

ANNUAL REPORT

Drinking-Water System Number: 260002616
Drinking-Water System Name: Cainsville Distribution System
Drinking-Water System Owner: County of Brant
Drinking-Water System Category: Small Municipal - Residential
Period being reported: January 1, 2021 to December 31, 2021

Complete if your Category is Large Municipal Residential or Small Municipal Residential:

Does your Drinking-Water System serve more than 10,000 people? Yes No

Is your annual report available to the public at no charge on a web site on the Internet? Yes No

Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection:
County of Brant Administration Office (26 Park Ave., Burford, ON).

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

None

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

- Yes
- No
- 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: Notice on water bill.

Describe your Drinking-Water System

The Cainsville Distribution System operated by the County of Brant is a water distribution system. Water is purchased from the City of Brantford.

The interface between the City and County water distribution systems is a water meter and flow control valve located at 1050 Colborne St. East. Flow from Brantford is controlled by the level in a 1500 cubic meter elevated storage tank located at 27 Ewart Avenue. When the level in the tank reaches a certain preset elevation, the flow control valve opens allowing flow from the Brantford water distribution system to enter the Cainsville system. The valve closes when the tank is full. When the valve is open, water is fed directly into the distribution system and into the elevated tank. When the valve is closed, water in the distribution system is fed solely from the tank.

A monochloramine residual is carried in the distribution system for secondary disinfection.

The distribution system services approximately 47 residential and 163 commercial units.

List all water treatment chemicals used over this reporting period

See Note 1 on page 7.

Were any significant expenses incurred to?

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

Brief description and a breakdown of monetary expenses incurred:

PLC Upgrade (shared cost between all Brant water systems) – \$100K

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
2021/07/01	Total Coliform	1	CFU	Took a resample, as well as bacti samples up and downstream of the resample. All three samples showed no Total Coliform.	2021/07/01

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

	# of Samples	Range of E.Coli or Fecal Results (cfu/100ml)	Range of Total Coliform Results (cfu/100ml)	Range of BKG Results (cfu/100ml)	# of HPC Samples	Range of HPC Results (cfu/1ml)
Raw	See Note 1	-	-	-	-	-
Treated	See Note 1	-	-	-	-	-
Distribution	62	0-0	0-1	0-6	61	0-350

Note: The number of HPC samples is less than total number of samples as a result reported for HPC was “NDCS = No Data: Contamination Suspected”. Reference to contamination could be to lab error as HPC is a separate test and other tests from the same sample suggested no concerns. The result was not repeated on subsequent tests.

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

	Number of Grab Samples	Range of Results
Turbidity	See Note 1	
Combined Chlorine Distribution - Grab (daily distribution & flushing + bacti sampling)	454	0.78-2.15
Fluoride (If the DWS provides fluoridation)	See Note 1	

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

Summary of additional testing and sampling carried out in accordance with the requirements of an approval, order or other legal instrument

Date of legal instrument issued	Parameter	Date Sampled	Result	Unit of Measure
None				

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

Parameter	Sample Date (mm/dd/yy)	Result Value	Unit of Measure	Exceedance
Antimony	See Note 1			
Arsenic	See Note 1			
Barium	See Note 1			
Boron	See Note 1			
Cadmium	See Note 1			
Chromium	See Note 1			
Mercury	See Note 1			
Selenium	See Note 1			
**Sodium See Note 2	07/28/20	59	mg/l	Yes
	*07/31/20	65	mg/l	Yes
Uranium	See Note 1			
Fluoride	See Note 1			
Nitrite	See Note 1			

Parameter	Sample Date (mm/dd/yy)	Result Value	Unit of Measure	Exceedance
Nitrate	See Note 1			

*Re-sample result.

**Sodium must be reported every 57 months only and was last reported in July of 2020.

Summary of lead testing under Schedule 15.1 during this reporting period

(Applicable to the following drinking-water systems; large municipal residential systems, small municipal residential systems, and non-municipal year-round residential systems)

Location Type	Date (mm/dd/yy)	Number of Samples	Range of Lead Results (min#) – (max#)	Number of Exceedances
Plumbing	Not Required			
Distribution	Not Required			

*Note: Lead results expressed in mg/L.

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

Parameter	Sample Date (mm/dd/yy)	Result Value	Unit of Measure	Exceedance
1,1-Dichloroethylene (vinylidene chloride)	See Note 1			
1,2-Dichlorobenzene	See Note 1			
1,2-Dichloroethane	See Note 1			
1,4-Dichlorobenzene	See Note 1			
2,3,4,6-Tetrachlorophenol	See Note 1			
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	See Note 1			
2,4,6-Trichlorophenol	See Note 1			
2,4-Dichlorophenoxy acetic acid (2,4-D)	See Note 1			
2-4 Dichlorophenol	See Note 1			
Alachlor	See Note 1			
Aldicarb	See Note 1			
Aldrin + Dieldrin	See Note 1			
Atrazine + N-dealkylated metabolites	See Note 1			
Azinphos-methyl	See Note 1			
Bendiocarb	See Note 1			

Parameter	Sample Date (mm/dd/yy)	Result Value	Unit of Measure	Exceedance
Benzene	See Note 1			
Benzo(a)pyrene	See Note 1			
Bromoxynil	See Note 1			
Carbaryl	See Note 1			
Carbofuran	See Note 1			
Carbon Tetrachloride	See Note 1			
Chlordane (Total)	See Note 1			
Chlorpyrifos	See Note 1			
Cyanazine	See Note 1			
Diazinon	See Note 1			
Dicamba	See Note 1			
Dichlorodiphenyltrichloroethane (DDT) + metabolites	See Note 1			
Dichloromethane	See Note 1			
Diclofop-methyl	See Note 1			
Dimethoate	See Note 1			
Dinoseb	See Note 1			
Diquat	See Note 1			
Diuron	See Note 1			
Glyphosate	See Note 1			
Heptachlor + Heptachlor Epoxide	See Note 1			
Linadane (Total)	See Note 1			
Malathion	See Note 1			
Methoxychlor	See Note 1			
Metolachlor	See Note 1			
Metribuzin	See Note 1			
Monochlorobenzene	See Note 1			
Paraquat	See Note 1			
Parathion	See Note 1			

Parameter	Sample Date (mm/dd/yy)	Result Value	Unit of Measure	Exceedance
Pentachlorophenol	See Note 1			
Phorate	See Note 1			
Picloram	See Note 1			
Polychlorinated Biphenyls (PCB)	See Note 1			
Prometryne	See Note 1			
Simazine	See Note 1			
Temephos	See Note 1			
Terbufos	See Note 1			
Tetrachloroethylene	See Note 1			
THM Total (distribution)				
HYD @ 14 Papple Rd.	02/11/21	27.4	µg/l	No
HYD 1-053 Brant School Rd.	05/05/21	38.4	µg/l	No
Hyd 1-036 Prince Charles Rd.	08/04/21	41.5	µg/l	No
27 Ewart Ave, Tower	11/02/21	35.2	µg/l	No
Total Haloacetic Acids (distribution)				
HYD 1-002 Colborne St.	02/11/21	<5.0	µg/l	No
HYD 1-002 Colborne St.	05/05/21	5.7	µg/l	No
HYD 1-002 Colborne St.	08/04/21	6.2	µg/l	No
HYD 1-002 Colborne St.	11/02/21	16	µg/l	No
Triallate	See Note 1			
Trichloroethylene	See Note 1			
Trifluralin	See Note 1			
Vinyl Chloride	See Note 1			

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 (mm/dd/yy)
None			

Note 1:

The Cainsville Water Supply System is a water distribution system only. The water is purchased from the City of Brantford. The County tests for the regulatory requirements for a distribution system. These requirements include testing for lead, sodium, HAA, THM, bacteria, and disinfectant residual.

The regulatory testing of raw and treated water is carried out by the City of Brantford for their Holmedale Water Treatment Plant. Results of the testing and other information regarding water treatment can be found at the City of Brantford website www.brantford.ca.

Note 2:

As a result of a sodium test result reported in 2006 the Brant County Health Unit asked that the County continue to monitor sodium concentrations and provide annual notice to the consumers regarding the results. As such the following notice will be distributed in the 2022 water bills:

“The levels of sodium in the water are of interest because at higher levels it can impart a salty taste to the water and persons on sodium reduced diets need to know the sodium levels in the drinking water so that they can monitor their sodium intake. Specifically, the Technical Support Document for Ontario Drinking Water – Standards, Objectives and Guidelines, Ministry of the Environment, June 2006, indicates the following regarding sodium:

“Sodium (inorganic)

The aesthetic objective for sodium in drinking water is 200 mg/L at which it can be detected by a salty taste. Sodium is not toxic. Consumption of sodium in excess of 10 grams per day by normal adults does not result in any apparent adverse health effects. In addition, the average intake of sodium from water is only a small fraction of that consumed in a normal diet. A maximum acceptable concentration for sodium in drinking water has, therefore, not been specified. Persons suffering from hypertension or congestive heart disease may require a sodium restricted diet, in which case, the intake of sodium from drinking water could become significant. It is therefore recommended that the measurement of sodium levels be included in routine monitoring programs of water supplies. The local Medical Officer of Health should be notified when the sodium concentration exceeds 20 mg/L, so that this information may be passed on to local physicians.

Softening using a domestic water softener increases the sodium level in drinking water and may contribute a significant percentage to the daily sodium intake for a consumer on a sodium restricted diet. It is recommended that a separate un-softened supply be retained for cooking and drinking purposes.”

As the main source of sodium in the drinking water is believed to be road salt, the concentrations of sodium varies seasonally. The annual average reported for 2021 is 64.5 mg/L, based on eight (8) samples including a max result of 81.6 mg/L.

Those who are hypertensive or on a sodium-reduced diet should consult with their physician about this matter. There should be no concern for healthy individuals. For perspective, consider that you would have to drink approximately 155 liters of water in one day containing 64.5 mg/L of sodium to consume 10 grams of sodium.

According to the above noted protocol, the County has notified the Medical Officer of Health who in turn requested that this notice be provided annually to all consumers of water from the Cainsville Distribution System so that those who do not go to local physicians are advised of the matter.

For further information regarding the County of Brant’s municipal water refer to the County’s website at ww.brant.ca/waterservices or call the Water Division in Public Works at 519-449-2451.

For health related information please call the Brant County Health Unit at 519-753-4937.

Regards,

Alex Davison, P.Eng., AMCT – Director of Environmental Services
County of Brant”

The results reported of 2021 testing from the City of Brantford distribution indicates an average annual sodium concentration of 64.5 mg/L.

Date (mm/dd/yy)	POE Sodium (mg/L)	Distribution Sodium (mg/L)
02/10/21	81.6	74.0
05/11/21	59.6	60.1
08/21/21	72.4	67.4
11/17/21	49.1	51.8

Total Annual Average = 64.5 mg/L

There should be no concern for healthy individuals. For perspective, while most diets contain other sources of sodium, consider that you would have to drink approximately 155 litres of water in one day containing 64.5 mg/l of sodium to consume 10 grams of sodium.