



February 2023

Mayor Harold McQuaker and Council
The Corporation of the Township of Emo
P.O. Box 520
Emo, Ontario
P0W 1E0

Re: O. Regulation 170 - 2022 Section 11 Annual Report for the Emo Drinking-Water System

Ontario's Drinking-Water Systems Regulation (O.Reg. 170/03), made under the *Safe Drinking Water Act, 2002*, requires that the owner of a drinking water system prepare an annual report on the operation of the system and the quality of its water.

The annual report must cover the period of January 1st to December 31st in a year and *must be prepared not later than February 28th* of the following year. Pursuant to the legislative requirements, enclosed for your records is the 2022 Annual Report for the Emo Drinking-Water System.

Pursuant to the legislative requirements, Section 11 (6): the annual report must:

- (a) contain a brief description of the drinking-water system, including a list of water treatment chemicals used by the system during the period covered by the report;
- (b) summarize any reports made to the Ministry under subsection 18 (1) of the Act or section 16-4 of Schedule 16 during the period covered by the report;
- (c) summarize the results of tests required under this Regulation, or an approval or order, including an OWRA order, during the period covered by the report and, if tests required under this Regulation in respect of a parameter were not required during that period, summarize the most recent results of tests of that parameter;
- (d) describe any corrective actions taken under Schedule 17 or 18 during the period covered by the report;
- (e) describe any major expenses incurred during the period covered by the report to install, repair or replace required equipment; and
- (f) in the case of a large municipal residential system or a small municipal residential system, include a statement of where a report prepared under Schedule 22 will be available for inspection under subsection 12 (4). O. Reg. 170/03, s. 11 (6)

In addition, Section 11 (7) gives the direction that a copy of an annual report for the system is given, without charge, to every person who requests a copy and be made available for inspection by any member of the public during normal business hours. The report should be made available at the office of the municipality, or at a location that is accessible to the users of the water system.

Yours truly,



Ty Maurice
Senior Operations Manager
Northwestern Ontario Regional Hub
807-938-5067

Copy to: Crystal Gray – Interim CAO/Clerk-Treasurer
Operations Staff – Emo Water Treatment

2022 Section 11 Annual Report

Emo Drinking Water System

February 2023

Prepared by the



Ontario Clean Water Agency
Agence Ontarienne Des Eaux



Section 11 ANNUAL REPORT

Drinking-Water System Number:	210000657
Drinking-Water System Name:	Emo Drinking Water System
Drinking-Water System Owner:	The Corporation of the Township of Emo
Drinking-Water System Category:	Large Municipal Residential Drinking Water-System
Period being reported:	January 1 – December 31, 2022

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 on a web site on the Internet? Yes [x] No []

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

Emo Municipal Office 39 Roy Street Emo, Ontario POW 1E0
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Complete for all other Categories.

Number of Designated Facilities served:

N/A

Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [] No []

Number of Interested Authorities you report to:

N/A

Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [] No []

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:

x

Drinking Water System Name	Drinking Water System Number
N/A	N/A



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

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 []

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 (Municipal)

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 Emo Drinking Water System consists of a conventional filtration surface water treatment plant and the distribution mains. The Township draws water from the Rainy River through a 300mm screened intake pipe, extending approximately 100m off-shore and pumps the raw water to the water treatment plant via low lift pump station.

Raw water entering the plant is injected with coagulant and a polymer prior to entering a combined flocculation/sedimentation tank. Clarified water is directed to two media anthracite/sand gravity filters. Chlorine, as a gas solution, is added to the filter effluent and sodium carbonate is added for pH control upstream of three high lift pumps prior to directing treated water to the distribution system.

Sludge from the clarifiers and plant wastewater is pumped to the Township of Emo sewage system.

List all water treatment chemicals used over this reporting period

- Chlorine gas
- Sodium carbonate
- Alum
- Polymer
- 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

Install	Repair	Replace	Description	Expense
		X	SCADA system replacement – Started in 2022, Completed early 2023	\$35,000.00
X			Chlorine vacuum switches	\$5,250.00
X			Chemical system alarms	\$4,500.00
	X		Turbidity analyzer spare parts and consumables	\$1,800.00

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
July 13 2022	Raw water sample mislabeled as Treated Water, TC 8 and EC 4 recorded.			Resample	July 19 2022
December 3 2022	Water Main break, 40 residence and 7 commercial sites affected			Collect 2 bacti sample at three locations 24 hours apart: each end of main affected and one in the middle	December 9 2022

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

	Number of Samples	Range of E.Coli Or Fecal Results (min #)-(max #)	Range of Total Coliform Results (min #)-(max #)	Number of HPC Samples	Range of HPC Results (min #)-(max #)
Raw	54	0 – 25	0 – 1000	N/A	N/A
Treated	54	0 – 0	0 – 0	54	10 – 1590
Distribution	130	0 – 0	0 – 0	130	10 – 30



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 (min #)-(max #)
Turbidity*		
Treated	232	0.27 – 1.06 NTU
Filter 1	8760	0.00 – 2.61 NTU
Filter 2	8760	0.01 – 3.00 NTU
Chlorine*		
Distribution	8760	0.579 – 3.47
Fluoride (If the DWS provides fluoridation)	N/A	N/A

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

** Turbidity & chlorine Min/Max (lows/highs) are due to planned maintenance and not plant upset.*

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
N/A	N/A	N/A	N/A	N/A

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	2022/02/02	< 0.5	µg/L	No
Arsenic	2022/02/02	< 1.0	µg/L	No
Barium	2022/02/02	< 8.0	µg/L	No
Boron	2022/02/02	< 2.0	µg/L	No
Cadmium	2022/02/02	< 0.1	µg/L	No
Chromium	2022/02/02	< 1.0	µg/L	No
*Lead	Refer to Summary Table Below			
Mercury	2022/02/02	< 0.1	µg/L	No
Selenium	2022/02/02	< 0.2	µg/L	No



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

Sodium	2022/10/17	16.3	mg/L	No
Uranium	2022/02/02	< 1.0	µg/L	No
Fluoride	2022/10/17	< 0.02	mg/L	No
Nitrite	2022/02/02	< 0.01	mg/L	No
	2022/04/06	< 0.01	mg/L	No
	2022/07/04	< 0.01	mg/L	No
	2022/10/31	< 0.01	mg/L	No
Nitrate	2022/02/02	0.07	mg/L	No
	2022/04/06	0.13	mg/L	No
	2022/07/04	< 0.02	mg/L	No
	2022/10/31	0.04	mg/L	No

*only for drinking water systems testing under Schedule 15.2; this includes large municipal non-residential systems, small municipal non-residential systems, non-municipal seasonal residential systems, large non-municipal non-residential systems, and small non-municipal non-residential systems

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	Number of Samples	Range of Lead Results (min#) – (max #)	Number of Exceedances
Plumbing	N/A	N/A	N/A
Distribution	N/A	N/A	N/A

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	2022/02/02	< 0.234	µg/L	No
Atrazine	2022/02/02	< 0.234	µg/L	No
Atrazine & Metabolites	2022/02/02	< 0.5	µg/L	No
Azinphos-methyl	2022/02/02	< 0.175	µg/L	No
Benzene	2022/02/02	< 0.1	µg/L	No
Benzo(a)pyrene	2022/02/02	< 0.009	µg/L	No
Bromoxynil	2022/02/02	< 0.0093	µg/L	No
Carbaryl	2022/02/02	< 3.0	µg/L	No



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

Carbofuran	2022/02/02	< 4.0	µg/L	No
Carbon Tetrachloride	2022/02/02	< 0.2	µg/L	No
Chlorpyrifos	2022/02/02	< 0.175	µg/L	No
Diazinon	2022/02/02	< 0.175	µg/L	No
Dicamba	2022/02/02	< 0.082	µg/L	No
1,2-Dichlorobenzene	2022/02/02	< 0.3	µg/L	No
1,4-Dichlorobenzene	2022/02/02	< 0.3	µg/L	No
1,2-Dichloroethane	2022/02/02	< 0.3	µg/L	No
1,1-Dichloroethylene (vinylidene chloride)	2022/02/02	< 0.3	µg/L	No
Dichloromethane (Methylene Chloride)	2022/02/02	< 1.0	µg/L	No
2-4 Dichlorophenol	2022/02/02	< 0.2	µg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	2022/02/02	< 0.349	µg/L	No
Diclofop-methyl	2022/02/02	< 0.116	µg/L	No
Dimethoate	2022/02/02	< 0.175	µg/L	No
Diquat	2022/02/02	< 0.2	µg/L	No
Diuron	2022/02/02	< 10.0	µg/L	No
Glyphosate	2022/02/02	< 20.0	µg/L	No
Haloacetic acids (HAA) (NOTE: show latest annual average)	31-Oct-2022 2022 Average	88.0 58	ug/L ug/L	No
Malathion	2022/02/02	< 0.175	µg/L	No
Metolachlor	2022/02/02	< 0.117	µg/L	No
Metribuzin	2022/02/02	< 0.117	µg/L	No
Monochlorobenzene (Chlorobenzene)	2022/02/02	< 0.5	µg/L	No
Paraquat	2022/02/02	< 0.2	µg/L	No
Pentachlorophenol	2022/02/02	< 0.3	µg/L	No
Phorate	2022/02/02	< 0.117	µg/L	No
Picloram	2022/02/02	< 0.082	µg/L	No
Polychlorinated Biphenyls(PCB)	2022/02/02	< 0.05	µg/L	No
Prometryne	2022/02/02	< 0.058	µg/L	No
Simazine	2022/02/02	< 0.175	µg/L	No
THM (NOTE: show latest annual average)	31-Oct-2022 2022 Average	88.6 71.2	µg/L µg/L	No
Terbufos	2022/02/02	< 0.117	µg/L	No
Tetrachloroethylene	2022/02/02	< 0.3	µg/L	No
2,3,4,6-Tetrachlorophenol	2022/02/02	< 0.3	µg/L	No
Triallate	2022/02/02	< 0.117	µg/L	No
Trichloroethylene	2022/02/02	< 0.2	µg/L	No
2,4,6-Trichlorophenol	2022/02/02	< 0.2	µg/L	No
Trifluralin	2022/02/02	< 0.117	µg/L	No
Vinyl Chloride	2022/02/02	< 0.1	µg/L	No
MCPA	2022/02/02	< 5.82	µg/L	No



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

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
Sodium	16.3	mg/L	2022/10/17