Drinking-Water Systems Regulation O. Reg. 170/03

Part III Form 2
Section 11.ANNUAL REPORT.

Drinking-Water System Number:	**220002618**
Drinking-Water System Name:	**Teeswater Water System**
Drinking-Water System Owner:	**Municipality Of South Bruce**
Drinking-Water System Category:	**Large Municipal Residential**
Period being reported:	**January 1, 2024 to December 31, 2024**

Complete if your Category is Large Municipal Residential or Small Municipal Residential	***Complete for all other Categories.***
Does your Drinking-Water System serve more than 10,000 people? Yes [ ] No [X] **Is your annual report available to the public at no charge on a website on the Internet? Yes [X] No [ ]** **Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.** Municipality of South Bruce **Administration Office** **21 Gordon Street East** **Teeswater, Ontario**	**Number of Designated Facilities served:** **Did you provide a copy of your annual report to all Designated Facilities you serve?** **Yes [ ] No [ ]** **Number of Interested Authorities you report to:** **Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility?** **Yes [ ] No [ ]**

Note: For the following tables below, additional rows or columns may be added or an appendix may be attached to the report

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

Drinking Water System Name	Drinking Water System Number
N/A	N/A

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?
Yes [x] No [ ]

Indicate how you notified system users that your annual report is available, and is free of charge.

[X] Public access/notice via the web
[X] Public access/notice via Government Office
[X] 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

Describe your Drinking-Water System

The Teeswater Water System was established in 1947; however, the original well was replaced in 1996 with a new 330 mm diameter, 85 meter deep drilled well. The artesian aquifer into which the well has been drilled provides enough head that the system does not require a well pump to provide the required water to the pumphouse.
The pumphouse contains 3 pumps to maintain pressure in the distribution system. The pump house has a chlorine board with 2 chemical pumps capable of automatic switch over. There is also a diesel generator with auto transfer, and a diesel pump as a back-up. Data is stored on the PLC which gathers information as per MOE requirements. This data is printed off daily and kept at the pumphouse. It records chlorine residual, turbidity, flow,pressure and any alarms that occur. It also creates a daily summary sheet and a monthly report.
Prior to entering the distribution system, the water is treated by adding a disinfectant (sodium hypochlorite also known a chlorine) to protect against microbial contaminants. Residual chlorine levels are maintained in the water distribution system to effectively provide disinfection throughout the entire system.
The drilled well supplies the consumers with groundwater. The well is located outside the pumphouse on the east side of County Road #4 (Clinton Street) and south of the Teeswater River in the former Village of Teeswater within the Municipality of South Bruce. The well casing extends approximately 900 mm above ground.

List all water treatment chemicals used over this reporting period

Sodium Hypochlorite

Were any significant expenses incurred to?

[ ] Install required equipment
[ ] Repair required equipment
[ ] Replace required equipment

Please provide a brief description and a breakdown of monetary expenses incurred

N/A

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	Corrective Action Date
July 7, 2024 AWQI# 165484	Low Chlorine	**0.08**	**mg/L**	Flowmeter stopped working from approx. 4:25pm-6:30pm, causing flow-based chlorine pumps to not output. Flowmeter resumed working, increased pace factor for flow-based. Checked residual at 6 locations, lowest was 0.85mg/L	**July 7, 2024**
Oct. 4, 2024 AWQI# 166575	Loss of proper chlorine monitoring	**-**	**mg/L**	Loss of proper chlorine monitoring from 10:13am Oct. 4/24 - 9:26am Oct. 5/24. The cause was the chlorine analyser being left in the calibration setting. The Analyzer was taken out of calibration mode, then properly calibrated. No issues found. Checked residual at 4 locations, the lowest residual was 1.34mg/L	**Oct. 5, 2024**

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

	# of E.Coli & Total Coliform Samples	Range of E.Coli Results (# - #)	Range of Total Coliform Results (# - #)	# of HPC Samples	Range of HPC Results (# - #)
Raw	53	0 – 0	0 – 0		
Treated (Pumphouse tap point Entry)	53	0 – 0	0 - 0	53	<10 - 30
Distribution	170	0 – 0	0 – 0	53	<10 - 30

Operational testing done under Schedule 7, 8 or 9 of Regulation 170/03 during the period covered by this Annual Report.

	Raw Water (hand held)		Pumphouse		Pumphouse Tap (point of Entry)		Distribution System	
	# grab samples	Range of Results (#-#)	# grab samples	Range of Results (#-#)	# grab samples	Range of Results (#-#)	# grab samples	Range of Results (#-#)
Turbidity	53	0.08-0.33 NTU	366 (Ana.)	0.04-0.50 NTU	53	0.05-0.30 NTU	149	0.08-0.81 NTU
Free Chlorine (hand held)	N/A	N/A	366 (Ana.)	0.94-3.02	260	0.93-2.20	461	0.76-2.20

__NOTE__: Record the unit of measure if it is __not__ milligrams per litre.

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	Date Sampled	Result	Unit of Measure
N/A				

Summary of Inorganic parameters tested during this reporting period or the most recent sample results (Well #3)

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alkalinity	Jan. 9, 2024 Jul. 9, 2024	257 270	mg/L	No
Antimony	Jan. 9, 2024	<0.6	ug/L	No
Arsenic	Jan. 9, 2024	<0.2	ug/L	No
Barium	Jan. 9, 2024	220	ug/L	No
Boron	Jan. 9, 2024	9	ug/L	No
Cadmium	Jan. 9, 2024	0.004	ug/L	No
Chromium	Jan. 9, 2024	0.14	ug/L	No
Lead (Distribution)	Jan. 20, 2023 Jul. 11, 2023	0.08 0.38	ug/L	No
Lead 15.1	Jan. 20, 2023 Jul. 11, 2023	0.08 0.38	ug/L	No
Mercury	Jan. 9, 2024	<0.1	ug/L	No
Selenium	Jan. 9, 2024	1.72	ug/L	No
Sodium every 5 years next 2026	Jan. 19, 2021	3.59	mg/L	No
Uranium	Jan. 9, 2024	2.77	ug/L	No
Fluoride every 5 years next 2026	Jan. 19, 2021	0.33	mg/L	No
Nitrate 1	Jan. 9, 2024	2.20	mg/L	No
2	Apr. 9, 2024	2.00	mg/L	No
3	Jul. 9, 2024	1.86	mg/L	No
4	Oct. 8, 2024	1.58	mg/L	No
Nitrite 1	Jan. 9, 2024	<0.003	mg/L	No
2	Apr. 9, 2024	<0.003	mg/L	No
3	Jul. 9, 2024	<0.003	mg/L	No
4	Oct. 8, 2024	<0.003	mg/L	No

Summary of Organic parameters sampled during this reporting period or the most recent sample results (Well #3)

Parameter	Sample Date	Results Value	Unit of Measure	Exceedance
Alachlor	Jan. 9, 2024	<0.02	ug/L	No
Atrazine + N-dealkylated metabolites	Jan. 9, 2024	<0.01	ug/L	No
Azinphos-methyl	Jan. 9, 2024	<0.05	ug/L	No
Benzene	Jan. 9, 2024	<0.32	ug/L	No
Benzo(a)pyrene	Jan. 9, 2024	<0.004	ug/L	No
Bromoxynil	Jan. 9, 2024	<0.33	ug/L	No
Carbaryl	Jan. 9, 2024	<0.05	ug/L	No
Carbofuran	Jan. 9, 2024	<0.01	ug/L	No
Carbon Tetrachloride	Jan. 9, 2024	<0.17	ug/L	No
Chlorpyrifos	Jan. 9, 2024	<0.02	ug/L	No
Diazinon	Jan. 9, 2024	<0.02	ug/L	No
Dicamba	Jan. 9, 2024	<0.20	ug/L	No
1,2-Dichlorobenzene	Jan. 9, 2024	<0.41	ug/L	No
1,4-Dichlorobenzene	Jan. 9, 2024	<0.36	ug/L	No
1,2-Dichloroethane	Jan. 9, 2024	<0.19	ug/L	No
1,1-Dichloroethylene (vinylidene chloride)	Jan. 9, 2024	<0.41	ug/L	No
Dichloromethane	Jan. 9, 2024	<0.33	ug/L	No
2-4 Dichlorophenol	Jan. 9, 2024	<0.35	ug/L	No
2.4-Dichlorophenylacetic Acid	Jan. 9, 2024	<0.19	%	No
2,4-D (2,4-Dichlorophenoxy acetic acid)	Jan. 9, 2024	<0.40	ug/L	No
Diclofop-methyl	Jan. 9, 2024	<0.06	ug/L	No
Dimethoate	Jan. 9, 2024	<1.0	ug/L	No
Diquat	Jan. 9, 2024	<0.03	ug/L	No
Diuron	Jan. 9, 2024	<1.0	ug/L	No
Glyphosate	Jan. 9, 2024	<0.02	ug/L	No
HAA (Haloacetic Acid)	Jan. 9, 2024 Apr. 9, 2024 Jul. 9, 2024 Oct. 8, 2024	<5.30 <5.30 <5.30 <5.30	ug/L	No
Malathion	Jan. 9, 2024	<0.02	ug/L	No
MCPA (2-Methyl-4-chlorophenoxyacetic acid)	Jan. 9, 2024	<0.00012	ug/L	No
Metolachlor	Jan. 9, 2024	<0.01	ug/L	No
Metribuzin	Jan. 9, 2024	<0.02	ug/L	No
Monochlorobenzene	Jan. 9, 2024	<0.3	ug/L	No
Paraquat	Jan. 9, 2024	<1.0	ug/L	No
Pentachlorophenol	Jan. 9, 2024	<0.15	ug/L	No
Phorate	Jan. 9, 2024	<0.01	ug/L	No
Picloram	Jan. 9, 2024	<1.0	ug/L	No
Polychlorinated Biphenyls (PCB)	Jan. 9, 2024	<0.04	ug/L	No
Prometryne	Jan. 9, 2024	<0.03	ug/L	No
Simazine	Jan. 9, 2024	<0.01	ug/L	No
THM	**2024 Average**	2.40	ug/L	No

(Note: show latest annual average)				
Terbufos	Jan. 9, 2024	<0.01	ug/L	No
Tetrachloroethylene	Jan. 9, 2024	<0.35	ug/L	No
2,3,4,6-Tetrachlorophenol	Jan. 9, 2024	<0.20	ug/L	No
Triallate	Jan. 9, 2024	<0.01	ug/L	No
Trichloroethylene	Jan. 9, 2024	<0.44	ug/L	No
2,4,6-Trichlorophenol	Jan. 9, 2024	<0.25	ug/L	No
Trifluralin	Jan. 9, 2024	<0.02	ug/L	No
Vinyl Chloride	Jan. 9, 2024	<0.17	ug/L	No

***N.D. = Not Detected**

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
NA			