

Sonya Drinking Water System

Waterworks # 2600056516
System Category – Small Municipal Residential

Annual Water Report

Reporting Period of January 1st – December 31st, 2022

Issued: February 21, 2023

Re-issued: February 28, 2024

Revision: 1

Operating Authorities:



This report has been prepared to satisfy the annual reporting requirements in
O. Reg. 170/03 Section 11 and Schedule 22.

Table of Contents

Annual Water Report	1
Report Availability	1
Compliance Report Card	1
System Process Description	1
Raw Source	1
Treatment	1
Treatment Chemicals used during the reporting year	2
Summary of Non-Compliance.....	2
Adverse Water Quality Incidents.....	2
Non-Compliance	2
Non-Compliance Identified in a Ministry Inspection	2
Flows	3
Raw Water Flows.....	3
Total Monthly Flows (m ³ /d)-Well #1	3
Monthly Rated Flows (L/s)-Well #1	4
Total Monthly Flows (m ³ /d)-Well #3	4
Monthly Rated Flows (L/s)-Well #3	5
Treated Water Flows	5
Monthly Rated Flows	5
Annual Total Flow Comparison.....	6
Regulatory Sample Results Summary	6
Microbiological Testing	6
Operational Testing	7
Inorganic Parameters	7
Schedule 15 Sampling.....	8
Organic Parameters.....	9
Additional Legislated Samples.....	10
Major Maintenance Summary.....	11
WTRS Submission Confirmation	A

Report Availability

This system does not serve more than 10,000 residences. The annual reports will be available to residents at the City of Kawartha Lakes Public Works Administration Office by appointment and on the [City's website](#). Notification that 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.

Compliance Report Card

Drinking Water System Number: 260006516

Drinking Water System Name: Sonya DWS

Drinking Water System Owner: City of Kawartha Lakes

Drinking Water System Category: Small Municipal Residential

Period Being Reported: January 1, 2022 - December 31, 2022

	# Events	Date	Details
Drinking Water			
MECP Inspections	1	August 16, 2022	Announced - Focused Drinking Water Inspection - Final Inspection Rating not yet received
AWQI's	0		
Number of Non-Compliances	1	March 8, 2023	Question ID: MRDW1037001
Number of Boil Water Advisories	0		

System Process Description

Raw Source

The water supply for the Sonya DWS comes from two (2) groundwater wells that are designated as non-GUDI (groundwater under direct influence).

Treatment

The treatment system consists of the following:

- Two (2) cartridge filtration systems,
- Secondary disinfection from the sodium hypochlorite system,
- Hydropneumatic tanks,
- Clearwell,

- High lift pump system,
- Sodium silicate injection system for iron removal,
- Stand-by diesel generator on-site.

Treatment Chemicals used during the reporting year:

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

Summary of Non-Compliance

Non-Compliance

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

Non-Compliance Identified in a Ministry Inspection:

There were two non-compliance items identified during the August 16, 2022 Ministry inspection as stated below. The report was later revised by the Ministry Inspector on March 8, 2023 and the first non-compliance was removed.

Date	Question	Conclusion	Resolution
August 16, 2022	Are operators examining continuous monitoring test results and are they examining the results within 72 hours of the test?	Operators were not consistently examining continuous monitoring test results or they were not examining the results within 72 hours of the test and documenting the examination results.	Procedures and policies were updated according to inspector recommendations. Training was provided to staff regarding updates and proper procedure.
August 16, 2022	Are all continuous monitoring equipment utilized for sampling and testing required by O. Reg. 170/03, or MDWL or DWWP or order, equipped with alarms or shut-off mechanisms that satisfy the standards described	All continuous monitoring equipment utilized for sampling and testing required by O. Reg. 170/03, or Municipal Drinking Water Licence or Drinking Water Works Permit or order, were not equipped with alarms or shut-off	Procedures and policies were updated according to inspector recommendations. Training was provided to staff regarding updates and proper procedure.

Date	Question	Conclusion	Resolution
	in Schedule 6?	mechanisms that satisfy the standards described in Schedule 6.	

Flows

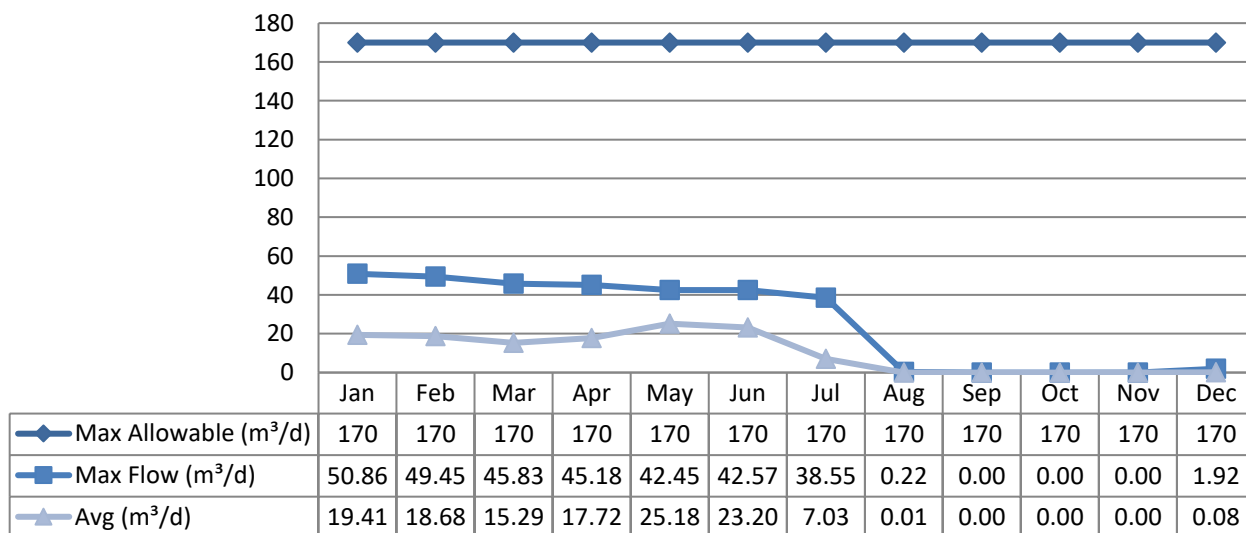
The Sonya Drinking Water System is operating on average under half the rated capacity.

Raw Water Flows

The Raw Water flows are regulated under the Permit to Take Water. 2022 Raw Flow Data was submitted to the Ministry electronically under permit #1246-AWTJXZ. The confirmation of the data that was submitted are attached in Appendix A.

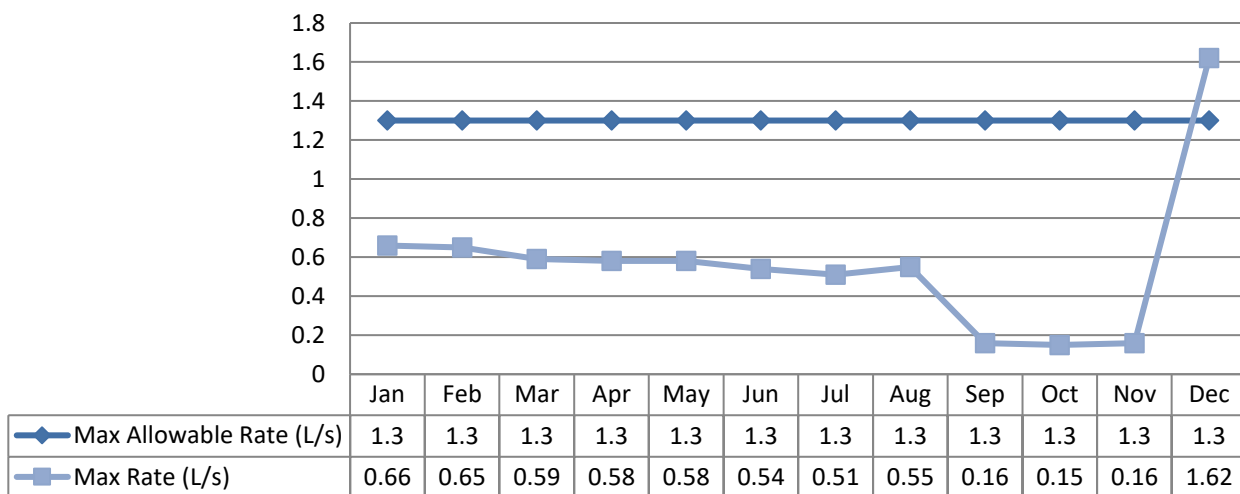
Total Monthly Flows (m³/d)

Max Allowable PTTW – Well #1



Monthly Rated Flows (L/s)

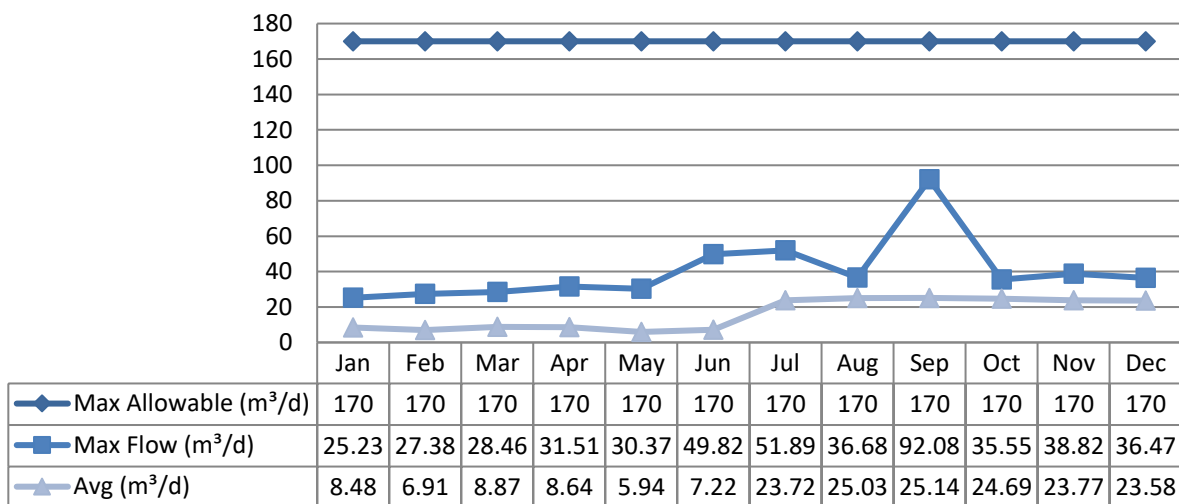
Max allowable rate – PTTW – Well #1



** Two instances in December presented with higher than normal flows due to a new pump installation and commissioning.

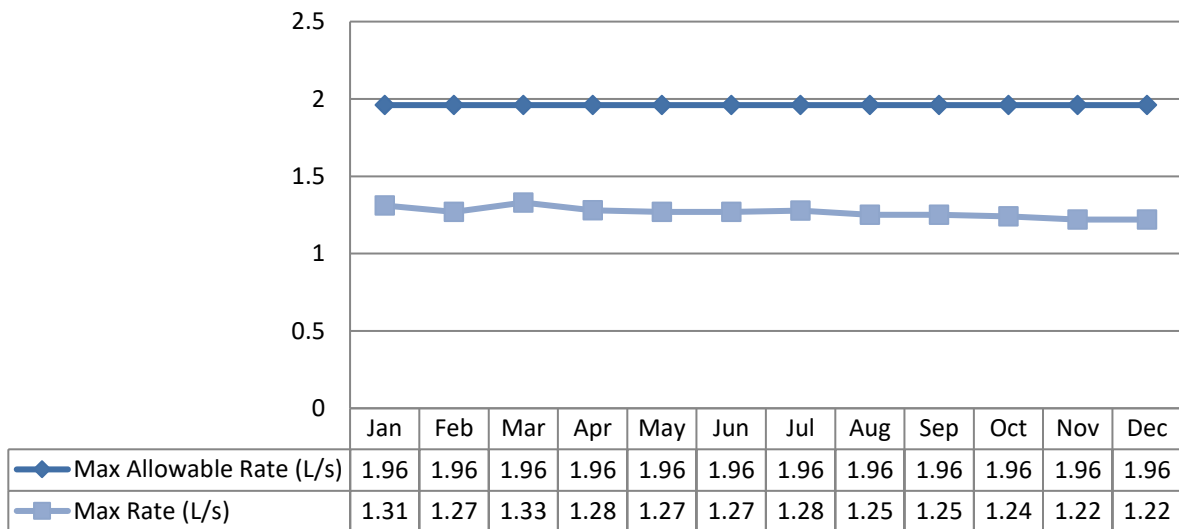
Total Monthly Flows (m³/d)

Max Allowable PTTW – Well #3



Monthly Rated Flows (L/s)

Max allowable rate – PTTW – Well #3

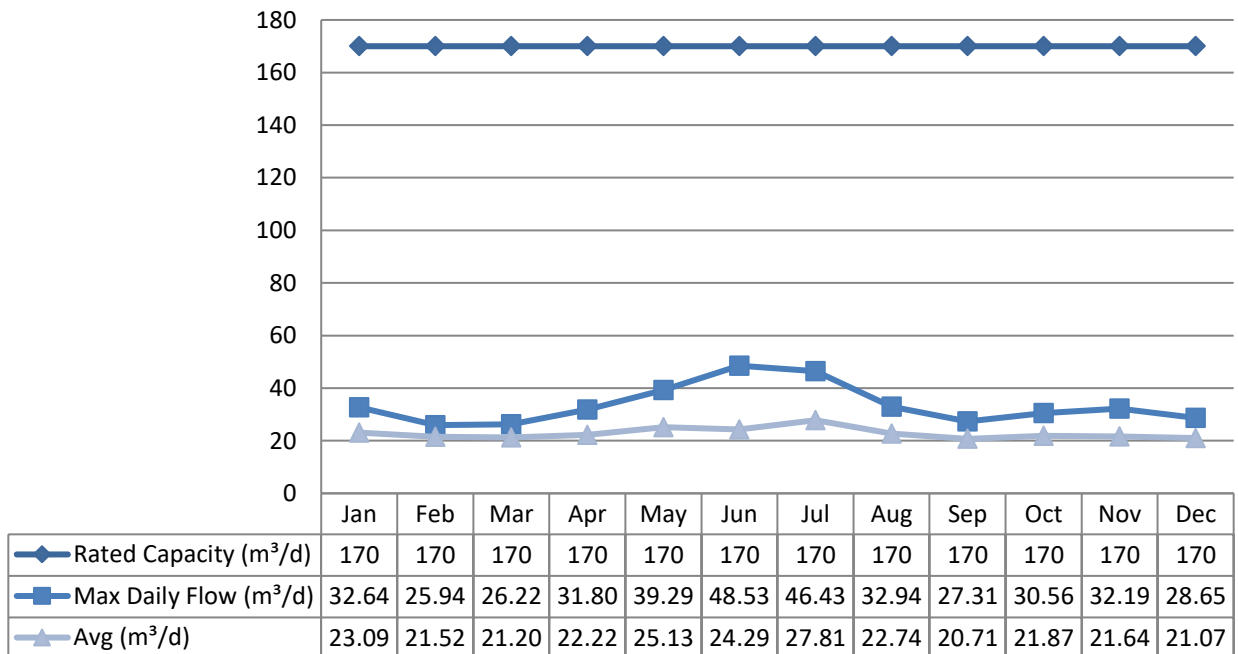


Treated Water Flows

The Treated Water flows are regulated under the Municipal Licence.

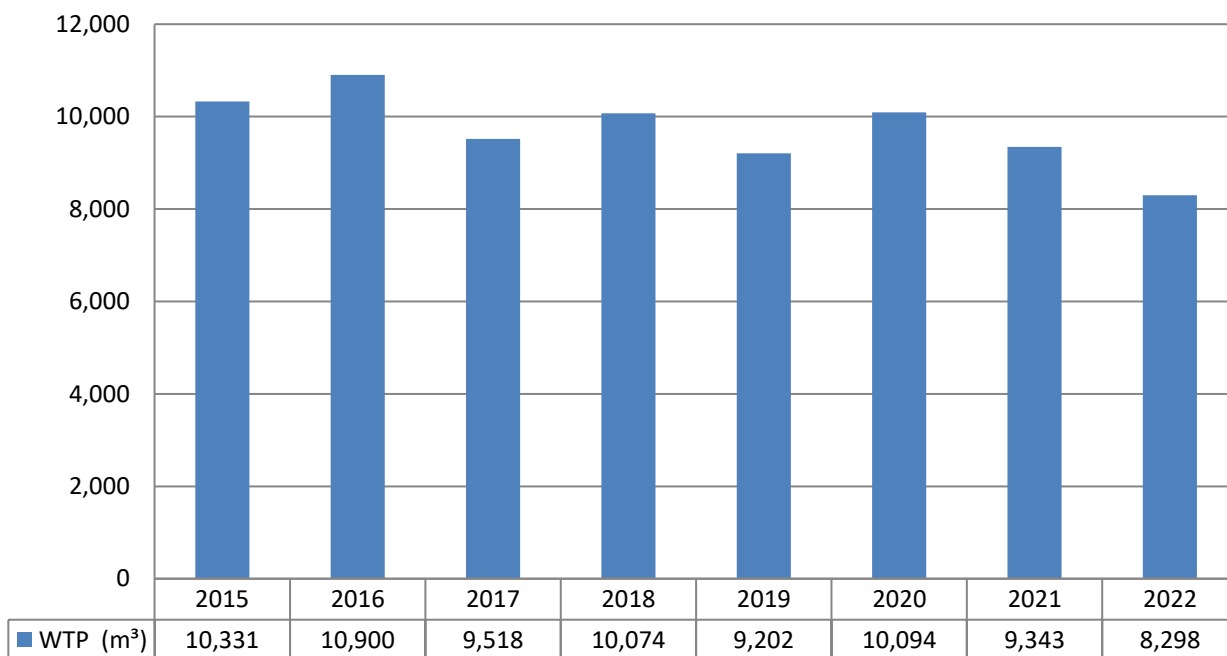
Monthly Rated Flows

Rated Capacity – MDWL



Annual Total Flow Comparison

Total Annual m³



Regulatory Sample Results Summary

Microbiological Testing

Source	No. of Samples	Range of E.coli Results MIN	Range of E.coli Results MAX	Range of Total Coliform Results MIN	Range of Total Coliform Results MAX	Range of HPC Results MIN	Range of HPC Results MAX
Raw Well 1	18	0	<20	0	<20		
Raw Well 3	34	0	0	0	0		
Treated	52	0	0	0	0		
Distribution	52	0	0	0	0	0	4

****NOTE**** The E. coli and Total coliform samples with <20 results were taken in December 2022 while a new pump was being installed and commissioned. Water was not distributed from this well during that time. Multiple samples were taken during this

process and results went back to 0 before water was redistributed.

Operational Testing

Parameter	Number of Samples Collected	Range of Results Minimum	Range of Results Maximum
Turbidity Well 1 (NTU)	12	0.37	5.03
Turbidity Well 3 (NTU)	12	0.40	2.27
Chlorine	8760	0	5.00
Fluoride (If the DWS provides fluoridation)	N/A	N/A	N/A

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

Note: For continuous monitors 8760 is used as the number of samples. Spikes recorded by on-line 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 Nitrite are tested quarterly and the metals are tested every three years as required under O. Reg. 170/03. In the event any of the parameters exceed half of the maximum allowable concentration the parameter is required to be sampled quarterly.

- MAC = Maximum Allowable Concentration as per O. Reg. 169/03
- MDL = Method Detection Limit

	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Exceedances MAC	Exceedances ½ MAC
Treated Water					
Antimony: Sb (ug/L) - TW	2020 08 04	0.1	6.0	No	No
Arsenic: As (ug/L) - TW	2020 08 04	0.4	10.0	No	No
Barium: Ba (ug/L) - TW	2020 08 04	159.0	1000.0	No	No
Boron: B (ug/L) - TW	2020 08 04	20.0	5000.0	No	No
Cadmium: Cd (ug/L) - TW	2020 08 04	<MDL 0.003	5.0	No	No
Chromium: Cr (ug/L) - TW	2020 08 04	0.12	50.0	No	No
Mercury: Hg (ug/L) - TW	2020 08 04	<MDL 0.01	1.0	No	No
Selenium: Se (ug/L) - TW	2020 08 04	<MDL 0.04	50.0	No	No
Uranium: U (ug/L) - TW	2020 08 04	0.55	20.0	No	No
Additional Organics					

	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Exceedances MAC	Exceedances ½ MAC
Fluoride (mg/L) - TW	2018 01 08	0.08	1.5	No	No
Nitrite (mg/L) - TW	2022 01 11	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2022 04 14	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2022 07 05	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2022 10 06	<MDL 0.003	1.0	No	No
Nitrate (mg/L) - TW	2022 01 11	0.077	10.0	No	No
Nitrate (mg/L) - TW	2022 04 14	0.090	10.0	No	No
Nitrate (mg/L) - TW	2022 07 05	0.115	10.0	No	No
Nitrate (mg/L) - TW	2022 10 06	0.148	10.0	No	No
Sodium: Na (mg/L) - TW	2018 12 07	11.9	20*	No	Yes

*There is no "MAC" for Sodium. The aesthetic objective for sodium in drinking water is 200 mg/L. The local Medical Officer of Health should be notified when the sodium concentration exceeds 20 mg/L so that this information may be communicated to local physicians for their use with patients on sodium-restricted diets.

Schedule 15 Sampling:

The Schedule 15 Sampling is required under O. Reg. 170/03. This system is under reduced sampling. No plumbing samples were collected.

Distribution System	Number of Sampling Points	Number of Samples	Range of Results Minimum	Range of Results Maximum	MAC (µg/L)	Number of Exceedances
Alkalinity (mg/L)	2	2	237	266	N/A	N/A
pH	2	2	7.52	7.68	N/A	N/A
Lead (µg/l)	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 exceed half of the maximum allowable concentration the parameter is required to be sampled quarterly.

	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Exceedances MAC	Exceedances ½ MAC
Treated Water					
Alachlor (ug/L) - TW	2020/08/04	<MDL 0.02	5.00	No	No
Atrazine + N-dealkylated metabolites (ug/L) - TW	2020/08/04	<MDL 0.01	5.00	No	No
Azinphos-methyl (ug/L) - TW	2020/08/04	<MDL 0.05	20.00	No	No
Benzene (ug/L) - TW	2020/08/04	<MDL 0.32	1.00	No	No
Benzo(a)pyrene (ug/L) - TW	2020/08/04	<MDL 0.004	0.01	No	No
Bromoxynil (ug/L) - TW	2020/08/04	<MDL 0.33	5.00	No	No
Carbaryl (ug/L) - TW	2020/08/04	<MDL 0.05	90.00	No	No
Carbofuran (ug/L) - TW	2020/08/04	<MDL 0.01	90.00	No	No
Carbon Tetrachloride (ug/L) - TW	2020/08/04	<MDL 0.17	2.00	No	No
Chlorpyrifos (ug/L) - TW	2020/08/04	<MDL 0.02	90.00	No	No
Diazinon (ug/L) - TW	2020/08/04	<MDL 0.02	20.00	No	No
Dicamba (ug/L) - TW	2020/08/04	<MDL 0.2	120.00	No	No
1,2-Dichlorobenzene (ug/L) - TW	2020/08/04	<MDL 0.41	200.00	No	No
1,4-Dichlorobenzene (ug/L) - TW	2020/08/04	<MDL 0.36	5.00	No	No
1,2-Dichloroethane (ug/L) - TW	2020/08/04	<MDL 0.35	5.00	No	No
1,1-Dichloroethylene (ug/L) - TW	2020/08/04	<MDL 0.33	14.00	No	No
Dichloromethane (Methylene Chloride) (ug/L) - TW	2020/08/04	<MDL 0.35	50.00	No	No
2,4-Dichlorophenol (ug/L) - TW	2020/08/04	<MDL 0.15	900.00	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L) - TW	2020/08/04	<MDL 0.19	100.00	No	No
Diclofop-methyl (ug/L) - TW	2020/08/04	<MDL 0.4	9.00	No	No
Dimethoate (ug/L) - TW	2020/08/04	<MDL 0.06	20.00	No	No
Diquat (ug/L) - TW	2020/08/04	<MDL 1.0	70.00	No	No
Diuron (ug/L) - TW	2020/08/04	<MDL 0.03	150.00	No	No
Glyphosate (ug/L) - TW	2020/08/04	<MDL 1.0	280.00	No	No
Malathion (ug/L) - TW	2020/08/04	<MDL 0.02	190.00	No	No
2-Methyl-4chlorophenoxyacetic Acid (MCPA)	2020/08/04	<MDL 0.12	100.00	No	No
Metolachlor (ug/L) - TW	2020/08/04	<MDL 0.01	50.00	No	No
Metribuzin (ug/L) - TW	2020/08/04	<MDL 0.02	80.00	No	No
Monochlorobenzene	2020/08/04	<MDL 0.3	80.00	No	No

	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Exceedances MAC	Exceedances ½ MAC
(Chlorobenzene) (ug/L) – TW					
Paraquat (ug/L) - TW	2020/08/04	<MDL 1.0	10.00	No	No
PCB (ug/L) - TW	2020/08/04	<MDL 0.04	3.00	No	No
Pentachlorophenol (ug/L) - TW	2020/08/04	<MDL 0.15	60.00	No	No
Phorate (ug/L) - TW	2020/08/04	<MDL 0.01	2.00	No	No
Picloram (ug/L) - TW	2020/08/04	<MDL 1.0	190.00	No	No
Prometryne (ug/L) - TW	2020/08/04	<MDL 0.03	1.00	No	No
Simazine (ug/L) - TW	2020/08/04	<MDL 0.01	10.00	No	No
Terbufos (ug/L) - TW	2020/08/04	<MDL 0.01	1.00	No	No
Tetrachloroethylene (ug/L) - TW	2020/08/04	<MDL 0.35	10.00	No	No
2,3,4,6-Tetrachlorophenol (ug/L) - TW	2020/08/04	<MDL 0.2	100.00	No	No
Triallate (ug/L) - TW	2020/08/04	<MDL 0.01	230.00	No	No
Trichloroethylene (ug/L) - TW	2020/08/04	<MDL 0.44	5.00	No	No
2,4,6-Trichlorophenol (ug/L) - TW	2020/08/04	<MDL 0.25	5.00	No	No
Trifluralin (ug/L) - TW	2020/08/04	<MDL 0.02	45.00	No	No
Vinyl Chloride (ug/L) - TW	2020/08/04	<MDL 0.17	1.00	No	No
Distribution Water					
Trihalomethane: Total (ug/L) Annual Average Q1- DW	2022 01 10	17	100	No	No
Trihalomethane: Total (ug/L) Annual Average Q2 - DW	2022 04 11	12	100	No	No
Trihalomethane: Total (ug/L) Annual Average Q3 - DW	2022 07 04	16	100	No	No
Trihalomethane: Total (ug/L) Annual Average Q4 - DW	2022 10 04	15	100	No	No
HAA Total (ug/L) Annual Average Q1 - DW	2022 01 10	5.3 <MDL	80	No	No
HAA Total (ug/L) Annual Average Q2 - DW	2022 04 11	5.3 <MDL	80	No	No
HAA Total (ug/L) Annual Average Q3 - DW	2022 07 04	5.3 <MDL	80	No	No
HAA Total (ug/L) Annual Average Q4 - DW	2022 10 04	5.3 <MDL	80	No	No

MAC = Maximum Allowable Concentration as per 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 Summary incurred to install, repair or replace required equipment

WO #	Description
52207	Removed UV Disinfection System
52260	OBT1 Inspection - Generator
55118/55120	Cleaned Well #1 and Replaced Well pump #1

Appendix A

WTRS Submission Confirmation



Ministry of the Environment,
Conservation and Parks

| [WT DATA](#) | [USER PROFILE](#) | [CONTACT US](#) | [HELP](#) | [HOME](#) | [LOGOUT](#) |

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 27, 2023 10:35 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.

[Print Confirmation](#)

[Return to Main Page](#)

CITY OF KAWARTHA LAKES | 2023/01/27
version: v4.5.0.21 (build#: 22)
Last modified: 2018/09/18

Ontario This site maintained by
the Government of Ontario

©2023 [Queen's Printer for Ontario](#)