



2022 SECTION 11 ANNUAL REPORT

ERIN
DRINKING WATER
SYSTEM

For the period of
January 1st, 2022 to December 31st, 2022

Prepared for the Corporation of the Town of Erin by the Ontario Clean Water Agency

TOWN OF
ERIN

 **ONTARIO CLEAN WATER AGENCY**
AGENCE ONTARIENNE DES EAUX

This report was prepared in accordance with the requirements of [O.Reg 170/03, Section 11, Annual reports](#) for the following system and reporting period:

Drinking-Water System Number:	220000013
Drinking-Water System Name:	Erin Drinking Water System
Drinking-Water System Owner:	The Corporation of the Town of Erin
Drinking-Water System Category:	Large Municipal Residential
Period being reported:	January 1, 2022 – December 31, 2022

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

Note: If a large municipal residential system serves more than 10,000 people, the owner of the system shall ensure that a copy of every report prepared under this section is available to the public at no charge on a website on the Internet. O. Reg. 170/03, Section 11. (10)

Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection (O.Reg 170/03, Section 11.(6)(f)):

- Town of Erin Office, 5684 Trafalgar Road, Hillsburgh, Ontario, N0B 1Z0
- <https://www.erin.ca/>

Note: this is required for large municipal residential systems or small municipal residential systems.

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
N/A	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?

N/A

How system users are notified that the 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:

Describe your Drinking-Water System (O.Reg 170/03, Section 11.(6)(a)):

The Erin Drinking Water System is classified as a Large Municipal Drinking Water System, servicing an approximate population of 3,000 persons. The system is comprised of two pumphouses and an elevated storage facility (water tower). The pumphouses include the Well 7 Pumphouse and Well 8 Pumphouse which draw water from two production wells.

The raw water for the Well 7 pumphouse is supplied from one drilled groundwater well (Well 7). The water pumped from the well is treated with gaseous chlorine (for primary and secondary disinfection). The treated water is stored in one baffled storage reservoir/chlorine contact chamber prior to entering the distribution system. Online equipment continuously monitors and records free chlorine residual and flowrates. The pumphouse is also equipped with standby power in the event of a power failure.

The raw water for the Well 8 pumphouse is supplied from one drilled groundwater well (Well 8). The water pumped from the well is treated with gaseous chlorine (for primary and secondary disinfection). The treated water is stored in one baffled storage reservoir/chlorine contact chamber prior to entering the distribution system. Online equipment continuously monitors and records free chlorine residual and flowrates. The pumphouse is also equipped with standby power in the event of a power failure.

List of water treatment chemicals used by the system during the reporting period (O.Reg 170/03, Section 11.(6)(a)):

- Gaseous Chlorine

Significant expenses were incurred to:

- | | |
|-------------------------------------|---------------------------------------|
| <input type="checkbox"/> | Install required equipment |
| <input checked="" type="checkbox"/> | Repair required equipment |
| <input checked="" type="checkbox"/> | Replace required equipment |
| <input type="checkbox"/> | No significant expenses were incurred |

Description of major expenses during the reporting period to install, repair or replace required equipment (O.Reg 170/03, Section 11.(6)(e)):

- Water Storage Tower – Interior Inspection/Exterior Wash
- Dual Electronic Scales for Chlorine Gas
- BelErin Building Renovation
- Chlorine Analyzer Replacements
- Water Meter Replacements
- C-Factor Testing
- Back Flow Preventors
- Hydro Flow Meter Purchase
- Locating Materials/Locator Pin Finder
- Repairs in Distribution System

Summary of any reports/notices submitted to the Ministry and/or Spills Action Centre in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 during the reporting period, including a description of any corrective actions taken under Schedule 17 or 18 (O.Reg 170/03, Section 11.(6)(b),(d):

Incident Date (yyyy/mm/dd)	Parameter/ Notice of	Result & Unit	Reporting Summary, Corrective Actions & Resolution
N/A	N/A	N/A	N/A

Table 1: Microbiological testing done under the Schedule 10 of Regulation 170/03 during this reporting period (O.Reg 170/03, Section 11.(6)(c)).

Location	Number of Samples	Range of E. Coli or Fecal Results		Range of Total Coliforms Results		Number of HPC Samples	Range of HPC Samples	
		Min.	Max.	Min.	Max.		Min.	Max.
Raw Water - Well E7	52	0	0	0	0	n/a	n/a	n/a
Raw Water - Well E8	52	0	0	0	0	n/a	n/a	n/a
Treated Water – Well E7	52	0	0	0	0	52	0	0
Treated Water – Well E8	52	0	0	0	0	52	0	0
Distribution Water ^{1A}	208	0	0	0	0	208	0	3

Note: HPC = Heterotrophic Plate Count

Note: Units for E.Coli or Fecal Results are cfu/100 mL, units for Total Coliform Results are cfu/100 mL, units for HPC results are cfu/1mL

The number of people served by the system is 3,000.

^{1A}As per O.Reg 170/03 Schedule 10-2.(a),(3) if the system serves 100,000 people or less, at least eight distribution samples, plus one additional distribution sample for every 1,000 people served by the system, are taken every month and at least 25% of the samples are tested for HPC

Table 2: Operational testing done under Schedule 7 of Regulation 170/03 during the period covered by this Annual Report (O.Reg 170/03, Section 11.(6)(c)).

Parameter & Location	Number of Samples	Range of Results	
		Min.	Max.
Turbidity (NTU) - Raw Water - Well E7	12	0.09	0.68
Turbidity (NTU) - Raw Water - Well E8	12	0.05	0.31
Free Chlorine Residual, On-Line (mg/L) – TW Well E7	8760	0.53	2.00
Free Chlorine Residual, On-Line (mg/L) – TW Well E8	8760	0.49	1.91
Free Chlorine Residual, In-House (mg/L) - DW	8760	0.48	2.11

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

Table 3: Summary of additional testing and sampling results carried out in accordance with the requirement of an approval, municipal drinking water licence or order (including OWRA) or other legal instrument. (O.Reg 170/03, Section 11.(6)(c))

Legal Instrument & Issue Date (yyyy/mm/dd)	Sample Location & Parameter	Sampling Frequency	Allowable Result	Actual Result
N/A	N/A	N/A	N/A	N/A

Table 4: Summary of Inorganic parameters tested during this reporting period or the most recent sample results (O.Reg 170/03, Section 11.(6)(c))

Parameter & Location	Sample Date (yyyy/mm/dd)	Sample Result	Maximum Allowable Concentration (MAC)	Exceedance of MAC
Antimony: Sb (µg/L) - TW7	2021/05/18	0.5	6.0	No
Antimony: Sb (µg/L) - TW8	2021/05/18	0.5	6.0	No
Arsenic: As (µg/L) - TW7	2021/05/18	1.0	10.0	No
Arsenic: As (µg/L) - TW8	2021/05/18	1.0	10.0	No
Barium: Ba (µg/L) - TW7	2021/05/18	34.0	1000.0	No
Barium: Ba (µg/L) - TW8	2021/05/18	47.0	1000.0	No
Boron: B (µg/L) - TW7	2021/05/18	17.0	5000.0	No
Boron: B (µg/L) - TW8	2021/05/18	13.0	5000.0	No
Cadmium: Cd (µg/L) - TW7	2021/05/18	0.09	5.0	No
Cadmium: Cd (µg/L) - TW8	2021/05/18	0.09	5.0	No
Chromium: Cr (µg/L) - TW7	2021/05/18	5.0	50.0	No
Chromium: Cr (µg/L) - TW8	2021/05/18	5.0	50.0	No
Mercury: Hg (µg/L) - TW7	2021/05/18	0.1	1.0	No
Mercury: Hg (µg/L) - TW8	2021/05/18	0.1	1.0	No
Selenium: Se (µg/L) - TW7	2021/05/18	2.0	50.0	No
Selenium: Se (µg/L) - TW8	2021/05/18	2.0	50.0	No
Uranium: U (µg/L) - TW7	2021/05/18	0.49	20.0	No
Uranium: U (µg/L) - TW8	2021/05/18	0.17	20.0	No
Additional Inorganics				
Fluoride (mg/L) - TW7	2018/05/09	0.20	1.5	No
Fluoride (mg/L) - TW8	2018/05/09	0.26	1.5	No
Nitrite (mg/L) - TW7	2022/01/19	0.01	1.0	No
Nitrite (mg/L) - TW7	2022/04/04	0.01	1.0	No
Nitrite (mg/L) - TW7	2022/07/13	0.01	1.0	No
Nitrite (mg/L) - TW7	2022/10/04	0.01	1.0	No
Nitrite (mg/L) - TW8	2022/01/19	0.01	1.0	No

Parameter & Location	Sample Date (yyyy/mm/dd)	Sample Result	Maximum Allowable Concentration (MAC)	Exceedance of MAC
Nitrite (mg/L) - TW8	2022/04/04	0.01	1.0	No
Nitrite (mg/L) - TW8	2022/07/13	0.01	1.0	No
Nitrite (mg/L) - TW8	2022/10/04	0.01	1.0	No
Nitrate (mg/L) - TW7	2022/01/19	0.1	10.0	No
Nitrate (mg/L) - TW7	2022/04/04	0.11	10.0	No
Nitrate (mg/L) - TW7	2022/07/13	0.12	10.0	No
Nitrate (mg/L) - TW7	2022/10/04	0.1	10.0	No
Nitrate (mg/L) - TW8	2022/01/19	0.1	10.0	No
Nitrate (mg/L) - TW8	2022/04/04	0.1	10.0	No
Nitrate (mg/L) - TW8	2022/07/13	0.1	10.0	No
Nitrate (mg/L) - TW8	2022/10/04	0.1	10.0	No

Parameter & Location	Sample Date (yyyy/mm/dd)	Sample Result	Aesthetic Objective (AO)	Exceedance	
				AO	> 20 mg/L
Sodium: Na (mg/L) – TW7	2018/05/09 ^{4A}	6.7	200 ^{4B}	No	No
Sodium: Na (mg/L) – TW8	2018/05/09 ^{4A}	5.1	200 ^{4B}	No	No

Note: MDL = Minimum Detection Limit

^{4A}Fluoride and Sodium are reportable every 60 months. The next set of fluoride and sodium samples is scheduled to be tested in 2023.

^{4B}There is no regulatory Maximum Allowable Concentration (MAC) Sodium. The aesthetic objective (AO) for sodium in drinking water is 200 mg/L. The local Medical Officer of Health should be notified when the sodium concentration exceeds 20 mg/L so that this information may be communicated to local physicians for their use with patients on sodium restricted diets.

Table 5: Summary of lead testing under Schedule 15.1 during this reporting period (O.Reg 170/03, Section 11.(6)(g))

Location/Type & Parameter	Number of Samples ^{5A}	Range of Results		Number of Lead Exceedances (MAC = 10 µ/L)
		Min.	Max.	
Period: January 1 to April 15				
Plumbing – Lead (µg/L) ^{5B}	N/A	N/A	N/A	0
Distribution – Lead (µg/L) ^{5C}	3	0.50	4.30	0
Distribution – Alkalinity (mg/L as CaCO ₃)	3	210	210	N/A
Distribution – pH	3	7.40	7.70	N/A

Period: June 15 to October 15				
Plumbing – Lead (µg/L) ^{5B}	N/A	N/A	N/A	0
Distribution – Lead (µg/L) ^{5C}	3	<0.50	<0.50	0
Distribution – Alkalinity (mg/L as CaCO ₃)	3	200	210	N/A
Distribution – pH	3	7.20	7.50	N/A
Period: December 15 to 31				
Plumbing – Lead (µg/L) ^{5B}	N/A	N/A	N/A	0
Distribution – Lead (µg/L) ^{5C}	N/A	N/A	N/A	0
Distribution – Alkalinity (mg/L as CaCO ₃)	N/A	N/A	N/A	N/A
Distribution - pH	N/A	N/A	N/A	N/A

Note: this is required for large municipal residential systems, small municipal residential systems or non-municipal year-round residential system.

^{5A}*This system follows a reduced sampling schedule (O.Reg 170/03, Section 15.1.5). The number of sampling points for the system is based on the population served by the system and therefore requires 3 distribution sampling points per sampling period.*

^{5B}*Plumbing samples are not applicable as this system qualifies for the plumbing exemption per O. Reg 170/03 Schedule 15.1-5 (9) (10).*

^{5C}*Distribution lead samples are taken every 36 months. The next set of distribution lead samples is scheduled to be sampled during the winter period of December 15, 2024 to April 15, 2025 and summer period of June 15, 2025 to October 15, 2025.*

Table 6: Summary of Organic parameters sampled during this reporting period or the most recent sample results (O.Reg 170/03, Section 11.(6)(c)).

Parameter & Location	Sample Date (yyyy/mm/dd)	Sample Result	Maximum Allowable Concentration (MAC)	Exceedance of MAC
Alachlor (µg/L) - TW7	2021/05/18	0.5	5.0	No
Alachlor (µg/L) - TW8	2021/05/18	0.5	5.0	No
Azinphos-methyl (µg/L) - TW7	2021/05/18	2.0	20.0	No
Azinphos-methyl (µg/L) - TW8	2021/05/18	2.0	20.0	No
Benzene (µg/L) - TW7	2021/05/18	0.1	1.0	No
Benzene (µg/L) - TW8	2021/05/18	0.1	1.0	No
Benzo(a)pyrene (µg/L) - TW7	2021/05/18	0.005	0.01	No
Benzo(a)pyrene (µg/L) - TW8	2021/05/18	0.005	0.01	No
Bromoxynil (µg/L) - TW7	2021/05/18	0.5	5.0	No
Bromoxynil (µg/L) - TW8	2021/05/18	0.5	5.0	No
Carbaryl (µg/L) - TW7	2021/05/18	5.0	90.0	No
Carbaryl (µg/L) - TW8	2021/05/18	5.0	90.0	No

Parameter & Location	Sample Date (yyyy/mm/dd)	Sample Result	Maximum Allowable Concentration (MAC)	Exceedance of MAC
Carbofuran (µg/L) - TW7	2021/05/18	5.0	90.0	No
Carbofuran (µg/L) - TW8	2021/05/18	5.0	90.0	No
Carbon Tetrachloride (µg/L) - TW7	2021/05/18	0.1	2.0	No
Carbon Tetrachloride (µg/L) - TW8	2021/05/18	0.1	2.0	No
Chlorpyrifos (µg/L) - TW7	2021/05/18	1.0	90.0	No
Chlorpyrifos (µg/L) - TW8	2021/05/18	1.0	90.0	No
Diazinon (µg/L) - TW7	2021/05/18	1.0	20.0	No
Diazinon (µg/L) - TW8	2021/05/18	1.0	20.0	No
Dicamba (µg/L) - TW7	2021/05/18	1.0	120.0	No
Dicamba (µg/L) - TW8	2021/05/18	1.0	120.0	No
1,2-Dichlorobenzene (µg/L) - TW7	2021/05/18	0.2	200.0	No
1,2-Dichlorobenzene (µg/L) - TW8	2021/05/18	0.2	200.0	No
1,4-Dichlorobenzene (µg/L) - TW7	2021/05/18	0.2	5.0	No
1,4-Dichlorobenzene (µg/L) - TW8	2021/05/18	0.2	5.0	No
1,2-Dichloroethane (µg/L) - TW7	2021/05/18	0.2	5.0	No
1,2-Dichloroethane (µg/L) - TW8	2021/05/18	0.2	5.0	No
1,1-Dichloroethylene (µg/L) - TW7	2021/05/18	0.1	14.0	No
1,1-Dichloroethylene (µg/L) - TW8	2021/05/18	0.1	14.0	No
Dichloromethane (Methylene Chloride) (µg/L) - TW7	2021/05/18	0.5	50.0	No
Dichloromethane (Methylene Chloride) (µg/L) - TW8	2021/05/18	0.5	50.0	No
2,4-Dichlorophenol (µg/L) - TW7	2021/05/18	0.25	900.0	No
2,4-Dichlorophenol (µg/L) - TW8	2021/05/18	0.25	900.0	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (µg/L) - TW7	2021/05/18	1.0	100.0	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (µg/L) - TW8	2021/05/18	1.0	100.0	No
Diclofop-methyl (µg/L) - TW7	2021/05/18	0.9	9.0	No
Diclofop-methyl (µg/L) - TW8	2021/05/18	0.9	9.0	No
Dimethoate (µg/L) - TW7	2021/05/18	2.5	20.0	No
Dimethoate (µg/L) - TW8	2021/05/18	2.5	20.0	No
Diquat (µg/L) - TW7	2021/05/18	7.0	70.0	No
Diquat (µg/L) - TW8	2021/05/18	7.0	70.0	No
Diuron (µg/L) - TW7	2021/05/18	10.0	150.0	No
Diuron (µg/L) - TW8	2021/05/18	10.0	150.0	No
Glyphosate (µg/L) - TW7	2021/05/18	10.0	280.0	No
Glyphosate (µg/L) - TW8	2021/05/18	10.0	280.0	No

Parameter & Location	Sample Date (yyyy/mm/dd)	Sample Result	Maximum Allowable Concentration (MAC)	Exceedance of MAC
Malathion (µg/L) - TW7	2021/05/18	5.0	190.0	No
Malathion (µg/L) - TW8	2021/05/18	5.0	190.0	No
Metolachlor (µg/L) - TW7	2021/05/18	0.5	50.0	No
Metolachlor (µg/L) - TW8	2021/05/18	0.5	50.0	No
Metribuzin (µg/L) - TW7	2021/05/18	5.0	80.0	No
Metribuzin (µg/L) - TW8	2021/05/18	5.0	80.0	No
Monochlorobenzene (Chlorobenzene) (µg/L) - TW7	2021/05/18	0.1	80.0	No
Monochlorobenzene (Chlorobenzene) (µg/L) - TW8	2021/05/18	0.1	80.0	No
Paraquat (µg/L) - TW7	2021/05/18	1.0	10.0	No
Paraquat (µg/L) - TW8	2021/05/18	1.0	10.0	No
PCB (µg/L) - TW7	2021/05/18	0.05	3.0	No
PCB (µg/L) - TW8	2021/05/18	0.05	3.0	No
Pentachlorophenol (µg/L) - TW7	2021/05/18	0.5	60.0	No
Pentachlorophenol (µg/L) - TW8	2021/05/18	0.5	60.0	No
Phorate (µg/L) - TW7	2021/05/18	0.5	2.0	No
Phorate (µg/L) - TW8	2021/05/18	0.5	2.0	No
Picloram (µg/L) - TW7	2021/05/18	5.0	190.0	No
Picloram (µg/L) - TW8	2021/05/18	5.0	190.0	No
Prometryne (µg/L) - TW7	2021/05/18	0.25	1.0	No
Prometryne (µg/L) - TW8	2021/05/18	0.25	1.0	No
Simazine (µg/L) - TW7	2021/05/18	1.0	10.0	No
Simazine (µg/L) - TW8	2021/05/18	1.0	10.0	No
Terbufos (µg/L) - TW7	2021/05/18	0.5	1.0	No
Terbufos (µg/L) - TW8	2021/05/18	0.5	1.0	No
Tetrachloroethylene (µg/L) - TW7	2021/05/18	0.1	10.0	No
Tetrachloroethylene (µg/L) - TW8	2021/05/18	0.1	10.0	No
2,3,4,6-Tetrachlorophenol (µg/L) - TW7	2021/05/18	0.5	100.0	No
2,3,4,6-Tetrachlorophenol (µg/L) - TW8	2021/05/18	0.5	100.0	No
Triallate (µg/L) - TW7	2021/05/18	1.0	230.0	No
Triallate (µg/L) - TW8	2021/05/18	1.0	230.0	No
Trichloroethylene (µg/L) - TW7	2021/05/18	0.1	5.0	No
Trichloroethylene (µg/L) - TW8	2021/05/18	0.1	5.0	No
2,4,6-Trichlorophenol (µg/L) - TW7	2021/05/18	0.5	5.0	No
2,4,6-Trichlorophenol (µg/L) - TW8	2021/05/18	0.5	5.0	No

Parameter & Location	Sample Date (yyyy/mm/dd)	Sample Result	Maximum Allowable Concentration (MAC)	Exceedance of MAC
2-methyl-4-chlorophenoxyacetic acid (MCPA) (µg/L) - TW7	2021/05/18	10.0	100.0	No
2-methyl-4-chlorophenoxyacetic acid (MCPA) (µg/L) - TW8	2021/05/18	10.0	100.0	No
Trifluralin (µg/L) - TW7	2021/05/18	1.0	45.0	No
Trifluralin (µg/L) - TW8	2021/05/18	1.0	45.0	No
Vinyl Chloride (µg/L) - TW7	2021/05/18	0.2	1.0	No
Vinyl Chloride (µg/L) - TW8	2021/05/18	0.2	1.0	No
Trihalomethane: Total (µg/L) Annual Average - DW	2022 Quarterly	3.59	100.0	No
HAA Total (µg/L) Annual Average - DW	2022 Quarterly	5.0	80.0	No

Note: MDL = Minimum Detection Limit, MAC = Maximum Allowable Concentration, TW = Treated Water, DW = Distribution Water

Table 7: List of Inorganic or Organic parameter(s) that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards for the reporting period.

Parameter	Result Value	Unit of Measure	Date of Sample
N/A	N/A	N/A	N/A