

Bruce Mines Water Treatment

Large Municipal Residential Drinking Water System

January 1, 2018 – December 31, 2018

***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, 2019.

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 480.8 m³ in July and represents 55.6% of capacity.

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

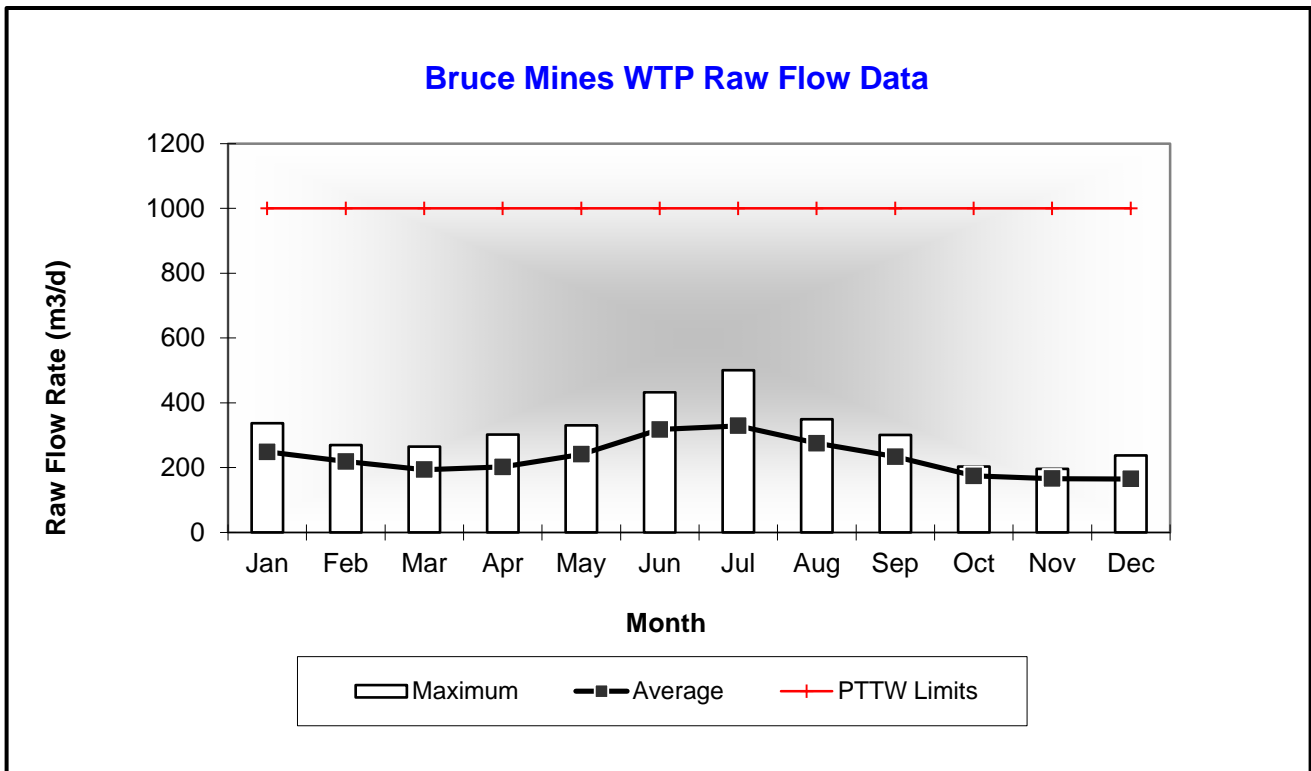
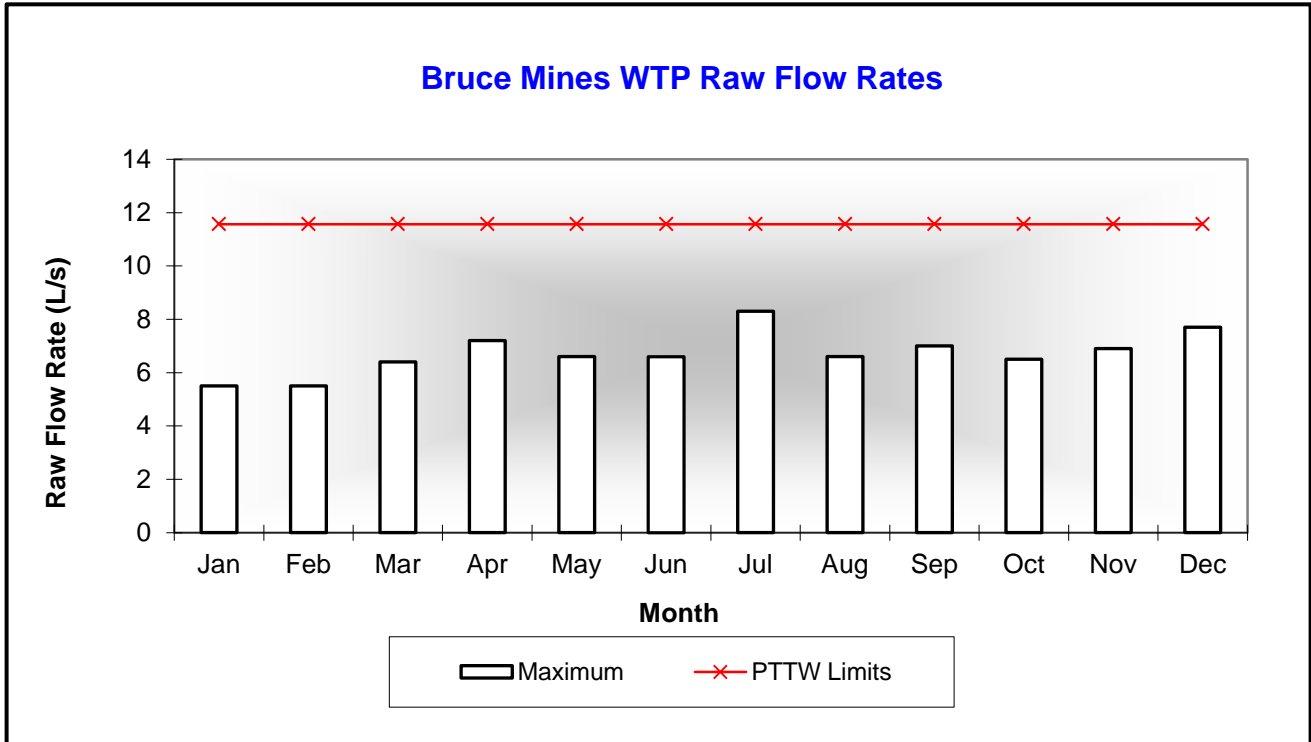
Flows - Raw

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 230.38 m³/d. The maximum daily flow was 500.5 m³/d representing 50% of water taking limits.

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	7,706.2	248059	336.9	5.5	11.57	1000.0
February	6,130.7	218.95	269.5	5.5	11.57	1000.0
March	5,994.5	193.37	264.7	6.4	11.57	1000.0
April	6,052.9	201.76	301.9	7.2	11.57	1000.0
May	7,476.5	241.18	330.3	6.6	11.57	1000.0
June	9,518.4	317.28	432	6.6	11.57	1000.0
July	10,188.7	328.67	500.5	8.3	11.57	1000.0
August	8,522.2	274.91	349.2	6.6	11.57	1000.0
September	7,012.6	233.75	300.7	7	11.57	1000.0
October	5,408	147.45	203.2	6.5	11.57	1000.0
November	4,973.7	165.79	196	6.9	11.57	1000.0
December	5,105.6	164.7	237.5	7.7	11.57	1000.0
Total	84,090					
Average		230.38				
Maximum			500.5	8.3	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)
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%
2013	85,932	235.4	398	39.8%

System Failures and Corrective Actions

The latest inspection of the drinking water facility took place on **July 6, 2017**. The facility scored **0/426** 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?	<i>NA</i>
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
981094	10/10/2018	BACKWASH EFFLUENT VALVE Backwash effluent valve actuator was replaced
1052700	12/06/2018	LOWLIFT PUMP REPAIR Low lift pump #2 was pulled and sent to Xlyem in Sudbury for repairs



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	38	0	N/A	N/A
Treated Water	52	0	0	0	0	52	0	740
Distribution	156	0	0	0	0	71	0	24

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	0.00	0.423	(NTU)
Turbidity, On-Line - Filter 2	8760	0.00	0.298	(NTU)
Free Chlorine Residual, Treated	8760	0	3.57	(mg/L)
Free Chlorine Residual, Distribution	365	0.64	1.52	(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				16.2	mg/L



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	2018/01/08	<MDL 0.02	6.0	No	No
Arsenic: As (ug/L) - TW	2018/01/08	0.3	25.0	No	No
Barium: Ba (ug/L) - TW	2018/01/08	10.8	1000.0	No	No
Boron: B (ug/L) - TW	2018/01/08	8.0	5000.0	No	No
Cadmium: Cd (ug/L) - TW	2018/01/08	0.005	5.0	No	No
Chromium: Cr (ug/L) - TW	2018/01/08	0.18	50.0	No	No
Mercury: Hg (ug/L) - TW	2018/01/08	<MDL 0.01	1.0	No	No
Selenium: Se (ug/L) - TW	2018/01/08	0.13	10.0	No	No
Uranium: U (ug/L) - TW	2018/01/08	0.115	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	2018/01/08	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2018/04/09	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2018/07/04	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2018/10/10	<MDL 0.003	1.0	No	No
Nitrate (mg/L) - TW	2018/01/08	0.365	10.0	No	No
Nitrate (mg/L) - TW	2018/04/09	0.368	10.0	No	No
Nitrate (mg/L) - TW	2018/07/04	0.256	10.0	No	No
Nitrate (mg/L) - TW	2018/10/10	0.283	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)	4	0.31	0.55	10	0
Distribution - Alkalinity (mg/L)	4	47	52	n/a	n/a
Distribution - pH In-House	4	7.52	7.85	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	2018/01/08	<MDL 0.02	5.00	No	No
Atrazine + N-dealkylated metabolites (ug/L) - TW	2018/01/08	<MDL 0.01	9.00	No	No
Azinphos-methyl (ug/L) - TW	2018/01/08	<MDL 0.05	0.70	No	No
Benzene (ug/L) - TW	2018/01/08	<MDL 0.32	5.00	No	No
Benzo(a)pyrene (ug/L) - TW	2018/01/08	<MDL 0.004	20.00	No	No
Bromoxynil (ug/L) - TW	2018/01/08	<MDL 0.33	40.00	No	No
Carbaryl (ug/L) - TW	2018/01/08	<MDL 0.05	5.00	No	No

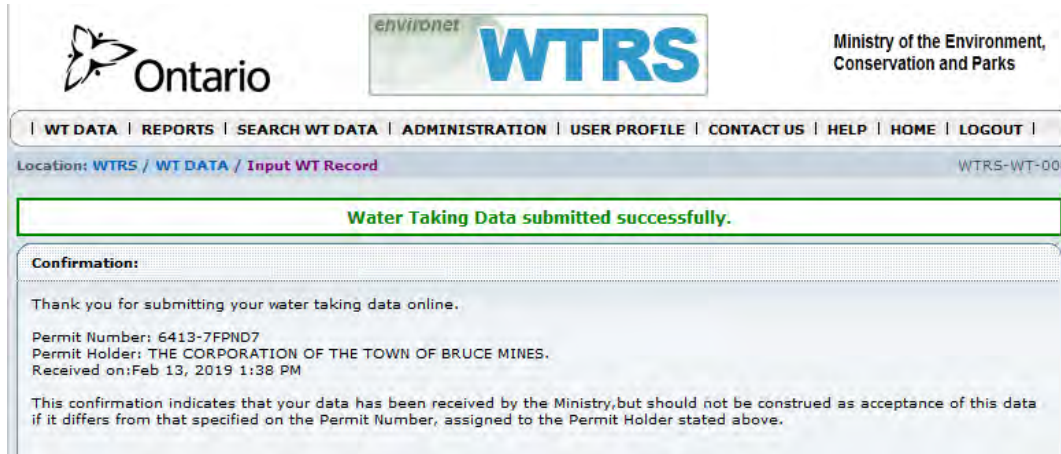


Carbofuran (ug/L) - TW	2018/01/08	<MDL 0.01	0.01	No	No
Carbon Tetrachloride (ug/L) - TW	2018/01/08	<MDL 0.16	5.00	No	No
Chlorpyrifos (ug/L) - TW	2018/01/08	<MDL 0.02	90.00	No	No
Diazinon (ug/L) - TW	2018/01/08	<MDL 0.02	90.00	No	No
Dicamba (ug/L) - TW	2018/01/08	<MDL 0.2	5.00	No	No
1,2-Dichlorobenzene (ug/L) - TW	2018/01/08	<MDL 0.41	7.00	No	No
1,4-Dichlorobenzene (ug/L) - TW	2018/01/08	<MDL 0.36	90.00	No	No
1,2-Dichloroethane (ug/L) - TW	2018/01/08	<MDL 0.35	10.00	No	No
1,1-Dichloroethylene (ug/L) - TW	2018/01/08	<MDL 0.33	20.00	No	No
Dichloromethane (Methylene Chloride) (ug/L) - TW	2018/01/08	<MDL 0.35	120.00	No	No
2,4-Dichlorophenol (ug/L) - TW	2018/01/08	<MDL 0.15	200.00	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L) - TW	2018/01/08	<MDL 0.19	5.00	No	No
Diclofop-methyl (ug/L) - TW	2018/01/08	<MDL 0.4	30.00	No	No
Dimethoate (ug/L) - TW	2018/01/08	<MDL 0.03	5.00	No	No
Diquat (ug/L) - TW	2018/01/08	<MDL 1.0	14.00	No	No
Diuron (ug/L) - TW	2018/01/08	<MDL 0.03	50.00	No	No
Glyphosate (ug/L) - TW	2018/01/08	<MDL 1.0	900.00	No	No
Malathion (ug/L) - TW	2018/01/08	<MDL 0.02	100.00	No	No
2-methyl-4-chlorophenoxyacetic acid (MCPA) (mg/L) - TW	2018/01/08	<MDL 0.01	N/A	N/A	N/A
Metolachlor (ug/L) - TW	2018/01/08	<MDL 0.02	9.00	No	No
Metribuzin (ug/L) - TW	2018/01/08	<MDL 0.3	20.00	No	No
Monochlorobenzene (Chlorobenzene) (ug/L) - TW	2018/01/08	<MDL 1.0	10.00	No	No
Paraquat (ug/L) - TW	2018/01/08	<MDL 0.04	70.00	No	No
PCB (ug/L) - TW	2018/01/08	<MDL 0.15	150.00	No	No
Pentachlorophenol (ug/L) - TW	2018/01/08	<MDL 0.01	280.00	No	No
Phorate (ug/L) - TW	2018/01/08	<MDL 1.0	3.00	No	No
Picloram (ug/L) - TW	2018/01/08	<MDL 0.03	4.00	No	No
Prometryne (ug/L) - TW	2018/01/08	<MDL 0.01	190.00	No	No
Simazine (ug/L) - TW	2018/01/08	<MDL 0.01	900.00	No	No
Terbufos (ug/L) - TW	2018/01/08	<MDL 0.35	50.00	No	No
Tetrachloroethylene (ug/L) - TW	2018/01/08	<MDL 0.2	80.00	No	No
2,3,4,6-Tetrachlorophenol (ug/L) - TW	2018/01/08	<MDL 0.01	80.00	No	No
Triallate (ug/L) - TW	2018/01/08	<MDL 0.44	10.00	No	No
Trichloroethylene (ug/L) - TW	2018/01/08	<MDL 0.25	50.00	No	No
2,4,6-Trichlorophenol (ug/L) - TW	2018/01/08	<MDL 0.12	3.00	No	No
Trifluralin (ug/L) - TW	2018/01/08	<MDL 0.02	60.00	No	No
Vinyl Chloride (ug/L) - TW	2018/01/08	<MDL 0.17	2.00	No	No
DISTRIBUTION WATER					
Trihalomethane: Total (ug/L) Annual Average - DW	2018/01/31	59.75	100.00	No	Yes
HAA Total (ug/L) Annual Average - DW	2018/01/31	51.125		N/A	N/A

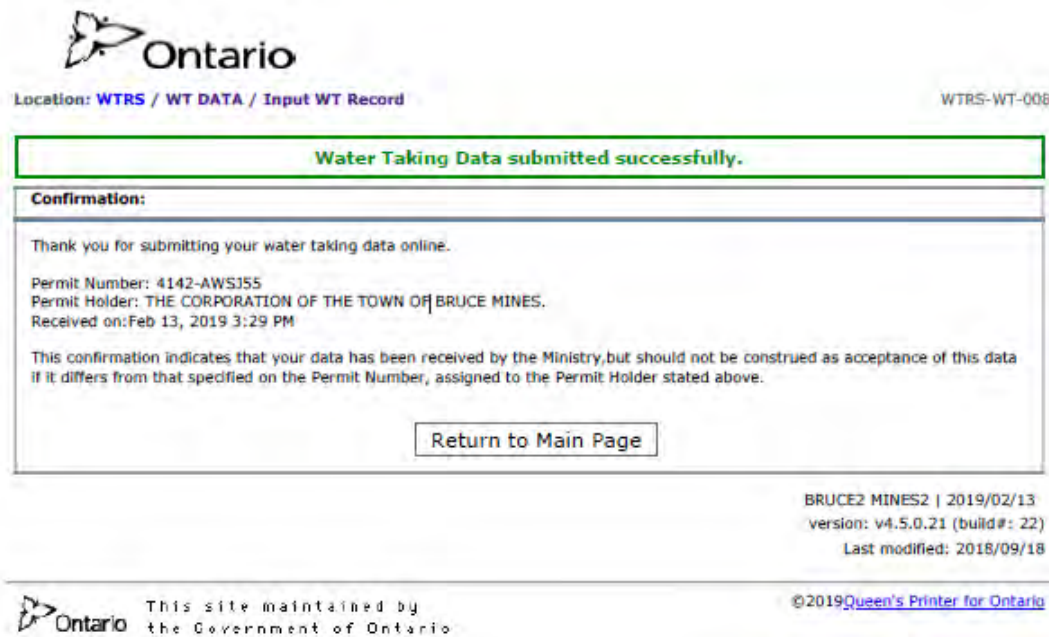


SECTION 5: RAW WATER SUBMISSIONS

Raw water flows were submitted to the Ministry on [February 13, 2019](#). Submissions were made for both the old and new PTTW; therefore, 2 confirmations of successful submissions are included below.



The screenshot shows the WTRS web application interface. At the top, there are logos for Ontario and WTRS, and the text "Ministry of the Environment, Conservation and Parks". A navigation bar contains links: WT DATA | REPORTS | SEARCH WT DATA | ADMINISTRATION | USER PROFILE | CONTACT US | HELP | HOME | LOGOUT. Below the navigation bar, the location is "WTRS / WT DATA / Input WT Record" and the ID is "WTRS-WT-008". A green box at the top of the main content area says "Water Taking Data submitted successfully." Below this, a "Confirmation:" section contains the following text: "Thank you for submitting your water taking data online. Permit Number: 6413-7FPND7 Permit Holder: THE CORPORATION OF THE TOWN OF BRUCE MINES. Received on: Feb 13, 2019 1:38 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."



The screenshot shows the WTRS web application interface. At the top, there are logos for Ontario and WTRS, and the text "Ministry of the Environment, Conservation and Parks". A navigation bar contains links: WT DATA | REPORTS | SEARCH WT DATA | ADMINISTRATION | USER PROFILE | CONTACT US | HELP | HOME | LOGOUT. Below the navigation bar, the location is "WTRS / WT DATA / Input WT Record" and the ID is "WTRS-WT-008". A green box at the top of the main content area says "Water Taking Data submitted successfully." Below this, a "Confirmation:" section contains the following text: "Thank you for submitting your water taking data online. Permit Number: 4142-AWS355 Permit Holder: THE CORPORATION OF THE TOWN OF BRUCE MINES. Received on: Feb 13, 2019 3:29 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." Below the confirmation text is a button labeled "Return to Main Page". At the bottom right of the page, the text reads: "BRUCE2 MINES2 | 2019/02/13 version: v4.5.0.21 (build#: 22) Last modified: 2018/09/18". At the bottom left, there is a footer with the Ontario logo and the text "This site maintained by the Government of Ontario". At the bottom right, there is a copyright notice: "©2019 Queen's Printer for Ontario".

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 2018 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
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
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 01/01/2018 To 03/11/2018

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

Permit#: 6413-7FPND7
 Source Name: St. Joseph's Channel
 Source: Lake
 Type:
 Purpose: Municipal

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

<u>Date Measured</u>	<u>Value (m³/d)</u>	<u>Value (Litres)</u>
01/01/2018	336.9000	336900.0000
02/01/2018	304.6000	304600.0000
03/01/2018	254.4000	254400.0000
04/01/2018	224.2000	224200.0000
05/01/2018	231.3000	231300.0000
06/01/2018	254.2000	254200.0000
07/01/2018	273.6000	273600.0000
08/01/2018	231.8000	231800.0000
09/01/2018	247.0000	247000.0000
10/01/2018	269.6000	269600.0000
11/01/2018	295.4000	295400.0000
12/01/2018	228.7000	228700.0000
13/01/2018	286.6000	286600.0000
14/01/2018	282.9000	282900.0000
15/01/2018	280.1000	280100.0000
16/01/2018	245.3000	245300.0000
17/01/2018	291.1000	291100.0000
18/01/2018	252.9000	252900.0000
19/01/2018	245.6000	245600.0000
20/01/2018	268.6000	268600.0000
21/01/2018	274.8000	274800.0000
22/01/2018	238.9000	238900.0000
23/01/2018	216.4000	216400.0000
24/01/2018	218.4000	218400.0000
25/01/2018	226.3000	226300.0000
26/01/2018	201.3000	201300.0000
27/01/2018	213.0000	213000.0000
28/01/2018	209.4000	209400.0000
29/01/2018	201.7000	201700.0000
30/01/2018	200.3000	200300.0000
31/01/2018	200.9000	200900.0000
01/02/2018	197.9000	197900.0000
02/02/2018	207.9000	207900.0000
03/02/2018	217.3000	217300.0000
04/02/2018	251.6000	251600.0000
05/02/2018	180.4000	180400.0000
06/02/2018	205.6000	205600.0000
07/02/2018	207.2000	207200.0000
08/02/2018	201.4000	201400.0000
09/02/2018	222.5000	222500.0000
10/02/2018	251.4000	251400.0000
11/02/2018	204.1000	204100.0000

12/02/2018	226.2000	226200.0000
13/02/2018	218.3000	218300.0000
14/02/2018	212.8000	212800.0000
15/02/2018	220.7000	220700.0000
16/02/2018	195.8000	195800.0000
17/02/2018	217.0000	217000.0000
18/02/2018	269.5000	269500.0000
19/02/2018	238.8000	238800.0000
20/02/2018	215.9000	215900.0000
21/02/2018	226.8000	226800.0000
22/02/2018	222.0000	222000.0000
23/02/2018	215.5000	215500.0000
24/02/2018	239.3000	239300.0000
25/02/2018	221.6000	221600.0000
26/02/2018	218.4000	218400.0000
27/02/2018	210.1000	210100.0000
28/02/2018	214.7000	214700.0000
01/03/2018	193.0000	193000.0000
02/03/2018	218.1000	218100.0000
03/03/2018	215.9000	215900.0000
04/03/2018	232.9000	232900.0000
05/03/2018	176.9000	176900.0000
06/03/2018	202.8000	202800.0000
07/03/2018	171.6000	171600.0000
08/03/2018	175.9000	175900.0000
09/03/2018	205.6000	205600.0000
10/03/2018	179.4000	179400.0000
11/03/2018	191.6000	191600.0000

Ontario Clean Water Agency
Annual Water Taking and Transfer Report
 From 03/12/2018 To 12/31/2018

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

Permit#: 4124-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)
12/03/2018	166.9000	166900.0000
13/03/2018	187.6000	187600.0000
14/03/2018	191.1000	191100.0000
15/03/2018	172.9000	172900.0000
16/03/2018	184.4000	184400.0000
17/03/2018	189.7000	189700.0000
18/03/2018	208.8000	208800.0000
19/03/2018	182.3000	182300.0000
20/03/2018	175.1000	175100.0000
21/03/2018	183.8000	183800.0000
22/03/2018	173.2000	173200.0000
23/03/2018	170.8000	170800.0000
24/03/2018	200.9000	200900.0000
25/03/2018	204.6000	204600.0000
26/03/2018	201.7000	201700.0000
27/03/2018	185.6000	185600.0000
28/03/2018	195.1000	195100.0000
29/03/2018	200.4000	200400.0000
30/03/2018	264.7000	264700.0000
31/03/2018	191.2000	191200.0000
01/04/2018	212.4000	212400.0000
02/04/2018	197.8000	197800.0000
03/04/2018	179.9000	179900.0000
04/04/2018	199.6000	199600.0000
05/04/2018	194.2000	194200.0000
06/04/2018	179.4000	179400.0000
07/04/2018	198.3000	198300.0000
08/04/2018	209.2000	209200.0000
09/04/2018	182.2000	182200.0000
10/04/2018	205.5000	205500.0000
11/04/2018	214.2000	214200.0000
12/04/2018	180.6000	180600.0000
13/04/2018	181.1000	181100.0000
14/04/2018	197.8000	197800.0000
15/04/2018	195.8000	195800.0000
16/04/2018	179.7000	179700.0000
17/04/2018	180.6000	180600.0000
18/04/2018	192.6000	192600.0000
19/04/2018	183.7000	183700.0000
20/04/2018	184.6000	184600.0000
21/04/2018	198.4000	198400.0000
22/04/2018	229.0000	229000.0000

23/04/2018	191.1000	191100.0000
24/04/2018	187.2000	187200.0000
25/04/2018	194.8000	194800.0000
26/04/2018	239.6000	239600.0000
27/04/2018	208.5000	208500.0000
28/04/2018	234.8000	234800.0000
29/04/2018	301.9000	301900.0000
30/04/2018	218.4000	218400.0000
01/05/2018	207.0000	207000.0000
02/05/2018	216.0000	216000.0000
03/05/2018	185.6000	185600.0061
04/05/2018	238.7000	238699.9969
05/05/2018	284.5000	284500.0000
06/05/2018	231.5000	231500.0000
07/05/2018	202.4000	202399.9939
08/05/2018	225.4000	225399.9939
09/05/2018	250.2000	250199.9969
10/05/2018	199.2000	199199.9969
11/05/2018	197.5000	197500.0000
12/05/2018	229.0000	229000.0000
13/05/2018	229.1000	229100.0061
14/05/2018	229.9000	229899.9939
15/05/2018	210.8000	210800.0031
16/05/2018	236.8000	236800.0031
17/05/2018	233.2000	233199.9969
18/05/2018	244.5000	244500.0000
19/05/2018	229.2000	229199.9969
20/05/2018	244.2000	244199.9969
21/05/2018	259.0000	259000.0000
22/05/2018	273.9000	273899.9939
23/05/2018	274.9000	274899.9939
24/05/2018	259.7000	259700.0122
25/05/2018	243.1000	243100.0061
26/05/2018	246.3000	246300.0031
27/05/2018	294.5000	294500.0000
28/05/2018	251.9000	251899.9939
29/05/2018	330.3000	330299.9878
30/05/2018	255.3000	255300.0031
31/05/2018	262.9000	262899.9939
01/06/2018	229.6000	229600.0061
02/06/2018	259.4000	259399.9939
03/06/2018	269.6000	269600.0061
04/06/2018	270.7000	270700.0122
05/06/2018	277.2000	277200.0122
06/06/2018	295.6000	295600.0061
07/06/2018	288.3000	288299.9878
08/06/2018	300.8000	300799.9878
09/06/2018	278.0000	278000.0000
10/06/2018	326.4000	326399.9939
11/06/2018	342.6000	342600.0061
12/06/2018	370.4000	370399.9939
13/06/2018	321.1000	321100.0061
14/06/2018	295.7000	295700.0122
15/06/2018	242.6000	242600.0061
16/06/2018	297.5000	297500.0000
17/06/2018	278.0000	278000.0000
18/06/2018	261.9000	261899.9939
19/06/2018	324.2000	324200.0122
20/06/2018	336.1000	336100.0061
21/06/2018	305.1000	305100.0061
22/06/2018	351.6000	351600.0061

23/06/2018	386.0000	386000.0000
24/06/2018	365.5000	365500.0000
25/06/2018	354.1000	354100.0061
26/06/2018	344.3000	344299.9878
27/06/2018	396.7000	396700.0122
28/06/2018	385.9000	385899.9939
29/06/2018	331.5000	331500.0000
30/06/2018	432.0000	432000.0000
01/07/2018	386.8000	386799.9878
02/07/2018	465.4000	465399.9939
03/07/2018	500.5000	500500.0000
04/07/2018	399.3000	399299.9878
05/07/2018	364.0000	364000.0000
06/07/2018	315.7000	315700.0122
07/07/2018	364.9000	364899.9939
08/07/2018	357.5000	357500.0000
09/07/2018	353.5000	353500.0000
10/07/2018	319.1000	319100.0061
11/07/2018	381.6000	381600.0061
12/07/2018	406.3000	406299.9878
13/07/2018	296.6000	296600.0061
14/07/2018	260.6000	260600.0061
15/07/2018	322.4000	322399.9939
16/07/2018	306.3000	306299.9878
17/07/2018	386.0000	386000.0000
18/07/2018	358.4000	358399.9939
19/07/2018	342.6000	342600.0061
20/07/2018	293.3000	293299.9878
21/07/2018	264.0000	264000.0000
22/07/2018	279.9000	279899.9939
23/07/2018	250.5000	250500.0000
24/07/2018	297.8000	297799.9878
25/07/2018	311.2000	311200.0122
26/07/2018	245.2000	245199.9969
27/07/2018	246.6000	246600.0061
28/07/2018	254.7000	254699.9969
29/07/2018	279.4000	279399.9939
30/07/2018	276.9000	276899.9939
31/07/2018	301.7000	301700.0122
01/08/2018	319.5000	319500.0000
02/08/2018	306.7000	306700.0122
03/08/2018	268.6000	268600.0061
04/08/2018	297.8000	297799.9878
05/08/2018	275.3000	275299.9878
06/08/2018	259.0000	259000.0000
07/08/2018	251.8000	251800.0031
08/08/2018	223.0000	223000.0000
09/08/2018	250.5000	250500.0000
10/08/2018	272.3000	272299.9878
11/08/2018	280.9000	280899.9939
12/08/2018	292.0000	292000.0000
13/08/2018	247.3000	247300.0031
14/08/2018	231.1000	231100.0061
15/08/2018	300.5000	300500.0000
16/08/2018	349.2000	349200.0122
17/08/2018	293.0000	293000.0000
18/08/2018	328.1000	328100.0061
19/08/2018	322.2000	322200.0122
20/08/2018	342.4000	342399.9939
21/08/2018	261.3000	261299.9878
22/08/2018	218.3000	218300.0031

23/08/2018	284.2000	284200.0122
24/08/2018	259.0000	259000.0000
25/08/2018	251.9000	251899.9939
26/08/2018	290.3000	290299.9878
27/08/2018	245.1000	245100.0061
28/08/2018	237.2000	237199.9969
29/08/2018	248.4000	248399.9939
30/08/2018	247.9000	247899.9939
31/08/2018	267.4000	267399.9939
01/09/2018	239.5000	239500.0000
02/09/2018	235.8000	235800.0031
03/09/2018	269.8000	269799.9878
04/09/2018	258.4000	258399.9939
05/09/2018	227.4000	227399.9939
06/09/2018	223.0000	223000.0000
07/09/2018	276.8000	276799.9878
08/09/2018	300.7000	300700.0122
09/09/2018	250.0000	250000.0000
10/09/2018	262.2000	262200.0122
11/09/2018	244.1000	244100.0061
12/09/2018	244.4000	244399.9939
13/09/2018	256.2000	256200.0122
14/09/2018	249.2000	249199.9969
15/09/2018	233.6000	233600.0061
16/09/2018	255.2000	255199.9969
17/09/2018	262.6000	262600.0061
18/09/2018	242.6000	242600.0061
19/09/2018	224.7000	224699.9969
20/09/2018	229.8000	229800.0031
21/09/2018	228.9000	228899.9939
22/09/2018	208.3000	208300.0031
23/09/2018	220.5000	220500.0000
24/09/2018	197.5000	197500.0000
25/09/2018	180.3000	180300.0031
26/09/2018	187.6000	187600.0061
27/09/2018	205.6000	205600.0061
28/09/2018	175.2000	175199.9969
29/09/2018	207.4000	207399.9939
30/09/2018	215.3000	215300.0031
01/10/2018	190.9000	190899.9939
02/10/2018	165.8000	165800.0031
03/10/2018	173.4000	173399.9939
04/10/2018	174.9000	174899.9939
05/10/2018	166.3000	166300.0031
06/10/2018	159.1000	159100.0061
07/10/2018	195.1000	195100.0061
08/10/2018	203.2000	203199.9969
09/10/2018	170.9000	170899.9939
10/10/2018	179.2000	179199.9969
11/10/2018	193.8000	193800.0031
12/10/2018	179.0000	179000.0000
13/10/2018	189.0000	189000.0000
14/10/2018	184.0000	184000.0000
15/10/2018	159.0000	159000.0000
16/10/2018	175.0000	175000.0000
17/10/2018	163.0000	163000.0000
18/10/2018	186.6000	186600.0061
19/10/2018	145.3000	145300.0031
20/10/2018	196.0000	196000.0000
21/10/2018	192.9000	192899.9939
22/10/2018	146.7000	146699.9969

23/10/2018	190.6000	190600.0061
24/10/2018	163.7000	163699.9969
25/10/2018	158.7000	158699.9969
26/10/2018	170.2000	170199.9969
27/10/2018	182.1000	182100.0061
28/10/2018	162.6000	162600.0061
29/10/2018	164.7000	164699.9969
30/10/2018	171.7000	171699.9969
31/10/2018	154.6000	154600.0061
01/11/2018	162.1000	162100.0061
02/11/2018	177.1000	177100.0061
03/11/2018	190.9000	190899.9939
04/11/2018	196.0000	196000.0000
05/11/2018	168.4000	168399.9939
06/11/2018	173.5000	173500.0000
07/11/2018	142.3000	142300.0031
08/11/2018	179.2000	179199.9969
09/11/2018	167.4000	167399.9939
10/11/2018	173.8000	173800.0031
11/11/2018	180.8000	180800.0031
12/11/2018	163.5000	163500.0000
13/11/2018	161.7000	161699.9969
14/11/2018	154.2000	154199.9969
15/11/2018	166.8000	166800.0031
16/11/2018	167.1000	167100.0061
17/11/2018	184.3000	184300.0031
18/11/2018	173.6000	173600.0061
19/11/2018	158.7000	158699.9969
20/11/2018	158.8000	158800.0031
21/11/2018	162.6000	162600.0061
22/11/2018	170.6000	170600.0061
23/11/2018	149.1000	149100.0061
24/11/2018	171.1000	171100.0061
25/11/2018	172.8000	172800.0031
26/11/2018	156.6000	156600.0061
27/11/2018	146.6000	146600.0061
28/11/2018	149.1000	149100.0061
29/11/2018	148.9000	148899.9939
30/11/2018	146.1000	146100.0061
01/12/2018	167.7000	167699.9969
02/12/2018	175.3000	175300.0031
03/12/2018	158.4000	158399.9939
04/12/2018	160.2000	160199.9969
05/12/2018	83.9000	83900.0015
06/12/2018	167.9000	167899.9939
07/12/2018	166.0000	166000.0000
08/12/2018	169.3000	169300.0031
09/12/2018	179.3000	179300.0031
10/12/2018	156.1000	156100.0061
11/12/2018	167.0000	167000.0000
12/12/2018	168.5000	168500.0000
13/12/2018	151.2000	151199.9969
14/12/2018	163.4000	163399.9939
15/12/2018	151.2000	151199.9969
16/12/2018	182.9000	182899.9939
17/12/2018	160.2000	160199.9969
18/12/2018	172.9000	172899.9939
19/12/2018	174.2000	174199.9969
20/12/2018	155.3000	155300.0031
21/12/2018	155.7000	155699.9969
22/12/2018	181.5000	181500.0000

23/12/2018	185.4000	185399.9939
24/12/2018	171.3000	171300.0031
25/12/2018	167.0000	167000.0000
26/12/2018	158.4000	158399.9939
27/12/2018	166.1000	166100.0061
28/12/2018	103.2000	103199.9969
29/12/2018	237.5000	237500.0000
30/12/2018	166.4000	166399.9939
31/12/2018	182.2000	182199.9969