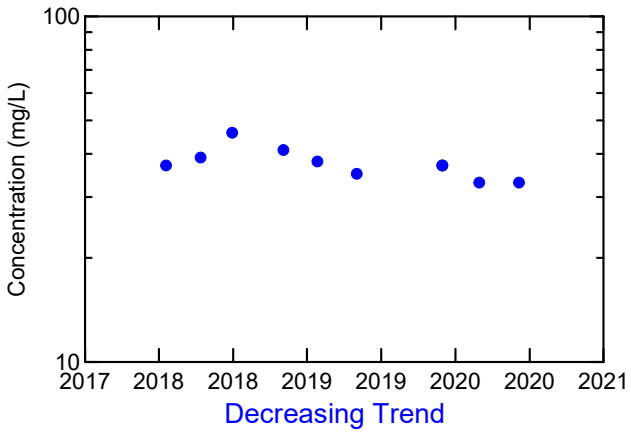
Decreasing Trend

Carb. Alkalinity (calc. as CaCO3)



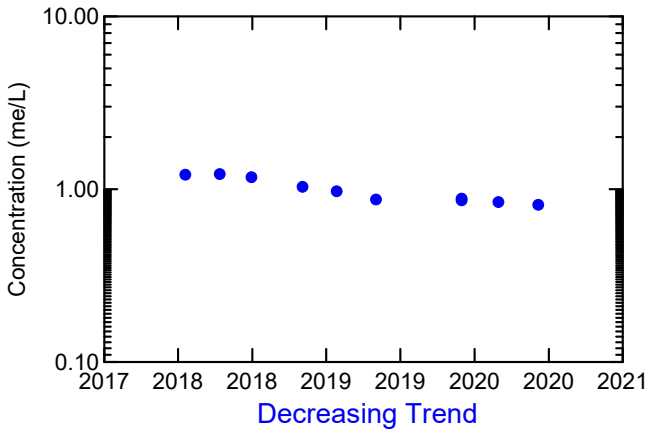
100% ND

Bicarb. Alkalinity (calc. as CaCO3)



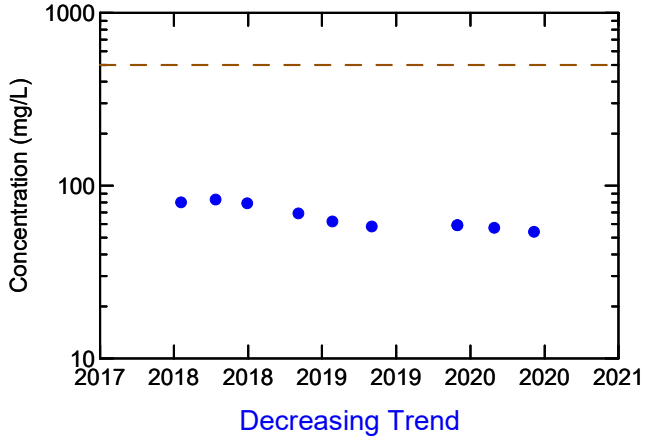
Decreasing Trend

Cation Sum



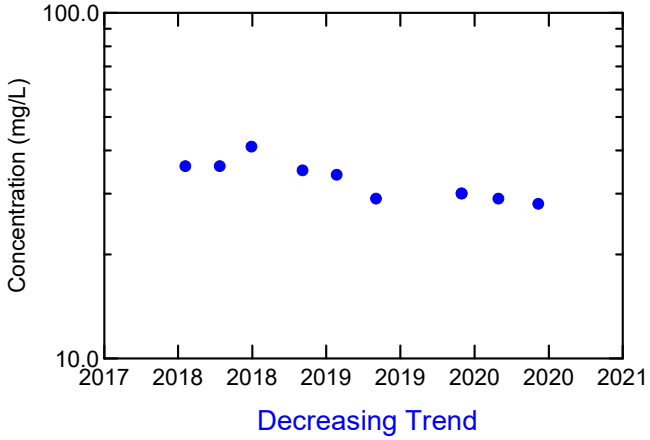
Decreasing Trend

Calculated TDS



Decreasing Trend

Hardness (CaCO3)



Decreasing Trend

Legend:

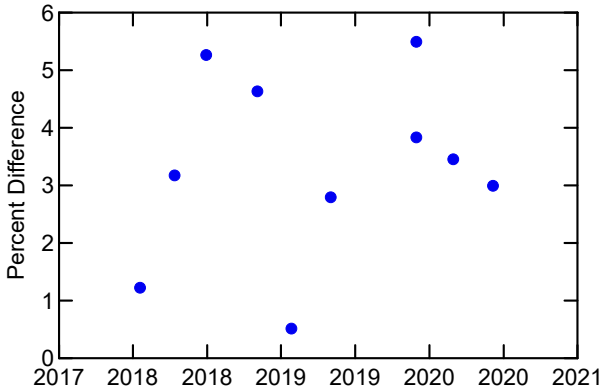
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines - Aesthetic

WELL MW-19C
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

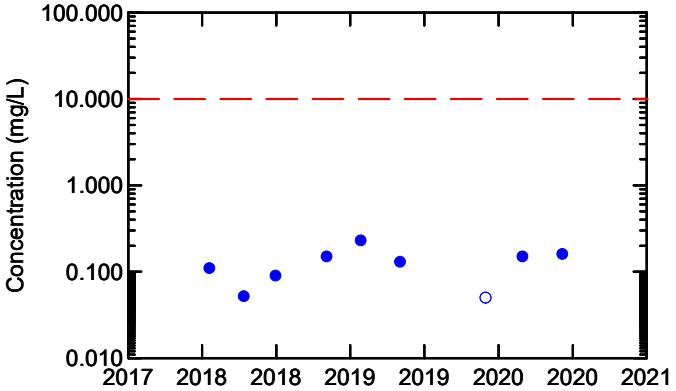
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Ion Balance



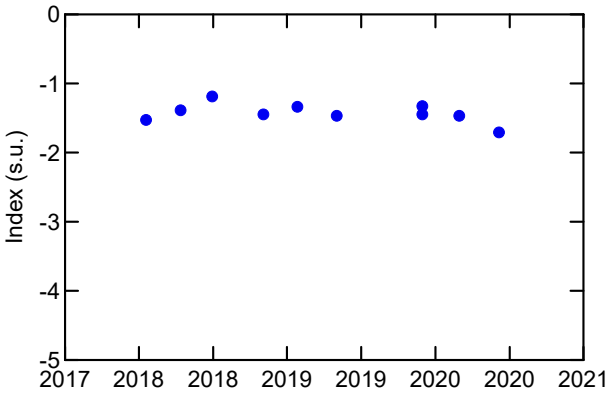
No trend identified

Nitrate



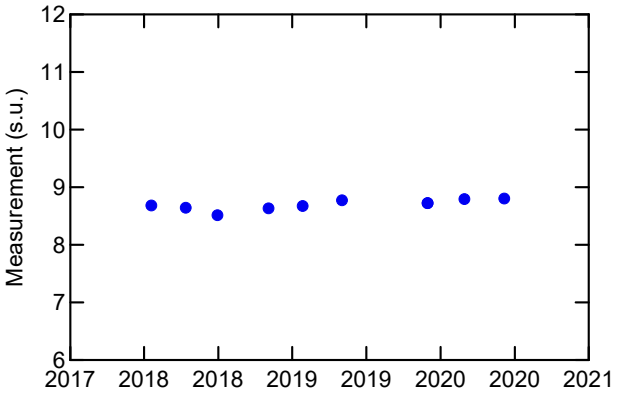
No trend identified

Langelier Index (@ 20C)



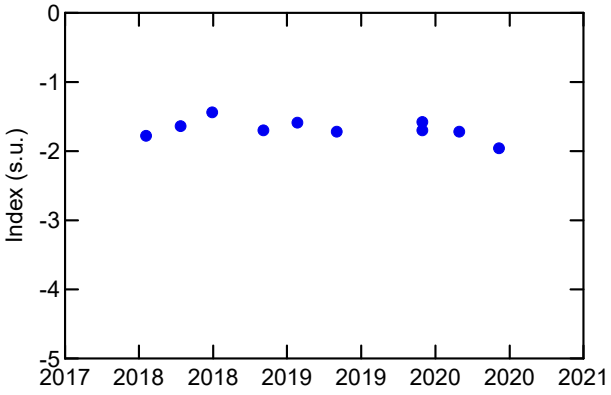
Stable

Saturation pH (@ 20C)



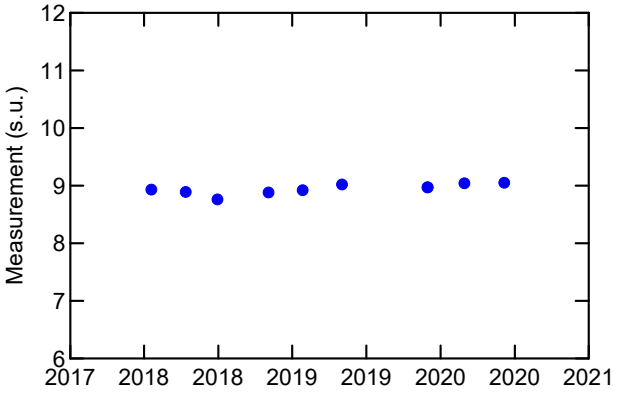
Increasing Trend

Langelier Index (@ 4C)



Stable

Saturation pH (@ 4C)



Increasing Trend

Legend:

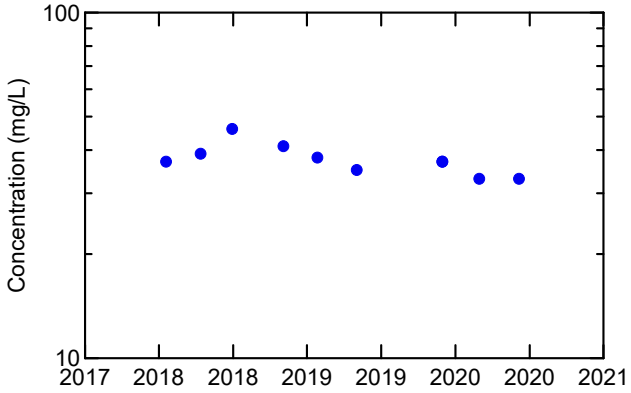
● Detected result ○ Non-Detect

— — Canadian Drinking Water Quality Guidelines: Maximum Acceptable

WELL MW-19C
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

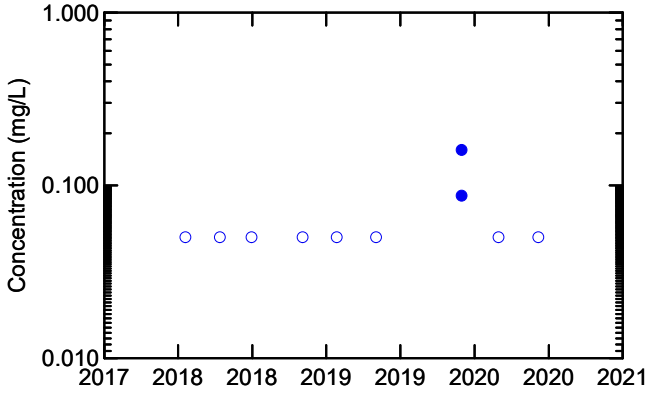
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Total Alkalinity (Total as CaCO3)



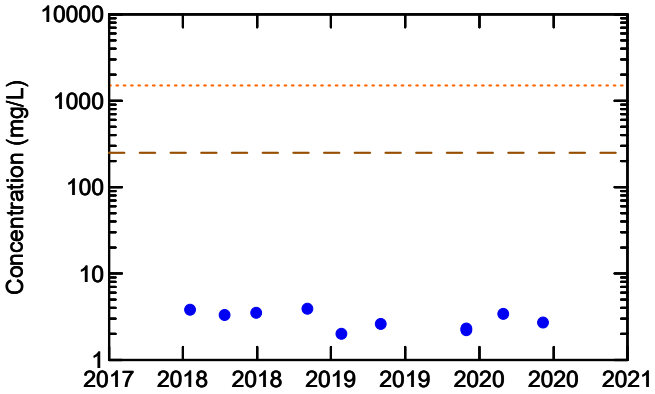
Decreasing Trend

Nitrogen (Ammonia Nitrogen)



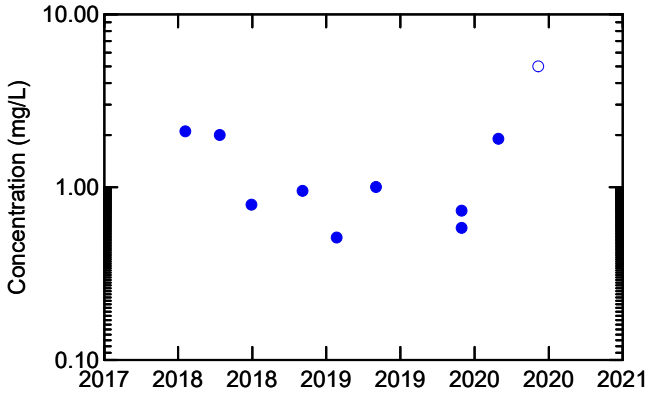
Over 50% non-detects

Dissolved Chloride



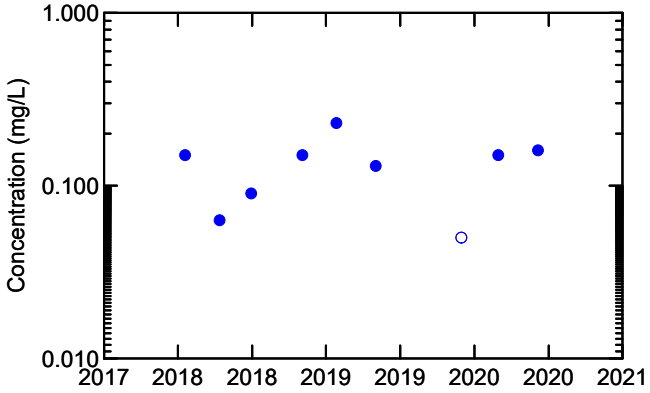
Stable

Total Organic Carbon



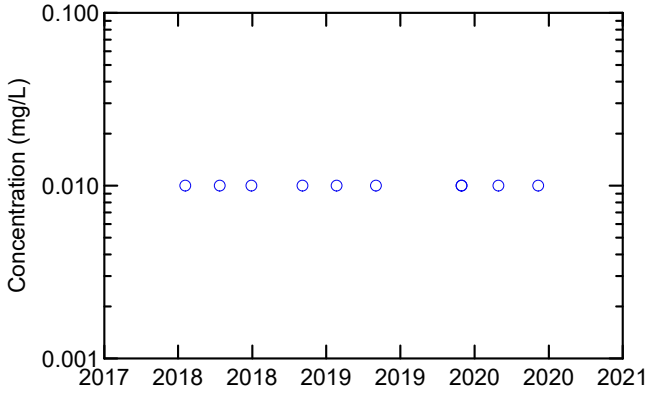
Stable

Nitrate + Nitrite



No trend identified

Orthophosphate



No detected results

Legend:

● Detected result ○ Non-Detect

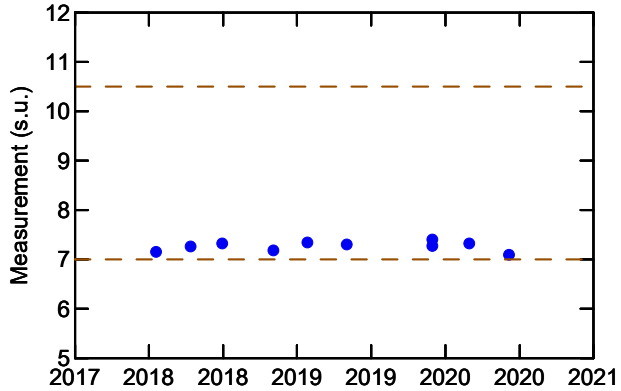
Nova Scotia (2014) Pathway-Specific Standard for Groundwater

Canadian Drinking Water Quality Guideline: Aesthetic

Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

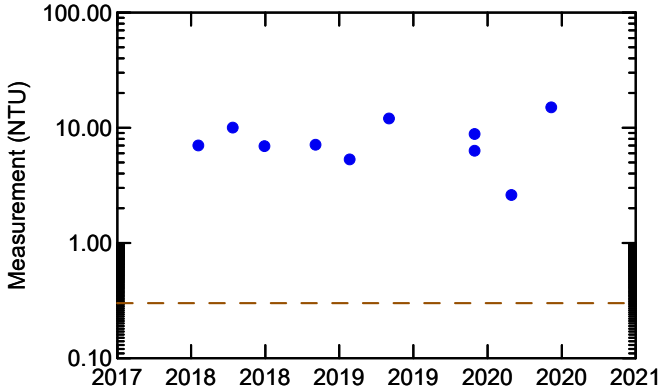
WELL MW-19C
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

pH



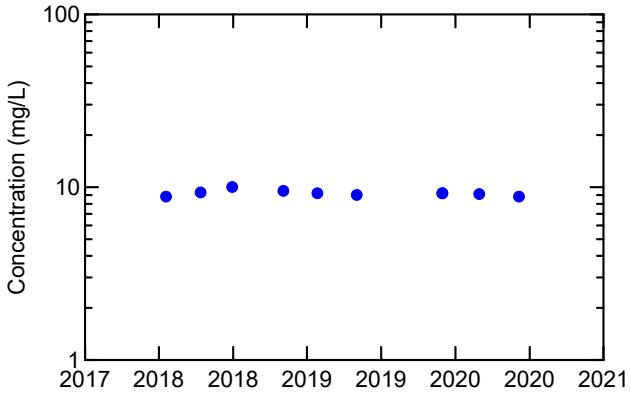
Stable

Turbidity



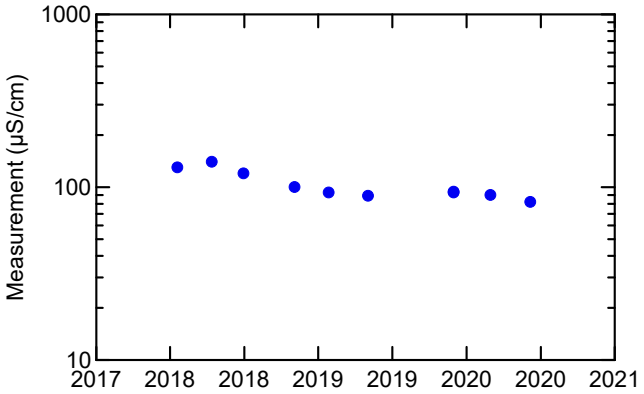
No trend identified

Reactive Silica (SiO2)



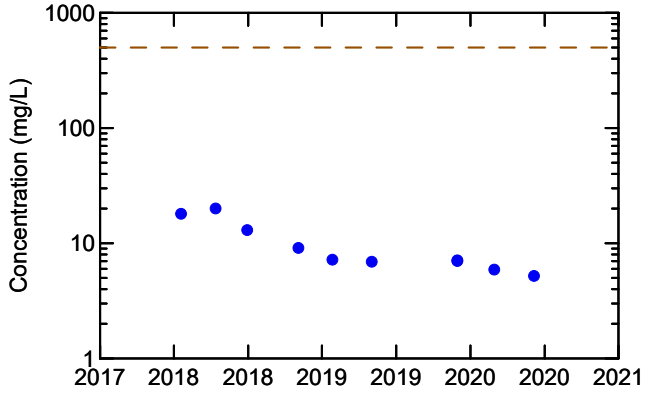
Stable

Conductivity



Probably Decreasing

Dissolved Sulphate (SO4)



Stable

Legend:

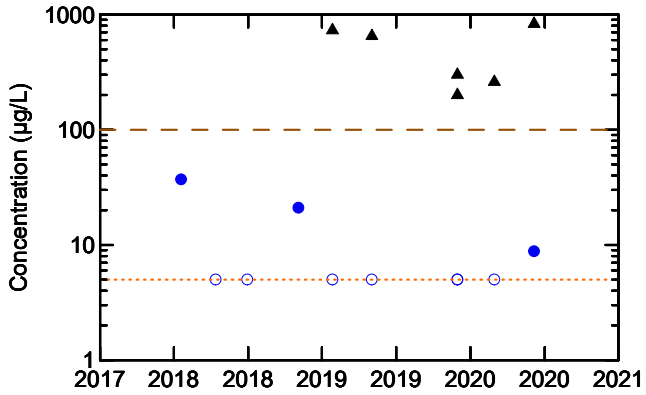
● Detected result ○ Non-Detect

– – - Canadian Drinking Water Quality Guidelines: Aesthetic

WELL MW-19C
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

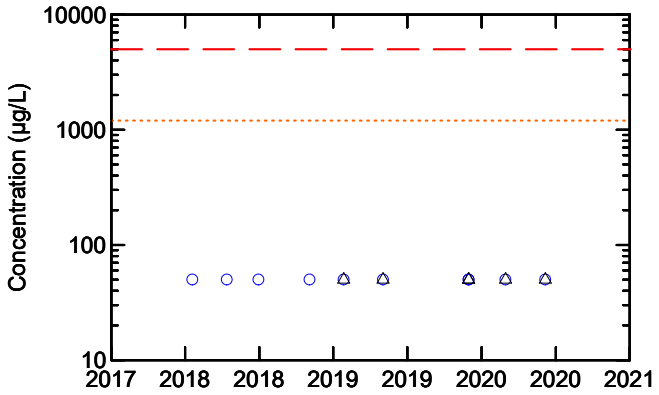
Aluminum



Total: Stable

Dissolved: Over 50% non-detects

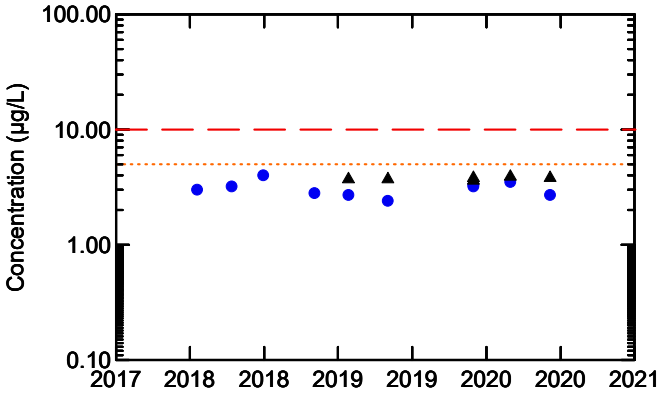
Boron



Total: No detected results

Dissolved: No detected results

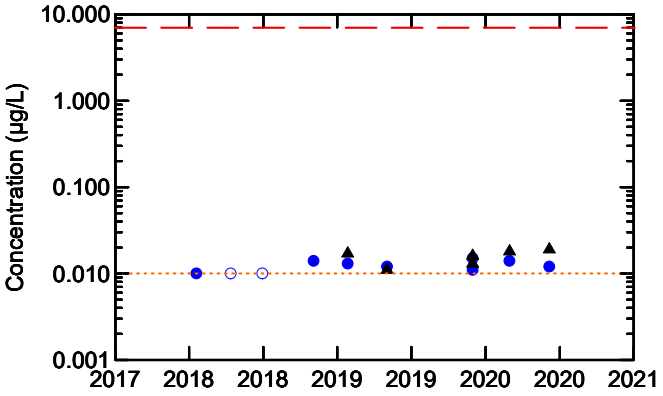
Arsenic



Total: No trend identified

Dissolved: Stable

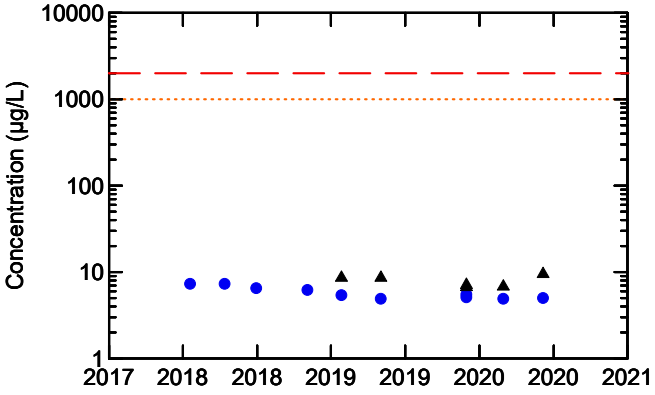
Cadmium



Total: No trend identified

Dissolved: No trend identified

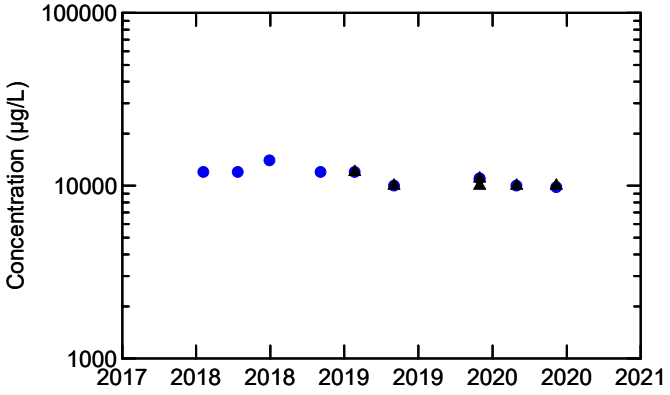
Barium



Total: No trend identified

Dissolved: Decreasing Trend

Calcium



Total: Stable

Dissolved: Decreasing Trend

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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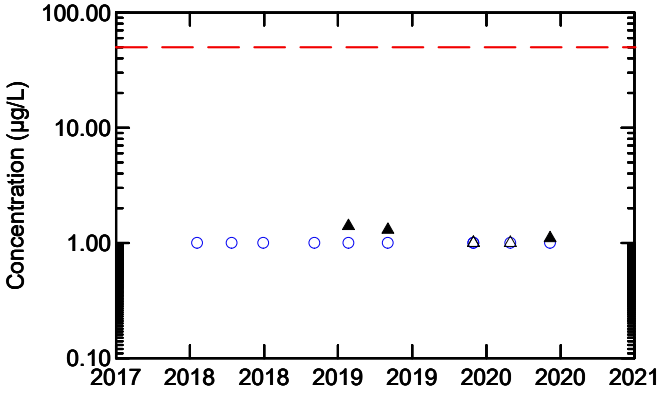
Non-detects are plotted at the reporting limit.

WELL MW-19C
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

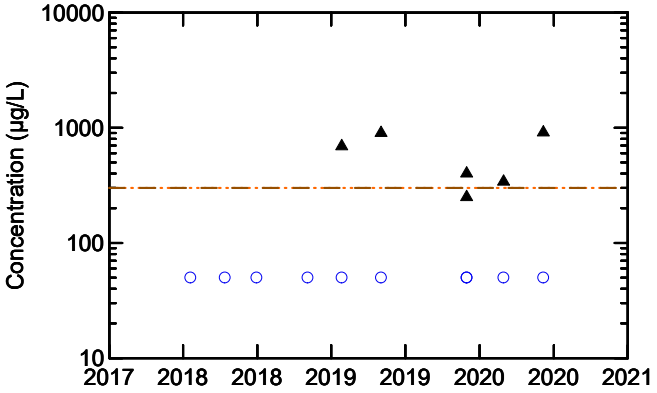
Chromium



Total: Stable

Dissolved: 100% ND

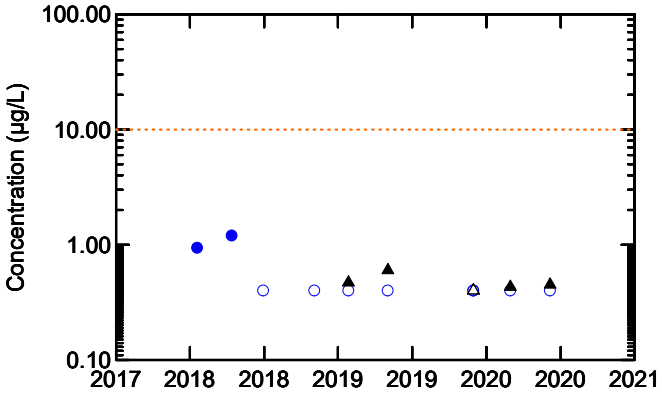
Iron



Total: No trend identified

Dissolved: 100% ND

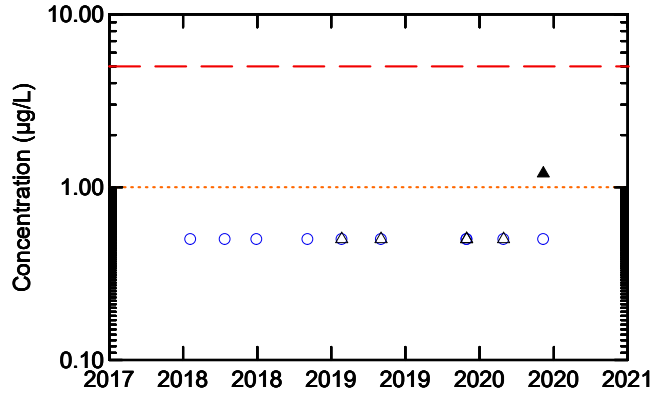
Cobalt



Total: Stable

Dissolved: >50% ND

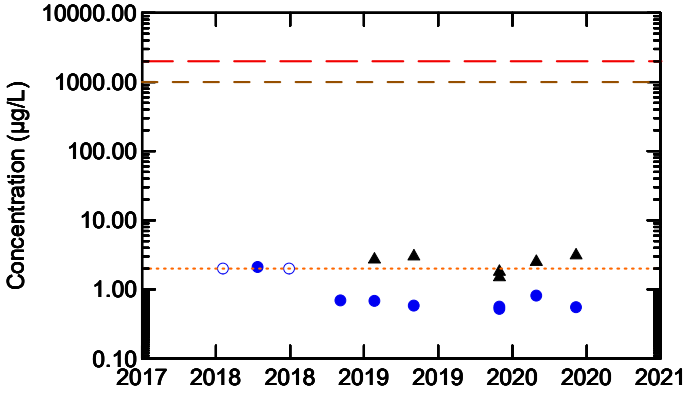
Lead



Total: >50% ND

Dissolved: 100% ND

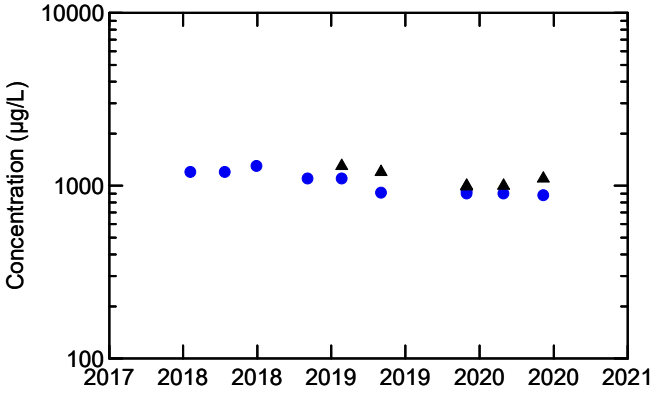
Copper



Total: No trend identified

Dissolved: Stable

Magnesium



Total: Stable

Dissolved: Decreasing Trend

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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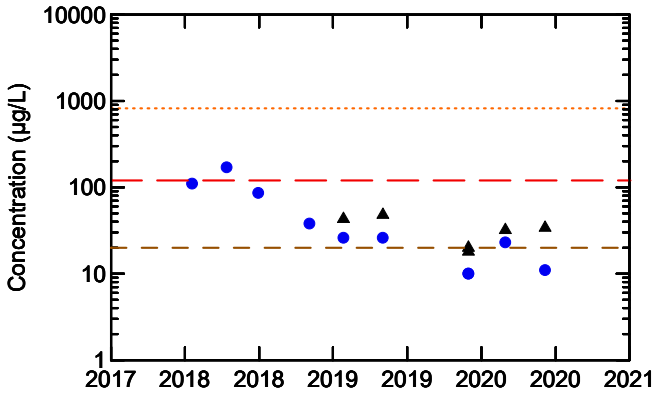
Non-detects are plotted at the reporting limit.

WELL MW-19C
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

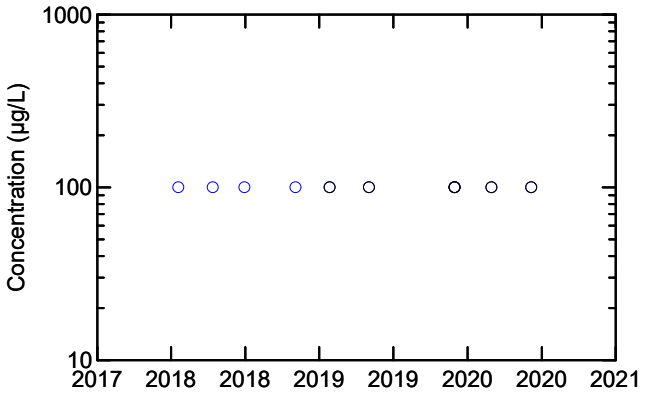
Manganese



Total: Stable

Dissolved: Decreasing Trend

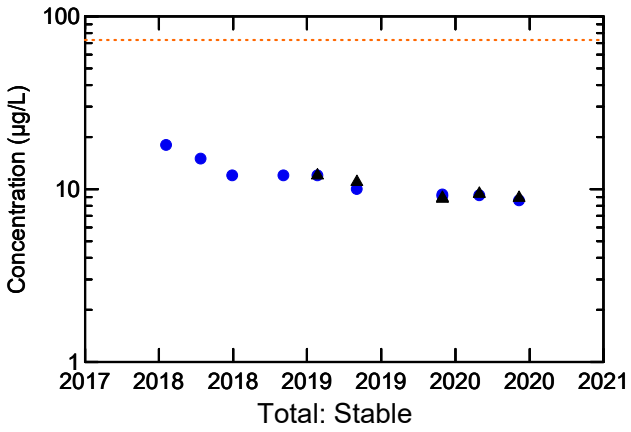
Phosphorus



Total: 100% ND

Dissolved: 100% ND

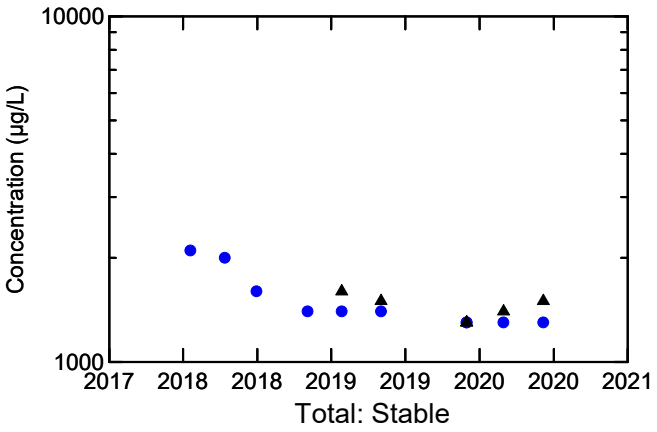
Molybdenum



Total: Stable

Dissolved: Decreasing Trend

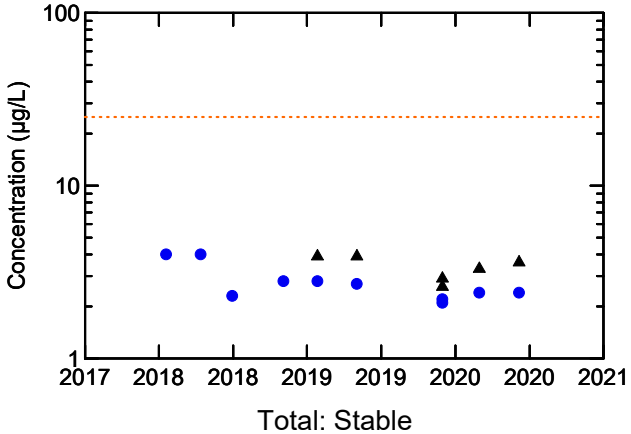
Potassium



Total: Stable

Dissolved: Decreasing Trend

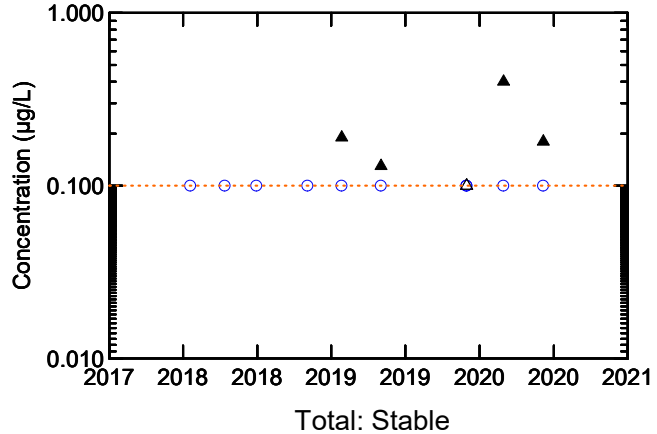
Nickel



Total: Stable

Dissolved: Probably Decreasing

Silver



Total: Stable

Dissolved: 100% ND

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

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Notes:

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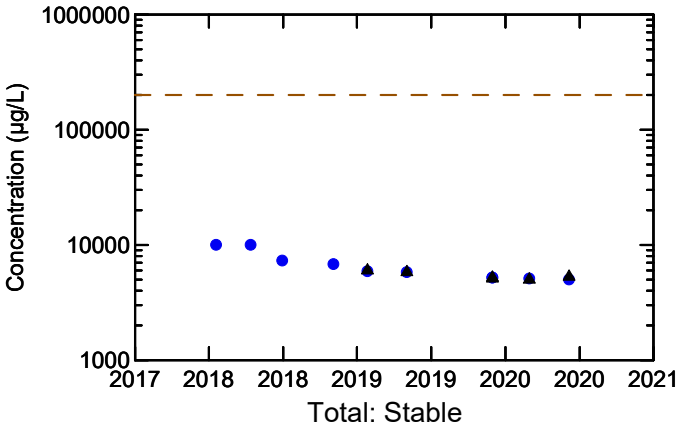
WELL MW-19C
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

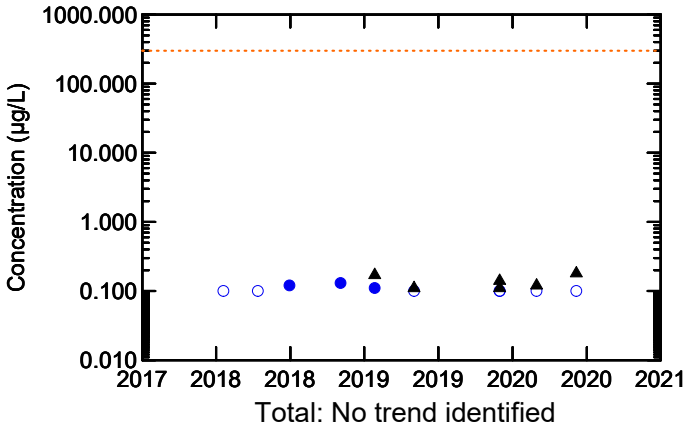
Sodium



Total: Stable

Dissolved: Decreasing Trend

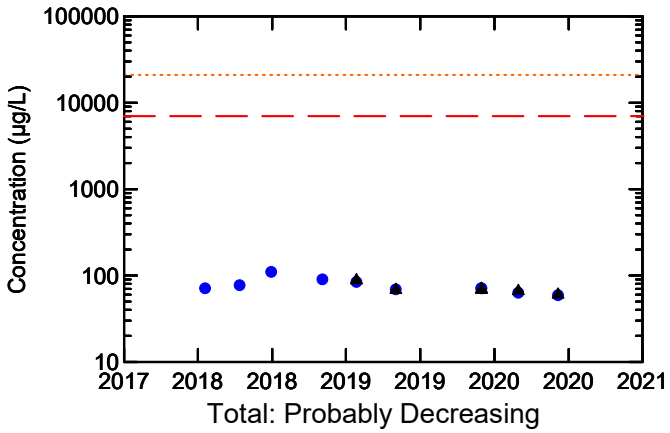
Uranium



Total: No trend identified

Dissolved: >50% ND

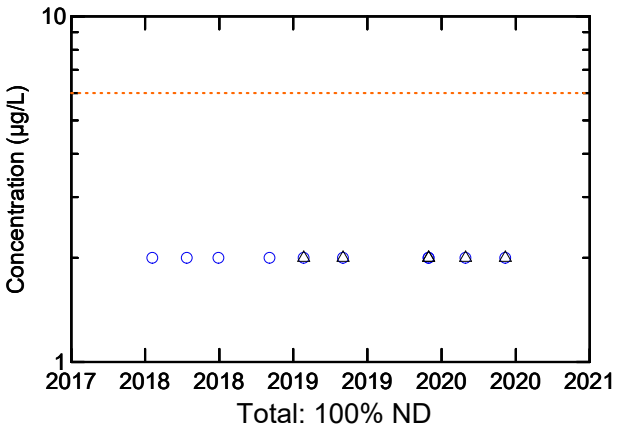
Strontium



Total: Probably Decreasing

Dissolved: Probably Decreasing

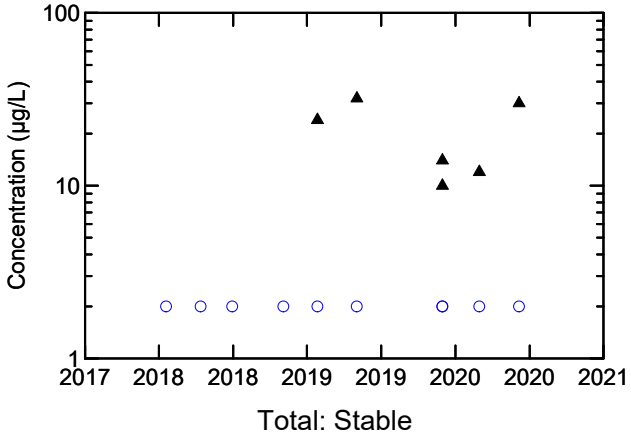
Vanadium



Total: 100% ND

Dissolved: 100% ND

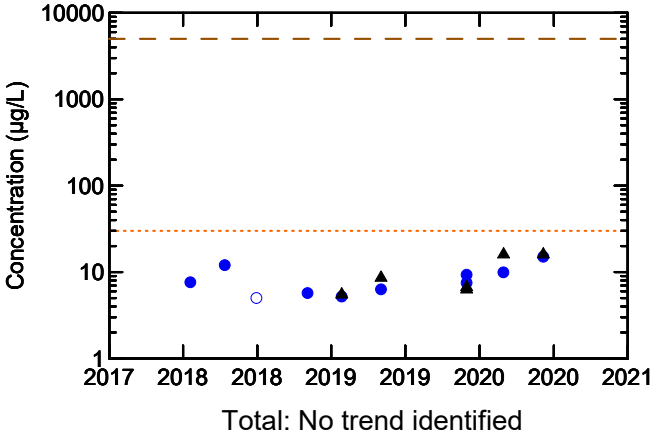
Titanium



Total: Stable

Dissolved: 100% ND

Zinc



Total: No trend identified

Dissolved: No trend identified

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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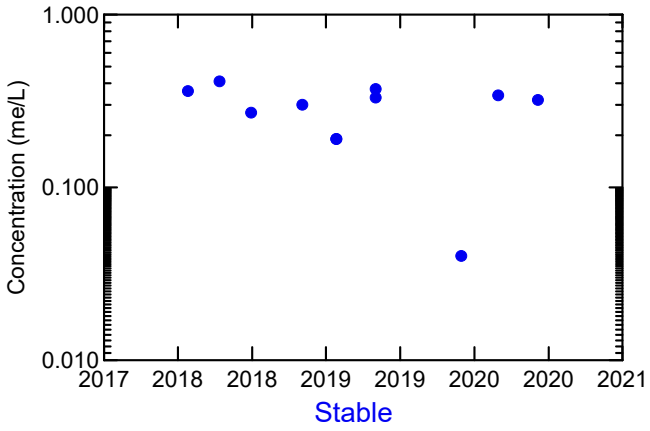
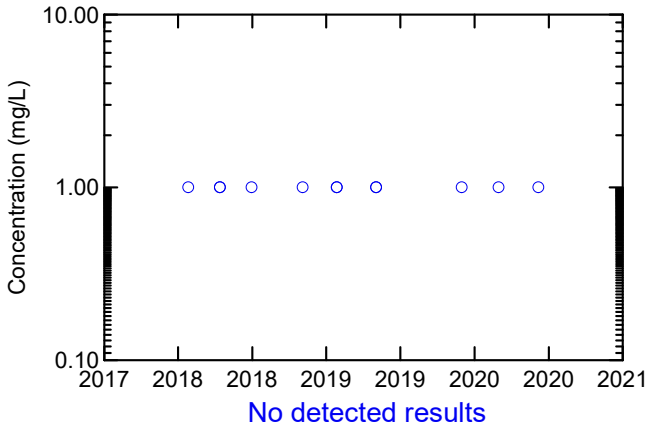
WELL MW-19C
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Anion Sum



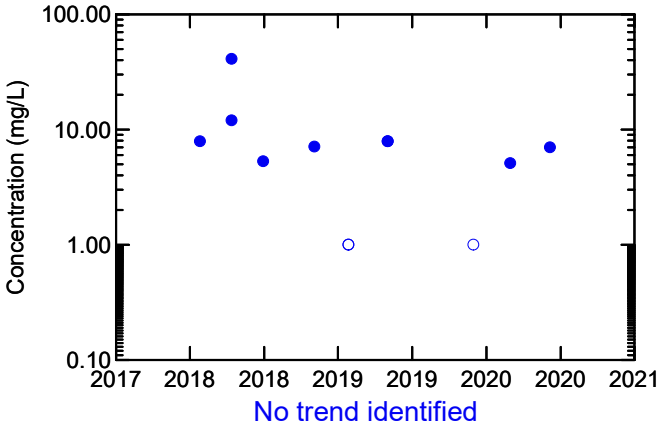
Stable

Carb. Alkalinity (calc. as CaCO3)



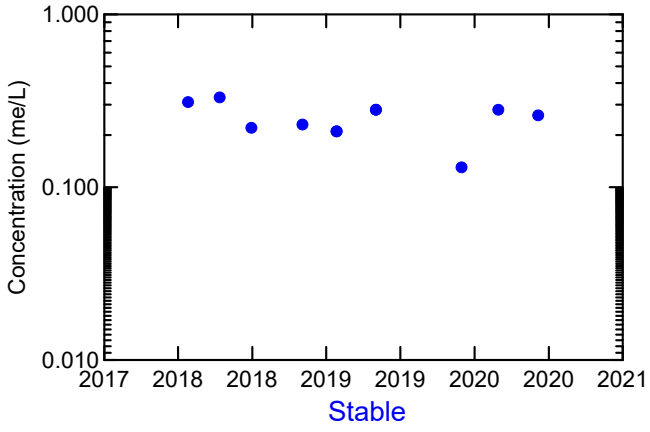
No detected results

Bicarb. Alkalinity (calc. as CaCO3)



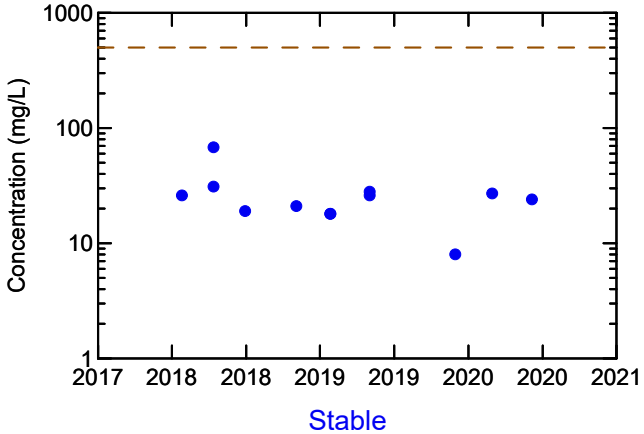
No trend identified

Cation Sum



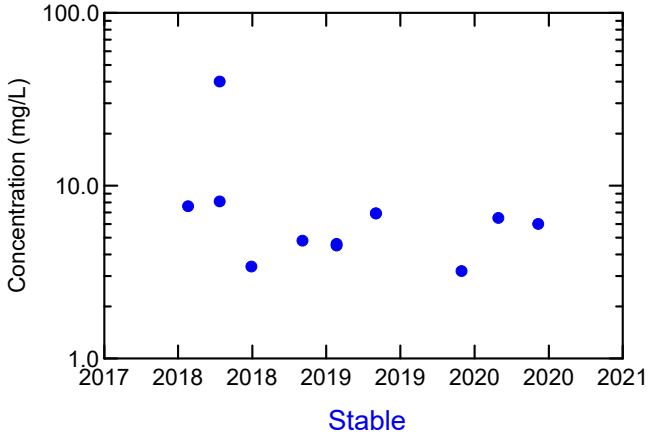
Stable

Calculated TDS



Stable

Hardness (CaCO3)



Stable

Legend:

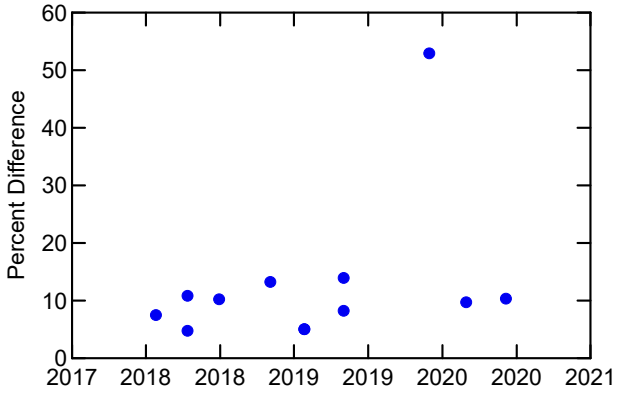
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines - Aesthetic

WELL MW-20A
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

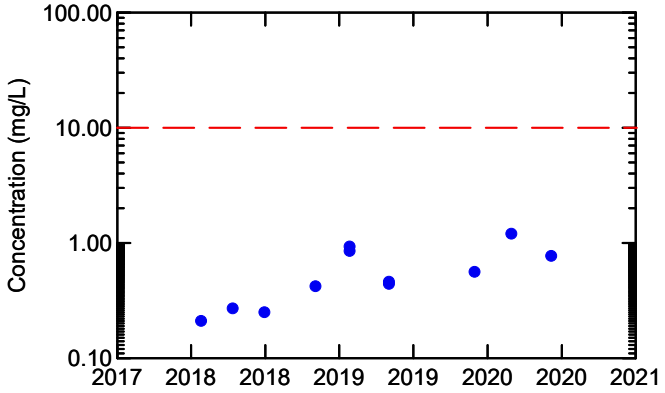
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Ion Balance



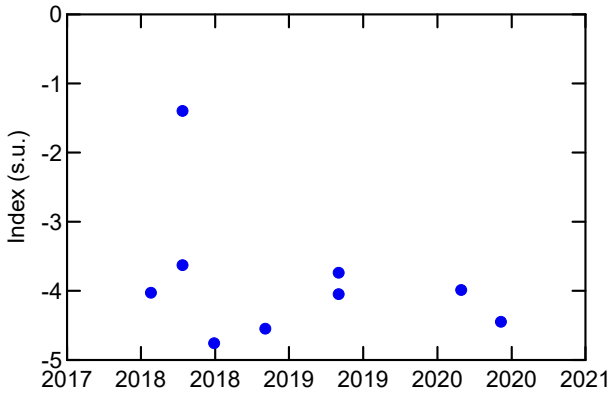
No trend identified

Nitrate



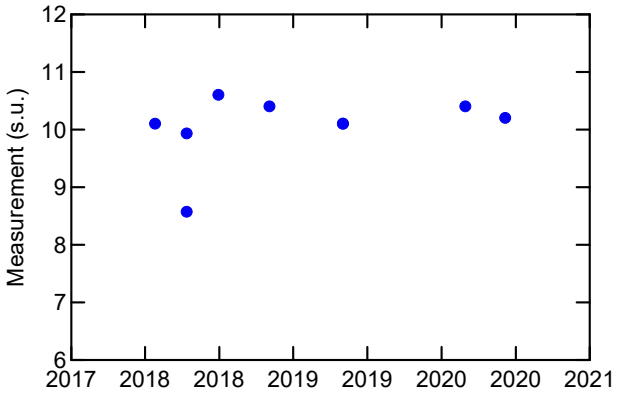
Increasing Trend

Langelier Index (@ 20C)



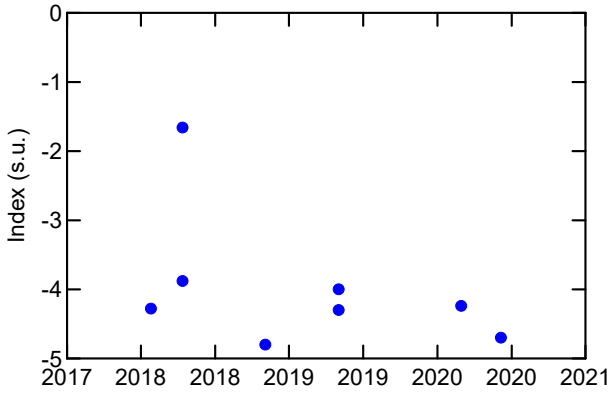
Stable

Saturation pH (@ 20C)



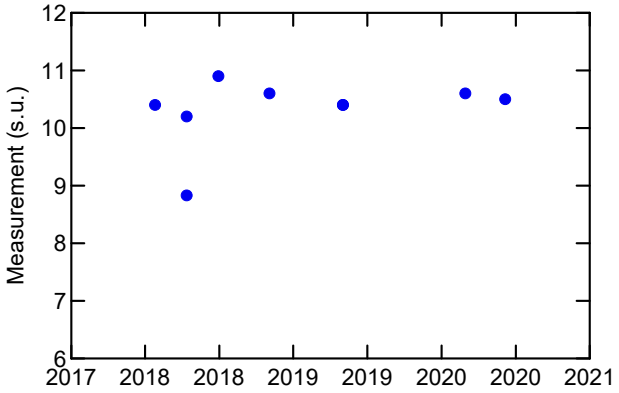
No trend identified

Langelier Index (@ 4C)



Stable

Saturation pH (@ 4C)



No trend identified

Legend:

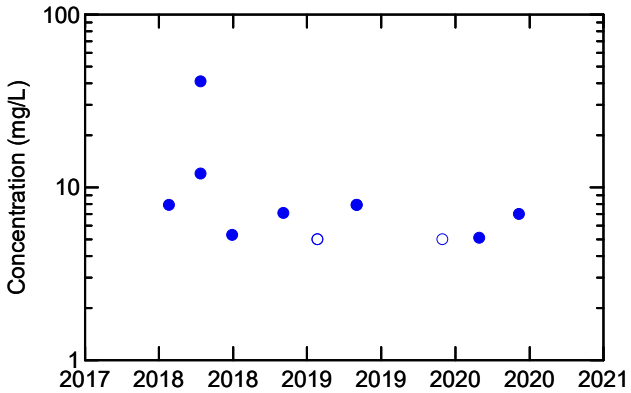
● Detected result ○ Non-Detect

— — Canadian Drinking Water Quality Guidelines: Maximum Acceptable

WELL MW-20A
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

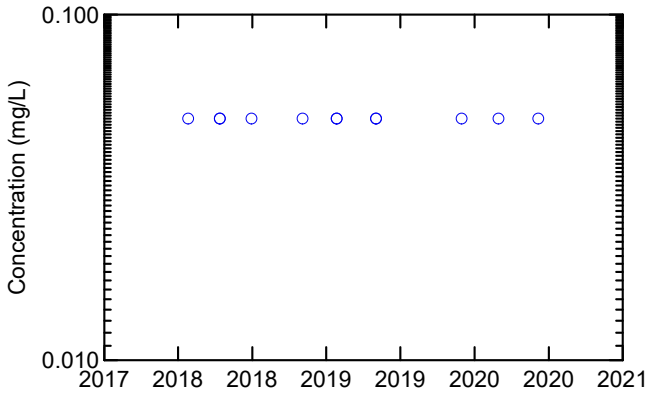
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Total Alkalinity (Total as CaCO3)



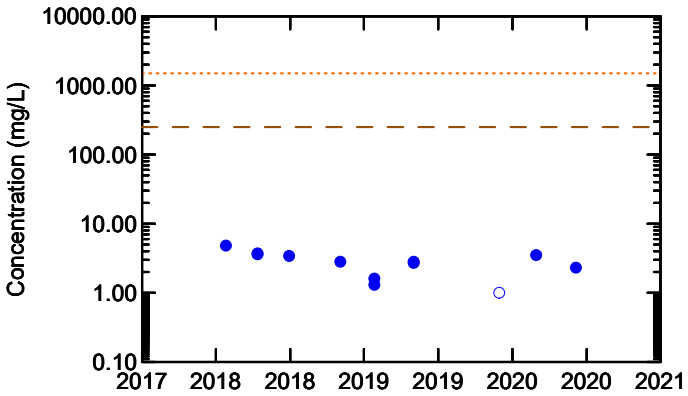
Stable

Nitrogen (Ammonia Nitrogen)



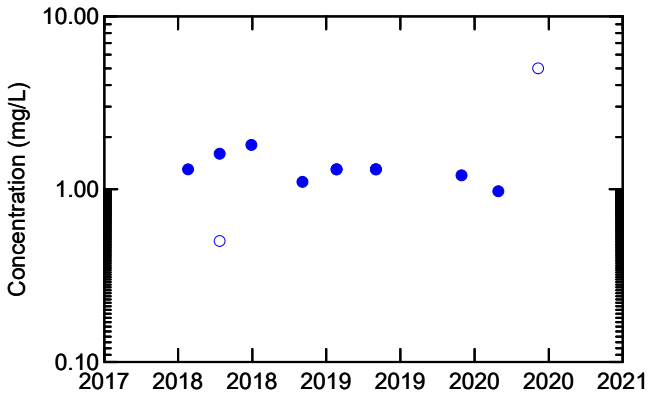
No detected results

Dissolved Chloride



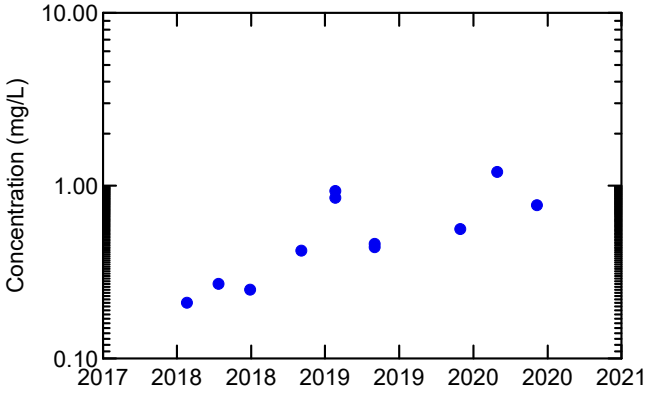
Decreasing Trend

Total Organic Carbon



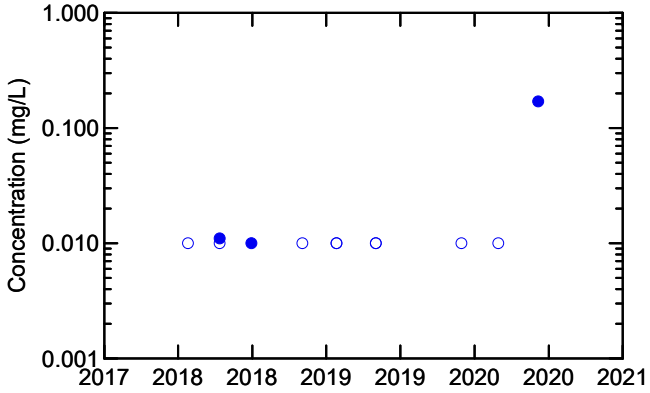
Stable

Nitrate + Nitrite



Increasing Trend

Orthophosphate



Over 50% non-detects

Legend:

● Detected result ○ Non-Detect

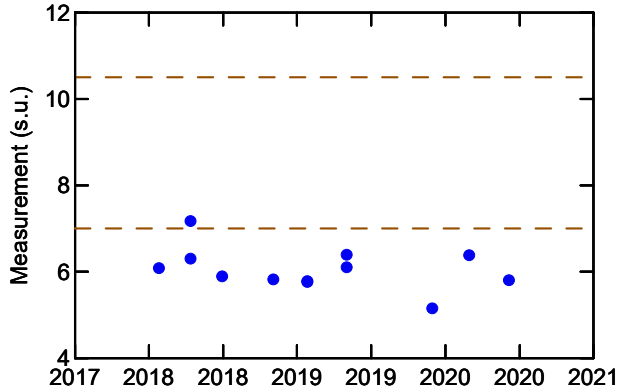
Nova Scotia (2014) Pathway-Specific Standard for Groundwater

Canadian Drinking Water Quality Guideline: Aesthetic

WELL MW-20A
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

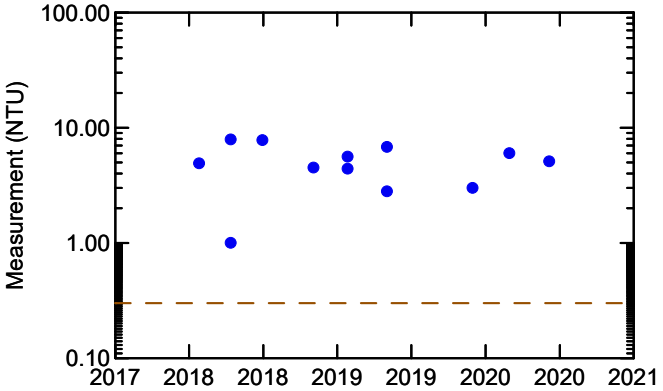
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

pH



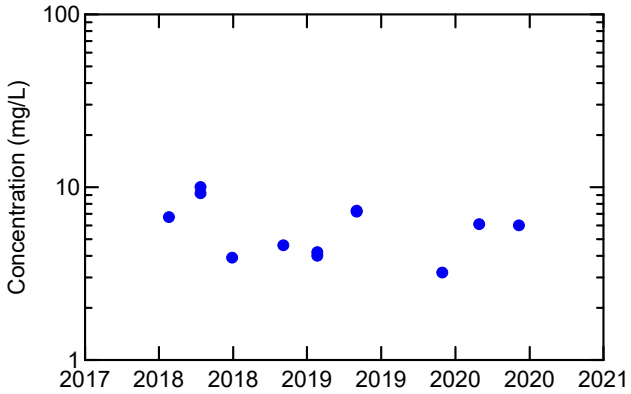
Stable

Turbidity



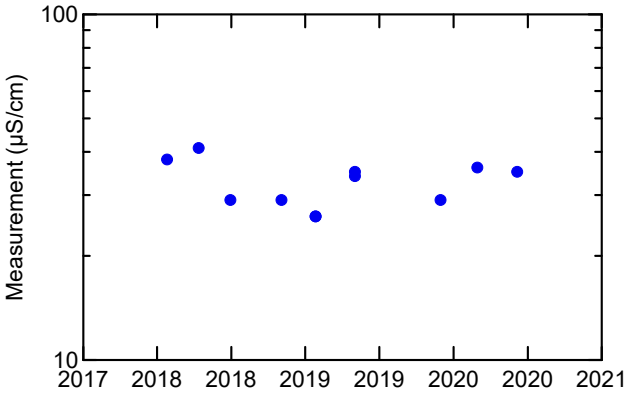
No trend identified

Reactive Silica (SiO2)



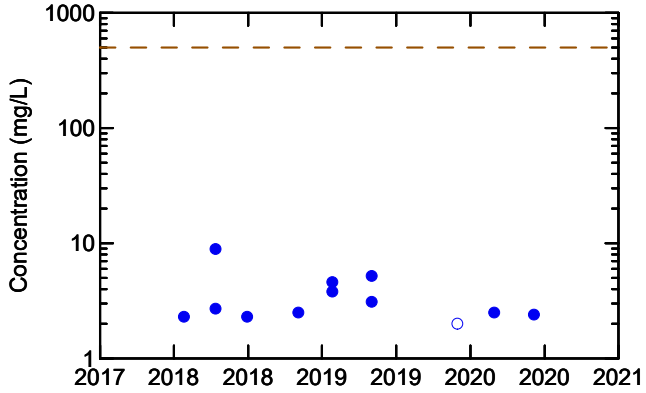
Stable

Conductivity



Probably Decreasing

Dissolved Sulphate (SO4)



Stable

Legend:

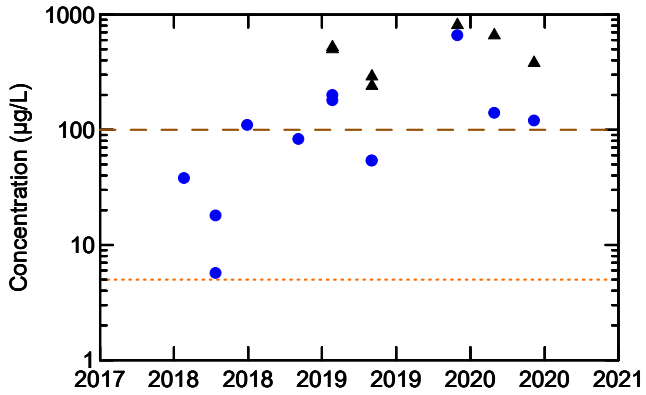
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines: Aesthetic

WELL MW-20A
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

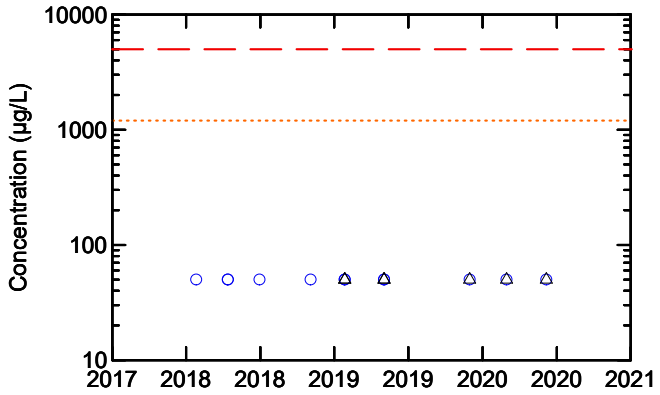
Aluminum



Total: Stable

Dissolved: No trend identified

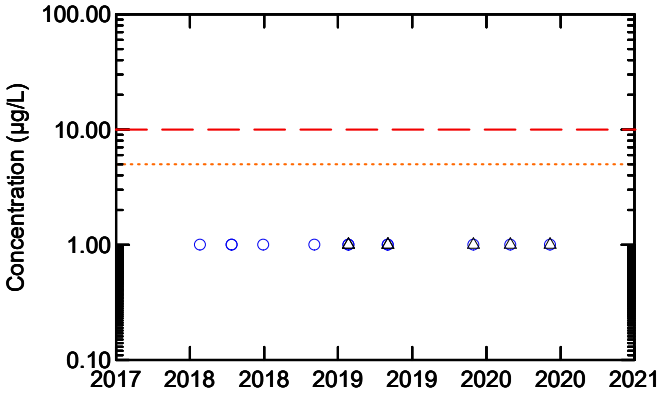
Boron



Total: No detected results

Dissolved: No detected results

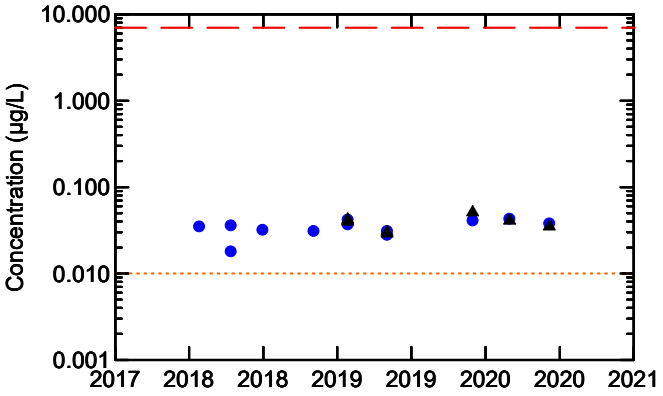
Arsenic



Total: No detected results

Dissolved: No detected results

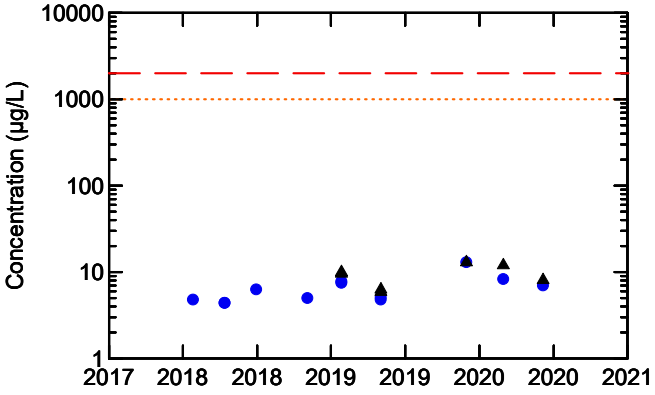
Cadmium



Total: Stable

Dissolved: No trend identified

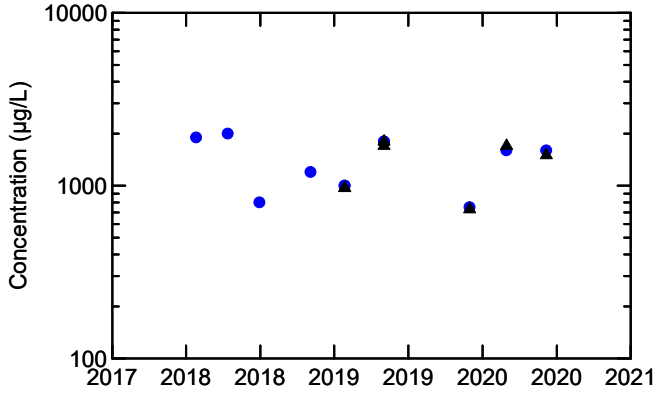
Barium



Total: Stable

Dissolved: Probably Increasing

Calcium



Total: Stable

Dissolved: No trend identified

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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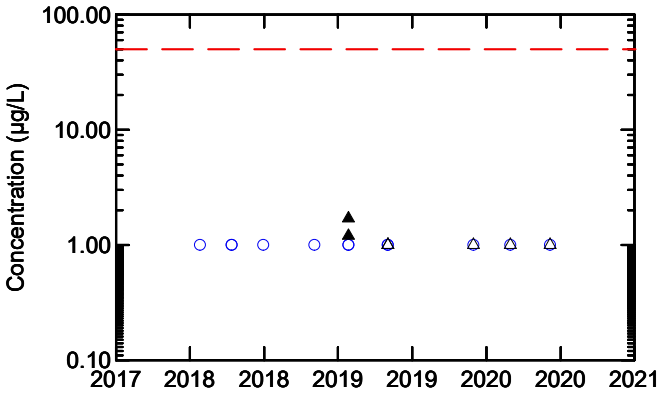
WELL MW-20A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

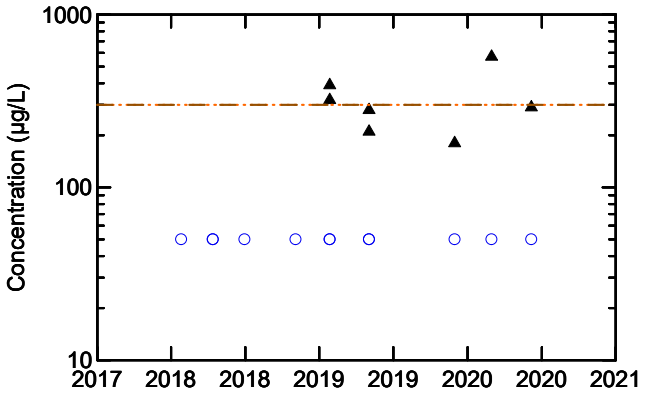
Chromium



Total: Over 50% non-detects

Dissolved: No detected results

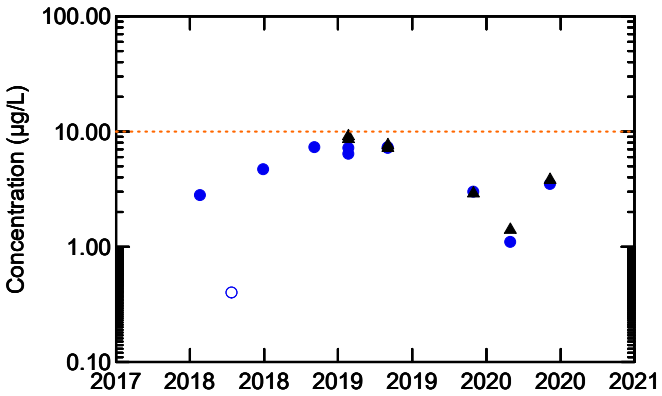
Iron



Total: Stable

Dissolved: No detected results

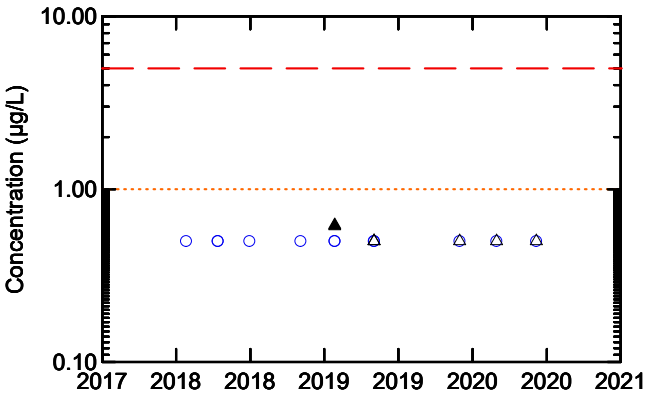
Cobalt



Total: Stable

Dissolved: No trend identified

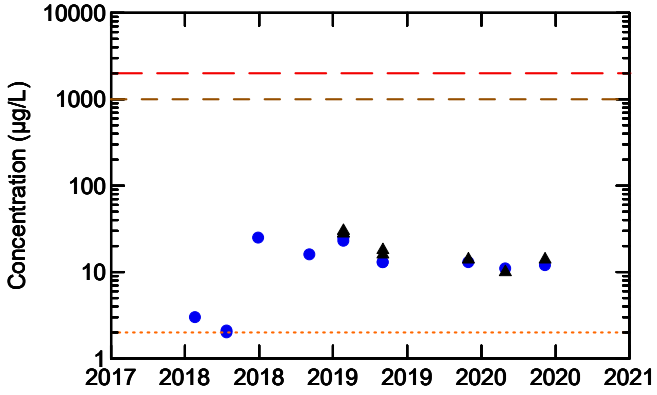
Lead



Total: Over 50% non-detects

Dissolved: No detected results

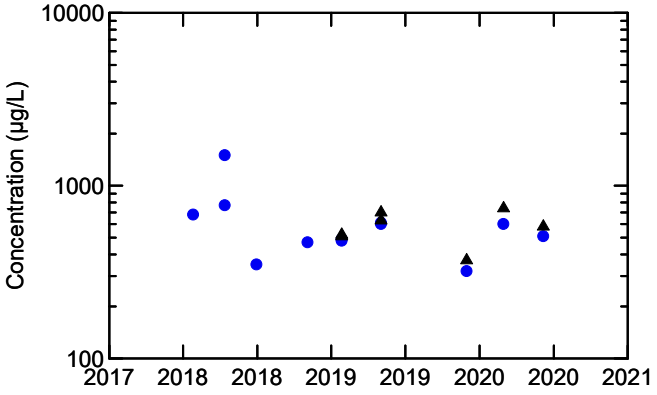
Copper



Total: Stable

Dissolved: Stable

Magnesium



Total: No trend identified

Dissolved: Stable

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

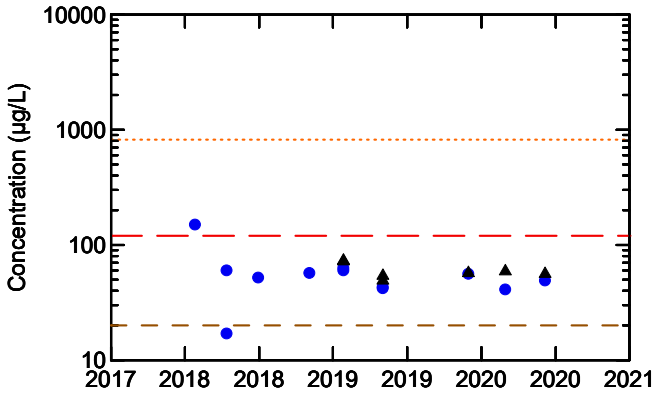
– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

WELL MW-20A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

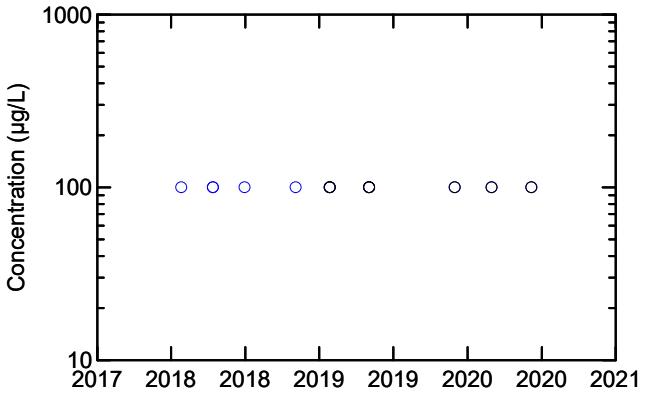
Manganese



Total: Stable

Dissolved: Stable

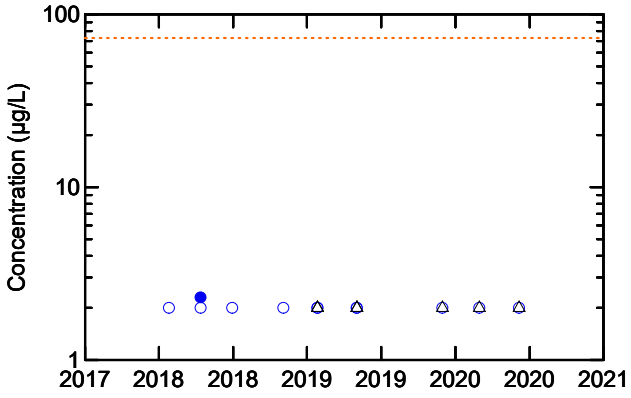
Phosphorus



Total: No detected results

Dissolved: No detected results

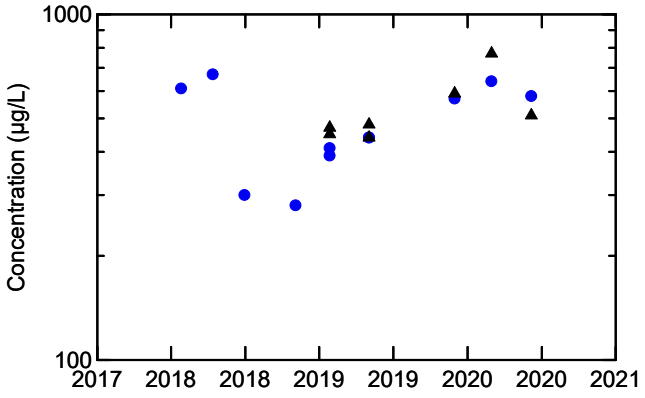
Molybdenum



Total: No detected results

Dissolved: Over 50% non-detects

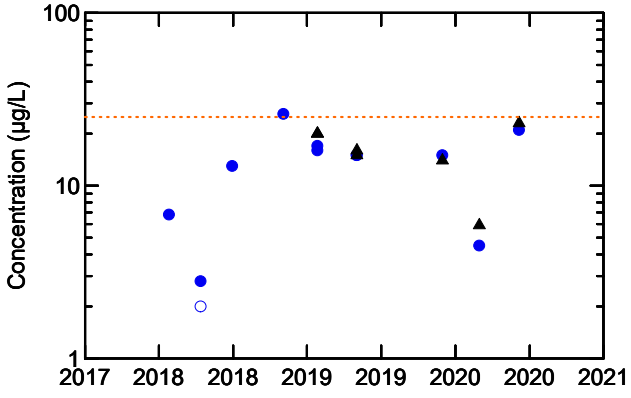
Potassium



Total: No trend identified

Dissolved: No trend identified

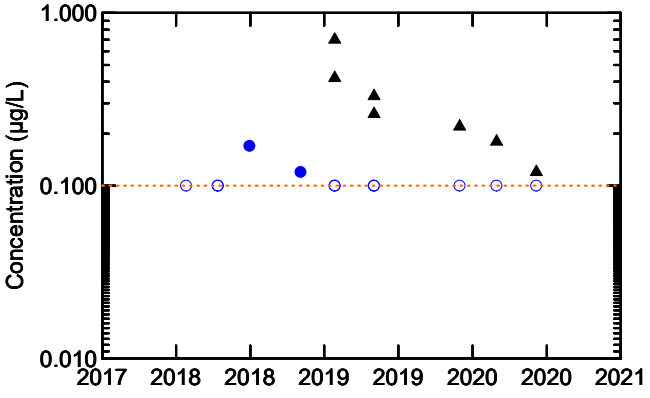
Nickel



Total: Stable

Dissolved: No trend identified

Silver



Total: Decreasing Trend

Dissolved: Over 50% non-detects

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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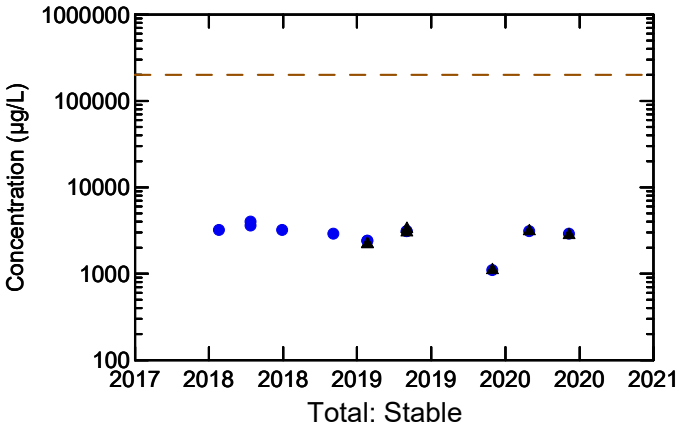
Non-detects are plotted at the reporting limit.

WELL MW-20A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

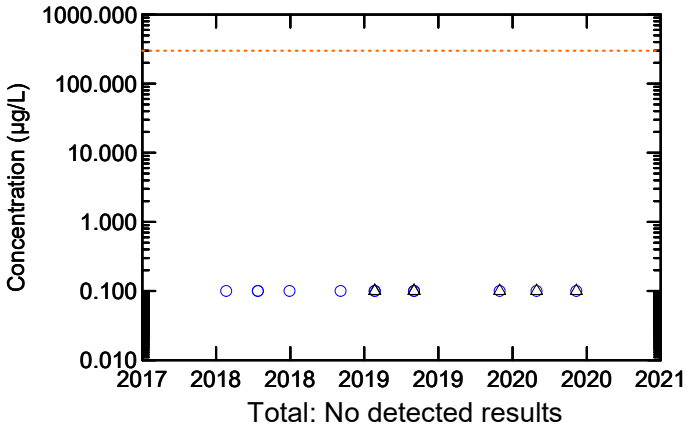
Sodium



Total: Stable

Dissolved: Probably Decreasing

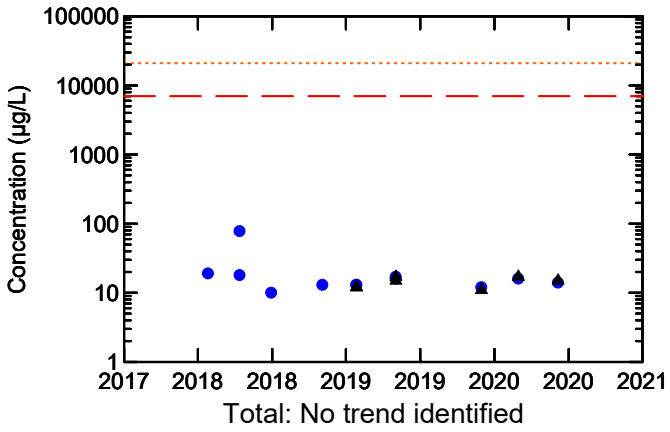
Uranium



Total: No detected results

Dissolved: No detected results

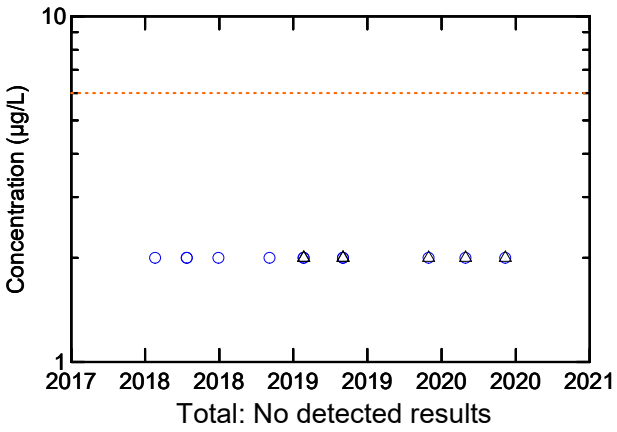
Strontium



Total: No trend identified

Dissolved: Stable

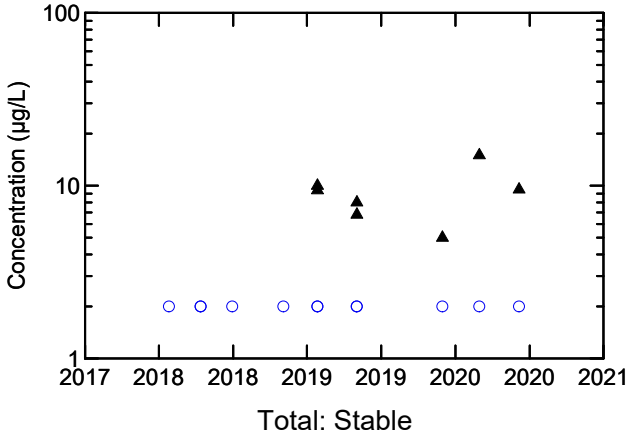
Vanadium



Total: No detected results

Dissolved: No detected results

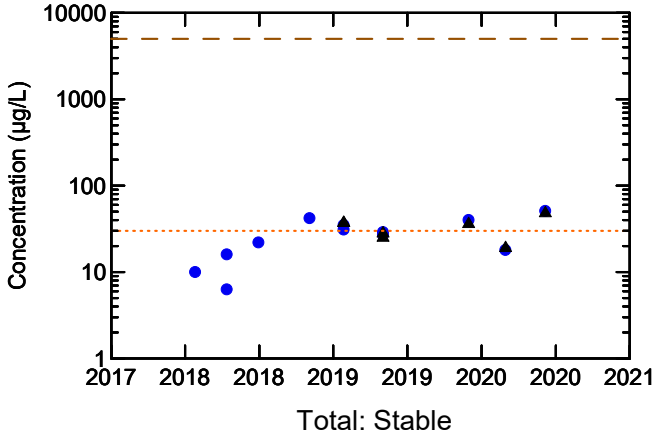
Titanium



Total: Stable

Dissolved: No detected results

Zinc



Total: Stable

Dissolved: Probably Increasing

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

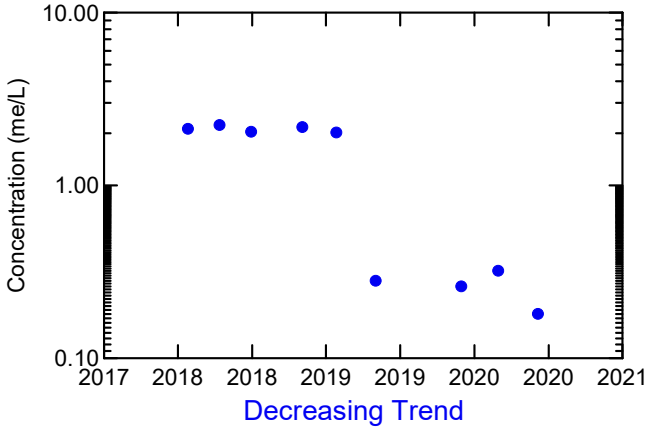
– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

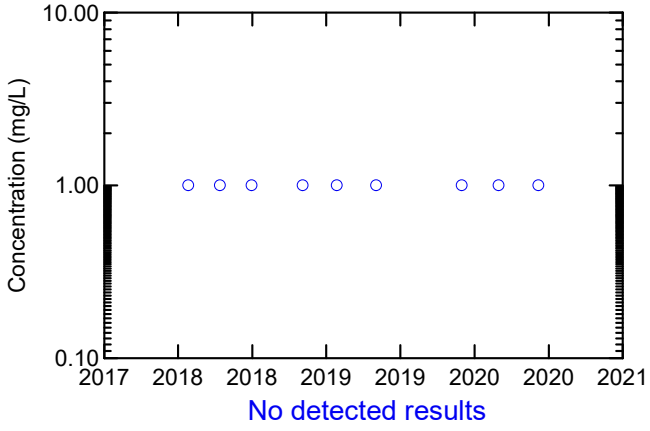
WELL MW-20A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Anion Sum



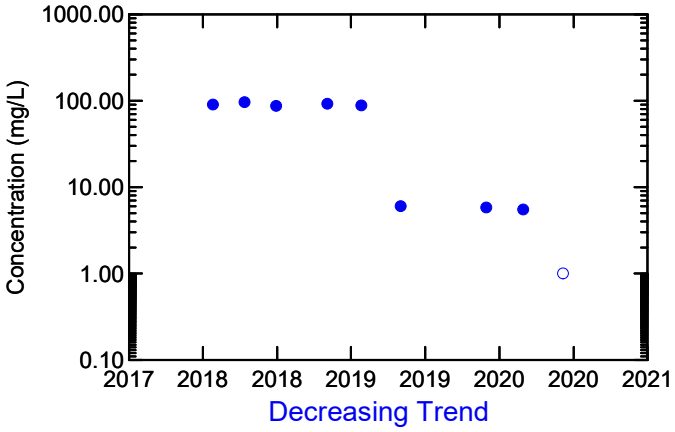
Decreasing Trend

Carb. Alkalinity (calc. as CaCO3)



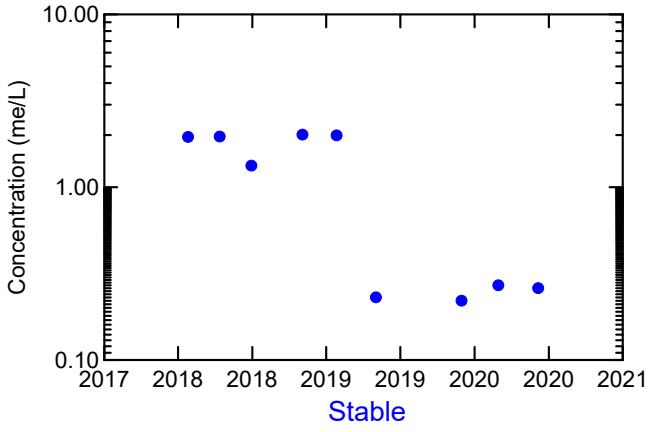
No detected results

Bicarb. Alkalinity (calc. as CaCO3)



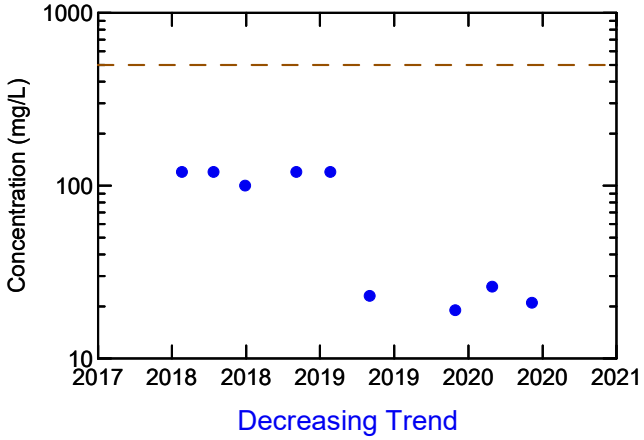
Decreasing Trend

Cation Sum



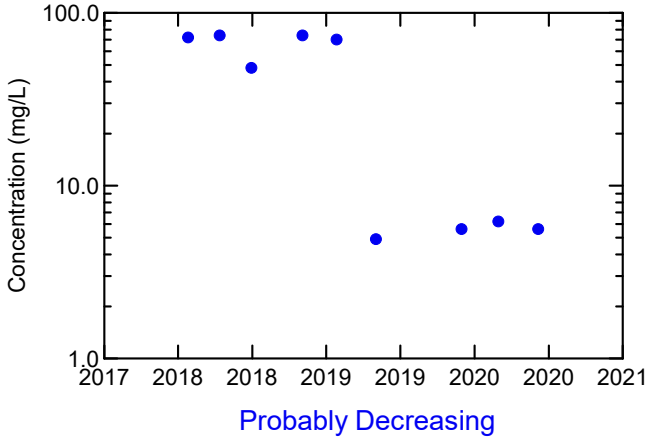
Stable

Calculated TDS



Decreasing Trend

Hardness (CaCO3)



Probably Decreasing

Legend:

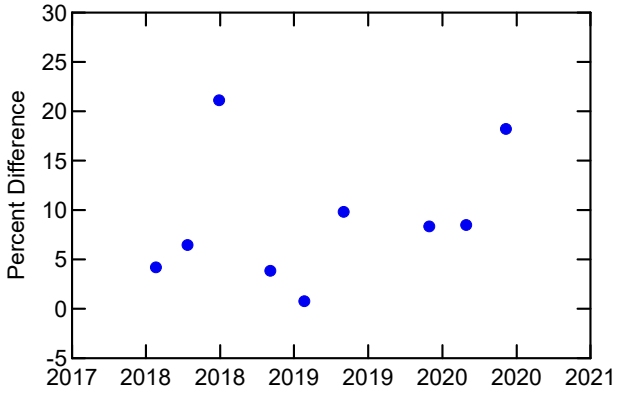
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines - Aesthetic

WELL MW-20B
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

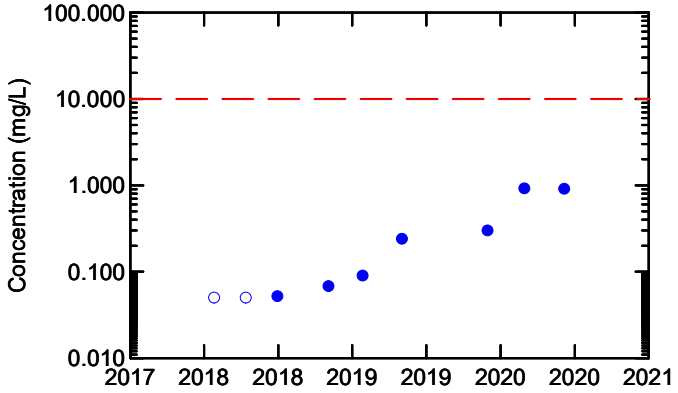
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Ion Balance



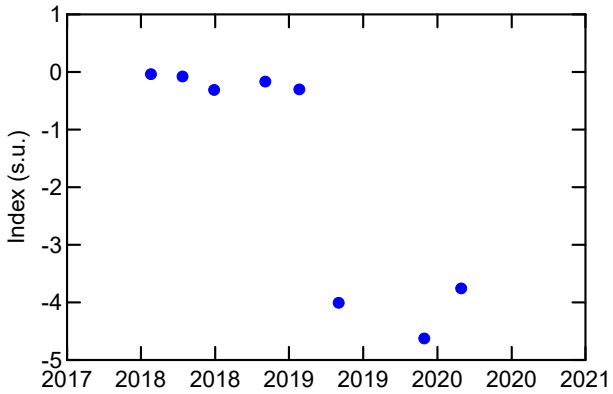
No trend identified

Nitrate



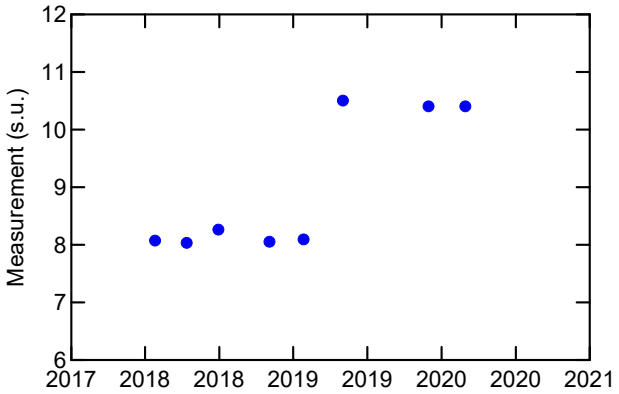
Increasing Trend

Langelier Index (@ 20C)



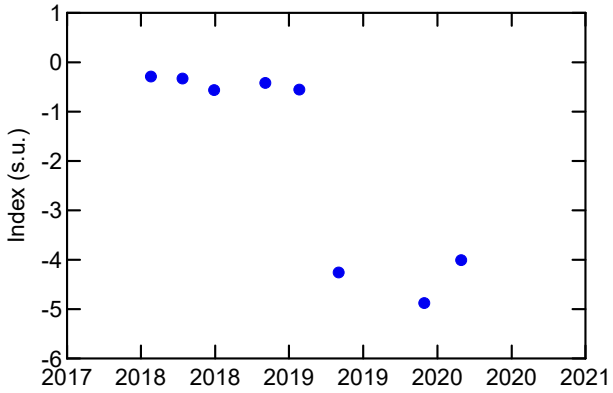
Decreasing Trend

Saturation pH (@ 20C)



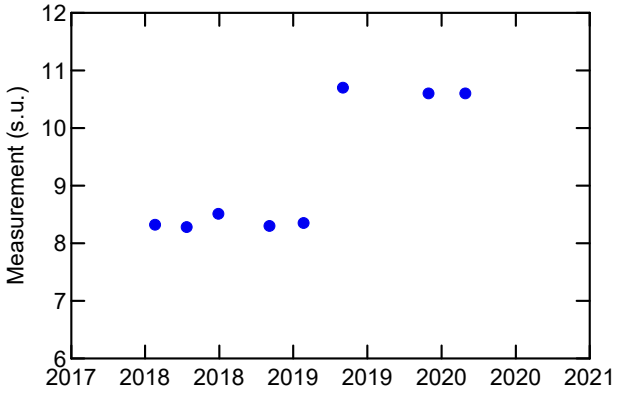
Probably Increasing

Langelier Index (@ 4C)



Decreasing Trend

Saturation pH (@ 4C)



Probably Increasing

Legend:

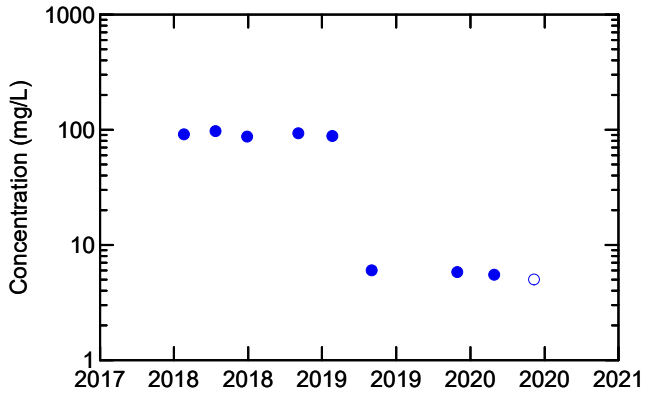
● Detected result ○ Non-Detect

— — Canadian Drinking Water Quality Guidelines: Maximum Acceptable

WELL MW-20B
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

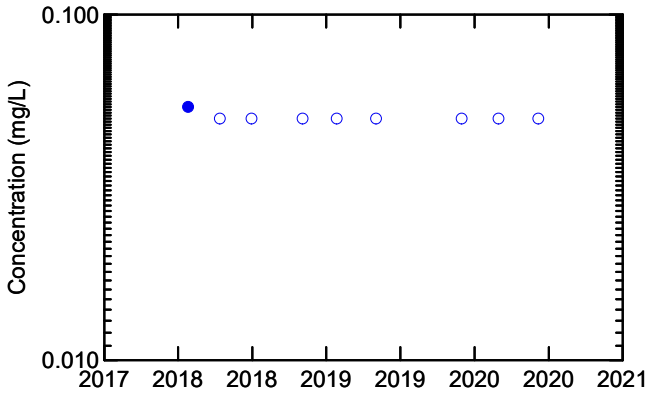
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Total Alkalinity (Total as CaCO3)



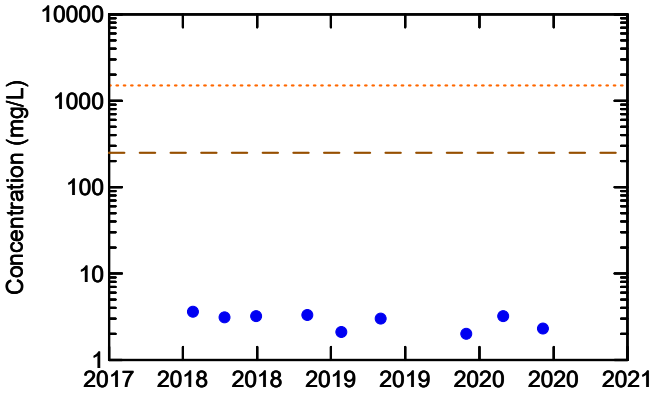
Decreasing Trend

Nitrogen (Ammonia Nitrogen)



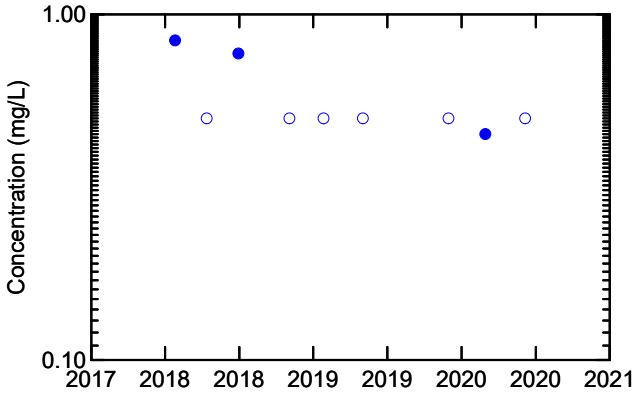
Over 50% non-detects

Dissolved Chloride



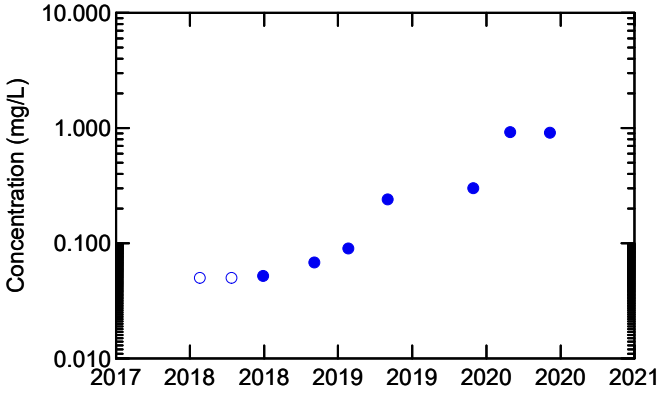
Stable

Total Organic Carbon



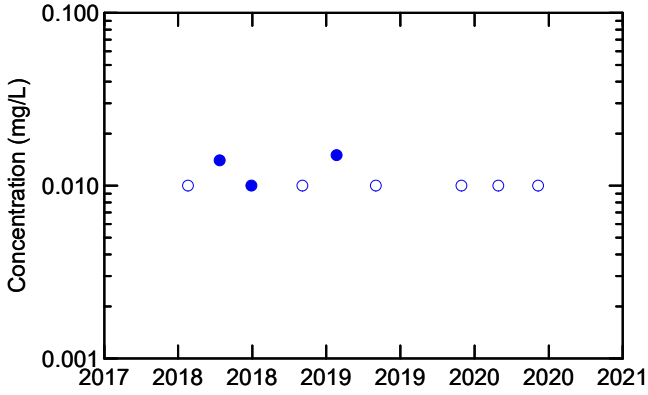
Over 50% non-detects

Nitrate + Nitrite



Increasing Trend

Orthophosphate



Over 50% non-detects

Legend:

● Detected result ○ Non-Detect

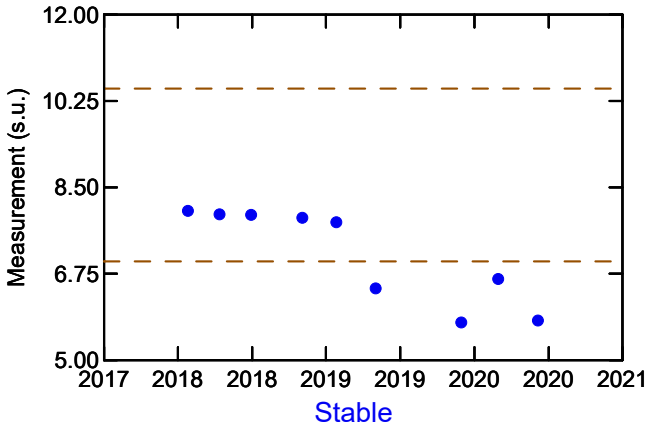
Nova Scotia (2014) Pathway-Specific Standard for Groundwater

Canadian Drinking Water Quality Guideline: Aesthetic

WELL MW-20B
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

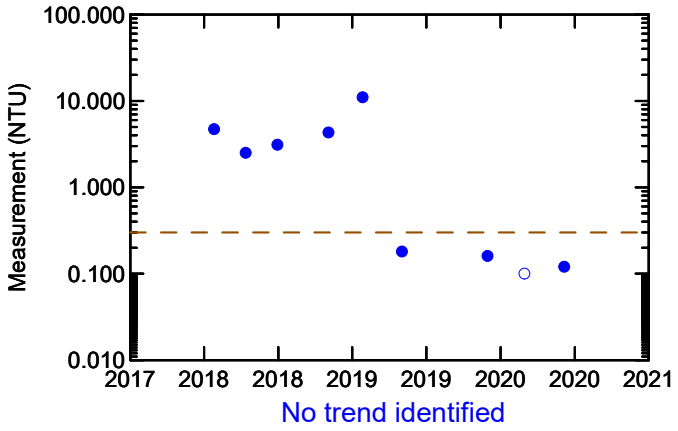
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

pH



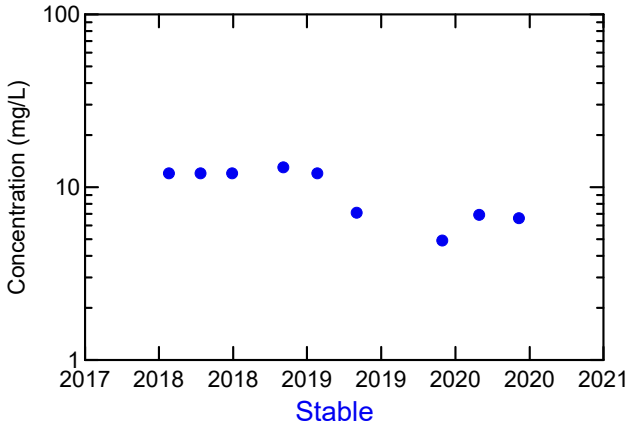
Stable

Turbidity



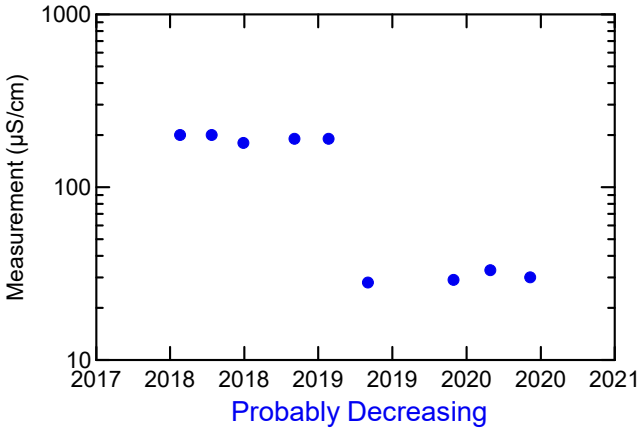
No trend identified

Reactive Silica (SiO2)



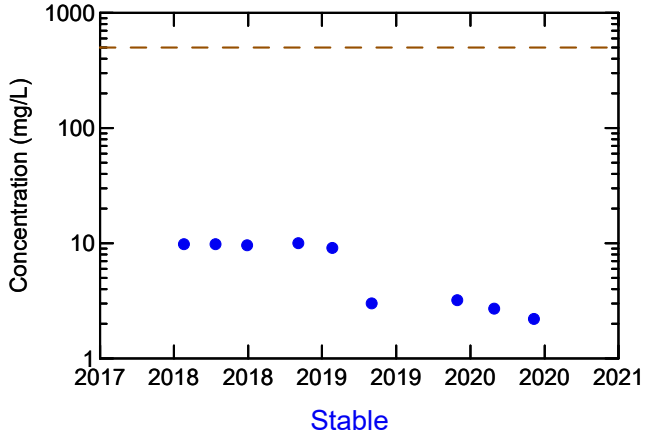
Stable

Conductivity



Probably Decreasing

Dissolved Sulphate (SO4)



Stable

Legend:

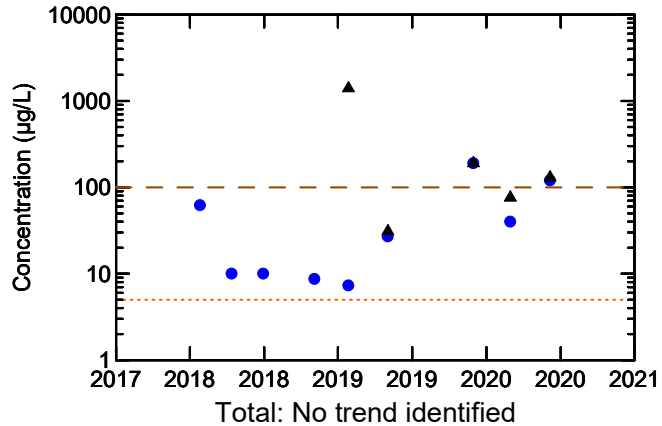
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines: Aesthetic

Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

WELL MW-20B
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

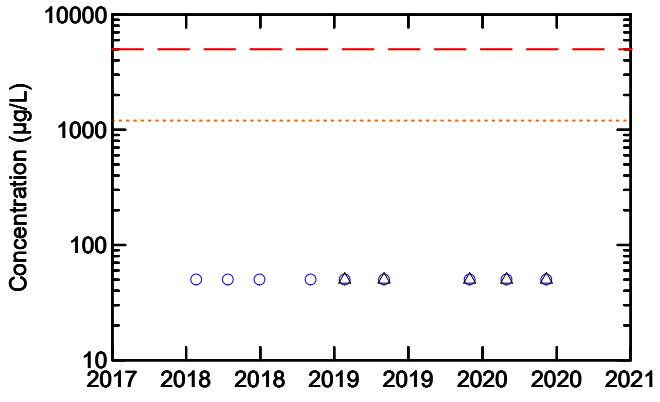
Aluminum



Total: No trend identified

Dissolved: No trend identified

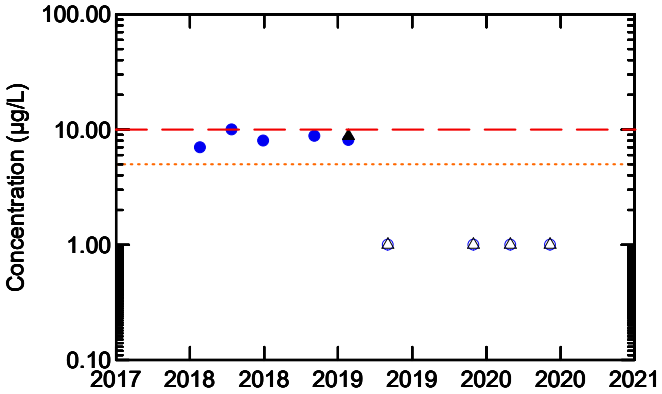
Boron



Total: No detected results

Dissolved: No detected results

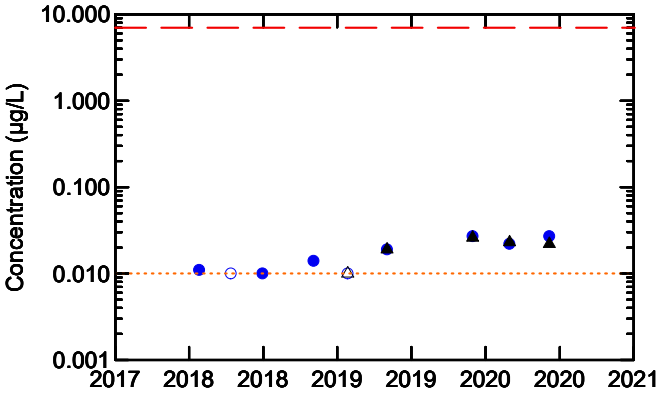
Arsenic



Total: Over 50% non-detects

Dissolved: Probably Decreasing

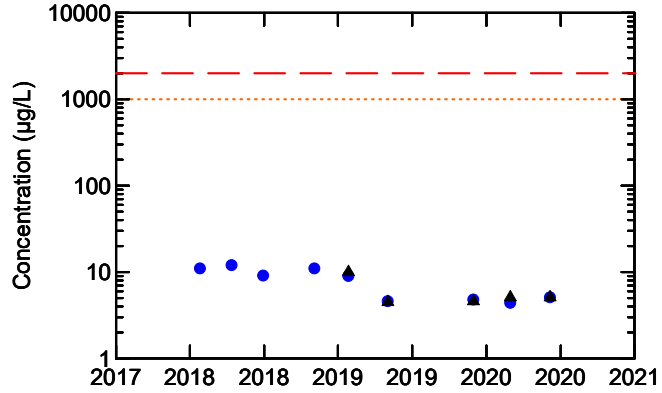
Cadmium



Total: No trend identified

Dissolved: Increasing Trend

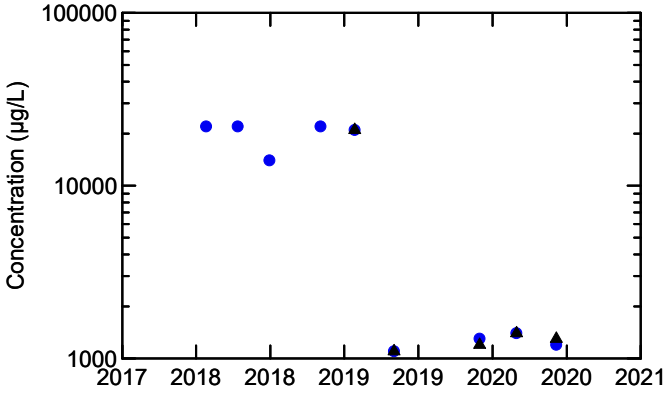
Barium



Total: No trend identified

Dissolved: Decreasing Trend

Calcium



Total: No trend identified

Dissolved: Decreasing Trend

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

Nova Scotia (2014) Pathway-Specific Standard for Groundwater

Canadian Drinking Water Quality Guideline: Maximum Acceptable

Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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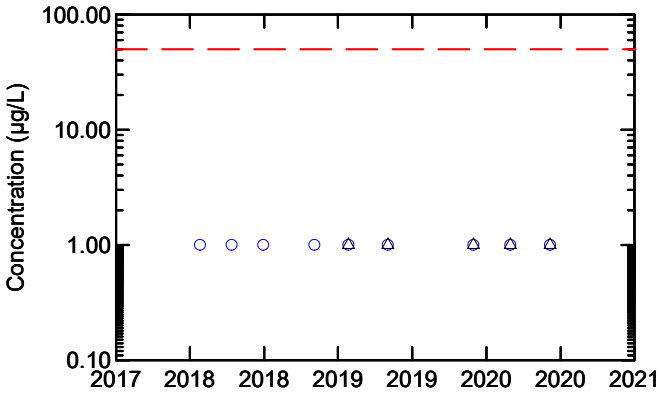
Non-detects are plotted at the reporting limit.

WELL MW-20B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

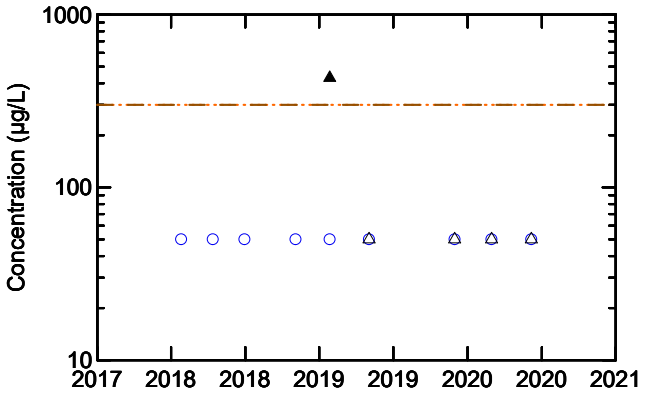
Chromium



Total: No detected results

Dissolved: No detected results

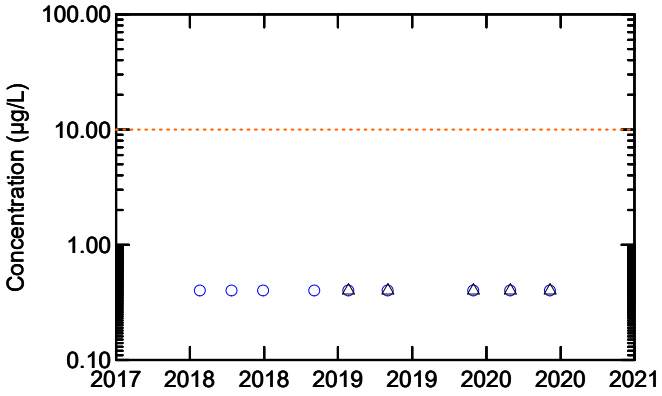
Iron



Total: Over 50% non-detects

Dissolved: No detected results

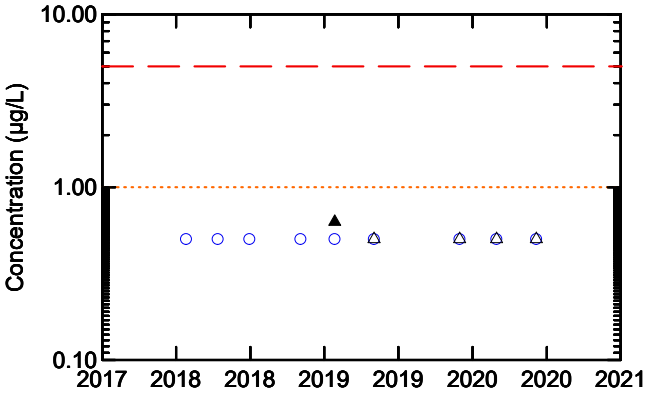
Cobalt



Total: No detected results

Dissolved: No detected results

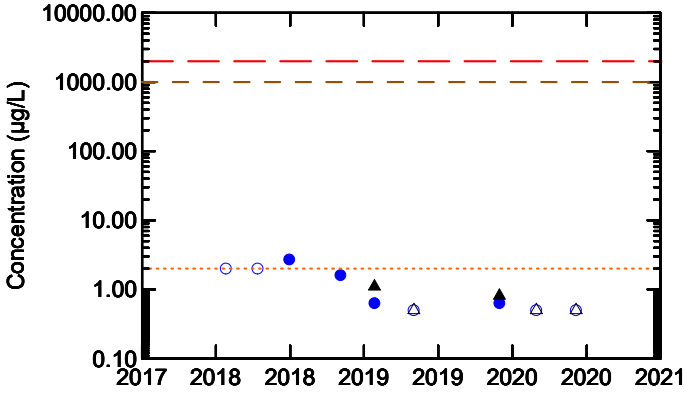
Lead



Total: Over 50% non-detects

Dissolved: No detected results

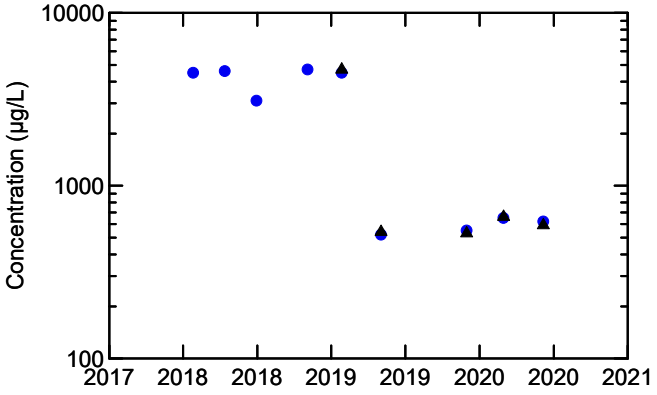
Copper



Total: Over 50% non-detects

Dissolved: Decreasing Trend

Magnesium



Total: No trend identified

Dissolved: Stable

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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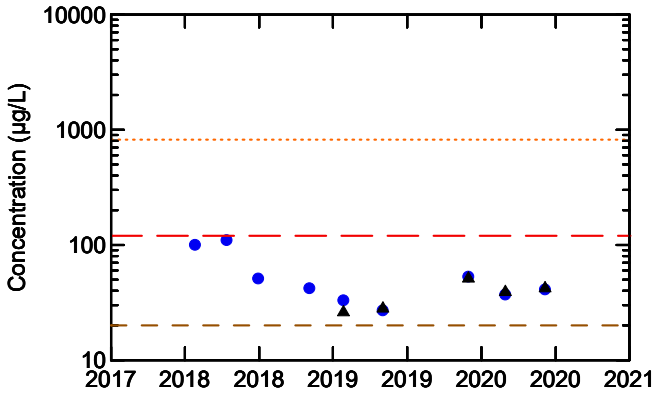
Non-detects are plotted at the reporting limit.

WELL MW-20B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

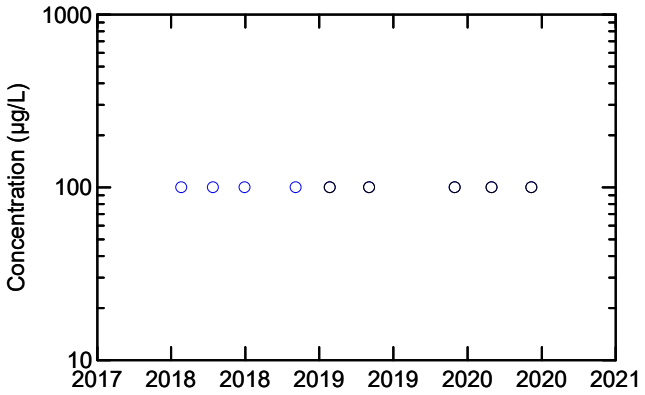
Manganese



Total: No trend identified

Dissolved: Stable

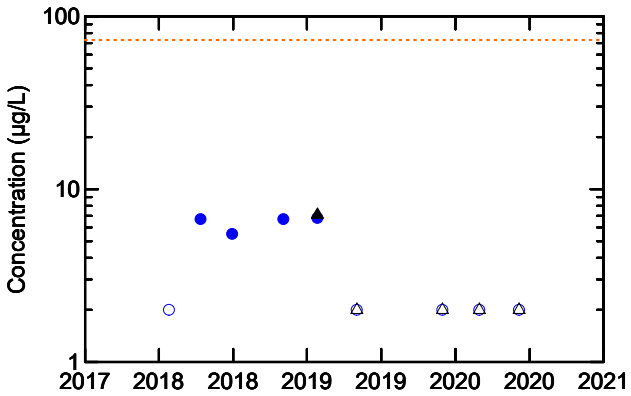
Phosphorus



Total: No detected results

Dissolved: No detected results

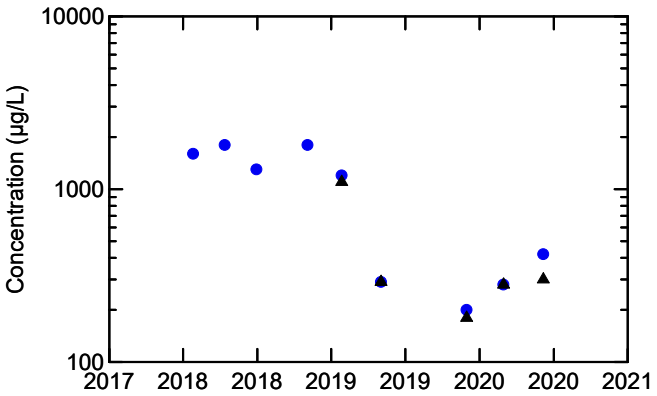
Molybdenum



Total: Over 50% non-detects

Dissolved: Over 50% non-detects

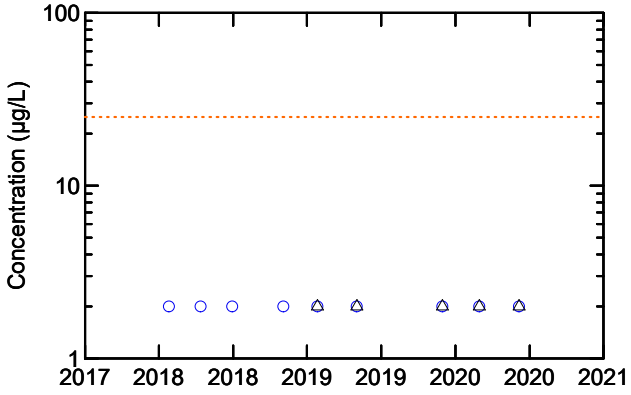
Potassium



Total: Stable

Dissolved: Decreasing Trend

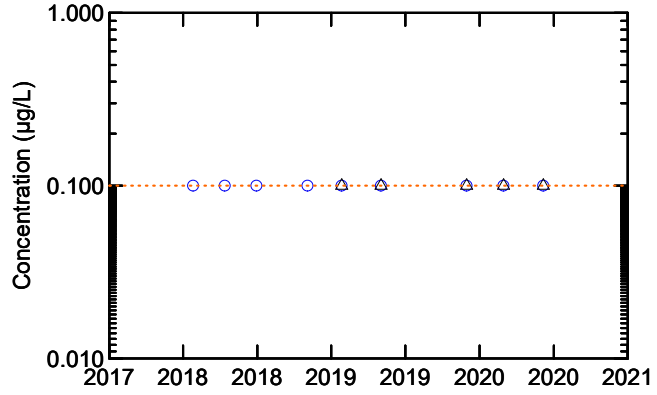
Nickel



Total: No detected results

Dissolved: No detected results

Silver



Total: No detected results

Dissolved: No detected results

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

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Notes:

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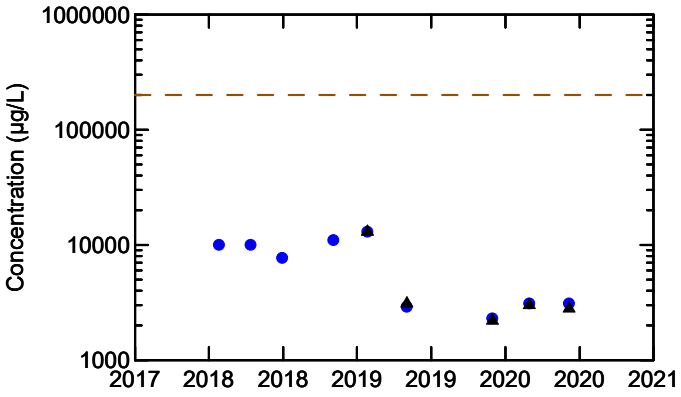
WELL MW-20B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

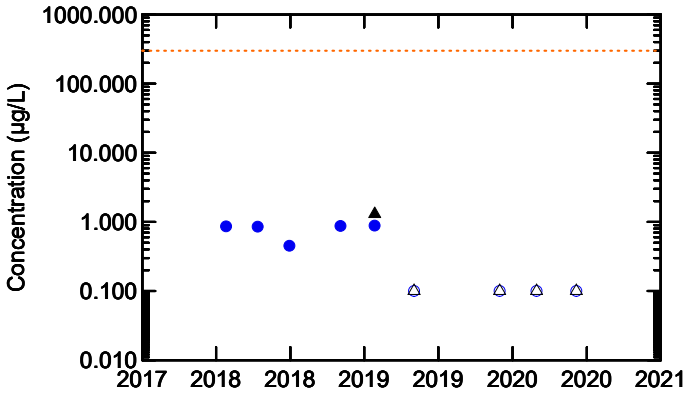
Sodium



Total: Stable

Dissolved: Stable

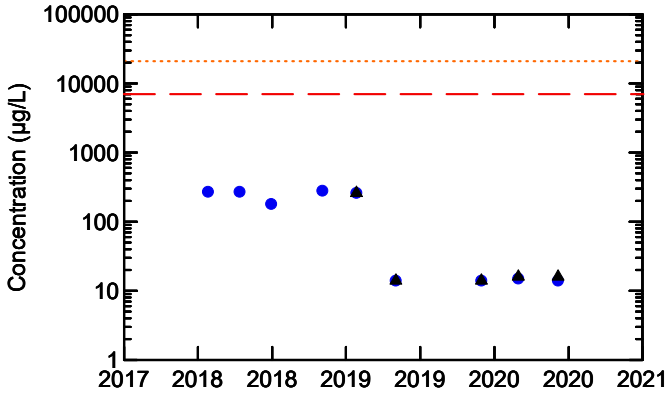
Uranium



Total: Over 50% non-detects

Dissolved: Stable

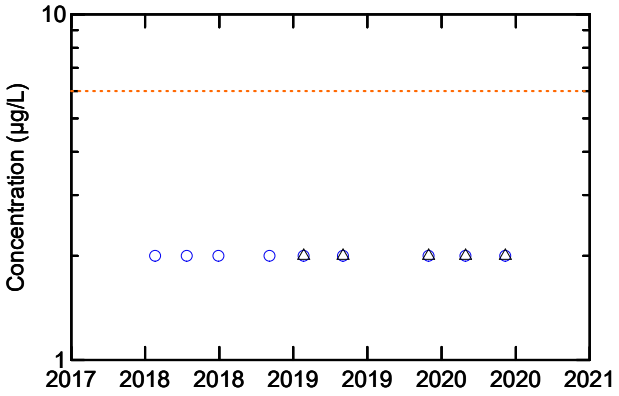
Strontium



Total: No trend identified

Dissolved: Decreasing Trend

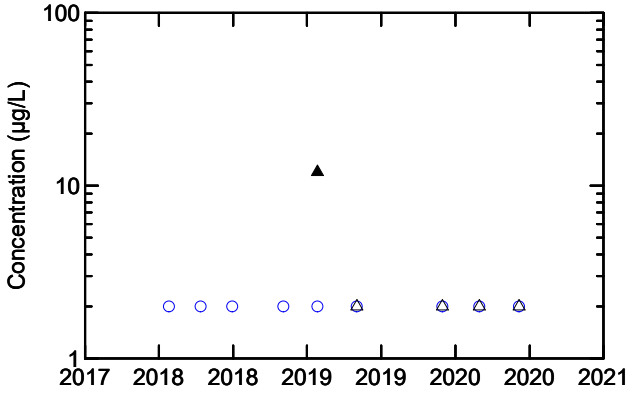
Vanadium



Total: No detected results

Dissolved: No detected results

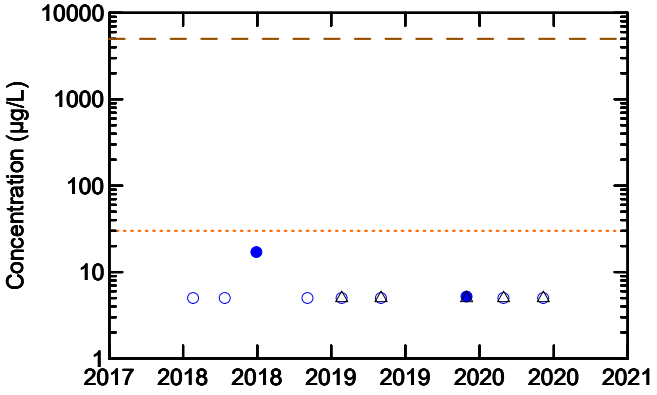
Titanium



Total: Over 50% non-detects

Dissolved: No detected results

Zinc



Total: No detected results

Dissolved: Over 50% non-detects

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

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– – - Canadian Drinking Water Quality Guideline: Aesthetic

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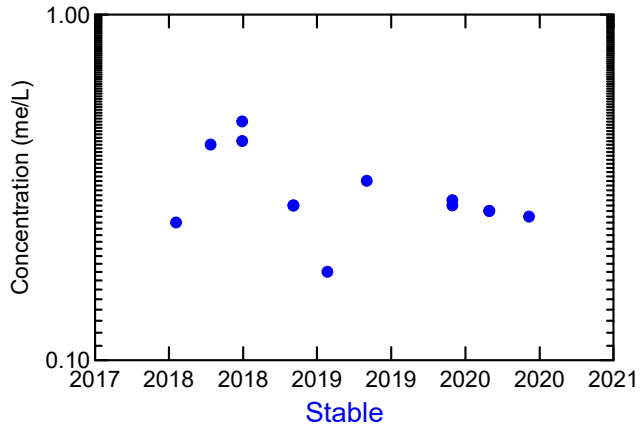
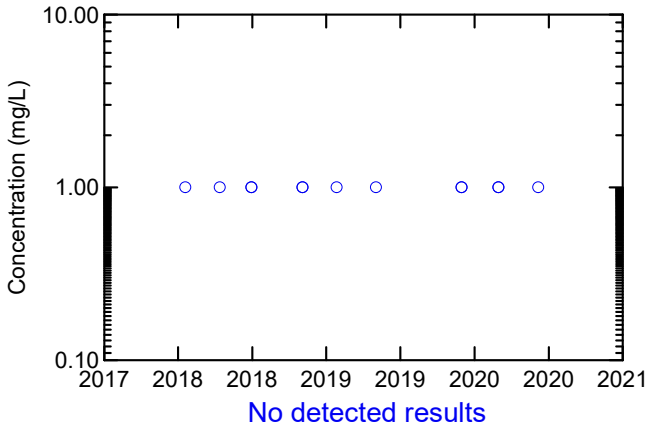
WELL MW-20B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Anion Sum



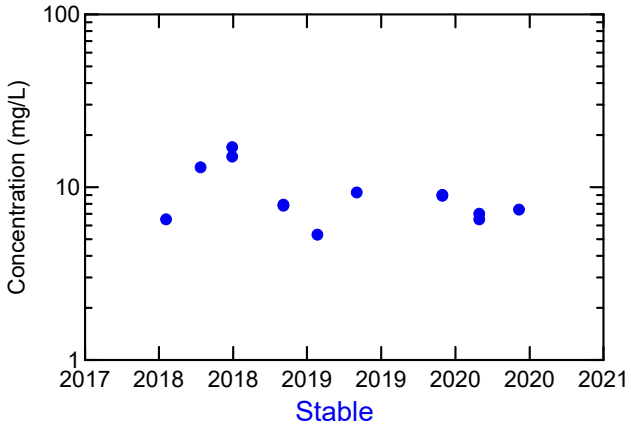
Stable

Carb. Alkalinity (calc. as CaCO3)



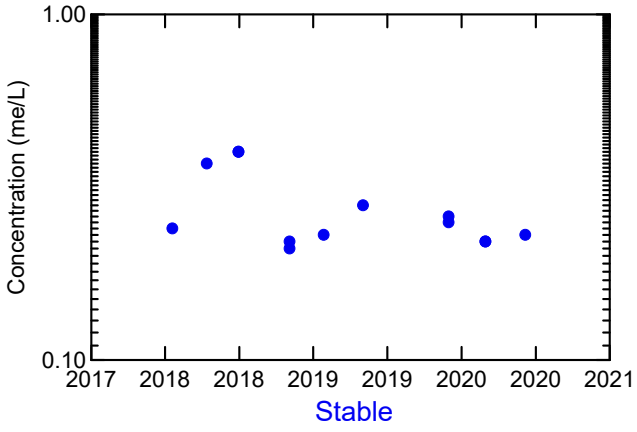
No detected results

Bicarb. Alkalinity (calc. as CaCO3)



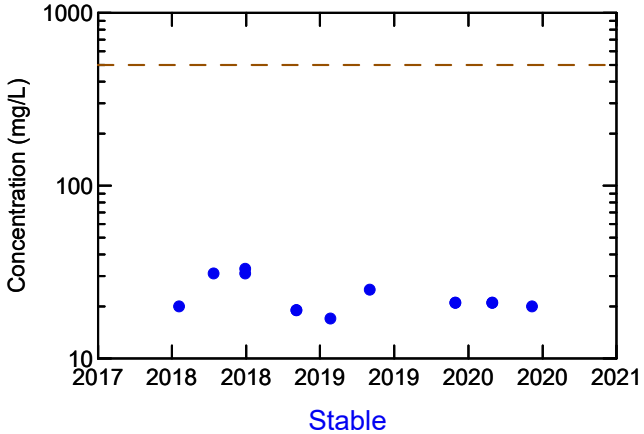
Stable

Cation Sum



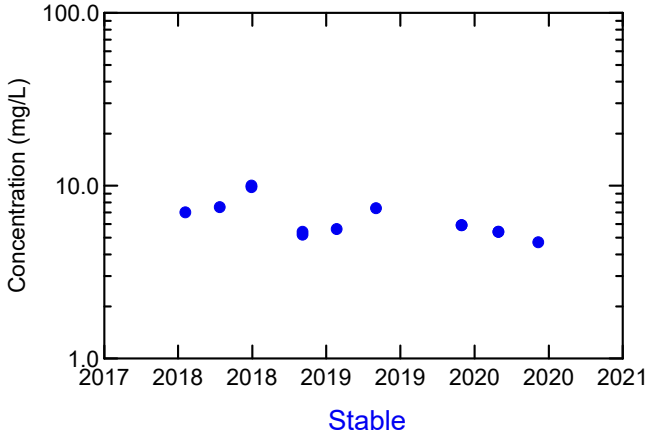
Stable

Calculated TDS



Stable

Hardness (CaCO3)



Stable

Legend:

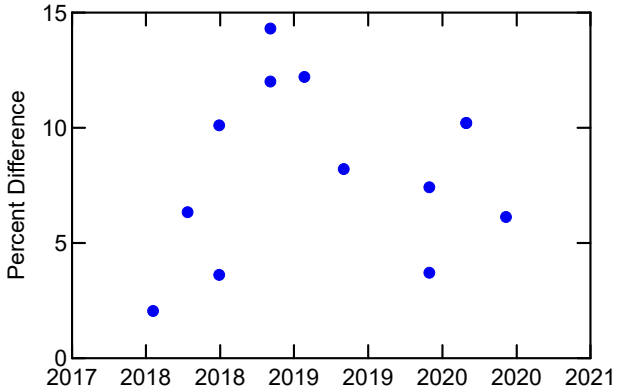
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines - Aesthetic

WELL MW-21A
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

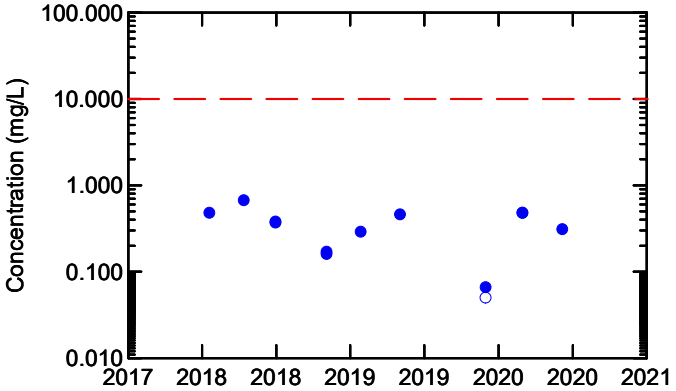
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Ion Balance



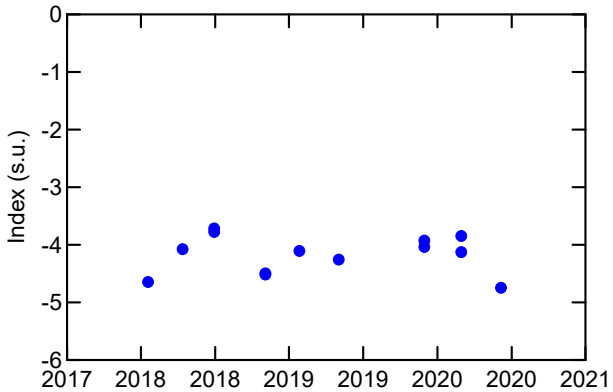
No trend identified

Nitrate



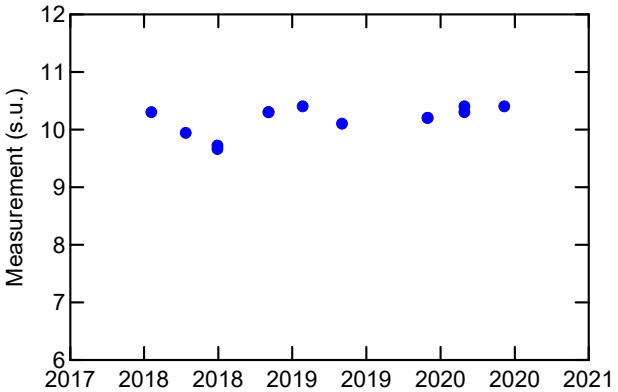
Stable

Langelier Index (@ 20C)



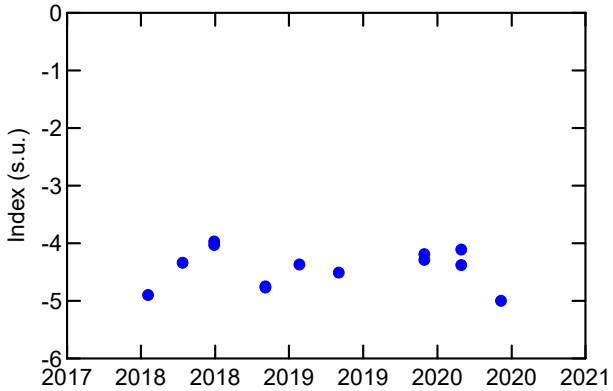
Stable

Saturation pH (@ 20C)



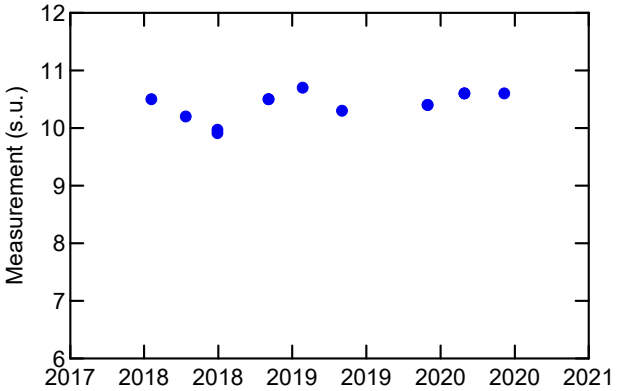
No trend identified

Langelier Index (@ 4C)



Stable

Saturation pH (@ 4C)



No trend identified

Legend:

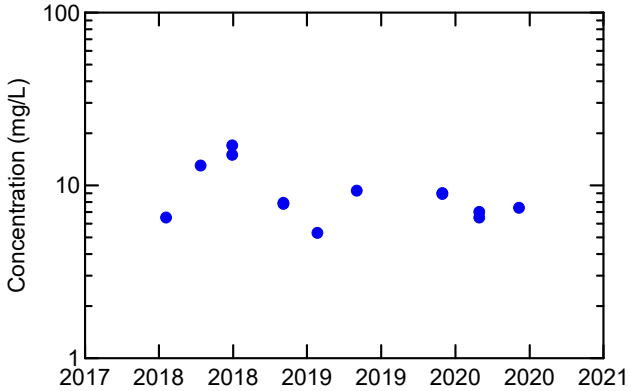
● Detected result ○ Non-Detect

— — Canadian Drinking Water Quality Guidelines: Maximum Acceptable

WELL MW-21A
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

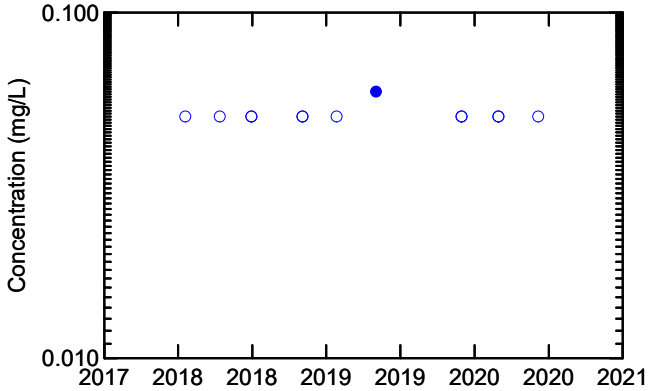
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Total Alkalinity (Total as CaCO3)



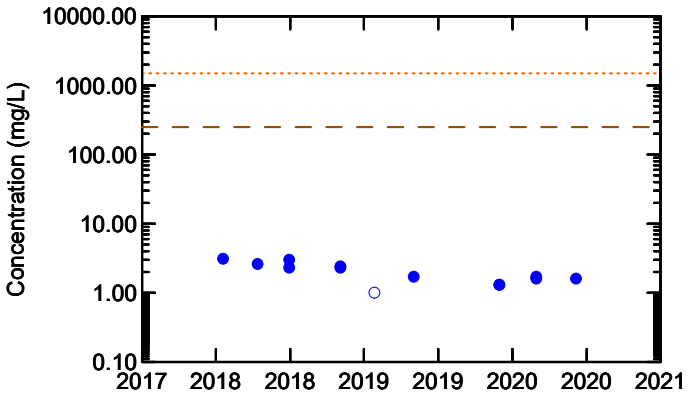
Stable

Nitrogen (Ammonia Nitrogen)



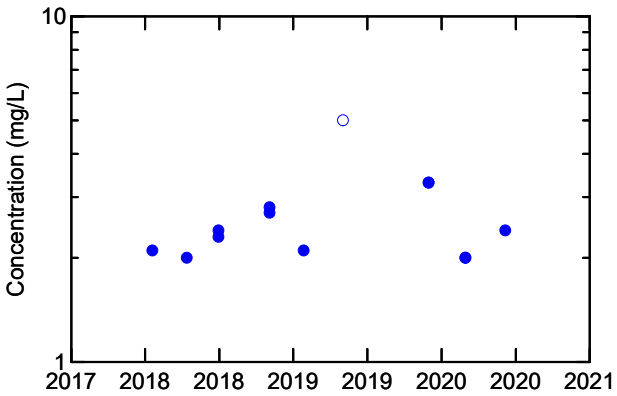
Over 50% non-detects

Dissolved Chloride



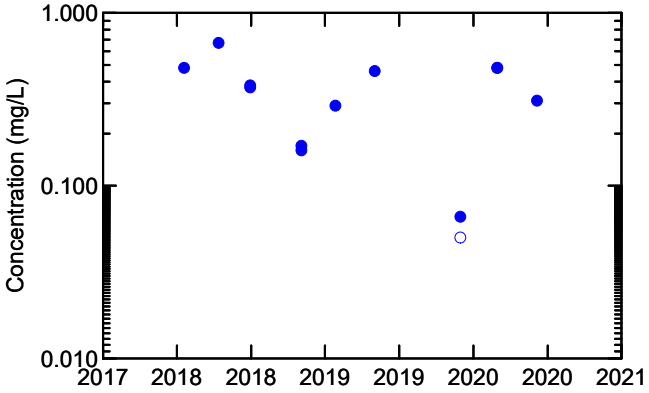
Decreasing Trend

Total Organic Carbon



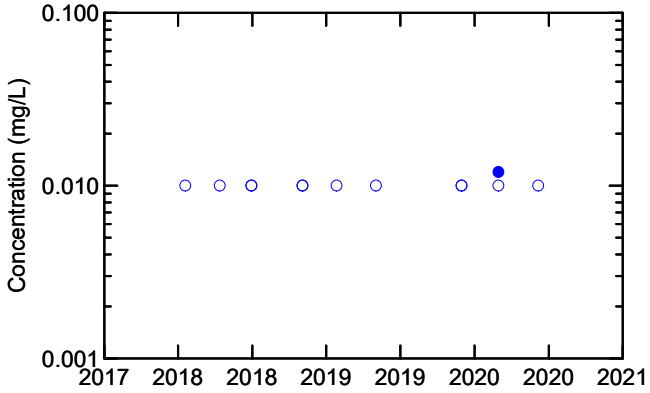
No trend identified

Nitrate + Nitrite



Stable

Orthophosphate



Over 50% non-detects

Legend:

● Detected result ○ Non-Detect

Nova Scotia (2014) Pathway-Specific Standard for Groundwater

Canadian Drinking Water Quality Guideline: Aesthetic

Notes:
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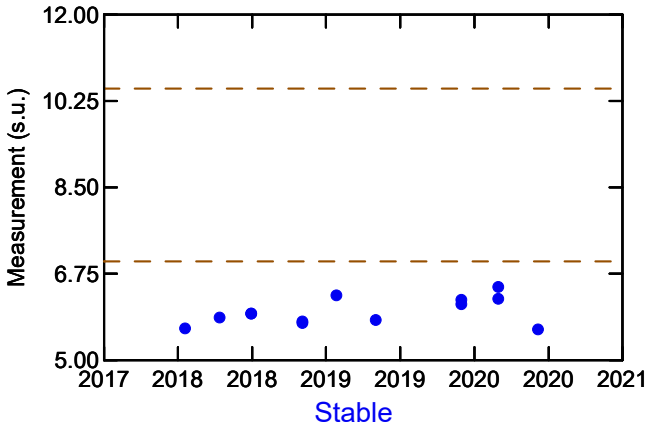
Non-detects are plotted at the reporting limit.

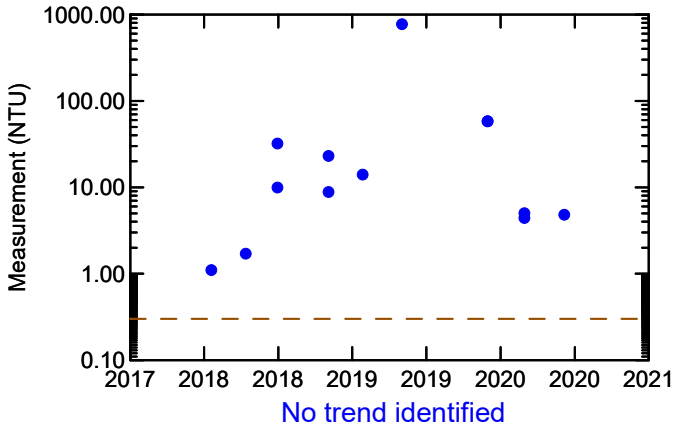
WELL MW-21A
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

pH



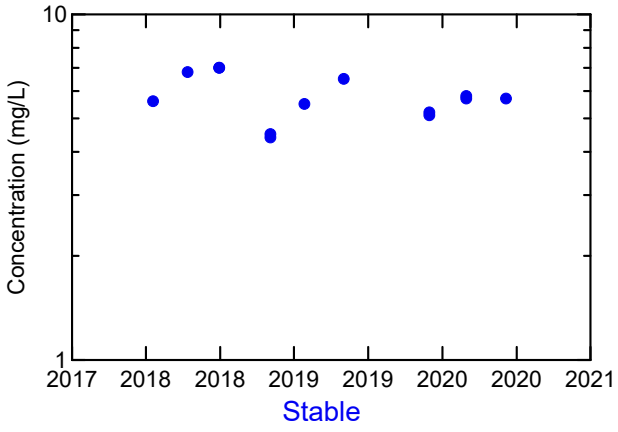
Stable

Turbidity



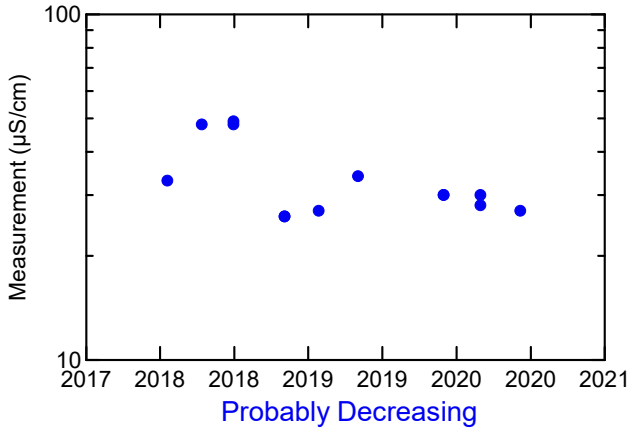
No trend identified

Reactive Silica (SiO2)



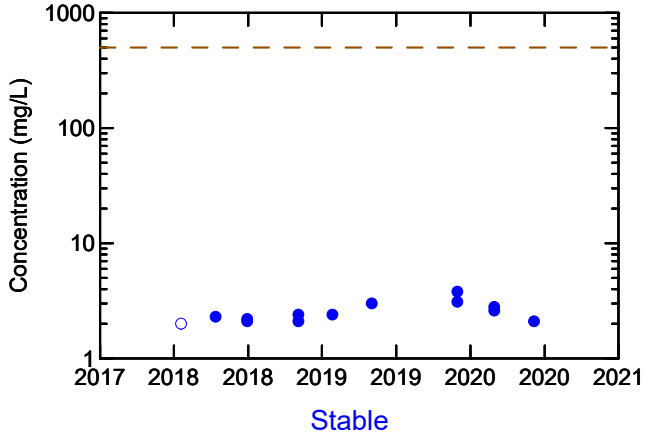
Stable

Conductivity



Probably Decreasing

Dissolved Sulphate (SO4)



Stable

Legend:

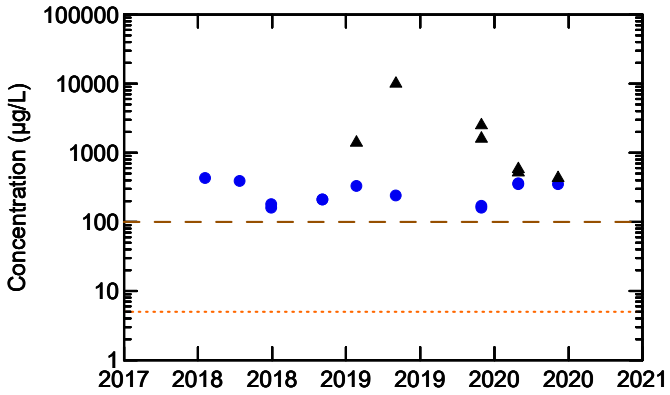
● Detected result ○ Non-Detect

– – - Canadian Drinking Water Quality Guidelines: Aesthetic

WELL MW-21A
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

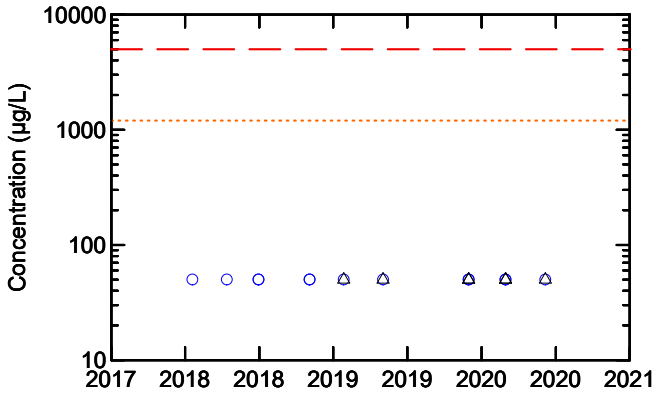
Aluminum



Total: No trend identified

Dissolved: Stable

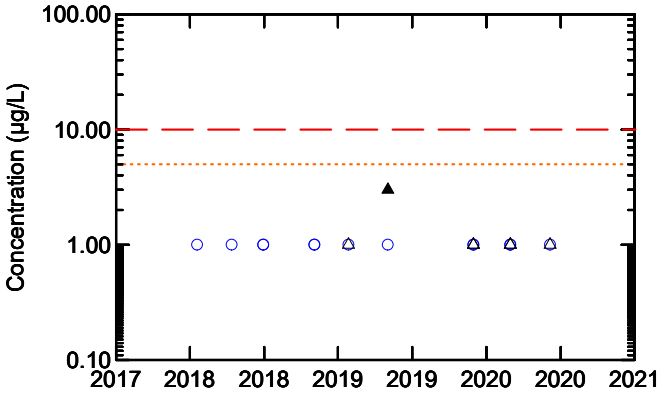
Boron



Total: No detected results

Dissolved: No detected results

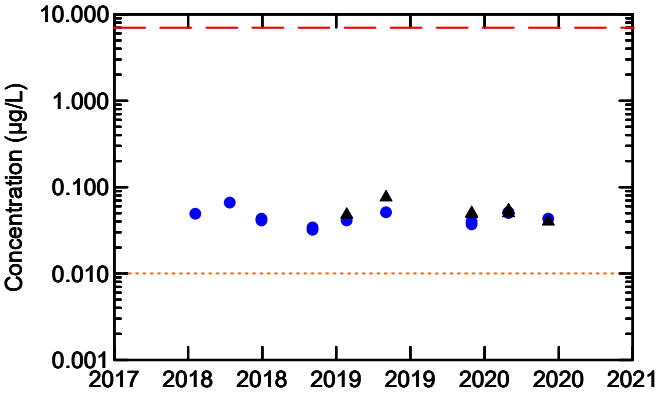
Arsenic



Total: Over 50% non-detects

Dissolved: No detected results

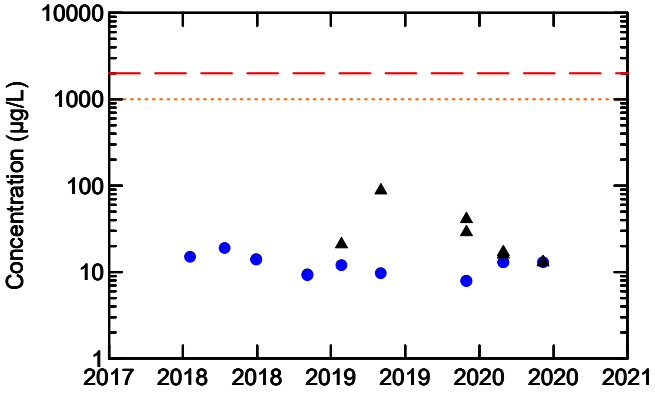
Cadmium



Total: Stable

Dissolved: Stable

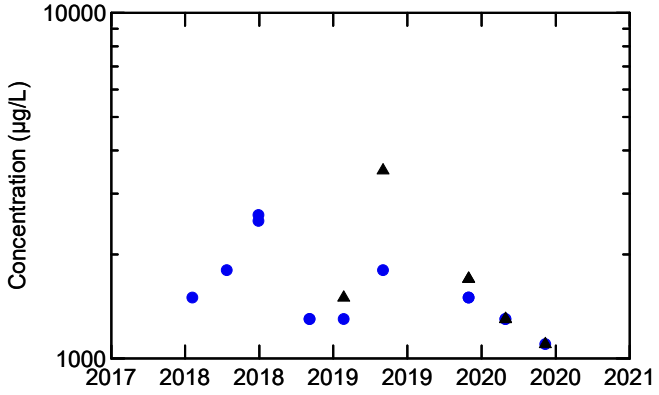
Barium



Total: Stable

Dissolved: Stable

Calcium



Total: Stable

Dissolved: Stable

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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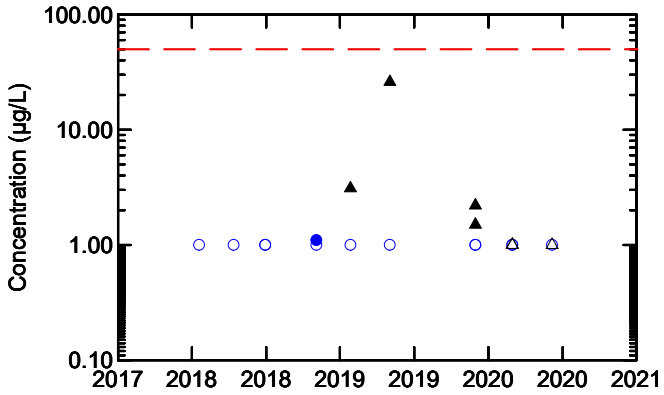
WELL MW-21A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

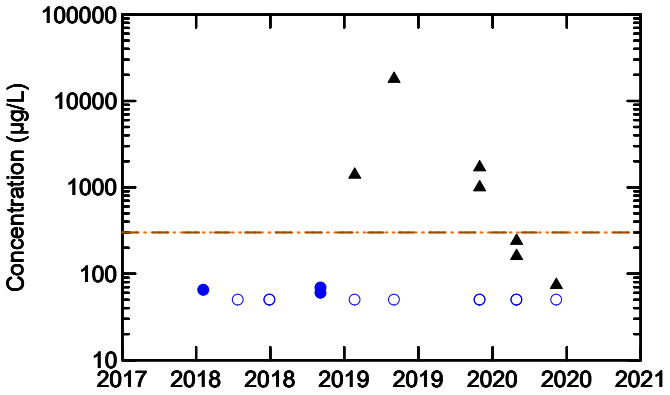
Chromium



Total: No trend identified

Dissolved: Over 50% non-detects

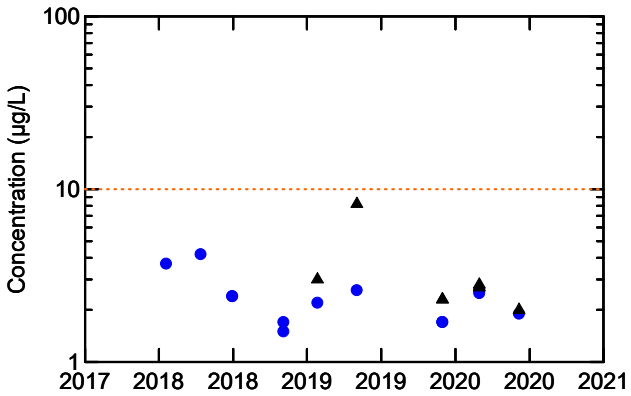
Iron



Total: Probably Decreasing

Dissolved: Over 50% non-detects

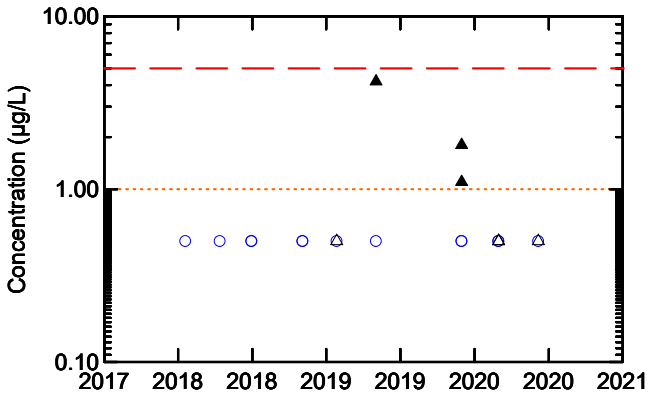
Cobalt



Total: Stable

Dissolved: Stable

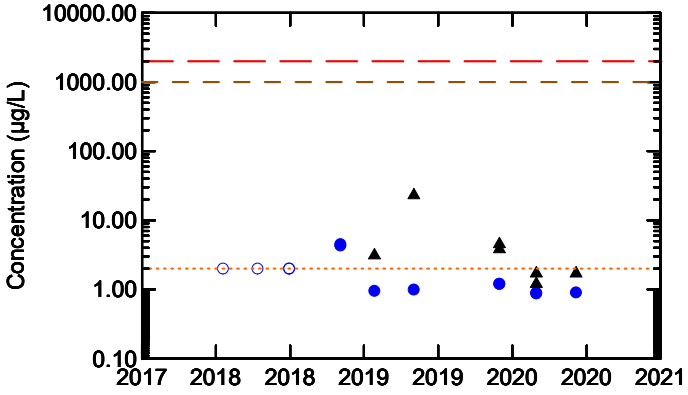
Lead



Total: Over 50% non-detects

Dissolved: No detected results

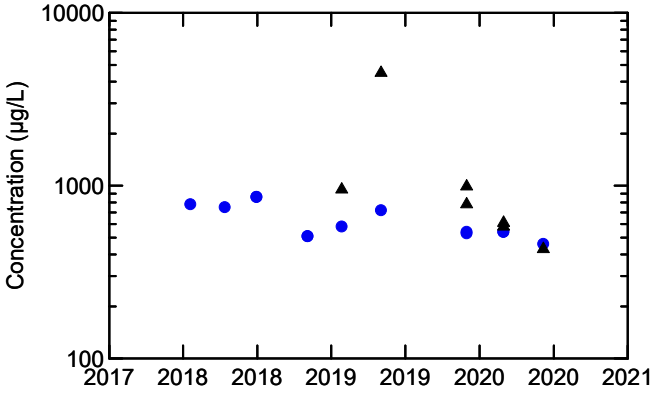
Copper



Total: No trend identified

Dissolved: Stable

Magnesium



Total: Probably Decreasing

Dissolved: Decreasing Trend

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

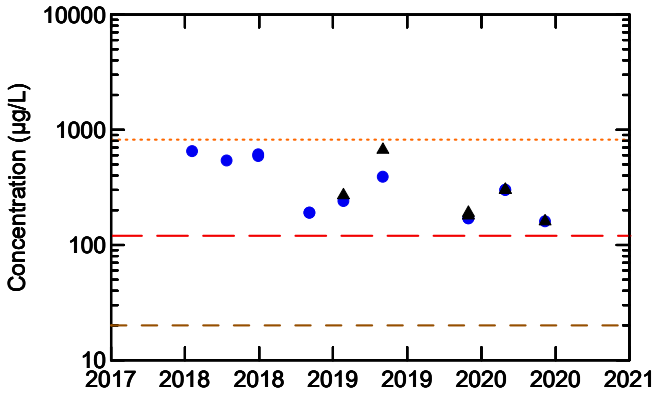
– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

WELL MW-21A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

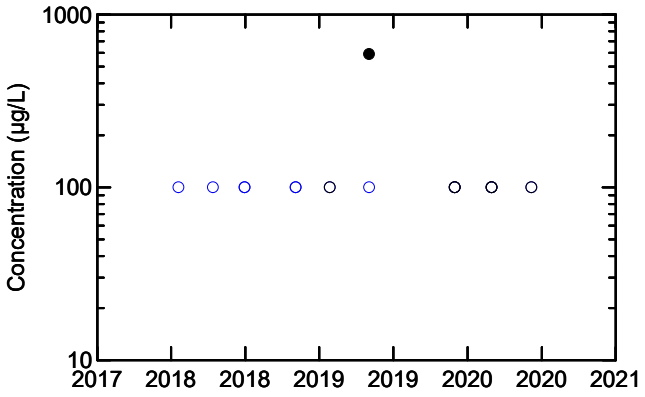
Manganese



Total: Stable

Dissolved: Decreasing Trend

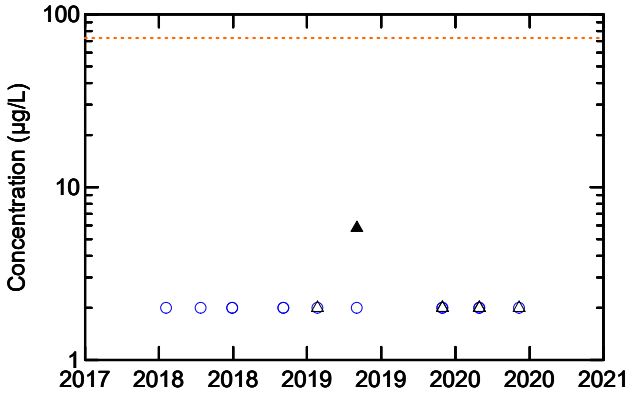
Phosphorus



Total: Over 50% non-detects

Dissolved: No detected results

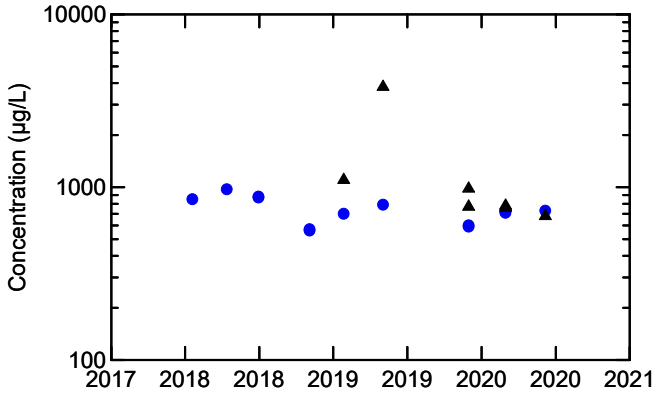
Molybdenum



Total: Over 50% non-detects

Dissolved: No detected results

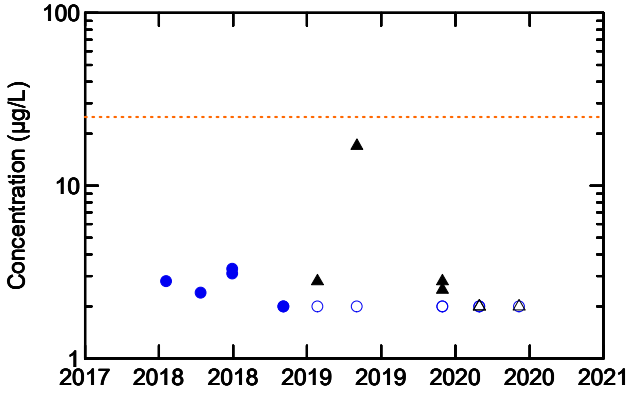
Potassium



Total: Probably Decreasing

Dissolved: Stable

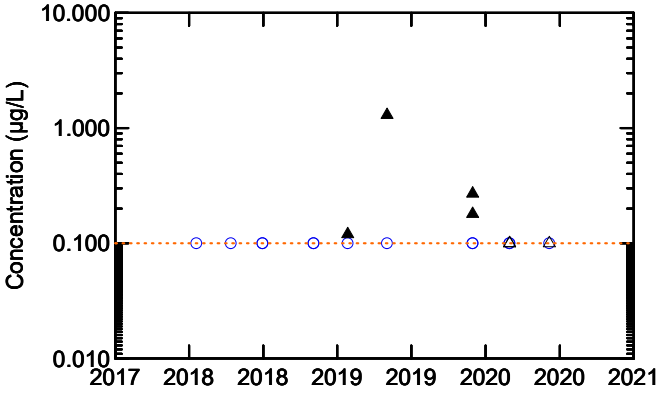
Nickel



Total: No trend identified

Dissolved: Over 50% non-detects

Silver



Total: No trend identified

Dissolved: No detected results

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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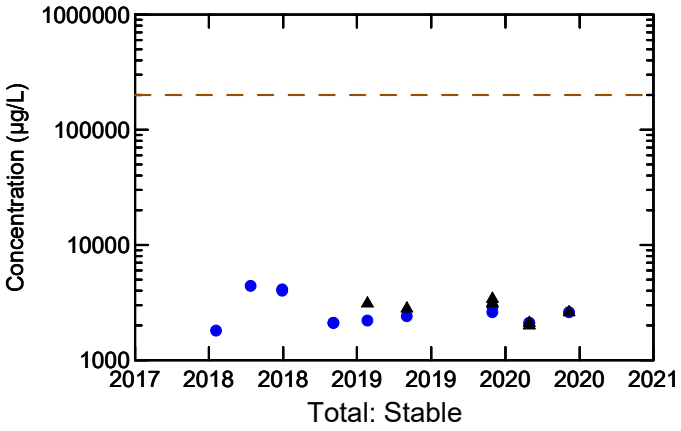
WELL MW-21A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

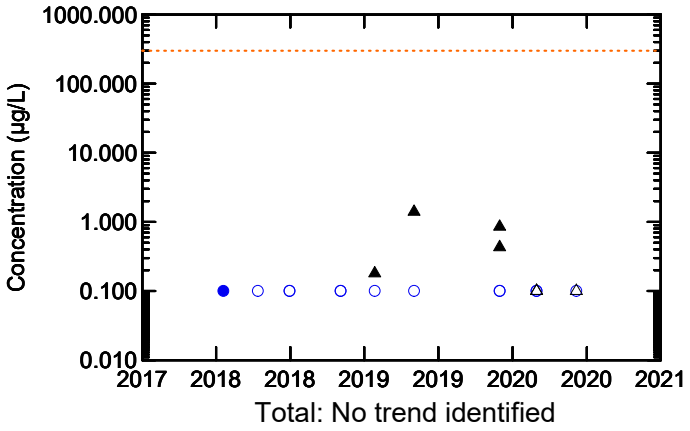
Sodium



Total: Stable

Dissolved: No trend identified

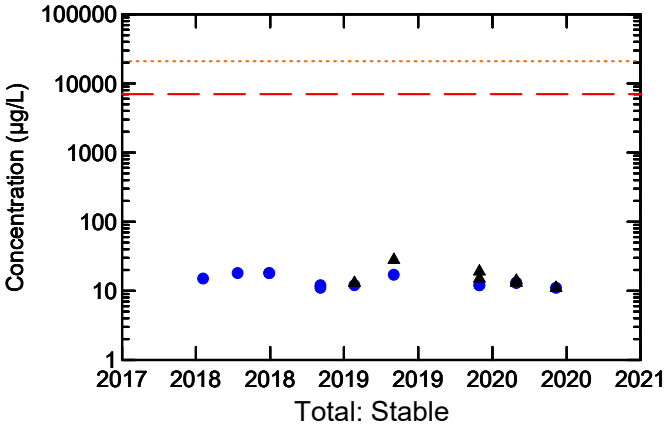
Uranium



Total: No trend identified

Dissolved: Over 50% non-detects

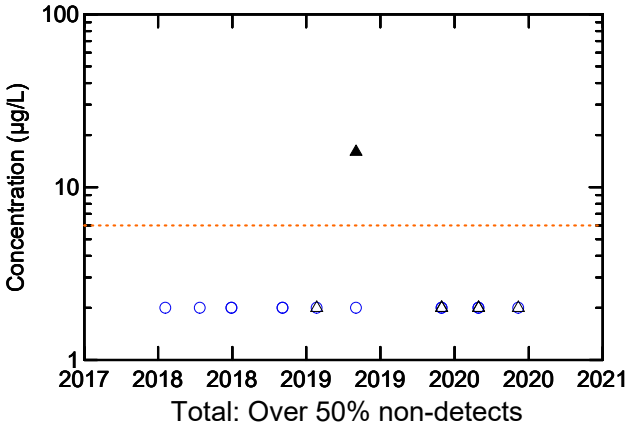
Strontium



Total: Stable

Dissolved: Stable

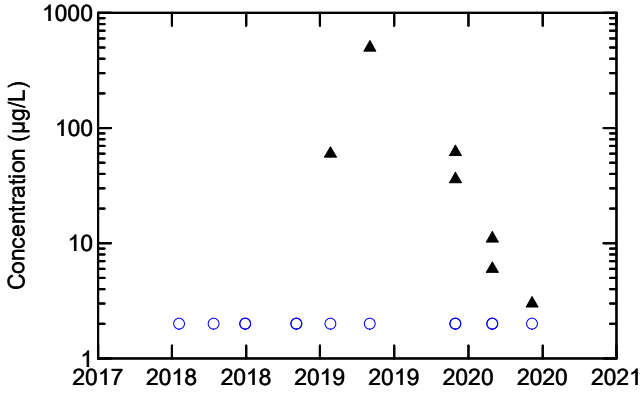
Vanadium



Total: Over 50% non-detects

Dissolved: No detected results

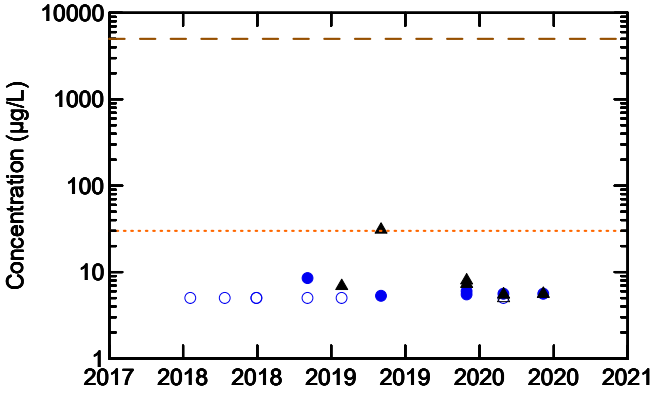
Titanium



Total: Probably Decreasing

Dissolved: No detected results

Zinc



Total: Stable

Dissolved: No trend identified

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

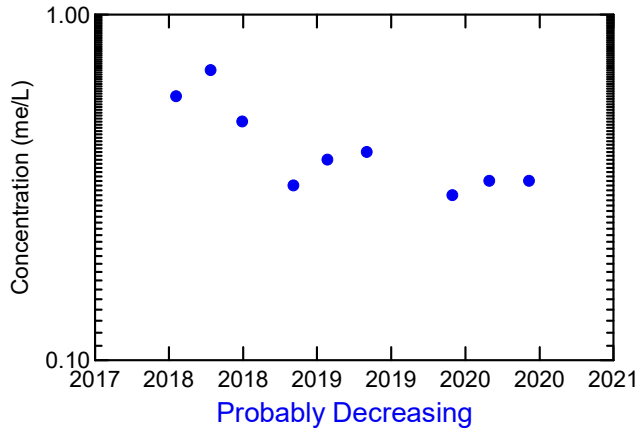
– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

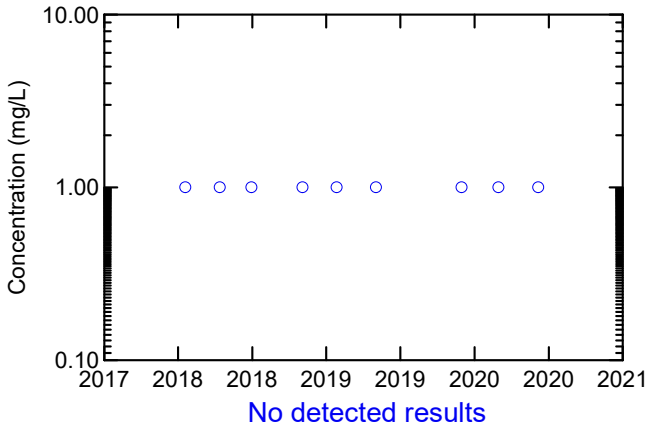
WELL MW-21A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Anion Sum



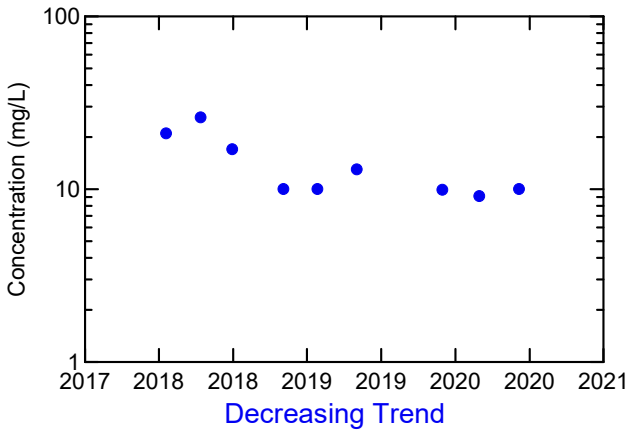
Probably Decreasing

Carb. Alkalinity (calc. as CaCO3)



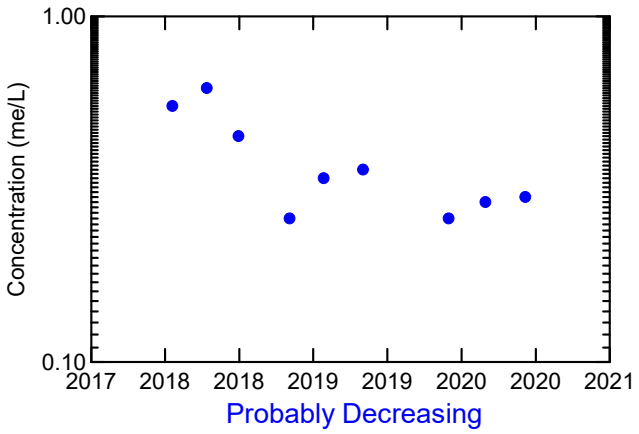
No detected results

Bicarb. Alkalinity (calc. as CaCO3)



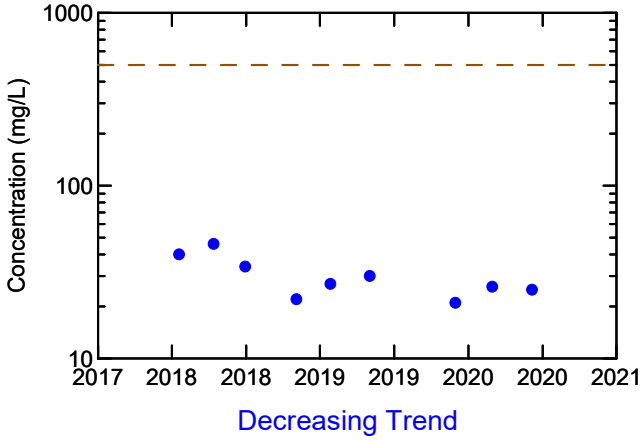
Decreasing Trend

Cation Sum



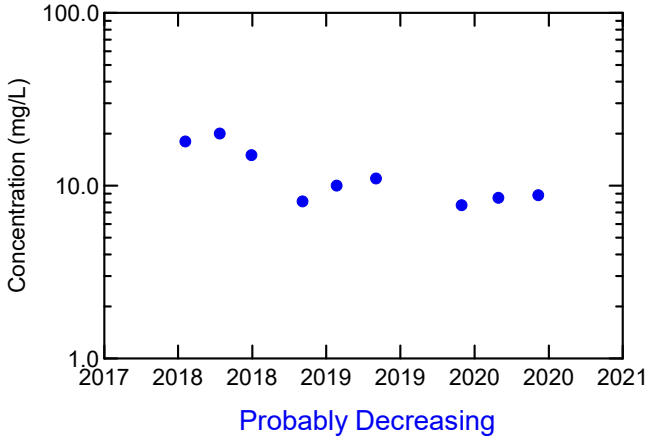
Probably Decreasing

Calculated TDS



Decreasing Trend

Hardness (CaCO3)



Probably Decreasing

Legend:

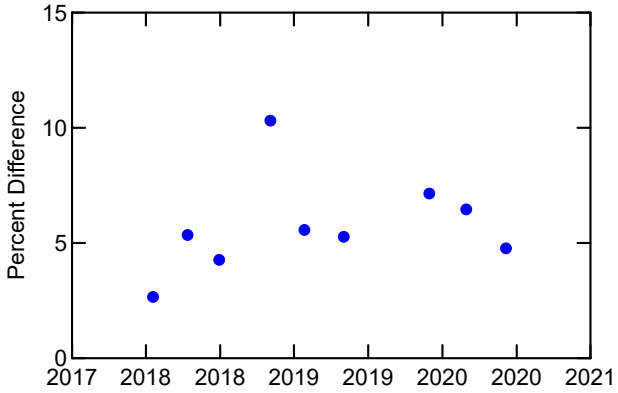
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines - Aesthetic

WELL MW-21B
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

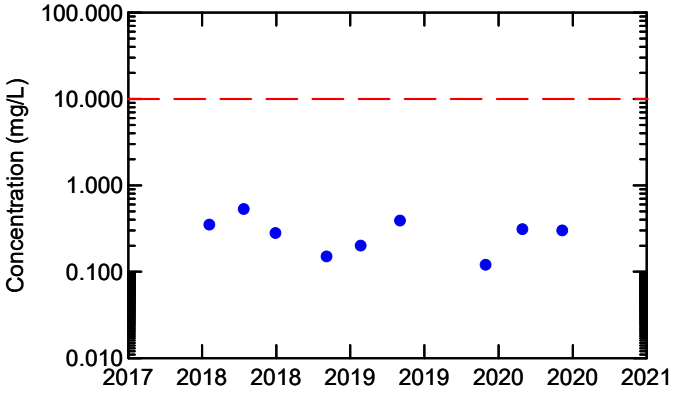
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Ion Balance



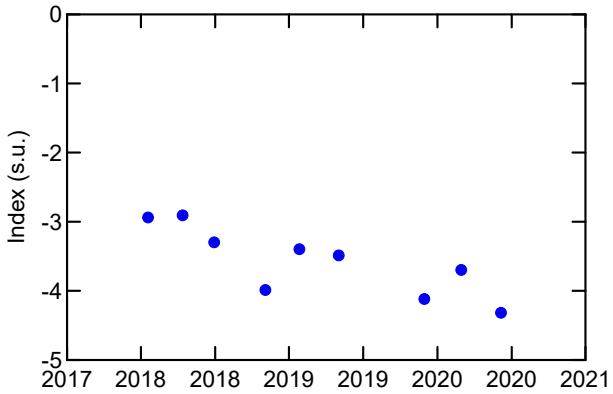
No trend identified

Nitrate



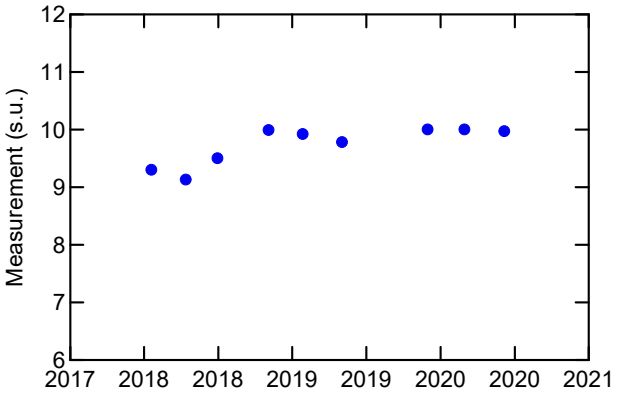
Stable

Langelier Index (@ 20C)



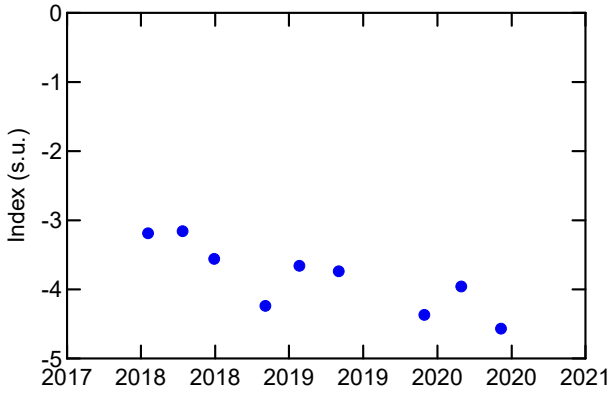
Decreasing Trend

Saturation pH (@ 20C)



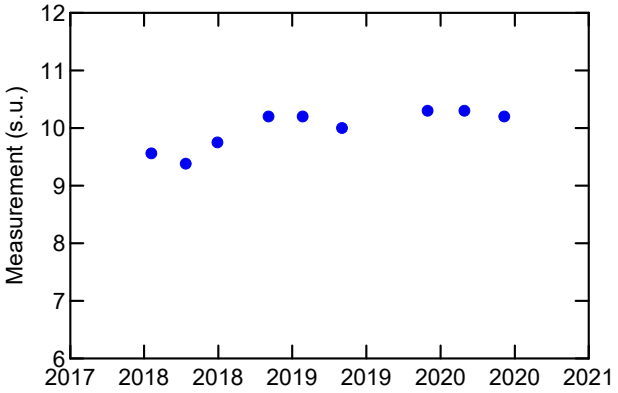
Increasing Trend

Langelier Index (@ 4C)



Decreasing Trend

Saturation pH (@ 4C)



Increasing Trend

Legend:

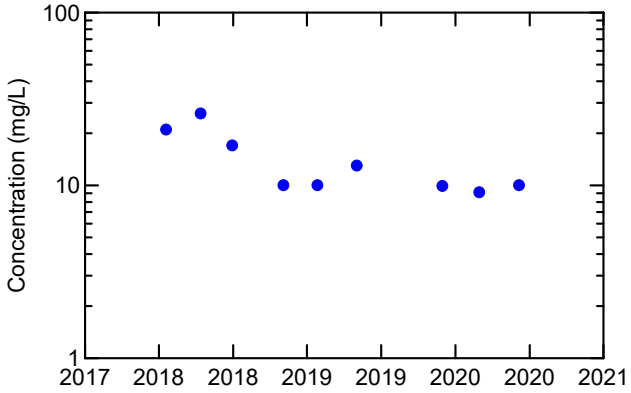
● Detected result ○ Non-Detect

— — Canadian Drinking Water Quality Guidelines: Maximum Acceptable

WELL MW-21B
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

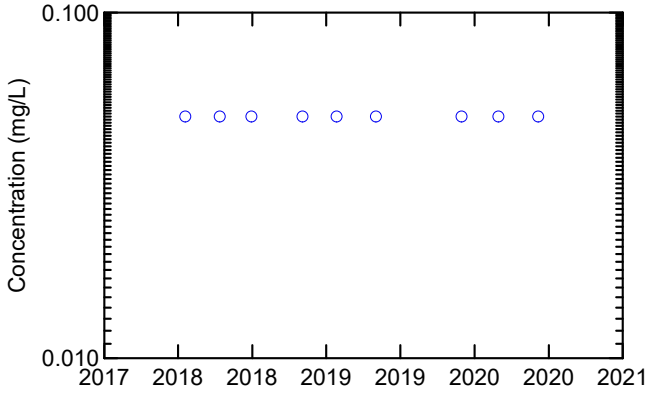
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Total Alkalinity (Total as CaCO3)



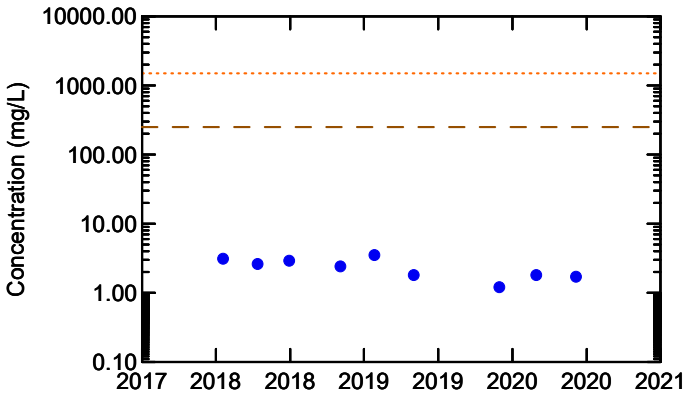
Decreasing Trend

Nitrogen (Ammonia Nitrogen)



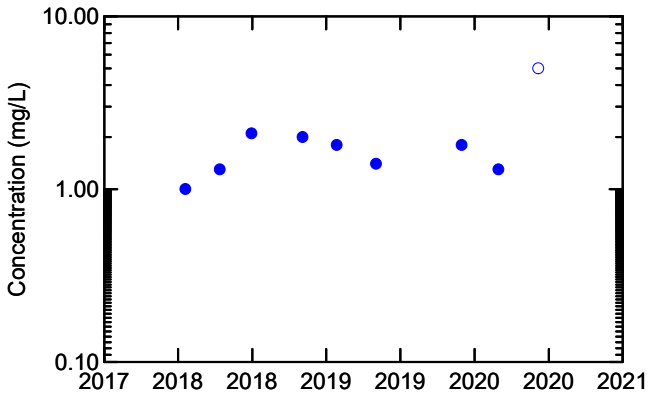
No detected results

Dissolved Chloride



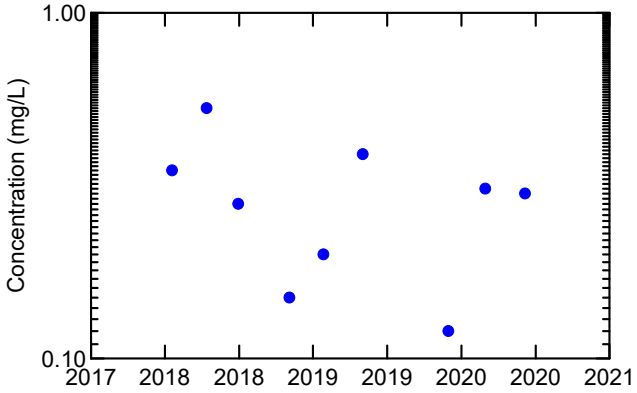
Decreasing Trend

Total Organic Carbon



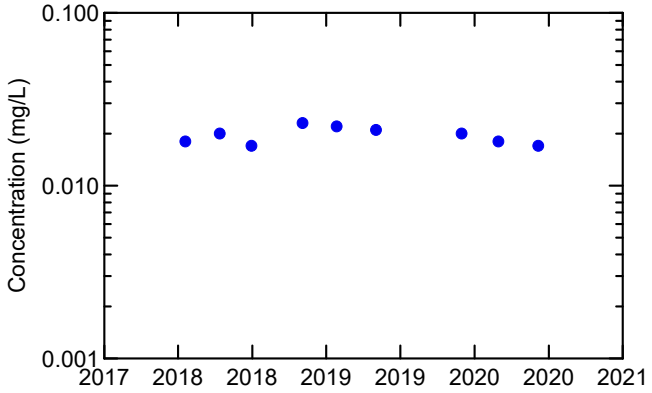
Stable

Nitrate + Nitrite



Stable

Orthophosphate



Stable

Legend:

● Detected result ○ Non-Detect

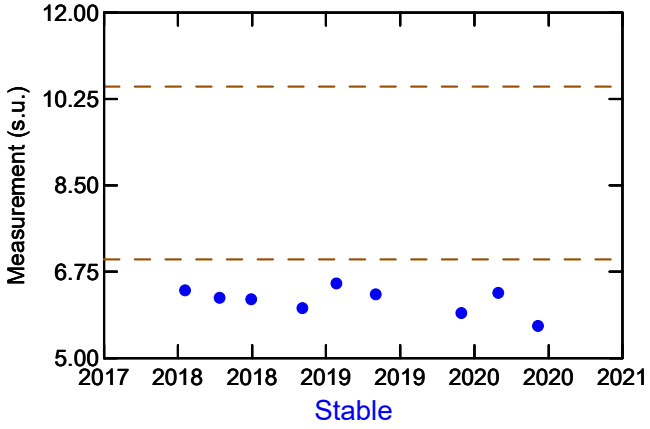
Nova Scotia (2014) Pathway-Specific Standard for Groundwater

Canadian Drinking Water Quality Guideline: Aesthetic

WELL MW-21B
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

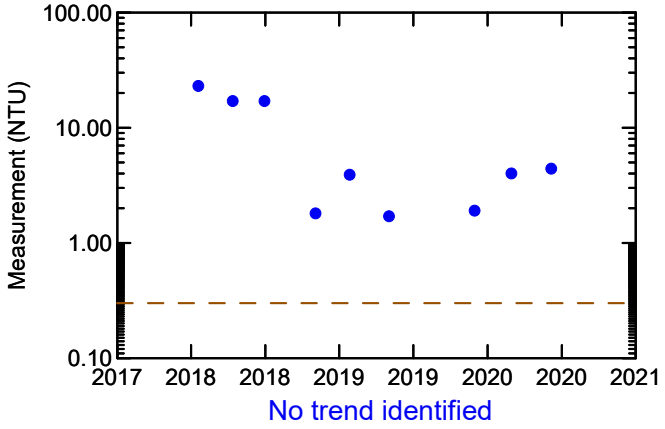
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

pH



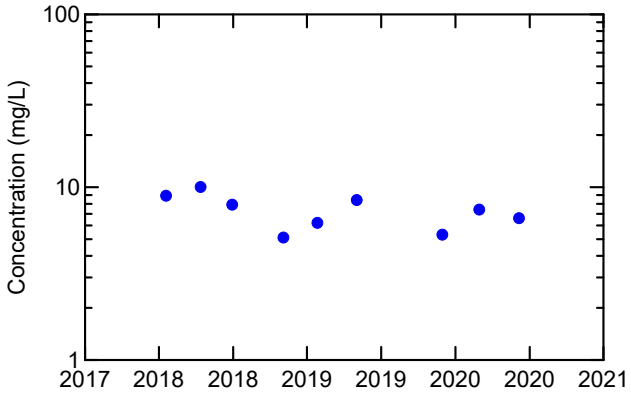
Stable

Turbidity



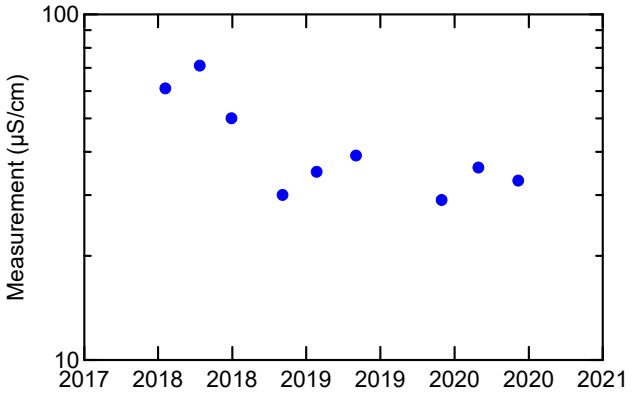
No trend identified

Reactive Silica (SiO2)



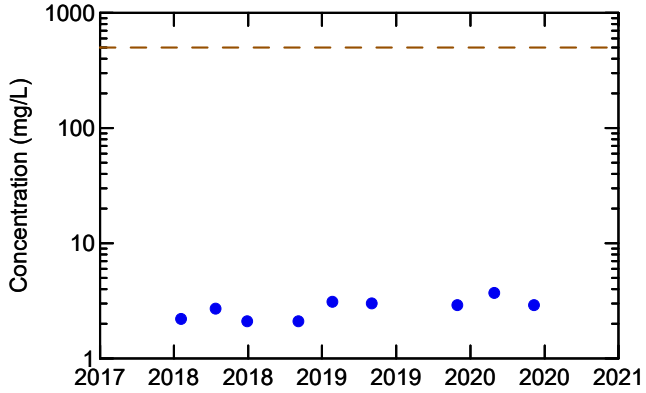
Stable

Conductivity



Probably Decreasing

Dissolved Sulphate (SO4)



Stable

Legend:

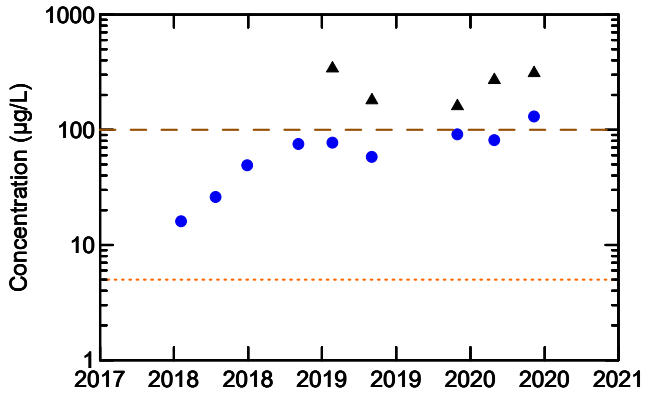
● Detected result ○ Non-Detect

– – - Canadian Drinking Water Quality Guidelines: Aesthetic

WELL MW-21B
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

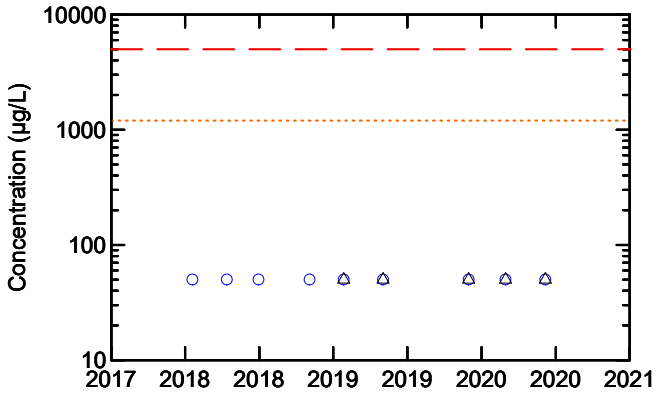
Aluminum



Total: Stable

Dissolved: Increasing Trend

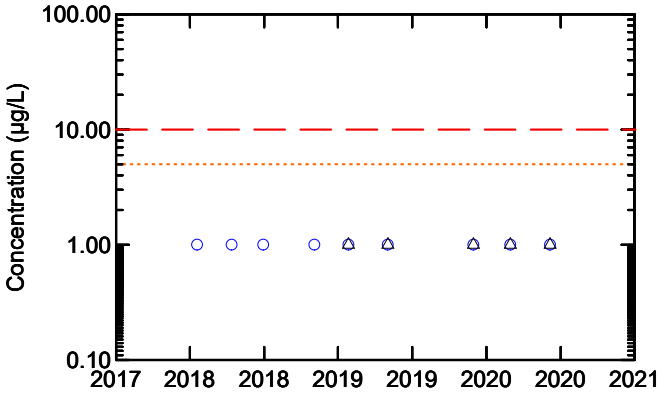
Boron



Total: No detected results

Dissolved: No detected results

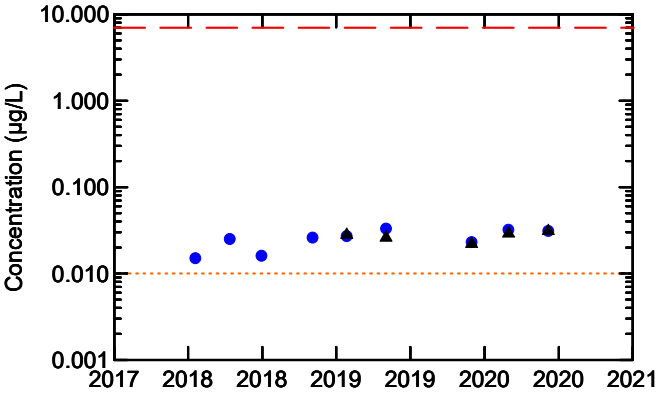
Arsenic



Total: No detected results

Dissolved: No detected results

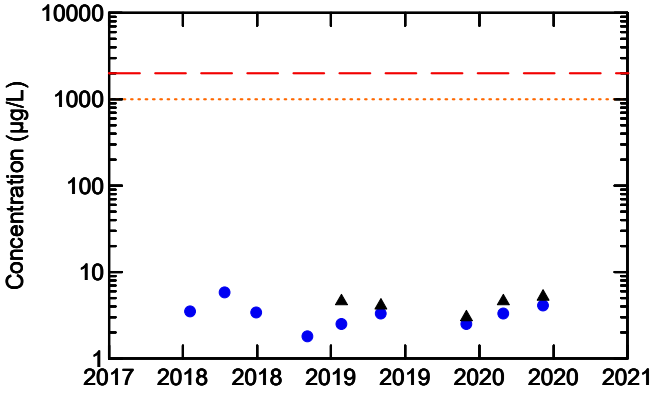
Cadmium



Total: No trend identified

Dissolved: Increasing Trend

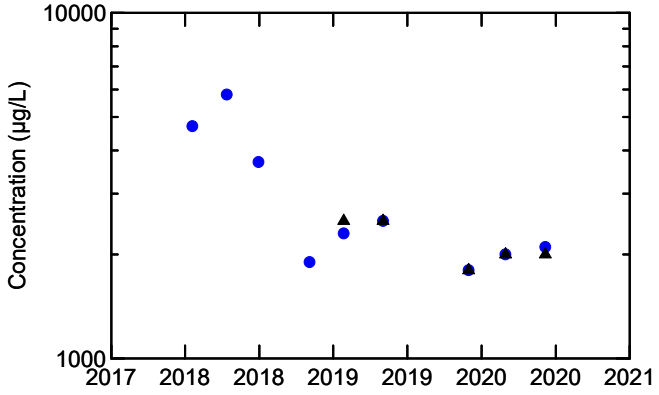
Barium



Total: No trend identified

Dissolved: Stable

Calcium



Total: Stable

Dissolved: Probably Decreasing

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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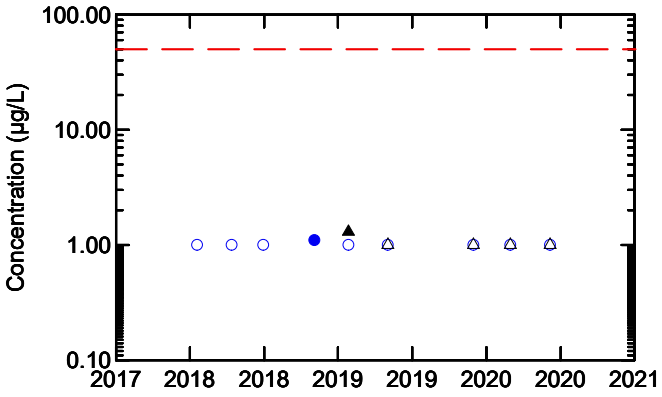
Non-detects are plotted at the reporting limit.

WELL MW-21B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

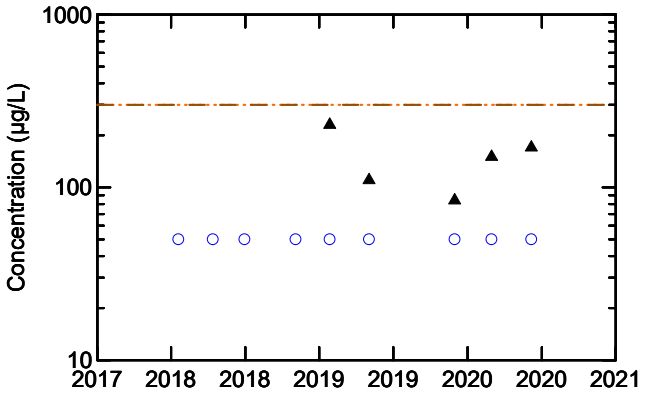
Chromium



Total: Over 50% non-detects

Dissolved: Over 50% non-detects

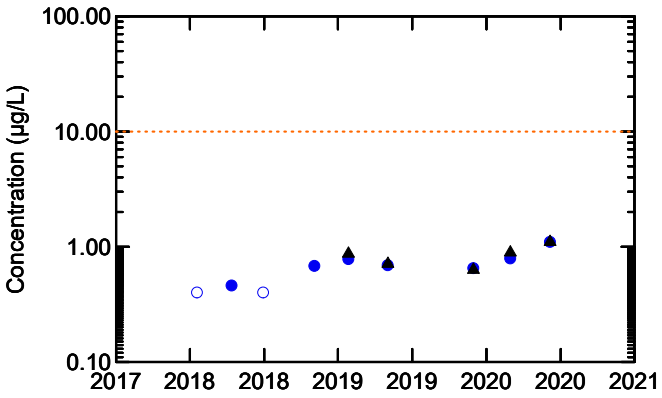
Iron



Total: Stable

Dissolved: No detected results

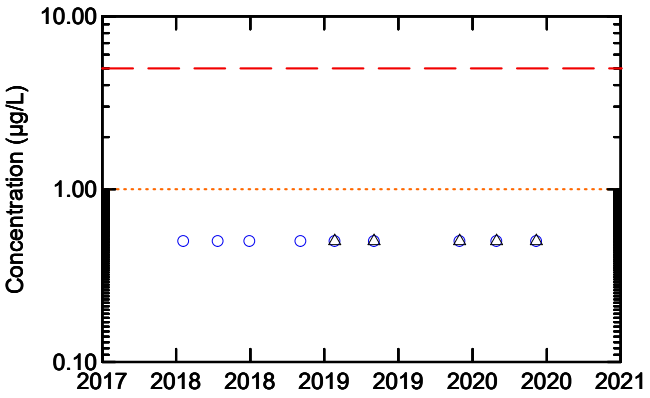
Cobalt



Total: No trend identified

Dissolved: Increasing Trend

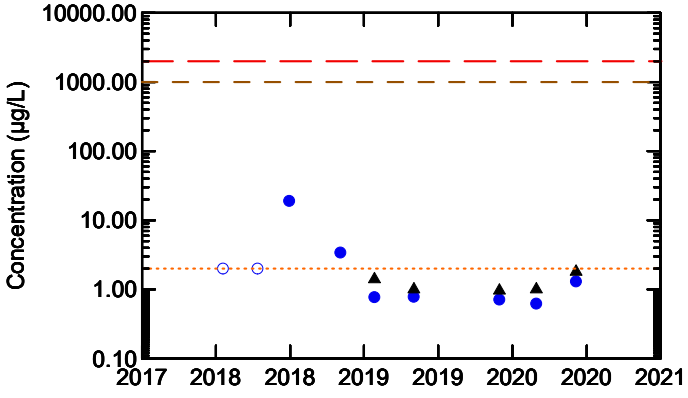
Lead



Total: No detected results

Dissolved: No detected results

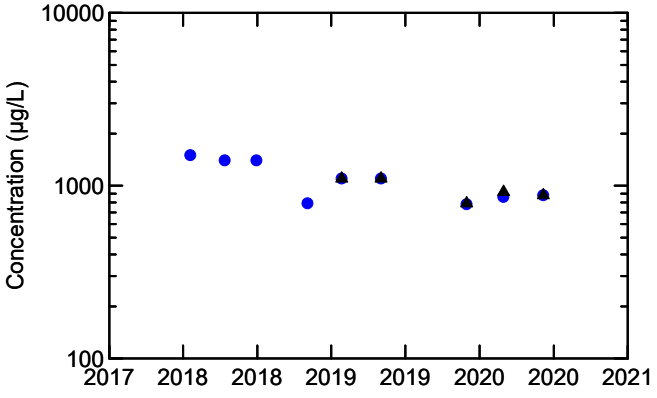
Copper



Total: No trend identified

Dissolved: No trend identified

Magnesium



Total: Stable

Dissolved: Decreasing Trend

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

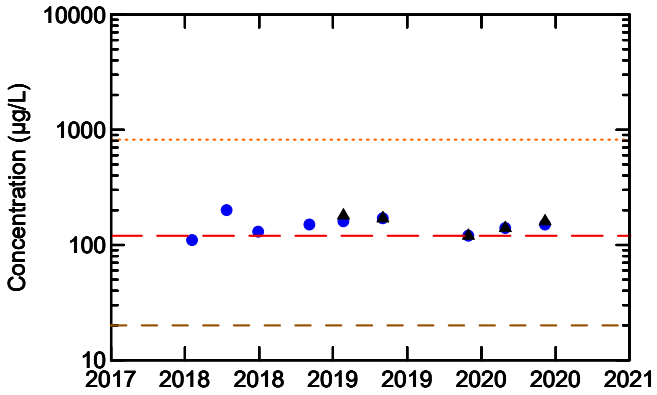
– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

WELL MW-21B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

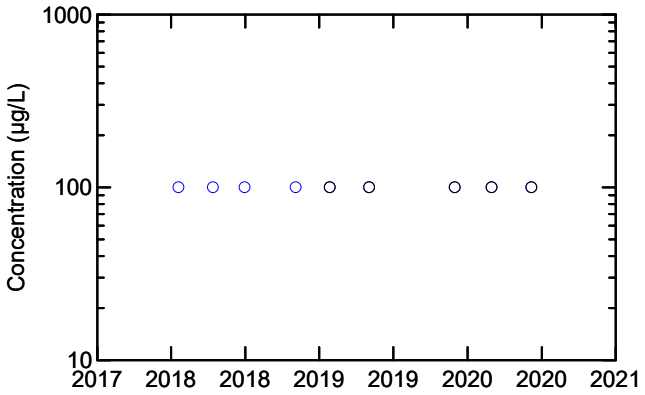
Manganese



Total: Stable

Dissolved: No trend identified

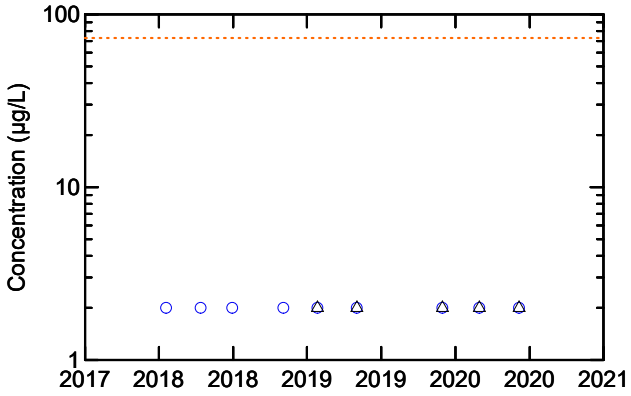
Phosphorus



Total: No detected results

Dissolved: No detected results

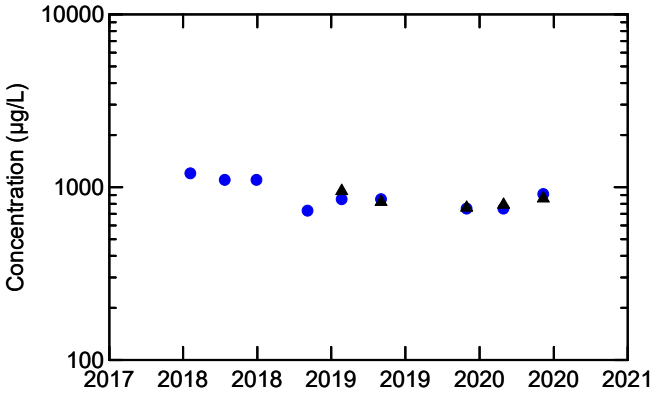
Molybdenum



Total: No detected results

Dissolved: No detected results

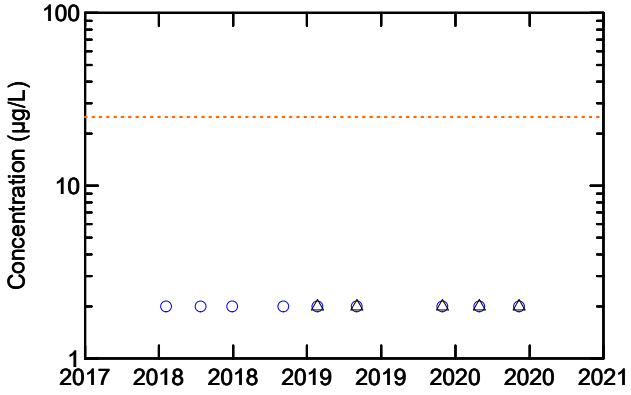
Potassium



Total: Stable

Dissolved: Stable

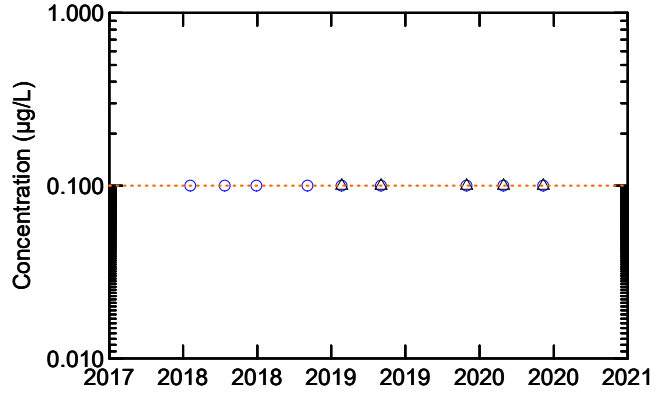
Nickel



Total: No detected results

Dissolved: No detected results

Silver



Total: No detected results

Dissolved: No detected results

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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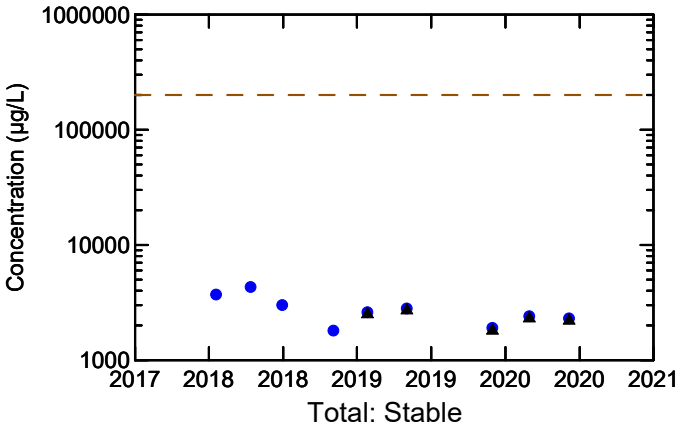
WELL MW-21B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

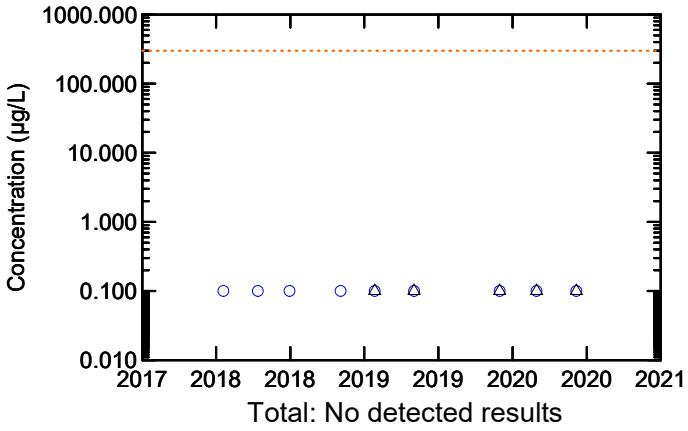
Sodium



Total: Stable

Dissolved: Probably Decreasing

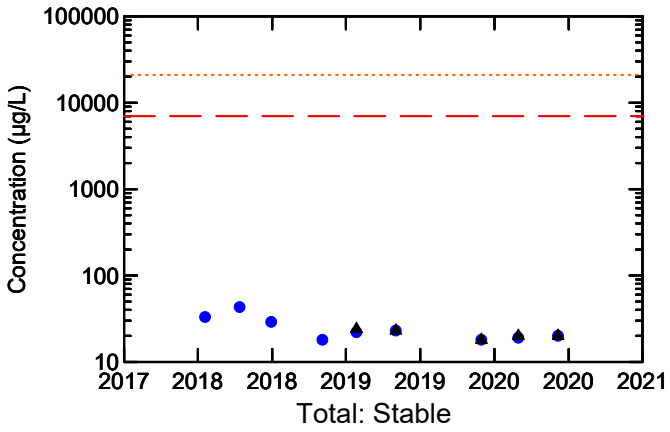
Uranium



Total: No detected results

Dissolved: No detected results

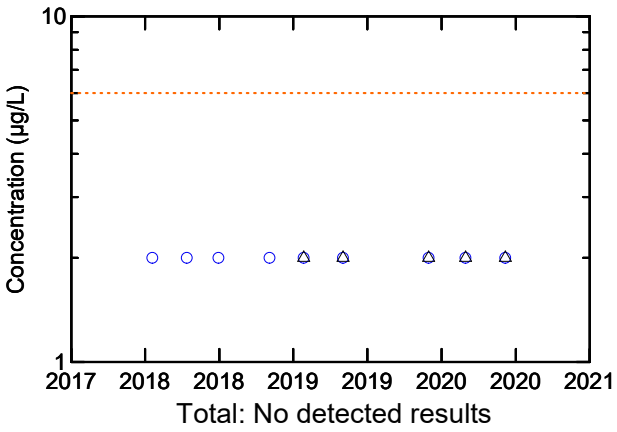
Strontium



Total: Stable

Dissolved: Probably Decreasing

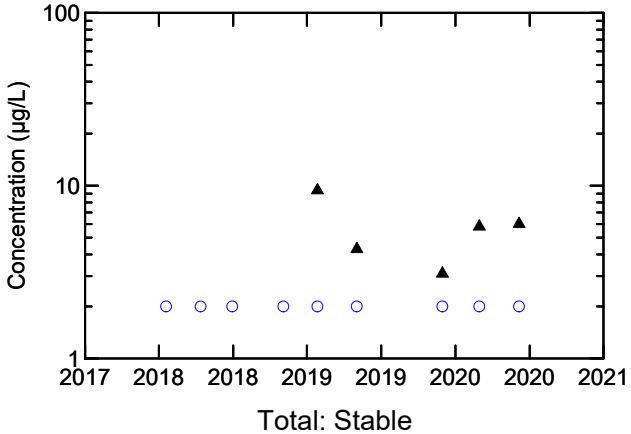
Vanadium



Total: No detected results

Dissolved: No detected results

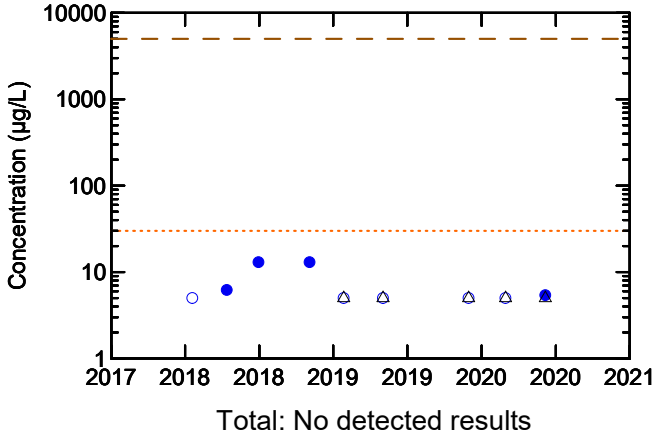
Titanium



Total: Stable

Dissolved: No detected results

Zinc



Total: No detected results

Dissolved: Over 50% non-detects

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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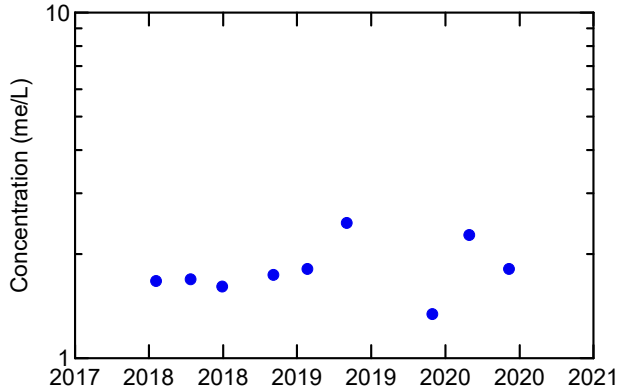
Non-detects are plotted at the reporting limit.

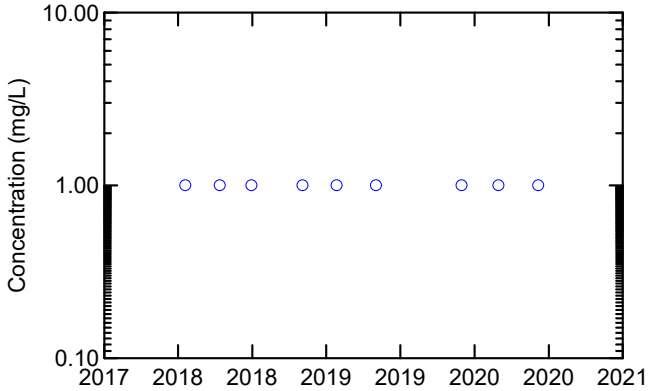
WELL MW-21B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Anion Sum



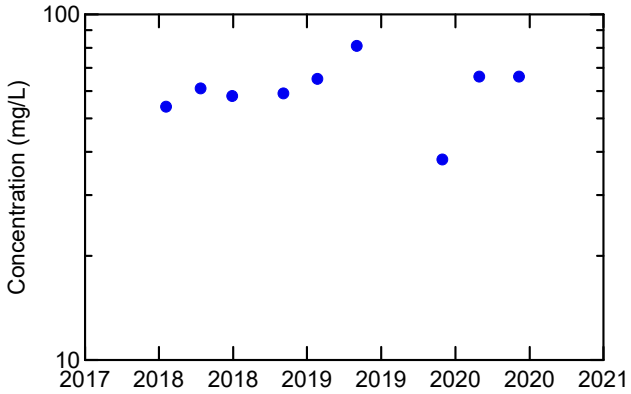
No trend identified

Carb. Alkalinity (calc. as CaCO3)



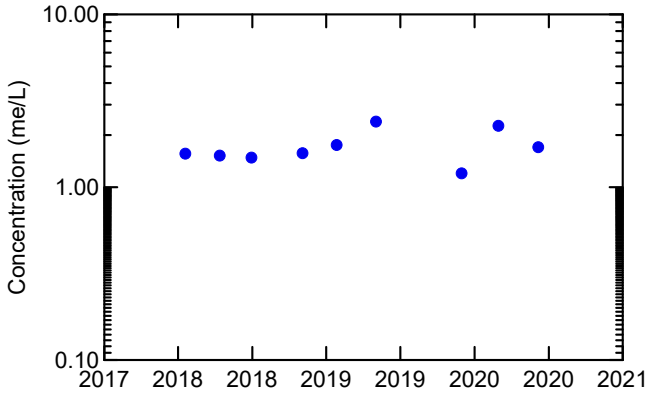
No detected results

Bicarb. Alkalinity (calc. as CaCO3)



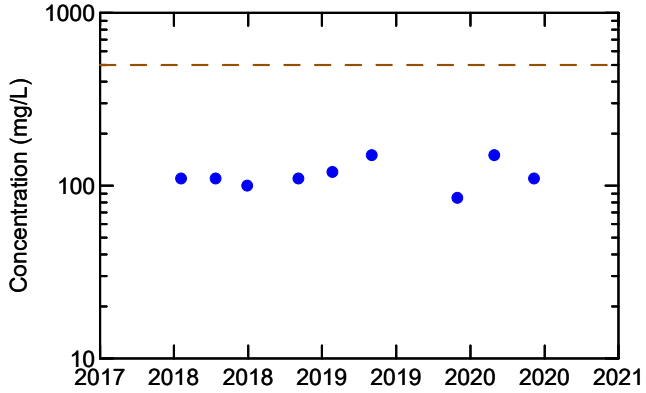
No trend identified

Cation Sum



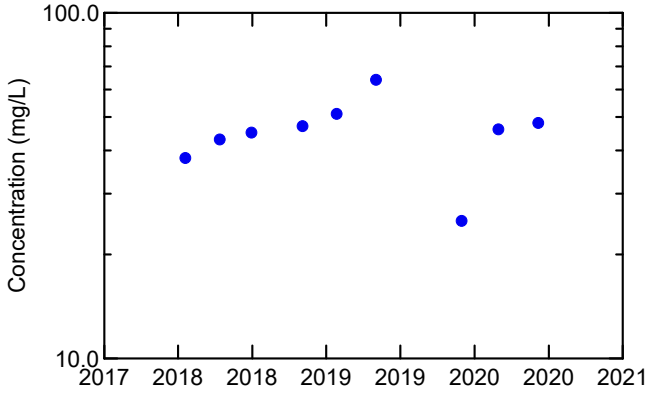
No trend identified

Calculated TDS



No trend identified

Hardness (CaCO3)



No trend identified

Legend:

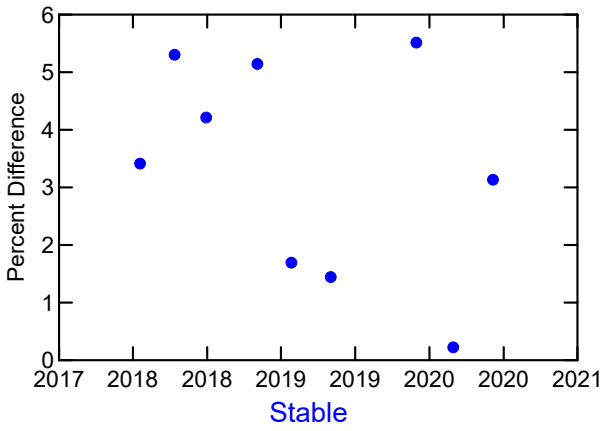
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines - Aesthetic

WELL MW-21C
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

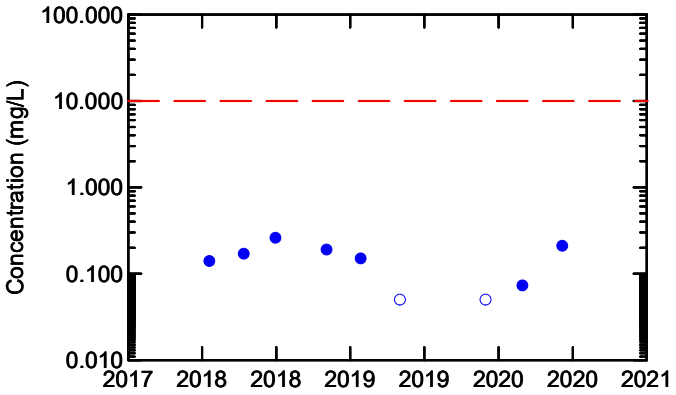
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Ion Balance



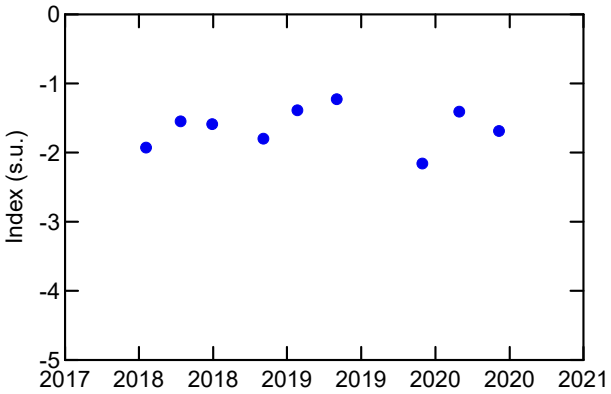
Stable

Nitrate



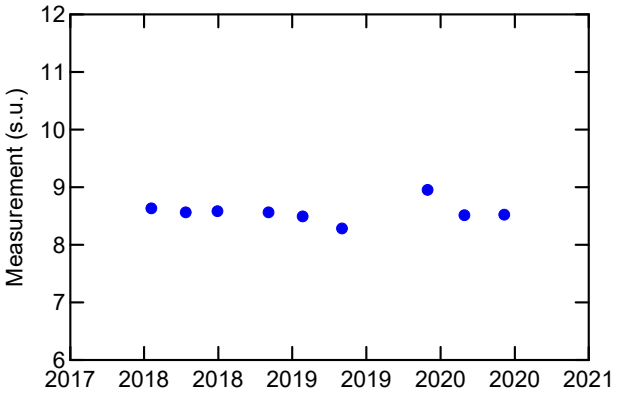
Stable

Langelier Index (@ 20C)



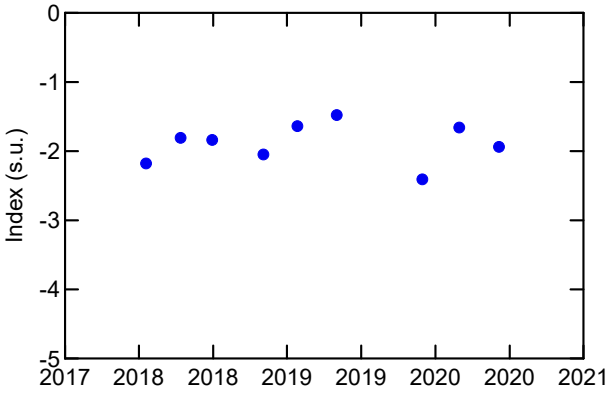
No trend identified

Saturation pH (@ 20C)



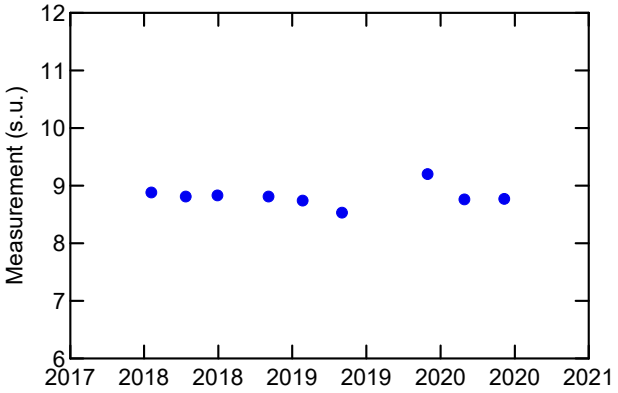
Stable

Langelier Index (@ 4C)



No trend identified

Saturation pH (@ 4C)



Stable

Legend:

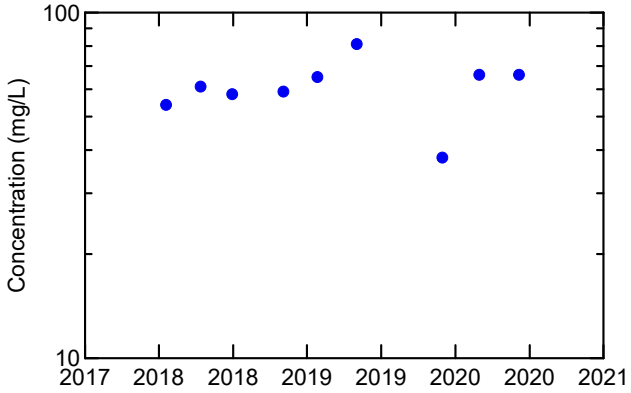
● Detected result ○ Non-Detect

— — Canadian Drinking Water Quality Guidelines: Maximum Acceptable

WELL MW-21C
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

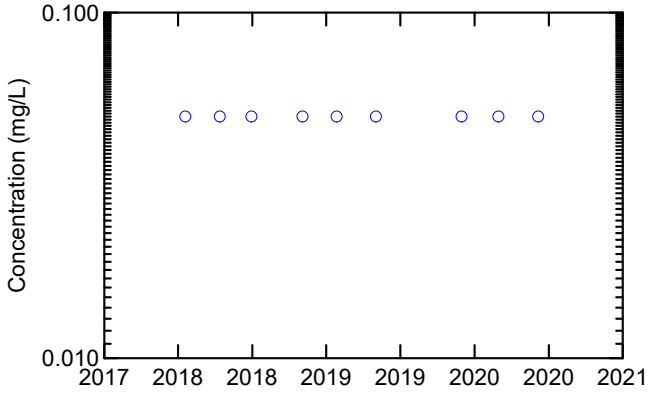
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Total Alkalinity (Total as CaCO3)



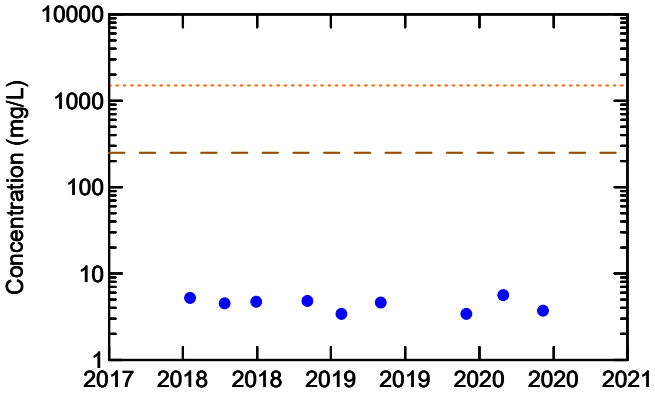
No trend identified

Nitrogen (Ammonia Nitrogen)



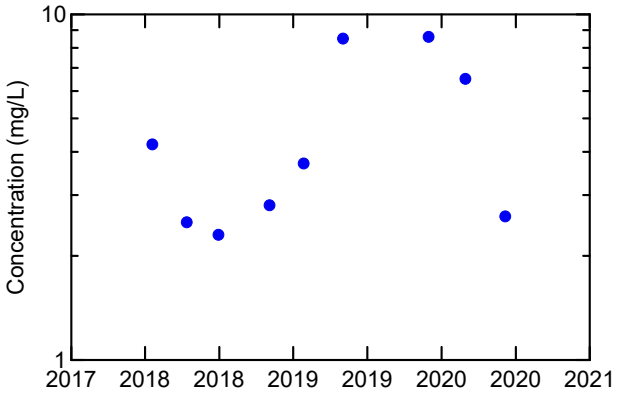
No detected results

Dissolved Chloride



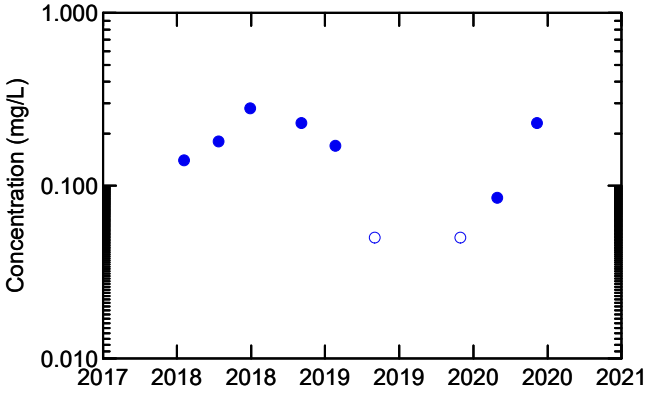
Stable

Total Organic Carbon



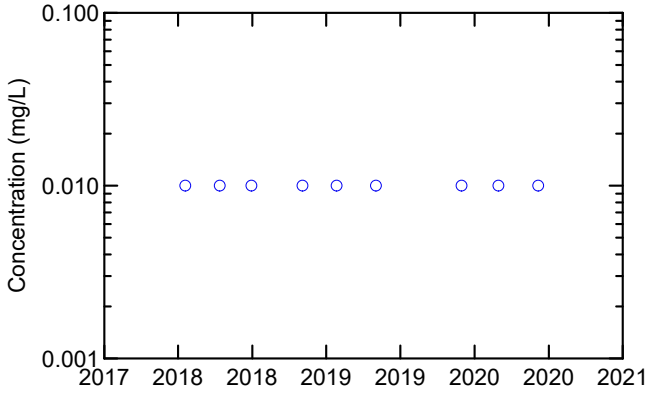
No trend identified

Nitrate + Nitrite



Stable

Orthophosphate



No detected results

Legend:

● Detected result ○ Non-Detect

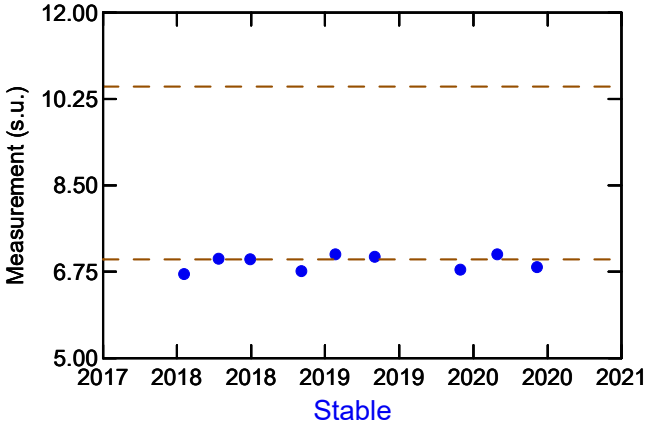
Nova Scotia (2014) Pathway-Specific Standard for Groundwater

Canadian Drinking Water Quality Guideline: Aesthetic

WELL MW-21C
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

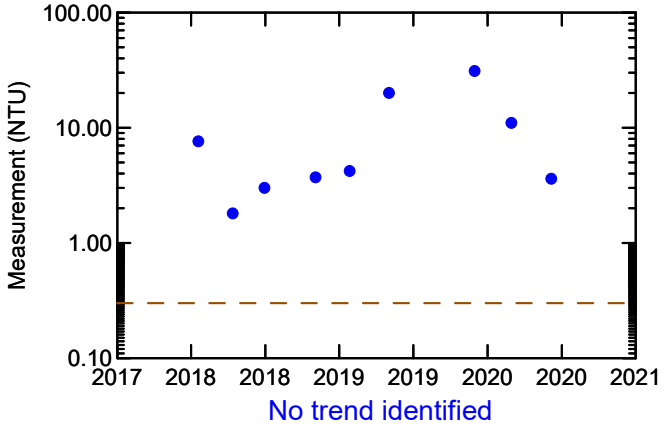
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

pH



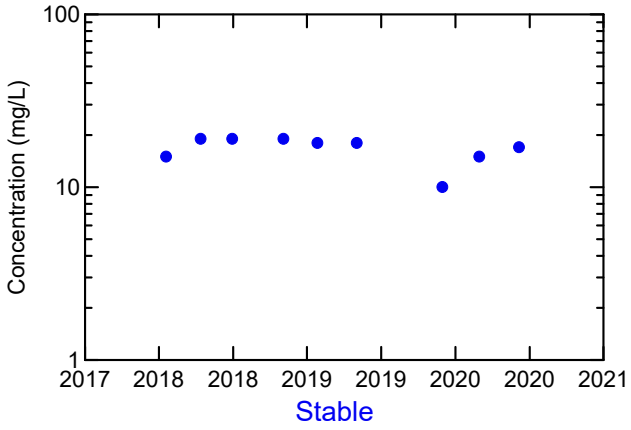
Stable

Turbidity



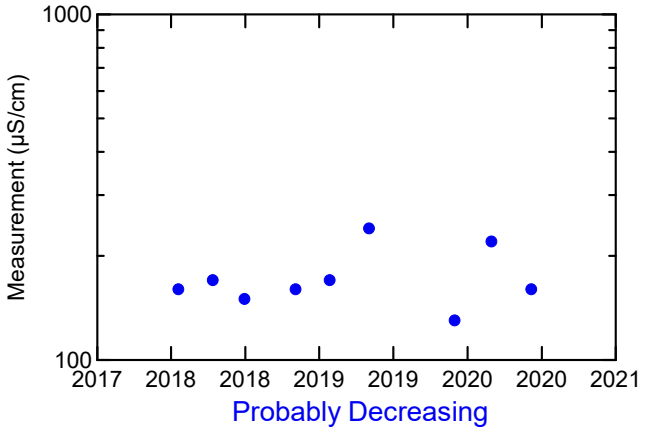
No trend identified

Reactive Silica (SiO2)



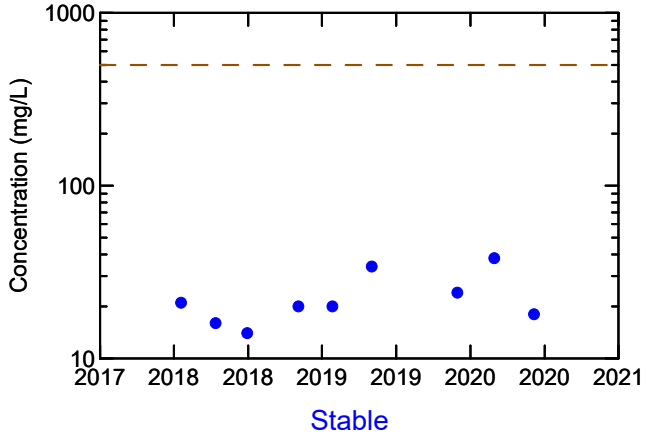
Stable

Conductivity



Probably Decreasing

Dissolved Sulphate (SO4)



Stable

Legend:

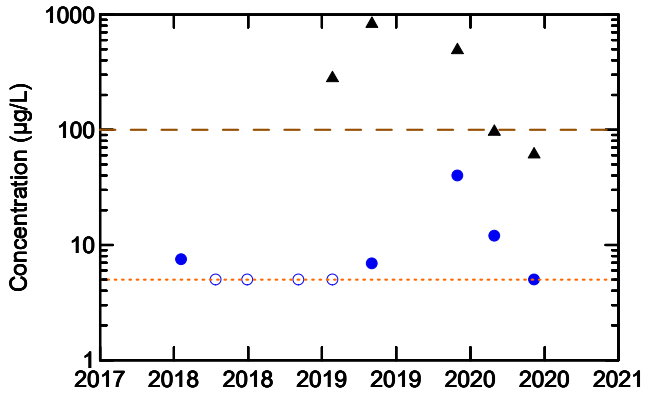
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines: Aesthetic

WELL MW-21C
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

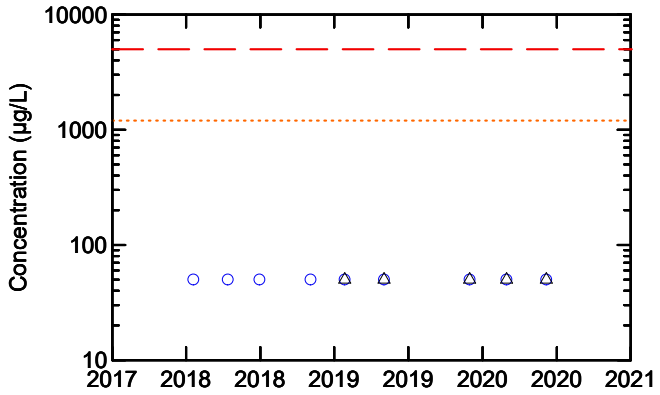
Aluminum



Total: Stable

Dissolved: No trend identified

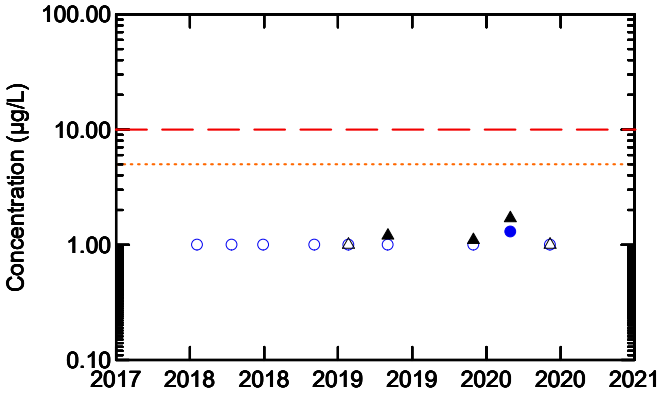
Boron



Total: No detected results

Dissolved: No detected results

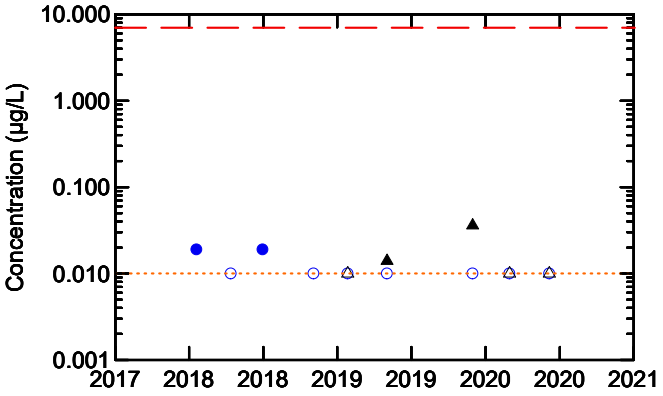
Arsenic



Total: No trend identified

Dissolved: Over 50% non-detects

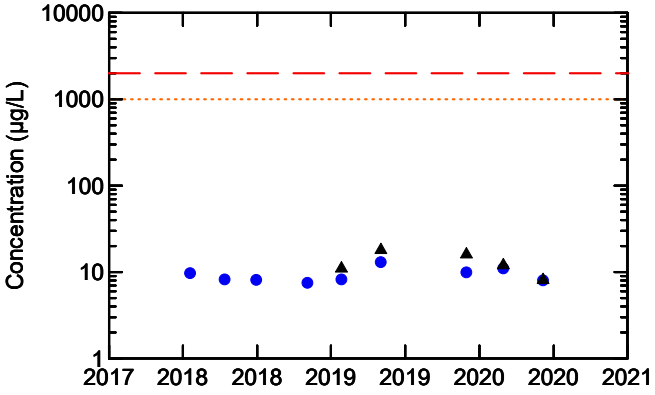
Cadmium



Total: Over 50% non-detects

Dissolved: Over 50% non-detects

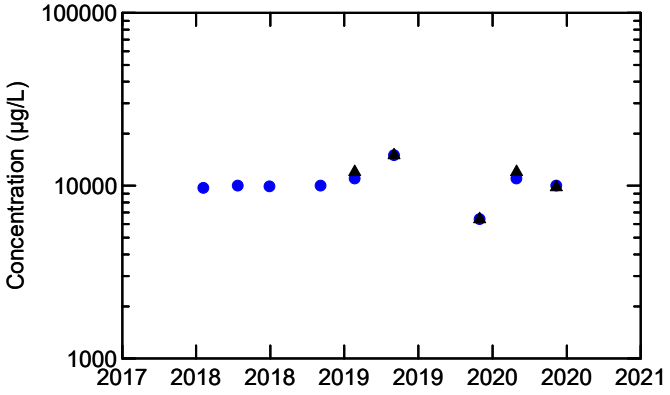
Barium



Total: Stable

Dissolved: No trend identified

Calcium



Total: Stable

Dissolved: No trend identified

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

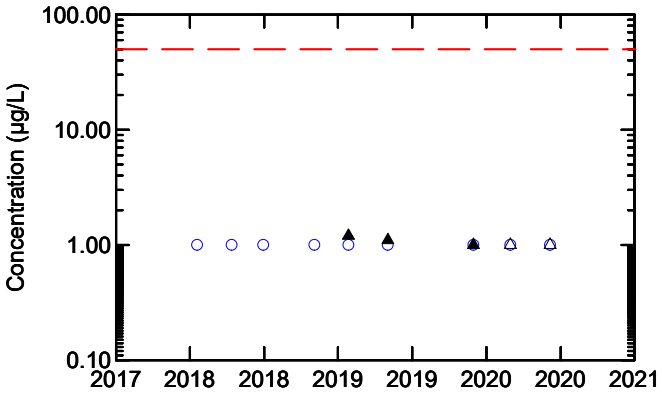
– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

WELL MW-21C
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

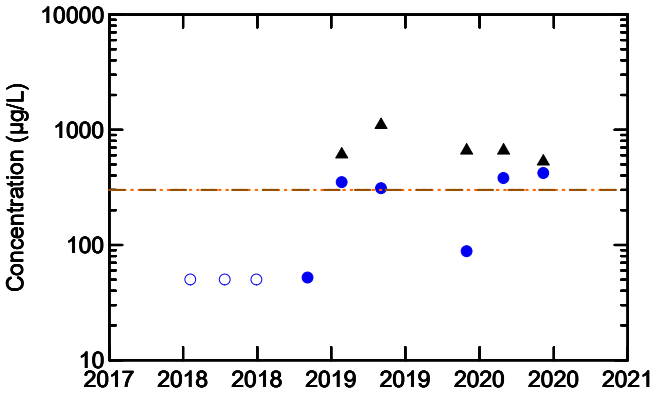
Chromium



Total: Decreasing Trend

Dissolved: No detected results

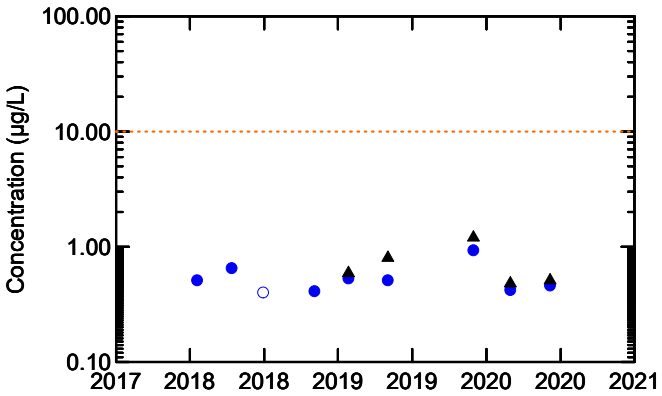
Iron



Total: Stable

Dissolved: Increasing Trend

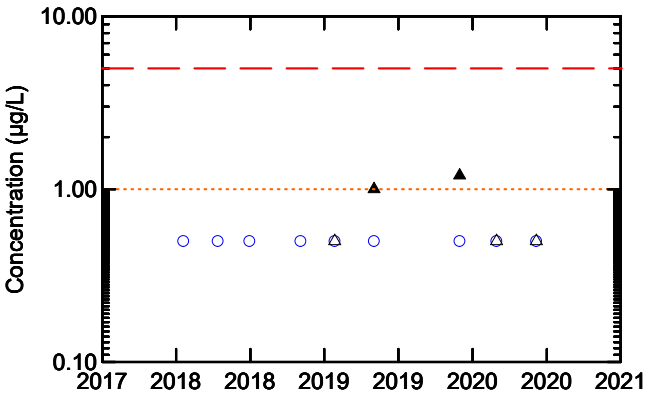
Cobalt



Total: Stable

Dissolved: No trend identified

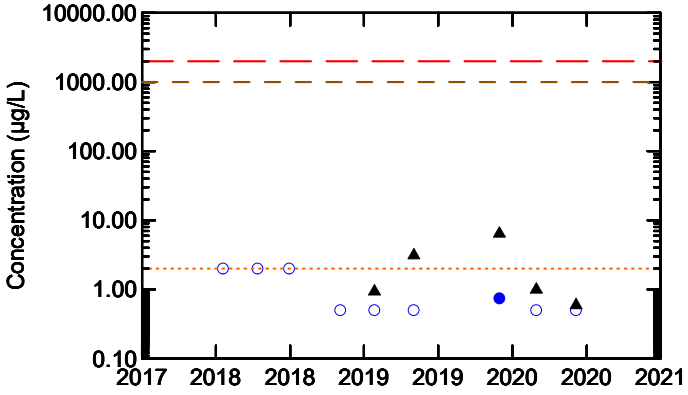
Lead



Total: Over 50% non-detects

Dissolved: No detected results

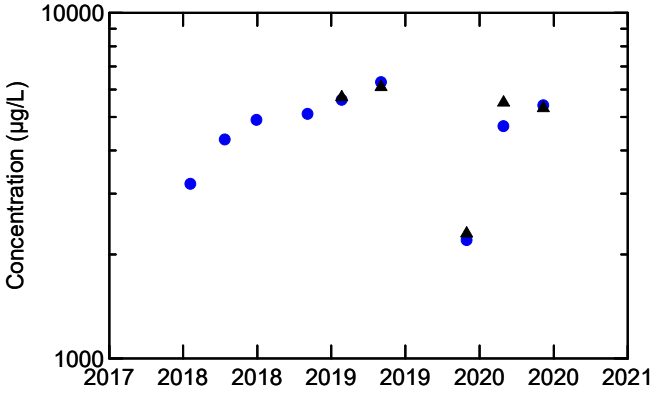
Copper



Total: No trend identified

Dissolved: Over 50% non-detects

Magnesium



Total: Stable

Dissolved: No trend identified

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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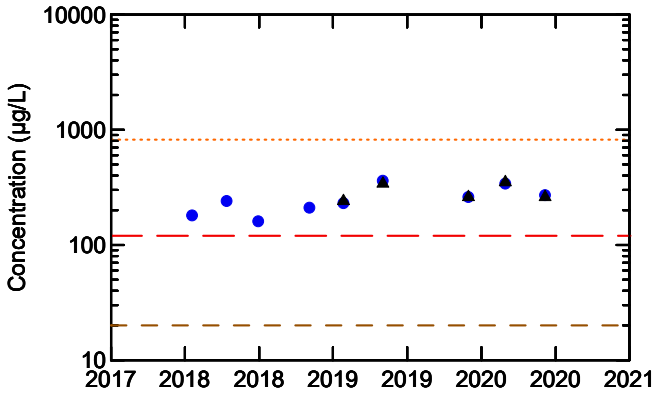
Non-detects are plotted at the reporting limit.

WELL MW-21C
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

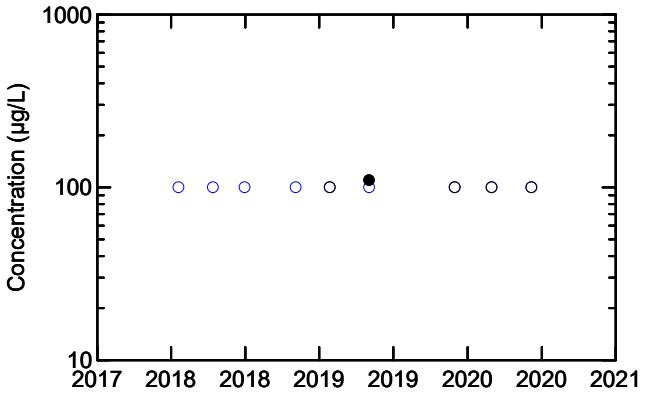
Manganese



Total: No trend identified

Dissolved: Increasing Trend

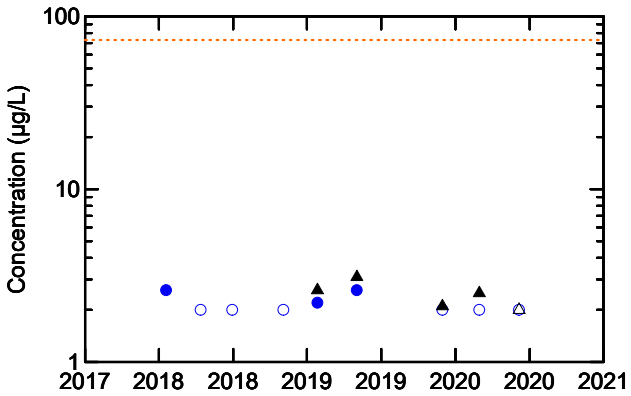
Phosphorus



Total: Over 50% non-detects

Dissolved: No detected results

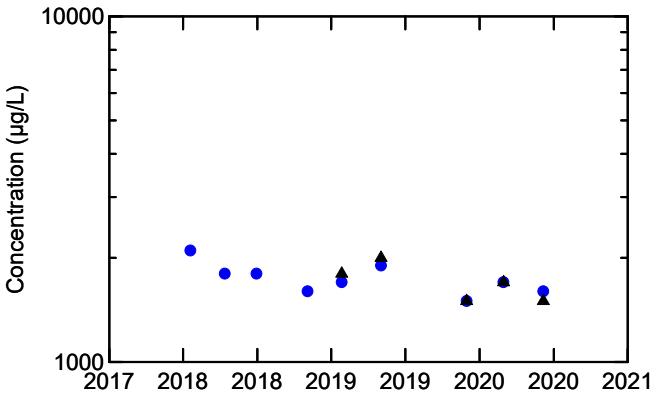
Molybdenum



Total: Stable

Dissolved: Over 50% non-detects

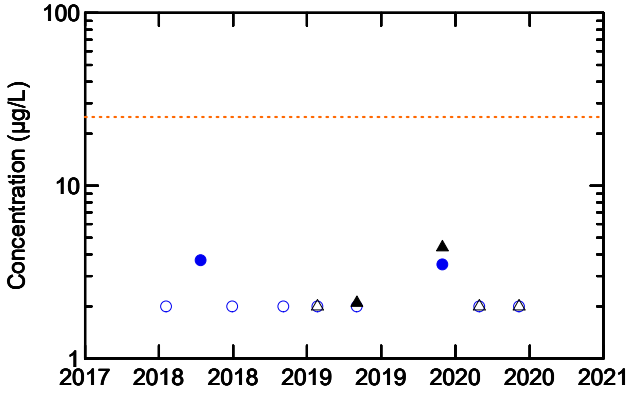
Potassium



Total: Stable

Dissolved: Probably Decreasing

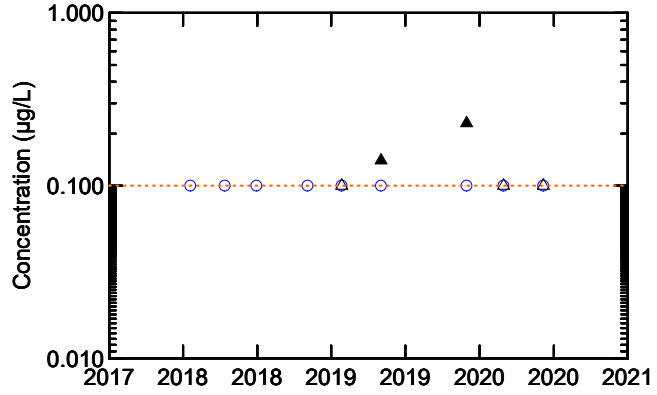
Nickel



Total: Over 50% non-detects

Dissolved: Over 50% non-detects

Silver



Total: Over 50% non-detects

Dissolved: No detected results

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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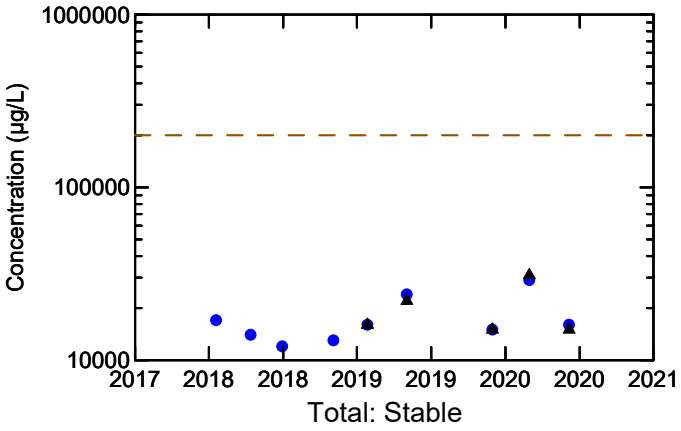
WELL MW-21C
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

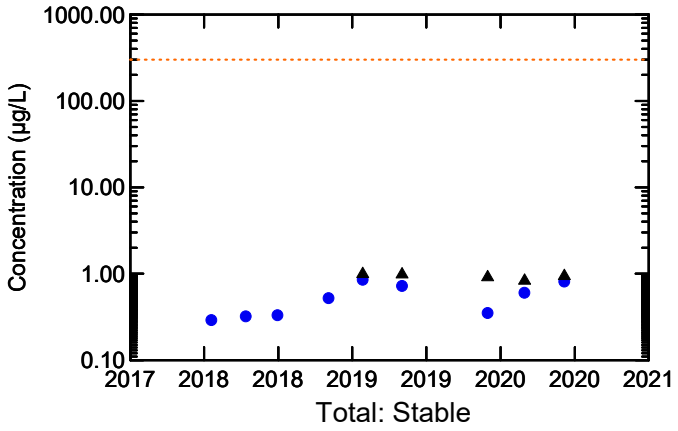
Sodium



Total: Stable

Dissolved: No trend identified

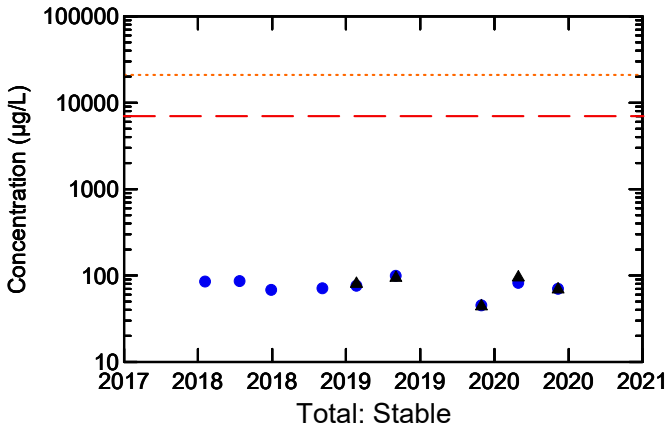
Uranium



Total: Stable

Dissolved: Increasing Trend

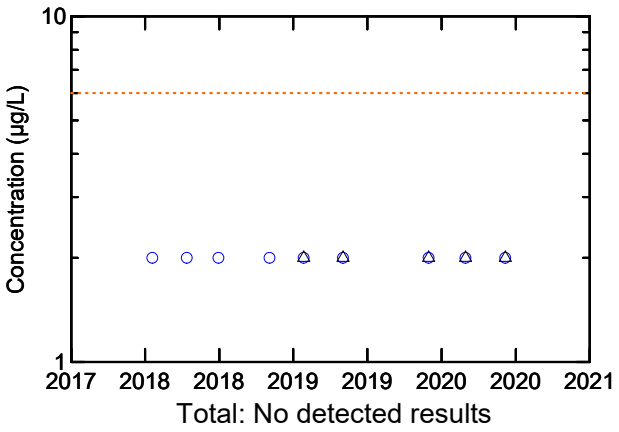
Strontium



Total: Stable

Dissolved: Stable

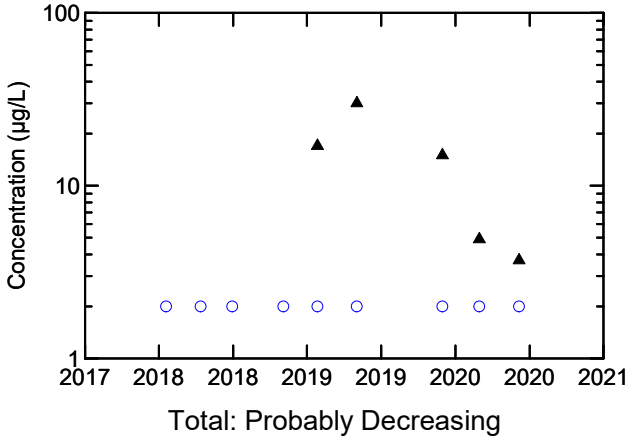
Vanadium



Total: No detected results

Dissolved: No detected results

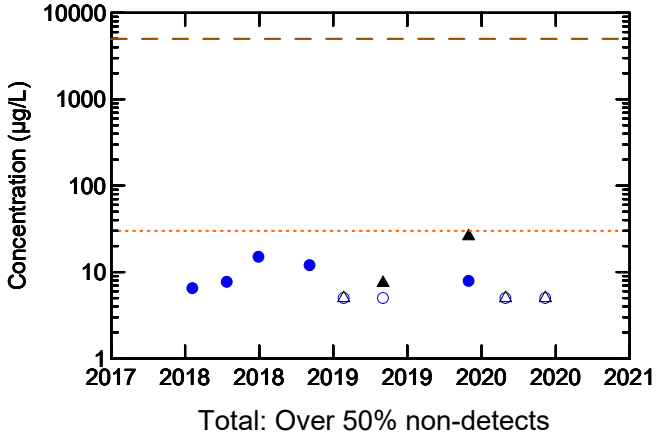
Titanium



Total: Probably Decreasing

Dissolved: No detected results

Zinc



Total: Over 50% non-detects

Dissolved: Stable

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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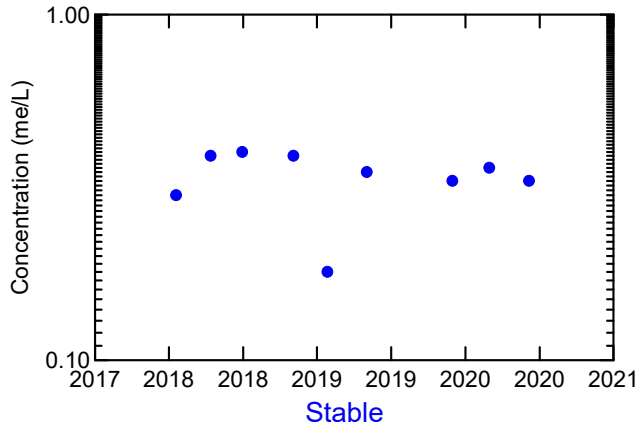
Non-detects are plotted at the reporting limit.

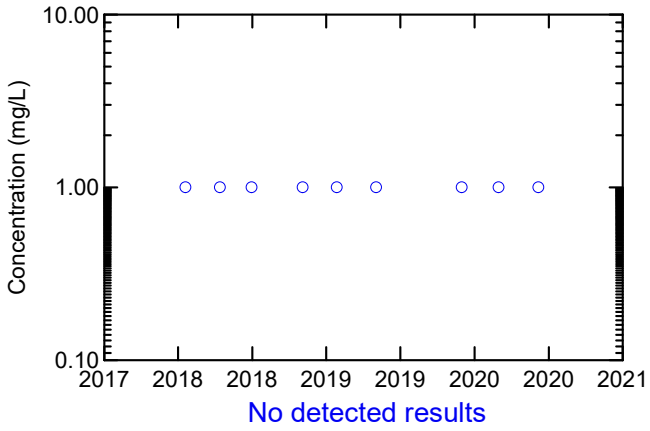
WELL MW-21C
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Anion Sum



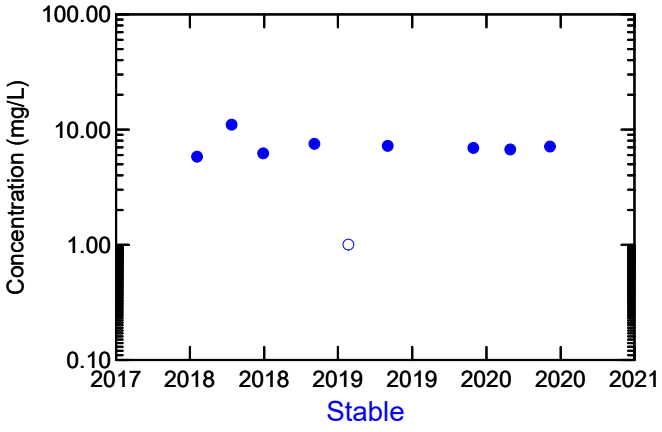
Stable

Carb. Alkalinity (calc. as CaCO3)



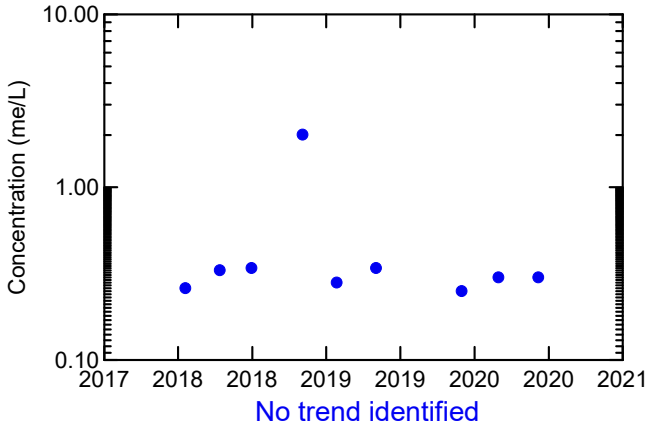
No detected results

Bicarb. Alkalinity (calc. as CaCO3)



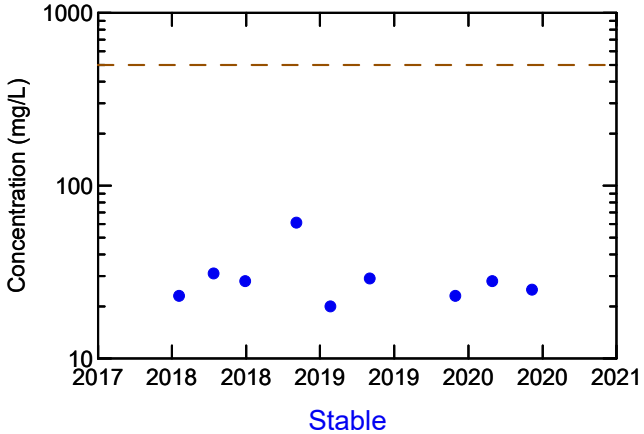
Stable

Cation Sum



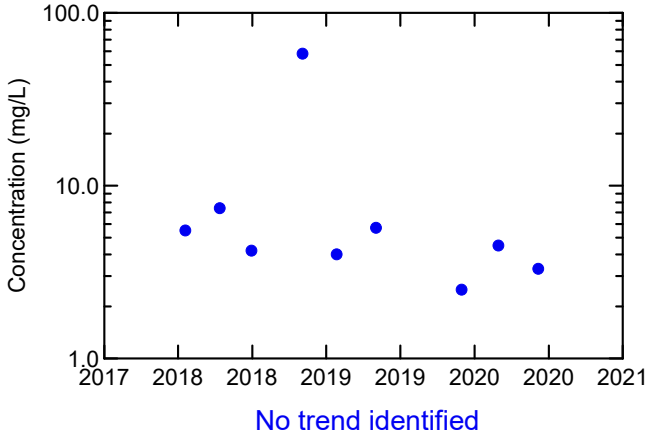
No trend identified

Calculated TDS



Stable

Hardness (CaCO3)



No trend identified

Legend:

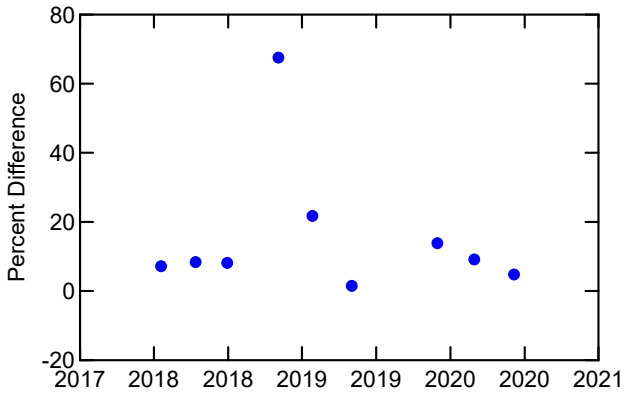
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines - Aesthetic

WELL MW-22A
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

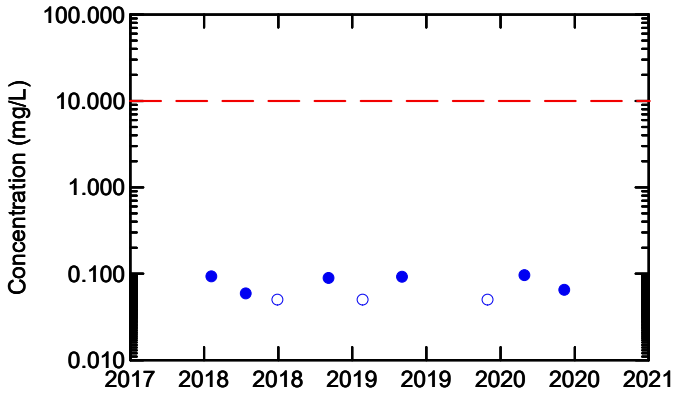
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Ion Balance



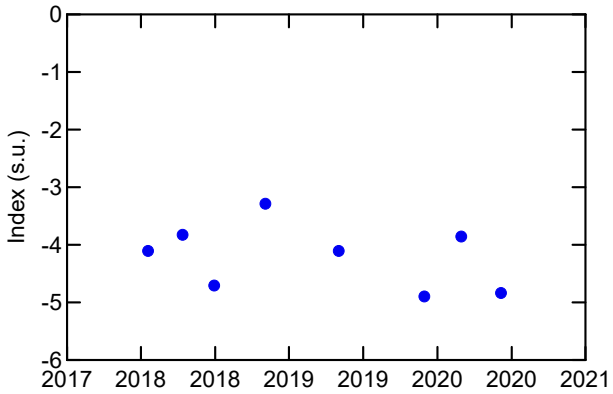
No trend identified

Nitrate



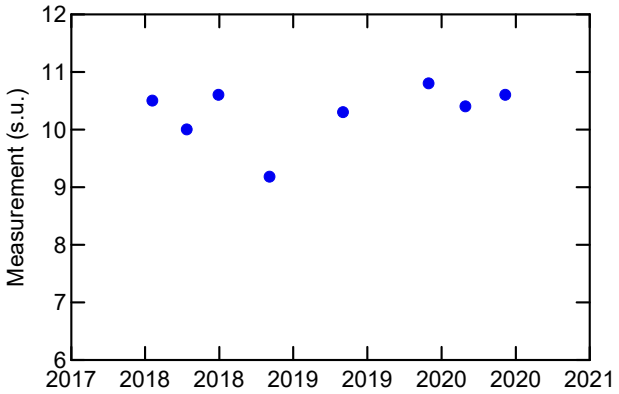
No trend identified

Langelier Index (@ 20C)



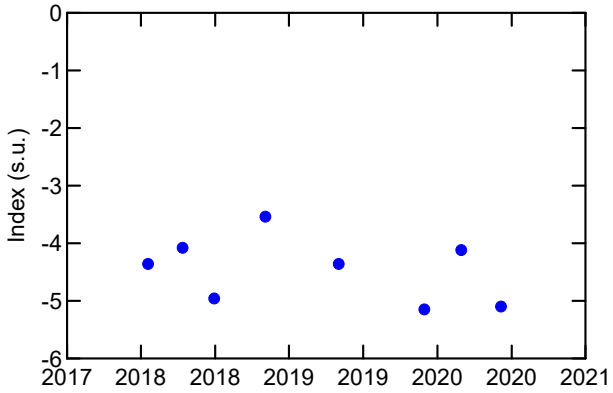
Stable

Saturation pH (@ 20C)



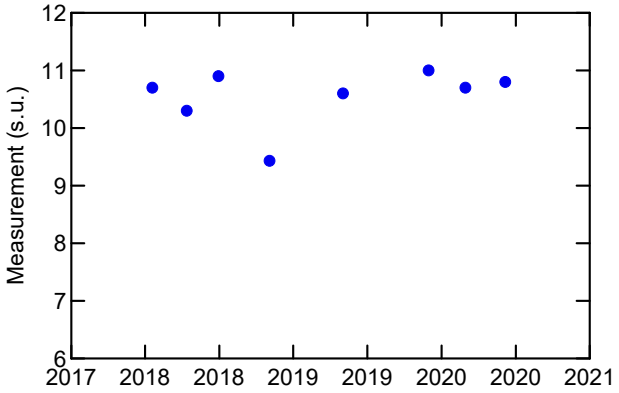
No trend identified

Langelier Index (@ 4C)



Stable

Saturation pH (@ 4C)



No trend identified

Legend:

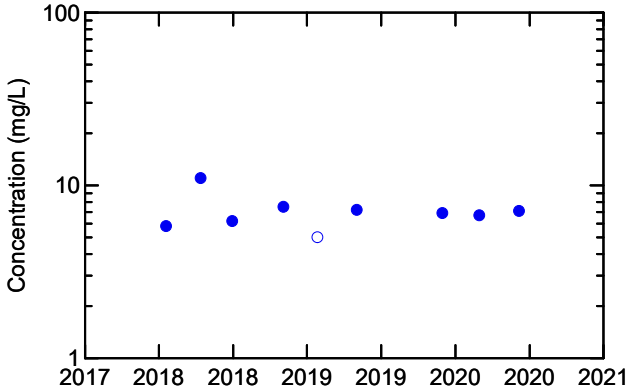
● Detected result ○ Non-Detect

— — Canadian Drinking Water Quality Guidelines: Maximum Acceptable

WELL MW-22A
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

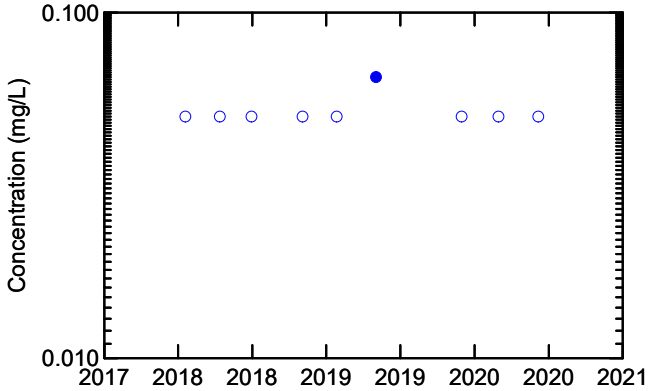
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Total Alkalinity (Total as CaCO3)



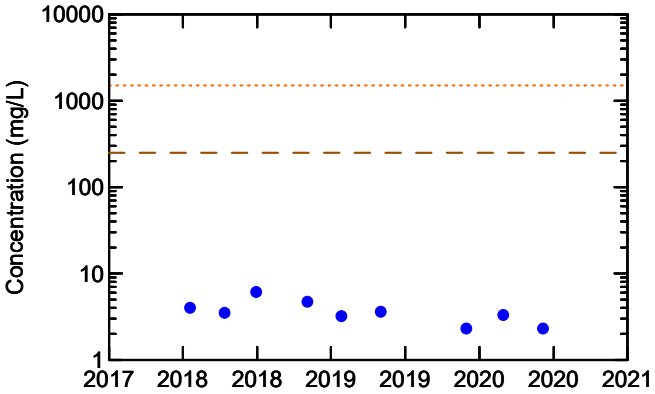
Stable

Nitrogen (Ammonia Nitrogen)



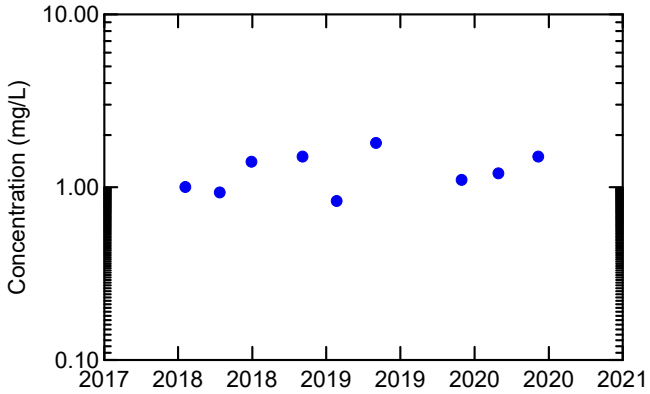
Over 50% non-detects

Dissolved Chloride



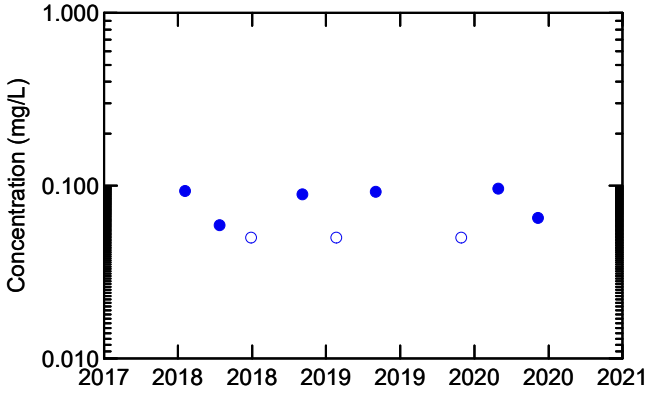
Probably Decreasing

Total Organic Carbon



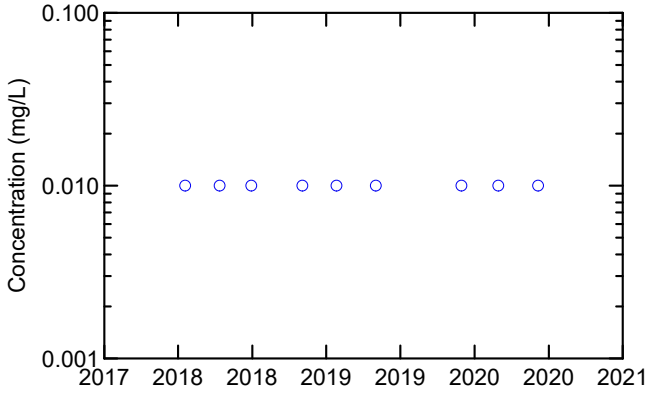
No trend identified

Nitrate + Nitrite



No trend identified

Orthophosphate



No detected results

Legend:

● Detected result ○ Non-Detect

Nova Scotia (2014) Pathway-Specific Standard for Groundwater

Canadian Drinking Water Quality Guideline: Aesthetic

Notes:
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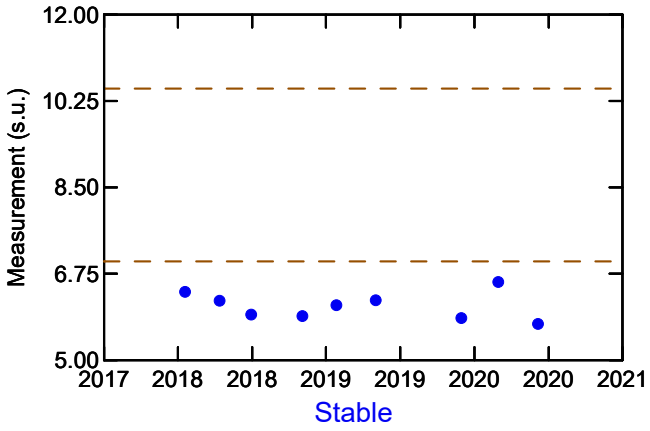
Non-detects are plotted at the reporting limit.

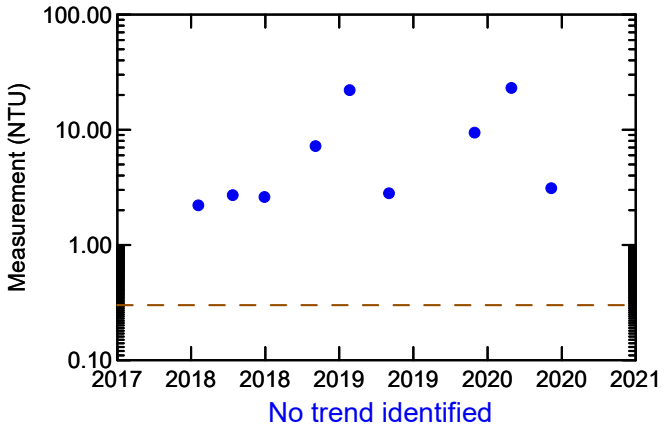
WELL MW-22A
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

pH



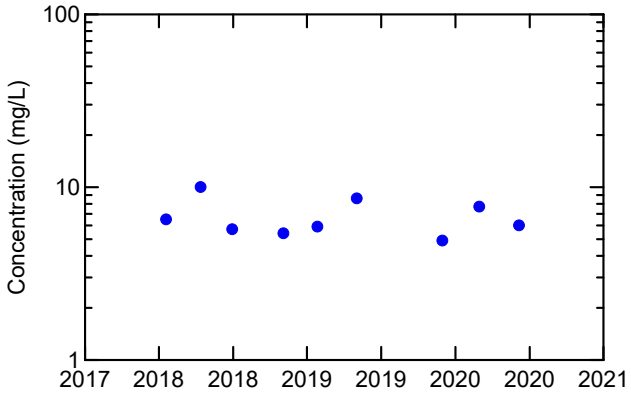
Stable

Turbidity



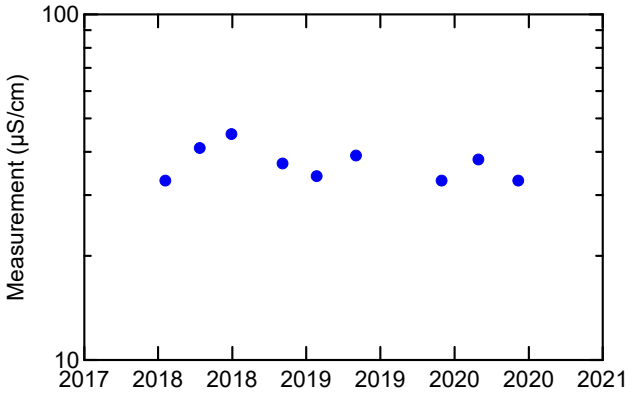
No trend identified

Reactive Silica (SiO2)



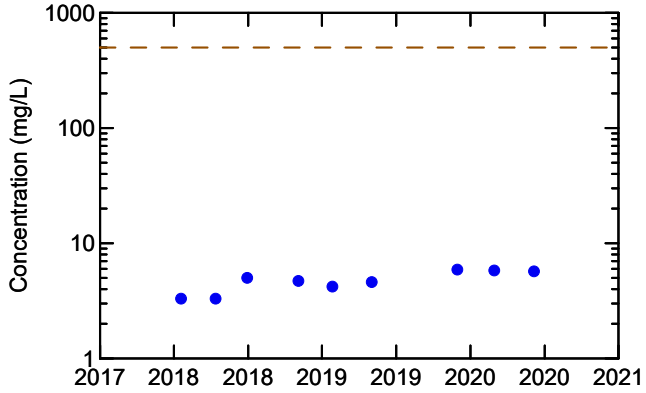
Stable

Conductivity



Probably Decreasing

Dissolved Sulphate (SO4)



Stable

Legend:

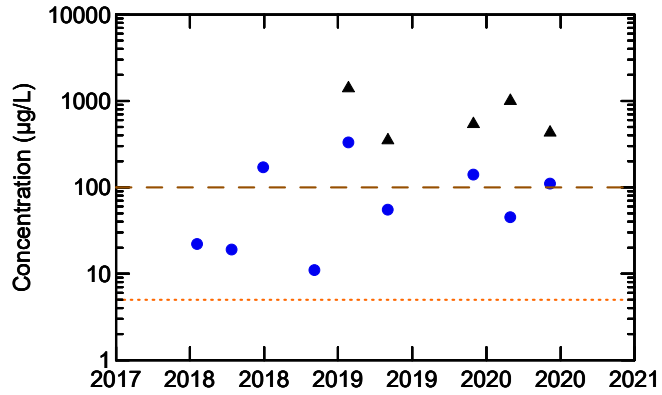
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines: Aesthetic

WELL MW-22A
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

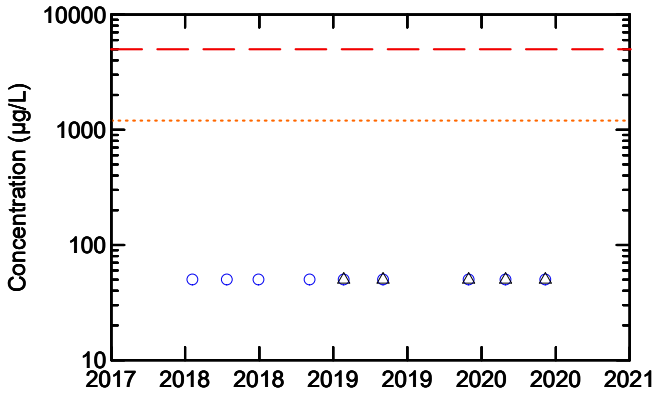
Aluminum



Total: Stable

Dissolved: No trend identified

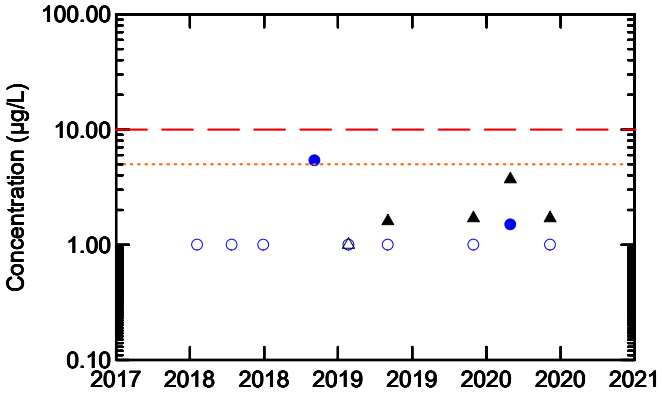
Boron



Total: No detected results

Dissolved: No detected results

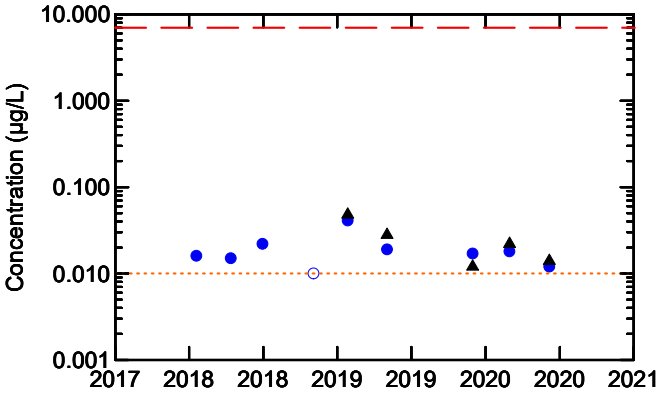
Arsenic



Total: No trend identified

Dissolved: Over 50% non-detects

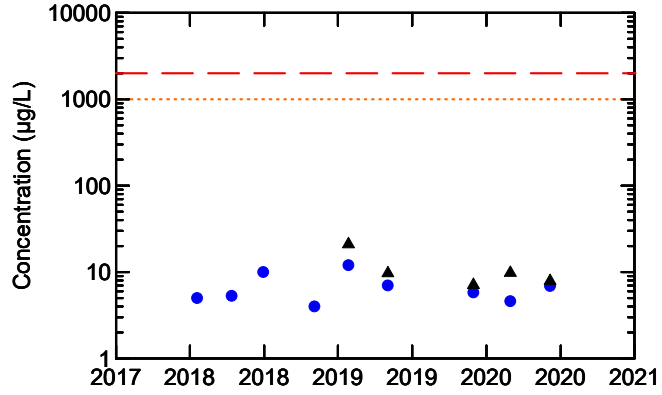
Cadmium



Total: Stable

Dissolved: Stable

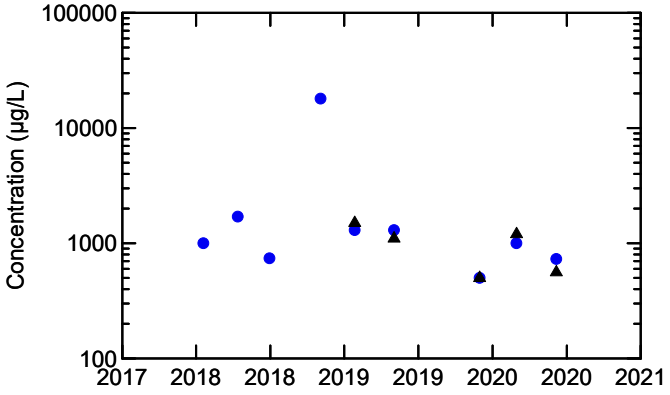
Barium



Total: Stable

Dissolved: No trend identified

Calcium



Total: Stable

Dissolved: No trend identified

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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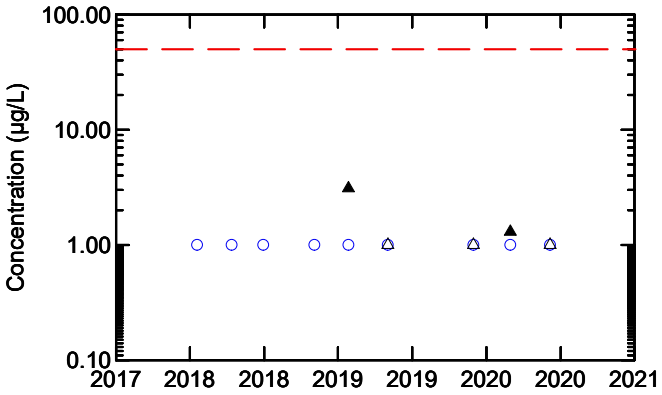
WELL MW-22A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

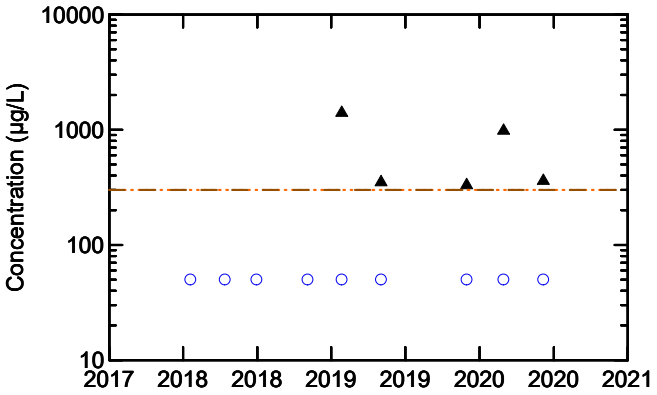
Chromium



Total: Over 50% non-detects

Dissolved: No detected results

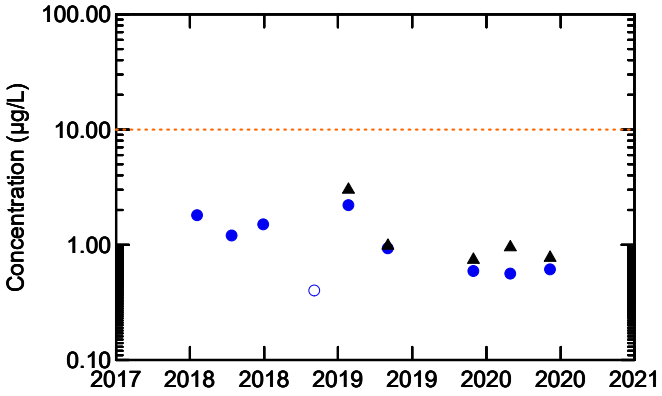
Iron



Total: Stable

Dissolved: No detected results

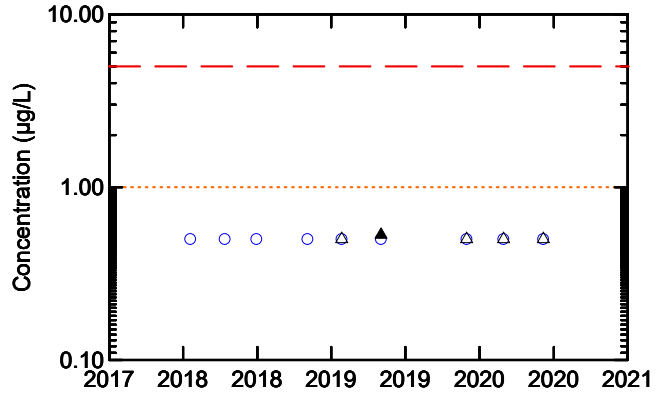
Cobalt



Total: Stable

Dissolved: Stable

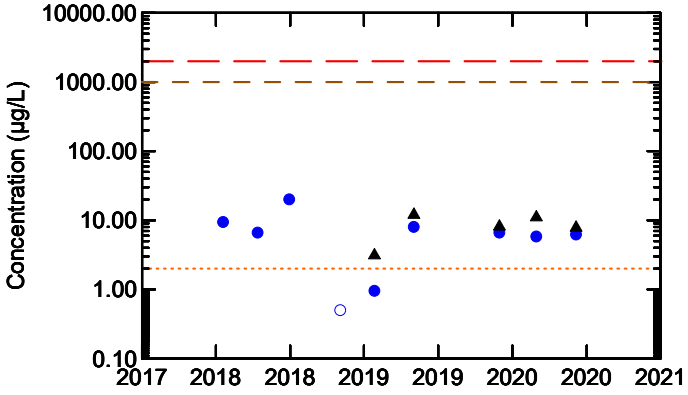
Lead



Total: Over 50% non-detects

Dissolved: No detected results

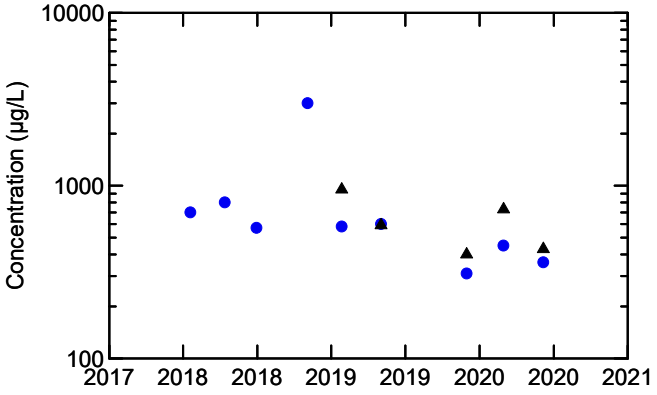
Copper



Total: Stable

Dissolved: Stable

Magnesium



Total: Stable

Dissolved: Probably Decreasing

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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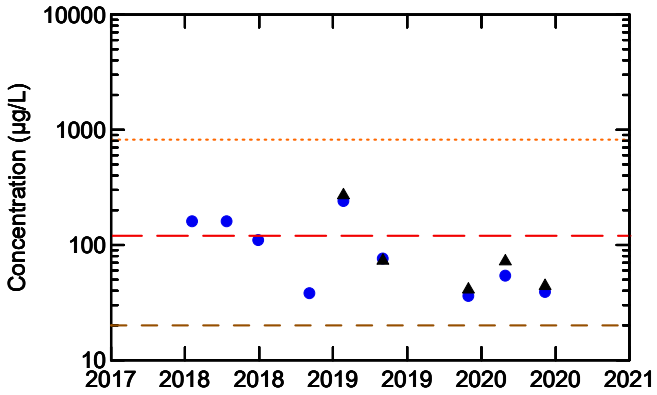
Non-detects are plotted at the reporting limit.

WELL MW-22A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

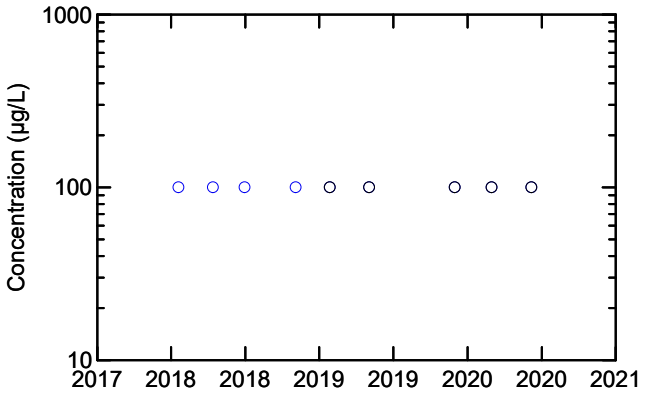
Manganese



Total: Stable

Dissolved: Probably Decreasing

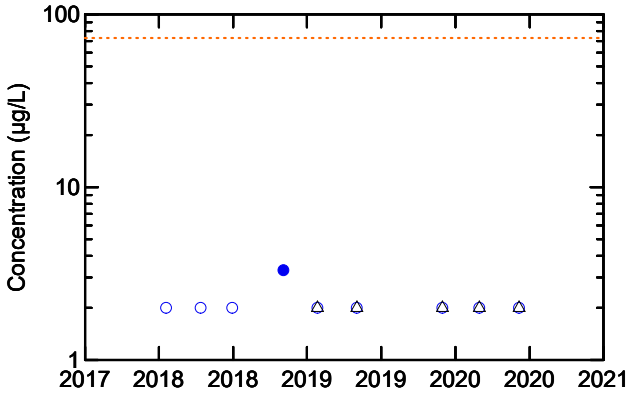
Phosphorus



Total: No detected results

Dissolved: No detected results

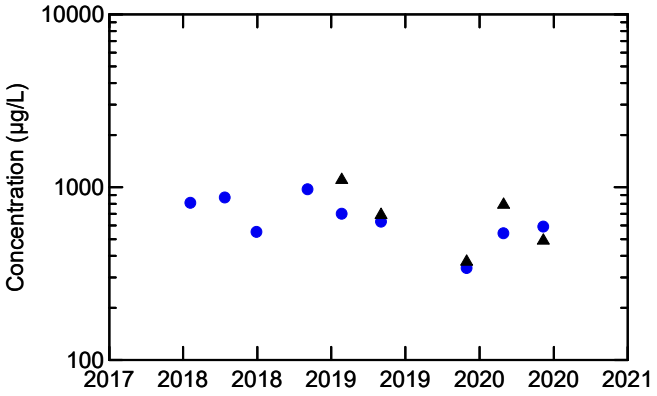
Molybdenum



Total: No detected results

Dissolved: Over 50% non-detects

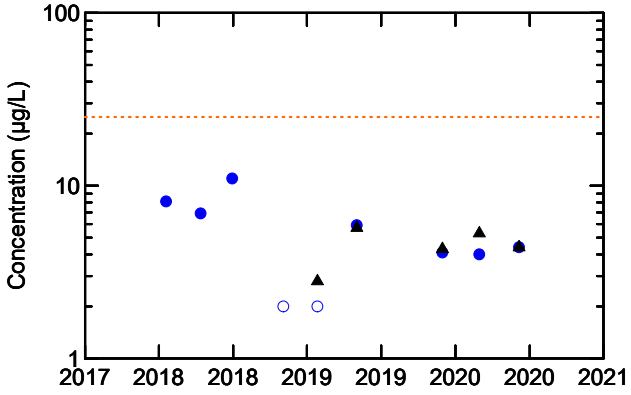
Potassium



Total: Stable

Dissolved: Stable

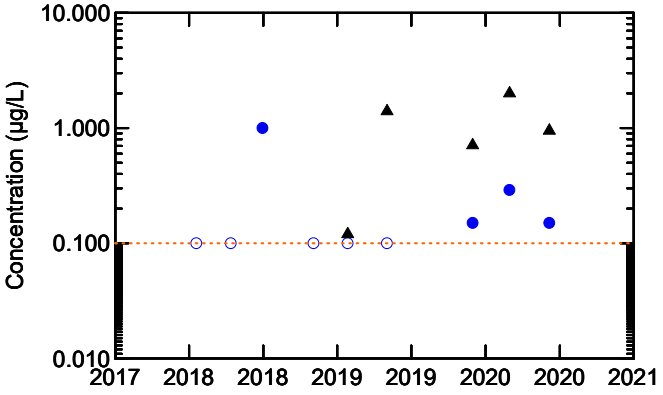
Nickel



Total: No trend identified

Dissolved: Stable

Silver



Total: No trend identified

Dissolved: Over 50% non-detects

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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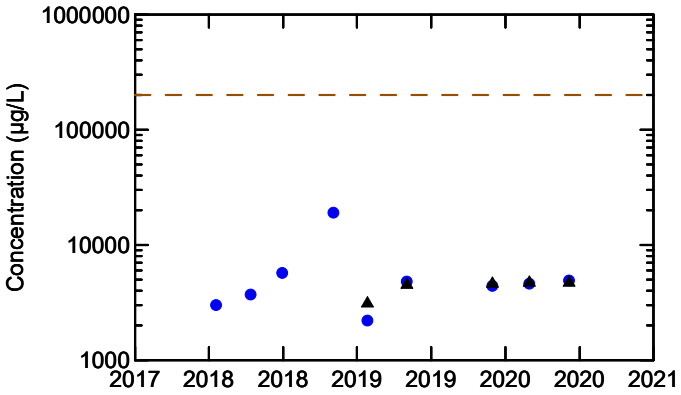
WELL MW-22A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

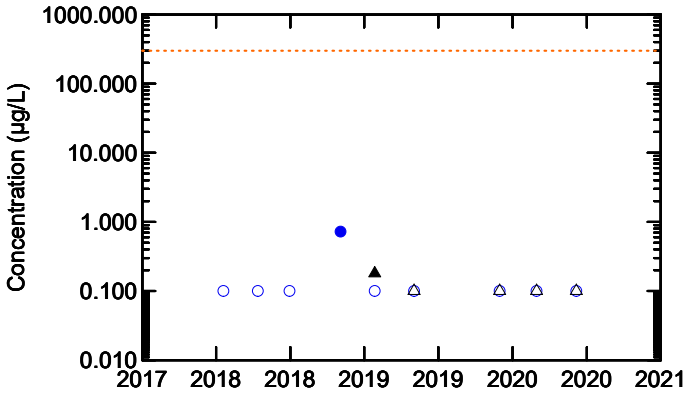
Sodium



Total: Increasing Trend

Dissolved: No trend identified

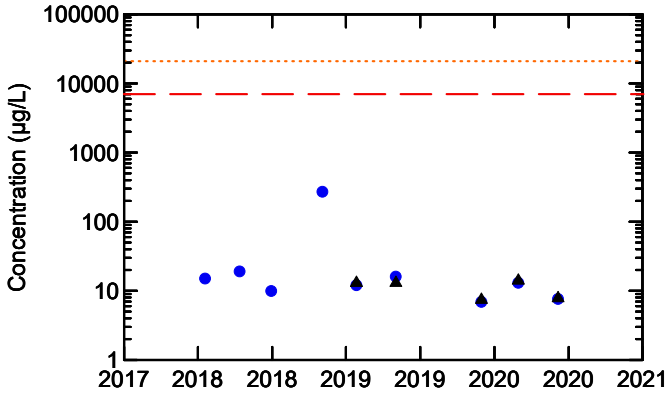
Uranium



Total: Over 50% non-detects

Dissolved: Over 50% non-detects

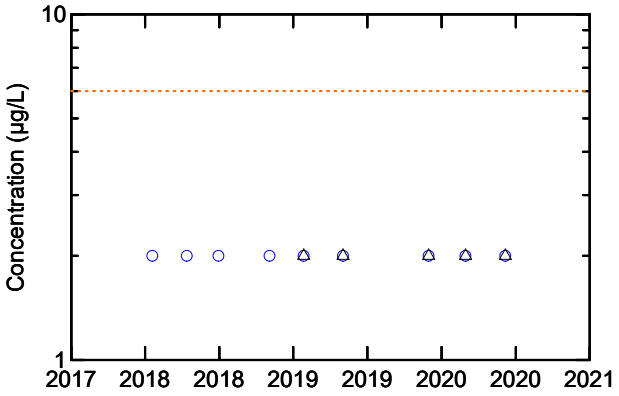
Strontium



Total: Stable

Dissolved: No trend identified

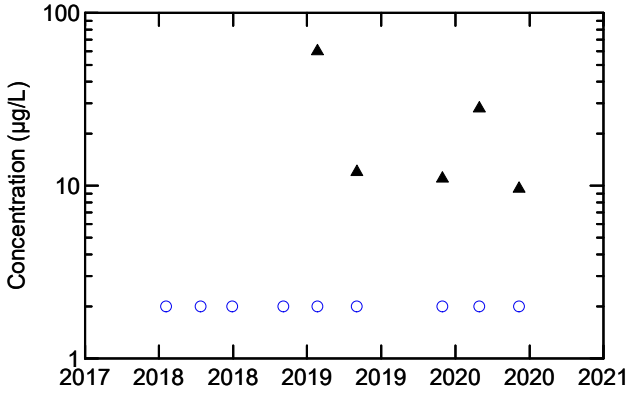
Vanadium



Total: No detected results

Dissolved: No detected results

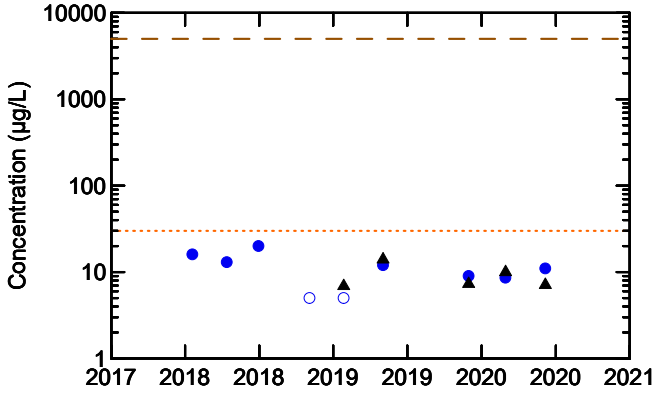
Titanium



Total: Stable

Dissolved: No detected results

Zinc



Total: Stable

Dissolved: Stable

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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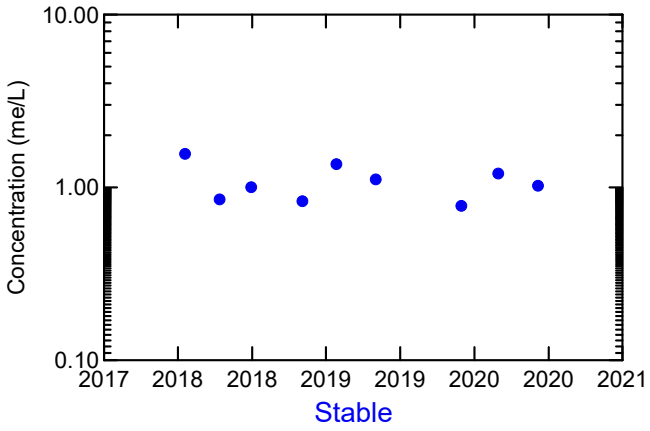
Non-detects are plotted at the reporting limit.

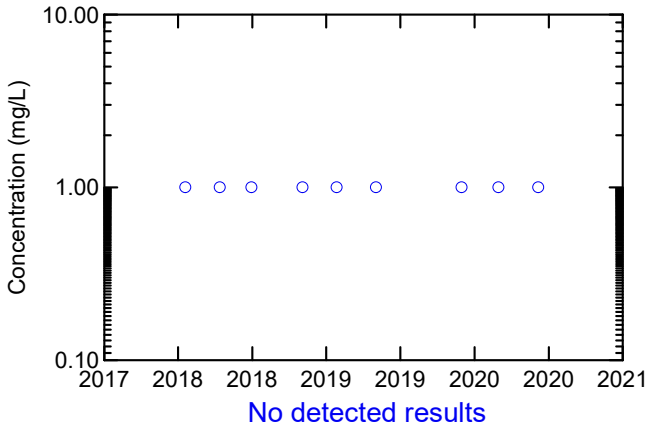
WELL MW-22A
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Anion Sum



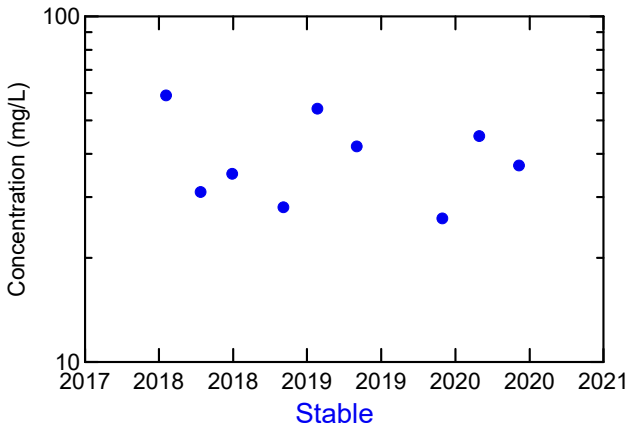
Stable

Carb. Alkalinity (calc. as CaCO3)



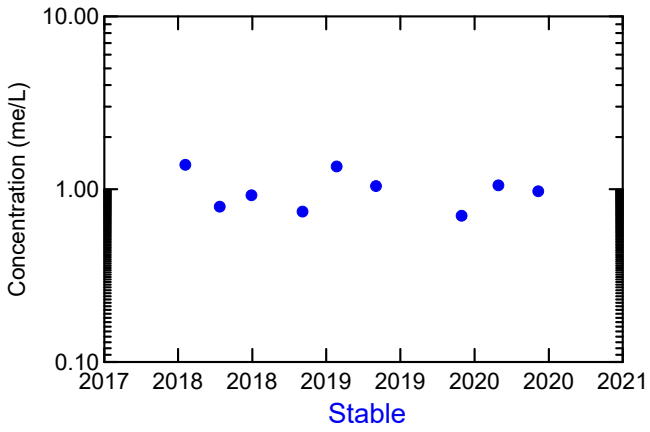
No detected results

Bicarb. Alkalinity (calc. as CaCO3)



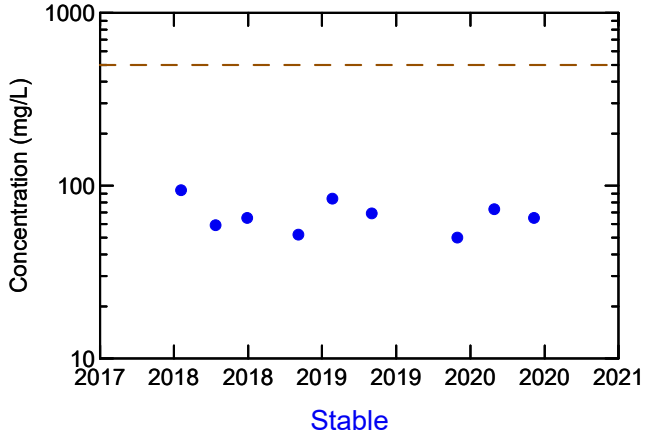
Stable

Cation Sum



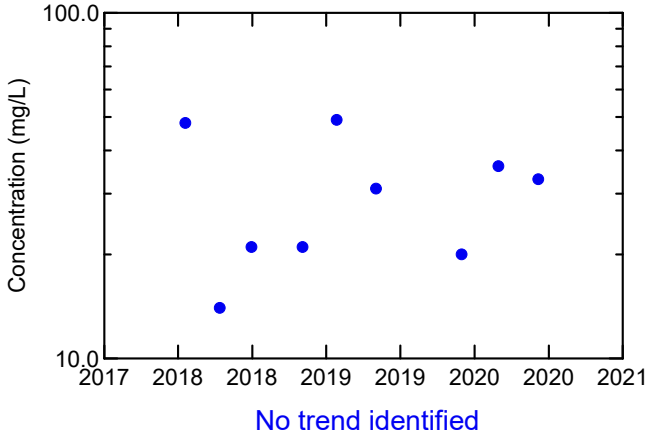
Stable

Calculated TDS



Stable

Hardness (CaCO3)



No trend identified

Legend:

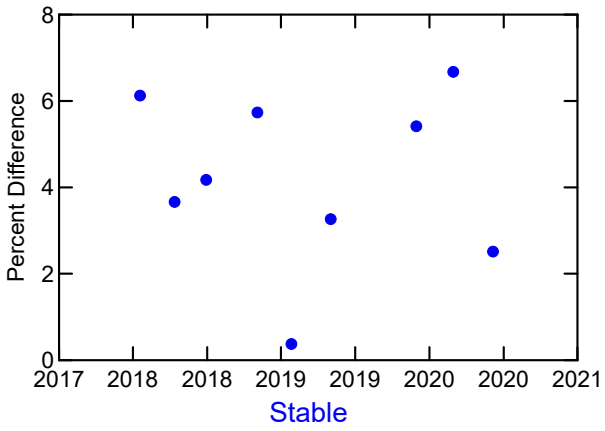
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines - Aesthetic

WELL MW-22B
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

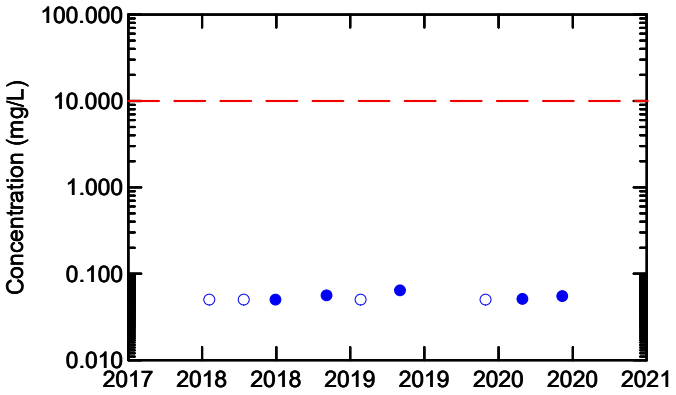
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Ion Balance



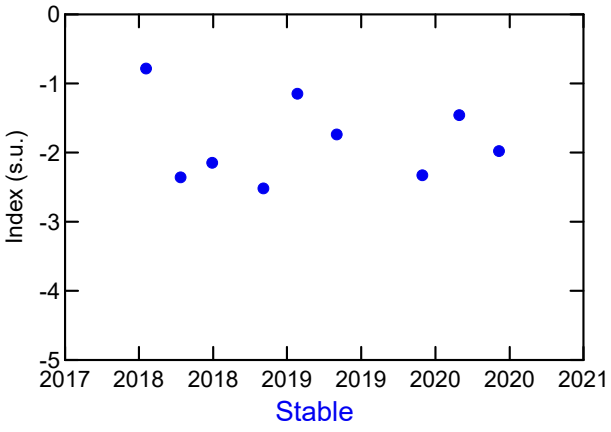
Stable

Nitrate



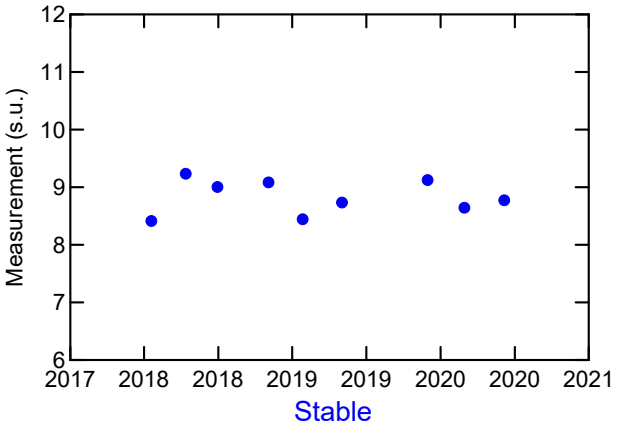
No trend identified

Langelier Index (@ 20C)



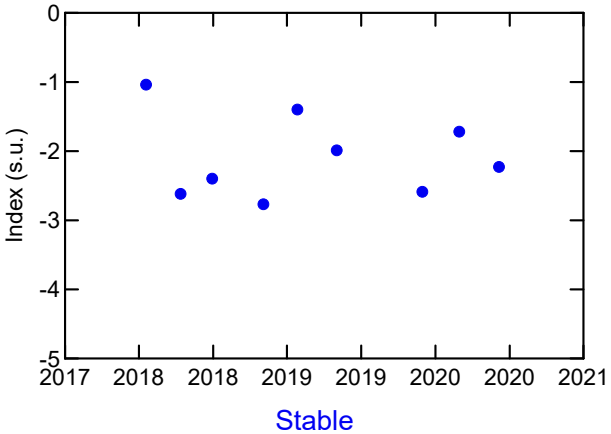
Stable

Saturation pH (@ 20C)



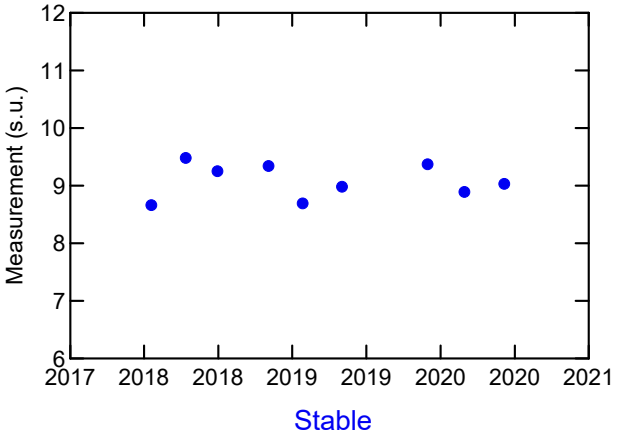
Stable

Langelier Index (@ 4C)



Stable

Saturation pH (@ 4C)



Stable

Legend:

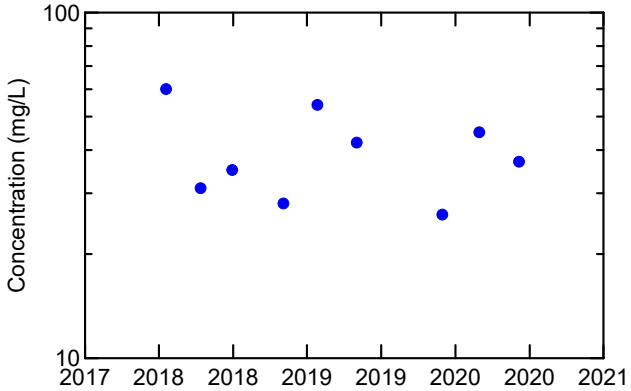
● Detected result ○ Non-Detect

— — Canadian Drinking Water Quality Guidelines: Maximum Acceptable

WELL MW-22B
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

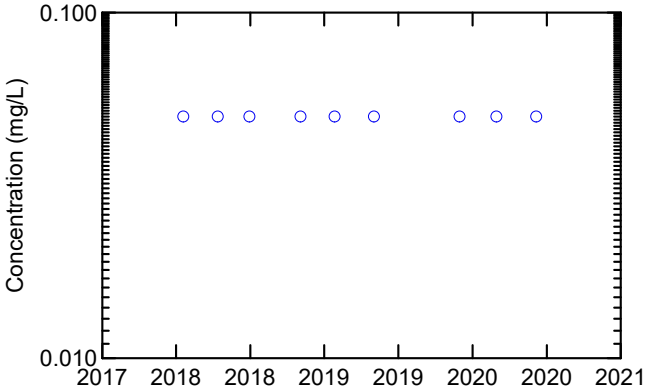
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Total Alkalinity (Total as CaCO3)



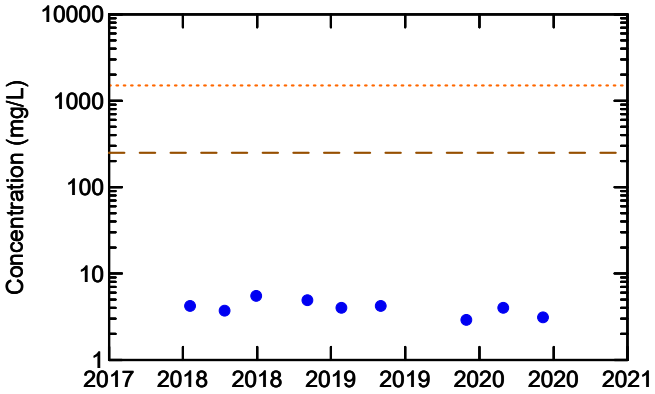
Stable

Nitrogen (Ammonia Nitrogen)



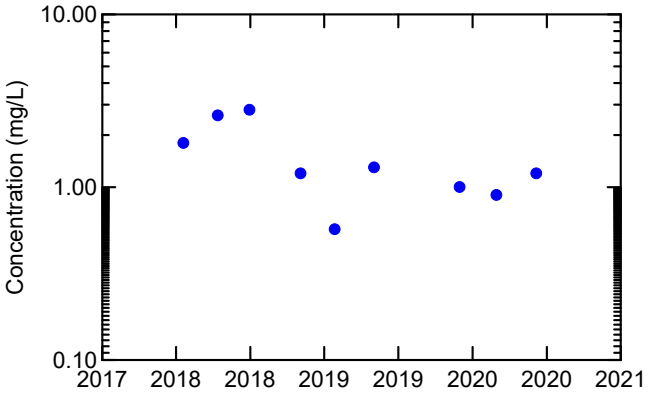
No detected results

Dissolved Chloride



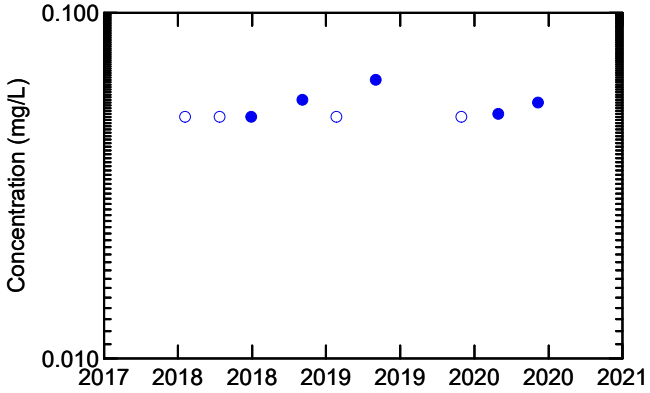
Stable

Total Organic Carbon



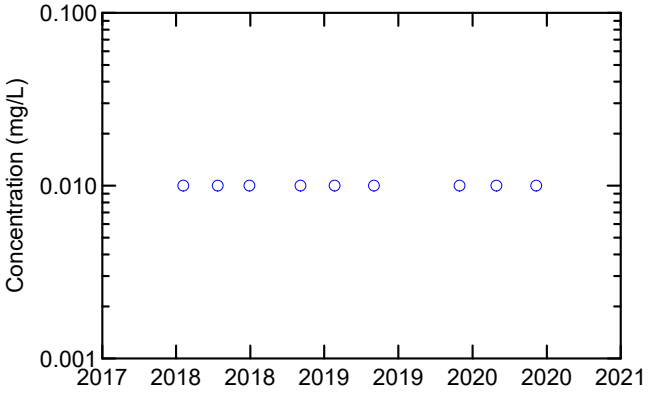
Stable

Nitrate + Nitrite



No trend identified

Orthophosphate



No detected results

Legend:

● Detected result ○ Non-Detect

Nova Scotia (2014) Pathway-Specific Standard for Groundwater

Canadian Drinking Water Quality Guideline: Aesthetic

Notes:
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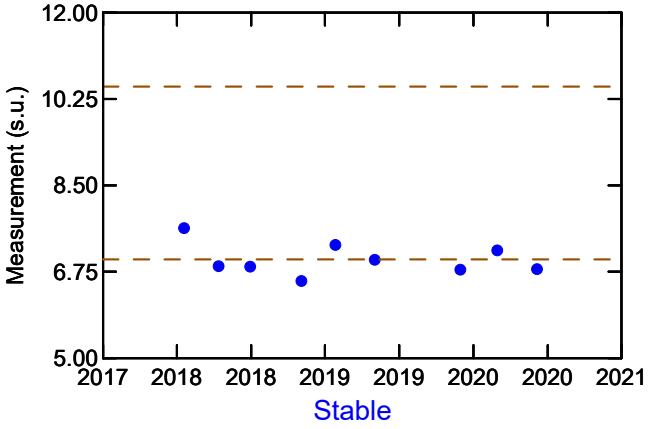
Non-detects are plotted at the reporting limit.

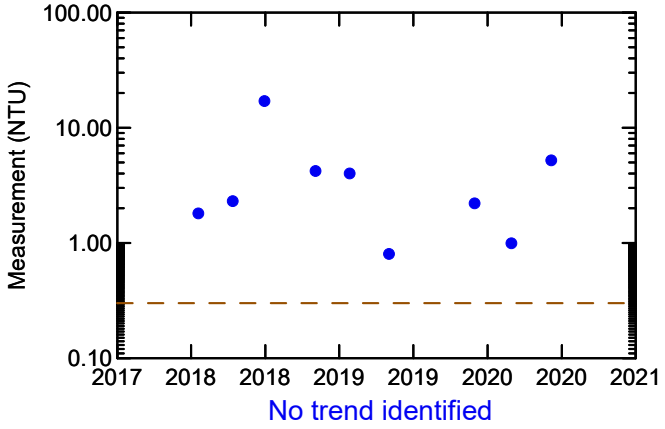
WELL MW-22B
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

pH



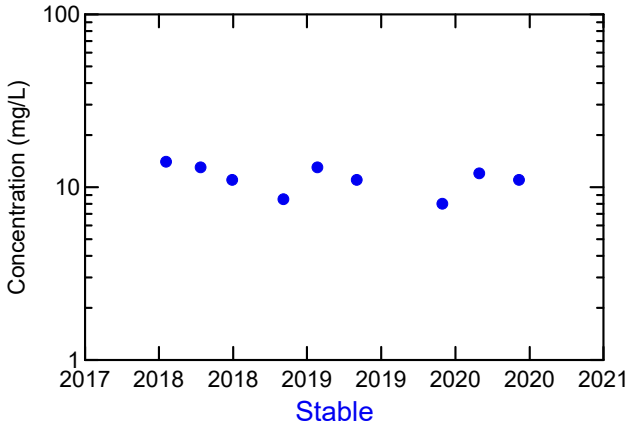
Stable

Turbidity



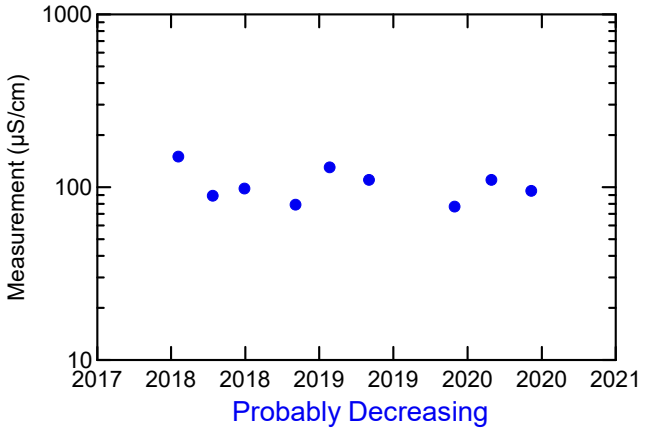
No trend identified

Reactive Silica (SiO2)



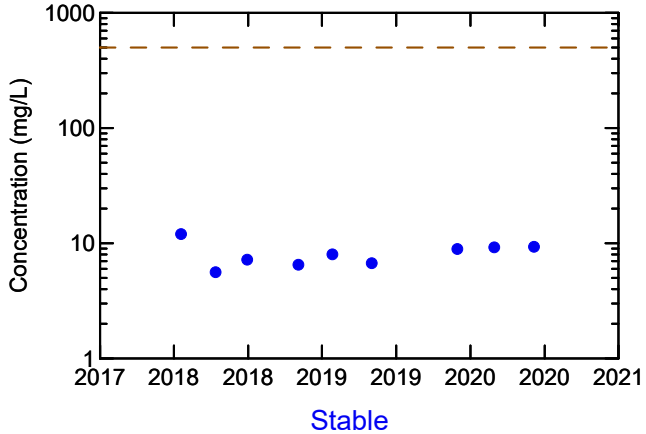
Stable

Conductivity



Probably Decreasing

Dissolved Sulphate (SO4)



Stable

Legend:

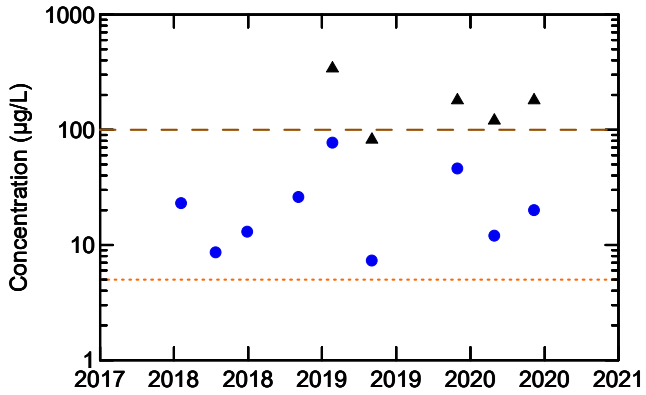
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines: Aesthetic

WELL MW-22B
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

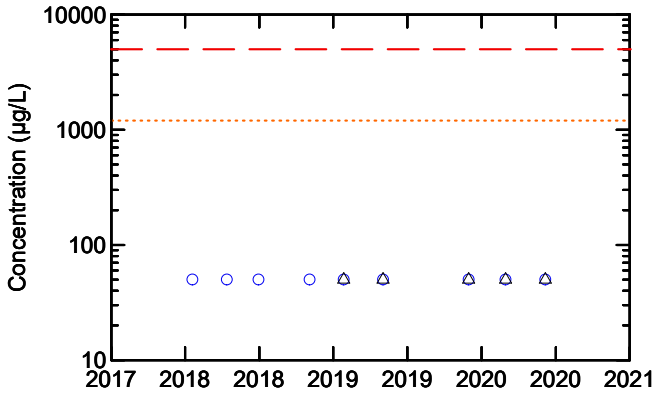
Aluminum



Total: Stable

Dissolved: No trend identified

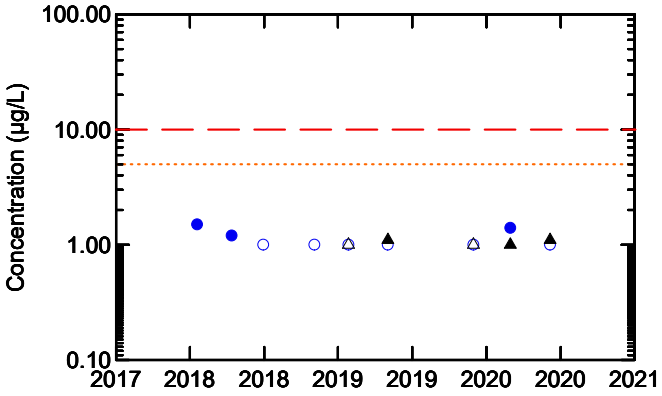
Boron



Total: No detected results

Dissolved: No detected results

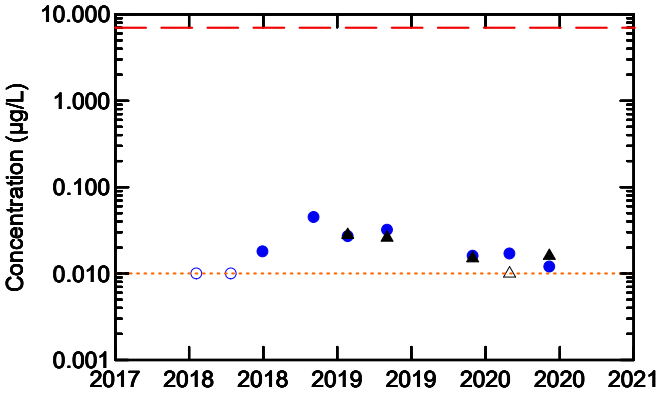
Arsenic



Total: No trend identified

Dissolved: Over 50% non-detects

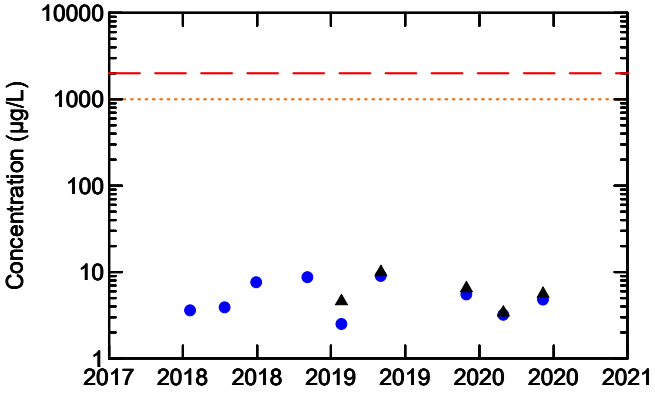
Cadmium



Total: Stable

Dissolved: No trend identified

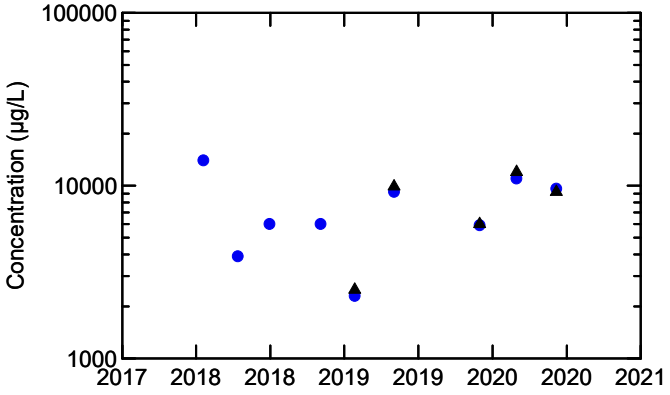
Barium



Total: Stable

Dissolved: No trend identified

Calcium



Total: No trend identified

Dissolved: No trend identified

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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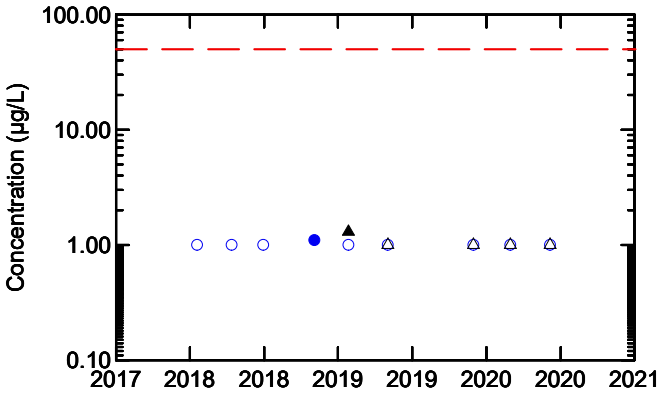
Non-detects are plotted at the reporting limit.

WELL MW-22B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

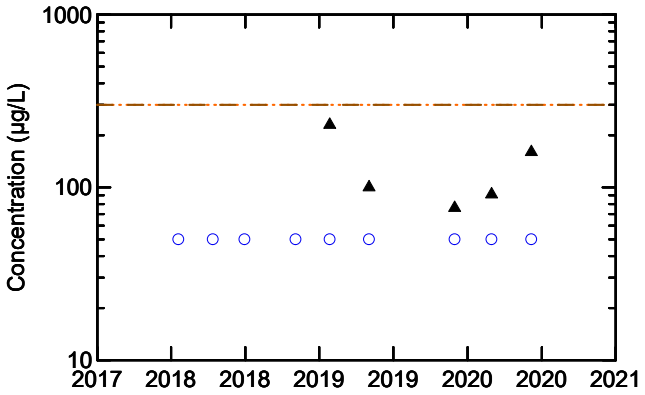
Chromium



Total: Over 50% non-detects

Dissolved: Over 50% non-detects

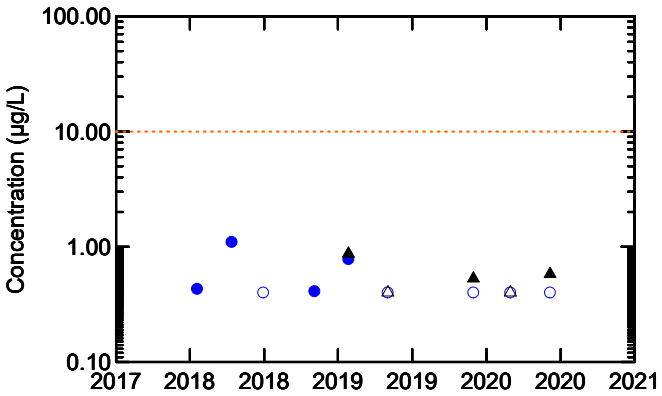
Iron



Total: Stable

Dissolved: No detected results

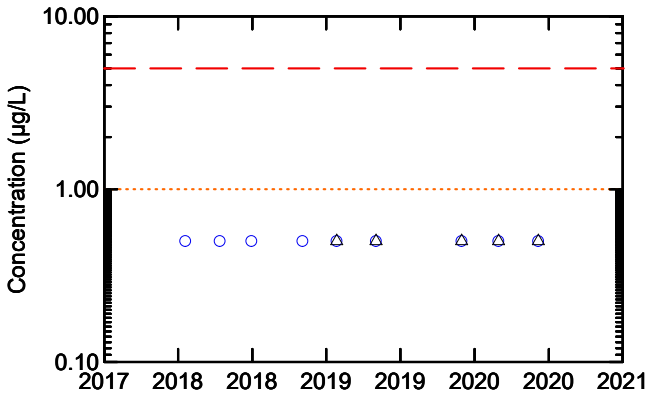
Cobalt



Total: Stable

Dissolved: Over 50% non-detects

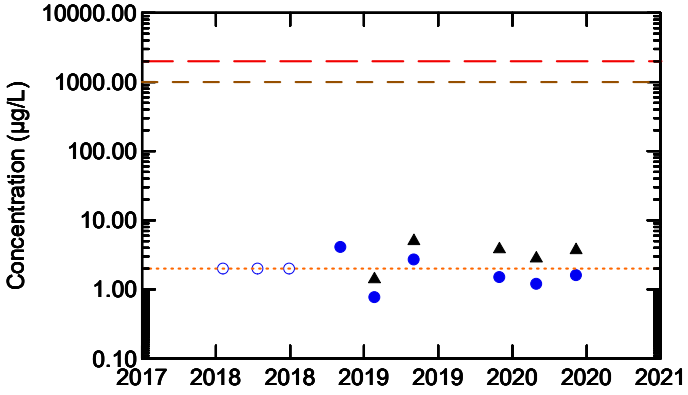
Lead



Total: No detected results

Dissolved: No detected results

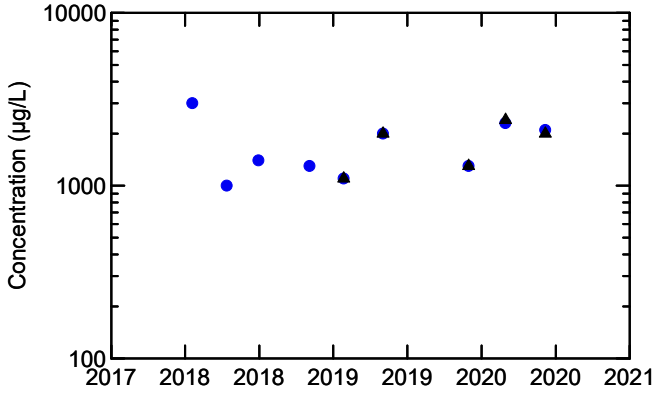
Copper



Total: Stable

Dissolved: Stable

Magnesium



Total: No trend identified

Dissolved: No trend identified

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

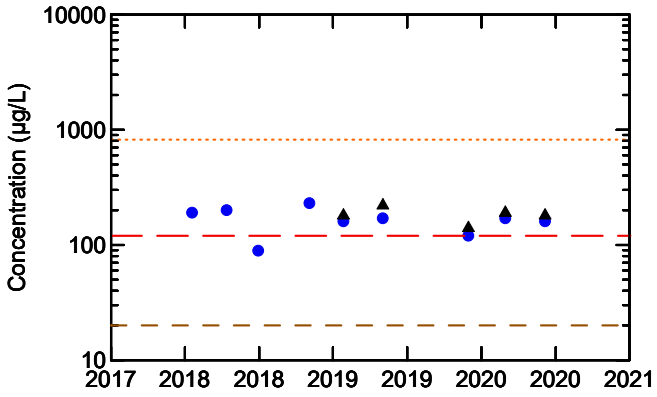
– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

WELL MW-22B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

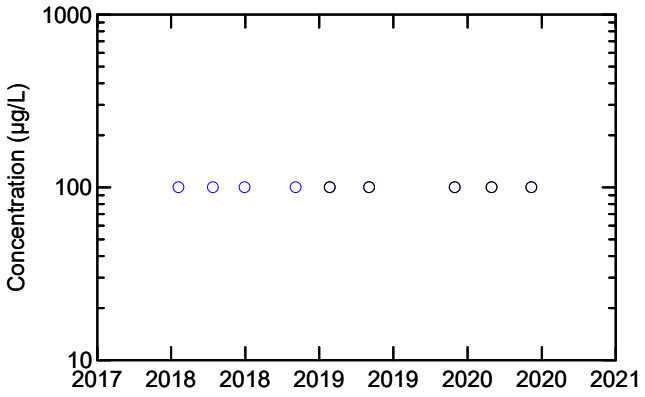
Manganese



Total: Stable

Dissolved: Stable

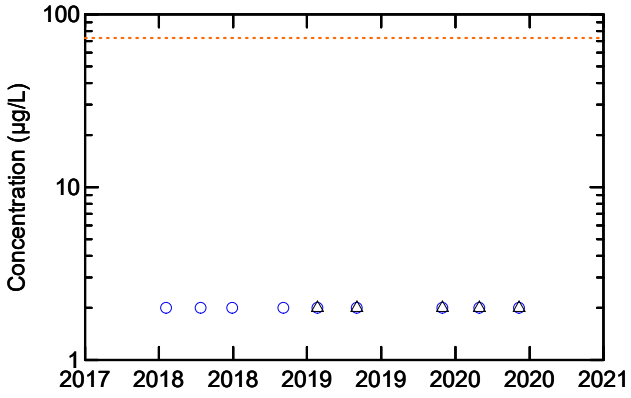
Phosphorus



Total: No detected results

Dissolved: No detected results

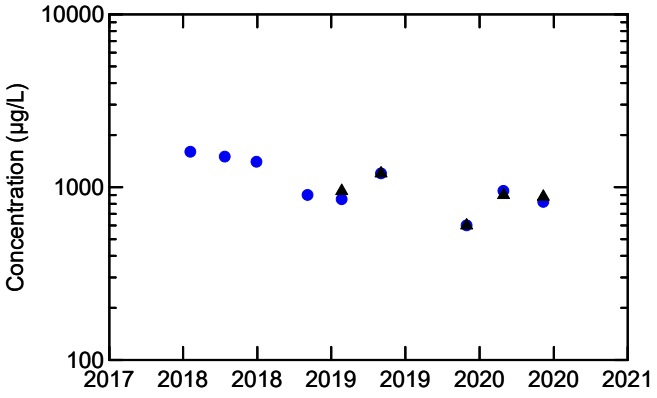
Molybdenum



Total: No detected results

Dissolved: No detected results

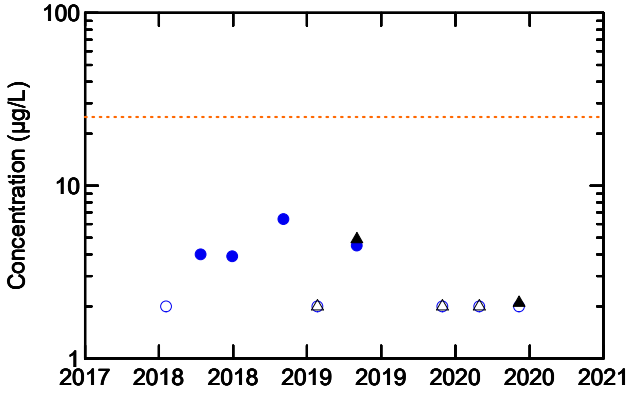
Potassium



Total: Stable

Dissolved: Decreasing Trend

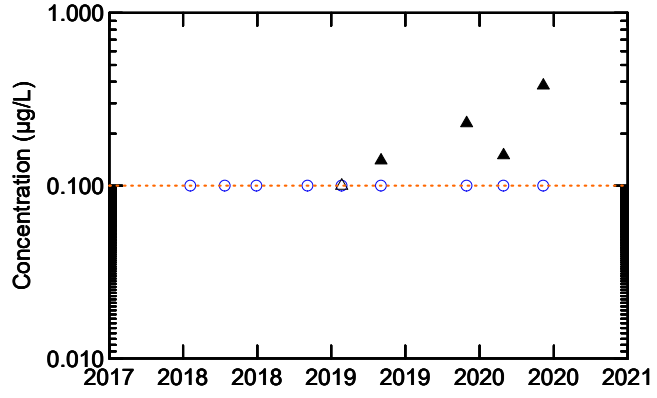
Nickel



Total: Over 50% non-detects

Dissolved: Over 50% non-detects

Silver



Total: Probably Increasing

Dissolved: No detected results

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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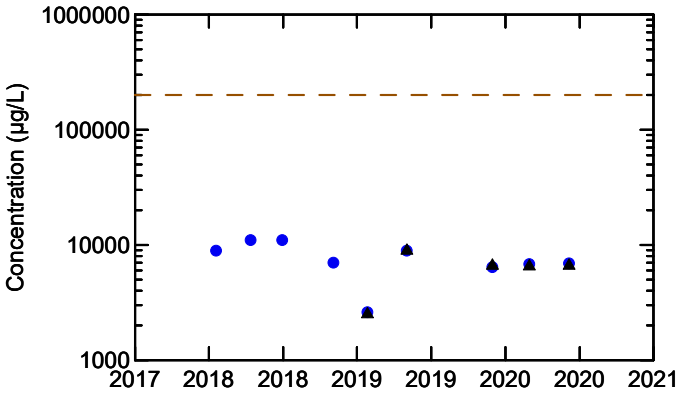
WELL MW-22B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

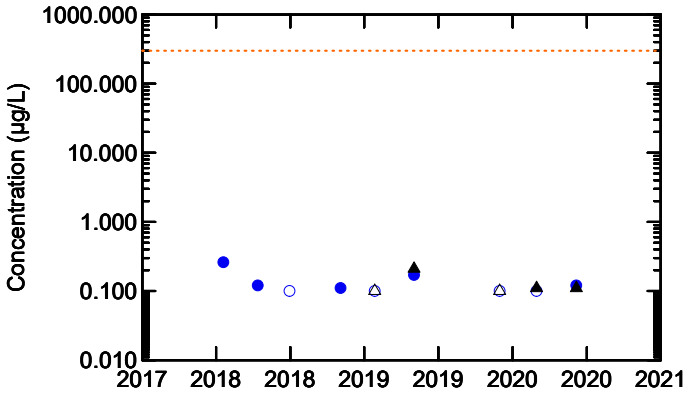
Sodium



Total: No trend identified

Dissolved: Stable

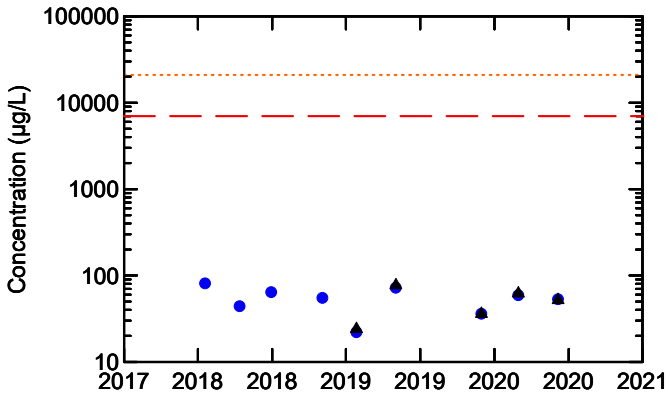
Uranium



Total: No trend identified

Dissolved: Stable

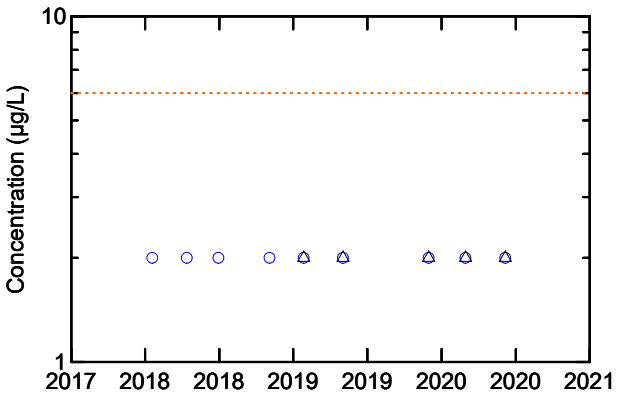
Strontium



Total: No trend identified

Dissolved: Stable

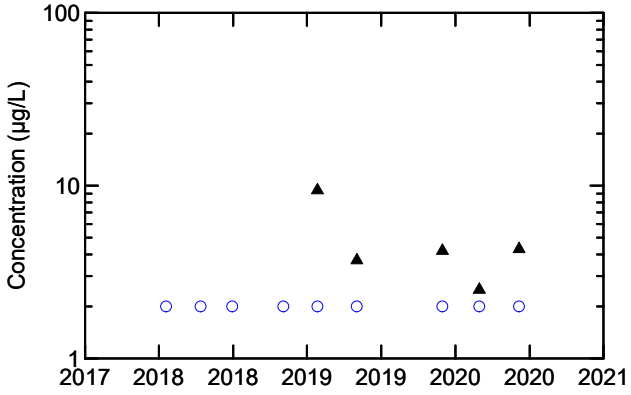
Vanadium



Total: No detected results

Dissolved: No detected results

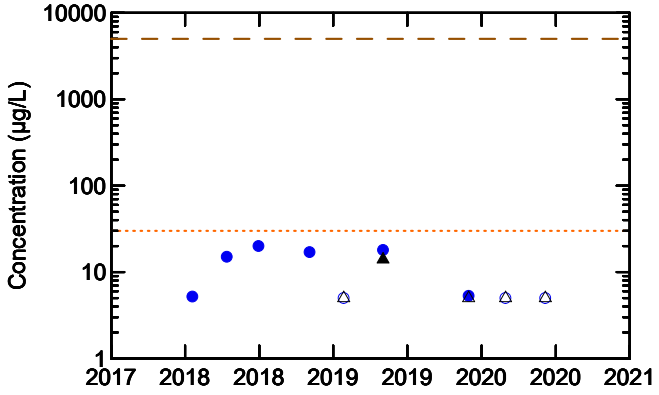
Titanium



Total: Stable

Dissolved: No detected results

Zinc



Total: Over 50% non-detects

Dissolved: Stable

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

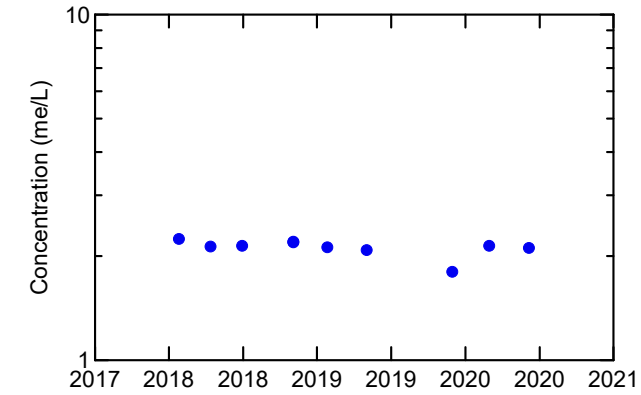
– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

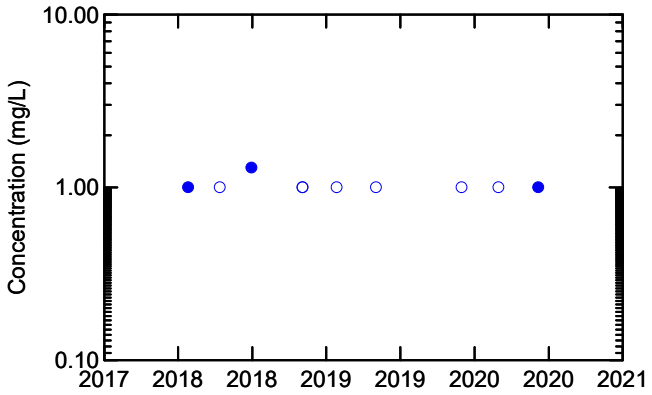
WELL MW-22B
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Anion Sum



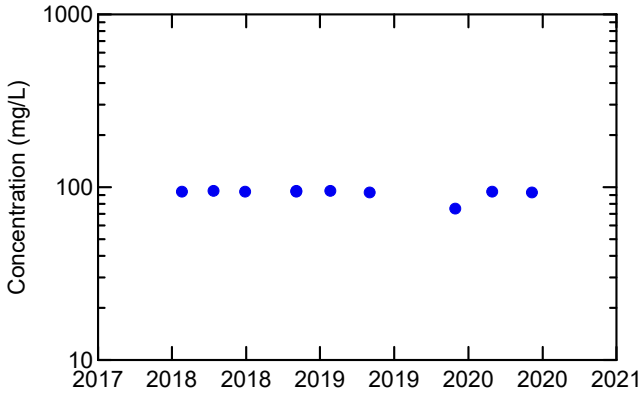
Probably Decreasing

Carb. Alkalinity (calc. as CaCO3)



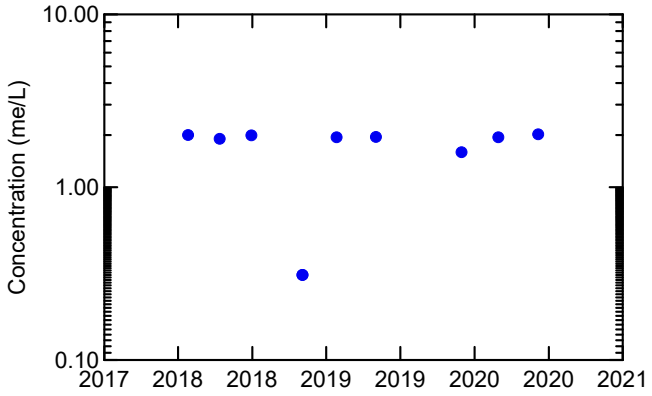
Over 50% non-detects

Bicarb. Alkalinity (calc. as CaCO3)



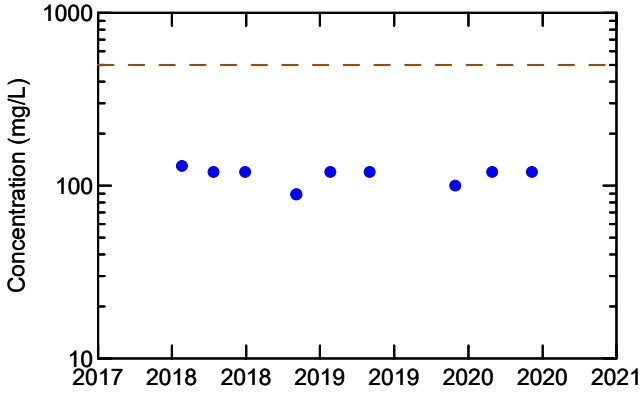
Stable

Cation Sum



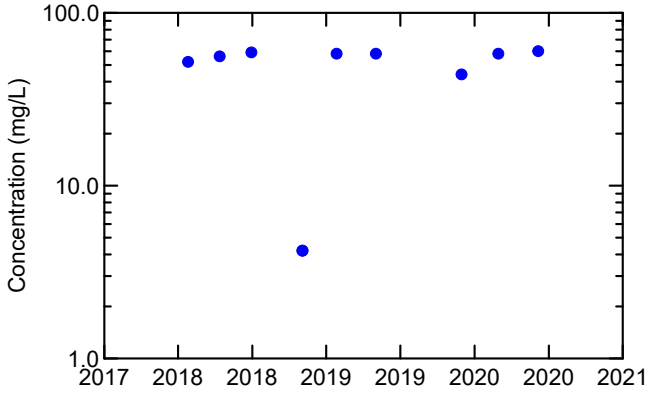
No trend identified

Calculated TDS



Stable

Hardness (CaCO3)



No trend identified

Legend:

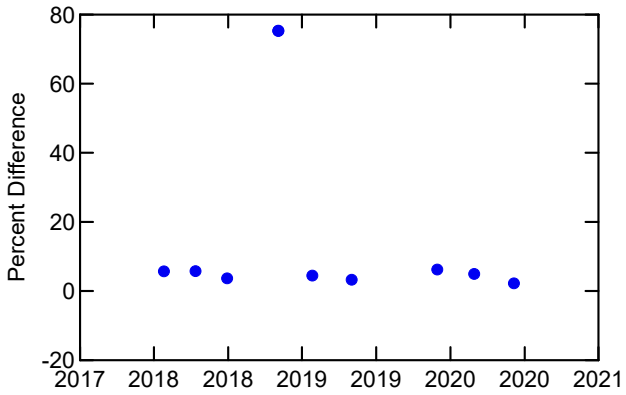
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines - Aesthetic

WELL MW-22C
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

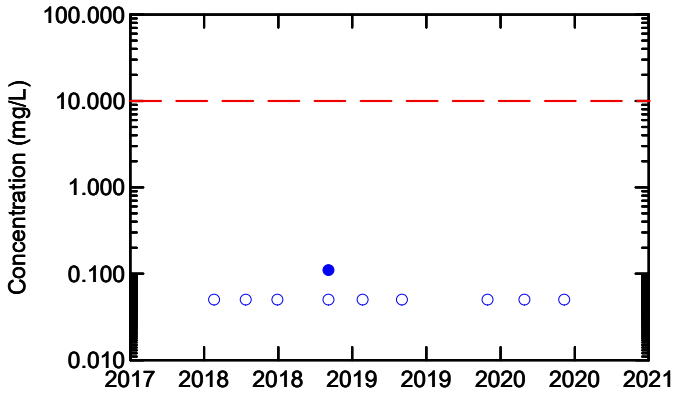
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Ion Balance



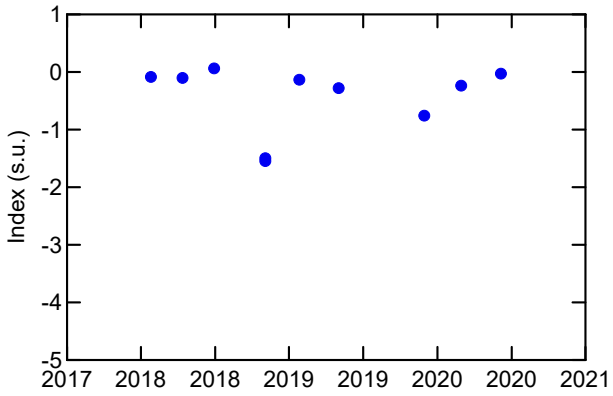
No trend identified

Nitrate



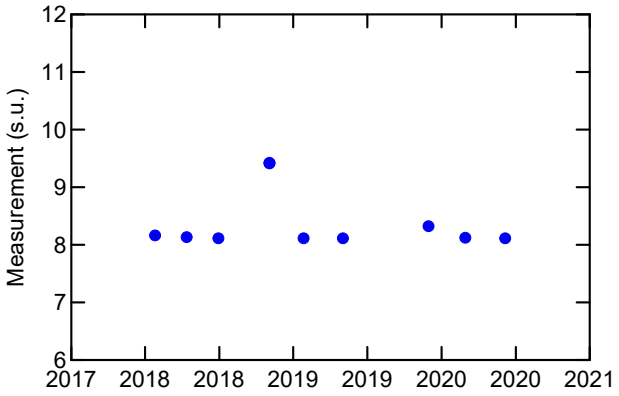
Over 50% non-detects

Langelier Index (@ 20C)



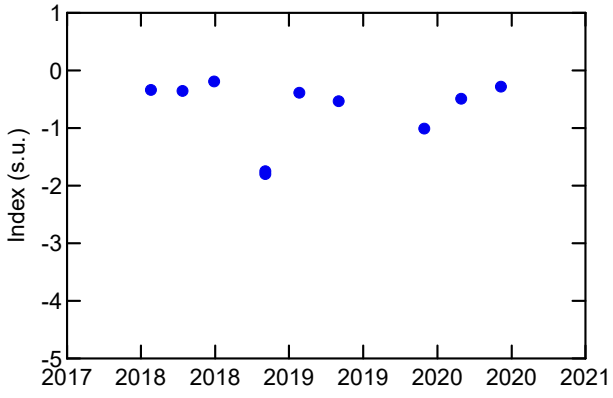
Stable

Saturation pH (@ 20C)



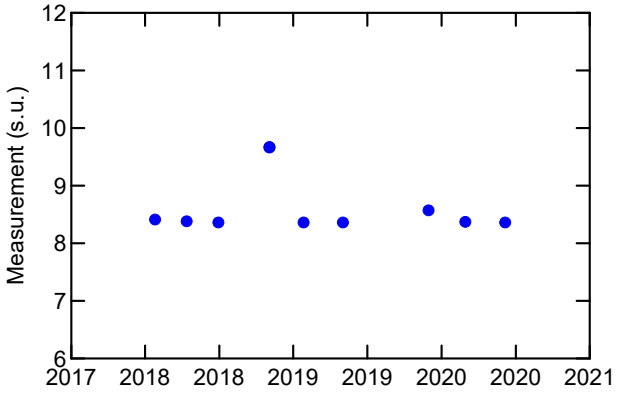
Stable

Langelier Index (@ 4C)



Stable

Saturation pH (@ 4C)



Stable

Legend:

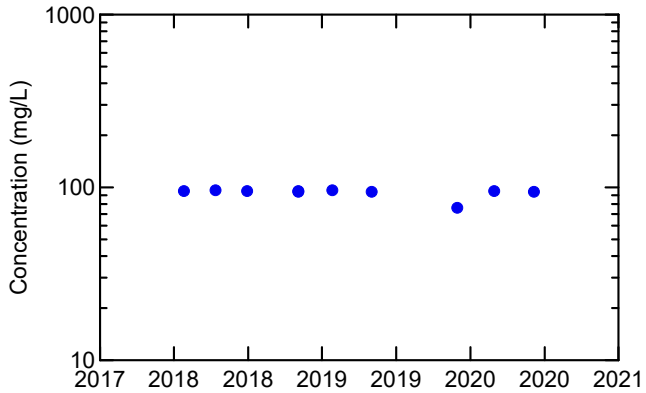
● Detected result ○ Non-Detect

— — Canadian Drinking Water Quality Guidelines: Maximum Acceptable

WELL MW-22C
CALCULATED PARAMETERS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

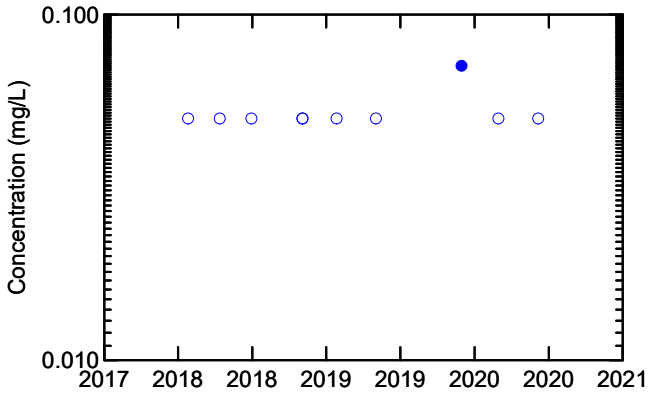
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

Total Alkalinity (Total as CaCO3)



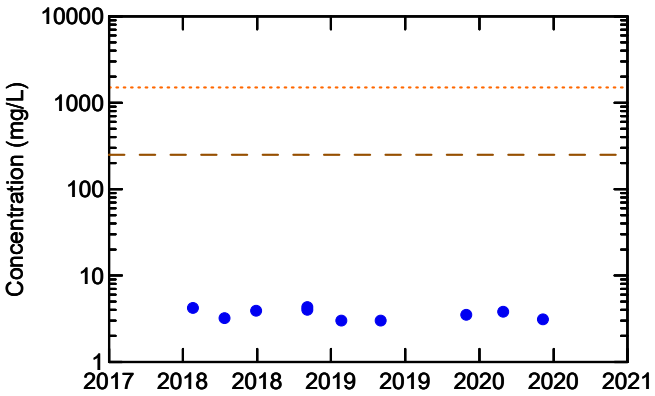
Stable

Nitrogen (Ammonia Nitrogen)



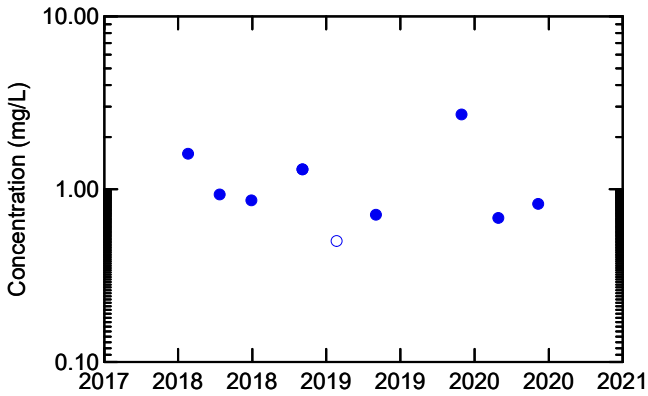
Over 50% non-detects

Dissolved Chloride



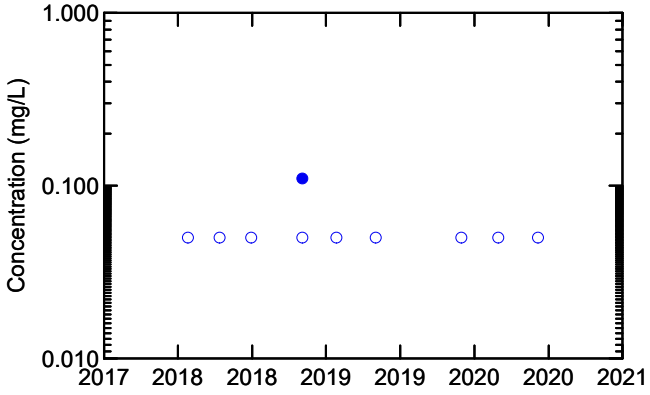
Stable

Total Organic Carbon



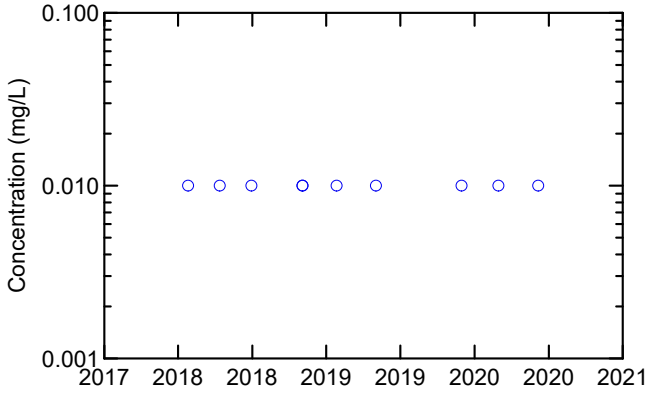
Stable

Nitrate + Nitrite



Over 50% non-detects

Orthophosphate



No detected results

Legend:

● Detected result ○ Non-Detect

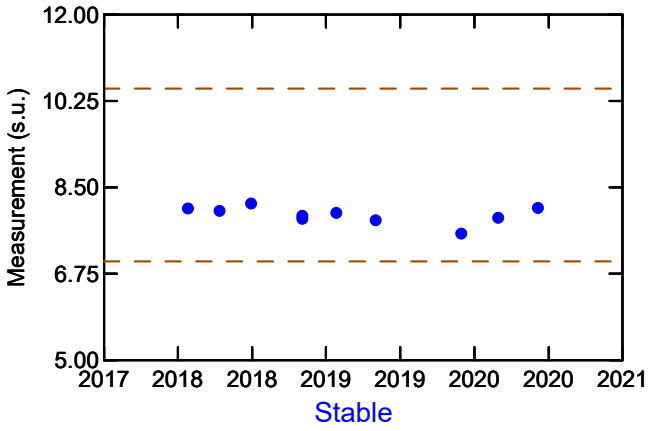
Nova Scotia (2014) Pathway-Specific Standard for Groundwater

Canadian Drinking Water Quality Guideline: Aesthetic

WELL MW-22C
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

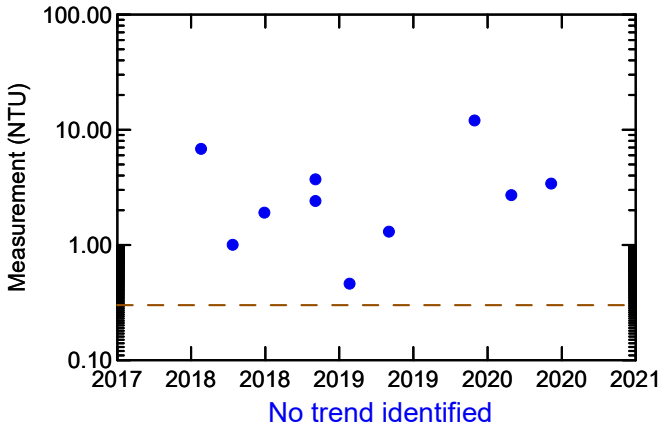
Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

pH



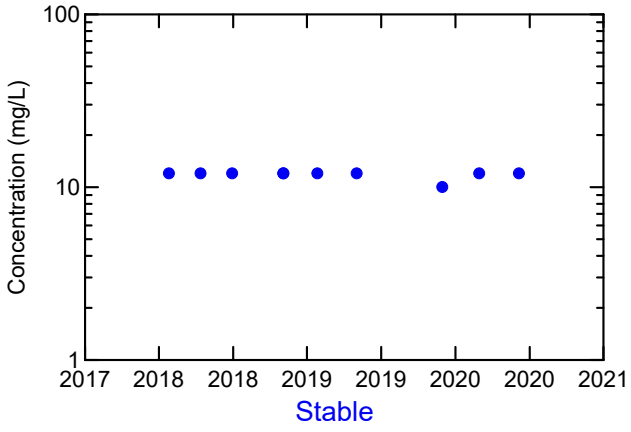
Stable

Turbidity



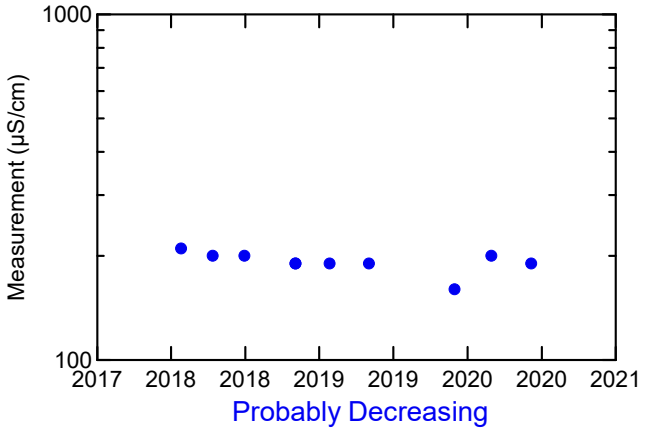
No trend identified

Reactive Silica (SiO2)



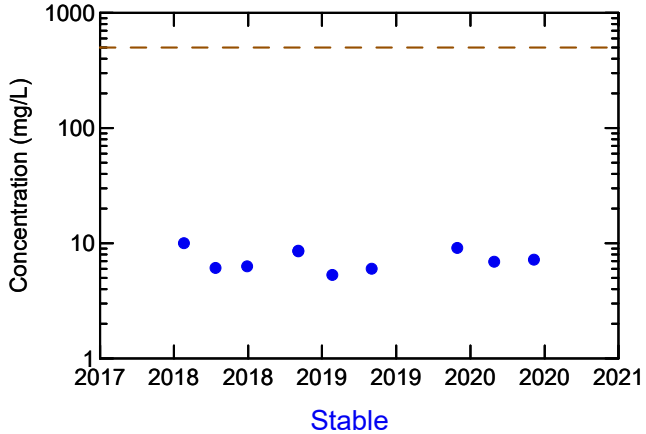
Stable

Conductivity



Probably Decreasing

Dissolved Sulphate (SO4)



Stable

Legend:

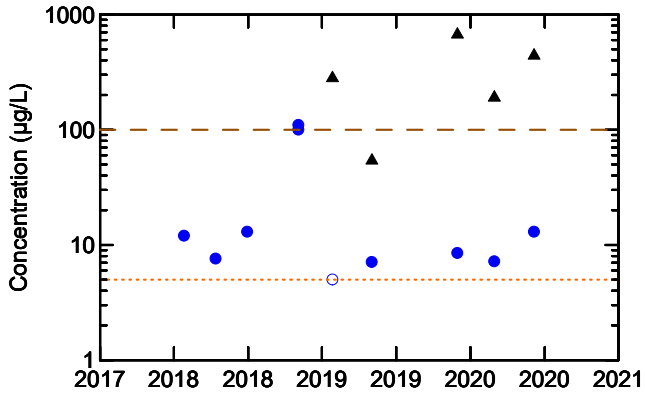
● Detected result ○ Non-Detect

– – – Canadian Drinking Water Quality Guidelines: Aesthetic

WELL MW-22C
INORGANICS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

Notes:
Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

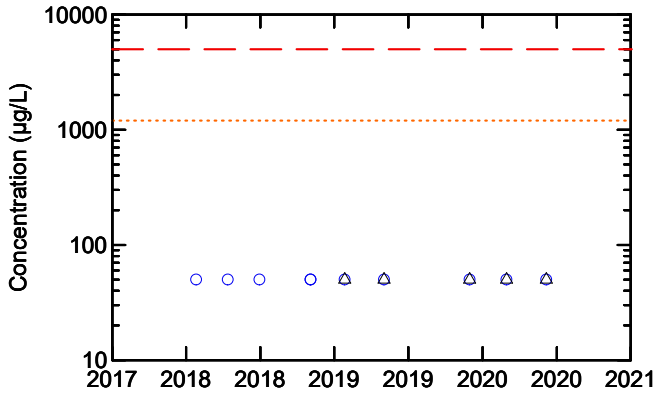
Aluminum



Total: No trend identified

Dissolved: No trend identified

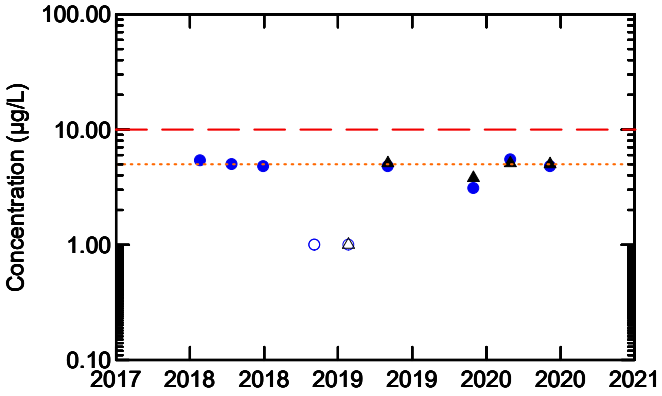
Boron



Total: No detected results

Dissolved: No detected results

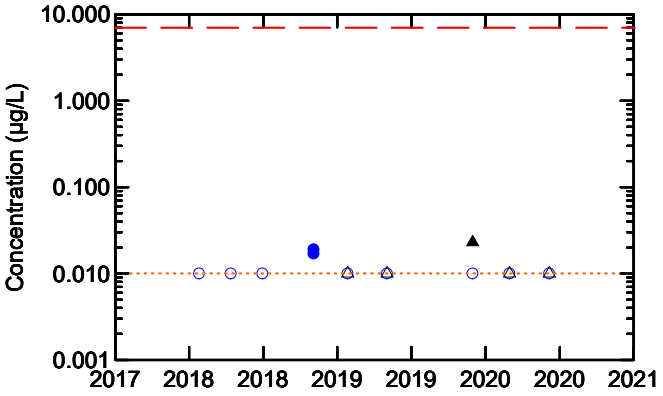
Arsenic



Total: No trend identified

Dissolved: Stable

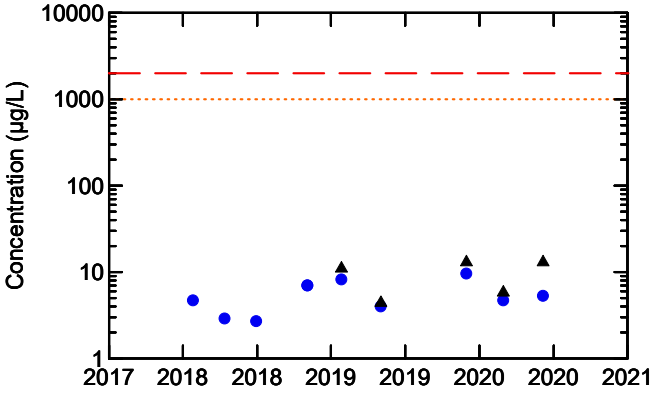
Cadmium



Total: Over 50% non-detects

Dissolved: Over 50% non-detects

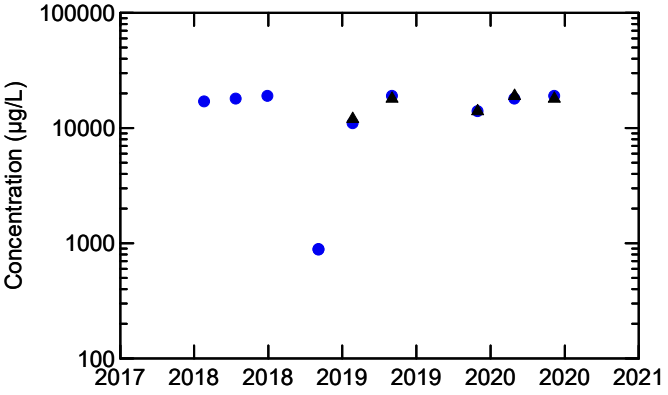
Barium



Total: No trend identified

Dissolved: No trend identified

Calcium



Total: No trend identified

Dissolved: No trend identified

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

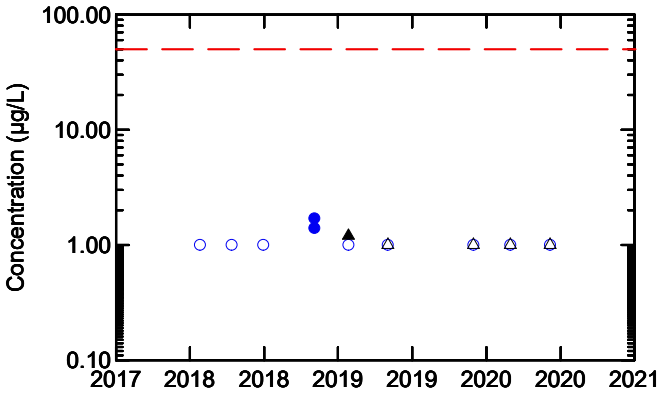
– – – Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

Trend results are reported from tests conducted at a 95 percent confidence level.
Non-detects are plotted at the reporting limit.

WELL MW-22C
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia

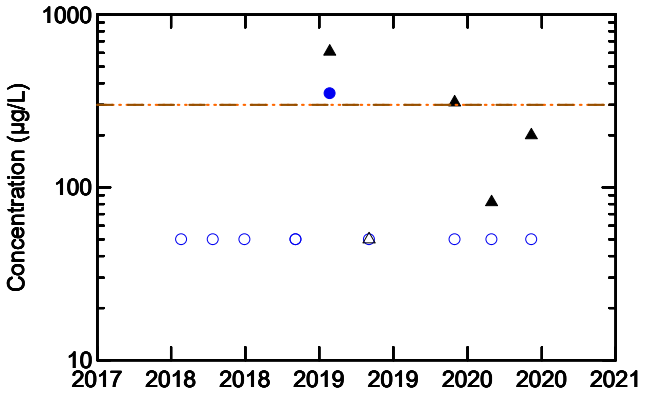
Chromium



Total: Over 50% non-detects

Dissolved: Over 50% non-detects

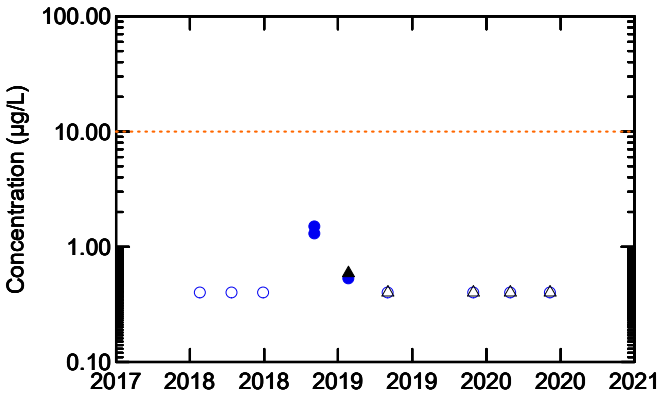
Iron



Total: Stable

Dissolved: Over 50% non-detects

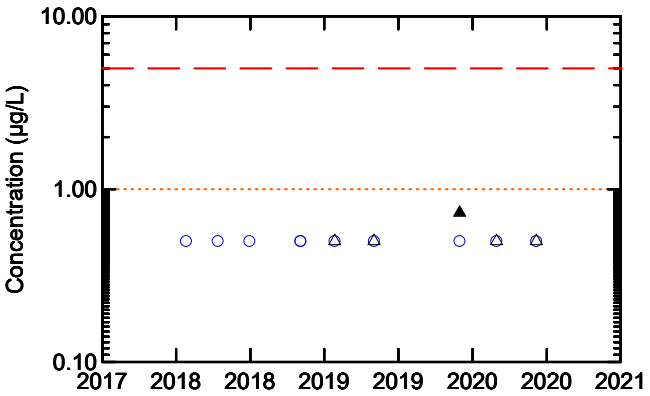
Cobalt



Total: Over 50% non-detects

Dissolved: Over 50% non-detects

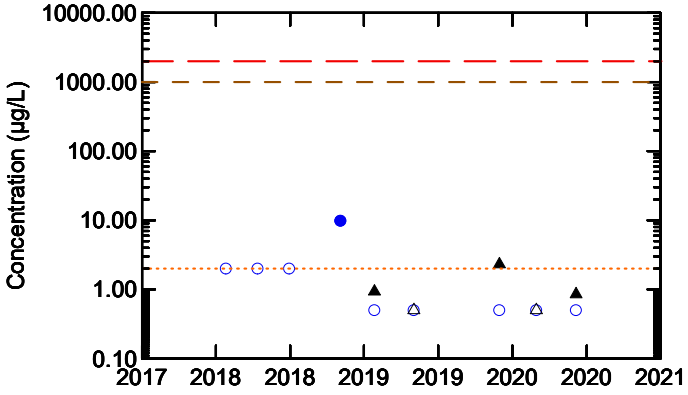
Lead



Total: Over 50% non-detects

Dissolved: No detected results

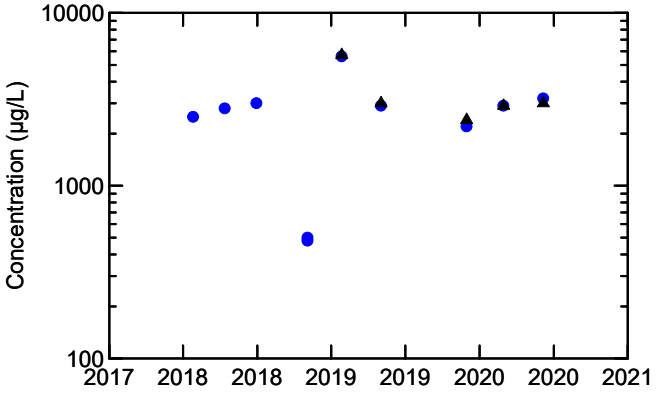
Copper



Total: Stable

Dissolved: Over 50% non-detects

Magnesium



Total: Stable

Dissolved: No trend identified

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

– – - Canadian Drinking Water Quality Guideline: Aesthetic

Notes:

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Non-detects are plotted at the reporting limit.

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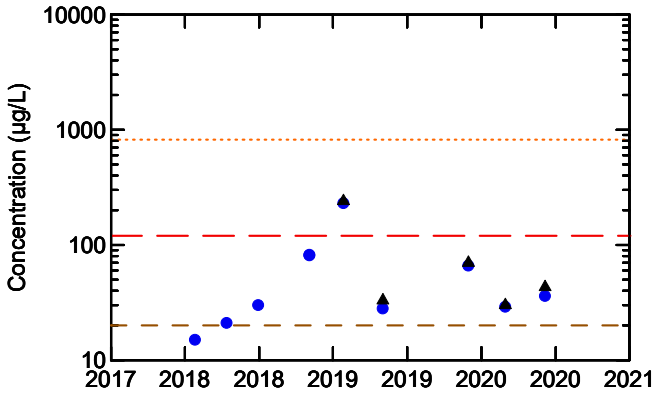
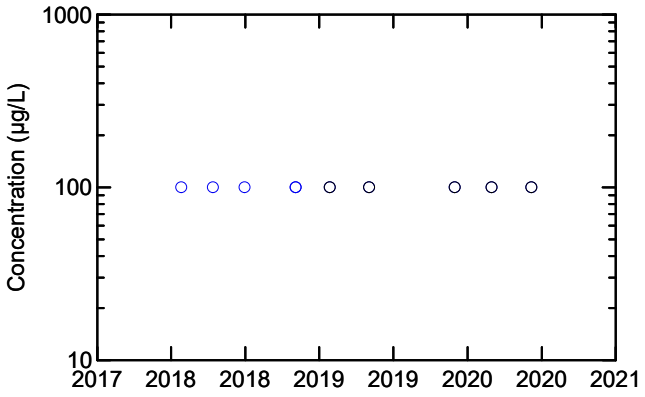
Manganese



Total: No trend identified

Dissolved: No trend identified

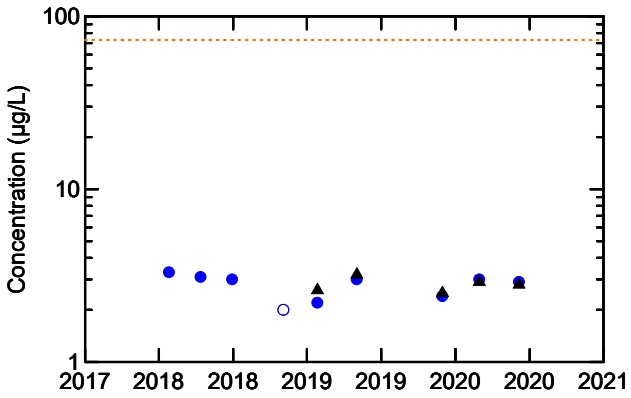
Phosphorus



Total: No detected results

Dissolved: No detected results

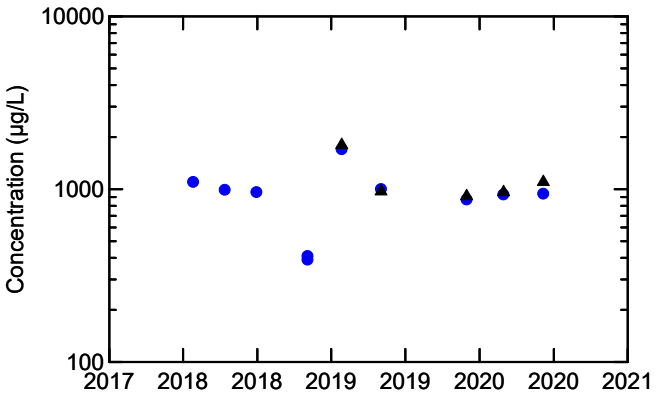
Molybdenum



Total: Stable

Dissolved: Stable

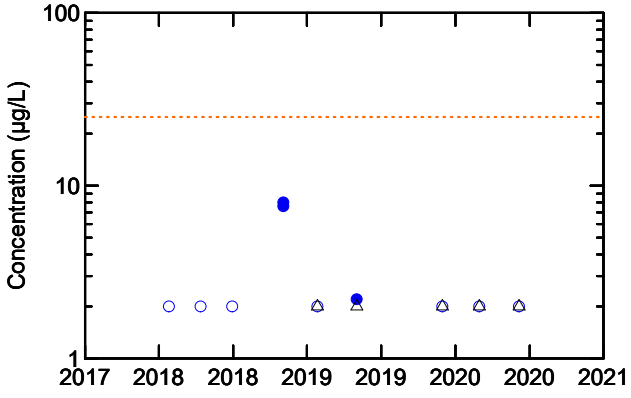
Potassium



Total: Stable

Dissolved: Stable

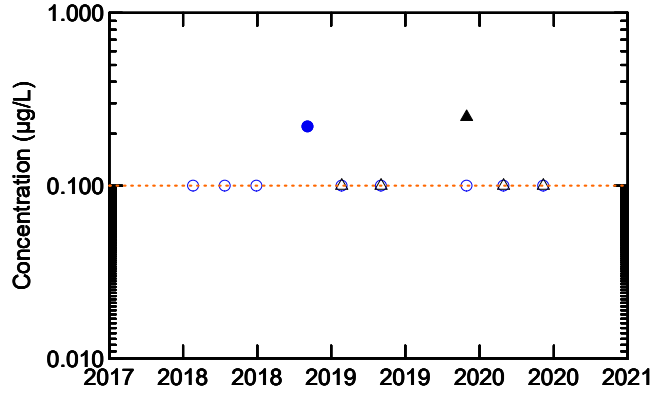
Nickel



Total: No detected results

Dissolved: Over 50% non-detects

Silver



Total: Over 50% non-detects

Dissolved: Over 50% non-detects

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

— — Canadian Drinking Water Quality Guideline: Maximum Acceptable

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Notes:

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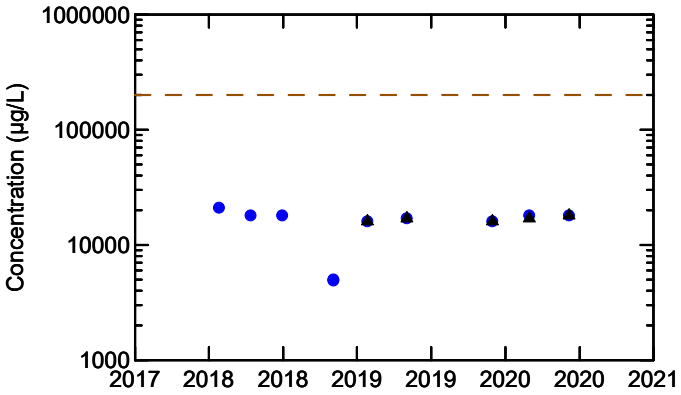
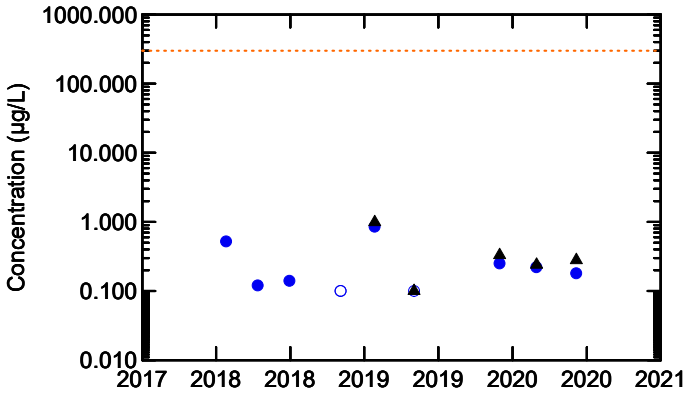
Sodium



Total: No trend identified

Dissolved: Stable

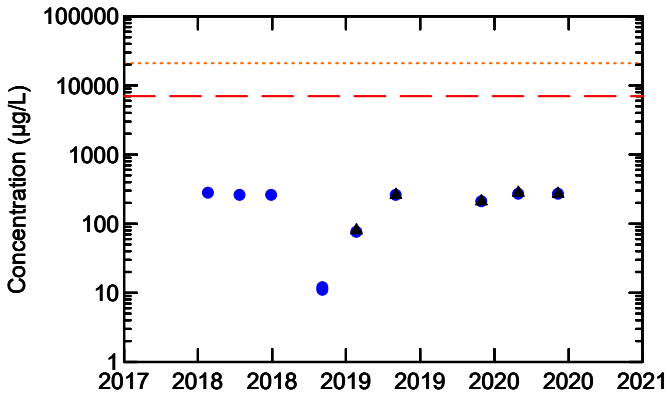
Uranium



Total: Stable

Dissolved: Stable

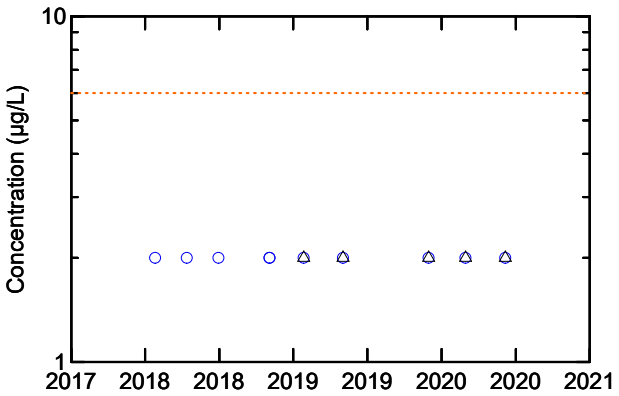
Strontium



Total: No trend identified

Dissolved: No trend identified

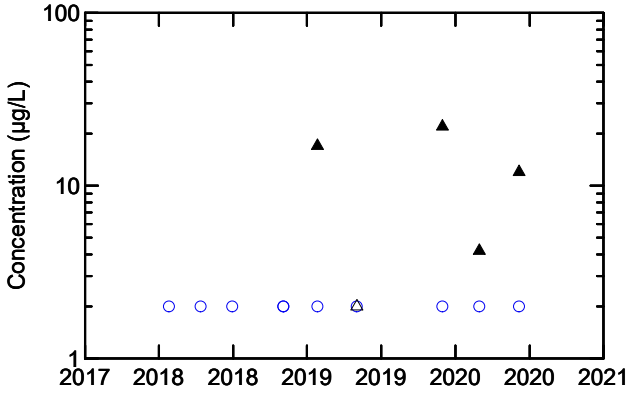
Vanadium



Total: No detected results

Dissolved: No detected results

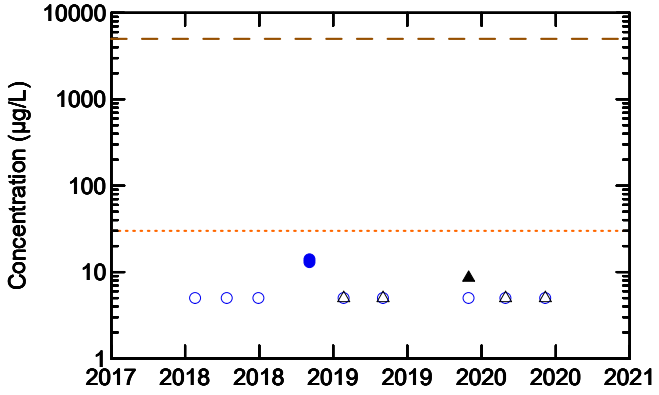
Titanium



Total: Stable

Dissolved: No detected results

Zinc



Total: Over 50% non-detects

Dissolved: Over 50% non-detects

Legend:

Total: ▲ Detected result △ Non-detect

Dissolved: ● Detected result ○ Non-detect

---------- Nova Scotia (2014) Pathway-Specific Standard for Groundwater

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WELL MW-22C
METALS
GROUNDWATER QUALITY DATA
BEAVER DAM MINE
Marinette, Nova Scotia