Newington Water Treatment Plant

Drinking Water Works Permit No. 186-203
Municipal Drinking Water Licence No. 186-103

Works No. 220008051

- 2022 Summary Report -

Prepared by:

CANEAU WATER AND SEWAGE OPERATIONS INC.
19740 WELLINGTON ST.
WILLIAMSTOWN, ON K0C 2J0

BILL BRYCE, PRESIDENT

NEWINGTON WATER TREATMENT PLANT

2022 SUMMARY REPORT

Facility description: **Communal ground water supply system**
Capacity: **328 m^3/day**
Service area: **Village of Newington**
Service population: **150**
In-service date: **1937**
Water source: **Ground water**
Disinfection method: **Sodium Hypochlorite (liquid chlorine)**
Overall Responsible Operator: **Chris Eamon (613) 551-2720**

This report is a summary of water quality information for the Newington Water Treatment Plant, published in accordance with Schedule 22 of Ontario's Drinking Water Systems Regulation for the reporting period of January 1 to December 31, 2022. The Newington Water Treatment Plant is categorized as a Large Municipal Residential Drinking Water System.

This report is prepared by Caneau Water and Sewage Operations Inc. on behalf of the Corporation of the Township of South Stormont. A copy of the Summary report is to be provided to the members of the municipal council not later than March 31, 2023.

"The report must list the requirements of the Act, the regulations, the system's approval and any order that the system failed to meet at any time during the period covered by the report and specify the duration of the failure; and for each failure referred to, describe the measures that were taken to correct the failure." – O. Reg. 170/03 s. 22(2)

"The report must also include the following information for the purpose of enabling the owner of the system to assess the rated capability of their system to meet existing and planned uses of the system:

1. A summary of the quantities and flow rates of the water supplied during the period covered by the report, including monthly average and maximum daily flows and daily instantaneous peak flow rates.
2. A comparison of the summary referred to in paragraph 1 to the rated capacity and flow rates approved in the system's approval."

O. Reg. 170/03 s. 22 (3)

System Description

The Newington water works draws groundwater from two wells located within the Newington Fairgrounds. The wells are operated in series. The first well, known as the "Kraft" well is the primary source of water. It is a dug well which was originally installed in 1937. The well equipment was upgraded in 1988, including pump upgrade, pressure tanks, chlorination equipment, etc. The Newington WTP was upgraded in 2004 to include cartridge filtration,

extended chlorine contact piping, diesel standby generator, and new instrumentation, as outlined in Drinking Water Works Permit 186-203. The pressure tanks were replaced in 2019.

In dry periods, when the water level hits a minimum depth in the Kraft Well the pump in the second well, the "Fairgrounds" well, is activated to pump water to the Kraft Well. The Fairgrounds Well is a drilled well originally installed in 1979.

Additional descriptions of the wells and disinfection system are provided in the following sub-sections.

Well #1 – The Kraft Well

Well #1 is a dug well installed at a reported depth of 5.2 m. It is located on Lot 7 of Concession Road 8, Township of South Stormont. The co-ordinates for this location are 4,995,915 (+/ 100m) Northing and 498,463 (+/- 100) m Easting, determined from a GPS unit.

The Permit to Take Water limit for Well #1 is 326.9 m^3/d. Groundwater is pumped from one of two submersible pumps (capacity 6.0 L/s @ TDH 52.7 m) each installed in 200 mm diameter well casing. A check valve is located on the discharge of the pumps to prevent backflow. The well discharge is connected to the lift station via 6 meters of 75 mm diameter schedule 80 PVC pipe. Flow is measured by an inline ABB flow meter.

Well #2 – The Fairgrounds Well

The Fairgrounds Well is located on lot 7 Concession Road 8, Township of South Stormont, approximately 330m North of the Kraft Well. The co-ordinates for this location are 4,996,065 (+/- 100 m) Northing and 498,848 (+/- 100) m Easting. The well casing is 200 mm diameter and the well is drilled to a reported depth of 14 m. The piping from the Fairgrounds Well to the Pump Station is 38 mm Schedule 40 PVC. There is approximately 470 m of piping between the Fairgrounds Well and the Lift station. The piping leaves the well, enters the front end of the lift station. When the system is in auto, a three-way solenoid valve opens to ditch discharge for the first 10 minutes of the Fairgrounds Well pump operation, and then directs the flow into the Kraft Well. When the system is in manual, it is flushed for 1 hour and tested before putting it into operation,

Groundwater is pumped by a single submersible pump. The capacity of the pump is 1.4 l/s @ TDH 30.5 m of head. The Permit to Take Water limit for the well is 65.5 m^3/day.

Water Treatment Plant

Treatment consists of cartridge filtration and disinfection by sodium hypochlorite.

Cartridge Filtration

Cartridge Filters	
Manufacturer	Harmsco
Housing Model	HUR 90 HP
10-Micron Filter	Model HC/90-10
5-Micron Filter	Model HC/90-5
1-Micron Filter	Model HC-PP-90-1

Three (3) cartridge filters operating in series. The first filter is a 10-micron pre-filter, the second filter is a 5-micron filter, and the third is a 1-micron absolute filter. The 1-micron absolute filter is a Harmsco Poly-Pleat filter cartridge which meets the 3-log (99.9%) removal requirements in the National Sanitation Foundation Standard (NSF) 53 for cyst size particles. The turbidity in the filtered water is measured with a Hach turbidity analyzer.

Turbidity Analyzer

The Newington WTP contains one Hach turbidity analyzer. The purpose of this unit is to measure the turbidity of the water following the cartridge filters.

The analyzer provides the operator interface and communications with other devices.

The signal from the filtered water analyzer is data-logged on the ABB SM1000 unit.

Sodium Hypochlorite Disinfection

Post-Chemical Metering Pumps	
Manufacturer	Metcon/Prominent
Model	GALA1602NPB900UD112000
Chemical Used	Sodium Hyprochlorite
Max Capacity	1.4 L/hr
@ Max Back Press. Of	253 psi
Pressure Relief Valve Setting	100 psi
Back Pressure Valve Setting	80 psi
Size of Calibration Column Used	100 mL

The panel was equipped with two (2) Prominent chemical feed pumps, Model GALA1602NPB900UD112000. It is equipped with one (1) back pressure valve set at 100 psi and two (2) pressure relief valves set at 115 psi. The suction of the pump is suction lift. The line pressure at the injection point is estimated @ 90 psi injected into a pipe.

A 70 m length of 600 mm diameter pipe installed outside of the plant, directly to the north-east of the plant, provides chlorine contact time. As water exits the contact pipe, the treated water is monitored for free chlorine residual.

A 6% v/v sodium hypochlorite solution is kept in a 200-litre polyethylene tank. The metering pump rate is set on a daily basis to correspond with the groundwater pumping rate and the chlorine residual in the distribution system.

Chlorine Analyzer - Dulcometer D1C

The Prominent Dulcometer D1C is a device designed for measuring, displaying and controlling free chlorine concentrations in the filtered and potable water. The unit is comprised of the controller, the In-Line Sensor Housing (DGMA), a CLE chlorine sensor, and a Dulcotest Transducer 4-20 mA pH probe.

System Pressurization

Pumping is activated by a pressure drop in the distribution system. Pressure is maintained by six (6) pressure tanks in the lift station. The pressure tanks are ProliteSS, Model CSS 120. The pressure tanks maintain a pressure of 470 kPa in the feeder main to the distribution system. Flow is measured by an inline Endress & Hauser flow meter.

The piping from the pump station to the distribution system is mostly 75 mm diameter PE Series 100 pipe. A 21m length of 600 mm diameter cast iron pipe has been incorporated into this pipe. The purpose of this addition is to provide additional chlorine contact time prior to the first user. There is no sampling point after this length of pipe to re-establish the chlorine residual.

Distribution System

The distribution system consists of approximately 2.9 km of 75 mm diameter PE Series 100 distribution piping.

There are no other disinfection systems in the distribution system.

There are no storage reservoirs on the distribution network.

Compliance with Terms and Conditions of the Municipal Drinking Water Licence

The Newington Water Treatment Plant and distribution system is operated and maintained in accordance with O. Reg. 170/03 dated June 1, 2003 (last amendment – O. Reg. 269/22) and the Municipal Drinking Water Licence.

A valid Permit to Take Water was issued on June 30, 2015 (No. 5764-9XYMDS) and permits the taking of water from two wells – the Kraft Well (326.9 m^3/day) and the Fairground Well (65.5 m^3/day). The permit expires June 30, 2025.

The water treatment plant is operated to treat water at a rate not exceeding the maximum flow rate of 328m^3/day. The average water taking for the year was 56 m^3/day, 17% of the authorized water taking. (See Appendix I for total flow, average monthly flow and maximum monthly flow.) The flows into the water treatment plant did not exceed the maximum flow rate of 328 m^3/day at any time. The maximum daily flow was 109 m^3 and occurred on March 22, 2022.

The works and related equipment and appurtenances used to achieve compliance with the Municipal Drinking Water Licence are properly operated and maintained, including effective performance, adequate funding, adequate operator staffing and training, including training in all procedures and other requirements of this certificate and the Act and regulations, adequate laboratory facilities, process controls and alarms, and the use of the process chemical that comes in contact with the water being treated is suitable for the process and appropriate for drinking water.

A mechanical meter measures the flow rate and daily quantity of water taken from each well and conveyed to, and through, the water treatment plant. The flow rate of treated water supplied to the distribution system is recorded as total flow (See Appendix I). The flow meters were calibrated on August 30 and 31, 2022, by Endress & Hauser.

Free chlorine residual and turbidity in treated water is continuously monitored at the point of entrance into the distribution system. The Prominent chlorine analyzer is accurate to $\pm$2% of the measured value. A low chlorine alarm calls out at a value that is above the required CT, and the high lift pumps will shut down if the chlorine reaches a level lower than the required CT, or the lowest chlorine level of 0.40 mg/L, to prevent water below the required CT from being distributed. A high chlorine alarm calls out at 3.50 mg/L. Operators at the Newington Water Treatment Plant try to keep the chlorine residual at around 1.00 mg/L. The on-line chlorine analyzer is checked with the hand-held chlorine analyzer and adjusted as required. The chlorine analyzer was calibrated August 30, 2022, by Endress & Hauser. Turbidity is monitored continuously at the filter discharge point. The Hach turbidity analyzer is accurate to $\pm$0.1 NTU (Nephelometric Turbidity Unit). The turbidity analyzer is checked monthly using a hand-held turbidity analyzer and adjusted accordingly. Raw water turbidity is analyzed monthly. The turbidimeter alarms out when the turbidity reaches 1.00 NTU (Nephelometric Turbidity Units) for a period greater than 14 minutes, 50 seconds and will shut the system down to prevent turbid water from entering the contact pipe. (See Appendix I for monthly average turbidity, and minimum, maximum and average chlorine residual.) The turbidity analyzer was calibrated August 9, 2022, by Hach Canada.

Operators in charge of the Newington Water Treatment Plant keep a daily log book, recording flow meter readings, free and total chlorine residual (both continuous and grab samples), turbidity, and other physical and chemical parameters of the treated water. The WTP is checked (at minimum) every 72 hours.

Samples are collected throughout the year from the raw water and treated water to determine whether or not the water is safe for human consumption (in accordance with O. Reg.170/03, Schedule 10 and 13, Microbiological and Chemical Sampling and Testing). Bacteriological analysis is performed weekly (1 sample each per week of raw and treated water, and 8 samples monthly from the distribution system). Nitrates, THMs and HAAs are analyzed 4 times a year in the distribution system. Schedule 23 and 24 (treated water) are analyzed annually. Sodium and fluoride (treated water) are tested once every 60 months. (See Appendix II – 2022 Annual Report for the Ministry of the Environment.) All samples are analyzed at Caduceon Environmental Labs in Nepean, Ontario. Caduceon and its subcontracted labs are accredited by the Standards Council of Canada. Written procedures have been established for the notification of the Medical Officer of Health and the Ministry of the Environment Spills Action Centre should

a sample result indicate an exceedance has occurred. In the reporting year, there were no adverse water quality incidents. Under Ontario Regulation 170/03, Schedule 15, Section 15.1-5 (lead sampling), Newington WTP and distribution system is eligible for reduced sampling and reduced frequency (every 3 years). Samples were collected in 2022 and will be collected again in 2025. Alkalinity and pH are required to be sampled twice per year.

Free chlorine residual in the distribution system is monitored by an alarmed online analyzer with datalogging. The analyzer is checked, at minimum, every 72 hours. The analyzer will alarm out when the chlorine goes below 0.15 mg/L or above 3.50 mg/L for a period greater than 15 minutes. The online distribution chlorine analyzer was calibrated August 30, 2022, by Endress & Hauser.

All records and information relating to or resulting from the monitoring, sampling and analyzing activities required by the Certificate of Approval are retained for a minimum of 5 years.

The Newington Water Treatment Plant is classified as a Water Treatment 1 (Certificate No. 3668) and Water Distribution 1 (Certificate Number 903). Operators responsible for the operation of the Newington Water Treatment Plant hold valid licences applicable to this type of water treatment plant.

Following all maintenance or repairs to the water treatment facility, all affected areas are disinfected in accordance with the MOE's "Procedure for Disinfection of Drinking Water in Ontario" dated June 2006. All chemicals used in the treatment process and all materials contacting the water meet both the American Water Works Association (AWWA) quality criteria and the American National Standards Institute (ANSI) safety criteria. All chemicals have been registered by a testing institution accredited under the Standards Council of Canada Act or by ANSI.

A contingency plan ensures adequate equipment and material are available for dealing with emergencies, upset conditions and equipment breakdowns in the works.

An operating manual incorporates the requirements of the Municipal Drinking Water Licence. The manual includes monitoring and reporting of the necessary and in-process parameters essential for control of the treatment process and for the assessment of the performance of the works. It also contains procedures that are required for adequate operation and maintenance of the monitoring equipment.

Drawings are prepared and kept up-to-date showing the new works as constructed (record drawings), including timely incorporation of all modifications made to the works throughout its operational life.

A Process and Instrumentation Diagram (PID) for the entire water treatment plant has been prepared and is kept up-to-date, including timely incorporation of all modifications made to the works throughout its operational life.

All record drawings and diagrams and all existing record drawings which are currently in retention throughout the operational life of the water works are readily available for inspection by Ministry staff.

Procedures have been established and are followed for receiving, responding to, and recording complaints about any aspect of the works, including recording the steps that were taken to determine the cause of complaint and the corrective measures taken to alleviate the cause and prevent its reoccurrence.

Compliance with Regulatory Requirements and Actions Required

The 2021-2022 Compliance Inspection was conducted on December 14, 2021, by the Ministry of the Environment, Conservation and Parks. The Compliance Inspection Report was received on March 7, 2022. There were no issues of regulatory non-compliance identified in the report and the final inspection rating was 100%.

A copy of the report is available at the Township office.

MAINTENANCE

- January 20 – Genrep on site to replace faulty temperature sensor on generator.
- January 24 – Kim's Locksmith on site to repair door lock (key broke off in lock).
- February 7 – Quarterly samples collected at WTP and distribution points.
- March 8 – Pyro Pro on site to conduct fire extinguisher inspections and maintenance.
- March 9 – Cintas on site to inspect and restock first aid supplies.
- April 7 – Cintas on site to inspect and replenish eyewash station.
- April 11 – Samples for lead testing collected in the distribution system.
- May 2 – Quarterly samples collected at WTP and distribution points.
- May 9 – Annual samples collected at WTP.
- May 12 – Genrep on site to conduct semi-annual generator inspection.
- May 13 – Ranguard on site to hook up Bell line to alarm panel.
- May 16 – Annual samples collected at WTP.
- May 27 – Marleau on site to do annual backflow preventer inspections.
- August 8 – Quarterly samples collected at WTP and distribution points.
- August 9 – Hach on site to conduct annual calibrations on turbidity analyzers.
- August 30 – Endress & Hauser on site to conduct annual calibrations on chlorine analyzers and final flow meter.
- August 31 – Endress & Hauser on site to conduct annual calibration on raw water flow meter.
- October 12 – Samples for lead testing collected in the distribution system.
- October 18 – Genrep on site to troubleshoot generator fault alarm.
- October 18 – Marleau on site to connect rental generator.
- October 24 – Genrep on site to clean up and diagnose issues with generator.
- November 2 – Township and Abell Pest Control on site to provide quote for generator mouse control.
- November 14 – Quarterly samples collected at WTP and distribution points.
- November 24 – Township and Township consultants on site to conduct building assessment.

- December 21 – Michelle Gordon from MECP on site to conduct drinking water system inspection.
- December 23 – Ranguard on site to repair alarm system.
- December 24 – Township on site to refuel generator.
- December 29 – Raymond Pumps and Wells on site to conduct annual well inspection.
- December 30 – Ranguard on site to replace parts in alarm panel cell system.

APPENDIX I
Flow Data

NEWINGTON WATER TREATMENT SYSTEM SUMMARY REPORT

Municipality: Township of South Stormont

Reporting Year: 2022
Water Source: #1 Well-Dug (Kraft Well) and #2 Well-Drilled (Fairground)
Design Capacity: 328 m^3

Description: Ground water source, cartridge filtration, chlorination

Month	Raw Flow	Treated Flow			Free Chlorine			Treated Water Physical/Chemical Parameters										
								Turbidity		Nitrite	Nitrate	THM	HAA	Raw	Safe		Unsafe or Poor	
	Total Flow m^3	Total Flow m^3	Avg. Day m^3/day	Max. Day m^3/day	Avg. mg/L	Min. mg/L	Max. mg/L	Avg. NTU	Max. NTU	NO_2 mg/L	NO_3 mg/L	ug/L	ug/L	Water	Treated	Distribution	Plant	Distribution
January	1,572	1,582	51	68	1.13	1.08	1.22	0.03	0.03					5	5	8		
February	1,640	1,644	59	102	1.16	0.35	1.67	0.03	0.05	<0.1	5.7	<6	<5.3	4	4	8		
March	2,153	2,156	70	109	1.35	0.07	1.85	0.03	0.05					4	4	8		
April	1,361	1,366	46	55	1.32	1.23	1.41	0.03	0.14					4	4	8		
May	1,920	1,918	62	106	1.27	1.16	1.51	0.03	0.04	<0.1	5.7	<6	<5.3	5	5	8		
June	1,704	1,700	57	79	1.27	0.19	1.59	0.03	0.03					4	4	8		
July	2,012	2,016	65	91	1.47	1.13	1.70	0.03	0.04					4	4	8		
August	1,784	1,775	57	87	1.12	0.83	1.52	0.03	0.04	<0.1	5.4	<6	<5.3	5	5	9		
September	1,671	1,663	55	96	1.28	1.10	1.38	0.03	0.13					4	4	8		
October	1,510	1,493	48	53	1.12	1.05	1.25	0.03	0.13					5	5	8		
November	1,447	1,427	48	56	1.09	1.02	1.19	0.03	0.07	<0.1	5.5	<6	<5.3	4	4	8		
December	1,524	1,517	49	55	1.17	0.95	1.29	0.03	0.20					4	4	8		
Total	20,298	20,257												52	52	97	0	0
Average	56		55		1.23			0.03		< 0.1	5.6	<6	<5.3					
Minimum						0.07												
Maximum				109			1.85		0.20									
ODWS										1	10	100.0	80.0	52	52	96		

APPENDIX II
2022 Annual Report
Ministry of the Environment, Conservation and Parks

OPTIONAL ANNUAL REPORT TEMPLATE

Drinking-Water System Number:	**220008051**
Drinking-Water System Name:	Newington Water Treatment Plant
Drinking-Water System Owner:	Township of South Stormont
Drinking-Water System Category:	Large Municipal Residential
Period being reported:	January 1 – December 31, 2022

Complete if your Category is Large Municipal Residential or Small Municipal Residential

Does your Drinking-Water System serve more than 10,000 people? Yes [ ] No [x]

Is your annual report available to the public at no charge on a web site on the Internet? Yes [x] No [ ]

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

Township of South Stormont
2 Milles Roches Road
Long Sault, ON
K0C 1P0

Website: southstormont.ca

Complete for all other Categories.

Number of Designated Facilities served:

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

Number of Interested Authorities you report to:

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

Note: For the following tables below, additional rows or columns may be added or an appendix may be attached to the report

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

Drinking Water System Name	Drinking Water System Number

Did you provide a copy of your annual report to all Drinking-Water System owners that are connected to you and to whom you provide all of its drinking water?
Yes [ ] No [ ]

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

- **[x] Public access/notice via the web**
- **[x] Public access/notice via Government Office**
- **[x] Public access/notice via a newspaper**
- **[ ] Public access/notice via Public Request**
- **[ ] Public access/notice via a Public Library**
- **[ ] Public access/notice via other method _____**

Describe your Drinking-Water System

The Newington water works draws groundwater from two wells located within the Newington Fairgrounds. The supply/treatment and storage works (STSW) consists of the two wells and disinfection by sodium hypochlorite. The wells are operated in series. The first well, known as the "Kraft" well is the primary source of water. It is a dug well which was originally installed in 1937. In dry periods, when the water level hits a minimum depth in the Kraft Well, the pump in the second well, the "Fairgrounds" well, is activated to pump water to the Kraft Well. The Fairgrounds Well is a drilled well originally installed in 1979.

Treatment

Two series (duty and standby) of 10 micron, 5 micron, and 1 micron "absolute" filters are run in parallel. Each filter train has a differential pressure transmitter and switch connected to a three-way solenoid valve. Should the differential pressure exceed 20 psi, the water will be directed to the standby water filter train. An on-line turbidity analyzer monitors the turbidity from the cartridge filter effluent. As water exits the plant, it enters a 600 mm x 73 m chlorine contact pipe. At the end of the contact pipe, the chlorine is continuously monitored by an online chlorine analyzer. The treated water is monitored for free chlorine residual and turbidity by online analyzers.

List all water treatment chemicals used over this reporting period

Sodium Hypochlorite

Were any significant expenses incurred to?

- **[ ]** Install required equipment
- **[X]** Repair required equipment
- **[X]** Replace required equipment

Please provide a brief description and a breakdown of monetary expenses incurred

Inspect, service and repair generator, and provide rental generator - $10,519 Replace turbidity analyzer - $6,756 Replace valve kits for pumps - $2,295 Conduct well inspection - $1,500 Conduct annual calibrations - $1,425 Repair and Replace filters - $1,048

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

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

	Number of Samples	Range of E.Coli Or Fecal Results (min #)-(max #)	Range of Total Coliform Results (min #)-(max #)	Number of HPC Samples	Range of HPC Results (min #)-(max #)
Raw	52	0-0	0-1		
Treated	52	0-0	0-0	52	<2-4
Distribution	97	0-0	0-0	52	<2-36
Free chlorine residuals tested at the same time as microbiological sample collection: 1.04-1.57 mg/L (Treated samples) and 0.97-1.52 mg/L (Distribution samples)					

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

	Number of Grab Samples	Range of Results (min #)-(max #)
Turbidity	**8760**	**0.02-0.20NTU**
Chlorine	**8760**	**0.07-1.85mg/L**
Fluoride (If the DWS provides fluoridation)		

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

__NOTE__: Record the unit of measure if it is __not__ milligrams per litre.

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

Date of legal instrument issued	Parameter	Date Sampled	Result	Unit of Measure

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	May 9, 2022	<0.0001	mg/L	
Arsenic	May 9, 2022	<0.0001	mg/L	
Barium	May 9, 2022	0.037	mg/L	
Boron	May 9, 2022	0.005	mg/L	
Cadmium	May 9, 2022	<0.000015	mg/L	

Chromium	May 9, 2022	<0.002	mg/L	
***Lead**				
Mercury	May 9, 2022	<0.00002	mg/L	
Selenium	May 9, 2022	<0.001	mg/L	
Sodium	May 9, 2022	3.2	mg/L	
Uranium	May 9, 2022	0.00036	mg/L	
Fluoride	May 9, 2022	<0.1	mg/L	
Nitrite	February 7, 2022	<0.1	mg/L	
	May 2, 2022	<0.1	mg/L	
	August 8, 2022	<0.1	mg/L	
	November 14, 2022	<0.1	mg/L	
Nitrate	February 7, 2022	5.7	mg/L	
	May 2, 2022	5.7	mg/L	
	August 8, 2022	5.4	mg/L	
	November 14, 2022	5.5	mg/L	

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

Summary of lead testing under Schedule 15.1 during this reporting period
(applicable to the following drinking water systems; large municipal residential systems**,** small municipal residential systems, and non-municipal year-round residential systems)

Location Type	Number of Samples	Range of Lead Results (min#) – (max #)	Number of Exceedances
Plumbing	**Exempt***		
Distribution	1 winter sample (Apr 11, 2022)	0.00029	0
	1 summer sample (Oct 12, 2022)	0.00015	0

***Due to historically low concentrations of lead in its drinking water, the Township of South Stormont is exempt from plumbing sampling for lead and is required to sample for lead in the distribution system every three years in both "winter" (Dec-Apr) and "summer" periods (Jun-Oct). The next distribution lead samples will be collected between Dec 15, 2024 and Apr 15, 2025 and between Jun 15, 2025 and Oct 15, 2025.

Non-Lead Parameter	Winter Period (Dec-Apr)	Summer Period (Jun-Oct)
pH	6.97 (1 sample on Apr 11, 2022)	7.16 (1 sample on Oct 12, 2022)
Alkalinity	241 mg/L (1 sample on Apr 11, 2022)	255 mg/L (1 sample on Oct 12, 2022)

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	May 9, 2022	<0.3	**ug/L**	
Atrazine + N-dealkylated metobolites	May 9, 2022	<0.5	**ug/L**	
Azinphos-methyl	May 9, 2022	<1	**ug/L**	
Benzene	May 16, 2022	<0.5	**ug/L**	
Benzo(a)pyrene	May 9, 2022	<0.006	**ug/L**	
Bromoxynil	May 9, 2022	<0.5	**ug/L**	
Carbaryl	May 9, 2022	<3	**ug/L**	
Carbofuran	May 9, 2022	<1	**ug/L**	
Carbon Tetrachloride	May 16, 2022	<0.2	**ug/L**	
Chlorpyrifos	May 9, 2022	<0.5	**ug/L**	
Diazinon	May 9, 2022	<1	**ug/L**	
Dicamba	May 9, 2022	<1	**ug/L**	
1,2-Dichlorobenzene	May 16, 2022	<0.5	**ug/L**	
1,4-Dichlorobenzene	May 16, 2022	<0.5	**ug/L**	
1,2-Dichloroethane	May 16, 2022	<0.5	**ug/L**	
1,1-Dichloroethlyene	May 16, 2022	<0.5	**ug/L**	
Dichloromethane (Methylene Chloride)	May 16, 2022	<5	**ug/L**	
2-4 Dichlorophenol	May 9, 2022	<0.2	**ug/L**	
2,4-Dichlorophenoxy acetic acid (2,4-D)	May 9, 2022	<1	**ug/L**	
Diclofop-methyl	May 9, 2022	<0.9	**ug/L**	
Dimethoate	May 9, 2022	<1	**ug/L**	
Diquat	May 9, 2022	<5	**ug/L**	
Diuron	May 9, 2022	<5	**ug/L**	
Glyphosate	May 9, 2022	<25	**ug/L**	
Malathion	May 9, 2022	<5	**ug/L**	
MCPA	May 9, 2022	<10	**ug/L**	
Metolachlor	May 9, 2022	<3	**ug/L**	
Metribuzin	May 9, 2022	<3	**ug/L**	
Monochlorobenzene	May 16, 2022	<0.5	**ug/L**	
Paraquat	May 9, 2022	<1	**ug/L**	
Pentachlorophenol	May 9, 2022	<0.2	**ug/L**	
Phorate	May 9, 2022	<0.3	**ug/L**	
Picloram	May 9, 2022	<5	**ug/L**	
Polychlorinated Biphenyls(PCB)	May 9, 2022	<0.05	**ug/L**	
Prometryne	May 9, 2022	<0.1	**ug/L**	
Simazine	May 9, 2022	<0.5	**ug/L**	
THM (NOTE: show latest annual average)		<6.0	**ug/L**	
Haloacetic Acid (HAA) (NOTE: show latest annual average)		<5.3	**ug/L**	
Terbufos	May 9, 2022	<0.5	**ug/L**	

Tetrachloroethylene	May 16, 2022	<0.5	**ug/L**	
2,3,4,6-Tetrachlorophenol	May 9, 2022	<0.2	**ug/L**	
Triallate	May 9, 2022	<10	**ug/L**	
Trichloroethylene	May 16, 2022	<0.5	**ug/L**	
2,4,6-Trichlorophenol	May 9, 2022	<0.2	**ug/L**	
Trifluralin	May 9, 2022	<0.5	**ug/L**	
Vinyl Chloride	May 16, 2022	<0.2	**ug/L**	

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
Nitrate	5.7	mg/L	February 7, 2022
Nitrate	5.7	mg/L	May 2, 2022
Nitrate	5.4	mg/L	August 8, 2022
Nitrate	5.5	mg/L	November 14, 2022