



SOUTH BRUCE WATER SYSTEMS
2022 SUMMARY REPORT

PREPARED IN ACCORDANCE WITH SCHEDULE 22
ONTARIO REGULATION 170/03, AS AMENDED

PREPARED BY VEOLIA WATER CANADA
FOR THE MUNICIPALITY OF SOUTH BRUCE

February 15, 2023

REPORTING PERIOD: JANUARY 1, 2022 TO DECEMBER 31, 2022

Summary of Reporting Requirements

O. Reg 170/03, Section 22 sets out the preparation and distribution of an annual summary report by owners of a drinking water system.

22-2. (1) The owner of a drinking water system shall ensure that, no later than March 31 of each year after 2003, a report is prepared in accordance with subsections

(2) and (3) for the preceding calendar year and is given to,

(a) in the case of a drinking water system owned by a municipality, the members of the municipal council;

(b) in the case of a drinking water system owned by a municipal service board established under section 195 of the *Municipal Act, 2001*, the members of the municipal service board; or

(c) in the case of a drinking water system owned by a corporation, the board of directors of the corporation.

(2) The report must,

(a) list the requirements of the Act, the regulations, the system's approval, drinking water works permit, municipal drinking water licence, and any orders applicable to the system **that were not met at any time during the period covered by the report;** and

(b) for each requirement referred to in clause (a) that was not met, specify the duration of the failure and the measures that were taken to correct the failure.

(3) The report must also include the following information for the purpose of enabling the owner of the system to assess the capability of the system to meet existing and planned uses of the system:

1. 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.

2. A comparison of the summary referred to in paragraph 1 to the rated capacity and flow rates approved in the system's approval, drinking water works permit or municipal drinking water licence, or if the system is receiving all of its water from another system under an agreement pursuant to subsection 5 (4), to the flow rates specified in the written agreement.

(4) If a report is prepared under subsection (1) for a system that supplies water to a municipality under the terms of a contract, the owner of the system shall give a copy of the report to the municipality by March 31.

Infrastructure Review – As part of the Drinking Water Quality Management System (DWQMS) an Infrastructure Review is required on an Annual Basis. The South Bruce Operations Manager and the Veolia Water Project Manager review Infrastructure on a regular basis. In the DWQMS Operational Plan it States: *The procedure will be for the Project Manager / Overall Responsible Operator to compile information received from the Maintenance Lead and Operators throughout the year based on work orders and observations relating to the infrastructure of the water treatment system. This information will be summarized in an Infrastructure section of the annual summary report and presented to the Owner on an annual basis. The Annual Summary is required to be submitted to the Owner by March 30th of each year.*

Mildmay Water System – Drinking Water System #220002654

Report Period: January 1st, 2022 to December 31st, 2022

November 17, 2022, Heather Lovely from the Ministry of the Environment Conservation and Parks conducted an inspection of the Mildmay Water System.

The inspection report was received by the South Bruce Operations Manager and the Veolia Water Project Manager on December 29, 2022. The Inspection Report concluded that there were no issues of non-compliance.

The following table lists the Adverse Water Quality Incidents that occurred during the reporting period:

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
NA					

Mildmay Infrastructure Review

The following items have been identified as potential improvements for the Mildmay Water System:

- Adam Street Watermain extension is potentially taking place in 2023.
- Beverley Street Road Reconstruction potentially in 2024. Consider upsizing the main and adding a Fire Hydrant.
- Absalom St. (Mildmay) - Water/Wastewater (Bruce County is potentially completing road reconstruction)
- Louis St. (Mildmay) - Water/Wastewater (Engineering 2023 potential construction 2024)

Maintenance/Expenses

- March 28 - Replaced the water service for the Mildmay Car Wash due to multiple leaks at this location.
- February 14 - A new Diesel Tank was installed for the Mildmay Pumphouse Diesel Generator
- August 4 - Repaired a saddle/service leak for 8 Gray Court in Mildmay.
- October 14 - A new safety rail system was installed on the Mildmay Water Tower ladder.
- October 25, 2022 - SPD Sales Limited completed the annual flow meter verifications



Mildmay Summary of Quantities and Flow Rates - January 1st to December 31st, 2022.

MONTH	Total Flow For Month (Liters)	Average Daily Flow (Liters)	Maximum Daily Flow (Liters)
January	16,201,000	522,613	647,000
February	15,115,000	521,207	606,000
March	16,390,000	528,710	626,000
April	15,344,000	511,467	718,000
May	16,676,000	537,935	762,000
June	19,084,000	636,133	779,000
July	21,527,000	694,419	1,004,000
August	20,266,000	653,742	841,000
September	17,740,000	591,333	695,000
October	15,581,000	502,613	612,000
November	14,746,000	491,533	633,000
December	15,239,000	491,581	600,000
TOTAL:	203,909,000		
DAILY AVERAGE:		557,128	
DAILY MAXIMUM:			1,004,000
MAXIMUM ALLOWABLE TAKING, AS PER PERMIT TO TAKE WATER			
DRINKING WATER LICENCE CAPACITY (DAILY): 1,637,000 Litres			
MAXIMUM ALLOWABLE PER DAY: 1,600,000 Litres			

For 2022 the average daily flow rate was **34.82%**, and the maximum daily flow was **62.75%** of the Permit To Take water capacity of 1,600,000 Litres per day.

The maximum daily flow was **61.33%** of the Municipal Drinking Water License Rated Capacity of 1,637,000 Litres per day.

Mildmay Well #1 Raw Water Quality Trends

The raw water quality of the Well #1 in Mildmay remains excellent.

The first two tables below show that there were no instances of E. Coli or Total Coliform in the Raw Water Sample Results.

The third table shows the Raw Water Turbidity. Turbidity is a measurement of the clarity of the water (the lower the number the more clear the water is). For 2022 the raw turbidity ranged from 0.06 to 0.26 ntu, and averaged 0.13 ntu. This range is consistent with previous years Raw Water Turbidity.

Based on this information it does not appear that a below grade inspection of the well is required at this time. The previous below grade inspection for Well #1 was completed in 2014. The next below grade inspection should take place in 2024.

Raw Water Well #1 - E. Coli			
Month	Monthly Minimum	Monthly Maximum	Monthly # Samples
Jan '22	0	0	4
Feb '22	0	0	4
Mar '22	0	0	5
Apr '22	0	0	4
May '22	0	0	5
Jun '22	0	0	4
Jul '22	0	0	4
Aug '22	0	0	5
Sep '22	0	0	4
Oct '22	0	0	4
Nov '22	0	0	5
Dec '22	0	0	4
Annual Summary			
Min	0		
Max		0	
Avg		0	
# of Samples			52

Raw Water Well #1 - Total Coliform			
Month	Monthly Minimum	Monthly Maximum	Monthly # Samples
Jan '22	0	0	4
Feb '22	0	0	4
Mar '22	0	0	5
Apr '22	0	0	4
May '22	0	0	5
Jun '22	0	0	4
Jul '22	0	0	4
Aug '22	0	0	5
Sep '22	0	0	4
Oct '22	0	0	4
Nov '22	0	0	5
Dec '22	0	0	4
Annual Summary			
Min	0		
Max		0	
Avg		0	
# of Samples			52

Raw Turbidty - Well #1				
Month	Raw Water Turbidity			
	Average NTU	Minimum NTU	Maximum NTU	# of Samples
Jan '22	0.12	0.09	0.14	4
Feb '22	0.14	0.11	0.18	4
Mar '22	0.14	0.13	0.15	5
Apr '22	0.17	0.11	0.24	4
May '22	0.12	0.10	0.15	5
Jun '22	0.13	0.11	0.16	4
Jul '22	0.13	0.10	0.17	4
Aug '22	0.12	0.10	0.13	5
Sep '22	0.19	0.12	0.26	4
Oct '22	0.09	0.08	0.11	4
Nov '22	0.09	0.06	0.12	5
Dec '22	0.10	0.09	0.11	4
Annual Summary				
Total				52
Average	0.13			
Maximum			0.26	
Minimum		0.06		

Mildmay Well #2 Raw Water Quality Trends

The raw water quality of the Well #2 in Mildmay remains excellent.

The first two tables below show that there were no instances of E. Coli or Total Coliform in the Raw Water Sample Results.

The third table shows the Raw Water Turbidity. For 2021 the raw turbidity ranged from 0.06 to 0.18 ntu, and averaged 0.12 ntu.

This range is consistent with previous years Raw Water Turbidity.

Based on this information it does not appear that a below grade inspection of the well is required at this time. The previous below grade inspection for Well #2 was completed in 2015. The next below grade inspection should take place in 2025.

Raw Water Well #2 - E. Coli			
Month	Monthly Minimum	Monthly Maximum	Monthly # Samples
Jan '22	0	0	4
Feb '22	0	0	4
Mar '22	0	0	6
Apr '22	0	0	4
May '22	0	0	5
Jun '22	0	0	4
Jul '22	0	0	4
Aug '22	0	0	5
Sep '22	0	0	4
Oct '22	0	0	4
Nov '22	0	0	5
Dec '22	0	0	4
Annual Summary			
Min	0		
Max		0	
Avg		0	
Total			53

Raw Water Well #2 - Total Coliform			
Month	Monthly Minimum	Monthly Maximum	Monthly # Samples
Jan '22	0	0	4
Feb '22	0	0	4
Mar '22	0	0	6
Apr '22	0	0	4
May '22	0	0	5
Jun '22	0	0	4
Jul '22	0	0	4
Aug '22	0	0	5
Sep '22	0	0	4
Oct '22	0	0	4
Nov '22	0	0	5
Dec '22	0	0	4
Annual Summary			
Min	0		
Max		0	
Avg		0	
Total			53

Raw Turbidity - Well #2				
Month	Raw Water Turbidity			
	Average NTU	Minimum NTU	Maximum NTU	# of Samples
Jan '22	0.12	0.09	0.15	4
Feb '22	0.13	0.06	0.22	4
Mar '22	0.13	0.07	0.17	6
Apr '22	0.11	0.07	0.14	4
May '22	0.10	0.07	0.12	5
Jun '22	0.13	0.12	0.15	4
Jul '22	0.13	0.10	0.15	4
Aug '22	0.14	0.11	0.16	5
Sep '22	0.13	0.11	0.16	4
Oct '22	0.10	0.08	0.11	4
Nov '22	0.09	0.08	0.10	5
Dec '22	0.12	0.10	0.15	4
Annual Summary				
Total				53
Average	0.12			
Maximum			0.22	
Minimum		0.06		

Teeswater Water System – Drinking Water System #220002654

Report Period: January 1st, 2022 to December 31st, 2022

On November 17, 2022, Heather Lovely from the Ministry of the Environment Conservation and Parks conducted an inspection of the Teeswater Water System.

The inspection report was received by South Bruce Operations Manager and Veolia Water Project Manager Scott Gowan on December 29, 2022. The Inspection Report concluded that there were no issues of non-compliance.

The following table lists the Adverse Water Quality Incidents that occurred during the reporting period:

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
NA					

Teeswater Infrastructure Review

The following items have been identified as potential improvements for the Teeswater Drinking Water System:

- Investigation is underway to determine a potential location for a Water Tower and a Second Well.

Maintenance/Expenses

- February 1, 2022 - A new fuel tank was installed for the Pumphouse Diesel Generator.
- February 20, 2022 - Watermain leak at 12 Union St. E (Teeswater)
- March 23, 2022 - The fuel pump was replaced for the Pumphouse Diesel Generator.
- June 21, 2022 - Repaired a Service leak on Mill St to the Gay Lea Refrigeration Building.
- August 15 - A new Fire Hydrant was installed on Industrial Road.

Teeswater Summary of Quantities and Flow Rates - January 1st to December 31st, 2022.

MONTH	Total Flow For Month (Liters)	Average Daily Flow (Liters)	Maximum Daily Flow (Liters)
January	10,145,000	327,258	451,000
February	9,652,000	332,828	403,000
March	10,225,000	329,839	430,000
April	9,884,000	329,467	435,000
May	11,523,000	371,710	490,000
June	12,759,000	425,300	644,000
July	14,236,000	459,226	606,000
August	14,132,000	455,871	618,000
September	11,076,000	369,200	443,000
October	10,367,000	334,419	458,000
November	10,865,000	362,167	430,000
December	10,925,000	352,419	446,000
TOTAL:	135,789,000		
DAILY AVERAGE:		371,008	
DAILY MAXIMUM:			644,000
MAXIMUM ALLOWABLE TAKING, AS PER PERMIT TO TAKE WATER			
DRINKING WATER LICENCE CAPACITY (DAILY): 2,160,000 Litres			
MAXIMUM ALLOWABLE PER DAY: 1,600,000 Litres			

For 2022 the average daily flow rate was **29.00%**, and the maximum daily flow was **64.50%** of the Permit To Take water capacity of 1,600,000 Litres per day.

The maximum daily flow was **47.78%** of the Municipal Drinking Water License Rated Capacity of 2,160,000 Litres per day.

Teeswater Raw Water Quality Trends

The raw water quality of the well in Teeswater remains excellent.

The first two tables below show that there were no instances of E. Coli or Total Coliform in the Raw Water Sample Results.

The third table shows the Raw Water Turbidity. For 2022 the raw turbidity ranged from 0.05 to 0.24 ntu, and averaged 0.11 ntu.

This range is consistent with previous years Raw Water Turbidity.

Based on this information it does not appear that a below grade inspection of the well is required at this time.

Raw Water - E. Coli Results				Raw Water - Total Coliform Results				Raw Water Turbidity				
Month	Monthly Minimum (cfu/100ml)	Monthly Maximum (cfu/100ml)	Monthly # Samples	Month	Monthly Minimum (cfu/100ml)	Monthly Maximum (cfu/100ml)	Monthly # Samples	Month	Raw Turbidity			
									Minimum ntu	Maximum ntu	Average ntu	No. of Samples
Jan '22	0	0	4	Jan '22	0	0	4	Jan '22	0.09	0.17	0.13	4
Feb '22	0	0	4	Feb '22	0	0	4	Feb '22	0.07	0.24	0.16	4
Mar '22	0	0	5	Mar '22	0	0	5	Mar '22	0.07	0.16	0.13	5
Apr '22	0	0	4	Apr '22	0	0	4	Apr '22	0.06	0.12	0.09	4
May '22	0	0	5	May '22	0	0	5	May '22	0.09	0.20	0.12	5
Jun '22	0	0	4	Jun '22	0	0	4	Jun '22	0.10	0.13	0.11	4
Jul '22	0	0	4	Jul '22	0	0	4	Jul '22	0.05	0.10	0.09	4
Aug '22	0	0	5	Aug '22	0	0	5	Aug '22	0.07	0.10	0.09	5
Sep '22	0	0	4	Sep '22	0	0	4	Sep '22	0.08	0.12	0.10	4
Oct '22	0	0	4	Oct '22	0	0	4	Oct '22	0.08	0.23	0.13	4
Nov '22	0	0	5	Nov '22	0	0	5	Nov '22	0.11	0.15	0.13	5
Dec '22	0	0	4	Dec '22	0	0	4	Dec '22	0.08	0.14	0.11	4
Annual Summary				Annual Summary				Annual Summary				
Min	0			Min	0			# of Samples				52
Max		0		Max		0		Minimum	0.05			
Avg				Avg				Maximum		0.24		
Total			52	Total			52	Average			0.11	

