

# ***Bruce Mines Water Treatment***

Large Municipal Residential Drinking Water System

***January 1, 2023 – December 31, 2023***

***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, [2024](#).

## **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 m<sup>3</sup>/d to the distribution system.

The highest daily treated water maximum flow was 374.9 m<sup>3</sup> in June and represents 43% of capacity. In 2023, the total volume of water sent to the distribution system was 72,295.4 m<sup>3</sup>

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

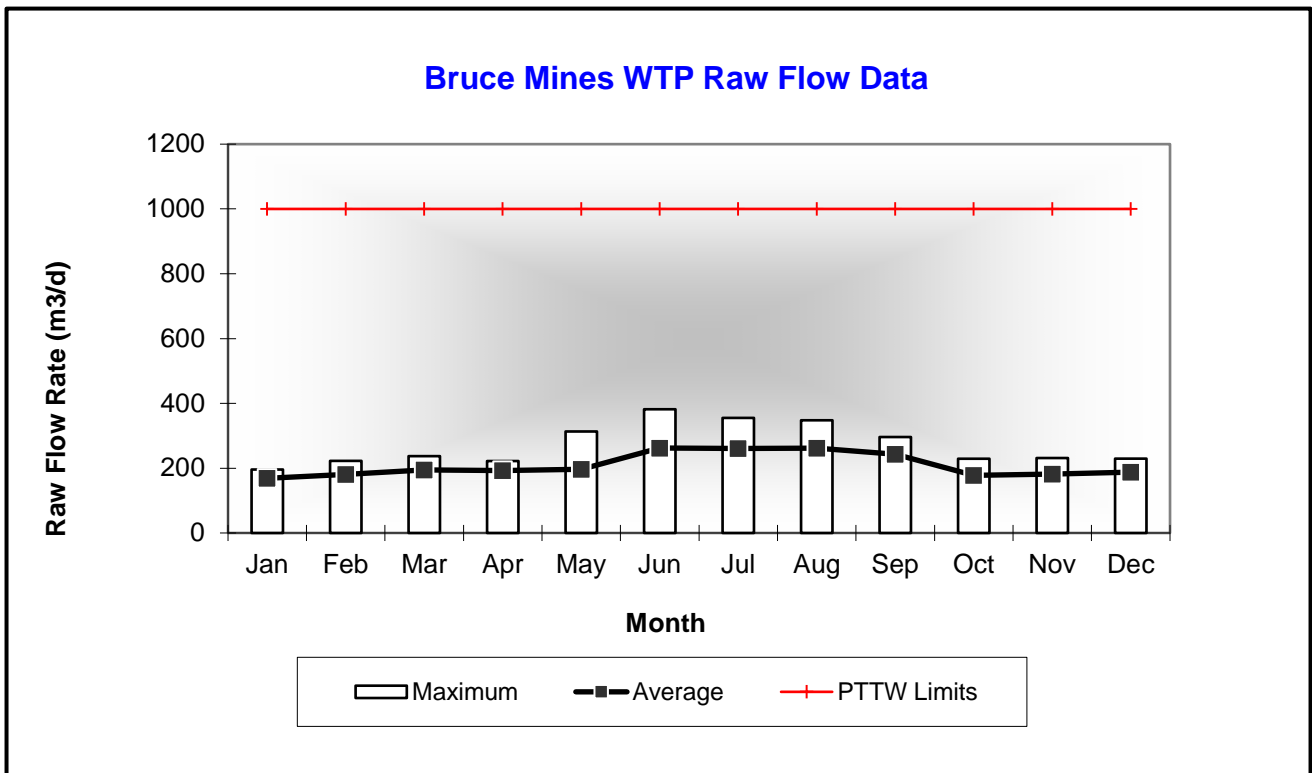
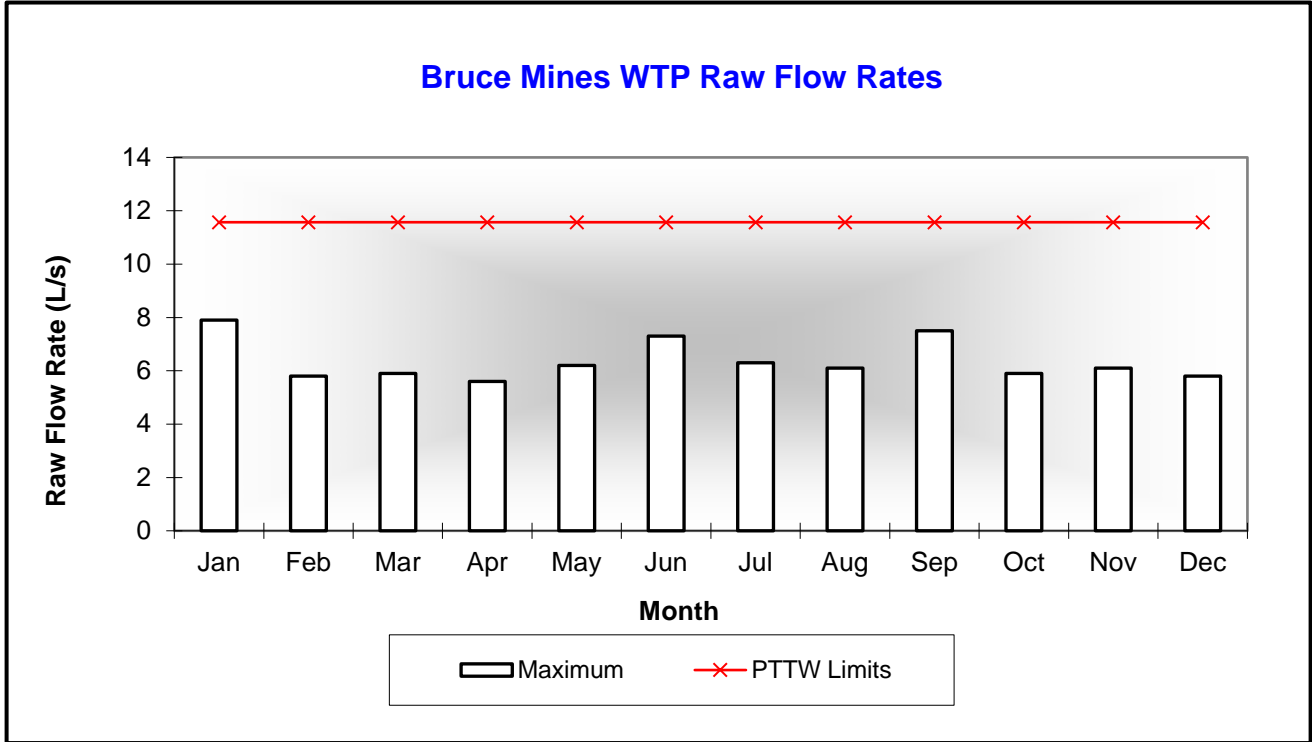
### Flows - Raw

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 m<sup>3</sup>/d.

The average monthly raw water flow for this reporting period was 209.16 m<sup>3</sup>/d. The maximum daily flow was 381.8 m<sup>3</sup>/d representing 38% of water taking limits. In 2023, the total volume of water taken from the environment was 76,345 m<sup>3</sup>

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 <sup>3</sup> )	Average Flow (m <sup>3</sup> /d)	Maximum Flow (m <sup>3</sup> /d)	Maximum Flow Rate (L/s)	Limits	
					L/s (PTTW)	m <sup>3</sup> /d (PTTW)
January	5,230.3	168.72	195.8	7.9	11.57	1000.0
February	5,071.7	181.13	222.5	5.8	11.57	1000.0
March	6,017.6	194.12	237.1	5.9	11.57	1000.0
April	5,776	192.53	222	5.6	11.57	1000.0
May	6,108	197.03	313.2	6.2	11.57	1000.0
June	7,866.7	262.22	381.8	7.3	11.57	1000.0
July	8,083.8	260.77	355.1	6.3	11.57	1000.0
August	8,118.2	261.88	347.8	6.1	11.57	1000.0
September	7,284.6	242.82	296.1	7.5	11.57	1000.0
October	5,514.7	177.89	229.1	5.9	11.57	1000.0
November	5,465.9	182.2	231.3	6.1	11.57	1000.0
December	5,807.5	187.34	229.4	5.8	11.57	1000.0
<b>Total</b>	76,345					
<b>Average</b>		209.16				
<b>Maximum</b>			381.8	7.9	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)
2023	76,345	209.16	381.8	38%
2022	69,986.2	191.74	301	30%
2021	74,381	203.78	441.3	44%
2020	71,686	195.87	407.3	41%
2019	74,244	203.41	404.3	40%
2018	84,090	230.38	500.5	50%

## System Failures and Corrective Actions

The latest inspection of the drinking water facility took place on [July 12, 2023](#); the facility scored [14/469](#) providing a rating of [97.01%](#).

The following non-compliance was identified in the inspection report:

**Question ID DWMR1018000. The owner had not ensured that all equipment was installed in accordance with Schedule A and Schedule C of the Drinking Water Works Permit.**

DWI notes: The use of Citric Acid and Sodium Hydroxide during a chemical membrane wash is not mentioned in the Permit and no form 2 was submitted. While conducting the walk through of the plant it was identified that the Chemical Addition section of the Drinking Water Works Permit 270-201 needs to be updated. The facility no longer uses Sodium Metabisulphate as stated in the Permit, but rather Calcium Thiosulphate for dechlorination. The proper notification form 2 was submitted in January 2023 to ensure the change will be noted in the Permit.

### AWQIs reported to the Ministry

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

## SECTION 4: SECTION 11 REPORT

### Information to be provided

Population Served <b>582</b> (2016 Stats Canada for Bruce Mines)
Does your Drinking-Water System serve more than 10,000 people? <i>No</i>
Is your annual report available to the public at no charge on a web site on the Internet? <i>Yes</i>



Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.	<i>Town of Bruce Mines, Municipal Office 9126 HWY 17 East Bruce Mines, Ontario P0R 1C0</i>
Number of Designated Facilities served:	<i>0</i>
Did you provide a copy of your annual report to all Designated Facilities you serve?	<i>NA</i>
Number of Interested Authorities you report to:	<i>0</i>
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 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

There were no significant expenses for 2024



### 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					

### 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	NDOGT	0	NDOGT	0	N/A	N/A
Treated Water	52	0	0	0	0	52	0	1
Distribution	156	0	0	0	0	52	0	4

### 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	0.01	0.03	(NTU)
Turbidity, On-Line - Filter 2	8760	0.01	0.029	(NTU)
Free Chlorine Residual, Treated	8760	0.89	2.07	(mg/L)
Free Chlorine Residual – DW 1	102	0.91	1.62	mg/L
Free Chlorine Residual – DW 2	102	0.79	1.71	mg/L
Free Chlorine Residual – DW 3	102	0.79	1.97	mg/L
Free Chlorine Residual – DW 4	52	0.86	1.79	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  Issue Date: March 3, 2021  Expiry Date: March 2, 2026	Backwash (BW) Total Suspended Solids (TSS)  25 mg/L annual average	Jan	10	4	mg/L
		Feb	15	2	mg/L
		Mar	15	6	mg/L
		Apr	13	3	mg/L
		May	15	14	mg/L
		Jun	13	5	mg/L
		Jul	12	6	mg/L
		Aug	15	5	mg/L
		Sep	13	12	mg/L
		Oct	16	8	mg/L
		Nov	16	10	mg/L
		Dec	13	8	mg/L
		<b>Annual Average</b>			



**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	2023/01/10	< MDL 0.6	6	No	No
Arsenic: As (ug/L) - TW	2023/01/10	0.3	10	No	No
Barium: Ba (ug/L) - TW	2023/01/10	9.77	1000	No	No
Boron: B (ug/L) - TW	2023/01/10	10	5000	No	No
Cadmium: Cd (ug/L) - TW	2023/01/10	0.005	5	No	No
Chromium: Cr (ug/L) - TW	2023/01/10	0.15	50	No	No
Mercury: Hg (ug/L) - TW	2023/01/10	< MDL 0.01	1	No	No
Selenium: Se (ug/L) - TW	2023/01/10	0.09	50	No	No
Uranium: U (ug/L) - TW	2023/01/10	0.088	20	No	No

TREATED WATER	Sample Date (mm/dd/yyyy)	Sample Result	MAC	No. of Exceedances	
				MAC	1/2 MAC
Fluoride (mg/L) - TW	2023/01/10	< MDL 0.06	1.5	No	No
Nitrate : (mg/L) - TW	2023/01/10	0.346	10	No	No
Nitrate : (mg/L) - TW	2023/04/04	0.37	10	No	No
Nitrate : (mg/L) - TW	2023/07/05	0.278	10	No	No
Nitrate : (mg/L) - TW	2023/10/04	0.239	10	No	No
Nitrite : (mg/L) - TW	2023/01/10	< MDL 0.003	1	No	No
Nitrite : (mg/L) - TW	2023/04/04	< MDL 0.003	1	No	No
Nitrite : (mg/L) - TW	2023/07/05	< MDL 0.003	1	No	No
Nitrite : (mg/L) - TW	2023/10/04	< MDL 0.003	1	No	No
Sodium / Na (mg/L) - TW	2023/01/10	4.58	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	53	61	n/a	n/a
Distribution - pH In-House	4	6.94	7.78	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
1,1-Dichloroethylene (ug/L)-TW	2023/01/10	< MDL 0.33	14	No	No
1,2-Dichlorobenzene (ug/L)-TW	2023/01/10	< MDL 0.41	200	No	No
1,2-Dichloroethane (ug/L)-TW	2023/01/10	< MDL 0.35	5	No	No
1,4-Dichlorobenzene (ug/L)-TW	2023/01/10	< MDL 0.36	5	No	No
2,3,4,6-Tetrachlorophenol (ug/L)-TW	2023/01/10	< MDL 0.2	100	No	No





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2,4,6-Trichlorophenol (ug/L)-TW	2023/01/10	< MDL 0.25	5	No	No
2,4-Dichlorophenol (ug/L)-TW	2023/01/10	< MDL 0.15	900	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L)-TW	2023/01/10	< MDL 0.19	100	No	No
2-methyl-4-chlorophenoxyacetic acid (MCPA) (ug/L)-TW	2023/01/10	< MDL 0.12	100	No	No
Alachlor (ug/L) -TW	2023/01/10	< MDL 0.02	5	No	No
Atrazine + N-dealkylated metabolites (ug/L)-TW	2023/01/10	< MDL 0.01	5	No	No
Azinphos-methyl (ug/L)-TW	2023/01/10	< MDL 0.05	20	No	No
Benzene (ug/L)-TW	2023/01/10	< MDL 0.32	1	No	No
Benzo(a)pyrene (ug/L)-TW	2023/01/10	< MDL 0.004	0.01	No	No
Bromoxynil (ug/L)-TW	2023/01/10	< MDL 0.33	5	No	No
Carbaryl (ug/L)-TW	2023/01/10	< MDL 0.05	90	No	No
Carbofuran (ug/L) -TW	2023/01/10	< MDL 0.01	90	No	No
Carbon Tetrachloride (ug/L) -TW	2023/01/10	< MDL 0.17	2	No	No
Chlorpyrifos (ug/L) -TW	2023/01/10	< MDL 0.02	90	No	No
Diazinon (ug/L)-TW	2023/01/10	< MDL 0.02	20	No	No
Dicamba (ug/L)-TW	2023/01/10	< MDL 0.2	120	No	No
Dichloromethane (Methylene Chloride) (ug/L)-TW	2023/01/10	< MDL 0.35	50	No	No
Diclofop-methyl (ug/L)-TW	2023/01/10	< MDL 0.4	9	No	No
Dimethoate (ug/L)-TW	2023/01/10	< MDL 0.06	20	No	No
Diquat (ug/L)-TW	2023/01/10	< MDL 1	70	No	No
Diuron (ug/L)-TW	2023/01/10	< MDL 0.03	150	No	No
Glyphosate (ug/L)-TW	2023/01/10	< MDL 1	280	No	No
Malathion (ug/L)-TW	2023/01/10	< MDL 0.02	190	No	No
Metolachlor (ug/L)-TW	2023/01/10	< MDL 0.01	50	No	No
Metribuzin (ug/L)-TW	2023/01/10	< MDL 0.02	80	No	No
Monochlorobenzene (Chlorobenzene) (ug/L)-TW	2023/01/10	< MDL 0.3	80	No	No
Paraquat (ug/L)-TW	2023/01/10	< MDL 1	10	No	No
PCB (ug/L)-TW	2023/01/10	< MDL 0.04	3	No	No
Pentachlorophenol (ug/L)-TW	2023/01/10	< MDL 0.15	60	No	No
Phorate (ug/L)-TW	2023/01/10	< MDL 0.01	2	No	No
Picloram (ug/L)-TW	2023/01/10	< MDL 1	190	No	No
Prometryne (ug/L)-TW	2023/01/10	< MDL 0.03	1	No	No
Simazine (ug/L)-TW	2023/01/10	< MDL 0.01	10	No	No
Terbufos (ug/L)-TW	2023/01/10	< MDL 0.01	1	No	No
Tetrachloroethylene (ug/L)-TW	2023/01/10	< MDL 0.35	10	No	No
Triallate (ug/L) -TW	2023/01/10	< MDL 0.01	230	No	No
Trichloroethylene (ug/L)-TW	2023/01/10	< MDL 0.44	5	No	No
Trifluralin (ug/L)-TW	2023/01/10	< MDL 0.02	45	No	No
Vinyl Chloride (ug/L)-TW	2023/01/10	< MDL 0.17	1	No	No
<b>DISTRIBUTION WATER</b>					
Trihalomethane: Total (ug/L) Annual Average - DW	2023/12/31	76.8	100.00	No	Yes
HAA Total (ug/L) Annual Average – DW	2023/12/31	40.6	80.00	No	Yes



## SECTION 5: RAW WATER SUBMISSIONS

Raw water flows were submitted to the Ministry on [January 26, 2024](#).

The screenshot displays the WTRS web interface. At the top left is the Ontario logo. In the center is the 'environet WTRS' logo. At the top right is the text 'Ministry of the Environment, Conservation and Parks'. Below the logos is a navigation menu with links: WT DATA, REPORTS, SEARCH WT DATA, ADMINISTRATION, USER PROFILE, CONTACT US, HELP, HOME, and LOGOUT. The breadcrumb trail reads 'Location: WTRS / WT DATA / Input WT Record' and the page ID is 'WTRS-WT-008'. A green-bordered 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 26, 2024 9:12 AM'. A final note states: '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.

Based on information available for the [2023](#) 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 <sup>3</sup> /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, Conservation and Parks
MECP	Ministry of the Environment, Conservation and Parks
NDOGN	No Data: Overgrown with Non Target Bacteria
NDOGT	No Data: Overgrown with Target Bacteria
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 01/01/2023 To 12/31/2023

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 (m <sup>3</sup> /d)	Value (Litres)
01/01/2023	166.7000	166699.9969
02/01/2023	170.7000	170699.9969
03/01/2023	175.9000	175899.9939
04/01/2023	137.3000	137300.0031
05/01/2023	166.3000	166300.0031
06/01/2023	190.2000	190199.9969
07/01/2023	167.3000	167300.0031
08/01/2023	186.4000	186399.9939
09/01/2023	158.8000	158800.0031
10/01/2023	195.8000	195800.0031
11/01/2023	171.3000	171300.0031
12/01/2023	152.6000	152600.0061
13/01/2023	161.8000	161800.0031
14/01/2023	185.6000	185600.0061
15/01/2023	173.8000	173800.0031
16/01/2023	164.6000	164600.0061
17/01/2023	160.8000	160800.0031
18/01/2023	171.0000	171000.0000
19/01/2023	178.3000	178300.0031
20/01/2023	162.8000	162800.0031
21/01/2023	161.4000	161399.9939
22/01/2023	168.2000	168199.9969
23/01/2023	166.1000	166100.0061
24/01/2023	158.6000	158600.0061
25/01/2023	164.7000	164699.9969
26/01/2023	161.9000	161899.9939
27/01/2023	144.1000	144100.0061
28/01/2023	176.5000	176500.0000
29/01/2023	180.2000	180199.9969
30/01/2023	174.8000	174800.0031
31/01/2023	175.8000	175800.0031
01/02/2023	197.5000	197500.0000
02/02/2023	152.6000	152600.0061
03/02/2023	192.3000	192300.0031
04/02/2023	180.4000	180399.9939
05/02/2023	182.6000	182600.0061
06/02/2023	155.5000	155500.0000
07/02/2023	191.0000	191000.0000
08/02/2023	162.5000	162500.0000
09/02/2023	149.1000	149100.0061
10/02/2023	162.7000	162699.9969
11/02/2023	186.7000	186699.9969

12/02/2023	196.4000	196399.9939
13/02/2023	142.1000	142100.0061
14/02/2023	158.6000	158600.0061
15/02/2023	188.7000	188699.9969
16/02/2023	162.9000	162899.9939
17/02/2023	222.5000	222500.0000
18/02/2023	181.2000	181199.9969
19/02/2023	211.9000	211899.9939
20/02/2023	183.6000	183600.0061
21/02/2023	188.9000	188899.9939
22/02/2023	193.3000	193300.0031
23/02/2023	183.4000	183399.9939
24/02/2023	191.4000	191399.9939
25/02/2023	182.7000	182699.9969
26/02/2023	196.4000	196399.9939
27/02/2023	187.9000	187899.9939
28/02/2023	186.9000	186899.9939
01/03/2023	173.6000	173600.0061
02/03/2023	189.7000	189699.9969
03/03/2023	170.5000	170500.0000
04/03/2023	204.1000	204100.0061
05/03/2023	191.2000	191199.9969
06/03/2023	176.5000	176500.0000
07/03/2023	181.2000	181199.9969
08/03/2023	202.3000	202300.0031
09/03/2023	188.2000	188199.9969
10/03/2023	194.2000	194199.9969
11/03/2023	203.8000	203800.0031
12/03/2023	196.0000	196000.0000
13/03/2023	213.8000	213800.0031
14/03/2023	183.1000	183100.0061
15/03/2023	181.7000	181699.9969
16/03/2023	205.5000	205500.0000
17/03/2023	217.5000	217500.0000
18/03/2023	218.1000	218100.0061
19/03/2023	188.1000	188100.0061
20/03/2023	215.9000	215899.9939
21/03/2023	208.4000	208399.9939
22/03/2023	200.5000	200500.0000
23/03/2023	192.3000	192300.0031
24/03/2023	191.1000	191100.0061
25/03/2023	209.0000	209000.0000
26/03/2023	237.1000	237100.0061
27/03/2023	158.5000	158500.0000
28/03/2023	215.6000	215600.0061
29/03/2023	177.1000	177100.0061
30/03/2023	161.3000	161300.0031
31/03/2023	171.7000	171699.9969
01/04/2023	199.9000	199899.9939
02/04/2023	178.5000	178500.0000
03/04/2023	164.4000	164399.9939
04/04/2023	177.0000	177000.0000
05/04/2023	185.0000	185000.0000
06/04/2023	167.4000	167399.9939
07/04/2023	194.4000	194399.9939
08/04/2023	197.0000	197000.0000
09/04/2023	213.6000	213600.0061
10/04/2023	174.2000	174199.9969
11/04/2023	177.2000	177199.9969
12/04/2023	202.4000	202399.9939
13/04/2023	190.0000	190000.0000

14/04/2023	170.2000	170199.9969
15/04/2023	187.3000	187300.0031
16/04/2023	206.3000	206300.0031
17/04/2023	220.2000	220199.9969
18/04/2023	168.3000	168300.0031
19/04/2023	206.7000	206699.9969
20/04/2023	222.0000	222000.0000
21/04/2023	204.6000	204600.0061
22/04/2023	177.0000	177000.0000
23/04/2023	219.6000	219600.0061
24/04/2023	194.5000	194500.0000
25/04/2023	192.0000	192000.0000
26/04/2023	221.7000	221699.9969
27/04/2023	158.0000	158000.0000
28/04/2023	213.5000	213500.0000
29/04/2023	173.3000	173300.0031
30/04/2023	219.8000	219800.0031
01/05/2023	172.9000	172899.9939
02/05/2023	182.0000	182000.0000
03/05/2023	182.6000	182600.0061
04/05/2023	144.6000	144600.0061
05/05/2023	172.3000	172300.0031
06/05/2023	156.6000	156600.0061
07/05/2023	168.1000	168100.0061
08/05/2023	156.7000	156699.9969
09/05/2023	181.4000	181399.9939
10/05/2023	162.4000	162399.9939
11/05/2023	187.8000	187800.0031
12/05/2023	193.8000	193800.0031
13/05/2023	172.8000	172800.0031
14/05/2023	178.8000	178800.0031
15/05/2023	207.1000	207100.0061
16/05/2023	206.3000	206300.0031
17/05/2023	196.5000	196500.0000
18/05/2023	160.2000	160199.9969
19/05/2023	175.8000	175800.0031
20/05/2023	196.5000	196500.0000
21/05/2023	159.9000	159899.9939
22/05/2023	189.6000	189600.0061
23/05/2023	217.7000	217699.9969
24/05/2023	210.4000	210399.9939
25/05/2023	172.9000	172899.9939
26/05/2023	210.0000	210000.0000
27/05/2023	232.2000	232199.9969
28/05/2023	284.9000	284899.9939
29/05/2023	273.9000	273899.9939
30/05/2023	313.2000	313200.0122
31/05/2023	288.1000	288100.0061
01/06/2023	294.0000	294000.0000
02/06/2023	281.2000	281200.0122
03/06/2023	334.4000	334399.9939
04/06/2023	381.8000	381799.9878
05/06/2023	315.7000	315700.0122
06/06/2023	357.7000	357700.0122
07/06/2023	279.9000	279899.9939
08/06/2023	288.7000	288700.0122
09/06/2023	257.3000	257299.9878
10/06/2023	298.9000	298899.9939
11/06/2023	251.1000	251100.0061
12/06/2023	215.6000	215600.0061
13/06/2023	141.1000	141100.0061

14/06/2023	236.7000	236699.9969
15/06/2023	178.6000	178600.0061
16/06/2023	239.1000	239100.0061
17/06/2023	202.6000	202600.0061
18/06/2023	261.1000	261100.0061
19/06/2023	250.4000	250399.9939
20/06/2023	277.0000	277000.0000
21/06/2023	264.7000	264700.0122
22/06/2023	359.4000	359399.9939
23/06/2023	276.9000	276899.9939
24/06/2023	300.0000	300000.0000
25/06/2023	230.1000	230100.0061
26/06/2023	220.9000	220899.9939
27/06/2023	203.1000	203100.0061
28/06/2023	208.2000	208199.9969
29/06/2023	223.3000	223300.0031
30/06/2023	237.2000	237199.9969
01/07/2023	254.4000	254399.9939
02/07/2023	228.7000	228699.9969
03/07/2023	246.6000	246600.0061
04/07/2023	306.5000	306500.0000
05/07/2023	245.0000	245000.0000
06/07/2023	233.7000	233699.9969
07/07/2023	266.4000	266399.9939
08/07/2023	267.5000	267500.0000
09/07/2023	299.4000	299399.9939
10/07/2023	311.5000	311500.0000
11/07/2023	225.6000	225600.0061
12/07/2023	243.1000	243100.0061
13/07/2023	265.4000	265399.9939
14/07/2023	251.4000	251399.9939
15/07/2023	219.3000	219300.0031
16/07/2023	261.3000	261299.9878
17/07/2023	221.8000	221800.0031
18/07/2023	237.6000	237600.0061
19/07/2023	233.0000	233000.0000
20/07/2023	225.1000	225100.0061
21/07/2023	231.8000	231800.0031
22/07/2023	267.3000	267299.9878
23/07/2023	250.1000	250100.0061
24/07/2023	214.5000	214500.0000
25/07/2023	303.0000	303000.0000
26/07/2023	257.7000	257700.0122
27/07/2023	224.8000	224800.0031
28/07/2023	301.1000	301100.0061
29/07/2023	309.0000	309000.0000
30/07/2023	326.1000	326100.0061
31/07/2023	355.1000	355100.0061
01/08/2023	306.0000	306000.0000
02/08/2023	295.6000	295600.0061
03/08/2023	333.9000	333899.9939
04/08/2023	326.8000	326799.9878
05/08/2023	320.6000	320600.0061
06/08/2023	340.3000	340299.9878
07/08/2023	347.8000	347799.9878
08/08/2023	301.1000	301100.0061
09/08/2023	297.9000	297899.9939
10/08/2023	241.4000	241399.9939
11/08/2023	264.6000	264600.0061
12/08/2023	235.6000	235600.0061
13/08/2023	243.0000	243000.0000



14/08/2023	244.6000	244600.0061
15/08/2023	247.0000	247000.0000
16/08/2023	236.5000	236500.0000
17/08/2023	222.7000	222699.9969
18/08/2023	223.9000	223899.9939
19/08/2023	259.6000	259600.0061
20/08/2023	248.9000	248899.9939
21/08/2023	233.9000	233899.9939
22/08/2023	233.9000	233899.9939
23/08/2023	211.1000	211100.0061
24/08/2023	222.1000	222100.0061
25/08/2023	276.9000	276899.9939
26/08/2023	242.3000	242300.0031
27/08/2023	238.1000	238100.0061
28/08/2023	242.6000	242600.0061
29/08/2023	211.3000	211300.0031
30/08/2023	221.8000	221800.0031
31/08/2023	246.4000	246399.9939
01/09/2023	244.5000	244500.0000
02/09/2023	231.3000	231300.0031
03/09/2023	222.1000	222100.0061
04/09/2023	229.3000	229300.0031
05/09/2023	251.5000	251500.0000
06/09/2023	261.9000	261899.9939
07/09/2023	291.4000	291399.9939
08/09/2023	268.7000	268700.0122
09/09/2023	296.1000	296100.0061
10/09/2023	282.2000	282200.0122
11/09/2023	275.5000	275500.0000
12/09/2023	248.9000	248899.9939
13/09/2023	255.9000	255899.9939
14/09/2023	244.4000	244399.9939
15/09/2023	246.4000	246399.9939
16/09/2023	242.3000	242300.0031
17/09/2023	243.3000	243300.0031
18/09/2023	220.2000	220199.9969
19/09/2023	210.5000	210500.0000
20/09/2023	231.6000	231600.0061
21/09/2023	217.6000	217600.0061
22/09/2023	225.5000	225500.0000
23/09/2023	230.8000	230800.0031
24/09/2023	241.4000	241399.9939
25/09/2023	257.5000	257500.0000
26/09/2023	233.0000	233000.0000
27/09/2023	261.5000	261500.0000
28/09/2023	187.4000	187399.9939
29/09/2023	223.7000	223699.9969
30/09/2023	208.2000	208199.9969
01/10/2023	181.2000	181199.9969
02/10/2023	188.5000	188500.0000
03/10/2023	167.2000	167199.9969
04/10/2023	167.9000	167899.9939
05/10/2023	229.1000	229100.0061
06/10/2023	146.0000	146000.0000
07/10/2023	175.3000	175300.0031
08/10/2023	172.5000	172500.0000
09/10/2023	187.0000	187000.0000
10/10/2023	159.0000	159000.0000
11/10/2023	168.4000	168399.9939
12/10/2023	198.9000	198899.9939
13/10/2023	143.2000	143199.9969

14/10/2023	170.0000	170000.0000
15/10/2023	185.4000	185399.9939
16/10/2023	187.0000	187000.0000
17/10/2023	178.9000	178899.9939
18/10/2023	187.2000	187199.9969
19/10/2023	166.1000	166100.0061
20/10/2023	222.3000	222300.0031
21/10/2023	178.7000	178699.9969
22/10/2023	194.3000	194300.0031
23/10/2023	189.4000	189399.9939
24/10/2023	180.7000	180699.9969
25/10/2023	161.1000	161100.0061
26/10/2023	171.5000	171500.0000
27/10/2023	159.8000	159800.0031
28/10/2023	186.3000	186300.0031
29/10/2023	175.4000	175399.9939
30/10/2023	168.0000	168000.0000
31/10/2023	168.4000	168399.9939
01/11/2023	188.1000	188100.0061
02/11/2023	160.7000	160699.9969
03/11/2023	215.2000	215199.9969
04/11/2023	167.8000	167800.0031
05/11/2023	231.3000	231300.0031
06/11/2023	187.9000	187899.9939
07/11/2023	183.7000	183699.9969
08/11/2023	168.7000	168699.9969
09/11/2023	174.1000	174100.0061
10/11/2023	192.3000	192300.0031
11/11/2023	189.5000	189500.0000
12/11/2023	188.4000	188399.9939
13/11/2023	175.9000	175899.9939
14/11/2023	175.6000	175600.0061
15/11/2023	163.3000	163300.0031
16/11/2023	172.6000	172600.0061
17/11/2023	186.7000	186699.9969
18/11/2023	170.4000	170399.9939
19/11/2023	197.2000	197199.9969
20/11/2023	173.2000	173199.9969
21/11/2023	171.8000	171800.0031
22/11/2023	173.5000	173500.0000
23/11/2023	168.3000	168300.0031
24/11/2023	189.9000	189899.9939
25/11/2023	203.4000	203399.9939
26/11/2023	182.9000	182899.9939
27/11/2023	178.1000	178100.0061
28/11/2023	180.9000	180899.9939
29/11/2023	193.1000	193100.0061
30/11/2023	161.4000	161399.9939
01/12/2023	197.3000	197300.0031
02/12/2023	192.6000	192600.0061
03/12/2023	193.2000	193199.9969
04/12/2023	189.1000	189100.0061
05/12/2023	178.7000	178699.9969
06/12/2023	183.0000	183000.0000
07/12/2023	180.7000	180699.9969
08/12/2023	202.9000	202899.9939
09/12/2023	203.1000	203100.0061
10/12/2023	229.4000	229399.9939
11/12/2023	178.3000	178300.0031
12/12/2023	185.3000	185300.0031
13/12/2023	193.2000	193199.9969

14/12/2023	168.0000	168000.0000
15/12/2023	180.1000	180100.0061
16/12/2023	174.7000	174699.9969
17/12/2023	195.7000	195699.9969
18/12/2023	194.0000	194000.0000
19/12/2023	196.0000	196000.0000
20/12/2023	171.0000	171000.0000
21/12/2023	170.4000	170399.9939
22/12/2023	214.9000	214899.9939
23/12/2023	182.4000	182399.9939
24/12/2023	198.8000	198800.0031
25/12/2023	169.5000	169500.0000
26/12/2023	167.2000	167199.9969
27/12/2023	180.9000	180899.9939
28/12/2023	185.5000	185500.0000
29/12/2023	170.1000	170100.0061
30/12/2023	193.6000	193600.0061
31/12/2023	187.9000	187899.9939