

ANNUAL REPORT 2023

Drinking Water System Number:	220000521
Drinking Water System Name:	St. Marys Drinking Water System
Drinking Water System Owner:	The Corporation of the Town of St. Marys
Drinking Water System Category:	Large, Municipal, Residential
Period being reported:	January 1, 2023 to December 31, 2023

<p><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></p> <p>Does your Drinking Water System serve more than 10,000 people? Yes [] No [X]</p> <p>Is your annual report available to the public at no charge on a web site on the Internet? Yes [X] No []</p> <p>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection. Municipal Operations Center, 408 James St South St. Marys, ON www.townofstmarys.com</p>	<p><u>Complete for all other Categories</u></p> <p>Number of Designated Facilities served: n/a</p> <p>Did you provide a copy of your annual report to all Designated Facilities you serve? n/a</p> <p>Number of Interested Authorities you report to: n/a</p> <p>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? n/a</p>
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List all Drinking Water Systems (if any), which receive all their drinking water from your system: n/a

Did you provide a copy of your annual report to all Drinking Water System owners that are connected to you and to whom you provide all drinking water? n/a

Indicate how you notified system users that your annual report is available and is free of charge.

- [X] Public access/notice via the web
- [] Public access/notice via Government Office
- [] Public access/notice via a newspaper
- [X] Public access/notice via Public Request
- [] Public access/notice via a Public Library
- [X] Public access/notice via other method: Municipal Office

Describe your Drinking Water System

Each of the wells, Well #1, 2A and 3, have a vertical turbine pump rated at 60 L/s capacity. These pumps draw ground water from each of the three wells. Water passes air release valves, a backflow check valve, pressure gauges, primary UV light disinfection, flow meter, the chlorine gas injection point, actuator control valve and then into the contact chamber piping located underground.

Booster Station

This provides additional system pressure for industrial properties within the southeast area of the town during fire emergencies.

Reservoir

An in-ground reservoir and booster pumping station provides the sytem with 1,600 m³ of water storage.

Water Tower

The water tower is for system pressure regulation and has a storage capacity of 1,820 m³.

List all water treatment chemicals used over this reporting period

Chlorine gas for disinfection

Were any significant expenses incurred to?

- Install required equipment
- Repair required equipment
- Replace required equipment

Please describe any major expenses incurred to install, repair or replace required equipment

Pipe Stand Replacement at Well 3
 Replaced chlorine gas rotameter and equipment at Well 2A
 Replaced chorine gas regulators at Wells 1 and 3
 Replaced Variable Speed Drive on well pumps at Wells 2A and 3
 Replaced pressure gauge at the Tower
 Replaced UV bulbs and ballasts at Wells 1, 2A and 3
 New dehumidifiers at Wells 2A and 3
 Rehabilitation of well by International Well Supply (IWS) at Well 2A
 Watermain and valve repairs within the distribution System

Provide details on the notices submitted in accordance with subsection 18 (1) of the Safe Drinking Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
No reportable issues for this reporting period.					

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

	Number of Samples	Range of E. Coli Results (min)-(max)	Range of Total Coliform Results (min)-(max)	Number of HPC Samples	Range of HPC Results (min)-(max)
Well #1 Raw	52	0-1	0-196	n/a	n/a
Well #2A Raw	48	0-0	0-0	n/a	n/a
Well #3 Raw	52	0-0	0-29	n/a	n/a
Well #1 Treated	52	0-0	0-0	52	0-10
Well #2A Treated	48	0-0	0-0	48	0-10
Well #3 Treated	52	0-0	0-0	52	0-10
Distribution	209	0-0	0-0	52	0-10

Operational testing done under Schedule 7, 8 or 9 of Regulation 170/03 during the period covered by this Annual Report.

	Number of Grab Samples	Range of Results (min)-(max)	Unit of Measure
Turbidity-Raw Water	153	Well #1: 0.04-0.35 Well#2A: 0.05-0.53 Well#3: 0.07-0.42	NTU
Chlorine-Treated	8760	Well #1: 0.74-1.77 Well#2A: 0.61-1.90 Well#3: 0.14-2.04	mg/L
Chlorine- Distribution	364	0.46-1.49	mg/L

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

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

Date of legal instrument issued	Parameter	Date Sampled	Result
2019-10-10 (MDWL)	Continuous Pass-Through UV Dose	Continuously monitored	No results below 40mJ/cm ² for Well 1, 2A and 3.

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony: Sb (ug/L) – TW 1	2023/01/11	<0.06	ug/L	No
Antimony: Sb (ug/L) – TW 2	2023/01/11	<0.06	ug/L	No
Antimony: Sb (ug/L) – TW 3	2023/01/11	<0.06	ug/L	No
Arsenic: As (ug/L) – TW 1	2023/01/11	0.3	ug/L	No
Arsenic: As (ug/L) – TW 2	2023/01/11	0.5	ug/L	No
Arsenic: As (ug/L) – TW 3	2023/01/11	<0.2	ug/L	No
Barium: Ba (ug/L) – TW 1	2023/01/11	137	ug/L	No
Barium: Ba (ug/L) – TW 2	2023/01/11	98.3	ug/L	No
Barium: Ba (ug/L) – TW 3	2023/01/11	98.9	ug/L	No
Boron: B (ug/L) – TW 1	2023/01/11	42	ug/L	No
Boron: B (ug/L) – TW 2	2023/01/11	57	ug/L	No
Boron: B (ug/L) – TW 3	2023/01/11	58	ug/L	No
Cadmium: Cd (ug/L) – TW 1	2023/01/11	0.105	ug/L	No
Cadmium: Cd (ug/L) – TW 2	2023/01/11	0.039	ug/L	No
Cadmium: Cd (ug/L) – TW 3	2023/01/11	0.04	ug/L	No
Chromium: Cr (ug/L) – TW 1	2023/01/11	0.21	ug/L	No
Chromium: Cr (ug/L) – TW 2	2023/01/11	0.14	ug/L	No
Chromium: Cr (ug/L) – TW 3	2023/01/11	0.14	ug/L	No
Mercury: Hg (ug/L) – TW 1	2023/01/11	<0.01	ug/L	No
Mercury: Hg (ug/L) – TW 2	2023/01/11	<0.01	ug/L	No
Mercury: Hg (ug/L) – TW 3	2023/01/11	<0.01	ug/L	No
Selenium: Se (ug/L) – TW 1	2023/01/11	1.05	ug/L	No
Selenium: Se (ug/L) – TW 2	2023/01/11	0.28	ug/L	No
Selenium: Se (ug/L) – TW 3	2023/01/11	0.51	ug/L	No
Uranium: U (ug/L) – TW 1	2023/01/11	1.34	ug/L	No
Uranium: U (ug/L) – TW 2	2023/01/11	2.43	ug/L	No
Uranium: U (ug/L) – TW 3	2023/01/11	2.35	ug/L	No
Fluoride (mg/L) – TW 1	2020/01/06	1.07	mg/L	No
Fluoride (mg/L) – TW 2	2020/01/06	1.25	mg/L	No
Fluoride (mg/L) – TW 3	2020/01/06	1.19	mg/L	No
Nitrite (mg/L) – TW 1	2023/01/09	0.006	mg/L	No
Nitrite (mg/L) – TW 1	2023/04/03	<0.003	mg/L	No
Nitrite (mg/L) – TW 1	2023/07/10	<0.003	mg/L	No
Nitrite (mg/L) – TW 1	2023/10/05	<0.003	mg/L	No
Nitrite (mg/L) – TW 2	2023/01/09	<0.003	mg/L	No
Nitrite (mg/L) – TW 2	2023/04/03	<0.003	mg/L	No
Nitrite (mg/L) – TW 2	2023/07/10	<0.003	mg/L	No
Nitrite (mg/L) – TW 2	2023/10/05	<0.003	mg/L	No
Nitrite (mg/L) – TW 3	2023/01/09	<0.003	mg/L	No
Nitrite (mg/L) – TW 3	2023/04/03	<0.003	mg/L	No
Nitrite (mg/L) – TW 3	2023/07/10	<0.003	mg/L	No
Nitrite (mg/L) – TW 3	2023/10/05	<0.003	mg/L	No
Nitrate (mg/L) – TW 1	2023/01/09	2.98	mg/L	No
Nitrate (mg/L) – TW 1	2023/04/03	4.40	mg/L	No

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Nitrate (mg/L) – TW 1	2023/07/10	1.97	mg/L	No
Nitrate (mg/L) – TW 1	2023/10/05	1.28	mg/L	No
Nitrate (mg/L) – TW 2	2023/01/09	0.343	mg/L	No
Nitrate (mg/L) – TW 2	2023/04/03	1.08	mg/L	No
Nitrate (mg/L) – TW 2	2023/07/10	1.03	mg/L	No
Nitrate (mg/L) – TW 2	2023/10/05	1.0	mg/L	No
Nitrate (mg/L) – TW 3	2023/01/09	0.29	mg/L	No
Nitrate (mg/L) – TW 3	2023/04/03	0.753	mg/L	No
Nitrate (mg/L) – TW 3	2023/07/10	0.802	mg/L	No
Nitrate (mg/L) – TW 3	2023/10/05	0.745	mg/L	No
Sodium: Na (mg/L) – TW 1	2020/01/09	27.2	mg/L	No
Sodium: Na (mg/L) – TW 2	2020/01/09	49.7	mg/L	No
Sodium: Na (mg/L) – TW 3	2020/01/09	44.1	mg/L	No

Summary of lead testing under Schedule 15.1 during this reporting period

(applicable to the following drinking water systems; large municipal residential systems, small municipal residential systems, and non-municipal year-round residential systems)

Location Type	Number of Samples	Range of Lead Results (min) – (max)	Unit of Measure	Number of Exceedances
Distribution	6	0.04-0.73	ug/L	0

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor (ug/L) - TW 1	2023/01/11	<0.02	ug/L	No
Alachlor (ug/L) - TW 2	2023/01/11	<0.02	ug/L	No
Alachlor (ug/L) - TW 3	2023/01/11	<0.02	ug/L	No
Atrazine + N-dealkylated metabolites (ug/L) – TW 1	2023/01/11	<0.01	ug/L	No
Atrazine + N-dealkylated metabolites (ug/L) – TW 2	2023/01/11	<0.01	ug/L	No
Atrazine + N-dealkylated metabolites (ug/L) – TW 3	2023/01/11	<0.01	ug/L	No
Azinphos-methyl (ug/L) – TW 1	2023/01/11	<0.05	ug/L	No
Azinphos-methyl (ug/L) – TW 2	2023/01/11	<0.05	ug/L	No
Azinphos-methyl (ug/L) – TW 3	2023/01/11	<0.05	ug/L	No
Benzene (ug/L) – TW 1	2023/01/11	<0.32	ug/L	No
Benzene (ug/L) – TW 2	2023/01/11	<0.32	ug/L	No
Benzene (ug/L) – TW 3	2023/01/11	<0.32	ug/L	No
Benzo(a)pyrene (ug/L) – TW 1	2023/01/11	<0.004	ug/L	No
Benzo(a)pyrene (ug/L) – TW 2	2023/01/11	<0.004	ug/L	No
Benzo(a)pyrene (ug/L) – TW 3	2023/01/11	<0.004	ug/L	No
Bromoxynil (ug/L) – TW 1	2023/01/11	<0.33	ug/L	No

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Bromoxynil (ug/L) – TW 2	2023/01/11	<0.33	ug/L	No
Bromoxynil (ug/L) – TW 3	2023/01/11	<0.33	ug/L	No
Carbaryl (ug/L) – TW 1	2023/01/11	<0.05	ug/L	No
Carbaryl (ug/L) – TW 2	2023/01/11	<0.05	ug/L	No
Carbaryl (ug/L) – TW 3	2023/01/11	<0.05	ug/L	No
Carbofuran (ug/L) - TW 1	2023/01/11	<0.01	ug/L	No
Carbofuran (ug/L) - TW 2	2023/01/11	<0.01	ug/L	No
Carbofuran (ug/L) - TW 3	2023/01/11	<0.01	ug/L	No
Carbon Tetrachloride (ug/L) - TW 1	2023/01/11	<0.17	ug/L	No
Carbon Tetrachloride (ug/L) - TW 2	2023/01/11	<0.17	ug/L	No
Carbon Tetrachloride (ug/L) - TW 3	2023/01/11	<0.17	ug/L	No
Chlorpyrifos (ug/L) - TW 1	2023/01/11	<0.02	ug/L	No
Chlorpyrifos (ug/L) - TW 2	2023/01/11	<0.02	ug/L	No
Chlorpyrifos (ug/L) - TW 3	2023/01/11	<0.02	ug/L	No
Diazinon (ug/L) – TW 1	2023/01/11	<0.02	ug/L	No
Diazinon (ug/L) – TW 2	2023/01/11	<0.02	ug/L	No
Diazinon (ug/L) – TW 3	2023/01/11	<0.02	ug/L	No
Dicamba (ug/L) – TW 1	2023/01/11	<0.2	ug/L	No
Dicamba (ug/L) – TW 2	2023/01/11	<0.2	ug/L	No
Dicamba (ug/L) – TW 3	2023/01/11	<0.2	ug/L	No
1,2-Dichlorobenzene (ug/L) – TW 1	2023/01/11	<0.41	ug/L	No
1,2-Dichlorobenzene (ug/L) – TW 2	2023/01/11	<0.41	ug/L	No
1,2-Dichlorobenzene (ug/L) – TW 3	2023/01/11	<0.41	ug/L	No
1,4-Dichlorobenzene (ug/L) – TW 1	2023/01/11	<0.36	ug/L	No
1,4-Dichlorobenzene (ug/L) – TW 2	2023/01/11	<0.36	ug/L	No
1,4-Dichlorobenzene (ug/L) – TW 3	2023/01/11	<0.36	ug/L	No
1,2-Dichloroethane (ug/L) – TW 1	2023/01/11	<0.35	ug/L	No
1,2-Dichloroethane (ug/L) – TW 2	2023/01/11	<0.35	ug/L	No
1,2-Dichloroethane (ug/L) – TW 3	2023/01/11	<0.35	ug/L	No
1,1-Dichloroethylene (ug/L) – TW 1	2023/01/11	<0.33	ug/L	No
1,1-Dichloroethylene (ug/L) – TW 2	2023/01/11	<0.33	ug/L	No
1,1-Dichloroethylene (ug/L) – TW 3	2023/01/11	<0.33	ug/L	No
Dichloromethane (Methylene Chloride) (ug/L) – TW 1	2023/01/11	<0.35	ug/L	No
Dichloromethane (Methylene Chloride) (ug/L) – TW 2	2023/01/11	<0.35	ug/L	No
Dichloromethane (Methylene Chloride) (ug/L) – TW 3	2023/01/11	<0.35	ug/L	No
2,4-Dichlorophenol (ug/L) – TW 1	2023/01/11	<0.15	ug/L	No
2,4-Dichlorophenol (ug/L) – TW 2	2023/01/11	<0.15	ug/L	No
2,4-Dichlorophenol (ug/L) – TW 3	2023/01/11	<0.15	ug/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L) – TW 1	2023/01/11	<0.19	ug/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L) – TW 2	2023/01/11	<0.19	ug/L	No

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L) – TW 3	2023/01/11	<0.19	ug/L	No
Diclofop-methyl (ug/L) – TW 1	2023/01/11	<0.4	ug/L	No
Diclofop-methyl (ug/L) – TW 2	2023/01/11	<0.4	ug/L	No
Diclofop-methyl (ug/L) – TW 3	2023/01/11	<0.4	ug/L	No
Dimethoate (ug/L) – TW 1	2023/01/11	<0.06	ug/L	No
Dimethoate (ug/L) – TW 2	2023/01/11	<0.06	ug/L	No
Dimethoate (ug/L) – TW 3	2023/01/11	<0.06	ug/L	No
Diquat (ug/L) – TW 1	2023/01/11	<1.0	ug/L	No
Diquat (ug/L) – TW 2	2023/01/11	<1.0	ug/L	No
Diquat (ug/L) – TW 3	2023/01/11	<1.0	ug/L	No
Diuron (ug/L) – TW 1	2023/01/11	<0.03	ug/L	No
Diuron (ug/L) – TW 2	2023/01/11	<0.03	ug/L	No
Diuron (ug/L) – TW 3	2023/01/11	<0.03	ug/L	No
Glyphosate (ug/L) – TW 1	2023/01/11	<1.0	ug/L	No
Glyphosate (ug/L) – TW 2	2023/01/11	<1.0	ug/L	No
Glyphosate (ug/L) – TW 3	2023/01/11	<1.0	ug/L	No
Malathion (ug/L) – TW 1	2023/01/11	<0.02	ug/L	No
Malathion (ug/L) – TW 2	2023/01/11	<0.02	ug/L	No
Malathion (ug/L) – TW 3	2023/01/11	<0.02	ug/L	No
2-Methyl-4chlorophenoxyacetic Acid (MCPA) – TW 1	2023/01/11	<0.00012	ug/L	No
2-Methyl-4chlorophenoxyacetic Acid (MCPA) – TW 2	2023/01/11	<0.00012	ug/L	No
2-Methyl-4chlorophenoxyacetic Acid (MCPA) – TW 3	2023/01/11	<0.00012	ug/L	No
Metolachlor (ug/L) – TW 1	2023/01/11	<0.01	ug/L	No
Metolachlor (ug/L) – TW 2	2023/01/11	<0.01	ug/L	No
Metolachlor (ug/L) – TW 3	2023/01/11	<0.01	ug/L	No
Metribuzin (ug/L) – TW 1	2023/01/11	<0.02	ug/L	No
Metribuzin (ug/L) – TW 2	2023/01/11	<0.02	ug/L	No
Metribuzin (ug/L) – TW 3	2023/01/11	<0.02	ug/L	No
Monochlorobenzene (Chlorobenzene) (ug/L) - TW 1	2023/01/11	<0.3	ug/L	No
Monochlorobenzene (Chlorobenzene) (ug/L) – TW 2	2023/01/11	<0.3	ug/L	No
Monochlorobenzene (Chlorobenzene) (ug/L) – TW 3	2023/01/11	<0.3	ug/L	No
Paraquat (ug/L) – TW 1	2023/01/11	<1.0	ug/L	No
Paraquat (ug/L) – TW 2	2023/01/11	<1.0	ug/L	No
Paraquat (ug/L) – TW 3	2023/01/11	<1.0	ug/L	No
PCB (ug/L) – TW 1	2023/01/11	<0.04	ug/L	No
PCB (ug/L) – TW 2	2023/01/11	<0.04	ug/L	No
PCB (ug/L) – TW 3	2023/01/11	<0.04	ug/L	No

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Pentachlorophenol (ug/L) – TW 1	2023/01/11	<0.15	ug/L	No
Pentachlorophenol (ug/L) – TW 2	2023/01/11	<0.15	ug/L	No
Pentachlorophenol (ug/L) – TW 3	2023/01/11	<0.15	ug/L	No
Phorate (ug/L) – TW 1	2023/01/11	<0.01	ug/L	No
Phorate (ug/L) – TW 2	2023/01/11	<0.01	ug/L	No
Phorate (ug/L) – TW 3	2023/01/11	<0.01	ug/L	No
Picloram (ug/L) – TW 1	2023/01/11	<1.0	ug/L	No
Picloram (ug/L) – TW 2	2023/01/11	<1.0	ug/L	No
Picloram (ug/L) – TW 3	2023/01/11	<1.0	ug/L	No
Prometryne (ug/L) – TW 1	2023/01/11	<0.03	ug/L	No
Prometryne (ug/L) – TW 2	2023/01/11	<0.03	ug/L	No
Prometryne (ug/L) – TW 3	2023/01/11	<0.03	ug/L	No
Simazine (ug/L) – TW 1	2023/01/11	<0.01	ug/L	No
Simazine (ug/L) – TW 2	2023/01/11	<0.01	ug/L	No
Simazine (ug/L) – TW 3	2023/01/11	<0.01	ug/L	No
Terbufos (ug/L) – TW 1	2023/01/11	<0.01	ug/L	No
Terbufos (ug/L) – TW 2	2023/01/11	<0.01	ug/L	No
Terbufos (ug/L) – TW 3	2023/01/11	<0.01	ug/L	No
Tetrachloroethylene (ug/L) – TW 1	2023/01/11	<0.35	ug/L	No
Tetrachloroethylene (ug/L) – TW 2	2023/01/11	<0.35	ug/L	No
Tetrachloroethylene (ug/L) – TW 3	2023/01/11	<0.35	ug/L	No
2,3,4,6-Tetrachlorophenol (ug/L) – TW 1	2023/01/11	<0.2	ug/L	No
2,3,4,6-Tetrachlorophenol (ug/L) – TW 2	2023/01/11	<0.2	ug/L	No
2,3,4,6-Tetrachlorophenol (ug/L) – TW 3	2023/01/11	<0.2	ug/L	No
Triallate (ug/L) - TW 1	2023/01/11	<0.01	ug/L	No
Triallate (ug/L) - TW 2	2023/01/11	<0.01	ug/L	No
Triallate (ug/L) - TW 3	2023/01/11	<0.01	ug/L	No
Trichloroethylene (ug/L) – TW 1	2023/01/11	<0.44	ug/L	No
Trichloroethylene (ug/L) – TW 2	2023/01/11	<0.44	ug/L	No
Trichloroethylene (ug/L) – TW 3	2023/01/11	<0.44	ug/L	No
2,4,6-Trichlorophenol (ug/L) – TW 1	2023/01/11	<0.25	ug/L	No
2,4,6-Trichlorophenol (ug/L) – TW 2	2023/01/11	<0.25	ug/L	No
2,4,6-Trichlorophenol (ug/L) – TW 3	2023/01/11	<0.25	ug/L	No
Trifluralin (ug/L) – TW 1	2023/01/11	<0.02	ug/L	No
Trifluralin (ug/L) – TW 2	2023/01/11	<0.02	ug/L	No
Trifluralin (ug/L) – TW 3	2023/01/11	<0.02	ug/L	No
Vinyl Chloride (ug/L) – TW 1	2023/01/11	0.17	ug/L	No
Vinyl Chloride (ug/L) – TW 2	2023/01/11	0.17	ug/L	No
Vinyl Chloride (ug/L) – TW 3	2023/01/11	0.17	ug/L	No
Trihalomethane: Total (ug/L) – DW	2023/01/09 2023/04/03 2023/07/10 2023/10/05 Annual Avg.	8.5 9.0 20.0 14.0 12.9	ug/L	No

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
HAA: Total (ug/L) – DW	2023/01/09	<5.3	ug/L	No
	2023/04/03	<5.3		
	2023/07/10	12.0		
	2023/10/05	<5.3		
	Annual Avg.	7.0		

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

Parameter	Result Value	Unit of Measure	Date of Sample
Sodium – TW1	27.2	mg/L	2020/01/09
Sodium – TW2	49.7	mg/L	2020/01/09
Sodium – TW3	44.1	mg/L	2020/01/09