

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, 2017 to December 31, 2017

<p><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></p> <p>Does your Drinking-Water System serve more than 10,000 people? Yes [] No [X]</p> <p>Is your annual report available to the public at no charge on a web site on the Internet? Yes [X] No []</p> <p>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> Municipality of South Bruce Administration Office 21 Gordon Street East Teeswater, Ontario </div>	<p><u>Complete for all other Categories.</u></p> <p>Number of Designated Facilities served:</p> <p>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [] No []</p> <p>Number of Interested Authorities you report to:</p> <p>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [] No []</p>
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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.

- 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**

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 pumphouse has a chlorineboard 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 as 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

Replacement of High Lift Pump #1

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
Oct. 17/17	Low Chlorine Residual AWQI # 137358	<0.16	mg/L	Repaired the damaged fitting on the chlorine system. Flushed the blow off for the chlorine contact system to remove as much unchlorinated water as possible. Check the distribution residual at 5 locations. the minimum distribution residual was 0.99 mg/L.	Oct. 17/17

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	52	0 - 1	0 - 41		
Treated (Pumphouse tap point Entry)	52	0 - 0	0 - 0	52	0 - 4
Distribution	156	0 - 0	0 - 0	52	0 - 6

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	52	0.05-0.15 NTU	365(Ana.)	0.06-0.14 NTU	52	0.06-0.15 NTU	155	0.05-0.20 NTU
Free Chlorine (hand held)	N/A	N/A	365 (Ana.)	1.09-1.84	287	1.05-1.80	470	0.64-1.86

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
January 1, 2017	HAA (Haloacetic Acid)	Apr. 11, 2017	5.3 <MDL	ug/L
		May 26, 2017	5.3 <MDL	
		Jul. 18, 2017	5.3 <MDL	
		Oct. 24, 2017	5.3 <MDL	

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
Antimony	Jan. 20, 2015	<0.10	ug/L	No
Arsenic	Jan. 20, 2015	1.1	ug/L	No
	Nov. 17, 2015	0.4		
	Nov. 24, 2015	0.5		
Barium	Jan. 20, 2015	271	ug/L	No
Boron	Jan. 20, 2015	8	ug/L	No
Cadmium	Jan. 20, 2015	0.04	ug/L	No
Chromium	Jan. 20, 2015	<2	ug/L	No
Lead (Distribution)	Jan. 17, 2017	0.33	ug/L	No
Mercury	Jan. 20, 2015	<0.02	ug/L	No
Selenium	Jan. 20, 2015	4.0	ug/L	No
	Nov. 17, 2015	3.0		
	Nov. 24, 2015	3.0		
Sodium every 5 years next 2021	Jan. 19/16	3.30	mg/L	No
Uranium	01/20/15	1.44	ug/L	No
Fluoride every 5 years next 2021	Jan. 19, 2016	0.40	mg/L	No
	April 19, 2016	0.40		
Nitrite	1 Jan. 17, 2017	0.300	mg/L	No
	2 Apr. 18, 2017	<0.10	mg/L	No
	3 July 18, 2017	<0.10	mg/L	No
	4 Oct. 24, 2017	<0.10	mg/L	No
Nitrate	1 Jan. 17, 2017	1.70	mg/L	No
	2 Apr. 18, 2017	1.60	mg/L	No
	3 July 18, 2017	1.80	mg/L	No
	4 Oct. 24, 2017	1.60	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. 20/15	<0.3	ug/L	No
Aldicarb	Jan. 20/15	<3.0	ug/L	No
Aldrin + Dieldrin	Jan. 20/15	<0.02	ug/L	No
Atrazine + N-dealkylated metabolites	Jan. 20/15	<0.5	ug/L	No
Azinphos-methyl	Jan. 20/15	<1.0	ug/L	No
Bendiocarb	Jan. 20/15	<3.0	ug/L	No
Benzene	Jan. 20/15	<0.5	ug/L	No
Benzo(a)pyrene	Jan. 20/15	<0.005	ug/L	No
Bromoxynil	Jan. 20/15	<0.3	ug/L	No
Carbaryl	Jan. 20/15	<3.0	ug/L	No
Carbofuran	Jan. 20/15	<1.0	ug/L	No
Carbon Tetrachloride	Jan. 20/15	<0.2	ug/L	No
Chlordane (Total)	Jan. 20/15	<0.04	ug/L	No
Chlorpyrifos	Jan. 20/15	<0.5	ug/L	No
Cyanazine	Jan. 20/15	<0.5	ug/L	No
Diazinon	Jan. 20/15	<1.0	ug/L	No
Dicamba	Jan. 20/15	<5.0	ug/L	No
1,2-Dichlorobenzene	Jan. 20/15	<0.10	ug/L	No
1,4-Dichlorobenzene	Jan. 20/15	<0.2	ug/L	No
Dichlorodiphenyltrichloroethane (DDT) + metabolites	Jan. 20/15	<0.01	ug/L	No
1,2-Dichlorethane	Jan. 20/15	<0.10	ug/L	No
1,1-Dichloroethylene (vinylidene chloride)	Jan. 20/15	<0.10	ug/L	No
Dichloromethane	Jan. 20/15	<0.3	ug/L	No
2-4 Dichlorophenol	Jan. 20/15	<0.10	ug/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	Jan. 20/15	<5.0	ug/L	No
Diclofop-methyl	Jan. 20/15	<0.50	ug/L	No
Dimethoate	Jan. 20/15	<1.0	ug/L	No
Dinoseb	Jan. 20/15	<0.5	ug/L	No
Diquat	Jan. 20/15	<5	ug/L	No
Diuron	Jan. 20/15	<5.0	ug/L	No
Glyphosate	Jan. 20/15	<25	ug/L	No
Heptachlor + Heptachlor Epoxide	Jan. 20/15	<0.1	ug/L	No
Lindane (Total)	Jan. 20/15	<0.1	ug/L	No
Malathion	Jan. 20/15	<5.0	ug/L	No
Methoxychlor	Jan. 20/15	<0.1	ug/L	No
Metolachlor	Jan. 20/15	<3.0	ug/L	No
Metribuzin	Jan. 20/15	<3.0	ug/L	No
Monochlorobenzene	Jan. 20/15	<0.2	ug/L	No
Paraquat	Jan. 20/15	<1	ug/L	No
Parathion	Jan. 20/15	<3.0	ug/L	No
Pentachlorophenol	Jan. 20/15	<0.1	ug/L	No
Phorate	Jan. 20/15	<0.3	ug/L	No
Picloram	Jan. 20/15	<5.0	ug/L	No

Polychlorinated Biphenyls (PCB)	Jan. 20/15	<0.05	ug/L	No
Prometryne	Jan. 20/15	<0.10	ug/L	No
Simazine	Jan. 20/15	<0.5	ug/L	No
THM (Note: show latest annual average)	2017 Average	1.18	ug/L	
Temephos	Jan. 20/15	<10	ug/L	No
Terbufos	Jan. 20/15	<0.3	ug/L	No
Tetrachloroethylene	Jan. 20/15	<0.2	ug/L	No
2,3,4,6-Tetrachlorophenol	Jan. 20/15	<0.1	ug/L	No
Triallate	Jan. 20/15	<10	ug/L	No
Trichloroethylene	Jan. 20/15	<0.10	ug/L	No
2,4,6-Trichlorophenol	Jan. 20/15	<0.10	ug/L	No
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	Jan. 20/15	<10	ug/L	No
Trifluralin	Jan. 20/15	<0.5	ug/L	No
Vinyl Chloride	Jan. 20/15	<0.2	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
N/A	N/A	N/A	N/A

(Only if DWS category is large municipal residential, small municipal residential, large municipal non residential, non municipal year round residential, large non municipal non residential)