

February 25, 2022

Steven Dollmaier, Director of Operations  
Township of Georgian Bluffs  
R.R.#3  
Owen Sound, Ontario  
N4K 5N5

**Re: Requirement under O. Reg. 170/03 Annual Report**

Attached are the 2021 Annual Reports for the following systems (which are owned by the Township of Georgian Bluffs):

- Shallow Lake Drinking Water System
- East Linton Drinking Water System
- Pottawatomi Drinking Water System
- Oxenden Distribution System.

These reports were completed in accordance with Section 11 of O. Reg. 170/03, which requires an Annual Report to be prepared not later than February 28th of each year for the preceding calendar year.

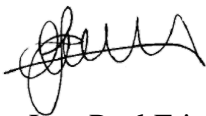
Section 11 of O. Reg. 170/03, requires that if a drinking water system is connected to and receives all of its drinking water from another drinking water system, the owner of the system from which the water is obtained shall ensure that, when the annual report for the system is prepared, a copy of the report is given to the owner of the system that obtains the water. As such, please also find attached a copy of the 2021 Annual Report for:

- The Wiarton Drinking Water System (owned by the Town of South Bruce Peninsula)

Section 12 of O. Reg. 170/03 requires that the reports should be made available for inspection by any member of the public during normal business hours, without charge. The report should be made available at the office of the Township, or at a location that is reasonably convenient to the users of the water system.

Please acknowledge receipt of this document. Should you have any questions or comments regarding these reports, feel free to contact me at any time.

Sincerely,



Leo-Paul Frigault  
Senior Operations Manager  
Ontario Clean Water Agency, Georgian Highlands Region



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

**SHALLOW LAKE**  
**DRINKING WATER SYSTEM**

Large Municipal Residential

**SECTION 11**  
**ANNUAL REPORT**

For the period of  
**JANUARY 1, 2021 TO DECEMBER 31, 2021**

Prepared by the Ontario Clean Water Agency  
For The Township of Georgian Bluffs

<b>Drinking Water System Number:</b>	2220009096
<b>Drinking Water System Name:</b>	Shallow Lake Drinking Water System
<b>Drinking Water System Owner:</b>	Township of Georgian Bluffs
<b>Drinking Water System Category:</b>	Large Municipal Residential
<b>Reporting Period:</b>	January 1, 2021 to December 31, 2021

**Does the 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.

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

Georgian Bluffs Municipal Office  
 177964 Grey Road #18  
 R.R. #3 Owen Sound, ON N4K 5N5

**Drinking-Water Systems (if any), which receive all of their drinking water from your system:**

n/a.

**Did you provide a copy of the 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: \_\_\_\_\_

**Description of Drinking Water System:**

The Shallow Lake Drinking Water System (DWS) is Class III Treatment and Class I Distribution System. 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 a holding/disposal tank)
- Sodium hypochlorite addition (for primary and secondary disinfection/ trim chlorination)
- UV Disinfection System - Two (2) UV reactor units (one duty and one standby)
- 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 during the reporting period:**

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

**Significant expenses were incurred to:**

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

**Description of expenses:**

- Replacement online chlorine analyzer
- New actuator valves for gravity filters
- Replacement battery backup units for instruments
- Replaced brine tank level sensor
- Anodes for the gravity filters
- Rebuild kits and repair parts for chlorine dosing system
- Replacement hour meter for jockey pump
- Replaced critical spare timer relays for high lifts
- Critical spare parts for distribution system repairs

**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:**

Date of Incident	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
n/a	n/a	n/a	n/a	n/a	n/a

**Table 1. Microbiological testing done under Schedule 10, 11 or 12 of Regulation 170/03 during this reporting Period**

Location	Number of Samples	Range of E.coli Results		Range of Total Coliforms Results		Number of HPC Samples	Range of HPC Samples	
		Minimum	Maximum	Minimum	Maximum		Minimum	Maximum
Well 2 (PW3)	52	0	40	21	2280	n/a	n/a	n/a
Well 1 (PW2, Standby)	52	0	NDOGT**	13	NDOGT**	n/a	n/a	n/a
Treated (TW)	52	0	0	0	0	52	0	1
Distribution (DW)	104	0	0	0	0	52	0	600

\*No Data: Overgrown with Target Bacteria

**Table 2. Operational testing done under Schedule 7, 8 or 9 during the period covered by this Annual Report.**

	Number of Grab Samples	Range of Results	
		Minimum	Maximum
Turbidity, On-Line (NTU) – Filter 1	8760	0.02	0.44
Turbidity, On-Line (NTU) – Filter 2	8760	0.02	0.41
Free Chlorine Residual, On-Line (mg/L) - TW	8760	0.77	5.00
Free Chlorine Residual, In-House (mg/L) - DW	415	0.51	1.85

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

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

**Table 3. Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument.**

Date of Order of MDWL	Parameter	Date Sampled	Result	MDWL Allowable Annual Average Concentration
n/a	n/a	n/a	n/a	n/a

**Table 4. Summary of Inorganic parameters tested during this reporting period or most recent sample results**

Parameter	Sample Date (mm/dd/yyyy)	Sample Result	Maximum Allowable Concentration (MAC)	Exceedance	
				MAC	½ MAC
Antimony: Sb (ug/L) - TW	2021/01/11	<MDL 0.9	6.0	No	No
Arsenic: As (ug/L) - TW	2021/01/11	<MDL 0.2	10.0	No	No
Barium: Ba (ug/L) - TW	2021/01/11	3.30	1000.0	No	No
Boron: B (ug/L) - TW	2021/01/11	9.0	5000.0	No	No
Cadmium: Cd (ug/L) - TW	2021/01/11	<MDL 0.003	5.0	No	No
Chromium: Cr (ug/L) - TW	2021/01/11	0.31	50.0	No	No
Mercury: Hg (ug/L) - TW	2021/01/11	<MDL 0.01	1.0	No	No
Selenium: Se (ug/L) - TW	2021/01/11	0.04	50.0	No	No
Uranium: U (ug/L) - TW	2021/01/11	0.007	20.0	No	No
Fluoride (mg/L) - TW	2021/04/12	0.06	1.5	No	No
Nitrite (mg/L) - TW	2021/01/04	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2021/04/06	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2021/07/05	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2021/10/12	<MDL 0.003	1.0	No	No
Nitrate (mg/L) - TW	2021/01/04	0.615	10.0	No	No
Nitrate (mg/L) - TW	2021/04/06	0.686	10.0	No	No
Nitrate (mg/L) - TW	2021/07/05	0.237	10.0	No	No
Nitrate (mg/L) - TW	2021/10/12	0.223	10.0	No	No
Sodium: Na (mg/L) - TW	2021/04/12	7.96	20*	No	No

NOTE: There is no "MAC" for Sodium. The aesthetic objective 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.

NOTE: Fluoride and Sodium are to be sampled every 60 months. The most current samples for Fluoride and Sodium were taken on April 12, 2021. The next set of Fluoride and Sodium samples are to be taken in 2026.

**Table 5. Summary of lead testing under Schedule 15.1 during this reporting period.**

Location Type	Number of Samples	Range of Lead Results		Number of Exceedances
		Minimum	Maximum	
Plumbing	n/a	n/a	n/a	n/a
Lead (µg/L) - DW	2	0.12	0.13	0
Alkalinity (mg/L) - DW	2	218	226	0
pH	2	6.69	7.60	n/a

NOTE: This system qualifies for the plumbing exemption as per Ontario Regulation 170/03 Schedule 15.1-5 (9) (10). Two (2) distribution lead samples are taken each year. (i.e. 1 sample per period).

**Table 6. Summary of Organic parameters sampled during this reporting period or most recent sample results.**

Parameter	Sample Date	Result Value	MAC	Exceedance	
				MAC	½ MAC
Alachlor (µg/L) - TW	2021/01/11	<MDL 0.02	5.0	No	No
Atrazine + N-dealkylated metabolites (µg/L) - TW	2021/01/11	<MDL 0.01	5.0	No	No
Azinphos-methyl (µg/L) - TW	2021/01/11	<MDL 0.05	20.0	No	No
Benzene (µg/L) - TW	2021/01/11	<MDL 0.32	1.0	No	No
Benzo(a)pyrene (µg/L) - TW	2021/01/11	<MDL 0.004	0.01	No	No
Bromoxynil (µg/L) - TW	2021/01/11	<MDL 0.33	5.0	No	No
Carbaryl (µg/L) - TW	2021/01/11	<MDL 0.05	90.0	No	No
Carbofuran (µg/L) - TW	2021/01/11	<MDL 0.01	90.0	No	No
Carbon Tetrachloride (µg/L) - TW	2021/01/11	<MDL 0.17	2.0	No	No

Parameter	Sample Date	Result Value	MAC	Exceedance	
				MAC	½ MAC
Chlorpyrifos (µg/L) - TW	2021/01/11	<MDL 0.02	90.0	No	No
Diazinon (µg/L) - TW	2021/01/11	<MDL 0.02	20.0	No	No
Dicamba (µg/L) - TW	2021/01/11	<MDL 0.2	120.0	No	No
1,2-Dichlorobenzene (µg/L) - TW	2021/01/11	<MDL 0.41	200.0	No	No
1,4-Dichlorobenzene (µg/L) - TW	2021/01/11	<MDL 0.36	5.0	No	No
1,2-Dichloroethane (µg/L) - TW	2021/01/11	<MDL 0.35	5.0	No	No
1,1-Dichloroethylene (µg/L) - TW	2021/01/11	<MDL 0.33	14.0	No	No
Dichloromethane (Methylene Chloride) (µg/L) - TW	2021/01/11	<MDL 0.35	50.0	No	No
2,4-Dichlorophenol (µg/L) - TW	2021/01/11	<MDL 0.15	900.0	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (µg/L) - TW	2021/01/11	<MDL 0.19	100.0	No	No
Diclofop-methyl (µg/L) - TW	2021/01/11	<MDL 0.4	9.0	No	No
Dimethoate (µg/L) - TW	2021/01/11	<MDL 0.06	20.0	No	No
Diquat (µg/L) - TW	2021/01/11	<MDL 1.0	70.0	No	No
Diuron (µg/L) - TW	2021/01/11	<MDL 0.03	150.0	No	No
Glyphosate (µg/L) - TW	2021/01/11	<MDL 1.0	280.0	No	No
Malathion (µg/L) - TW	2021/01/11	<MDL 0.02	190.0	No	No
Metolachlor (µg/L) - TW	2021/01/11	<MDL 0.01	50.0	No	No
Metribuzin (µg/L) - TW	2021/01/11	<MDL 0.02	80.0	No	No
Monochlorobenzene (Chlorobenzene) (µg/L) - TW	2021/01/11	<MDL 0.3	80.0	No	No
Paraquat (µg/L) - TW	2021/01/11	<MDL 1.0	10.0	No	No
PCB (µg/L) - TW	2021/01/11	<MDL 0.04	3.0	No	No
Pentachlorophenol (µg/L) - TW	2021/01/11	<MDL 0.15	60.0	No	No
Phorate (µg/L) - TW	2021/01/11	<MDL 0.01	2.0	No	No
Picloram (µg/L) - TW	2021/01/11	<MDL 1.0	190.0	No	No
Prometryne (µg/L) - TW	2021/01/11	<MDL 0.03	1.0	No	No
Simazine (µg/L) - TW	2021/01/11	<MDL 0.01	10.0	No	No
Terbufos (µg/L) - TW	2021/01/11	<MDL 0.01	1.0	No	No
Tetrachloroethylene (µg/L) - TW	2021/01/11	<MDL 0.35	10.0	No	No
2,3,4,6-Tetrachlorophenol (µg/L) - TW	2021/01/11	<MDL 0.2	100.0	No	No
Triallate (µg/L) - TW	2021/01/11	<MDL 0.01	230.0	No	No
Trichloroethylene (µg/L) - TW	2021/01/11	<MDL 0.44	5.0	No	No
2,4,6-Trichlorophenol (µg/L) - TW	2021/01/11	<MDL 0.25	5.0	No	No
2-methyl-4-chlorophenoxyacetic acid (MCPA) (µg/L) - TW	2021/01/11	<MDL 0.12	100	No	No
Trifluralin (µg/L) - TW	2021/01/11	<MDL 0.02	45.0	No	No
Vinyl Chloride (µg/L) - TW	2021/01/11	<MDL 0.17	1.0	No	No
Trihalomethane: Total (µg/L) Running Annual Average - DW	Quarterly (2021)	36.00	100.0	No	No
Haloacetic Acids: Total (µg/L) Running Annual Average - DW	Quarterly (2021)	12.55	80.0	No	No

**Table 7. 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
n/a	n/a	n/a	n/a

*NOTE: This is required only if DWS category is large municipal residential, small municipal residential, large municipal non-residential, small municipal non-residential, large non municipal non-residential*



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

**EAST LINTON**  
**DRINKING WATER SYSTEM**

Large Municipal Residential

**SECTION 11**  
**ANNUAL REPORT**

For the period of  
**JANUARY 1, 2021 TO DECEMBER 31, 2021**

Prepared by the Ontario Clean Water Agency  
For The Township of Georgian Bluffs

<b>Drinking Water System Number:</b>	220007659
<b>Drinking Water System Name:</b>	East Linton Drinking Water System
<b>Drinking Water System Owner:</b>	Township of Georgian Bluffs
<b>Drinking Water System Category:</b>	Large Municipal Residential
<b>Reporting Period:</b>	January 1, 2021 to December 31, 2021

**Does the 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.

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

Georgian Bluffs Municipal Office  
177964 Grey Road #18  
R.R. #3 Owen Sound, ON  
N4K 5N5

**Drinking-Water Systems (if any), which receive all of their drinking water from your system:**

n/a.

**Did you provide a copy of the 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 type="checkbox"/>            | Public access/notice via Public Request      |
| <input type="checkbox"/>            | Public access/notice via a Public Library    |
| <input type="checkbox"/>            | Public access/notice via other method: _____ |

**Description of Drinking Water System:**

The East Linton Drinking Water System 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 during the reporting period:**

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

**Significant expenses were incurred to:**

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

**Description of expenses:**

- Replacement power supply for PLC
- Replacement T2 tank
- Replaced raw water turbidity analyzer
- Replaced air compressor for Pall membrane filtration
- Replaced gaskets for Pall skids plumbing
- Replacement electric motor on High Lift Pump
- Replacement battery backup units for instruments
- Replacement ballast #1 for UV system #2
- Replacement level transmitters

**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:**

Date of Incident	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
n/a	n/a	n/a	n/a	n/a	n/a

**Table 1. Microbiological testing done under Schedule 10, 11 or 12 of Regulation 170/03 during this reporting Period**

Location	Number of Samples	Range of E.coli Results		Range of Total Coliforms Results		Number of HPC Samples	Range of HPC Samples	
		Minimum	Maximum	Minimum	Maximum		Minimum	Maximum
Raw Water (RW)	52	0	1	0	16	n/a	n/a	n/a
Treated (TW)	52	0	0	0	0	52	0	2
Distribution (DW)	116	0	0	0	0	52	0	12

*\*See "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" for additional details.*

**Table 2. Operational testing done under Schedule 7, 8 or 9 during the period covered by this Annual Report.**

	Number of Grab Samples	Range of Results	
		Minimum	Maximum
Turbidity, On-Line (NTU) – Filter A	8760	0	0.03
Turbidity, On-Line (NTU) – Filter B	8760	0	0.06
Free Chlorine Residual, On-Line (mg/L) - TW	8760	1.03	3.74
Free Chlorine Residual, In-House (mg/L) - DW	415	0.54	1.99

*NOTE: For continuous monitors 8760 is used as the number of samples*

**Table 3. Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument.**

Date of Order of MDWL	Parameter	Date Sampled	Result	MDWL Allowable Annual Average Concentration
n/a	n/a	n/a	n/a	n/a

**Table 4. Summary of Inorganic parameters tested during this reporting period or most recent sample results**

Parameter	Sample Date (yyyy/mm/dd)	Sample Result	Maximum Allowable Concentration (MAC)	Exceedance	
				MAC	½ MAC
Antimony: Sb (µg/L) - TW	2021/01/11	<MDL 0.9	6.0	No	No
Arsenic: As (µg/L) - TW	2021/01/11	0.4	10.0	No	No
Barium: Ba (µg/L) - TW	2021/01/11	14.0	1000.0	No	No
Boron: B (µg/L) - TW	2021/01/11	9.0	5000.0	No	No
Cadmium: Cd (µg/L) - TW	2021/01/11	0.005	5.0	No	No
Chromium: Cr (µg/L) - TW	2021/01/11	0.49	50.0	No	No
Mercury: Hg (µg/L) - TW	2021/01/11	<MDL 0.01	1.0	No	No
Selenium: Se (µg/L) - TW	2021/01/11	0.13	50.0	No	No
Uranium: U (µg/L) - TW	2021/01/11	0.174	20.0	No	No
Fluoride (mg/L) - TW	2021/04/12	0.12	1.5	No	No
Nitrite (mg/L) - TW	2021/01/04	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2021/04/06	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2021/07/05	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2021/10/12	<MDL 0.003	1.0	No	No
Nitrate (mg/L) - TW	2021/01/04	0.276	10.0	No	No
Nitrate (mg/L) - TW	2021/04/06	0.276	10.0	No	No
Nitrate (mg/L) - TW	2021/07/05	0.258	10.0	No	No
Nitrate (mg/L) - TW	2021/10/12	0.242	10.0	No	No
Sodium: Na (mg/L) - TW	2021/04/12	7.24	20*	No	No

NOTE: There is no "MAC" for Sodium. The aesthetic objective 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.

NOTE: Fluoride and Sodium are to be sampled every 60 months. The most recent samples for Fluoride and Sodium were taken on April 12, 2021. The next set of Fluoride and Sodium samples are to be taken in 2026.

**Table 5. Summary of lead testing under Schedule 15.1 during this reporting period.**

Location Type	Number of Samples	Range of Lead Results		Number of Exceedances
		Minimum	Maximum	
Plumbing	n/a	n/a	n/a	n/a
Lead (µg/L) - DW	4	0.11	0.50	0
Alkalinity (mg/L) as CaCO <sub>3</sub> - DW	4	73	76	0
pH	4	7.13	8.30	n/a

NOTE: This system now qualifies for the plumbing exemption as per Ontario Regulation 170/03 Schedule 15.1-5 (9) (10). Four (4) distribution lead samples are only taken every 12 months. (i.e. 2 samples per period).

**Table 6. Summary of Organic parameters sampled during this reporting period or most recent sample results.**

Parameter	Sample Date (yyyy/mm/dd)	Result Value	MAC	Exceedance	
				MAC	½ MAC
Alachlor (µg/L) - TW µg/L	2021/01/11	<MDL 0.02	5.0	No	No
Atrazine + N-dealkylated metabolites (µg/L) - TW	2021/01/11	0.01	5.0	No	No
Azinphos-methyl (µg/L) - TW	2021/01/11	<MDL 0.05	20.0	No	No
Benzene (µg/L) - TW	2021/01/11	<MDL 0.32	1.0	No	No
Benzo(a)pyrene (µg/L) - TW	2021/01/11	<MDL 0.004	0.01	No	No
Bromoxynil (µg/L) - TW	2021/01/11	<MDL 0.33	5.0	No	No
Carbaryl (µg/L) - TW	2021/01/11	<MDL 0.05	90.0	No	No
Carbofuran (µg/L) - TW	2021/01/11	<MDL 0.01	90.0	No	No
Carbon Tetrachloride (µg/L) - TW	2021/01/11	<MDL 0.17	2.0	No	No

Parameter	Sample Date (yyyy/mm/dd)	Result Value	MAC	Exceedance	
				MAC	½ MAC
Chlorpyrifos (µg/L) - TW	2021/01/11	<MDL 0.02	90.0	No	No
Diazinon (µg/L) - TW	2021/01/11	<MDL 0.02	20.0	No	No
Dicamba (µg/L) - TW	2021/01/11	<MDL 0.2	120.0	No	No
1,2-Dichlorobenzene (µg/L) - TW	2021/01/11	<MDL 0.41	200.0	No	No
1,4-Dichlorobenzene (µg/L) - TW	2021/01/11	<MDL 0.36	5.0	No	No
1,2-Dichloroethane (µg/L) - TW	2021/01/11	<MDL 0.35	5.0	No	No
1,1-Dichloroethylene (µg/L) - TW	2021/01/11	<MDL 0.33	14.0	No	No
Dichloromethane (Methylene Chloride) (µg/L) - TW	2021/01/11	<MDL 0.35	50.0	No	No
2,4-Dichlorophenol (µg/L) - TW µg/L	2021/01/11	<MDL 0.15	900.0	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (µg/L) - TW	2021/01/11	<MDL 0.19	100.0	No	No
Diclofop-methyl (µg/L) - TW	2021/01/11	<MDL 0.4	9.0	No	No
Dimethoate (µg/L) - TW	2021/01/11	<MDL 0.06	20.0	No	No
Diquat (µg/L) - TW	2021/01/11	<MDL 1.0	70.0	No	No
Diuron (µg/L) - TW	2021/01/11	<MDL 0.03	150.0	No	No
Glyphosate (µg/L) - TW	2021/01/11	<MDL 1.0	280.0	No	No
Malathion (µg/L) - TW	2021/01/11	<MDL 0.02	190.0	No	No
Metolachlor (µg/L) - TW	2021/01/11	<MDL 0.01	50.0	No	No
Metribuzin (µg/L) - TW	2021/01/11	<MDL 0.02	80.0	No	No
Monochlorobenzene (Chlorobenzene) (µg/L) - TW	2021/01/11	<MDL 0.3	80.0	No	No
Paraquat (µg/L) - TW	2021/01/11	<MDL 1.0	10.0	No	No
PCB (µg/L) - TW	2021/01/11	<MDL 0.04	3.0	No	No
Pentachlorophenol (µg/L) - TW	2021/01/11	<MDL 0.15	60.0	No	No
Phorate (µg/L) - TW	2021/01/11	<MDL 0.01	2.0	No	No
Picloram (µg/L) - TW	2021/01/11	<MDL 1.0	190.0	No	No
Prometryne (µg/L) - TW	2021/01/11	<MDL 0.03	1.0	No	No
Simazine (µg/L) - TW	2021/01/11	<MDL 0.01	10.0	No	No
Terbufos (µg/L) - TW	2021/01/11	<MDL 0.01	1.0	No	No
Tetrachloroethylene (µg/L) - TW	2021/01/11	<MDL 0.35	10.0	No	No
2,3,4,6-Tetrachlorophenol (µg/L) - TW	2021/01/11	<MDL 0.2	100.0	No	No
Triallate (µg/L) - TW	2021/01/11	<MDL 0.01	230.0	No	No
Trichloroethylene (µg/L) - TW	2021/01/11	<MDL 0.44	5.0	No	No
2,4,6-Trichlorophenol (µg/L) - TW	2021/01/11	<MDL 0.25	5.0	No	No
2-methyl-4-chlorophenoxyacetic acid (MCPA) (µg/L) - TW	2021/01/11	<MDL 0.12	100	No	No
Trifluralin (µg/L) - TW	2021/01/11	<MDL 0.02	45.0	No	No
Vinyl Chloride (µg/L) - TW	2021/01/11	<MDL 0.17	1.0	No	No
Trihalomethane: Total (µg/L), Running Annual Average - DW	Quarterly (2021)	41.8	100.0	No	No
Haloacetic Acids: Total (µg/L), Running Annual Average - DW	Quarterly (2021)	22.7	80.0	No	No

**Table 7. 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
n/a	n/a	n/a	n/a

*NOTE: This is required only if DWS category is large municipal residential, small municipal residential, large municipal non-residential, small municipal non-residential, large non municipal non-residential*



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

**POTTAWATOMI**  
**DRINKING WATER SYSTEM**

Small Municipal Residential

**SECTION 11**  
**ANNUAL REPORT**

For the period of  
**JANUARY 1, 2021 TO DECEMBER 31, 2021**

Prepared by the Ontario Clean Water Agency  
For The Township of Georgian Bluffs

<b>Drinking Water System Number:</b>	220008319
<b>Drinking Water System Name:</b>	Pottawatomi Drinking Water System
<b>Drinking Water System Owner:</b>	Township of Georgian Bluffs
<b>Drinking Water System Category:</b>	Small Municipal Residential
<b>Reporting Period:</b>	January 1, 2021 to December 31, 2021

**Does the 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.

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

Georgian Bluffs Municipal Office  
 177964 Grey Road #18  
 R.R. #3 Owen Sound, ON  
 N4K 5N5

**Drinking-Water Systems (if any), which receive all of their drinking water from your system:**  
 n/a.

**Did you provide a copy of the 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: \_\_\_\_\_

**Description of Drinking Water System:**

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 during the reporting period:**

- 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 expenses:**

- Replacement chlorine contact tank
- Replacement pressure tanks and parts
- Parts required to install new pressure tanks

**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:**

Date of Incident	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
n/a	n/a	n/a	n/a	n/a	n/a

**Table 1. Microbiological testing done under Schedule 10, 11 or 12 of Regulation 170/03 during this reporting Period**

Location	Number of Samples	Range of E.coli Results		Range of Total Coliforms Results		Number of HPC Samples	Range of HPC Samples	
		Minimum	Maximum	Minimum	Maximum		Minimum	Maximum
Well 2 (RW)	12	0	0	0	0	n/a	n/a	n/a
Distribution (DW)	52	0	0	0	0	52	0	29

*\*See "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" for additional details.*

**Table 2. Operational testing done under Schedule 7, 8 or 9 during the period covered by this Annual Report.**

	Number of Samples	Range of Results	
		Minimum	Maximum
Turbidity (NTU) - TW	334	0.04	0.36
Free Chlorine Residual, On-Line (mg/L) - TW	8760	0.81	4.59
Free Chlorine Residual, In-House (mg/L) - TW	334	1.28	2.43
Free Chlorine Residual, In-House (mg/L) - DW	102	1.18	2.20
Free Chlorine Residual, Field (mg/L) - DW	64	1.28	2.05

*NOTE: For continuous monitors 8760 is used as the number of samples*

**Table 3. Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument.**

Date of Order of MDWL	Parameter	Date Sampled	Result	MDWL Allowable Annual Average Concentration
n/a	n/a	n/a	n/a	n/a

**Table 4. Summary of Inorganic parameters tested during this reporting period or most recent sample results**

Parameter	Sample Date (yyyy/mm/dd)	Sample Result	Maximum Allowable Concentration (MAC)	Exceedance	
				MAC	½ MAC
Antimony: Sb (µg/L) - TW	2017/01/09	<MDL 0.02	6.0	No	No
Arsenic: As (µg/L) - TW	2017/01/09	3.0	10.0	No	No
Barium: Ba (µg/L) - TW	2017/01/09	73.5	1000.0	No	No
Boron: B (µg/L) - TW	2017/01/09	216.0	5000.0	No	No
Cadmium: Cd (µg/L) - TW	2017/01/09	0.003	5.0	No	No
Chromium: Cr (µg/L) - TW	2017/01/09	0.55	50.0	No	No
Mercury: Hg (µg/L) - TW	2017/01/09	<MDL 0.01	1.0	No	No
Selenium: Se (µg/L) - TW	2017/01/09	0.09	50.0	No	No
Uranium: U (µg/L) - TW	2017/01/09	0.078	20.0	No	No
Fluoride (mg/L) - TW	2021/04/19	0.24	1.5	No	No
Nitrite (mg/L) - TW	2021/01/04	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2021/04/06	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2021/07/05	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2021/10/12	<MDL 0.003	1.0	No	No
Nitrate (mg/L) - TW	2021/01/04	0.008	10.0	No	No
Nitrate (mg/L) - TW	2021/04/06	0.006	10.0	No	No
Nitrate (mg/L) - TW	2021/07/05	<MDL 0.006	10.0	No	No
Nitrate (mg/L) - TW	2021/10/12	0.006	10.0	No	No
Sodium: Na (mg/L) - TW	2021/04/19	14.6	20*	No	Yes

*NOTE: There is no "MAC" for Sodium. The aesthetic objective 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.*

*NOTE: Fluoride and Sodium are to be sampled every 60 months. The most current samples for Fluoride and Sodium were taken on April 19, 2021. The next set of Fluoride and Sodium samples are to be taken in 2026.*

*NOTE: For small municipal residential systems, Schedule 23 & 24 samples are to be taken every 60 months. The most current Schedule 23 & 24 samples were taken in January 2017 the next set of samples is scheduled to be sampled in January 2022.*

**Table 5. Summary of lead testing under Schedule 15.1 during this reporting period.**

Location Type	Number of Samples	Range of Lead Results		Number of Exceedances
		Minimum	Maximum	
Plumbing	n/a	n/a	n/a	n/a
Distribution (µg/L)	4	0.04	0.10	0
Alkalinity (mg/L)	4	217	238	0
pH	4	7.40	7.60	n/a

*NOTE: This system now qualifies for the plumbing exemption as per Ontario Regulation 170/03 Schedule 15.1-5 (9) (10). Four (4) distribution lead samples are only taken every 12 months. (i.e. 2 samples per period).*

**Table 6. Summary of Organic parameters sampled during this reporting period or most recent sample results.**

Parameter	Sample Date (yyyy/mm/dd)	Result Value	MAC	Exceedance	
				MAC	½ MAC
Alachlor (µg/L) - TW	2017/01/09	<MDL 0.02	5.0	No	No
Atrazine + N-dealkylated metabolites (µg/L) - TW	2017/01/09	<MDL 0.01	5.0	No	No
Azinphos-methyl (µg/L) - TW	2017/01/09	<MDL 0.05	20.0	No	No
Benzene (µg/L) - TW	2017/01/09	<MDL 0.32	1.0	No	No
Benzo(a)pyrene (µg/L) - TW	2017/01/09	<MDL 0.004	0.01	No	No
Bromoxynil (µg/L) - TW	2017/01/09	<MDL 0.33	5.0	No	No
Carbaryl (µg/L) - TW	2017/01/09	<MDL 0.05	90.0	No	No
Carbofuran (µg/L) - TW	2017/01/09	<MDL 0.01	90.0	No	No
Carbon Tetrachloride (µg/L) - TW	2017/01/09	<MDL 0.16	2.0	No	No
Chlorpyrifos (µg/L) - TW	2017/01/09	<MDL 0.02	90.0	No	No
Diazinon (µg/L) - TW	2017/01/09	<MDL 0.02	20.0	No	No
Dicamba (µg/L) - TW	2017/01/09	<MDL 0.2	120.0	No	No
1,2-Dichlorobenzene (µg/L) - TW	2017/01/09	<MDL 0.41	200.0	No	No
1,4-Dichlorobenzene (µg/L) - TW	2017/01/09	<MDL 0.36	5.0	No	No
1,2-Dichloroethane (µg/L) - TW	2017/01/09	<MDL 0.35	5.0	No	No
1,1-Dichloroethylene (µg/L) - TW	2017/01/09	<MDL 0.33	14.0	No	No
Dichloromethane (Methylene Chloride) (µg/L) - TW	2017/01/09	<MDL 0.35	50.0	No	No
2,4-Dichlorophenol (µg/L) - TW	2017/01/09	<MDL 0.15	900.0	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (µg/L) - TW	2017/01/09	<MDL 0.19	100.0	No	No
Diclofop-methyl (µg/L) - TW	2017/01/09	<MDL 0.4	9.0	No	No
Dimethoate (µg/L) - TW	2017/01/09	<MDL 0.03	20.0	No	No
Diquat (µg/L) - TW	2017/01/09	<MDL 1.0	70.0	No	No
Diuron (µg/L) - TW	2017/01/09	<MDL 0.03	150.0	No	No
Glyphosate (µg/L) - TW	2017/01/09	<MDL 1.0	280.0	No	No
Malathion (µg/L) - TW	2017/01/09	<MDL 0.02	190.0	No	No
Metolachlor (µg/L) - TW	2017/01/09	<MDL 0.01	50.0	No	No
Metribuzin (µg/L) - TW	2017/01/09	<MDL 0.02	80.0	No	No
Monochlorobenzene (Chlorobenzene) (µg/L) - TW	2017/01/09	<MDL 0.3	80.0	No	No
Paraquat (µg/L) - TW	2017/01/09	<MDL 1.0	10.0	No	No
PCB (µg/L) - TW	2017/01/09	<MDL 0.04	3.0	No	No
Pentachlorophenol (µg/L) - TW	2017/01/09	<MDL 0.15	60.0	No	No
Phorate (µg/L) - TW	2017/01/09	<MDL 0.01	2.0	No	No
Picloram (µg/L) - TW	2017/01/09	<MDL 1.0	190.0	No	No
Prometryne (µg/L) - TW	2017/01/09	<MDL 0.03	1.0	No	No
Simazine (µg/L) - TW	2017/01/09	<MDL 0.01	10.0	No	No
Terbufos (µg/L) - TW	2017/01/09	<MDL 0.01	1.0	No	No
Tetrachloroethylene (µg/L) - TW	2017/01/09	<MDL 0.35	10.0	No	No
2,3,4,6-Tetrachlorophenol (µg/L) - TW	2017/01/09	<MDL 0.2	100.0	No	No
Triallate (µg/L) - TW	2017/01/09	<MDL 0.01	230.0	No	No
Trichloroethylene (µg/L) - TW	2017/01/09	<MDL 0.44	5.0	No	No
2,4,6-Trichlorophenol (µg/L) - TW	2017/01/09	<MDL 0.25	5.0	No	No
2-methyl-4-chlorophenoxyacetic acid (MCPA) (µg/L) - TW	2017/01/09	<MDL 0.12	100	No	No
Trifluralin (µg/L) - TW	2017/01/09	<MDL 0.02	45.0	No	No
Vinyl Chloride (µg/L) - TW	2017/01/09	<MDL 0.17	1.0	No	No
Trihalomethane: Total (µg/L) Running Annual Average - DW	Quarterly (2021)	3.53	100.0	No	No
Haloacetic Acids: Total (µg/L) Running Annual Average - DW	Quarterly (2021)	5.3	80.0	No	No

*NOTE: For small municipal residential systems, Schedule 23 & 24 samples are to be taken every 60 months. The most current Schedule 23 & 24 samples were taken in January 2017 the next set of samples is scheduled to be sampled in January 2022.*



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

<b>Parameter</b>	<b>Result Value</b>	<b>Unit of Measure</b>	<b>Date of Sample</b>
n/a	n/a	n/a	n/a

*NOTE: This is required only if DWS category is large municipal residential, small municipal residential, large municipal non-residential, small municipal non-residential, large non municipal non-residential*



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

**OXENDEN**  
**DISTRIBUTION SYSTEM**

Large Municipal Residential

**SECTION 11**  
**ANNUAL REPORT**

For the period of  
**JANUARY 1, 2021 TO DECEMBER 31, 2021**

Prepared by the Ontario Clean Water Agency  
For The Township of Georgian Bluffs

<b>Drinking Water System Number:</b>	220004215
<b>Drinking Water System Name:</b>	Oxenden Distribution System
<b>Drinking Water System Owner:</b>	Township of Georgian Bluffs
<b>Drinking Water System Category:</b>	Large Municipal Residential
<b>Reporting Period:</b>	January 1, 2021 to December 31, 2021

**Does the 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.

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

Georgian Bluffs Municipal Office  
177964 Grey Road #18  
R.R. #3 Owen Sound, ON  
N4K 5N5

**Drinking-Water Systems (if any), which receive all of their drinking water from your system:**

n/a.

**Did you provide a copy of the 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: \_\_\_\_\_

**Description of Drinking Water System:**

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

**List of water treatment chemicals used during the reporting period:**

n/a.

**Significant expenses were incurred to:**

- Install required equipment
- Repair required equipment
- Replace required equipment
- No significant expenses were incurred

**Description of expenses:**

- Multiple distribution system parts

**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:**

Date of Incident	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
n/a	n/a	n/a	n/a	n/a	n/a

**Table 1. Microbiological testing done under Schedule 10, 11 or 12 of Regulation 170/03 during this reporting Period**

Location	Number of Samples	Range of E.coli Results		Range of Total Coliforms Results		Number of HPC Samples	Range of HPC Samples	
		Minimum	Maximum	Minimum	Maximum		Minimum	Maximum
Raw Water (RW)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Treated (TW)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Distribution (DW)	104	0	0	0	0	52	0	4

\*See "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" for additional details.

**Table 2. Operational testing done under Schedule 7, 8 or 9 during the period covered by this Annual Report.**

Parameter	Number of Grab Samples	Range of Results	
		Minimum	Maximum
Free Chlorine Residual, In-House (mg/L) - DW	416	0.40	1.55

**Table 3. Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument.**

Date of Order of MDWL	Parameter	Date Sampled	Result	MDWL Allowable Annual Average Concentration
n/a	n/a	n/a	n/a	n/a

**Table 4. Summary of Inorganic parameters tested during this reporting period or most recent sample results**

Parameter	Sample Date (yyyy/mm/dd)	Sample Result	Exceedance
n/a	n/a	n/a	n/a

**Table 5. Summary of lead testing under Schedule 15.1 during this reporting period.**

Location Type	Number of Samples	Range of Lead Results		Number of Exceedances
		Minimum	Maximum	
Plumbing	n/a	n/a	n/a	n/a
Distribution (µg/L)	2	0.02	0.21	0
Alkalinity (mg/L as CaCO <sub>3</sub> )	2	73	75	0
pH	2	7.30	7.72	n/a

NOTE: This system now qualifies for the plumbing exemption as per Ontario Regulation 170/03 Schedule 15.1-5 (9) (10). Two (2) distribution lead samples are only taken every 12 months. (i.e. 1 sample per period).

**Table 6. Summary of Organic parameters sampled during this reporting period or most recent sample results.**

Parameter	Sample Date (yyyy/mm/dd)	Result Value	MAC*	Exceedance	
				MAC	½ MAC
Trihalomethane: Total (µg/L) Running Annual Average - DW	2021 (Quarterly)	42.25	100	No	No
HAA Total (µg/L) Running Annual Average - DW	2021 (Quarterly)	16.88	80	No	No

\*MAC: Maximum Acceptable Concentration

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

<b>Parameter</b>	<b>Result Value</b>	<b>Unit of Measure</b>	<b>Date of Sample</b>
n/a	n/a	n/a	n/a

*NOTE: This is required only if DWS category is large municipal residential, small municipal residential, large municipal non-residential, small municipal non-residential, large non municipal non-residential)*



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

**WIARTON**  
**DRINKING WATER SYSTEM**

Large Municipal Residential

**SECTION 11**  
**ANNUAL REPORT**

**For the period of**  
**JANUARY 1, 2021 TO DECEMBER 31, 2021**

Prepared by the Ontario Clean Water Agency  
For The Town of South Bruce Peninsula

<b>Drinking Water System Number:</b>	220002681
<b>Drinking Water System Name:</b>	Warton Drinking Water System
<b>Drinking Water System Owner:</b>	Town of South Bruce Peninsula
<b>Drinking Water System Category:</b>	Large Municipal Residential
<b>Reporting Period:</b>	January 1, 2021 to December 31, 2021

**Does the 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.

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

Town of South Bruce Peninsula  
315 George Street  
Warton, Ontario  
N0H 2T0

**Drinking-Water Systems (if any), which receive all of their drinking water from your system:**

- Oxenden Distribution System (260004215)
- Oliphant Drinking Water System (220007695)

**Did you provide a copy of the annual report to all Drinking-Water System owners that are connected to you and to whom you provide all of its drinking water?**

Yes

**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 type="checkbox"/>            | Public access/notice via Public Request      |
| <input type="checkbox"/>            | Public access/notice via a Public Library    |
| <input type="checkbox"/>            | Public access/notice via other method: _____ |

**Description of Drinking Water System:**

The Warton Drinking Water System (DWS) is a Class III Treatment and Class II Distribution System.

The Warton Water Treatment Plant is supplied by Colpoy's Bay (Georgian Bay). The treatment system consists of the following:

- A bar screen and standby travelling screen ( low lift station section)
- Sodium hypochlorite (pre-chlorination for zebra mussel control and chlorination after filtration)
- Coagulation and Flocculation
- Filtration (dual media gravity filters)
- Waste Residual Management (filter backwash wastewater sedimentation tank with sludge withdrawal. Sludge is discharged to the sanitary sewer and the supernatant is dechlorinated and then discharged to Colpoy's Bay)
- Polymer system (for enhancing settling in the wastewater sedimentation tank)
- Sodium Bisulphate feed system (prior to flocculation or to raw water well for dechlorination/pH)

- correction and to the wastewater residual management system for dechlorination)
- UV Disinfection System
  - Activated carbon feed system for taste and odour control (currently is not being used)
  - Clearwell (for storage and to achieve required contact time)
  - SCADA System (for monitoring and control)
  - Diesel generator set (for emergency back-up power)
- The distribution system consists of the following:
- Wiarton Standpipe and Booster Station.
  - Approximately 23.5 kilometers of distribution water mains

**List of water treatment chemicals used during the reporting period:**

- Sodium Hypochlorite 12%
- PAX-XL1900 Coagulation
- LIPQIPAM A-307PG Flocculation
- Sodium Metabisulfite

**Significant expenses were incurred to:**

- |                                     |                                       |
|-------------------------------------|---------------------------------------|
| <input checked="" 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 expenses:**

- Chlorine dosing system replacement parts
- 3 online turbidity analyzers
- Repair kit for pressure regulating valve on booster pump 3
- Replacement battery backup units
- Replacement bisulfite dosing pump (#2)

**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:**

Date of Incident	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
n/a	n/a	n/a	n/a	n/a	n/a

**Table 1. Microbiological testing done under Schedule 10, 11 or 12 of Regulation 170/03 during this reporting Period**

Location	Number of Samples	Range of E.coli Results		Range of Total Coliforms Results		Number of HPC Samples	Range of HPC Samples	
		Minimum	Maximum	Minimum	Maximum		Minimum	Maximum
Raw (RW)	52	0	9	0	66	n/a	n/a	n/a
Treated (TW)	52	0	0	0	0	52	0	1
Distribution (DW)	160	0	0	0	0	56	0	1



**Table 2. Operational testing done under Schedule 7, 8 or 9 during the period covered by this Annual Report**

	Number of Grab Samples	Range of Results	
		Minimum	Maximum
Turbidity, On-Line (NTU) – RW	8760	0.02	10
Turbidity, On-Line (NTU) – TW	8760	0.01	0.32
Turbidity, On-Line (NTU) – Filter 1	8760	0.02	0.99*
Turbidity, On-Line (NTU) – Filter 2	8760	0.03	2.02**
Free Chlorine Residual, On-Line (mg/L) – TW	8760	0.70	2.00
Free Chlorine Residual, In-House (mg/L) – DW	730	0.59	1.59

\*Turbidity spike for less than 1 minute; \*\*Turbidity spike after second backwash due to air through analyzer

**Table 3. Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument.**

Date of Order of MDWL	Parameter	Date Sampled	Result	MDWL Allowable Annual Average Concentration
March 6, 2020 094-102 (Issue 4)	Total Suspended Solids (Filter backwash)	2021 (Monthly)	7.2 mg/L	25 mg/L
March 6, 2020 094-102 (Issue 4)	Total Chlorine Residual (Filter backwash)	2021 (Monthly)	0.00 mg/L	0.02 mg/L

**Table 4. Summary of Inorganic parameters tested during this reporting period or most recent sample results**

Parameter	Sample Date (yyyy/mm/dd)	Sample Result	Maximum Allowable Concentration (MAC)	Exceedance	
				MAC	½ MAC
Antimony: Sb (µg/L) - TW	2021/01/04	<MDL 0.9	6.0	No	No
Arsenic: As (µg/L) - TW	2021/01/04	0.3	10.0	No	No
Barium: Ba (µg/L) - TW	2021/01/04	12.8	1000.0	No	No
Boron: B (µg/L) - TW	2021/01/04	15.0	5000.0	No	No
Cadmium: Cd (µg/L) - TW	2021/01/04	0.004	5.0	No	No
Chromium: Cr (µg/L) - TW	2021/01/04	0.14	50.0	No	No
Mercury: Hg (µg/L) - TW	2021/01/04	<MDL 0.01	1.0	No	No
Selenium: Se (µg/L) - TW	2021/01/04	0.1	50.0	No	No
Uranium: U (µg/L) - TW	2021/01/04	0.086	20.0	No	No
Fluoride (mg/L) - TW	2018/01/08	0.07	1.5	No	No
Nitrite (mg/L) - TW	2021/01/04	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2021/04/06	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2021/07/05	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2021/10/04	<MDL 0.003	1.0	No	No
Nitrate (mg/L) - TW	2021/01/04	0.266	10.0	No	No
Nitrate (mg/L) - TW	2021/04/06	0.271	10.0	No	No
Nitrate (mg/L) - TW	2021/07/05	0.229	10.0	No	No
Nitrate (mg/L) - TW	2021/10/04	0.228	10.0	No	No
Sodium: Na (mg/L) - TW	2018/01/08	7.41	20*	No	No

NOTE: There is no "MAC" for Sodium. The aesthetic objective 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.

NOTE: Fluoride and Sodium are to be sampled every 60 months. The most recent samples for Fluoride and Sodium were taken on January 8, 2018. The next set of Fluoride and Sodium samples are to be taken in January 2023.

**Table 5. Summary of lead testing under Schedule 15.1 during this reporting period.**

Location Type	Number of Samples	Range of Lead Results		Number of Exceedances
		Minimum	Maximum	
Plumbing	n/a	n/a	n/a	n/a
Distribution (µg/L)	4	0.02	0.09	0
Alkalinity (mg/L as CaCO <sub>3</sub> )	4	72	78	0
pH	4	8.32	8.66	n/a

*NOTE: This system now qualifies for the plumbing exemption as per Ontario Regulation 170/03 Schedule 15.1-5(9)(10). Four (4) distribution lead samples are only taken every 36 months (i.e. 2 samples per period). The most recent set of samples was taken in 2021. The next set of lead samples will be taken in 2024.*

**Table 6. Summary of Organic parameters sampled during this reporting period or most recent sample results.**

Parameter	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Exceedance	
				MAC	½ MAC
Alachlor (µg/L) - TW	2021/01/18	<MDL 0.02	5.0	No	No
Atrazine + N-dealkylated metabolites (µg/L) - TW	2021/01/18	0.01	5.0	No	No
Azinphos-methyl (µg/L) - TW	2021/01/18	<MDL 0.05	20.0	No	No
Benzene (µg/L) - TW	2021/01/18	<MDL 0.32	1.0	No	No
Benzo(a)pyrene (µg/L) - TW	2021/01/18	<MDL 0.004	0.01	No	No
Bromoxynil (µg/L) - TW	2021/01/18	<MDL 0.33	5.0	No	No
Carbaryl (µg/L) - TW	2021/01/18	<MDL 0.05	90.0	No	No
Carbofuran (µg/L) - TW	2021/01/18	<MDL 0.01	90.0	No	No
Carbon Tetrachloride (µg/L) - TW	2021/01/18	<MDL 0.17	2.0	No	No
Chlorpyrifos (µg/L) - TW	2021/01/18	<MDL 0.02	90.0	No	No
Diazinon (µg/L) - TW	2021/01/18	<MDL 0.02	20.0	No	No
Dicamba (µg/L) - TW	2021/01/18	<MDL 0.2	120.0	No	No
1,2-Dichlorobenzene (µg/L) - TW	2021/01/18	<MDL 0.41	200.0	No	No
1,4-Dichlorobenzene (µg/L) - TW	2021/01/18	<MDL 0.36	5.0	No	No
1,2-Dichloroethane (µg/L) - TW	2021/01/18	<MDL 0.35	5.0	No	No
1,1-Dichloroethylene (µg/L) - TW	2021/01/18	<MDL 0.33	14.0	No	No
Dichloromethane (Methylene Chloride) (µg/L) - TW	2021/01/18	<MDL 0.35	50.0	No	No
2,4-Dichlorophenol (µg/L) - TW	2021/01/18	<MDL 0.15	900.0	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (µg/L) - TW	2021/01/18	<MDL 0.19	100.0	No	No
Diclofop-methyl (µg/L) - TW	2021/01/18	<MDL 0.4	9.0	No	No
Dimethoate (µg/L) - TW	2021/01/18	<MDL 0.06	20.0	No	No
Diquat (µg/L) - TW	2021/01/18	<MDL 1.0	70.0	No	No
Diuron (µg/L) - TW	2021/01/18	<MDL 0.03	150.0	No	No
Glyphosate (µg/L) - TW	2021/01/18	<MDL 1.0	280.0	No	No
Malathion (µg/L) - TW	2021/01/18	<MDL 0.02	190.0	No	No
Metolachlor (µg/L) - TW	2021/01/18	<MDL 0.01	50.0	No	No
Metribuzin (µg/L) - TW	2021/01/18	<MDL 0.02	80.0	No	No
Monochlorobenzene (Chlorobenzene) (µg/L) - TW	2021/01/18	<MDL 0.3	80.0	No	No
Paraquat (µg/L) - TW	2021/01/18	<MDL 1.0	10.0	No	No
PCB (µg/L) - TW	2021/01/18	<MDL 0.04	3.0	No	No
Pentachlorophenol (µg/L) - TW	2021/01/18	<MDL 0.15	60.0	No	No
Phorate (µg/L) - TW	2021/01/18	<MDL 0.01	2.0	No	No
Picloram (µg/L) - TW	2021/01/18	<MDL 1.0	190.0	No	No
Prometryne (µg/L) - TW	2021/01/18	<MDL 0.03	1.0	No	No
Simazine (µg/L) - TW	2021/01/18	<MDL 0.01	10.0	No	No
Terbufos (µg/L) - TW	2021/01/18	<MDL 0.01	1.0	No	No
Tetrachloroethylene (µg/L) - TW	2021/01/18	<MDL 0.35	10.0	No	No
2,3,4,6-Tetrachlorophenol (µg/L) - TW	2021/01/18	<MDL 0.2	100.0	No	No
Triallate (µg/L) - TW	2021/01/18	<MDL 0.01	230.0	No	No
Trichloroethylene (µg/L) - TW	2021/01/18	<MDL 0.44	5.0	No	No
2,4,6-Trichlorophenol (µg/L) - TW	2021/01/18	<MDL 0.25	5.0	No	No
Trifluralin (µg/L) - TW	2021/01/18	<MDL 0.02	45.0	No	No
Vinyl Chloride (µg/L) - TW	2021/01/18	<MDL 0.17	1.0	No	No
Trihalomethane: Total (µg/L) Running Annual Average - DW	2021 (Quarterly)	37.25	100.0	No	No

HAA Total (ug/L) Running Annual Average - DW	2021 (Quarterly)	16.63	80.0	No	No
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**Table 7. 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
n/a	n/a	n/a	n/a

*NOTE: This is required only if DWS category is large municipal residential, small municipal residential, large municipal non-residential, small municipal non-residential, large non municipal non-residential*