

2023 SECTION 11 ANNUAL REPORT

EAST LINTON
DRINKING WATER SYSTEM

For the period of:
JANUARY 1, 2023 TO DECEMBER 31, 2023

Prepared for the Township of Georgian Bluffs by the Ontario Clean Water Agency



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:	220007659
Drinking Water System Name:	East Linton Drinking Water System
Drinking Water System Owner:	Township of Georgian Bluffs
Drinking Water System Category:	Large Municipal Residential
Reporting Period:	January 1, 2023 – December 31, 2023

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 website 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)(5)):

- Georgian Bluffs Municipal Office, 177964 Grey Rd #18 RR#3, Owen Sound ON, N4K 5N5
- <https://www.georgianbluffs.ca/en/township-services/utilities-and-water.aspx>

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:

- | | |
|-------------------------------------|--|
| <input checked="" type="checkbox"/> | Public access/notice via the web |
| <input checked="" type="checkbox"/> | Public access/notice via Government Office |
| <input type="checkbox"/> | Public access/notice via a newspaper |
| <input checked="" type="checkbox"/> | Public access/notice via Public Request |

Public access/notice via a Public Library

Public access/notice via other method: _____

Note: The owner of a drinking water system shall ensure that a copy of an annual report for the system is given, without charge, to every person who requests a copy. ((O.Reg 170/03, Section 11.(7))

Description of Drinking Water System (O.Reg 170/03, Section 11.(6)(a)):

The East Linton Drinking Water System (DWS) is classified as a Class I Treatment and a Class II Distribution and categorized as a Large Municipal Residential Drinking Water System servicing an approximate population of 1,460 persons. The East Linton Drinking Water System is owned by the Corporation of the Township of Georgian Bluffs and operated by the Ontario Clean Water Agency (OCWA) in Georgian Bluffs, Ontario.

The East Linton DWS source water is supplied by Georgian Bay (surface water) via a low lift pumping station which provides pre-chlorination on an as needed basis for zebra mussel control. The water treatment facility consists of the following:

- Chlorination system (hypochlorite injected upstream of membrane filtration system)
- Membrane filtration system (2 units in parallel)
- UV disinfection system (3 reactors)
- Facility wide integrated process control system
- Waste residual management system (storage, re-treatment, disposal)
- Standby power generator set

A back-up power connection is installed at the low-lift building to bring in a portable generator (if required). A water tower is located in the distribution system and used to provide storage and pressure to the system.

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

- Sodium Hypochlorite, 12%
- Sodium Hydroxide
- Citric Acid

Significant expenses were incurred to:

- Install required equipment
 Repair required equipment
 Replace required equipment
 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)):

- Membrane backwash system air compressor replacement

- PALL skid valve replacement
- Miscellaneous distribution system repair parts

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 11 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 Coliform Results		Number of HPC Samples	Range of HPC Samples	
		Min.	Max.	Min.	Max.		Min.	Max.
Raw ^{1a}	52	0	3	0	102	N/A	N/A	N/A
Treated ^{1b}	52	0	0	0	0	52	0	149
Distribution ^{1c}	116	0	0	0	0	52	0	4

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

^{1a}O.Reg 170/03, Schedule 10-4. (1)(3) requires for a large municipal residential system that a water sample is taken at least once every week from the drinking water system’s raw water, before any treatment is applied to the water and tested for E.Coli and total coliforms.

^{1b}O.Reg 170/03, Schedule 10-3 requires for a large municipal residential system that a treated water sample is taken at least once every week and tested for E.Coli, total coliforms and general bacteria population expressed as colony counts on a heterotrophic count (HPC).

^{1c}O.Reg. 170/03 Schedule 10-2.(1)(2)(3) requires that a system that serves 100,000 people or less, at least eight distribution samples, plus one additional sample for every 1,000 people served by the system to be taken every month, with at least one of the samples being taken in each week and be tested for E.Coli, Total Coliforms. At least 25 percent of the samples required must be tested for general bacteria population expressed as colony counts on heterotrophic plate count (HPC). The number of people served by the system is 1,460 (as confirmed with the Owner on April 26, 2023), and therefore requires at minimum nine distribution samples per month.

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, Filter A (NTU) ^{2a}	8760	0.009	0.098
Turbidity, Filter B (NTU) ^{2a}	8760	0.021	0.043
Free Chlorine Residual, Treated Water (mg/L) ^{2b}	8760	0.81	2.36
Free Chlorine Residual, Distribution Water (mg/L) ^{2c}	413	0.60	2.04

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

^{2a}*If a drinking water system obtains water from a raw water supply that is surface water and the system provides filtration, the owner of a system shall ensure that sampling and testing for turbidity is carried out by continuous monitoring equipment on each filter effluent line (O.Reg.170/03, Schedule 7-3.(2)(b)). Monthly filter efficiency requirements were met.*

^{2b}*O.Reg 170/03 Schedule 7-2.(1) requires a drinking water system that provides chlorination for primary disinfection to sample and test for free chlorine residual with continuous monitoring equipment in the treatment process at or near a location where the intended contact time has just been completed.*

^{2c}*O.Reg 170/03 Schedule 7-2.(3) requires a large municipal residential system that provides secondary disinfection to take at least seven distribution samples each week and immediately tested for free chlorine residual, if the system provides chlorination and does not provide chloramination. Sampling for distribution free chlorine residual at the East Linton Drinking Water is taken twice a week.*

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 & Date (yyyy/mm/dd)
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 ^{4a} (yyyy/mm/dd)	Sample Result	Maximum Allowable Concentration (MAC)	Exceedance of MAC
Antimony: Sb (ug/L) - TW	2023/01/30	<MDL 0.6	6.0	No
Arsenic: As (ug/L) - TW	2023/01/30	0.4	10.0	No
Barium: Ba (ug/L) - TW	2023/01/30	14.9	1000.0	No
Boron: B (ug/L) - TW	2023/01/30	12.0	5000.0	No
Cadmium: Cd (ug/L) - TW	2023/01/30	<MDL 0.003	5.0	No
Chromium: Cr (ug/L) - TW	2023/01/30	0.17	50.0	No
Mercury: Hg (ug/L) - TW	2023/01/30	<MDL 0.01	1.0	No
Selenium: Se (ug/L) - TW	2023/01/30	0.17	50.0	No
Uranium: U (ug/L) - TW	2023/01/30	0.193	20.0	No
Fluoride (mg/L) - TW	2021/04/12 ^{4b}	0.12	1.5	No
Nitrite (mg/L) - TW	2023/01/16	0.003	1.0	No
Nitrite (mg/L) - TW	2023/04/17	<MDL 0.003	1.0	No
Nitrite (mg/L) - TW	2023/07/04	<MDL 0.003	1.0	No
Nitrite (mg/L) - TW	2023/10/10	<MDL 0.003	1.0	No
Nitrate (mg/L) - TW	2023/01/16	0.257	10.0	No
Nitrate (mg/L) - TW	2023/04/17	0.289	10.0	No
Nitrate (mg/L) - TW	2023/07/04	0.239	10.0	No
Nitrate (mg/L) - TW	2023/10/10	0.216	10.0	No

Note: MDL = Minimum Detection Limit, TW = Treated Water

^{4a}The owner of a large municipal residential system that obtains water from a raw water supply that is surface water shall ensure that at least one water sample for inorganics is taken every 12 months (O.Reg 170/03, Schedule 13-2.(1)). The last set of samples were collected and tested in 2023, the next set of samples are scheduled to be collected and tested in 2024.

^{4b}Fluoride is reportable every 60 months. The most recent Fluoride samples were tested in 2021, the next set of samples is scheduled to be tested in 2026.

Parameter & Location	Sample Date (yyyy/mm/dd)	Sample Result	Aesthetic Objective (AO)	Exceedance	
				AO	> 20 mg/L
Sodium: Na (mg/L) - TW	2021/04/12 ^{4c}	7.24	200	No	No

Note: MDL = Minimum Detection Limit, TW = Treated Water

Note: 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.

^{4c}*Sodium is reportable every 60 months. The most recent Sodium samples were tested in 2021, the next set of reportable samples is scheduled to be tested in 2026.*

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	N/A
Distribution – Lead (µg/L) ^{5c}	2	0.11	0.18	0
Distribution – Alkalinity (mg/L as CaCO ₃)	2	78	81	N/A
Distribution – pH	2	7.78	7.84	N/A
Period: June 15 to October 15				
Plumbing – Lead (µg/L) ^{5b}	N/A	N/A	N/A	N/A
Distribution – Lead (µg/L) ^{5c}	2	0.05	0.14	0
Distribution – Alkalinity (mg/L as CaCO ₃)	2	72	72	N/A
Distribution – pH	2	8.24	8.31	N/A
Period: December 15 to 31				
Plumbing – Lead (µg/L) ^{5b}	N/A	N/A	N/A	N/A
Distribution – Lead (µg/L) ^{5c}	N/A	N/A	N/A	N/A
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. (O.Reg 170/03, Section 11.(6)(g))

^{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. The number of people served by the system is 1,460 (as confirmed with the Owner on April 26, 2023), and therefore requires 2 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}*This system follows a reduced sampling schedule (O.Reg 170/03, Section 15.1.5). Distribution lead samples are collected every 36 months. The most recent set of distribution lead samples were collected within the winter period of December 15, 2022 to April 15, 2023 and summer period of June 15, 2023 to October 15, 2023. The next set of distribution lead samples is scheduled to be collected within the winter period of December 15, 2025 to April 15, 2026 and summer period of June 15, 2025 to October 15, 2026.*

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 ^{6a} (yyyy/mm/dd)	Sample Result	Maximum Allowable Concentration (MAC)	Exceedance of MAC
Alachlor (ug/L) - TW	2023/01/30	<MDL 0.02	5.0	No
Atrazine + N-dealkylated metabolites (ug/L) - TW	2023/01/30	0.01	5.0	No
Azinphos-methyl (ug/L) - TW	2023/01/30	<MDL 0.05	20.0	No
Benzene (ug/L) - TW	2023/01/30	<MDL 0.32	1.0	No
Benzo(a)pyrene (ug/L) - TW	2023/01/30	<MDL 0.004	0.01	No
Bromoxynil (ug/L) - TW	2023/01/30	<MDL 0.33	5.0	No
Carbaryl (ug/L) - TW	2023/01/30	<MDL 0.05	90.0	No
Carbofuran (ug/L) - TW	2023/01/30	<MDL 0.01	90.0	No
Carbon Tetrachloride (ug/L) - TW	2023/01/30	<MDL 0.17	2.0	No
Chlorpyrifos (ug/L) - TW	2023/01/30	<MDL 0.02	90.0	No
Diazinon (ug/L) - TW	2023/01/30	<MDL 0.02	20.0	No
Dicamba (ug/L) - TW	2023/01/30	<MDL 0.2	120.0	No
1,2-Dichlorobenzene (ug/L) - TW	2023/01/30	<MDL 0.41	200.0	No
1,4-Dichlorobenzene (ug/L) - TW	2023/01/30	<MDL 0.36	5.0	No
1,2-Dichloroethane (ug/L) - TW	2023/01/30	<MDL 0.35	5.0	No
1,1-Dichloroethylene (ug/L) - TW	2023/01/30	<MDL 0.33	14.0	No
Dichloromethane (Methylene Chloride) (ug/L) - TW	2023/01/30	<MDL 0.35	50.0	No
2,4-Dichlorophenol (ug/L) - TW	2023/01/30	<MDL 0.15	900.0	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L) - TW	2023/01/30	<MDL 0.19	100.0	No
Diclofop-methyl (ug/L) - TW	2023/01/30	<MDL 0.4	9.0	No
Dimethoate (ug/L) - TW	2023/01/30	<MDL 0.06	20.0	No
Diquat (ug/L) - TW	2023/01/30	<MDL 1.0	70.0	No
Diuron (ug/L) - TW	2023/01/30	<MDL 0.03	150.0	No
Glyphosate (ug/L) - TW	2023/01/30	<MDL 1.0	280.0	No
Malathion (ug/L) - TW	2023/01/30	<MDL 0.02	190.0	No
Metolachlor (ug/L) - TW	2023/01/30	<MDL 0.01	50.0	No
Metribuzin (ug/L) - TW	2023/01/30	<MDL 0.02	80.0	No

Drinking Water System Regulation: O. Reg 170/03
 Section 11 Annual Report: January 1, 2023 to December 31, 2023
 Township of Georgian Bluffs: East Linton Drinking Water System

Parameter & Location	Sample Date ^{6a} (yyyy/mm/dd)	Sample Result	Maximum Allowable Concentration (MAC)	Exceedance of MAC
Monochlorobenzene (Chlorobenzene) (ug/L) - TW	2023/01/30	<MDL 0.3	80.0	No
Paraquat (ug/L) - TW	2023/01/30	<MDL 1.0	10.0	No
PCB (ug/L) - TW	2023/01/30	<MDL 0.04	3.0	No
Pentachlorophenol (ug/L) - TW	2023/01/30	<MDL 0.15	60.0	No
Phorate (ug/L) - TW	2023/01/30	<MDL 0.01	2.0	No
Picloram (ug/L) - TW	2023/01/30	<MDL 1.0	190.0	No
Prometryne (ug/L) - TW	2023/01/30	<MDL 0.03	1.0	No
Simazine (ug/L) - TW	2023/01/30	<MDL 0.01	10.0	No
Terbufos (ug/L) - TW	2023/01/30	<MDL 0.01	1.0	No
Tetrachloroethylene (ug/L) - TW	2023/01/30	<MDL 0.35	10.0	No
2,3,4,6-Tetrachlorophenol (ug/L) - TW	2023/01/30	<MDL 0.2	100.0	No
Triallate (ug/L) - TW	2023/01/30	<MDL 0.01	230.0	No
Trichloroethylene (ug/L) - TW	2023/01/30	<MDL 0.44	5.0	No
2,4,6-Trichlorophenol (ug/L) - TW	2023/01/30	<MDL 0.25	5.0	No
2-methyl-4-chlorophenoxyacetic acid (MCPA) (ug/L) - TW	2023/01/30	<MDL 0.12	100.0	No
Trifluralin (ug/L) - TW	2023/01/30	<MDL 0.02	45.0	No
Vinyl Chloride (ug/L) - TW	2023/01/30	<MDL 0.17	1.0	No
Trihalomethane: Total (ug/L) Annual Average - DW	2023 (Quarterly)	49.75	100.0	No
HAA Total (ug/L) Annual Average - DW	2023 (Quarterly)	14.58	80.0	No

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

^{6a}The owner of a large municipal residential system that obtains water from a raw water supply that is surface water shall ensure that at least one water sample for organics is taken every 12 months (O.Reg 170/03, Schedule 13-4.(1)). The last set of samples were collected and tested in 2023, the next set of samples are scheduled to be collected and tested in 2024.

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 & Location	Sample Date (yyyy/mm/dd)	Sample Result
N/A	N/A	N/A

2023 SECTION 11 ANNUAL REPORT

SHALLOW LAKE
DRINKING WATER SYSTEM

**SHALLOW LAKE
WATER TREATMENT PLANT**

For the period of:

JANUARY 1, 2023 TO DECEMBER 31, 2023

Prepared for the Township of Georgian Bluffs by the Ontario Clean Water Agency

Drinking Water System Regulation: O. Reg 170/03
 Section 11 Annual Report: January 1, 2023 to December 31, 2023
 Township of Georgian Bluffs: Shallow Lake Drinking Water System

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:	220009096
Drinking Water System Name:	Shallow Lake Drinking Water System
Drinking Water System Owner:	Township of Georgian Bluffs
Drinking Water System Category:	Large Municipal Residential
Reporting Period:	January 1, 2023 – December 31, 2023

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 website 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)(5)):

- Georgian Bluffs Municipal Office, 177964 Grey Rd #18 RR#3, Owen Sound ON, N4K 5N5
- <https://www.georgianbluffs.ca/en/township-services/utilities-and-water.aspx>

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:

- | | |
|-------------------------------------|--|
| <input checked="" type="checkbox"/> | Public access/notice via the web |
| <input checked="" type="checkbox"/> | Public access/notice via Government Office |
| <input type="checkbox"/> | Public access/notice via a newspaper |
| <input checked="" type="checkbox"/> | Public access/notice via Public Request |

- Public access/notice via a Public Library
 Public access/notice via other method: _____

Note: The owner of a drinking water system shall ensure that a copy of an annual report for the system is given, without charge, to every person who requests a copy. ((O.Reg 170/03, Section 11.(7))

Description of Drinking Water System (O.Reg 170/03, Section 11.(6)(a)):

The Shallow Lake Drinking Water System (DWS) is classified as a Class III Treatment and a Class I Distribution and categorized as a Large Municipal Residential Drinking Water System, servicing an approximate population of 498 persons. The Shallow Lake Drinking Water System is owned by the Corporation of the Township of Georgian Bluffs and operated by the Ontario Clean Water Agency (OCWA) in Georgian Bluffs, Ontario.

The treatment plant is supplied by 2 deep drilled GUDI wells and consists of the following:

- Potassium permanganate dosing system (upstream of green sand filtration to assist with iron and manganese removal)
- Greensand filtration (for iron and manganese removal)
- Coagulation, flocculation and settling
- Dual media filtration (sand/anthracite)
- Anion resin exchange system (to remove inorganics)
- Waste Residual Management System (waste from filter backwash and ion exchange is stored in holding/disposal tanks)
- Sodium hypochlorite addition (for primary and secondary disinfection/trim chlorination)
- UV Disinfection System - Two (2) UV reactor units (one duty and one standby) for primary disinfection
- Reservoir/contact tank (for onsite storage to help achieve the required contact time)
- Integrated process and instrumentation control system (for system control and data acquisition)
- Standby diesel engine generator set (back-up power supply).

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

- Sodium Hypochlorite, 12%
- Polyaluminum Chloride (PACl)
- Potassium Permanganate

Significant expenses were incurred to:

- Install required equipment
 Repair required equipment
 Replace required equipment
 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)):

- | |
|---|
| <ul style="list-style-type: none"> • Clearwell cleaning and inspection • Replacement treated water flow meter • Ion exchange unit repair |
|---|

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	Result	Unit of Measure	Corrective Action	Corrective Action Date (yyyy/mm/dd)
N/A	N/A	N/A	N/A	N/A	N/A

Table 1. Microbiological testing done under the Schedule 11 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 Coliform Results		Number of HPC Samples	Range of HPC Samples	
		Min.	Max.	Min.	Max.		Min.	Max.
Well #1 (PW2) ^{1a}	52	0	NDOGT	15	NDOGT	N/A	N/A	N/A
Well #2 (PW3) ^{1a}	52	0	80	9	540	N/A	N/A	N/A
Treated ^{1b}	52	0	0	0	0	52	0	1
Distribution ^{1c}	104	0	0	0	0	52	0	2000

Note: HPC = Heterotrophic Plate Count, NDOGT = No Data: Overgrown with Target Bacteria
 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

^{1a}O.Reg 170/03, Schedule 10-4. (1)(3) requires for a large municipal residential system that a water sample is taken at least once every week from the drinking water system’s raw water, before any treatment is applied to the water and tested for E.Coli and total coliforms.

^{1b}O.Reg 170/03, Schedule 10-3 requires for a large municipal residential system that a treated water sample is taken at least once every week and tested for E.Coli, total coliforms and general bacteria population expressed as colony counts on a heterotrophic count (HPC).

^{1c}O.Reg. 170/03 Schedule 10-2.(1)(2)(3) requires that a system that serves 100,000 people or less, at least eight distribution samples, plus one additional sample for every 1,000 people served by the system to be taken every month, with at least one of the samples being taken in each week and be tested for E.Coli, Total Coliforms. At least 25 percent of the samples required must be tested for general bacteria population expressed as colony counts on heterotrophic plate count (HPC). The number of people served by the system is 498 (as confirmed with the Owner on April 26, 2023), and therefore requires at minimum eight per month.

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, Filter 1 ^{2a} (NTU)	8760	0.02	0.83
Turbidity, Filter 2 ^{2a} (NTU)	8760	0.02	0.45
Free Chlorine Residual, Treated Water (mg/L) ^{2b}	8760	0.48 ^{2d}	2.20
Free Chlorine Residual, Distribution Water (mg/L) ^{2c}	413	0.20	1.71

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

^{2a}If a drinking water system obtains water from a raw water supply that is surface water (or well water deemed as GUDI) and the system provides filtration, the owner of a system shall ensure that sampling and testing for turbidity is carried out by continuous monitoring equipment on each filter effluent line (O.Reg.170/03, Schedule 7-3.(2)(b)). Monthly filter efficiency requirements met.

^{2b}O.Reg 170/03 Schedule 7-2.(1) requires a drinking water system that provides chlorination for primary disinfection to sample and test for free chlorine residual with continuous monitoring equipment in the treatment process at or near a location where the intended contact time has just been completed.

^{2c}O.Reg 170/03 Schedule 7-2.(3) requires a large municipal residential system that provides secondary disinfection to take at least seven distribution samples each week and immediately tested for free chlorine residual, if the system provides chlorination and does not provide chloramination. Sampling for distribution free chlorine residual at the Shallow Lake Drinking Water is taken twice a week.

^{2d}Low chlorine event on October 18, 2023, CT met

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 & Date (yyyy/mm/dd)
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 ^{4a} (yyyy/mm/dd)	Sample Result	Maximum Allowable Concentration (MAC)	Exceedance of MAC
Antimony: Sb (ug/L) - TW	2023/01/30	<MDL 0.6	6.0	No
Arsenic: As (ug/L) - TW	2023/01/30	<MDL 0.2	10.0	No

Drinking Water System Regulation: O. Reg 170/03
 Section 11 Annual Report: January 1, 2023 to December 31, 2023
 Township of Georgian Bluffs: Shallow Lake Drinking Water System

Barium: Ba (ug/L) - TW	2023/01/30	2.88	1000.0	No
Boron: B (ug/L) - TW	2023/01/30	14	5000.0	No
Cadmium: Cd (ug/L) - TW	2023/01/30	0.005	5.0	No
Chromium: Cr (ug/L) - TW	2023/01/30	0.2	50.0	No
Mercury: Hg (ug/L) - TW	2023/01/30	<MDL 0.01	1.0	No
Selenium: Se (ug/L) - TW	2023/01/30	0.12	50.0	No
Uranium: U (ug/L) - TW	2023/01/30	0.144	20.0	No
Fluoride (mg/L) - TW	2021/04/12 ^{4b}	0.06	1.5	No
Nitrite (mg/L) - TW	2023/01/16	<MDL 0.003	1.0	No
Nitrite (mg/L) - TW	2023/04/17	<MDL 0.003	1.0	No
Nitrite (mg/L) - TW	2023/07/04	<MDL 0.003	1.0	No
Nitrite (mg/L) - TW	2023/10/10	<MDL 0.003	1.0	No
Nitrate (mg/L) - TW	2023/01/16	0.647	10.0	No
Nitrate (mg/L) - TW	2023/04/17	0.926	10.0	No
Nitrate (mg/L) - TW	2023/07/04	0.290	10.0	No
Nitrate (mg/L) - TW	2023/10/10	0.320	10.0	No

Note: MDL = Minimum Detection Limit, TW = Treated Water

^{4a}The owner of a small or large municipal residential system that obtains water from a raw water supply that is surface water shall ensure that at least one water sample for inorganics is taken every 12 months (O.Reg 170/03, Schedule 13-2.(1)). The last set of samples were collected and tested in 2023, the next set of samples are scheduled to be collected and tested in 2024.

^{4b}Fluoride is reportable every 60 months. The most recent sample was taken in 2021. The next set of Fluoride samples are scheduled to be sampled in 2026.

Parameter & Location	Sample Date (yyyy/mm/dd)	Sample Result	Aesthetic Objective (AO)	Exceedance	
				AO	> 20 mg/L
Sodium: Na (mg/L) - TW	2021/04/12 ^{4c}	7.96	200	No	No

Note: MDL = Minimum Detection Limit, TW = Treated Water

Note: 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.

^{4c}Sodium is reportable every 60 months. The most recent Sodium samples were tested in 2021, the next set of reportable samples is scheduled to be tested in 2026.

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	N/A
Distribution – Lead (µg/L) ^{5c}	N/A	N/A	N/A	N/A
Distribution – Alkalinity (mg/L as CaCO ₃)	2	198	223	N/A
Distribution – pH	2	7.61	7.73	N/A
Period: June 15 to October 15				
Plumbing – Lead (µg/L) ^{5b}	N/A	N/A	N/A	N/A
Distribution – Lead (µg/L) ^{5c}	N/A	N/A	N/A	N/A
Distribution – Alkalinity (mg/L as CaCO ₃)	2	264	272	N/A
Distribution – pH	2	7.40	7.41	N/A
Period: December 15 to 31				
Plumbing – Lead (µg/L) ^{5b}	N/A	N/A	N/A	N/A
Distribution – Lead (µg/L) ^{5c}	N/A	N/A	N/A	N/A
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. (O.Reg 170/03, Section 11.(6)(g))

^{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. The number of people served by the system is 498 (as confirmed with the Owner on April 26, 2023), and therefore requires 1 distribution sampling points per sampling period. As best practice, OCWA takes 2 distribution samples.*

^{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}*This system follows a reduced sampling schedule (O.Reg 170/03, Section 15.1.5). Distribution lead samples are collected every 36 months. The most recent set of distribution lead samples were collected within the winter period of December 15, 2021 to April 15, 2022 and summer period of June 15, 2022 to October 15, 2022. The next set of distribution lead samples is scheduled to be collected within 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 ^{6a} (yyyy/mm/dd)	Sample Result	Maximum Allowable Concentration (MAC)	Exceedance of MAC
Alachlor (ug/L) - TW	2023/01/30	<MDL 0.02	5.0	No
Atrazine + N-dealkylated metabolites (ug/L) - TW	2023/01/30	<MDL 0.01	5.0	No
Azinphos-methyl (ug/L) - TW	2023/01/30	<MDL 0.05	20.0	No
Benzene (ug/L) - TW	2023/01/30	<MDL 0.32	1.0	No
Benzo(a)pyrene (ug/L) - TW	2023/01/30	<MDL 0.004	0.01	No
Bromoxynil (ug/L) - TW	2023/01/30	<MDL 0.33	5.0	No
Carbaryl (ug/L) - TW	2023/01/30	<MDL 0.05	90.0	No
Carbofuran (ug/L) - TW	2023/01/30	<MDL 0.01	90.0	No
Carbon Tetrachloride (ug/L) - TW	2023/01/30	<MDL 0.17	2.0	No
Chlorpyrifos (ug/L) - TW	2023/01/30	<MDL 0.02	90.0	No
Diazinon (ug/L) - TW	2023/01/30	<MDL 0.02	20.0	No
Dicamba (ug/L) - TW	2023/01/30	<MDL 0.2	120.0	No
1,2-Dichlorobenzene (ug/L) - TW	2023/01/30	<MDL 0.41	200.0	No
1,4-Dichlorobenzene (ug/L) - TW	2023/01/30	<MDL 0.36	5.0	No
1,2-Dichloroethane (ug/L) - TW	2023/01/30	<MDL 0.35	5.0	No
1,1-Dichloroethylene (ug/L) - TW	2023/01/30	<MDL 0.33	14.0	No
Dichloromethane (Methylene Chloride) (ug/L) - TW	2023/01/30	<MDL 0.35	50.0	No
2,4-Dichlorophenol (ug/L) - TW	2023/01/30	<MDL 0.15	900.0	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L) - TW	2023/01/30	<MDL 0.19	100.0	No
Diclofop-methyl (ug/L) - TW	2023/01/30	<MDL 0.4	9.0	No
Dimethoate (ug/L) - TW	2023/01/30	<MDL 0.06	20.0	No
Diquat (ug/L) - TW	2023/01/30	<MDL 1.0	70.0	No
Diuron (ug/L) - TW	2023/01/30	<MDL 0.03	150.0	No
Glyphosate (ug/L) - TW	2023/01/30	<MDL 1.0	280.0	No
Malathion (ug/L) - TW	2023/01/30	<MDL 0.02	190.0	No
Metolachlor (ug/L) - TW	2023/01/30	<MDL 0.01	50.0	No
Metribuzin (ug/L) - TW	2023/01/30	<MDL 0.02	80.0	No

Drinking Water System Regulation: O. Reg 170/03
 Section 11 Annual Report: January 1, 2023 to December 31, 2023
 Township of Georgian Bluffs: Shallow Lake Drinking Water System


Parameter & Location	Sample Date ^{6a} (yyyy/mm/dd)	Sample Result	Maximum Allowable Concentration (MAC)	Exceedance of MAC
Monochlorobenzene (Chlorobenzene) (ug/L) - TW	2023/01/30	<MDL 0.3	80.0	No
Paraquat (ug/L) - TW	2023/01/30	<MDL 1.0	10.0	No
PCB (ug/L) - TW	2023/01/30	<MDL 0.04	3.0	No
Pentachlorophenol (ug/L) - TW	2023/01/30	<MDL 0.15	60.0	No
Phorate (ug/L) - TW	2023/01/30	<MDL 0.01	2.0	No
Picloram (ug/L) - TW	2023/01/30	<MDL 1.0	190.0	No
Prometryne (ug/L) - TW	2023/01/30	<MDL 0.03	1.0	No
Simazine (ug/L) - TW	2023/01/30	<MDL 0.01	10.0	No
Terbufos (ug/L) - TW	2023/01/30	<MDL 0.01	1.0	No
Tetrachloroethylene (ug/L) - TW	2023/01/30	<MDL 0.35	10.0	No
2,3,4,6-Tetrachlorophenol (ug/L) - TW	2023/01/30	<MDL 0.2	100.0	No
Triallate (ug/L) - TW	2023/01/30	<MDL 0.01	230.0	No
Trichloroethylene (ug/L) - TW	2023/01/30	<MDL 0.44	5.0	No
2,4,6-Trichlorophenol (ug/L) - TW	2023/01/30	<MDL 0.25	5.0	No
2-methyl-4-chlorophenoxyacetic acid (MCPA) (ug/L) - TW	2023/01/30	<MDL 0.12	100.0	No
Trifluralin (ug/L) - TW	2023/01/30	<MDL 0.02	45.0	No
Vinyl Chloride (ug/L) - TW	2023/01/30	<MDL 0.17	1.0	No
Trihalomethane: Total (ug/L) Annual Average - DW	2023 (Quarterly)	48.25	100.0	No
HAA Total (ug/L) Annual Average - DW	2023 (Quarterly)	29.55	80.0	No

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

^{6a}The owner of a large municipal residential system that obtains water from a raw water supply that is surface water shall ensure that at least one water sample for organics is taken every 12 months (O.Reg 170/03, Schedule 13-4.(1)). The last set of samples were collected and tested in 2023, the next set of samples are scheduled to be collected and tested in 2024.

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 & Location	Sample Date (yyyy/mm/dd)	Sample Result
N/A	N/A	N/A



2023 SECTION 11 ANNUAL REPORT

OXENDEN
DISTRIBUTION SYSTEM

For the period of:
JANUARY 1, 2023 TO DECEMBER 31, 2023

Prepared for the Township of Georgian Bluffs by the Ontario Clean Water Agency



Drinking Water System Regulation: O. Reg 170/03
 Section 11 Annual Report: January 1, 2023 to December 31, 2023
 Township of Georgian Bluffs: Oxenden Distribution System

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:	260004215
Drinking Water System Name:	Oxenden Distribution System
Drinking Water System Owner:	Township of Georgian Bluffs
Drinking Water System Category:	Large Municipal Residential
Reporting Period:	January 1, 2023 – December 31, 2023

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 website 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)(5)):

- Georgian Bluffs Municipal Office, 177964 Grey Rd #18 RR#3, Owen Sound ON, N4K 5N5
- <https://www.georgianbluffs.ca/en/township-services/utilities-and-water.aspx>

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:

- | | |
|-------------------------------------|--|
| <input checked="" type="checkbox"/> | Public access/notice via the web |
| <input checked="" type="checkbox"/> | Public access/notice via Government Office |
| <input type="checkbox"/> | Public access/notice via a newspaper |
| <input checked="" type="checkbox"/> | Public access/notice via Public Request |

- Public access/notice via a Public Library
 Public access/notice via other method: _____

Note: The owner of a drinking water system shall ensure that a copy of an annual report for the system is given, without charge, to every person who requests a copy. ((O.Reg 170/03, Section 11.(7))

Description of Drinking Water System (O.Reg 170/03, Section 11.(6)(a)):

The Oxenden Water Distribution System (WDS) is classified as a Class I Distribution, Large Municipal Residential Distribution System servicing an approximate population of 503 persons. The Oxenden Water Distribution System is owned by the Corporation of the Township of Georgian Bluffs and operated by the Ontario Clean Water Agency (OCWA) in Georgian Bluffs, Ontario.

The Oxenden Water Distribution System is supplied treated water from the Warton Water Treatment Plant which is owned by the Corporation of the Town of South Bruce Peninsula.

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

N/A

Significant expenses were incurred to:

- Install required equipment
 Repair required equipment
 Replace required equipment
 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)):

- Multiple distribution system parts

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	Summary of Reporting, Corrective Actions & Resolution
N/A	N/A	N/A	N/A

Table 1. Microbiological testing done under the Schedule 11 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 Coliform Results		Number of HPC Samples	Range of HPC Samples	
		Min.	Max.	Min.	Max.		Min.	Max.
Distribution ^{1a}	104	0	0	0	0	52	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

^{1a}O.Reg. 170/03 Schedule 10-2.(1)(2)(3) requires that a system that serves 100,000 people or less, at least eight distribution samples, plus one additional sample for every 1,000 people served by the system to be taken every month, with at least one of the samples being taken in each week and be tested for E.Coli, Total Coliforms. At least 25 percent of the samples required must be tested for general bacteria population expressed as colony counts on heterotrophic plate count (HPC). The number of people served by the system is 503 (as confirmed with the Owner on April 26, 2023), and therefore requires at minimum eight per month.

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.
Free Chlorine Residual, Distribution Water (mg/L) ^{2a}	413	0.38	1.38

^{2a}O.Reg 170/03 Schedule 7-2.(3) requires a large municipal residential system that provides secondary disinfection to take at least seven distribution samples each week and immediately tested for free chlorine residual, if the system provides chlorination and does not provide chloramination. Sampling for distribution free chlorine residual at Oxenden Drinking Water is taken twice a week as required.

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 & Date (yyyy/mm/dd)
N/A	N/A	N/A	N/A	N/A

Table 4. Summary of Inorganic parameters sampled^a 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
Inorganic Parameters – TW ^{4a}	N/A	N/A	N/A	N/A

^{4a}Treated water inorganic testing is not applicable for Oxenden Distribution System as the system is supplied with treated water from the Wiarton Drinking Water System. Please refer to the 2023 Wiarton DWS Annual Report for a summary of the Treated Water Inorganic parameters tested for the water supplied to the Oxenden Distribution system.

Parameter & Location	Sample Date (yyyy/mm/dd)	Sample Result	Aesthetic Objective (AO)	Exceedance	
				AO	> 20 mg/L
Sodium: Na (mg/L) – TW	N/A	N/A	200 ^{4b}	N/A	N/A

Note: MDL = Minimum Detection Limit

Note: Treated water sodium testing is not applicable for Oxenden Distribution System as the system is supplied with treated water from the Wiarton Drinking Water System. Please refer to Wiarton DWS Annual Report for 2023 for a summary of the Treated Water Inorganic parameters tested for the water supplied to the Oxenden Distribution system.

^{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	N/A
Distribution – Lead (µg/L) ^{5c}	2	0.11	0.66	0
Distribution – Alkalinity (mg/L as CaCO ₃)	2	74	76	N/A
Distribution – pH	2	7.77	8.08	N/A
Period: June 15 to October 15				
Plumbing – Lead (µg/L) ^{5b}	N/A	N/A	N/A	N/A
Distribution – Lead (µg/L) ^{5c}	2	0.09	0.33	0
Distribution – Alkalinity (mg/L as CaCO ₃)	2	72	72	N/A
Distribution – pH	2	8.14	8.19	N/A
Period: December 15 to 31				
Plumbing – Lead (µg/L) ^{5b}	N/A	N/A	N/A	N/A

Drinking Water System Regulation: O. Reg 170/03
 Section 11 Annual Report: January 1, 2023 to December 31, 2023
 Township of Georgian Bluffs: Oxenden Distribution System

Distribution – Lead (µg/L) ^{5c}	N/A	N/A	N/A	N/A
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. (O.Reg 170/03, Section 11.(6)(g))

^{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. The number of people served by the system is 503 (as confirmed with the Owner on April 26, 2023), and therefore requires 2 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}*This system follows a reduced sampling schedule (O.Reg 170/03, Section 15.1.5). Distribution lead samples are collected every 36 months. The most recent set of distribution lead samples were collected within the winter period of December 15, 2022 to April 15, 2023 and summer period of June 15, 2023 to October 15, 2023. The next set of distribution lead samples is scheduled to be collected within the winter period of December 15, 2025 to April 15, 2026 and summer period of June 15, 2026 to October 15, 2026.*

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

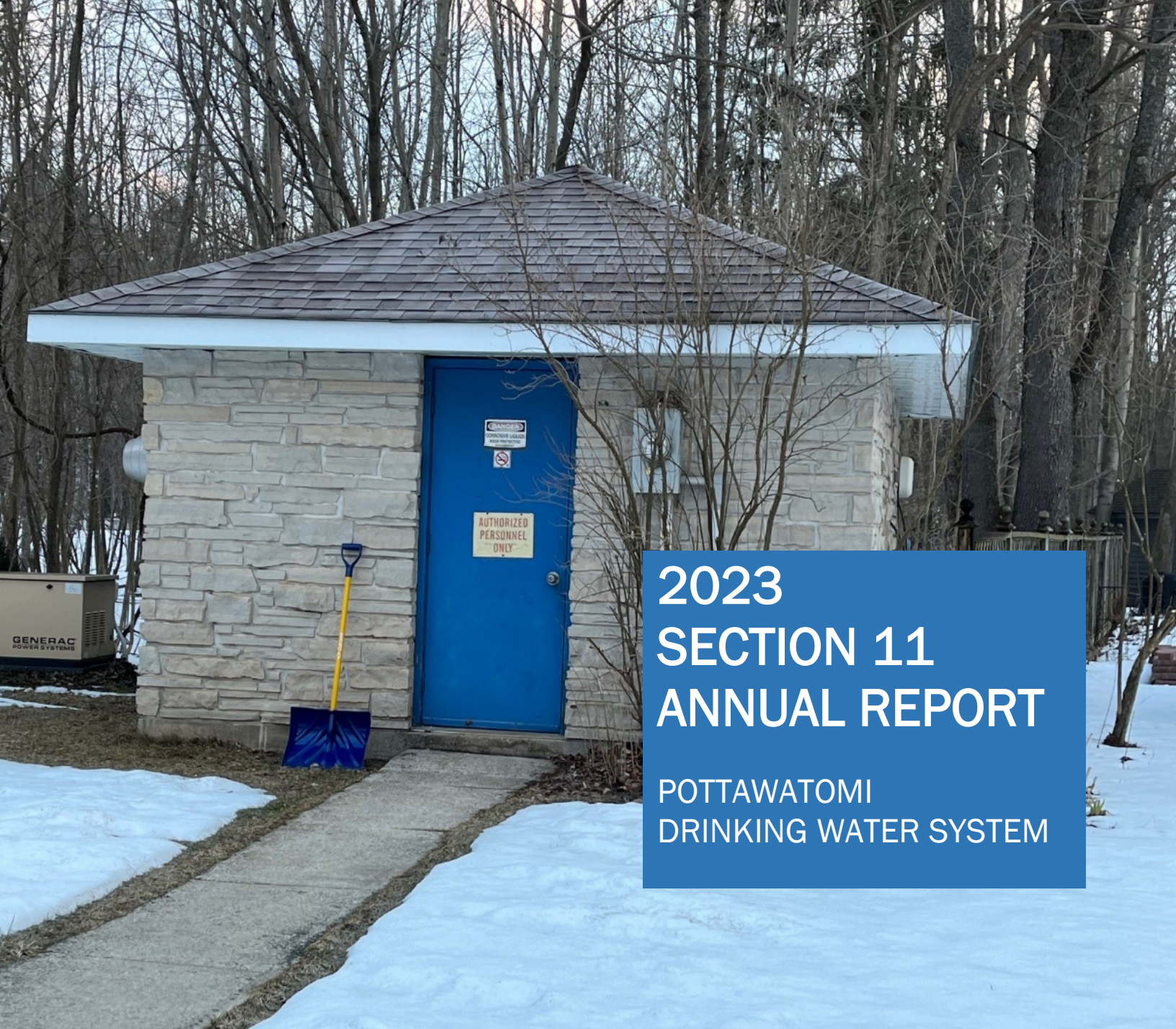
Parameter & Location	Sample Date (yyyy/mm/dd)	Sample Result	Maximum Allowable Concentration (MAC)	Exceedance of MAC
Organic Parameters - TW ^{6a}	N/A	N/A	N/A	N/A
Trihalomethane: Total (ug/L) Annual Average - DW	2023 (Quarterly)	48.25	100.0	No
HAA Total (ug/L) Annual Average - DW	2023 (Quarterly)	19.35	80.0	No

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

^{6a}*Treated water Organic testing is not applicable for Oxenden Distribution System as the system is supplied with treated water from the Wiarton Drinking Water System. Please refer to Wiarton DWS Annual Report for 2023 for a summary of the Treated Water Organic parameters tested for the water supplied to the Oxenden Distribution system.*

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 & Location	Sample Date (yyyy/mm/dd)	Sample Result
N/A	N/A	N/A



2023 SECTION 11 ANNUAL REPORT

POTTAWATOMI
DRINKING WATER SYSTEM

For the period of:
JANUARY 1, 2023 TO DECEMBER 31, 2023

Prepared for the Township of Georgian Bluffs by the Ontario Clean Water Agency

Drinking Water System Regulation: O. Reg 170/03
 Section 11 Annual Report: January 1, 2023 to December 31, 2023
 Township of Georgian Bluffs: Pottawatomi Drinking Water System

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:	220008319
Drinking Water System Name:	Pottawatomi Drinking Water System
Drinking Water System Owner:	Township of Georgian Bluffs
Drinking Water System Category:	Small Municipal Residential
Reporting Period:	January 1, 2023 – December 31, 2023

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 website 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)(5)):

- Georgian Bluffs Municipal Office, 177964 Grey Rd #18 RR#3, Owen Sound ON, N4K 5N5
- <https://www.georgianbluffs.ca/en/township-services/utilities-and-water.aspx>

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:

- | | |
|-------------------------------------|--|
| <input checked="" type="checkbox"/> | Public access/notice via the web |
| <input checked="" type="checkbox"/> | Public access/notice via Government Office |
| <input type="checkbox"/> | Public access/notice via a newspaper |
| <input checked="" type="checkbox"/> | Public access/notice via Public Request |

- Public access/notice via a Public Library
 Public access/notice via other method: _____

Note: The owner of a drinking water system shall ensure that a copy of an annual report for the system is given, without charge, to every person who requests a copy. ((O.Reg 170/03, Section 11.(7)):

Description of Drinking Water System (O.Reg 170/03, Section 11.(6)(a)):

The Pottawatomi Drinking Water System (DWS) is classified as a Class I Water Treatment and Class I Water Distribution and categorized as a Small Municipal Residential Drinking Water System servicing an approximate population of 63 persons via 25 service connections. The Pottawatomi Drinking Water System is owned by the Corporation of the Township of Georgian Bluffs and operated by the Ontario Clean Water Agency (OCWA) in Georgian Bluffs, Ontario.

The Pottawatomi Drinking Water System is supplied by a deep drilled (GUDI) groundwater well (PW 2). The water treatment facility is equipped with the following:

- a cartridge filtration system (used as pretreatment for the UV disinfection system),
- a two stage disinfection system consisting of:
 - UV Disinfection System (3 UV reactors in parallel)
 - Chlorination System (Sodium Hypochlorite)
- A sodium silicates injection system (downstream of the UV units) for iron sequestration
- Facility-wide integrated process and instrumentation control system and;
- A stand-by generator set

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

- Sodium Hypochlorite, 6%
- Sodium Silicate

Significant expenses were incurred to:

- Install required equipment
 Repair required equipment
 Replace required equipment
 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)):

- UV system repair parts
- Well down pipes replacement

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	Summary of Reporting, Corrective Actions & Resolution
N/A	N/A	N/A	N/A

Table 1. Microbiological testing done under the Schedule 11 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 Coliform Results		Number of HPC Samples	Range of HPC Samples	
		Min.	Max.	Min.	Max.		Min.	Max.
Well #2 ^{1a}	11 ^{1b}	0	0	0	0	N/A	N/A	N/A
Distribution ^{1c}	52	0	0	0	0	52	0	2000

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

^{1a}O.Reg 170/03, Schedule 11-3. (1)(3) requires for a small municipal residential system that a water sample is taken at least once every month from the drinking water system's raw water, before any treatment is applied to the water and tested for E.Coli and total coliforms.

^{1b}Raw water monthly sample was missed in February 2023. This non-compliance was included in the 2022/2023 MECP inspection report. See Section 22 Summary Report for details.

^{1c}O.Reg. 170/03 Schedule 11-2.(1)(2)(3) requires that at least one distribution sample is taken every two weeks, if the system provides treatment equipment in accordance with Schedule 1 or 2 and the equipment is operated in accordance with that Schedule; or at least one distribution sample is taken every week, if clause (a) does not apply and be tested for E.Coli, Total Coliforms and if section 1-5 of Schedule 1 or subsection 2-5 (1) of Schedule 2 applies to the system, general bacteria population expressed as colony counts on a heterotrophic plate count. As a best practice, OCWA takes weekly distribution samples at Pottawatomi DWS.

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, Well #2 (NTU) ^{2a}	12	0.45	1.89
Turbidity, Treated Water (NTU)	8760	0.00	2.00
Free Chlorine Residual, Treated Water (mg/L) ^{2b}	8760	1.18	3.62

Drinking Water System Regulation: O. Reg 170/03
 Section 11 Annual Report: January 1, 2023 to December 31, 2023
 Township of Georgian Bluffs: Pottawatomi Drinking Water System

Free Chlorine Residual, Distribution (mg/L) ^{2c}	104	1.20	2.17
---	-----	------	------

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

^{2a}If a drinking water system obtains water from a raw water supply that is surface water (or well water deemed as GUDI) and the system provides filtration, subsection 7-3(1) does not apply and the owner of a system shall ensure that sampling and testing for turbidity is carried out by continuous monitoring equipment on each filter effluent line (O.Reg.170/03, Schedule 7-3.(2)(b))

^{2b}O.Reg 170/03 Schedule 7-2.(1) requires a drinking water system that provides chlorination for primary disinfection to sample and test for free chlorine residual with continuous monitoring equipment in the treatment process at or near a location where the intended contact time has just been completed.

^{2c}O.Reg 170/03 Schedule 7-2.(5) requires a small municipal residential system that provides secondary disinfection to take at least two distribution samples each week and immediately tested for free chlorine residual, if the system provides chlorination and does not provide chloramination. Sampling for distribution free chlorine residual at Pottawatomi Drinking Water is taken twice a week as required.

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 & Date (yyyy/mm/dd)
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 ^{4a} (yyyy/mm/dd)	Sample Result	Maximum Allowable Concentration (MAC)	Exceedance of MAC
Antimony: Sb (ug/L) - TW	2022/01/05	<MDL 0.6	6.0	No
Arsenic: As (ug/L) - TW	2022/01/05	2.5	10.0	No
Barium: Ba (ug/L) - TW	2022/01/05	84.5	1000.0	No
Boron: B (ug/L) - TW	2022/01/05	209.0	5000.0	No
Cadmium: Cd (ug/L) - TW	2022/01/05	0.006	5.0	No
Chromium: Cr (ug/L) - TW	2022/01/05	0.12	50.0	No
Mercury: Hg (ug/L) - TW	2022/01/05	<MDL 0.01	1.0	No
Selenium: Se (ug/L) - TW	2022/01/05	<MDL 0.04	50.0	No
Uranium: U (ug/L) - TW	2022/01/05	0.069	20.0	No
Fluoride (mg/L) - TW	2021/04/19 ^{4b}	0.24	1.5	No

Drinking Water System Regulation: O. Reg 170/03
 Section 11 Annual Report: January 1, 2023 to December 31, 2023
 Township of Georgian Bluffs: Pottawatomi Drinking Water System

Nitrite (mg/L) - TW	2023/01/16	<MDL 0.003	1.0	No
Nitrite (mg/L) - TW	2023/04/17	<MDL 0.003	1.0	No
Nitrite (mg/L) - TW	2023/07/04	<MDL 0.003	1.0	No
Nitrite (mg/L) - TW	2023/10/10	<MDL 0.003	1.0	No
Nitrate (mg/L) - TW	2023/01/16	0.019	10.0	No
Nitrate (mg/L) - TW	2023/04/17	0.010	10.0	No
Nitrate (mg/L) - TW	2023/07/04	0.010	10.0	No
Nitrate (mg/L) - TW	2023/10/10	0.008	10.0	No

Note: MDL = Minimum Detection Limit, TW = Treated Water

^{4a}Inorganic Parameters (Schedule 23) are required to be tested every 60 months for a small municipal residential system or non-municipal year-round residential system (O. Reg 170/03 Schedule 13-2.(3)). The last set of samples was collected and tested in 2022, the next set of samples is scheduled to be collected and tested in 2027.

^{4b}Fluoride is reportable every 60 months. The most recent Fluoride samples were tested in 2021, the next set of samples is scheduled to be tested in 2026.

Parameter & Location	Sample Date (yyyy/mm/dd)	Sample Result	Aesthetic Objective (AO)	Exceedance	
				AO	> 20 mg/L
Sodium: Na (mg/L) – TW	2021/04/19 ^{4c}	14.6	200	No	No

Note: MDL = Minimum Detection Limit, TW = Treated Water

Note: There is no regulatory Maximum Allowable Concentration (MAC) for 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.

^{4c}Sodium is reportable every 60 months. The most recent Sodium samples were tested in 2021, the next set of samples is scheduled to be tested in 2026.

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	N/A
Distribution – Lead (µg/L) ^{5c}	N/A	N/A	N/A	N/A
Distribution – Alkalinity (mg/L as CaCO ₃)	2	227	231	N/A
Distribution – pH	2	7.69	7.71	N/A
Period: June 15 to October 15				
Plumbing – Lead (µg/L) ^{5b}	N/A	N/A	N/A	N/A
Distribution – Lead (µg/L) ^{5c}	N/A	N/A	N/A	N/A
Distribution – Alkalinity (mg/L as CaCO ₃)	2	224	228	N/A

Drinking Water System Regulation: O. Reg 170/03
 Section 11 Annual Report: January 1, 2023 to December 31, 2023
 Township of Georgian Bluffs: Pottawatomi Drinking Water System

Distribution – pH	2	7.61	7.65	N/A
Period: December 15 to 31				
Plumbing – Lead (µg/L) ^{5b}	N/A	N/A	N/A	N/A
Distribution – Lead (µg/L) ^{5c}	N/A	N/A	N/A	N/A
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. (O.Reg 170/03, Section 11.(6)(g))

^{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. The number of people served by the system is 63 (as confirmed with the Owner on April 26, 2023), and therefore requires 1 distribution sampling point 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}*This system follows a reduced sampling schedule (O.Reg 170/03, Section 15.1.5). Distribution lead samples are collected every 36 months. The most recent set of distribution lead samples were collected within the winter period of December 15, 2021 to April 15, 2022 and summer period of June 15, 2022 to October 15, 2022. The next set of distribution lead samples is scheduled to be collected within 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 ^{6a} (yyyy/mm/dd)	Sample Result	Maximum Allowable Concentration (MAC)	Exceedance of MAC
Aalachlor (ug/L) - TW	2022/01/05	<MDL 0.02	5.0	No
Atrazine + N-dealkylated metabolites (ug/L) - TW	2022/01/05	<MDL 0.01	5.0	No
Azinphos-methyl (ug/L) - TW	2022/01/05	<MDL 0.05	20.0	No
Benzene (ug/L) - TW	2022/01/05	<MDL 0.32	1.0	No
Benzo(a)pyrene (ug/L) - TW	2022/01/05	<MDL 0.004	0.01	No
Bromoxynil (ug/L) - TW	2022/01/05	<MDL 0.33	5.0	No
Carbaryl (ug/L) - TW	2022/01/05	<MDL 0.05	90.0	No
Carbofuran (ug/L) - TW	2022/01/05	<MDL 0.01	90.0	No
Carbon Tetrachloride (ug/L) - TW	2022/01/05	<MDL 0.17	2.0	No
Chlorpyrifos (ug/L) - TW	2022/01/05	<MDL 0.02	90.0	No
Diazinon (ug/L) - TW	2022/01/05	<MDL 0.02	20.0	No
Dicamba (ug/L) - TW	2022/01/05	<MDL 0.2	120.0	No

Drinking Water System Regulation: O. Reg 170/03
 Section 11 Annual Report: January 1, 2023 to December 31, 2023
 Township of Georgian Bluffs: Pottawatomi Drinking Water System

Parameter & Location	Sample Date ^{6a} (yyyy/mm/dd)	Sample Result	Maximum Allowable Concentration (MAC)	Exceedance of MAC
1,2-Dichlorobenzene (ug/L) - TW	2022/01/05	<MDL 0.41	200.0	No
1,4-Dichlorobenzene (ug/L) - TW	2022/01/05	<MDL 0.36	5.0	No
1,2-Dichloroethane (ug/L) - TW	2022/01/05	<MDL 0.35	5.0	No
1,1-Dichloroethylene (ug/L) - TW	2022/01/05	<MDL 0.33	14.0	No
Dichloromethane (Methylene Chloride) (ug/L) - TW	2022/01/05	<MDL 0.35	50.0	No
2,4-Dichlorophenol (ug/L) - TW	2022/01/05	<MDL 0.15	900.0	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L) - TW	2022/01/05	<MDL 0.19	100.0	No
Diclofop-methyl (ug/L) - TW	2022/01/05	<MDL 0.4	9.0	No
Dimethoate (ug/L) - TW	2022/01/05	<MDL 0.06	20.0	No
Diquat (ug/L) - TW	2022/01/05	<MDL 1.0	70.0	No
Diuron (ug/L) - TW	2022/01/05	<MDL 0.03	150.0	No
Glyphosate (ug/L) - TW	2022/01/05	<MDL 1.0	280.0	No
Malathion (ug/L) - TW	2022/01/05	<MDL 0.02	190.0	No
Metolachlor (ug/L) - TW	2022/01/05	<MDL 0.01	50.0	No
Metribuzin (ug/L) - TW	2022/01/05	<MDL 0.02	80.0	No
Monochlorobenzene (Chlorobenzene) (ug/L) - TW	2022/01/05	<MDL 0.3	80.0	No
Paraquat (ug/L) - TW	2022/01/05	<MDL 1.0	10.0	No
PCB (ug/L) - TW	2022/01/05	<MDL 0.04	3.0	No
Pentachlorophenol (ug/L) - TW	2022/01/05	<MDL 0.15	60.0	No
Phorate (ug/L) - TW	2022/01/05	<MDL 0.01	2.0	No
Picloram (ug/L) - TW	2022/01/05	<MDL 1.0	190.0	No
Prometryne (ug/L) - TW	2022/01/05	<MDL 0.03	1.0	No
Simazine (ug/L) - TW	2022/01/05	<MDL 0.01	10.0	No
Terbufos (ug/L) - TW	2022/01/05	<MDL 0.01	1.0	No
Tetrachloroethylene (ug/L) - TW	2022/01/05	<MDL 0.35	10.0	No
2,3,4,6-Tetrachlorophenol (ug/L) - TW	2022/01/05	<MDL 0.2	100.0	No
Triallate (ug/L) - TW	2022/01/05	<MDL 0.01	230.0	No

Drinking Water System Regulation: O. Reg 170/03
 Section 11 Annual Report: January 1, 2023 to December 31, 2023
 Township of Georgian Bluffs: Pottawatomi Drinking Water System

Parameter & Location	Sample Date ^{6a} (yyyy/mm/dd)	Sample Result	Maximum Allowable Concentration (MAC)	Exceedance of MAC
Trichloroethylene (ug/L) - TW	2022/01/05	<MDL 0.44	5.0	No
2,4,6-Trichlorophenol (ug/L) - TW	2022/01/05	<MDL 0.25	5.0	No
2-methyl-4-chlorophenoxyacetic acid (MCPA) (ug/L) - TW	2022/01/05	<MDL 0.12	100.0	No
Trifluralin (ug/L) - TW	2022/01/05	<MDL 0.02	45.0	No
Vinyl Chloride (ug/L) - TW	2022/01/05	<MDL 0.17	1.0	No
Trihalomethane: Total (ug/L) Annual Average - DW	2023 (Quarterly)	2.78	100.0	No
HAA Total (ug/L) Annual Average - DW	2023 (Quarterly)	5.30	80.0	No

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

^{6a}The owner of a small municipal residential system that obtains water from a raw water supply that is surface water shall ensure that at least one water sample for organics is taken every 60 months (O.Reg 170/03, Schedule 13-4.(3)). The last set of samples were collected and tested in 2022, the next set of samples are scheduled to be collected and tested in 2027.

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 & Location	Sample Date (yyyy/mm/dd)	Sample Result
N/A	N/A	N/A