

Part III Form 2

Section 11. ANNUAL REPORT.

Drinking-Water System Number:	2100001905
Drinking-Water System Name:	Mattawa Drinking Water System
Drinking-Water System Owner:	Town of Mattawa
Drinking-Water System Category:	Large Municipal - Residential
Date of Preparation of this Report:	February 21, 2018
Period being reported:	January 1, 2017 to December 31, 2017

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 [X]

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

Location where Report required under O. Reg. 170/03 Schedule 22 will be available

Town Hall at 160 Water Street and on the Municipal website at www.mattawa.ca

Complete for all other Categories.

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 []

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

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 [] No [x] None exist

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

- ☐ 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

Our system is a Class II Distribution & Supply system consisting of two deep drilled wells housed within one facility. The water is pumped into the distribution system to supply the distribution system's demand for water and fill our 690 Cubic Meter reservoir.

Primary disinfection is achieved by Ultra Violet Reactors. We chlorinate water as it enters the distribution system to maintain prescribed residuals in the distribution system, and to protect it from bacterial re-growth while in the distribution system on its way to users.

List all water treatment chemicals used over this reporting period

Sodium hypochlorite solution (12%).

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

➤Removed and refurbished Well Pump #1 (replaced rubber line shaft bearings and packing), cleaned and applied a protective coating, and inspected the well casing with CCTV. Well #1 was scoured with a brush and debris was air lifted and filtered out. Well Pump #1 was re-installed and tested. This routine maintenance cost was approximately \$50,000.

➤UV Reactor #2 failed on December 23, 2017. Although the UVR was not repaired until 2018, at the time of this report repairs were completed at a cost of approximately \$10,000 for parts and labour.

➤ A new Wachs valve exerciser was purchased in the spring of 2017 to assist in the distribution valve exercising and hydrant flushing program (\$50,000)

➤ Several upgrades were initiated to the in-ground water reservoir and water treatment plant through the Clean Water and Wastewater Fund (CWWF). Some of these items include:

- Building a three-season access road to the reservoir to facilitate inspections, etc.

- Installing a backup UPS system for telemetry at the reservoir to provide power for up to three days during power outages
- Improving telemetry between the reservoir and the waterplant by installing radios on the 3G network
- Installing a new free chlorine residual at the waterplant to improve operational performance during chlorine leaks or pump malfunctions
- Installation of a new chart recorder for trending and SCADA recording in the waterplant PLC

As of December 31, 2017 approximately \$75,000 has been spent with another \$130,000 budgeted to complete the upgrades

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
Dec 20/17	Distribution < 20 psi	n/a	n/a	Flushing / sampling	Dec 20/17

*AWQI# 138412: due to a major watermain break (ten inch cast iron), our entire reservoir was drained and the Mattawa experienced a town wide water outage. Operators immediately started the waterplant in manual mode and isolated the main break. Within one hour all services had full pressure. Approximately 15 hours later the main was repaired and all proper disinfection, flushing and sampling had been completed. There was no indication of contamination in the samples.

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

	Number of Samples	Range of E.Coli or Fecal Results (#-#)	Range of Total Coliform Results (#-#)	Number of HPC Samples	Range of HPC Results (#-#)
Raw	104	0 – 0	0 – 2	0	n/a
Treated	53	0 – 0	0 – 0	52	0 – 10
Distribution	157	0 – 0	0 – 0	36	0 – 4

Operational testing done under Schedule 7, 8 or 9 during the period covered by this Annual Report.

	Number of Grab Samples	Range of Results (#-#)
Turbidity (Raw) #1	12	0.07 to 0.11
Turbidity (Raw) #2	12	0.20 to 0.23
Chlorine (Dist.)	365	0.20 - 1.69

NOTE: For continuous monitors use 8760 as the number of samples.

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

Fluoride (If the DWS provides fluoridation)	N / A	N / A
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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 or order.

Date of order or C of A	Parameter	Date Sampled	Result	Unit of Measure

Summary of Lead Test parameters, per Schedule 15.1 of O.Reg. 170/03 sampled during this reporting period or most recent

Parameter	Sample #	Sample Date	Result Value	Unit of Measure	Exceedance
Lead	1	April 11/17	0.0003	mg/L	No
	2	April 11/17	< 0.0001	mg/L	No
	1	Oct 10/17	0.0004	mg/L	No
	2	Oct 10/17	0.0002	mg/L	No
Ph	1	April 11/17	6.65		
	2	April 11/17	6.85		
	1	Oct 10/17	7.16		
	2	Oct 10/17	6.84		
Alkalinity	1	April 11/17	47.7	mg/L	No
	2	April 11/17	47.9	mg/L	No
	1	Oct 10/17	44.6	mg/L	No
	2	Oct 10/17	44.2	mg/L	No

Summary of Inorganic parameters, per Schedule 23 of O.Reg. 170/03, tested during this reporting period or most recent

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	July 28 / 15	<0.0005	mg/L	No
Arsenic	July 28 / 15	<0.001	mg/L	No
Barium	July 28 / 15	0.03	mg/L	No
Boron	July 28 / 15	0.01	mg/L	No
Cadmium	July 28 / 15	<0.0001	mg/L	No
Chromium	July 28 / 15	<0.001	mg/L	No
Mercury	July 28 / 15	<0.0001	mg/L	No
Selenium	July 28 / 15	<0.001	mg/L	No
Uranium	July 28 / 15	<0.001	mg/L	No
Fluoride	January 16/13	.069	mg/L	No
Sodium	January 16/13	13	mg/L	No
Nitrite	Jan. 17 / 17	<0.007	mg/L	No
	Apr. 11 / 17	<0.007	mg/L	No
	July 11 / 17	<0.007	mg/L	No
	Oct. 10 / 17	<0.1	mg/L	No
Nitrate	Jan. 17 / 17	1.67	mg/L	No
	Apr. 11 / 17	1.33	mg/L	No
	July 11 / 17	1.50	mg/L	No
	Oct. 10 / 17	1.51	mg/L	No

Summary of Organic parameters, per Schedule 24 of O.Reg. 170/03 sampled during this reporting period or most recent

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	July 28 / 15	<0.0005	mg/L	No
Aldicarb*	July 28 / 15	<0.009	mg/L	No
Aldrin + Dieldrin	July 28 / 15	<0.000012	mg/L	No
Atrazine + N-dealkylated metabolites	July 28 / 15	<0.0002	mg/L	No
Azinphos-methyl	July 28 / 15	<0.002	mg/L	No
Bendiocarb	July 28 / 15	<0.002	mg/L	No
Benzene	July 28 / 15	<0.0005	mg/L	No
Benzo(a)pyrene*	July 28 / 15	<0.00001	mg/L	No
Bromoxynil	July 28 / 15	<0.0005	mg/L	No
Carbaryl	July 28 / 15	<0.005	mg/L	No
Carbofuran	July 28 / 15	<0.005	mg/L	No
Carbon Tetrachloride	July 28 / 15	<0.0002	mg/L	No
Chlordane (Total)	July 28 / 15	<0.000018	mg/L	No
Chlorpyrifos	July 28 / 15	<0.001	mg/L	No
Cyanazine	July 28 / 15	<0.001	mg/L	No
Diazinon	July 28 / 15	<0.001	mg/L	No
Dicamba	July 28 / 15	<0.001	mg/L	No
1,2-Dichlorobenzene	July 28 / 15	<0.0004	mg/L	No
1,4-Dichlorobenzene	July 28 / 15	<0.0004	mg/L	No
Dichlorodiphenyltrichloroethane (DDT) + metabolites	July 28 / 15	<0.000024	mg/L	No
1,2-Dichloroethane	July 28 / 15	<0.0002	mg/L	No
1,1-Dichloroethylene (vinylidene chloride)	July 28 / 15	<0.0005	mg/L	No
Dichloromethane	July 28 / 15	<0.004	mg/L	No
2,4 Dichlorophenol	July 28 / 15	<0.0005	mg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	July 28 / 15	<0.001	mg/L	No
Diclofop-methyl	July 28 / 15	<0.0009	mg/L	No
Dimethoate	July 28 / 15	<0.0025	mg/L	No
Dinoseb	July 28 / 15	<0.001	mg/L	No
Diquat	July 28 / 15	<0.005	mg/L	No
Diuron	July 28 / 15	<0.01	mg/L	No
Glyphosate	July 28 / 15	<0.01	mg/L	No
Heptachlor + Heptachlor Epoxide	July 28 / 15	<0.000012	mg/L	No
Lindane (Total)	July 28 / 15	<0.000006	mg/L	No
Malathion	July 28 / 15	<0.005	mg/L	No
Methoxychlor	July 28 / 15	<0.000006	mg/L	No
Metolachlor	July 28 / 15	<0.001	mg/L	No
Metribuzin	July 28 / 15	<0.005	mg/L	No
Monochlorobenzene	July 28 / 15	<0.0002	mg/L	No
Paraquat	July 28 / 15	<0.001	mg/L	No
Parathion	July 28 / 15	<0.001	mg/L	No
Pentachlorophenol	July 28 / 15	<0.0005	mg/L	No
Phorate	July 28 / 15	<0.0005	mg/L	No
Picloram	July 28 / 15	<0.005	mg/L	No
Polychlorinated Biphenyls(PCB)	July 28 / 15	<0.0001	mg/L	No
Prometryne	July 28 / 15	<0.00025	mg/L	No
Simazine	July 28 / 15	<0.001	mg/L	No
THM: latest quarterly average (See table below for details)	Avg for 2017	0.0170	mg/L	No
HAA:: latest quarterly average (See table below for details)	Avg for 2017	<0.002	mg/L	No
Temephos	July 28 / 15	<0.01	mg/L	No
Terbufos	July 28 / 15	<0.0004	mg/L	No

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

Tetrachloroethylene	July 28 / 15	<0.0003	mg/L	No
2,3,4,6-Tetrachlorophenol	July 28 / 15	<0.0005	mg/L	No
Triallate	July 28 / 15	<0.001	mg/L	No
Trichloroethylene	July 28 / 15	<0.0003	mg/L	No
2,4,6-Trichlorophenol	July 28 / 15	<0.0005	mg/L	No
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	July 28 / 15	<0.001	mg/L	No
Trifluralin	July 28 / 15	<0.001	mg/L	No
Vinyl Chloride	July 28 / 15	<0.0002	mg/L	No

THM	1 st Quarter Result	2 nd Quarter Result	3 rd Quarter Result	4th Quarter Result	Unit of Measure	Exceedance
Date Sampled	Jan 17-2017	Apr 11-2017	Jul 11-2017	Oct 10-2017		
Bromodichloromethane	0.0007	0.0060	0.0014	0.0007	mg/L	No
Bromoform	< 0.0005	< 0.0005	< 0.0005	< 0.0005	mg/L	No
Chloroform	0.0013	0.0519	0.0018	0.0013	mg/L	No
Dibromochloromethane	0.0006	< 0.0005	0.0015	0.0008	mg/L	No
Total Trihalomethanes	0.0027	0.0579	0.0046	0.0028	mg/L	No
Total Trihalomethanes 4 Quarter Average (for 2017)				0.0170	mg/L	No

Haloacetic Acids (HHA's)	1 st Quarter Result	2 nd Quarter Result	3 rd Quarter Result	4th Quarter Result	Unit of Measure	Exceedance
Date Sampled	n/a	n/a	n/a	Oct 19-2017		
(Mono) Bromoacetic Acid	n/a	n/a	n/a	< 0.002	mg/L	No
(Mono) Chloroacetic Acid	n/a	n/a	n/a	< 0.002	mg/L	No
Bromochloroacetic Acid	n/a	n/a	n/a	< 0.002	mg/L	No
Dibromoacetic Acid	n/a	n/a	n/a	< 0.002		
Cichloroacetic Acid	n/a	n/a	n/a	< 0.002		
Trichloroacetic Acid	n/a	n/a	n/a	< 0.002	mg/L	No
Total Haloacetic Acids				< 0.002	mg/L	No
Total Haloacetic Acids 4 Quarter Average (for 2017)				< 0.002	mg/L	No

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	M.A.C.
*Aldicarb	<0.009	mg/L	July 28 / 15	0.009 mg/L
*Benzo(a)pyrene	<0.00001	mg/L	July 28 / 15	0.00001 mg/L

*Sample results marked with an asterisk from the table above indicate results less than lab detection levels. However, these lab detection levels are equivalent to the MOE Maximum Acceptable Concentration.

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