

# Long Sault-Ingleside Regional Water Treatment Plant

Drinking Water Works Permit 186-202  
Municipal Drinking Water Licence 186-102

Works No. 260066417

- 2021 Summary Report -

**Prepared by:**

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

BILL BRYCE, PRESIDENT

## LONG SAULT-INGLESIDE REGIONAL WATER TREATMENT PLANT

### 2021 SUMMARY REPORT

<b>Facility description:</b>	<b>Ultrafiltration (Zenon membrane filtration), booster station, elevated tank</b>
<b>Capacity:</b>	<b>9,500 m<sup>3</sup>/day</b>
<b>Service area:</b>	<b>Villages of Long Sault and Ingleside</b>
<b>Service population:</b>	<b>3500</b>
<b>In-service date:</b>	<b>2006</b>
<b>Raw water source:</b>	<b>St. Lawrence River</b>
<b>Disinfection method:</b>	<b>Sodium Hypochlorite</b>
<b>Operations manager:</b>	<b>Chris Eamon (613) 551-2720</b>

This report is a summary of water quality information for the Long Sault-Ingleside Regional 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, 2021. The Long Sault-Ingleside Regional 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 no later than March 31, 2022.

"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 Long Sault-Ingleside Regional Water Treatment Plant is located on Moulinette Island, south of the town of Long Sault and has a rated capacity of 9,500 m<sup>3</sup>/day. The water treatment plant is a membrane filtration plant that began producing water in June 2005. The treatment process includes ultrafiltration (ZeeWeed membrane system manufactured by Zenon Environmental Inc.) through one of three membrane cassettes which are housed in large concrete tanks, taste

and odour removal through granular activated carbon (GAC) contactors, and primary disinfection provided by sodium hypochlorite, which is injected downstream of the GAC tanks. The water then passes through the chlorine contact chamber and a baffled clearwell into a high lift pumping well, all of which are located beneath the water treatment plant. A 10 km transmission main joins the distribution systems in Long Sault and Ingleside. The original Ingleside Water Treatment Plant was converted into a booster station. The distribution system now services a combined population in Long Sault and Ingleside of approximately 3,500.

### **Compliance with Terms and Conditions of the Municipal Drinking Water Licence**

The Long Sault-Ingleside Regional Water Treatment Plant and distribution system was operated and maintained in accordance with O. Reg. 170/03 dated June 1, 2003 (last amendment – O. Reg. 65/20) and the Municipal Drinking Water Licence.

In accordance with Drinking Water Works Permit No. 186-202, condition 1.1, the drinking water system shall not be operated to exceed the rated capacity for the maximum flow rate into the treatment system of 9,500 m<sup>3</sup>/day. (See Appendix I for total flow, average daily flow and maximum daily flow.) The flows into the water treatment plant did not exceed the maximum flow rate at any time.

The Long Sault-Ingleside Regional Water Treatment Plant has a valid Permit to Take Water; number 4278-9XSHHK (issued June 24, 2015 and expiring June 30, 2025), authorizing the taking of no more than 9,500m<sup>3</sup>/day. The average water taking for the year was 5,047 m<sup>3</sup>/day, 53% of the authorized water taking. The maximum daily flow into the treatment system for the year was 7,192 m<sup>3</sup>/day (raw water) on June 7, 2021.

The Long Sault-Ingleside Regional Water Treatment Plant chlorinates at the raw water intake when the water temperature is above 10 degrees Celsius in order to control zebra mussel populations in the intake pipes.

The works and related equipment and appurtenances used to achieve compliance are properly operated and maintained, including effective performance, adequate funding, adequate operator staffing and training, including training in all procedures and other requirements of the Certificate of Approval 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 flow meter measures the flow rate and daily quantity of water being taken from the source (intake) and conveyed to, and through, the water treatment plant. The raw and treated flows are recorded in Appendix I. The flow meters were calibrated October 6, 2021, by Endress & Hauser.

Free chlorine residual and turbidity in treated water is continuously monitored at the point of entrance to the distribution system. The Prominent chlorine analyzer is accurate to ±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 free chlorine level of 0.20 mg/L, to prevent water below the required CT from being

distributed. A high chlorine alarm calls out at 3.50 mg/L. Operators try to keep the chlorine residual at an average of 1.00mg/L. The on-line chlorine analyzer is checked with the hand-held chlorine analyzer and adjusted as required. Calibration of the on-line chlorine analyzers was performed by Endress & Hauser on October 6, 2021. The Hach turbidimeters are accurate to  $\pm 0.1$  NTU (Nephelometric Turbidity Unit). The turbidimeters are checked monthly using a hand-held turbidity analyzer and adjusted accordingly. The turbidity analyzers were calibrated on August 9, 2021, by Hach Canada. If the turbidity reaches 1.00 NTU (Nephelometric Turbidity Units) for a period of 14 minutes, 50 seconds, the affected Zenon train will shut down and alarm out to prevent turbid water from entering the contact chamber. (See Appendix I for maximum turbidity, and minimum, maximum and average chlorine residual.)

Operators keep a daily log book recording raw and treated flow meter readings, free and total chlorine residual (both continuous and grab samples), raw and treated turbidity, pH and temperature.

Samples are collected throughout the year from the treated water to determine whether or not the water is safe for human consumption (in accordance with Regulation 170/03, Schedule 10 and 13, Microbiological and Chemical Sampling and Testing). Bacteriological analysis is performed weekly - 1 sample each per week from the raw and treated water, 12 samples per month 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 analyzed once every 60 months. (See Appendix II.) 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, a single adverse result (TC of 2) was received in the distribution system at the Ingleside WWTP from August 16, 2021 samples. Caneau provided notifications and resampled as required by O. Reg 170.

Additionally, during the reporting year, Caneau reported a low distribution pressure event on June 27, 2021. The event was caused by a failure of the Ingleside back pressure valve during a period when the Ingleside water tower was out of service due to maintenance. Caneau provided notifications as required, restored normal pressure and disinfection, flushed the system and resampled. A boil water advisory was implemented by the EOHU until the resample results were returned.

Under Ontario Regulation 170/03, Schedule 15, Section 15.1-5 (lead sampling), Long Sault-Ingleside Regional WTP and distribution system is eligible for reduced sampling and reduced frequency (every 3 years). Samples were collected in 2019 and will be collected again in 2022. Alkalinity and pH are required to be collected twice per year.

Effluent discharged from the backwash wastewater facility is analyzed monthly for Total Suspended Solids (annualized average), Total Chlorine Residual, and pH. The results are summarized in Appendix II – 2021 Annual Report for the Ministry of the Environment, Conservation and Parks.

Free chlorine residual in the distribution system is monitored by 2 alarmed online analyzers with datalogging. The analyzers are checked, at minimum, every 72 hours. These analyzers 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 chlorine analyzers in the distribution system were calibrated on October 6, 2021, 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 Long Sault-Ingleside Regional Water Treatment Plant is classified Water Treatment 2 and Water Distribution 2 (Certificate Number 2232 and 2233). Operators 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 has been implemented to ensure adequate equipment and material are available for dealing with emergencies, upset conditions, equipment breakdowns in the works and spill scenarios.

An operating manual incorporates the requirements of the Drinking Water Works Permit. 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 that are made to the works.

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 2020-2021 Compliance Inspection was completed on January 13, 2021 by the Ministry of the Environment, Conservation and Parks. The Compliance Inspection Report was received on March 16, 2021. 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 8 – Marleau HVAC on site to troubleshoot/replace photocell at Ingleside Booster.
- January 18 – Marleau Mechanical on site to troubleshoot low lift pump #2.
- January 22 – Capital Controls on site to troubleshoot low lift controller issue.
- January 28 – Capital Controls on site to replace PLC batteries at Ingleside Booster and WTP.
- January 28 – Genrep on site to change breaker lugs and conduct transfer test at Ingleside Booster.
- February 1 - Quarterly samples collected at WTP and distribution points.
- February 5 – Bell on site at Ingleside booster station to check communication between tower and booster.
- February 19 – Pyro Pro on site at WTP and Ingleside booster station to inspect/service fire extinguishers.
- February 24 - Cogeco and Township on site to upgrade and configure internet.
- March 4 – Eastern Welding on site to replace air line on train #3 raw water valve.
- March 9 – Genrep on site to conduct semi-annual generator inspections/tests.
- March 10 – Marleau on site to install new exterior lights.
- March 17 – Marleau on site to continue work on exterior lights.
- March 25 – Marleau on site to complete installation of exterior lights.
- April 15 – Marleau Mechanical on site to check a/c unit and exhaust fans.
- April 21 – Surgeson on site to troubleshoot pond fountain pumps.
- April 29 – Caneau replaced Zeeweed membranes on train #1.
- April 29 – Surgeson on site to replace actuator and signal box on train #2 raw water valve.
- April 29 – DBC on site to remove dumpster and to haul water flushed as part of train #1 Zeeweed membrane installation.
- April 30 – Eastern Welding on site to replace air lines for raw water actuators.
- April 30 – Surgeson on site to change AVID switch box on train #1 and train #3.
- May 3 - Annual samples collected, quarterly samples collected at WTP and distribution points.
- May 12 – Chubb Edwards on site to inspect security system.
- May 13 – Marleau Mechanical on site to work on the a/c unit in the low lift building.
- May 19 – Caneau replaced Zeeweed membranes on train #3.
- May 19 – DBC on site to remove dumpster and to haul water flushed as part of train #3 Zeeweed membrane installation.
- May 27 – Marleau Mechanical on site to adjust exterior lights.
- June 3 – Chubb Edwards on site to analyze security system and provide upgrade recommendations.
- June 4 – Surgeson on site to troubleshoot VFD issue on high lift pump #3.
- June 7 – Marleau on site to fix leak on high lift pump #3 VFD A/C unit.
- June 8 – Eastern Welding on site to bend new air lines for train #1 raw water actuator.
- June 9 – Dwyer Glass on site at booster station to adjust front and side doors.
- June 28 – Surgeson on site at booster station to troubleshoot solenoid valve.
- June 29 – Devine and Associates on site at Ingleside booster station to work on PSV-3710.

- July 6 – Capital Controls on site to work on SCADA computer upgrades.
- July 7 – Capital Controls on site to work on SCADA computer upgrades.
- July 9 – Devine and Associates on site at Ingleside booster to install new pilot system on reservoir valve.
- July 13 – Capital Controls on site to disconnect old SCADA.
- July 14 – Bell on site at Ingleside booster to troubleshoot communication issue between booster and tower.
- July 15 – Capital Controls on site at Ingleside booster to troubleshoot level transmitter for water tower.
- July 23 – Township on site to work on Suez black box.
- July 29 – Marleau Mechanical on site to wire solenoids for Ingleside valve.
- August 3 - Quarterly samples collected at WTP and distribution points.
- August 5 – Surgeson on site to work on floats.
- August 9 - Hach on site to calibrate handhelds and turbidity analyzers.
- September 27 – Genrep on site for annual generator maintenance and inspection.
- October 5 – Cameron Networks on site to install cell signal boosters.
- October 5 – Genrep on site at Ingleside booster to conduct annual maintenance.
- October 6 – E&H on site for annual flow meter and Cl<sub>2</sub> analyzer calibrations at WTP and Ingleside Booster.
- October 29 – R. Flaro on site at Ingleside booster station to do pressure washing.
- October 29 – Eastern Welding on site to install stainless steel air lines on train #2 raw water valve.
- November 1 – Surgeson on site to change raw water valve position sensor.
- November 8 - Quarterly samples collected at WTP and distribution points.
- November 9 – Capital Steam Cleaning on site to pressure wash exterior walls at Ingleside Booster.
- November 25 – Capital Controls on site to troubleshoot HLP #1 communication fault.
- December 14 – MECP (Patrick Lalonde) on site to conduct annual compliance inspection.
- December 16 – Eastern Welding on site to bend new airlines for train #3 raw water actuator.

APPENDIX I  
Flow Data



APPENDIX II  
2021 Annual Report  
Ministry of the Environment, Conservation and Parks

## LONG SAULT-INGLESIDE WATER TREATMENT SYSTEM SUMMARY REPORT

Municipality: **Township of South Stormont**

Year: **2021**

Source: **St. Lawrence River**

Capacity: **9,500m<sup>3</sup>/day**

Description: **Membrane Filtration, GAC, Chlorination**

Month	Raw Flow	Treated Flow			Treated Water Physical/Chemical Parameters							HAA ug/L	Bacteria (Number of Samples)				
	Total Flow m <sup>3</sup>	Total Flow m <sup>3</sup>	Avg. Day m <sup>3</sup> /day	Max. Day m <sup>3</sup> /day	Free Chlorine Residual			Turbidity Max. NTU	NO <sub>2</sub> mg/L	NO <sub>3</sub> mg/L	THM ug/l		Raw Water	Total		Unsafe or Poor	
					Avg. mg/L	Min. mg/L	Max. mg/L							Plant	Distribution	Plant	Distribution
January	139,962	115,042	3,711	4,732	1.10	0.47	1.40	0.18					4	4	12		
February	125,908	104,209	3,722	4,237	1.12	0.87	1.36	0.47	<0.1	0.30	30.0	14.6	4	4	12		
March	143,343	120,283	3,880	4,525	1.11	0.95	1.24	0.05					5	5	13		
April	144,347	121,976	4,066	4,719	1.14	1.00	1.68	0.07					4	4	12		
May	169,427	140,942	4,547	5,845	1.15	0.98	1.80	0.13	<0.1	0.30	50.0	17.2	5	5	12		
June	168,229	140,805	4,693	6,138	1.16	0.90	1.32	0.08					4	4	12		
July	172,726	143,053	4,615	5,317	1.21	0.92	1.39	0.52					4	4	12		
August	183,944	151,697	4,893	5,872	1.14	0.89	1.37	0.12	<0.1	0.20	56.0	7.9	5	5	12		1
September	158,077	130,844	4,361	5,012	1.20	1.04	1.39	1.00					4	4	12		
October	149,129	122,540	3,953	4,575	1.18	1.02	1.31	0.07					4	4	12		
November	137,279	110,779	3,693	4,246	1.17	1.06	1.29	0.12	<0.1	0.20	51.0	6.0	5	5	12		
December	149,942	122,940	3,966	4,538	1.15	0.99	1.30	0.09					4	4	11		
<b>Total</b>	<b>1,842,314</b>	<b>1,525,109</b>											<b>52</b>	<b>52</b>	<b>144</b>	<b>0</b>	<b>1</b>
Average			4,178		1.15				< 0.1	0.25	46.8	11.4					
Minimum						0.47											
Maximum				6,138			1.80	1.00									
<b>ODWS</b>									<b>1</b>	<b>10</b>	<b>100.0</b>	<b>80.0</b>	<b>52</b>	<b>52</b>	<b>144</b>		



Section 11: ANNUAL REPORT

<b>Drinking-Water System Number:</b>	260066417
<b>Drinking-Water System Name:</b>	Long Sault-Ingleside Regional Water Treatment Plant
<b>Drinking-Water System Owner:</b>	Township of South Stormont
<b>Drinking-Water System Category:</b>	Large Municipal Residential
<b>Period being reported:</b>	January 1 – December 31, 2021

<p><b><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></b></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.</p> <div style="border: 1px solid black; padding: 5px;"> <p>Township of South Stormont 2 Milles Roches Road Long Sault, ON K0C 1P0</p> <p>Website: southstormont.ca</p> </div>	<p><b><u>Complete for all other Categories.</u></b></p> <p>Number of Designated Facilities served: <input type="text"/></p> <p>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [ ] No [ ]</p> <p>Number of Interested Authorities you report to: <input type="text"/></p> <p>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [ ] No [ ]</p>
---	---

**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.

- Public access/notice via the web**
- Public access/notice via Government Office**
- Public access/notice via a newspaper**
- Public access/notice via Public Request**
- Public access/notice via a Public Library**
- Public access/notice via other method** \_\_\_\_\_

**Describe your Drinking-Water System**

The Long Sault Regional Water Treatment Plant is located on Moulinette Island, south of the town of Long Sault. The water treatment plant is a membrane filtration plant that began producing water in June 2005. The treatment process includes ultrafiltration (ZeeWeed membrane system manufactured by Zenon Environmental Inc) through one of three membrane cassettes which are housed in large concrete tanks, taste and odour removal through granular activated carbon (GAC) contactors, and primary disinfection provided by sodium hypochlorite, which is injected downstream of the GAC tanks. The water then passes through the chlorine contact chamber and a baffled clearwell into a high lift pumping well, all of which are located beneath the water treatment plant. A 10-km transmission main joins the distribution systems in Long Sault and Ingleside. The original Ingleside Water Treatment Plant was converted into a booster station. The rated capacity is 9,500m<sup>3</sup>/day. The distribution system now services a combined population in Long Sault and Ingleside of approximately 3500.

**List all water treatment chemicals used over this reporting period**

Sodium Hypochlorite, sodium bisulfite, citric acid and sodium hydroxide

**Were any significant expenses incurred to?**

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

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

Replace Zeeweed membranes on trains #1 and #3 - \$571,039  
Upgrade SCADA system - \$21,824  
Replace raw water valves and pneumatic actuators - \$19,605  
Suez monitoring system (24/7/365) - \$17,482  
Replace chlorine pump and controller - \$7,814  
Replace two eight-inch butterfly valves and actuators - \$6,995  
Conduct annual calibrations - \$5,768  
Conduct generator inspections - \$1,869  
Replace Suez black box - \$1,759



**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
June 27, 2021	Distribution Pressure - Ingleside	<140 (suspected, not measured, based on flow)	kPa	Restored normal pressure and disinfection, flushed system, posted signs, advised users to boil water, collected samples	June 27 <sup>th</sup> for all actions except re-sample (June 28 <sup>th</sup> )
Aug 16, 2021	TC	2	CFU/100ml	Resampled	Aug 18, 2021

**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 #)
<b>Raw</b>	52	0-2	0-44		
<b>Treated</b>	52	0-0	0-0	52	<2-2
<b>Distribution</b>	144	0-0	0-2	52	<2-2
<b>Free chlorine residuals tested at the same time as microbiological sample collection:</b> 0.97-1.19 mg/L (Treated samples) and 0.29-1.15 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 #)
<b>Raw Turbidity</b>	<b>8760</b>	<b>0.62-10.00 NTU</b>
<b>Permeate Turbidity</b>		
<b>Train #1</b>	<b>8760</b>	<b>0.02-0.47 NTU</b>
<b>Train #2</b>	<b>8760</b>	<b>0.02-1.00 NTU</b>
<b>Train #3</b>	<b>8760</b>	<b>0.02-1.00 NTU</b>
<b>Chlorine</b>	<b>8760</b>	<b>0.47-1.80</b>
<b>Fluoride (If the DWS provides fluoridation)</b>		

***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.**

<b>Date of legal instrument issued: Municipal Drinking Water Licence</b>	<b>Parameter</b>	<b>Date Sampled</b>	<b>Result</b>	<b>Unit of Measure</b>	
December 4, 2020	Total Suspended Solids (composite)	January	1.30	mg/L	
		February	0.50		
		March	2.20		
		April	1.40		
		May	0.90		
		June	2.10		
	MDWL criteria: 25mg/L (annual average concentration)	July	2.00	mg/L	
		August	3.01		
		September	1.70		
		October	1.10		
		November	1.60		
		December	2.30		
	Total Annualized Average =			1.68	mg/L
		pH	January	7.01	
February			7.66		
March			7.79		
April			7.45		
May			7.09		
June			7.18		
July			7.24		
August			7.36		
September			7.43		
October			7.4		
November			7.25		
December			7.81		
MDWL criteria: 6.5-8.5 (maximum concentration)			January	0.01	
		February	0.01		
		March	0.02		
		April	0.01		
		May	0.01		
		June	0.01		
		July	0.01		
Total Chlorine Residual		August	0.01		
	September	0.01			
	October	0.01			
	November	0.01			
	December	0.01			
	MDWL criteria: 0.02mg/L (maximum concentration)	January	0.01		
		February	0.01		
		March	0.02		
		April	0.01		
		May	0.01		
		June	0.01		
		July	0.01		



**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 3, 2021	0.0001	mg/L	
Arsenic	May 3, 2021	0.0007	mg/L	
Barium	May 3, 2021	0.020	mg/L	
Boron	May 3, 2021	0.021	mg/L	
Cadmium	May 3, 2021	<0.000015	mg/L	
Chromium	May 3, 2021	<0.002	mg/L	
*Lead				
Mercury	May 3, 2021	<0.00002	mg/L	
Selenium	May 3, 2021	<0.001	mg/L	
Sodium	May 15, 2017	14.4	mg/L	
Uranium	May 3, 2021	0.00026	mg/L	
Fluoride	May 15, 2017	<0.1	mg/L	
Nitrite	February 1, 2021	<0.1	mg/L	
	May 3, 2021	<0.1	mg/L	
	August 3, 2021	<0.1	mg/L	
	November 8, 2021	<0.1	mg/L	
Nitrate	February 1, 2021	0.3	mg/L	
	May 3, 2021	0.3	mg/L	
	August 3, 2021	0.2	mg/L	
	November 8, 2021	0.2	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	N/A*		

\*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, 2021 and Apr 15, 2022 and between Jun 15, 2022 and Oct 15, 2022.

Non-Lead Parameter	Winter Period (Dec-Apr)	Summer Period (Jun-Oct)
pH	6.76-6.78 (3 samples)	6.89-6.91 (3 samples)
Alkalinity	90-92 mg/L (3 samples)	93-97 mg/L (3 samples)

**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 3, 2021	<0.3	ug/L	
Atrazine + N-dealkylated metabolites	May 3, 2021	<0.5	ug/L	
Azinphos-methyl	May 3, 2021	<1	ug/L	
Benzene	May 3, 2021	<0.5	ug/L	
Benzo(a)pyrene	May 3, 2021	<0.006	ug/L	
Bromoxynil	May 3, 2021	<0.5	ug/L	
Carbaryl	May 3, 2021	<3	ug/L	
Carbofuran	May 3, 2021	<1	ug/L	
Carbon Tetrachloride	May 3, 2021	<0.2	ug/L	
Chlorpyrifos	May 3, 2021	<0.5	ug/L	
Diazinon	May 3, 2021	<1	ug/L	
Dicamba	May 3, 2021	<10	ug/L	
1,2-Dichlorobenzene	May 3, 2021	<0.5	ug/L	
1,4-Dichlorobenzene	May 3, 2021	<0.5	ug/L	
1,2-Dichloroethane	May 3, 2021	<0.5	ug/L	
1,1-Dichloroethylene	May 3, 2021	<0.5	ug/L	
Dichloromethane (methylene chloride)	May 3, 2021	<5	ug/L	
2-4 Dichlorophenol	May 3, 2021	<0.2	ug/L	
2,4-Dichlorophenoxy acetic acid (2,4-D)	May 3, 2021	<10	ug/L	
Diclofop-methyl	May 3, 2021	<0.9	ug/L	
Dimethoate	May 3, 2021	<1	ug/L	
Diquat	May 3, 2021	<5	ug/L	
Diuron	May 3, 2021	<5	ug/L	
Glyphosate	May 3, 2021	<25	ug/L	
Malathion	May 3, 2021	<5	ug/L	
MCPA	May 3, 2021	<10	ug/L	
Metolachlor	May 3, 2021	<3	ug/L	
Metribuzin	May 3, 2021	<3	ug/L	
Monochlorobenzene	May 3, 2021	<0.5	ug/L	
Paraquat	May 3, 2021	<1	ug/L	
Pentachlorophenol	May 3, 2021	<0.2	ug/L	
Phorate	May 3, 2021	<0.3	ug/L	
Picloram	May 3, 2021	<15	ug/L	
Polychlorinated Biphenyls (PCB)	May 3, 2021	<0.05	ug/L	
Prometryne	May 3, 2021	<0.1	ug/L	
Simazine	May 3, 2021	<0.5	ug/L	
THM (NOTE: show latest annual average)		46.8	ug/L	
Haloacetic Acid (HAA) (NOTE: show latest annual average)		11.4	ug/L	
Terbufos	May 3, 2021	<0.5	ug/L	





<b>Tetrachloroethylene</b>	May 3, 2021	<0.5	<b>ug/L</b>	
<b>2,3,4,6-Tetrachlorophenol</b>	May 3, 2021	<0.2	<b>ug/L</b>	
<b>Triallate</b>	May 3, 2021	<10	<b>ug/L</b>	
<b>Trichloroethylene</b>	May 3, 2021	<0.5	<b>ug/L</b>	
<b>2,4,6-Trichlorophenol</b>	May 3, 2021	<0.2	<b>ug/L</b>	
<b>Trifluralin</b>	May 3, 2021	<0.5	<b>ug/L</b>	
<b>Vinyl Chloride</b>	May 3, 2021	<0.2	<b>ug/L</b>	

**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>
<b>THM</b>	<b>56</b>	<b>ug/L</b>	<b>Aug 3, 2021</b>
<b>THM</b>	<b>51</b>	<b>ug/L</b>	<b>Nov 8, 2021</b>