

Bruce Mines Water Treatment

Large Municipal Residential Drinking Water System

January 1, 2019 – December 31, 2019

***O.Reg 170/03 Schedule 22 Summary Report
O.Reg 170/03 Section 11 Annual Report
&
O.Reg 387/04 Annual Record of Water Taking***

Prepared by the Ontario Clean Water Agency
For The Corporation of the Town of Bruce Mines



**Ontario Clean Water Agency
Agence Ontarienne Des Eaux**



Drinking-Water System Number: 210000933
Drinking-Water System Name: BRUCE MINES DRINKING WATER SYSTEM
Drinking-Water System Owner: The Corporation of the Town of Bruce Mines
Drinking-Water System Category: Large Municipal Residential

SECTION 1: INTRODUCTION

This document is prepared in accordance with Section 11 and Schedule 22 of O.Reg.170/03 under the Safe Drinking Water Act and with Section 9 of O.Reg.387/04 under the Ontario Water Resources Act. The reports are prepared by the Ontario Clean Water Agency. Acronyms and definitions can be found at the end of the report.

A copy of the Summary Report must be provided to the members of the municipal council by March 31, 2020.

SECTION 2: REQUIREMENTS OF THE REPORTS

Schedule 22 Report

The report must list the requirements of the Act, the regulations, the system's approval and any order that the system **failed to meet** at any time during the period covered by the report. It must also specify the duration of the failure, and for each failure referred to, describe the measures that were taken to correct the failure.

For the purpose of enabling the owner of the system to assess the rated capability of their system to meet existing and future planned water uses, the following information is required to be included in this report:

- A summary of the quantities and flow rates of the water supplied during the period covered by the report, including monthly average and maximum daily flows.
- A comparison of the summary to the rated capacity and flow rates approved in the systems approval.

Section 11 Report

The annual report must contain the following:

- A brief description of the drinking water system and a list of chemicals used by the system.
- A description of any major expenses incurred during the period covered by the report to install, repair or replace required equipment.
- A summary of all adverse water quality incidents (AWQI) reported to the Ministry
- A summary of corrective actions taken in response all AWQIs
- A summary of all test results required under the regulation, under an approval, municipal drinking water licence or order, including an OWRA order.
- A statement of where a Schedule 22 report will be available for inspection.

The report must be prepared not later than February 28 of the following year.

Regulation 387 Report

On or before March 31 in every year, every holder of a permit to take water (PTTW) shall submit to a Director the data collected and recorded for the previous year.

A record of annual water taking can be found in [Appendix A](#).



SECTION 3: SCHEDULE 22 REPORT

Flows - Treated

In accordance with the Municipal Drinking Water License (MDWL), the Bruce Mines WTP shall not be operated to exceed a maximum flow of 864 m³/d to the distribution system.

The highest daily treated water maximum flow was 389.9 m³ in September and represents 45% of capacity. In 2019, the total volume of water sent to the distribution system was 69,401 m³

The quantity of treated water supplied during the reporting period **did not** exceed the rated maximum capacity.

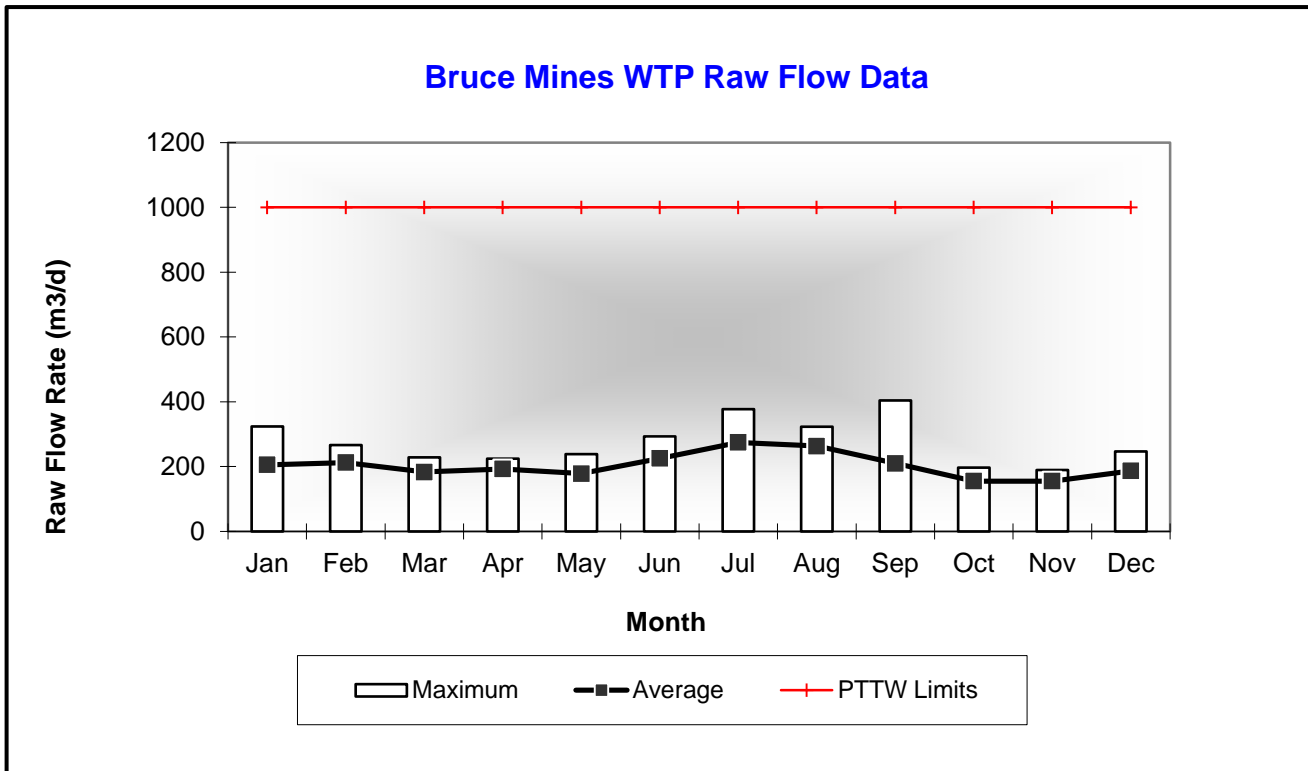
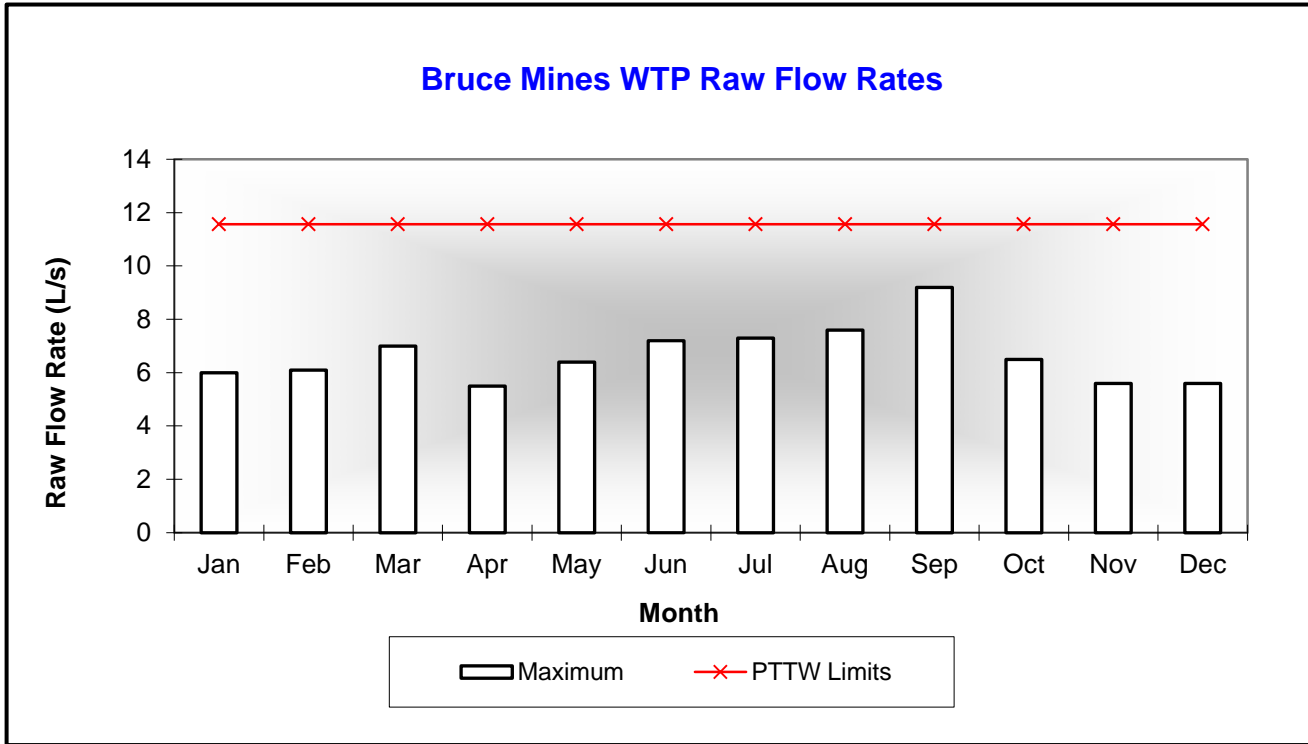
Flows - Raw

Daily raw maximum instantaneous flow is stated in the PTTW at a maximum rate of flow of 11.57 L/s and a maximum daily volume of 1000.0 m³/d.

The average monthly raw water flow for this reporting period was 203.41 m³/d. The maximum daily flow was 404.3 m³/d representing 40% of water taking limits. In 2019, the total volume of water taken from the environment was 74,244.6 m³

The quantity of raw water taken **did not** exceed any limits stipulated within the PTTW

| <i>RAW WATER FLOW DATA - TOTAL ALL SOURCES</i> | | | | | | |
|--|--------------------------------------|----------------------------------|----------------------------------|-------------------------|------------|--------------------------|
| Month | Total Monthly Flow (m ³) | Average Flow (m ³ /d) | Maximum Flow (m ³ /d) | Maximum Flow Rate (L/s) | Limits | |
| | | | | | L/s (PTTW) | m ³ /d (PTTW) |
| January | 6,360.5 | 205.18 | 324 | 6 | 11.57 | 1000.0 |
| February | 5,944.9 | 212.32 | 266.6 | 6.1 | 11.57 | 1000.0 |
| March | 5,680 | 183.23 | 228.6 | 7 | 11.57 | 1000.0 |
| April | 5,778.2 | 192.61 | 224.6 | 5.5 | 11.57 | 1000.0 |
| May | 5,519.7 | 178.05 | 238.6 | 6.4 | 11.57 | 1000.0 |
| June | 6,751.4 | 225.05 | 293 | 7.2 | 11.57 | 1000.0 |
| July | 8,508.7 | 274.47 | 377.4 | 7.3 | 11.57 | 1000.0 |
| August | 8,164.7 | 263.38 | 232.2 | 7.6 | 11.57 | 1000.0 |
| September | 6,295.3 | 209.84 | 404.3 | 9.2 | 11.57 | 1000.0 |
| October | 4,805.3 | 155.01 | 197 | 6.5 | 11.57 | 1000.0 |
| November | 4,655.2 | 155.17 | 189.6 | 5.6 | 11.57 | 1000.0 |
| December | 5,780.7 | 186.47 | 246.9 | 5.6 | 11.57 | 1000.0 |
| Total | 74,244.6 | | | | | |
| Average | | 203.41 | | | | |
| Maximum | | | 404.3 | 9.2 | 11.57 | 1000.0 |





Annual Raw Water Review

| Raw Water Taking | Total Taking (m3/d) | Average Day (m3/d) | Max Day (m3/d) | Max Day % of PTTW allowable 1000 (m3/d) |
|------------------|---------------------|--------------------|----------------|---|
| 2019 | 74,244 | 203.41 | 404.3 | 40% |
| 2018 | 84,090 | 230.38 | 500.5 | 50% |
| 2017 | 79,303.2 | 217.27 | 351.5 | 35.2% |
| 2016 | 82,677 | 225.6 | 565 | 56.5% |
| 2015 | 79,357 | 217.4 | 472 | 47.0% |
| 2014 | 81,022 | 222.6 | 438 | 43.8% |

System Failures and Corrective Actions

The latest inspection of the drinking water facility took place on **November 28, 2019**. The facility scored **0/419** providing a rating of **100%**.

AWQIs reported to the Ministry

| Incident Date | Parameter | Result | Unit of Measure | Corrective Action/Comment | Corrective Action Date |
|---------------|-----------|--------|-----------------|---------------------------|------------------------|
| N/A | N/A | N/A | N/A | N/A | N/A |

SECTION 4: SECTION 11 REPORT

Information to be provided

| | |
|--|--|
| Population Served | 582 (2016 Stats Canada for Bruce Mines) |
| Does your Drinking-Water System serve more than 10,000 people? | No |
| Is your annual report available to the public at no charge on a web site on the Internet? | Yes |
| Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection. | Town of Bruce Mines, Municipal Office 9126 HWY 17 East Bruce Mines, Ontario P0R 1C0 |
| Number of Designated Facilities served: | 0 |
| Did you provide a copy of your annual report to all Designated Facilities you serve? | NA |
| Number of Interested Authorities you report to: | 0 |
| Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? | NA |



| |
|---|
| List all Drinking-Water Systems (if any), and their DWS Number which receive all of their drinking water from your system: <i>N/A</i> |
| Did you provide a copy of your annual report to all Drinking-Water System owners that are connected to you and to whom you provide all of its drinking water? <i>NA</i> |
| Indicate how you notified system users that your annual report is available, and is free of charge. <i>Public access/notice via the web</i> |
| Indicate if you notified system users that your annual report is available and is free of charge using an alternate method <i>Yes</i> |

Facility Description

The Bruce Mines Water Treatment Plant provides water to 600 residents of Bruce Mines, and 250 people in the Township of Plummer Additional. The Bruce Mines Water Treatment Plant obtains its water from the North Shore of Lake Huron at St. Joseph's Channel. The Bruce Mines plant treats water using a PALL membrane filtration system, which was completed and operational in the spring of 2004. The plant consists of various chemical feed systems and utilizes sodium hypochlorite for disinfection. The Ontario Clean Water Agency is the Operating Authority for the Bruce Mines facility.

Chemicals Used

| | |
|----------------------------|--|
| Sodium Hypochlorite 12% | – Disinfection |
| Sodium Meta –bisulphate | – De-chlorination of wastewater |
| Citric Acid | – Cleaner for membranes |
| Sodium Hydroxide | – Neutralize the citric acid before disposal |

Significant Expenses

Significant expenses incurred to

- Install required equipment
- Repair required equipment
- Replace required equipment

| Work Order | Completion Date | Comment |
|------------|-----------------|--|
| 1102327 | 15-Jan-19 | Low lift pump #2 was repaired by Xylem |
| 1103823 | 22-Jan-19 | Purchased new low lift duty pump. This will be kept as a spare |
| 1104375 | 28-Jan-19 | Domestic sewage and process water pump was sent for repairs, once returned it was installed with no issues |
| 1175952 | | Generator failure required a service from Vals equipment. Issue with crankcase vent, filter cleaned and the entire engine was cleaned. |
| 1463003 | 03-Oct-19 | Purchased spare parts for chlorine analyzers |
| 1498847 | | Purchase of new chlorine dosing pump |
| 1499670 | 13-Nov-19 | Completed programming changes to the SCADA system |



Adverse Water Quality Incidents

Provide details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre

| Incident Date | Parameter | Result | Unit of Measure | Corrective Action/Comment | Corrective Action Date |
|---------------|-----------|--------|-----------------|---------------------------|------------------------|
| N/A | N/A | N/A | N/A | N/A | N/A |

Microbiological testing done under the Schedule 10, 11 or 12 of Regulation 170/03.

| | No. of Samples Collected | Range of E.Coli | | Range of Total Coliform Results | | Number of HPC Collected | Range of HPC Results | |
|---------------|--------------------------|-----------------|-------|---------------------------------|-------|-------------------------|----------------------|-------|
| | | Min # | Max # | Min # | Max # | | Min # | Max # |
| Raw Water | 52 | 0 | 1 | 0 | 46 | 0 | N/A | N/A |
| Treated Water | 52 | 0 | 0 | 0 | 0 | 52 | 0 | 2 |
| Distribution | 156 | 0 | 0 | 0 | 0 | 53 | 0 | 77 |

Operational testing done under Schedule 7, 8 or 9 of Regulation 170/03

| | No. of Samples Collected | Range of Results | | Units of Measure |
|---------------------------------|--------------------------|------------------|---------|------------------|
| | | Minimum | Maximum | |
| Turbidity, On-Line - Filter 1 | 8760 | 0.014 | 0.114 | (NTU) |
| Turbidity, On-Line - Filter 2 | 8760 | 0.016 | 0.150 | (NTU) |
| Free Chlorine Residual, Treated | 8760 | 0.88 | 1.90 | (mg/L) |
| Free Chlorine Residual – DW 1 | 102 | 0.34 | 1.89 | mg/L |
| Free Chlorine Residual – DW 2 | 102 | 0.32 | 1.78 | mg/L |
| Free Chlorine Residual – DW 3 | 102 | 0.7 | 1.49 | mg/L |
| Free Chlorine Residual – DW 4 | 52 | 0.42 | 1.64 | mg/L |

Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument.

| Date of legal instrument issued | Parameter and Limits | Month Sampled | Day Sampled | Result | Unit of Measure |
|--|--|-----------------------|-------------|--------|-----------------|
| MDWL 270-101 March 11, 2011 Renewed on March 9, 2016 | Backwash (BW) Total Suspended Solids (TSS) 25 mg/L annual average | Jan | 15 | 6 | mg/L |
| | | Feb | 13 | 5 | mg/L |
| | | Mar | 14 | 7 | mg/L |
| | | Apr | 18 | 4 | mg/L |
| | | May | 24 | 8 | mg/L |
| | | Jun | 20 | 8 | mg/L |
| | | Jul | 16 | 8 | mg/L |
| | | Aug | 15 | 7 | mg/L |
| | | Sep | 13 | 15 | mg/L |
| | | Oct | 15 | 104 | mg/L |
| | | Nov | 15 | 11 | mg/L |
| | | Dec | 13 | 8 | mg/L |
| | | Annual Average | | | |



Summary of Inorganic parameters tested during this reporting period or the most recent sample results

| TREATED WATER | Sample Date (yyy/mm/dd) | Sample Result | MAC | No. of Exceedances | |
|--------------------------|----------------------------|------------------|--------|--------------------|---------|
| | | | | MAC | 1/2 MAC |
| Antimony: Sb (ug/L) - TW | 2019/01/21 | 0.08 | 6.0 | No | No |
| Arsenic: As (ug/L) - TW | 2019/01/21 | 0.3 | 25.0 | No | No |
| Barium: Ba (ug/L) - TW | 2019/01/21 | 9.8 | 1000.0 | No | No |
| Boron: B (ug/L) - TW | 2019/01/21 | 9.0 | 5000.0 | No | No |
| Cadmium: Cd (ug/L) - TW | 2019/01/21 | 0.008 | 5.0 | No | No |
| Chromium: Cr (ug/L) - TW | 2019/01/21 | 0.16 | 50.0 | No | No |
| Mercury: Hg (ug/L) - TW | 2019/01/21 | 0.02 | 1.0 | No | No |
| Selenium: Se (ug/L) - TW | 2019/01/21 | 0.11 | 10.0 | No | No |
| Uranium: U (ug/L) - TW | 2019/01/21 | 0.062 | 20.0 | No | No |

| TREATED WATER | Sample Date (mm/dd/yyyy) | Sample Result | MAC | No. of Exceedances | |
|------------------------|-----------------------------|------------------|------|--------------------|---------|
| | | | | MAC | 1/2 MAC |
| Fluoride (mg/L) - TW | 2016/01/19 | <MDL 0.06 | 1.5 | No | No |
| Nitrite (mg/L) - TW | 2019/01/21 | <MDL 0.003 | 1.0 | No | No |
| Nitrite (mg/L) - TW | 2019/04/08 | <MDL 0.003 | 1.0 | No | No |
| Nitrite (mg/L) - TW | 2019/07/03 | <MDL 0.003 | 1.0 | No | No |
| Nitrite (mg/L) - TW | 2019/10/22 | <MDL 0.003 | 1.0 | No | No |
| Nitrate (mg/L) - TW | 2019/01/21 | 0.368 | 10.0 | No | No |
| Nitrate (mg/L) - TW | 2019/04/08 | 0.377 | 10.0 | No | No |
| Nitrate (mg/L) - TW | 2019/07/03 | 0.295 | 10.0 | No | No |
| Nitrate (mg/L) - TW | 2019/10/22 | 0.302 | 10.0 | No | No |
| Sodium: Na (mg/L) - TW | 2016/01/19 | 4.17 | 20* | No | No |

Summary of Lead testing under Schedule 15.1 during this reporting period

| Location Type | No. of Samples | Range of Results | | MAC (ug/L) | Number of Exceedances |
|------------------------------------|-------------------|------------------|---------|---------------|--------------------------|
| | | Minimum | Maximum | | |
| Distribution - Lead Results (ug/L) | 0 | N/A | N/A | 10 | |
| Distribution - Alkalinity (mg/L) | 4 | 49 | 59 | n/a | n/a |
| Distribution - pH In-House | 0 | 7.43 | 7.52 | n/a | n/a |

Summary of Organic parameters sampled during this reporting period or the most recent results

| TREATED WATER | Sample Date (yyyy/mm/dd) | Sample Result | MAC | Number of Exceedances | |
|--|-----------------------------|------------------|-------|--------------------------|---------|
| | | | | MAC | 1/2 MAC |
| Alachlor (ug/L) - TW | 2019/01/21 | <MDL 0.02 | 5.00 | No | No |
| Atrazine + N-dealkylated metabolites (ug/L) - TW | 2019/01/21 | <MDL 0.01 | 9.00 | No | No |
| Azinphos-methyl (ug/L) - TW | 2019/01/21 | <MDL 0.05 | 0.70 | No | No |
| Benzene (ug/L) - TW | 2019/01/21 | <MDL 0.32 | 5.00 | No | No |
| Benzo(a)pyrene (ug/L) - TW | 2019/01/21 | <MDL 0.004 | 20.00 | No | No |
| Bromoxynil (ug/L) - TW | 2019/01/21 | <MDL 0.33 | 40.00 | No | No |



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Bruce Mines Water Treatment

| | | | | | |
|--|------------|-----------|--------|-----|-----|
| Carbaryl (ug/L) - TW | 2019/01/21 | <MDL 0.05 | 5.00 | No | No |
| Carbofuran (ug/L) - TW | 2019/01/21 | <MDL 0.01 | 0.01 | No | No |
| Carbon Tetrachloride (ug/L) - TW | 2019/01/21 | <MDL 0.16 | 5.00 | No | No |
| Chlorpyrifos (ug/L) - TW | 2019/01/21 | <MDL 0.02 | 90.00 | No | No |
| Diazinon (ug/L) - TW | 2019/01/21 | <MDL 0.02 | 90.00 | No | No |
| Dicamba (ug/L) - TW | 2019/01/21 | <MDL 0.2 | 5.00 | No | No |
| 1,2-Dichlorobenzene (ug/L) - TW | 2019/01/21 | <MDL 0.41 | 7.00 | No | No |
| 1,4-Dichlorobenzene (ug/L) - TW | 2019/01/21 | <MDL 0.36 | 90.00 | No | No |
| 1,2-Dichloroethane (ug/L) - TW | 2019/01/21 | <MDL 0.35 | 10.00 | No | No |
| 1,1-Dichloroethylene (ug/L) - TW | 2019/01/21 | <MDL 0.33 | 20.00 | No | No |
| Dichloromethane (Methylene Chloride) (ug/L) - TW | 2019/01/21 | <MDL 0.35 | 120.00 | No | No |
| 2,4-Dichlorophenol (ug/L) - TW | 2019/01/21 | <MDL 0.15 | 200.00 | No | No |
| 2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L) - TW | 2019/01/21 | <MDL 0.19 | 5.00 | No | No |
| Diclofop-methyl (ug/L) - TW | 2019/01/21 | <MDL 0.4 | 30.00 | No | No |
| Dimethoate (ug/L) - TW | 2019/01/21 | <MDL 0.06 | 5.00 | No | No |
| Diquat (ug/L) - TW | 2019/01/21 | <MDL 1.0 | 14.00 | No | No |
| Diuron (ug/L) - TW | 2019/01/21 | <MDL 0.03 | 50.00 | No | No |
| Glyphosate (ug/L) - TW | 2019/01/21 | <MDL 1.0 | 900.00 | No | No |
| Malathion (ug/L) - TW | 2019/01/21 | <MDL 0.02 | 100.00 | No | No |
| 2-methyl-4-chlorophenoxyacetic acid (MCPA) (mg/L) - TW | 2019/01/21 | <MDL 0.01 | N/A | N/A | N/A |
| Metolachlor (ug/L) - TW | 2019/01/21 | <MDL 0.02 | 9.00 | No | No |
| Metribuzin (ug/L) - TW | 2019/01/21 | <MDL 0.3 | 20.00 | No | No |
| Monochlorobenzene (Chlorobenzene) (ug/L) - TW | 2019/01/21 | <MDL 1.0 | 10.00 | No | No |
| Paraquat (ug/L) - TW | 2019/01/21 | <MDL 0.04 | 70.00 | No | No |
| PCB (ug/L) - TW | 2019/01/21 | <MDL 0.15 | 150.00 | No | No |
| Pentachlorophenol (ug/L) - TW | 2019/01/21 | <MDL 0.01 | 280.00 | No | No |
| Phorate (ug/L) - TW | 2019/01/21 | <MDL 1.0 | 3.00 | No | No |
| Picloram (ug/L) - TW | 2019/01/21 | <MDL 0.03 | 4.00 | No | No |
| Prometryne (ug/L) - TW | 2019/01/21 | <MDL 0.01 | 190.00 | No | No |
| Simazine (ug/L) - TW | 2019/01/21 | <MDL 0.01 | 900.00 | No | No |
| Terbufos (ug/L) - TW | 2019/01/21 | <MDL 0.35 | 50.00 | No | No |
| Tetrachloroethylene (ug/L) - TW | 2019/01/21 | <MDL 0.2 | 80.00 | No | No |
| 2,3,4,6-Tetrachlorophenol (ug/L) - TW | 2019/01/21 | <MDL 0.01 | 80.00 | No | No |
| Triallate (ug/L) - TW | 2019/01/21 | <MDL 0.44 | 10.00 | No | No |
| Trichloroethylene (ug/L) - TW | 2019/01/21 | <MDL 0.25 | 50.00 | No | No |
| 2,4,6-Trichlorophenol (ug/L) - TW | 2019/01/21 | <MDL 0.12 | 3.00 | No | No |
| Trifluralin (ug/L) - TW | 2019/01/21 | <MDL 0.02 | 60.00 | No | No |
| Vinyl Chloride (ug/L) - TW | 2019/01/21 | <MDL 0.17 | 2.00 | No | No |
| DISTRIBUTION WATER | | | | | |
| Trihalomethane: Total (ug/L) Annual Average - DW | 2019/01/01 | 77.25 | 100.00 | No | Yes |
| HAA Total (ug/L) Annual Average - DW | 2019/01/01 | 57.125 | | N/A | N/A |



SECTION 5: RAW WATER SUBMISSIONS

Raw water flows were submitted to the Ministry on [January 27, 2020](#).

The screenshot shows the WTRS web interface. At the top left is the Ontario logo. In the center is the 'environet WTRS' logo. To the right is the text 'Ministry of the Environment, Conservation and Parks'. Below the header is a navigation menu with links: WT DATA, REPORTS, SEARCH WT DATA, ADMINISTRATION, USER PROFILE, CONTACT US, HELP, HOME, LOGOUT. Below the menu is a breadcrumb trail: Location: WTRS / WT DATA / Input WT Record. A green box contains the message 'Water Taking Data submitted successfully.' Below this is a 'Confirmation:' section with the following text: 'Thank you for submitting your water taking data online. Permit Number: 4142-AWSJ55. Permit Holder: THE CORPORATION OF THE TOWN OF BRUCE MINES. Received on: Jan 27, 2020 2:23 PM. This confirmation indicates that your data has been received by the Ministry, but should not be construed as acceptance of this data if it differs from that specified on the Permit Number, assigned to the Permit Holder stated above.'

SECTION 6: CONCLUSION

The Bruce Mines WTP delivers water that, in all its treated and distribution samples, indicates the water to be free of bacteriological contamination.

For the 2019 operating year, the Bruce Mines WTP was able to meet the demand of water use without exceeding the PTTW or the MDWL.



List of Acronyms and Definitions

| | |
|-------------------|--|
| Alkalinity | The capacity of water for neutralizing an acid solution |
| AWQI | Adverse Water Quality Incident- when a water sample test result exceeds the Ontario Drinking Water Quality Standards |
| Backwash | Water pumped backwards to clean filters |
| BWA | Boil Water Advisory; Issued when risk of contamination is possible in drinking water |
| CFU | Colony Forming Units |
| Chlorine Residual | A low level of chlorine remaining in water after disinfection occurs |
| DW | Distribution Water |
| DWA | Drinking Water Advisory; Issued when water cannot be consumed by any means |
| DWWP | Drinking Water Works Permit - provides a description of the overall system |
| E.Coli | Bacteria used as indicators to measure the degree of pollution and sanitary quality of water |
| GUDI 170/03 | Groundwater Under Direct Influence – Considered to be surface water under O.Reg |
| HPC | Heterotrophic Plant Count |
| L/s | Litres per Second |
| m ³ /d | Cubic Metres per Day |
| MAC | Maximum Acceptable Concentration |
| MDL | Minimum Detection Level |
| MDWL requirements | Municipal Drinking Water Licence - relates to the operation and performance requirements |
| mg/L | Miligrams per Litre |
| Ministry | Ministry of the Environment and Climate Change |
| MOECC | Ministry of the Environment and Climate Change |
| O.Reg | Ontario Regulation |
| PTTW water | Permit to Take Water – Permit which allows water taking from groundwater or surface water |
| RW | Raw Water |
| TC | Total Coliforms |
| TSS | Total Suspended Solids |
| Turbidity | Cloudiness or haziness of water |
| TW | Treated Water |



Appendix A

Raw Water Flows

Ontario Clean Water Agency
Annual Water Taking and Transfer Report
 From 01/01/2019 To 12/31/2019

Facility: BRUCE MINES DRINKING WATER SYSTEM-5948
 Tag: Raw Flow: Sum (m3/d)
 Tag Group: Raw Water

Permit#: 4142-AWSJ55
 Source Name: St. Joseph's Channel
 Source: Lake
 Type:
 Purpose: Municipal

Coordinate Zone: 17
 Easting: 284522
 Northing: 5130081
 Method deter: Metered

| Date Measured | Value (m³/d) | Value (Litres) |
|---------------|--------------|----------------|
| 01/01/2019 | 171.6000 | 171600.0061 |
| 02/01/2019 | 169.5000 | 169500.0000 |
| 03/01/2019 | 153.9000 | 153899.9939 |
| 04/01/2019 | 192.0000 | 192000.0000 |
| 05/01/2019 | 180.2000 | 180199.9969 |
| 06/01/2019 | 190.3000 | 190300.0031 |
| 07/01/2019 | 160.7000 | 160699.9969 |
| 08/01/2019 | 143.2000 | 143199.9969 |
| 09/01/2019 | 164.8000 | 164800.0031 |
| 10/01/2019 | 176.1000 | 176100.0061 |
| 11/01/2019 | 149.7000 | 149699.9969 |
| 12/01/2019 | 195.2000 | 195199.9969 |
| 13/01/2019 | 178.0000 | 178000.0000 |
| 14/01/2019 | 156.0000 | 156000.0000 |
| 15/01/2019 | 189.3000 | 189300.0031 |
| 16/01/2019 | 172.7000 | 172699.9969 |
| 17/01/2019 | 188.4000 | 188399.9939 |
| 18/01/2019 | 168.5000 | 168500.0000 |
| 19/01/2019 | 189.1000 | 189100.0061 |
| 20/01/2019 | 192.5000 | 192500.0000 |
| 21/01/2019 | 189.7000 | 189699.9969 |
| 22/01/2019 | 212.6000 | 212600.0061 |
| 23/01/2019 | 244.9000 | 244899.9939 |
| 24/01/2019 | 288.7000 | 288700.0122 |
| 25/01/2019 | 284.5000 | 284500.0000 |
| 26/01/2019 | 324.0000 | 324000.0000 |
| 27/01/2019 | 316.9000 | 316899.9939 |
| 28/01/2019 | 291.2000 | 291200.0122 |
| 29/01/2019 | 227.3000 | 227300.0031 |
| 30/01/2019 | 233.7000 | 233699.9969 |
| 31/01/2019 | 265.3000 | 265299.9878 |
| 01/02/2019 | 266.6000 | 266600.0061 |
| 02/02/2019 | 234.7000 | 234699.9969 |
| 03/02/2019 | 255.8000 | 255800.0031 |
| 04/02/2019 | 206.6000 | 206600.0061 |
| 05/02/2019 | 224.5000 | 224500.0000 |
| 06/02/2019 | 216.7000 | 216699.9969 |
| 07/02/2019 | 212.0000 | 212000.0000 |
| 08/02/2019 | 221.7000 | 221699.9969 |
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