

ANNUAL REPORT

ONTARIO REGULATION 170/03
SECTION 11

BAXTER DISTRIBUTION SYSTEM



FOR THE PERIOD:
JANUARY 1, 2021 – DECEMBER 31, 2021

*Prepared for the Corporation of the Township of Essa
by the Ontario Clean Water Agency*



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

Drinking-Water System Number:	260086866
Drinking-Water System Name:	Baxter Distribution System
Drinking-Water System Owner:	The Corporation of the Township of Essa
Drinking-Water System Category:	Small Municipal Residential
Period being reported:	January 1, 2021 to December 31, 2021

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

Summary Report is available for inspection at the Township of Essa Municipal Office at 5786 Simcoe County Road 21, Utopia, Essa Township, ON, L0M 1T0 or on the following website: <http://www.essatownship.on.ca>

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
Not Applicable	Not Applicable

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?

Not Applicable

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

Description of Drinking-Water System:

On November 21, 2007, the Baxter drinking water system was switched over to the treated water transmission main (pipeline) from Collingwood to Alliston. The Raymond A. Barker Ultrafiltration Plant (RAB) in Collingwood supplies safe drinking water through the pipeline to the Baxter Facility. Modifications to the chlorination system enable re-chlorination of the treated water in the pipeline prior to filling the storage tank. Treated water from Collingwood is monitored by an online free chlorine analyzer in the pumphouse. An above-ground water storage tank provides a storage capacity of 300 m³ and is equipped with a separate fill and discharge pipe. Two (2) high lift distribution pumps with VFD (one duty and one standby) are connected to the storage tank discharge pipe. An online free chlorine analyzer monitors the treated water from the storage tank.

A “dry hydrant” is provided for fire truck filling or for filling the storage tank (hauled water) if the pipeline was down for maintenance and is unavailable. The system is alarmed for numerous parameters and monitored by Huronia Alarms in Midland, Ontario. The Baxter Distribution System is equipped with a 35 kW generator and auto switch-over to provide stand-by power in the event of a power failure.

List of water treatment chemicals used during the reporting period:

- Sodium Hypochlorite 12% Solution NSF, Primary Disinfection

Significant expenses incurred to:

- Install required equipment
- Purchase required equipment
- Repair required equipment
- Replace required equipment

Description of significant expenses incurred:

1. [Not Applicable for this reporting period](#)

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 (yyyy/mm/dd)	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date (yyyy/mm/dd)
Not Applicable					

Table 1: Microbiological testing done under the Schedule 11 of Regulation 170/03 during this reporting period.

Location	Number of Samples	Range of E. Coli or Fecal Results		Range of Total Coliform Results		Number of HPC Samples	Range of HPC Samples	
		Min	Max	Min	Max		Min	Max
Treated – TW*	13	0	0	0	0	13	10	10
Distribution - DW	52	0	0	0	0	52	<10	30

*Treated Water from Storage Tank

Table 2: Operational testing done under Schedule 7 of Regulation 170/03 during the period covered by this Annual Report.

Location & Test	Number of Samples	Range of Results	
		Minimum	Maximum
Free Chlorine Residual, Treated (Continuous) [mg/L]	8760	0.00*	1.42
Free Chlorine Residual, Treated (Grab) [mg/L]	161	0.9	1.59
Total Chlorine Residual, Treated (Grab) [mg/L]	161	1.04	1.79
Free Chlorine Residual, Distribution (Grab) [mg/L]	55	0.83	1.43

Note: The number of samples used for continuous monitoring units is 8760.

*Low chlorine residual values are due to analyzer calibration and maintenance activities. No water was directed to users at this time.

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 Legal Instrument Issued	Parameter	Date Sampled	Result	Unit of Measure
Not Applicable				

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

Parameter	Sample Date (yyyy/mm/dd)	Sample Result	Maximum Allowable Concentration (MAC)	Exceedances	
				MAC	½ MAC
Antimony: Sb (µg/L)					
Arsenic: As (µg/L)					
Barium: Ba (µg/L)					
Boron: B (µg/L)					
Cadmium: Cd (µg/L)					
Chromium: Cr (µg/L)					
Mercury: Hg (µg/L)					
Selenium: Se (µg/L)					
Uranium: U (µg/L)					
Fluoride: F (mg/L)					
Nitrite (mg/L)					
Nitrate (mg/L)					
Sodium: Na (mg/L)					

Please refer to the Collingwood Drinking Water System Annual Compliance Report for 2021. It is located at the following website: <https://www.collingwood.ca/town-services/water-sewer-services>

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

Location Type	Number of Samples	Range of Lead Results		MAC	Exceedances
		Minimum	Maximum		
Lead – Plumbing (µg/L)	Not Applicable - Relief from all Plumbing Requirements*				
Lead – Distribution (µg/L) **	2	0.23	3.28	10	0

Note: The Alkalinity results for 2021 ranged from 72 and 73 mg/L as CaCO₃. pH results for 2021 ranged from 7.3 to 8.41. The aesthetic objective/operational guideline for pH is 6.5-8.5.

*This system qualifies for the plumbing exemption as per O. Regulation 170/03 Schedule 15.1-5 (9) (10).

**Distribution lead samples are taken every 36 months, last set of lead sampling was completed in 2021. Next set of lead sampling is scheduled for 2024.



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

Parameter	Sample Date (yyyy/mm/dd)	Sample Result	Maximum Allowable Concentration (MAC)	Exceedances	
				MAC	½ MAC
Alachlor (µg/L)					
Atrazine + N-dealkylated metabolites (µg/L)					
Azinphos-methyl (µg/L)					
Benzene (µg/L)					
Benzo(a)pyrene (µg/L)					
Bromoxynil (µg/L)					
Carbaryl (µg/L)					
Carbofuran (µg/L)					
Carbon Tetrachloride (µg/L)					
Chlorpyrifos (µg/L)					
Diazinon (µg/L)					
Dicamba (µg/L)					
1,2-Dichlorobenzene (µg/L)					
1,4-Dichlorobenzene (µg/L)					
1,2-Dichloroethane (µg/L)					
1,1-Dichloroethylene (µg/L)					
Dichloromethane (Methylene Chloride) (µg/L)					
2,4-Dichlorophenol (µg/L)					
2,4-Dichlorophenoxy acetic acid (2,4-D) (µg/L)					
Diclofop-methyl (µg/L)					
Dimethoate (µg/L)					
Diquat (µg/L)					
Diuron (µg/L)					
Glyphosate (µg/L)					
Malathion (µg/L)					
Metolachlor (µg/L)					
Metribuzin (µg/L)					
Monochlorobenzene (Chlorobenzene) (µg/L)					
Paraquat (µg/L)					
PCB (µg/L)					
Pentachlorophenol (µg/L)					
Phorate (µg/L)					
Picloram (µg/L)					
Prometryne (µg/L)					
Simazine (µg/L)					
Terbufos (µg/L)					

Please refer to the Collingwood Drinking Water System Annual Compliance Report for 2021. It is located at the following website: <https://www.collingwood.ca/town-services/water-sewer-services>

Parameter	Sample Date (yyyy/mm/dd)	Sample Result	Maximum Allowable Concentration (MAC)	Exceedances	
				MAC	½ MAC
Tetrachloroethylene (µg/L)					
2,3,4,6-Tetrachlorophenol (µg/L)					
Triallate (µg/L)					
Trichloroethylene (µg/L)					
2,4,6-Trichlorophenol (µg/L)					
Trifluralin (µg/L)					
Vinyl Chloride (µg/L)					
Trihalomethane: Total Annual Average (µg/L) - DW	4 Quarters of 2021	55.00	100.00	No	Yes
Haloacetic Acid: Total Annual Average (µg/L) - DW	4 Quarters of 2021	31.83	80.00	No	No

Table 7: List of 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
Trihalomethane: Total Annual Average	55.0	µg/L	4 Quarters of 2021

Please refer to the Town of Collingwood website for any further ½ MAC exceedances.