



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

**FOREMAN**  
**DRINKING WATER SYSTEM**

Small Municipal Residential

**SCHEDULE 22**  
**SUMMARY REPORT**  
**VERSION 2**

For the period of  
**JANUARY 1, 2017 TO DECEMBER 31, 2017**

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

## Summary

This report is a summary of water quality and quantity information submitted in accordance with Schedule 22 of Ontario's Drinking Water System Regulation for the reporting period of January 1, 2017 to December 31, 2017 for the Foreman Drinking Water System located in the Town of South Bruce Peninsula. The summary includes the following information:

- Any requirements of the Act and Regulation, Orders or System Approval(s) that the system failed to meet during the reporting period and the measures taken to correct each failure.
- A summary of the quantities and flow rates of water supplied during the reporting period, including monthly averages and maximum daily flows.
- A comparison of the average and monthly maximum daily flows to the approved capacity specified in the System Approval.

## Issues of Non-Compliance

An MOECC Drinking Water System Inspection was performed on July 26, 2017. On September 12, 2017 the report for this inspection was issued, the Foreman Drinking Water System received an inspection rating of 100%.

The following is a summary of the requirements of the Act, the regulations, the system's approval, drinking water works permit, municipal drinking water license, and any orders applicable to the system that were not met at any time during the period covered by the report; as well as the duration of the failure and the measures that were taken to correct the failure:

- \* There were no non-compliances during the reporting period.

Refer to the Section 11 Annual Report for a summary of any Adverse Water Quality Incident(s) which occurred during the reporting period.

## Assessment of Flowrates and Quantity of Water Supplied

The following tables summarize the quantities (Table 1) and flow rates (Table 2) of the water supplied during the period covered by the report, including monthly average and maximum daily flows as well as a comparison of the summary to the rated capacity and flow rates approved in the system's approval, drinking water works permit or municipal drinking water license.

As per Municipal Drinking Water License (MDWL) 094-104 (Issue Number: 2, expires March 17, 2020), the maximum daily volume of treated water that flows from the treatment subsystem to the distribution system shall not exceed a rated capacity of 165 m<sup>3</sup>/day. There is no maximum allowable limit listed in the MDWL for the flowrate of water that flows into a treatment subsystem, however, raw water flowrate has been included in this report (Table 3).

**Table 1.** Treated Water Monthly Average and Maximum Daily Flows and Comparison to Rated Capacity for 2017

2017	Treated Water Flow			
	Average Flow (m <sup>3</sup> /day)	Percent of Rated Capacity	Maximum Flow (m <sup>3</sup> /day)	Percent of Rated Capacity
January	2.56	1.55%	4.9	2.97%
February	2.49	1.51%	4.0	2.42%
March	2.41	1.46%	3.7	2.24%
April	2.13	1.29%	4.0	2.42%
May	3.38	2.05%	11.9	7.21%
June	3.97	2.41%	9.3	5.64%
July	6.71	4.07%	26.8	16.24%
August	7.52	4.56%	14.3	8.67%
September	3.98	2.41%	15.1	9.15%
October	2.11	1.28%	5.5	3.33%
November	2.08	1.26%	2.9	1.76%
December	2.45	1.48%	3.7	2.24%

**Table 2.** Treated Water Monthly Average and Maximum Flowrates for 2017

2017	Treated Water	
	Average Flowrate (l/s)	Maximum Flowrate (l/s)
January	0.03	3.20
February	0.03	2.10
March	0.03	2.00
April	0.03	2.20
May	0.05	8.00
June	0.05	8.00
July	0.08	3.00
August	0.10	2.10
September	0.03	3.10
October	0.01	2.20
November	0.02	2.90
December	0.03	2.80

**Table 3.** Raw Water Monthly Average and Maximum Flowrates for 2017

2017	Raw Water	
	Average Flowrate (l/s)	Maximum Flowrate (l/s)
January	1.59	1.90
February	1.74	1.90
March	1.56	2.00*
April	1.77	1.90
May	1.82	2.50*
June	1.52	2.00*
July	1.61	1.90
August	1.78	2.40*
September	1.51	1.90
October	1.69	1.90
November	1.64	1.80
December	1.63	2.00*

\*Less than thirty second blip on pump start up not the true maximum Flowrate.



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

**FOREMAN**  
**DRINKING WATER SYSTEM**

Small Municipal Residential

**SECTION 11**  
**ANNUAL REPORT**  
**VERSION 2**

For the period of  
**JANUARY 1, 2017 TO DECEMBER 31, 2017**

Prepared by the Ontario Clean Water Agency  
For The Town of South Bruce Peninsula

<b>Drinking Water System Number:</b>	220007711
<b>Drinking Water System Name:</b>	Foreman Drinking Water System
<b>Drinking Water System Owner:</b>	Town of South Bruce Peninsula
<b>Drinking Water System Category:</b>	Small Municipal Residential
<b>Reporting Period:</b>	January 1, 2017 to December 31, 2017

**Does the 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 the Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection:**

Town of South Bruce Peninsula  
 315 George Street  
 Wiarton, Ontario  
 N0H 2T0  
 519-534-1400

**Drinking-Water Systems (if any), which receive all of their drinking water from your system:**

n/a.

**Did you provide a copy of the annual report to all Drinking-Water System owners that are connected to you and to whom you provide all of its drinking water?**

n/a.

**How system users are notified that the annual report is available, and is free of charge:**

- Public access/notice via the web
- Public access/notice via Government Office
- Public access/notice via a newspaper
- Public access/notice via Public Request
- Public access/notice via a Public Library
- Public access/notice via other method: \_\_\_\_\_

**Description of Drinking Water System:**

The Foreman Drinking Water System is a Class II Water Treatment and Class I Water Distribution System.

The Foreman Water Works Drinking-Water System is supplied by a deep drilled GUDI well. The well pumphouse houses the treatment and control facilities which include:

- Iron/Manganese Removal (potassium permanganate system/greensand filters)
- Cartridge Filter System (to assist with UV disinfection)
- Ultraviolet Disinfection System
- Chlorination System (sodium hypochlorite, pre-chlorination and post chlorination)
- Clearwell/Storage Tank (for achieving CT, the water is also used to backwash the greensand filters)
- Filter Backwash Tank (clarified supernatant discharged by gravity to an existing ditch)
- Hydro pneumatic Tanks (to maintain pressure for highlift discharge and for the greensand filters)
- Diesel generator set

Programmable logic controller and associated SCADA system (for control of the water treatment plant)

**List of water treatment chemicals used during the reporting period:**

- Sodium Hypochlorite 12%
- Potassium Permanganate

**Significant expenses were incurred to:**

- Install required equipment  
 Repair required equipment  
 Replace required equipment  
 No significant expenses were incurred

**Description of expenses:**

- Replaced diesel generator starter.
- Repaired UV#2 wiper bearings and unit.
- Replaced tubing on chlorine panel.
- Replaced filter turbidity feed line.

**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:**

Date of Incident	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
November 11, 2017	Turbidity	n/a	NTU	AWQI #137978 • Operator reset and cleaned online filter turbidity analyzers. • Sampled clearwell turbidity with portable turbidimeter, 0.48 NTU. • Online Treated Water turbidity analyzer continually read during the incident. • Replaced lamp in turbidity analyzer.	November 12, 2017

**Table 1. Microbiological testing done under Schedule 10, 11 or 12 of Regulation 170/03 during this reporting period**

Location	Number of Samples	Range of E.coli Results		Range of Total Coliforms Results		Number of HPC Samples	Range of HPC Samples	
		Minimum	Maximum	Minimum	Maximum		Minimum	Maximum
Well WLP8 (RW)	12	0	0	0	7	n/a	n/a	n/a
Distribution (DW)	52	0	0	0	0	52	0	1

**Table 2. Operational testing done under Schedule 7, 8 or 9 during the period covered by this Annual Report.**

	Number of Grab Samples	Range of Results	
		Minimum	Maximum
Turbidity, On-Line (NTU) - Filter	8760	0	0.61
Free Chlorine Residual, On-Line (mg/L) - TW	8760	0.86	1.88
Free Chlorine Residual, In-House (mg/L) - DW	105	1.02	1.72

NOTE: Record the unit of measure if it is not milligrams per litre.  
 NOTE: For continuous monitors use 8760 as the number of samples

**Table 3. Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument.**

Date of Order of MDWL	Parameter	Date Sampled	Result	MDWL Allowable Annual Average Concentration
March 19, 2015 094-104 (Issue 2)	Total Suspended Solids (Filter backwash)	2017 (Quarterly)	2.25 mg/L	25 mg/L

**Table 4. Summary of Inorganic parameters tested during this reporting period or most recent sample results**

Parameter	Sample Date (yyyy/mm/dd)	Sample Result	Exceedance
Antimony: Sb (µg/L) - TW	2016/01/10	<MDL 0.02	No
Arsenic: As (µg/L) - TW	2016/01/10	<MDL 0.2	No
Barium: Ba (µg/L) - TW	2016/01/10	14.2	No
Boron: B (µg/L) - TW	2016/01/10	89.3	No
Cadmium: Cd (µg/L) - TW	2016/01/10	<MDL 0.003	No
Chromium: Cr (µg/L) - TW	2016/01/10	0.38	No
Mercury: Hg (µg/L) - TW	2016/01/10	<MDL 0.01	No
Selenium: Se (µg/L) - TW	2016/01/10	<MDL 0.04	No
Uranium: U (µg/L) - TW	2016/01/10	0.093	No
Fluoride (mg/L) - TW	2017/01/09	1.3	No
Nitrite (mg/L) - TW	2017/01/09	<MDL 0.003	No
Nitrite (mg/L) - TW	2017/04/03	<MDL 0.003	No
Nitrite (mg/L) - TW	2017/07/10	<MDL 0.003	No
Nitrite (mg/L) - TW	2017/10/16	<MDL 0.003	No
Nitrate (mg/L) - TW	2017/01/09	0.007	No
Nitrate (mg/L) - TW	2017/04/03	0.08	No
Nitrate (mg/L) - TW	2017/07/10	<MDL 0.006	No
Nitrate (mg/L) - TW	2017/10/16	<MDL 0.006	No
Sodium: Na (mg/L) - TW	2017/01/09	16.2	No

NOTE: There is no "MAC" for Sodium. The aesthetic objective for sodium in drinking water is 200 mg/L. The local Medical Officer of Health should be notified when the sodium concentration exceeds 20 mg/L so that this information may be communicated to local physicians for their use with patients on sodium restricted diets.

NOTE: Schedule 23, Schedule 24, Sodium and Fluoride are scheduled to be taken every 60 months. The most recent Schedule 23 was sampled in January 2016, the next Schedule 23 is scheduled for January 2021. The most recent Sodium was sampled in January 2017, the next scheduled Sodium will be in January 2022. The most current reportable sample for Fluoride was sampled January 2017, the next Fluoride is scheduled to be sampled in January 2022.

**Table 5. Summary of lead testing under Schedule 15.1 during this reporting period.**

Location Type	Number of Samples	Range of Lead Results		Number of Exceedances
		Minimum	Maximum	
Plumbing	n/a	n/a	n/a	n/a
Distribution (µg/L)	-	-	-	-

NOTE: The Foreman Drinking Water System qualifies for the plumbing exemption as per Ontario Regulation 170/03 Schedule 15.1-5 (9) (10). Distribution sampling for lead occurs every 36 months. One (1) distribution lead sample is taken during each sampling period (i.e. 2 samples for the sampling year). The most recent distribution lead sampling occurred in 2015. The next round of lead sampling is scheduled for 2018.

**Table 6. Summary of Organic parameters sampled during this reporting period or most recent sample results.**

Parameter	Sample Date	Result Value	Exceedance
Alachlor (µg/L) - TW	2016/01/10	<MDL 0.02	No
Atrazine + N-dealkylated metabolites (µg/L) - TW	2016/01/10	<MDL 0.01	No
Azinphos-methyl (µg/L) - TW	2016/01/10	<MDL 0.05	No
Benzene (µg/L) - TW	2016/01/10	<MDL 0.32	No
Benzo(a)pyrene (µg/L) - TW	2016/01/10	<MDL 0.004	No
Bromoxynil (µg/L) - TW	2016/01/10	<MDL 0.33	No
Carbaryl (µg/L) - TW	2016/01/10	<MDL 0.05	No
Carbofuran (µg/L) - TW	2016/01/10	<MDL 0.01	No
Carbon Tetrachloride (µg/L) - TW	2016/01/10	<MDL 0.16	No
Chlorpyrifos (µg/L) - TW	2016/01/10	<MDL 0.02	No
Diazinon (µg/L) - TW	2016/01/10	<MDL 0.02	No
Dicamba (µg/L) - TW	2016/01/10	<MDL 0.2	No
1,2-Dichlorobenzene (µg/L) - TW	2016/01/10	<MDL 0.41	No
1,4-Dichlorobenzene (µg/L) - TW	2016/01/10	<MDL 0.36	No
1,2-Dichloroethane (µg/L) - TW	2016/01/10	<MDL 0.35	No
1,1-Dichloroethylene (µg/L) - TW	2016/01/10	<MDL 0.33	No
Dichloromethane (Methylene Chloride) (µg/L) - TW	2016/01/10	<MDL 0.35	No
2,4-Dichlorophenol (µg/L) - TW	2016/01/10	<MDL 0.15	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (µg/L) - TW	2016/01/10	<MDL 0.19	No
Diclofop-methyl (µg/L) - TW	2016/01/10	<MDL 0.4	No
Dimethoate (µg/L) - TW	2016/01/10	<MDL 0.03	No
Diquat (µg/L) - TW	2016/01/10	<MDL 1.0	No
Diuron (µg/L) - TW	2016/01/10	<MDL 0.03	No
Glyphosate (µg/L) - TW	2016/01/10	<MDL 1.0	No
Malathion (µg/L) - TW	2016/01/10	<MDL 0.02	No
Metolachlor (µg/L) - TW	2016/01/10	<MDL 0.01	No
Metribuzin (µg/L) - TW	2016/01/10	<MDL 0.02	No
Monochlorobenzene (Chlorobenzene) (µg/L) - TW	2016/01/10	<MDL 0.3	No
Paraquat (µg/L) - TW	2016/01/10	<MDL 1.0	No
PCB (µg/L) - TW	2016/01/10	<MDL 0.04	No
Pentachlorophenol (µg/L) - TW	2016/01/10	<MDL 0.15	No
Phorate (µg/L) - TW	2016/01/10	<MDL 0.01	No
Picloram (µg/L) - TW	2016/01/10	<MDL 1.0	No
Prometryne (µg/L) - TW	2016/01/10	<MDL 0.03	No
Simazine (µg/L) - TW	2016/01/10	<MDL 0.01	No
Terbufos (µg/L) - TW	2016/01/10	<MDL 0.01	No
Tetrachloroethylene (µg/L) - TW	2016/01/10	<MDL 0.35	No
2,3,4,6-Tetrachlorophenol (µg/L) - TW	2016/01/10	<MDL 0.2	No
Triallate (µg/L) - TW	2016/01/10	<MDL 0.01	No
Trichloroethylene (µg/L) - TW	2016/01/10	<MDL 0.44	No
2,4,6-Trichlorophenol (µg/L) - TW	2016/01/10	<MDL 0.25	No
Trifluralin (µg/L) - TW	2016/01/10	<MDL 0.02	No
Vinyl Chloride (µg/L) - TW	2016/01/10	<MDL 0.17	No
Trihalomethane: Total (µg/L) Annual Average - DW	2017 (Quarterly)	7.05	No
HAA Total (µg/L) Annual Average - DW	2017 (Quarterly)	5.3	n/a

NOTE: Schedule 23, Schedule 24, Sodium and Fluoride are scheduled to be taken every 60 months. The most recent Schedule 24 was sampled in January 2016, the next Schedule 24 is scheduled for January 2021.

**Table 7. List any Inorganic or Organic parameter(s) that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards.**

Parameter	Result Value	Unit of Measure	Date of Sample
Fluoride	1.3	mg/L	2017/01/09

NOTE: This is required only if DWS category is large municipal residential, small municipal residential, large municipal non-residential, small municipal non-residential, large non municipal non-residential)