

ANNUAL REPORT

Drinking-Water System Number: 210000069
Drinking-Water System Name: Mt. Pleasant Drinking Water System
Drinking-Water System Owner: County of Brant
Drinking-Water System Category: Large Municipal - Residential
Period being reported: January 1, 2018 to December 31, 2018

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 in water bill.

Describe your Drinking-Water System

The Mount Pleasant Drinking Water System consists of:

- a) Two drilled wells completed in the overburden each equipped with a vertical turbine pump capable of pumping 26.5 l/s each (the Permit To Take Water restricts pumping from both wells simultaneously to a maximum of 26.5 l/s);
- b) A sodium hypochlorite dosing system to provide disinfection via chlorination;

- c) Two (2) pressure filters for iron and manganese removal complete with backwash system;
- d) Two single cell baffled water storage reservoirs with useable storage of 450 m³ and 1,450 m³ respectively;
- e) Two 25 L/s and two 12.5 L/s high lift pumps;
- f) A maximum rated capacity of 2,290 m³/day;
- g) Bulk water fill station; and
- h) The distribution system that services approx. 659 residences and 22 commercial accounts.

Emergency standby power for full capacity of the station is provided by a 350 kw diesel motor powered generator.

All equipment is located at 328 Ellis Avenue. This is a rural area with residences immediately to the north and east and agricultural lands to the south and west.

A municipal boundary change, effective January 1, 2017, transferred lands east of Phelps Road (Tutela Heights area) from the County of Brant to the City of Brantford. An agreement between the County and City provides that the County will continue to own and operate the municipal water distribution system in the transferred lands. It is envisioned that this arrangement will continue for approximately 5 years until the City of Brantford upgrades its water supply system to service this area.

List all water treatment chemicals used over this reporting period

12 % Sodium Hypochlorite Solution

Were any significant expenses incurred to?

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

Brief description and a breakdown of monetary expenses incurred:

Maintenance work of Well 1 \$30k
 Maintenance work of Well 2 \$20k

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
None					

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 Well 1	48	0-0	0-0	0-108	48	<10-20
Raw Well 2	47	0-1*	0-1*	0-16	47	<10-10
Treated	52	0-0	0-0	0-12	52	<10-30
Distribution	156	0-0	0-0	0-0	156	<10-440

*E.Coli and Total Coliform hits were not present in next sampling event

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 Well 1–Raw Manual	11	0.02NTU-0.12NTU*
Turbidity Well 2–Raw Manual	12	0.04NTU – 0.15NTU
Free Chlorine – Treated Online	8760	0.70-1.13
Free Chlorine – Daily Distribution Grab & Flushing + Bacti sampling	731	0.30-1.12
Fluoride (If the DWS provides fluoridation)	Not applicable	Not applicable

NOTE: Record the unit of measure if it is not milligrams per litre.

For continuous monitors use 8760 as the number of samples.

*Well #1 taken offline for inspection and service November 27, 2018 and put back online January 11th, 2019.

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

Parameter	Sample Date (mm/dd/yy)	Result Value	Unit of Measure	Exceedance
Antimony	01/02/18	<0.00050	mg/l	No
Arsenic	01/02/18	<0.0010	mg/l	No
Barium	01/02/18	0.040	mg/l	No
Boron	01/02/18	0.012	mg/l	No
Cadmium	01/02/18	<0.00010	mg/l	No
Chromium	01/02/18	<0.0050	mg/l	No
Mercury	01/02/18	<0.0001	mg/l	No

Parameter	Sample Date (mm/dd/yy)	Result Value	Unit of Measure	Exceedance
Selenium	01/02/18	<0.0020	mg/l	No
Uranium	01/02/18	0.00096	mg/l	No
Fluoride	01/02/18	0.13	mg/l	No
Sodium * See Note 1 on Page 8	01/02/18	62	mg/l	Yes
Nitrite	02/05/18	<0.010	mg/l	No
	05/10/18	<0.010	mg/l	No
	08/02/18	<0.010	mg/l	No
	11/01/18	<0.010	mg/l	No
Nitrate	02/05/18	0.91	mg/l	No
	05/10/18	0.21	mg/l	No
	08/02/18	1.25	mg/l	No
	11/01/18	0.57	mg/l	No
Nitrate + Nitrite	02/05/18	0.91	mg/l	No
	05/10/18	0.21	mg/l	No
	08/02/18	1.25	mg/l	No
	11/01/18	0.57	mg/l	No

*Sodium only needs to be reported every 57 months and it was last reported in December of 2016.

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			

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

Parameter	Sample Date (mm/dd/yy)	Result Value	Unit of Measure	Exceedance
1,1-Dichloroethylene	01/02/18	<0.10	µg/l	No
1,2-Dichlorobenzene	01/02/18	<0.20	µg/l	No

Parameter	Sample Date (mm/dd/yy)	Result Value	Unit of Measure	Exceedance
1,2-Dichloroethane	01/02/18	<0.20	µg/l	No
1,4-Dichlorobenzene	01/02/18	<0.20	µg/l	No
2,3,4,6-Tetrachlorophenol	01/02/18	<0.50	µg/l	No
2,4,6-Trichlorophenol	01/02/18	<0.50	µg/l	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	01/02/18	<1.0	µg/l	No
2-4 Dichlorophenol	01/02/18	<0.25	µg/l	No
Alachlor	01/02/18	<0.50	µg/l	No
Aroclor 1016	01/02/18	<0.05	µg/l	No
Aroclor 1221	01/02/18	<0.05	µg/l	No
Aroclor 1232	01/02/18	<0.05	µg/l	No
Aroclor 1242	01/02/18	<0.05	µg/l	No
Aroclor 1248	01/02/18	<0.05	µg/l	No
Aroclor 1254	01/02/18	<0.05	µg/l	No
Aroclor 1260	01/02/18	<0.05	µg/l	No
Atrazine	01/02/18	<0.50	µg/l	No
Atrazine + N-dealkylated metabolites (Atrazine+Desethyl-atrazine)	01/02/18	<1.0	µg/l	No
Benzene	01/02/18	<0.10	µg/l	No
Benzo(a)pyrene	01/02/18	<0.0090	µg/l	No
Bromoxynil	01/02/18	<0.50	µg/l	No
Carbaryl	01/02/18	<5.0	µg/l	No
Carbofuran	01/02/18	<5.0	µg/l	No
Carbon Tetrachloride	01/02/18	<0.10	µg/l	No
Chlorobenzene	01/02/18	<0.10	µg/l	No
Chlorpyrifos	01/02/18	<1.0	µg/l	No
Desethyl-atrazine	01/02/18	<0.50	µg/l	No
Diazinon	01/02/18	<1.0	µg/l	No
Dicamba	01/02/18	<1.0	µg/l	No

Parameter	Sample Date (mm/dd/yy)	Result Value	Unit of Measure	Exceedance
Diclofop-methyl	01/02/18	<0.90	µg/l	No
Dimethoate	01/02/18	<2.5	µg/l	No
Diquat	01/02/18	<7.0	µg/l	No
Diuron	01/02/18	<10	µg/l	No
Glyphosate	01/02/18	<10	µg/l	No
Guthion	01/02/18	<2.0	µg/l	No
Malathion	01/02/18	<5.0	µg/l	No
MCPA	01/02/18	<10	µg/l	No
Methylene Chloride	01/02/18	<0.50	µg/l	No
Metolachlor	01/02/18	<0.50	µg/l	No
Metribuzin	01/02/18	<5.0	µg/l	No
Paraquat	01/02/18	<1.0	µg/l	No
Pentachlorophenol	01/02/18	<0.50	µg/l	No
Phorate	01/02/18	<0.50	µg/l	No
Picloram	01/02/18	<5.0	µg/l	No
Total PCB	01/02/18	<0.05	µg/l	No
Prometryne	01/02/18	<0.25	µg/l	No
Simazine	01/02/18	<1.0	µg/l	No
Terbufos	01/02/18	<0.50	µg/l	No
Tetrachloroethylene	01/02/18	<0.10	µg/l	No
THM Total (distribution)				
HYD 1-106 – Rosehill Ave.	02/05/18	6.62	µg/l	No
34 Woodside Dr.(sample station)	05/10/18	16.5	µg/l	No
265 Burch Rd. (sample station)	08/02/18	5.82	µg/l	No
HYD 1-100 Moore Blvd.	11/01/18	7.38	µg/l	No
Total haloacetic acids (distribution)				
HYD 1-001 Ellis Ave.	02/05/18	<5.0	µg/l	No
HYD 1-001 Ellis Ave.	05/10/18	<5.0	µg/l	No
Hydrant 1-001 Ellis Ave	08/02/18	<5.0	µg/l	No

Parameter	Sample Date (mm/dd/yy)	Result Value	Unit of Measure	Exceedance
Hydrant 1-001 Ellis Ave	11/01/18	<5.0	µg/l	No
Toluene	01/02/18	<0.20	µg/l	No
Triallate	01/02/18	<1.0	µg/l	No
Trichloroethylene	01/02/18	<0.10	µg/l	No
Trifluralin	01/02/18	<1.0	µg/l	No
Vinyl Chloride	01/02/18	<0.20	µg/l	No

Non regulatory RAW WATER samples were taken from Wells 1 and 2. The samples were taken to gain operational information and were analyzed for the parameters listed in the table below:

Parameter	Sample Date (mm/dd/yy)	Result Well 1	Result Well 2	Unit of Measure
Sulphate	02/01/18	64	64	mg/l
	05/08/18	64		mg/l
	05/23/18		65	mg/l
	08/01/18	69	66	mg/l
	11/02/18	70	70	mg/l
Chloride	02/01/18	130	70	mg/l
	05/08/18	100		mg/l
	05/23/18		74	mg/l
	08/01/18	130	68	mg/l
	11/02/18	130	67	mg/l
Nitrate	02/01/18	<0.10	1.53	mg/l
	05/08/18	0.22		mg/l
	05/23/18		2.92	mg/l
	08/01/18	<0.10	1.73	mg/l
	11/02/18	<1.10	1.33	mg/l
Sodium	02/01/18	78	41	mg/l
	05/08/18	67		mg/l
	05/23/18		37	mg/l
	08/01/18	80	40	mg/l
	11/02/18	80	79	mg/l

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:

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 was distributed with the June 2017 water bills:

“As part of the County’s ongoing municipal water quality assurance program the concentration of sodium is tested.

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, published by the Ministry of the Environment, 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.”

The results reported of 2017 testing indicate an average sodium concentration of 62.9 mg/L, based on eight (8) samples including a max results of 89 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 160 liters of water in one day containing 62.9 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 www.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 Water
County of Brant*

The results of 2018 testing indicate an average sodium concentration of 62.8 mg/L based on eight (8) samples including a maximum result of 80 mg/L. For perspective consider that you would have to drink approximately 160 liters of water in one day containing 62.8 mg/L of sodium to consume 10 grams of sodium.