

# **Sonya Drinking Water System**

## **2024 Annual Water Report**

Drinking Water System Number: 2600056516

Drinking Water System Operating Authority: City of Kawartha Lakes

Drinking Water System Category: Small Municipal Residential

Reporting Period: January 1 – December 31, 2024

# Table of Contents

2024 Annual Drinking Water System Summary Report.....	3
General Information .....	3
Compliance Summary .....	3
Drinking Water System Description .....	4
Source Water .....	4
Water Treatment Facility .....	4
Distribution System .....	4
Summary of Non-Compliance.....	4
Adverse Water Quality Incidents .....	4
Non-Compliance.....	5
Non-Compliance Identified in a Ministry Inspection .....	5
Flows .....	5
Raw Water Flows .....	5
Treated Water Flows .....	8
Regulatory Sample Results Summary .....	9
Microbiological Testing .....	9
Operational Testing .....	9
Inorganic Parameters .....	9
Schedule 15 Sampling (Lead).....	10
Organic Parameters.....	11
Additional Legislated Samples .....	13
Major Maintenance Expense (above \$10,000) .....	13
APPENDIX A .....	14
WTR Submission Confirmation .....	14

# 2024 Annual Drinking Water System Summary Report

## General Information

The City of Kawartha Lakes prepares a report summarizing system operation and water quality for every municipal drinking water system annually. This report has been prepared to satisfy the annual reporting requirements in O. Reg. 170/03 Section 11 and Schedule 22. The annual reports will be available to residents at the City of Kawartha Lakes Public Works Administration Office by appointment and the [City's website](#). Notification that the reports are available free of charge will be made on the City of Kawartha Lakes website. The City of Kawartha Lakes Public Works Administration Office is located at 322 Kent Street West in Lindsay, Ontario.

This system does not serve more than 10,000 residences.

**Drinking Water System Number:** 260006516

**Drinking Water System Name:** Sonya Drinking Water System

**Drinking Water System Owner:** City of Kawartha Lakes

**Drinking Water System Category:** Small Municipal Residential

**Reporting Period:** January 1, 2024 – December 31, 2024

## Compliance Summary

**Table 1. Drinking Water Compliance Summary**

	Number of Events	Date	Details
Ministry (MECP) Inspections	1	July 3, 2024	Unannounced – Focused Drinking Water Inspection – Final Inspection Rating – 100%
Adverse Water Quality Incidents (AWQIs)	0		
Non-Compliances	0		
Boil Water Advisories	0		

## Drinking Water System Description

The Sonya drinking water system is a small municipal residential drinking water system that serves the Sonya Village subdivision in the Hamlet of Sonya, Ontario. The drinking water system is classified as a Limited Groundwater subsystem under O. Reg. 128/04

### Source Water

The water supply for the system comes from two groundwater wells: Well #1 (TW2/95) and Well #3 (TW5/05). The wells are designated as non-GUDI (groundwater under the direct influence).

### Water Treatment Facility

The treatment system consists of the following: two (2) cartridge filtration systems, primary and secondary disinfection from the sodium hypochlorite system, iron sequestering system using sodium silicate, hydropneumatic tanks, clearwell, and highlift pump system.

The treatment plant uses cartridge filters for turbidity removal purposes only. Sodium hypochlorite provides both primary disinfection and secondary disinfection. Sodium silicate is used to aid with the removal of iron. The deep in-ground clearwell provides chlorine contact time and treated water storage. A diesel generator is onsite to provide standby power to the water treatment facility in the event of a power failure.

### Distribution System

The distribution system has approximately one kilometre of watermains, and four blowoffs/flushing hydrants. The watermains in the Sonya Distribution System are all PVC. There is no storage, chlorine boosting, secondary disinfection or pressure boosting capabilities within the control of the distribution system. The Sonya Distribution System is not rated for fire protection.

**Table 2. Treatment Chemicals Used**

Chemical Name	Use	Supplier
Sodium Hypochlorite	Disinfection	LAVO
Sodium Silicate	Iron Removal	Brenntag

## Summary of Non-Compliance

### Adverse Water Quality Incidents

There were no adverse water quality incidents reported during the reporting period.

## Non-Compliance

There were no non-compliances reported during the reporting period.

## Non-Compliance Identified in a Ministry Inspection

There were no non-compliances identified in a Ministry Inspection during this period.

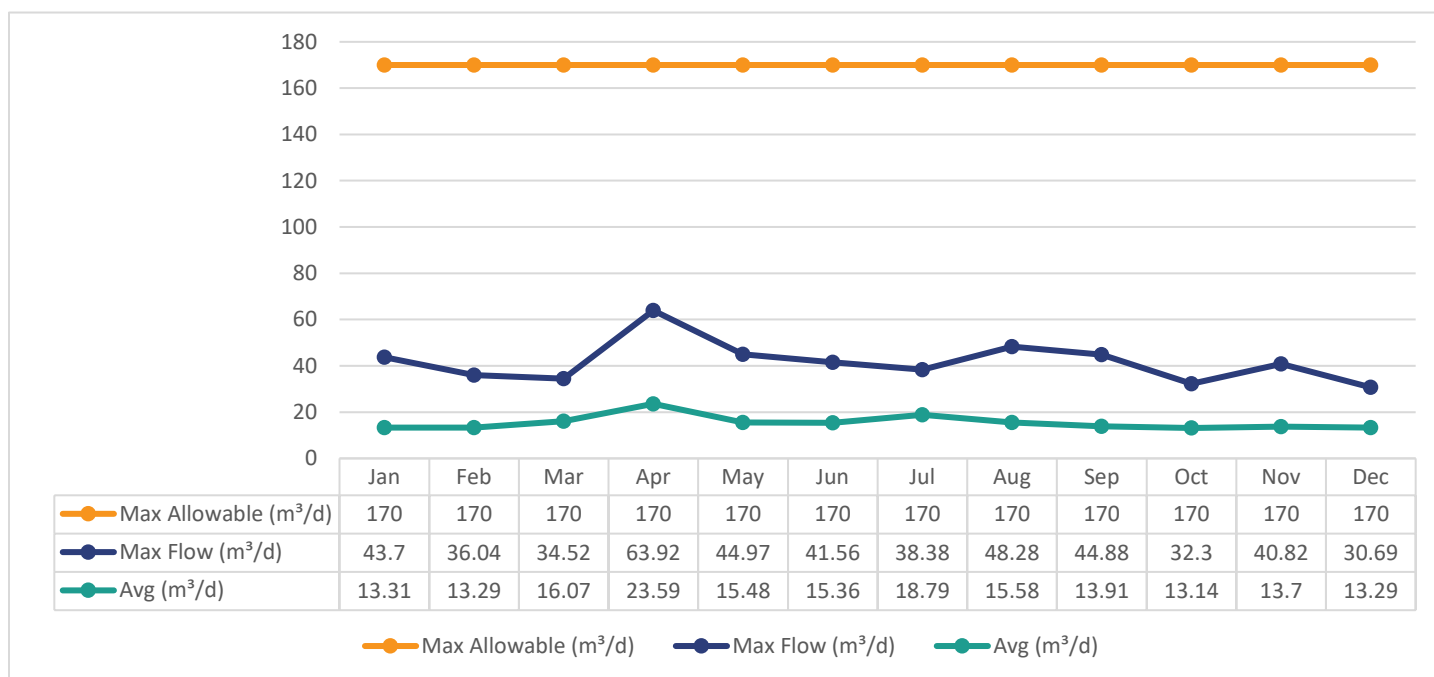
## Flows

The Sonya Drinking Water System is operating on average under half the rated capacity. The rated capacity of the system (treated water flows) is 170 m<sup>3</sup>/day.

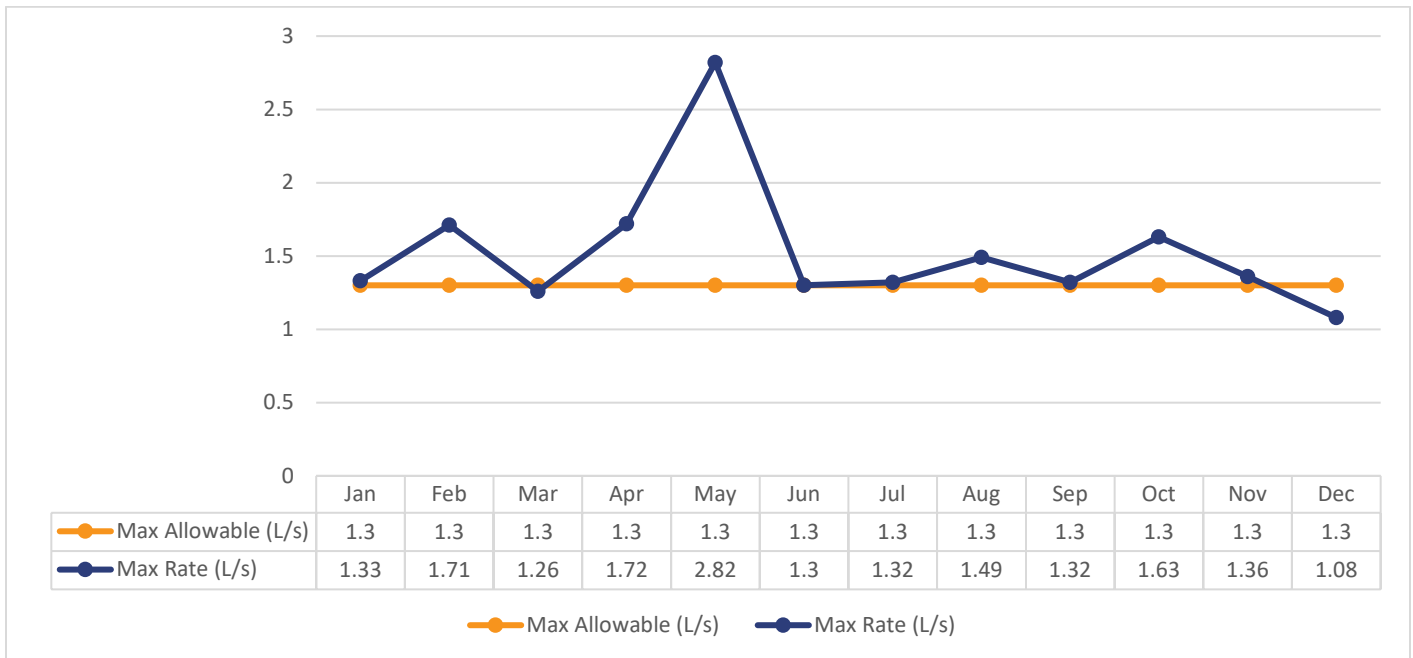
### Raw Water Flows

The raw water flows are regulated under the Permit to Take Water. Raw flow data for 2024 was submitted to the Ministry of Environment, Conservation and Parks (MECP) electronically under permit #1246-AWTJXZ. The confirmation of the data that was submitted is attached in Appendix A.

**Graph 1. Total Monthly Flows (m<sup>3</sup>/d) – Well #1 (Max Allowable PTTW)**

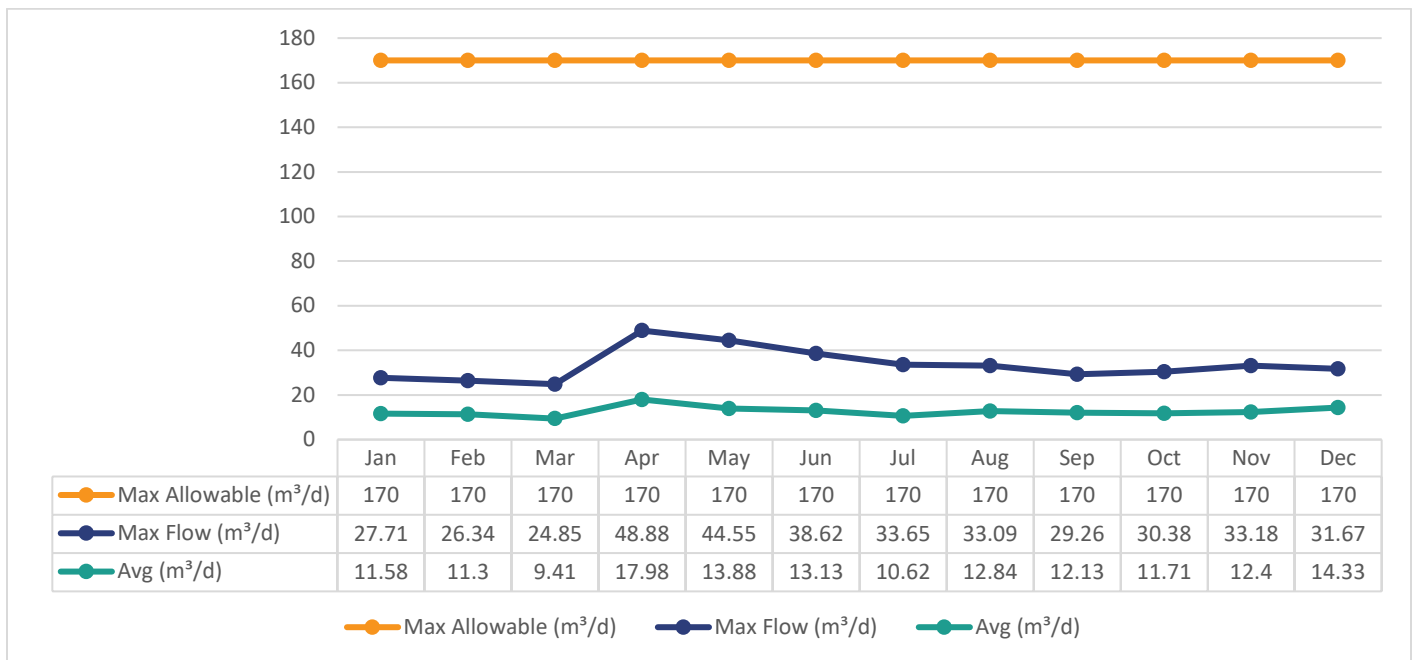


**Graph 2. Monthly Rated Flows (L/s) – Well #1 (Max Allowable Rate PTTW)**

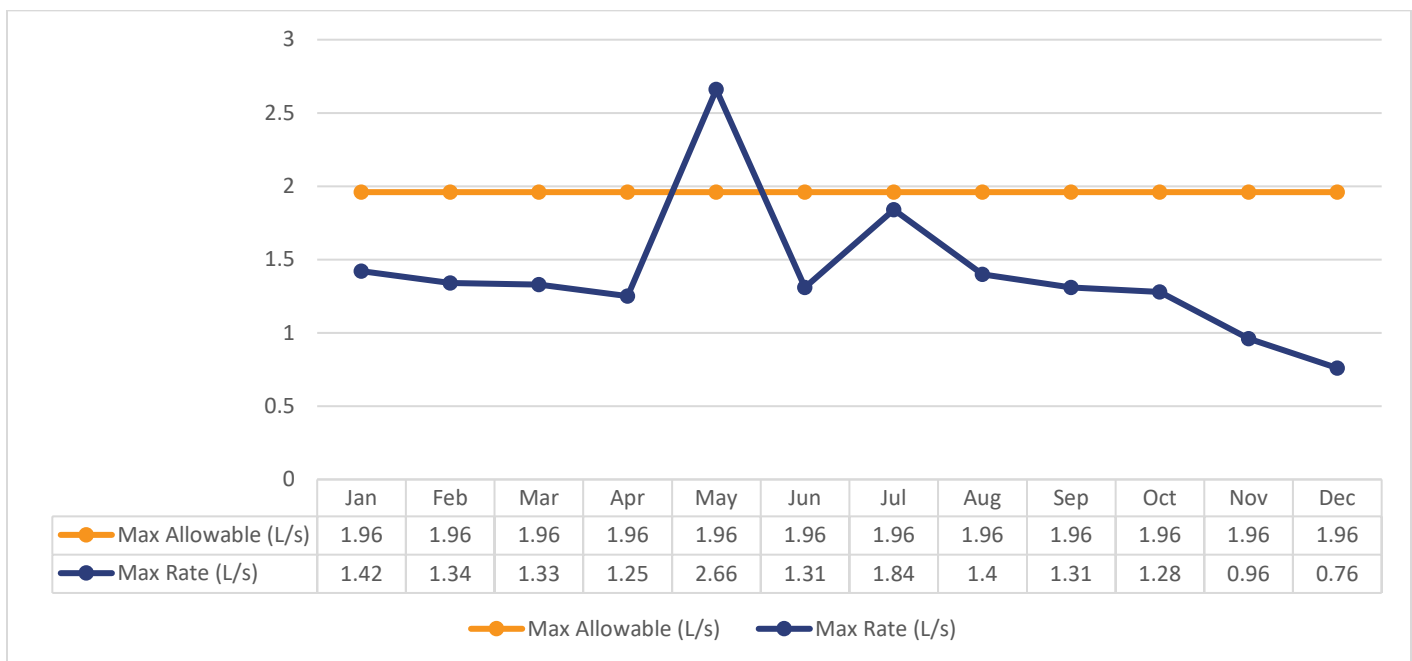


**Note:** The above table shows there were exceedances in instantaneous peak flow rate (L/s) but these exceedances were short in duration. Spikes recorded by on-line instrumentation were a result of air bubbles and various maintenance/calibration activities. The significant spike in May was due to scheduled flow meter calibration. All spikes are reviewed for compliance with O. Reg. 170/03.

**Graph 3. Total Monthly Flows (m<sup>3</sup>/d) – Well #3 (Max Allowable PTTW)**



**Graph 4. Monthly Rated Flows (L/s) – Well #3 (Max Allowable Rate)**

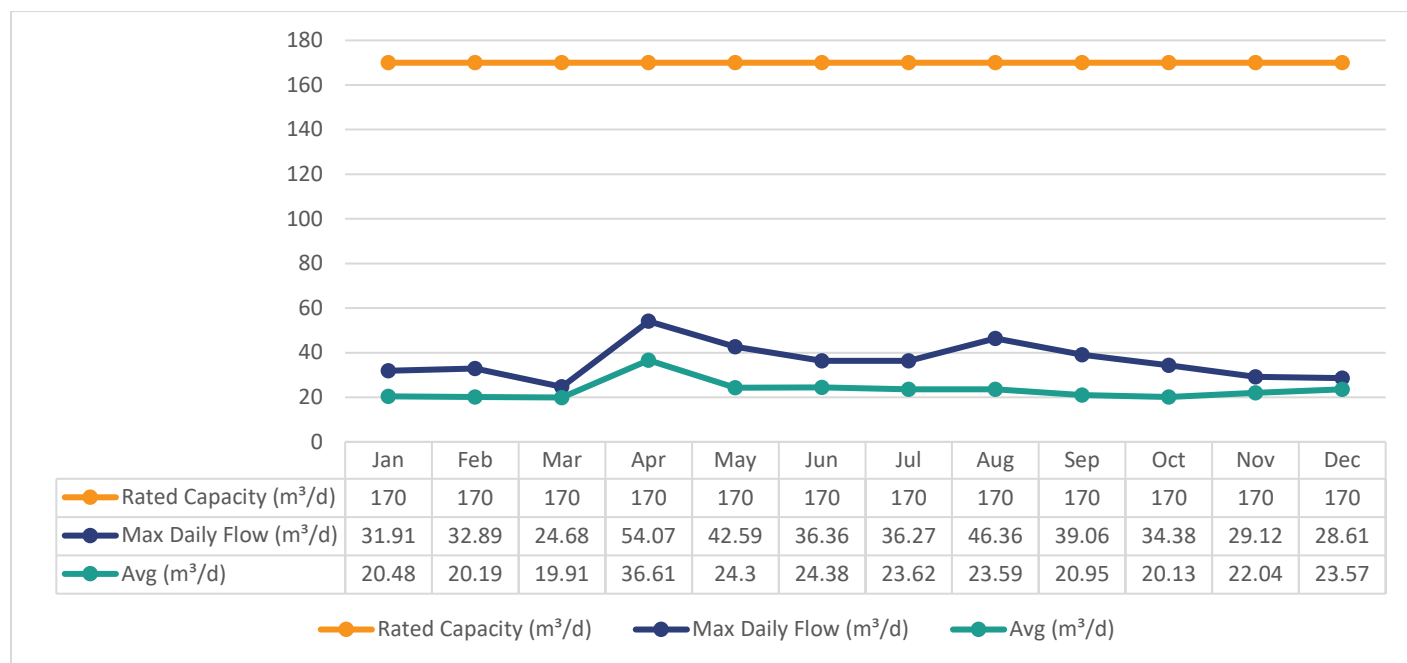


**Note:** The above table shows there were exceedances in instantaneous peak flow rate (L/s) but these exceedances were short in duration. Spikes recorded by on-line instrumentation were a result of air bubbles and various maintenance/calibration activities. The significant spike in May was due to scheduled flow meter calibration. All spikes are reviewed for compliance with O. Reg. 170/03.

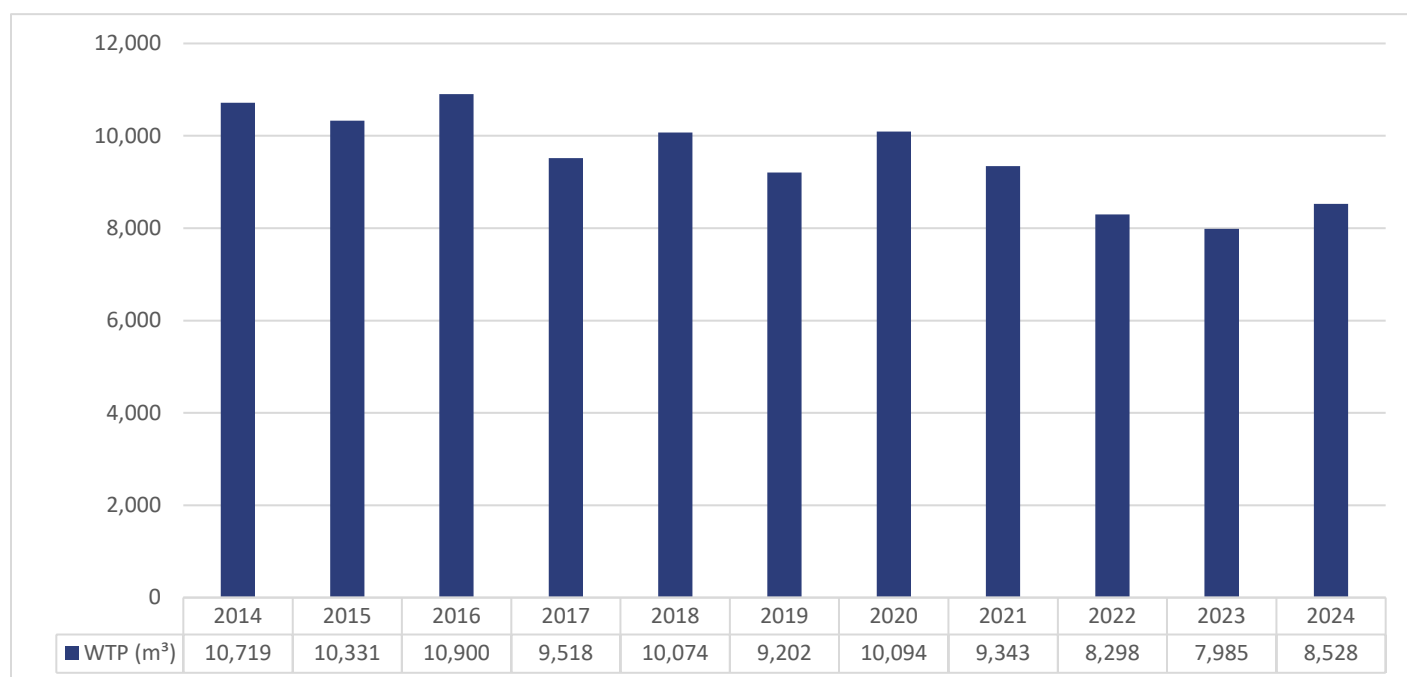
## Treated Water Flows

The Treated Water flows are regulated under the Municipal Drinking Water Licence 141-107.

**Graph 5. Monthly Rated Flows (m<sup>3</sup>/d) – Rated Capacity - MDWL**



**Graph 6. Annual Total Flow Comparison (m<sup>3</sup>)**





# Regulatory Sample Results Summary

## Microbiological Testing

**Table 3. Microbiological Test Results**

	No. of Samples Collected	Range of E. Coli Results	Range of E. Coli Results	Range of Total Coliform Results	Range of Total Coliform Results	Range of HPC Results	Range of HPC Results
		Min	Max	Min	Max	Min	Max
<b>Raw Well 1</b>	52	0	OG	0	OG	N/A	N/A
<b>Raw Well 3</b>	52	0	0	0	0	N/A	N/A
<b>Treated</b>	52	0	0	0	0	0	9
<b>Distribution</b>	52	0	0	0	0	0	5

OG = Overgrowth

HPC = Heterotrophic Plate Count

## Operational Testing

**Table 4. Operational Test Results**

Parameter	Number of Samples Collected	Range of Results Minimum	Range of Results Maximum
<b>Turbidity Well 1 (NTU)</b>	12	0.67	2.52
<b>Turbidity Well 3 (NTU)</b>	12	0.35	1.97
<b>Chlorine</b>	8760	0	4.37
<b>Fluoride</b> (If the DWS provides fluoridation)	N/A	N/A	N/A

**Note:** Record the unit of measurement if it is **not** milligrams per litre.

**Note:** For continuous monitors 8760 is used as the number of samples. Spikes recorded by online instrumentation were a result of air bubbles and various maintenance/calibration activities. All spikes are reviewed for compliance with O. Reg. 170/03.

## Inorganic Parameters

These parameters are tested as a requirement under O. Reg. 170/03. Sodium and Fluoride are required to be tested every five years. Nitrate and Nitrate are tested quarterly and the metals are tested every five years as required under O. Reg. 170/03. In the event any of the parameters listed in Schedule 23 or 24 of O. Reg. 170/03 exceed half of the maximum allowable concentration the parameter is required to be samples quarterly. Based on the latest test results no additional testing is required.

**Table 5. Inorganic Parameters Test Results**

	Sample Date (yyyy/mm/dd)	Sample Result	Unit of Measure	MAC	Exceedance
<b>Treated Water</b>					
Antimony	2020 08 04	0.1	µg/L	6.0	No
Arsenic	2020 08 04	0.4	µg/L	10.0	No
Barium	2020 08 04	159.0	µg/L	1000.0	No
Boron	2020 08 04	20.0	µg/L	5000.0	No
Cadmium	2020 08 04	<MDL 0.003	µg/L	5.0	No
Chromium	2020 08 04	0.12	µg/L	50.0	No
Mercury	2020 08 04	<MDL 0.01	µg/L	1.0	No
Selenium	2020 08 04	<MDL 0.04	µg/L	50.0	No
Uranium	2020 08 04	0.55	µg/L	20.0	No
<b>Additional Organics</b>					
Fluoride	2023 01 04	0.08	mg/L	1.5	No
Nitrite	2024 01 02	<MDL 0.003	mg/L	1.0	No
Nitrite	2024 04 01	<MDL 0.003	mg/L	1.0	No
Nitrite	2024 07 02	<MDL 0.003	mg/L	1.0	No
Nitrite	2024 10 07	<MDL 0.003	mg/L	1.0	No
Nitrate	2024 01 02	0.098	mg/L	10.0	No
Nitrate	2024 04 01	0.113	mg/L	10.0	No
Nitrate	2024 07 02	0.090	mg/L	10.0	No
Nitrate	2024 10 07	0.093	mg/L	10.0	No
Sodium	2023 12 11	12.6	mg/L	20*	No

MAC = Maximum Allowable Concentration as per O. Reg. 169/03

MDL = Method Detection Limit

\*There is no "MAC" for Sodium. The aesthetic objective for sodium in drinking water is 200 mg/L. Sodium results exceeding 20 mg/L are to be reported to the Medical Officer of Health as per Schedule 16-3 (8) of O. Reg. 170/03.

### **Schedule 15 Sampling (Lead)**

The Schedule 15 sampling is required under O. Reg. 170/03. This system is under reduced sampling. Only distribution samples were collected, and no plumbing samples were collected.

**Table 6. Schedule 15 Test Results (Lead)**

	Number of Sampling Points	Number of Samples	Range of Results Minimum	Range of Results Maximum	MAC (µg/L)	Number of Exceedances
<b>Alkalinity (mg/L)</b>	1	2	257	258	N/A	N/A
<b>pH</b>	1	2	7.60	7.75	N/A	N/A
<b>Lead (µg/L)</b>	0	0	N/A	N/A	N/A	N/A

### Organic Parameters

These parameters are tested as a requirement under O. Reg. 170/03. In the event any of the parameters listed in Schedule 23 or 24 of O. Reg. 170/03 exceed half of the maximum allowable concentration the parameter is required to be samples quarterly. Based on the latest test results no additional testing is required.

**Table 7. Organic Parameters Test Results**

	Sample Date (yyyy/mm/dd)	Sample Result	Unit of Measure	MAC	Exceedance
<b>Treated Water</b>					
Alachlor	2020 08 04	<MDL 0.02	µg/L	5.0	No
Atrazine + N-dealkylated metabolites	2020 08 04	<MDL 0.01	µg/L	5.0	No
Azinphos-methyl	2020 08 04	<MDL 0.05	µg/L	20.0	No
Benzene	2020 08 04	<MDL 0.32	µg/L	1.0	No
Benzo(a)pyrene	2020 08 04	<MDL 0.004	µg/L	0.01	No
Bromoxynil	2020 08 04	<MDL 0.33	µg/L	5.0	No
Carbaryl	2020 08 04	<MDL 0.05	µg/L	90.0	No
Carbofuran	2020 08 04	<MDL 0.01	µg/L	90.0	No
Carbon Tetrachloride	2020 08 04	<MDL 0.17	µg/L	2.0	No
Chlorpyrifos	2020 08 04	<MDL 0.02	µg/L	90.0	No
Diazinon	2020 08 04	<MDL 0.02	µg/L	20.0	No
Dicamba	2020 08 04	<MDL 0.2	µg/L	120.0	No
1,2-Dichlorobenzene	2020 08 04	<MDL 0.41	µg/L	200.0	No
1,4-Dichlorobenzene	2020 08 04	<MDL 0.36	µg/L	5.0	No
1,2-Dichloroethane	2020 08 04	<MDL 0.35	µg/L	5.0	No
1,1-Dichloroethylene	2020 08 04	<MDL 0.33	µg/L	14.0	No

	Sample Date (yyyy/mm/dd)	Sample Result	Unit of Measure	MAC	Exceedance
Dichloromethane (Methylene Chloride)	2020 08 04	<MDL 0.35	µg/L	50.0	No
2,4-Dichlorophenol	2020 08 04	<MDL 0.15	µg/L	900.0	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	2020 08 04	<MDL 0.19	µg/L	100.0	No
Diclofop-methyl	2020 08 04	<MDL 0.4	µg/L	9.0	No
Dimethoate	2020 08 04	<MDL 0.06	µg/L	20.0	No
Diquat	2020 08 04	<MDL 1.0	µg/L	70.0	No
Diuron	2020 08 04	<MDL 0.03	µg/L	150.0	No
Glyphosate	2020 08 04	<MDL 1.0	µg/L	280.0	No
Malathion	2020 08 04	<MDL 0.02	µg/L	190.0	No
2-Methyl- 4chlorophenoxyacetic Acid (MCPA)	2020 08 04	<MDL 0.00012	mg/L	0.1	No
Metolachlor	2020 08 04	<MDL 0.01	µg/L	50.0	No
Metribuzin	2020 08 04	<MDL 0.02	µg/L	80.0	No
Monochlorobenzene (Chlorobenzene)	2020 08 04	<MDL 0.3	µg/L	80.0	No
Paraquat	2020 08 04	<MDL 1.0	µg/L	10.0	No
PCB	2020 08 04	<MDL 0.04	µg/L	3.0	No
Pentachlorophenol	2020 08 04	<MDL 0.15	µg/L	60.0	No
Phorate	2020 08 04	<MDL 0.01	µg/L	2.0	No
Picloram	2020 08 04	<MDL 1.0	µg/L	190.0	No
Prometryne	2020 08 04	<MDL 0.03	µg/L	1.0	No
Simazine	2020 08 04	<MDL 0.01	µg/L	10.0	No
Terbufos	2020 08 04	<MDL 0.01	µg/L	1.0	No
Tetrachloroethylene	2020 08 04	<MDL 0.35	µg/L	10.0	No
2,3,4,6- Tetrachlorophenol	2020 08 04	<MDL 0.2	µg/L	100.0	No
Triallate	2020 08 04	<MDL 0.01	µg/L	230.0	No
Trichloroethylene	2020 08 04	<MDL 0.44	µg/L	5.0	No
2,4,6-Trichlorophenol	2020 08 04	<MDL 0.25	µg/L	5.0	No
Trifluralin	2020 08 04	<MDL 0.02	µg/L	45.0	No
Vinyl Chloride	2020 08 04	<MDL 0.17	µg/L	1.0	No
<b>Distribution Water</b>					
Trihalomethane Total Annual Average Q1	2024 01 02	12	µg/L	100.0	No
Trihalomethane Total Annual Average Q2	2024 04 01	13	µg/L	100.0	No
Trihalomethane Total Annual Average Q3	2024 07 02	17	µg/L	100.0	No

	Sample Date (yyyy/mm/dd)	Sample Result	Unit of Measure	MAC	Exceedance
Trihalomethane Total Annual Average Q4	2024 10 07	17	µg/L	100.0	No
HAA Total Annual Average Q1	2024 01 02	5.3	µg/L	80.0	No
HAA Total Annual Average Q2	2024 04 01	5.3	µg/L	80.0	No
HAA Total Annual Average Q3	2024 07 02	5.3	µg/L	80.0	No
HAA Total Annual Average Q4	2024 10 07	5.3	µg/L	80.0	No

MAC = Maximum Allowable Concentration as O. Reg. 169/03

MDL = Method Detection Limit

### Additional Legislated Samples

There were no additional legislated samples required to report during this reporting period.

### Major Maintenance Expense (above \$10,000)

Under Section 11 of O. Reg. 170/03, a description of any major expenses incurred during this reporting period to install, repair or replace required equipment must be included in the annual report. The details of the major expenses for this drinking water system are as follows:

Nothing to report for the reporting period.

# APPENDIX A

## WTR Submission Confirmation

Water Taking Reporting System

<https://www.lrcsde.lrc.gov.on.ca/wtrs/external/permits/permit...>



Location: [WTRS](#) / [WT DATA](#) / [Input WT Record](#)

WTRS-WT-008

**Water Taking Data submitted successfully.**

**Confirmation:**

Thank you for submitting your water taking data online.

Permit Number: 1246-AWTJXZ

Permit Holder: THE CORPORATION OF THE CITY OF KAWARTHA LAKES.

Received on: Jan 14, 2025 11:31 AM

This confirmation indicates that your data has been received by the Ministry, but should not be construed as acceptance of this data if it differs from that specified on the Permit Number, assigned to the Permit Holder stated above.

[Return to Main Page](#)

CITY OF KAWARTHA LAKES | 2025/01/14

version: v4.5.0.21 (build#: 22)

Last modified: 2018/09/18



This site maintained by  
the Government of Ontario

©2025 [Queen's Printer for Ontario](#)