

# Canadiana Shores Drinking Water System

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Waterworks # 220006491  
System Category – Large Municipal Residential

## Annual Water Report

Prepared For: The City of Kawartha Lakes

Reporting Period of January 1<sup>st</sup> – December 31<sup>st</sup>, 2022

Issued: February 17, 2023

Revision: 0

Operating Authorities:



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

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## 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:** 220006491

**Drinking Water System Name:** Canadiana Shores DWS

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

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

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

	# of Events	Date	Details
<b>Health &amp; Safety</b>			
Number of Incidents	0		
<b>Drinking Water</b>			
MECP Inspections	1	July 26, 2022	Announced - Focused Drinking Water Inspection - Final Inspection Rating:
AWQI's	0		
Number of Non-Compliances; Other Inspection Findings	1	Dec. 12, 2022*	Wastewater sampling location and regime differs from those prescribed by the Municipal Drinking Water Licence (MDWL)
Number of Boil Water Advisories	0		

\*Note: The date indicated was the date the Inspection Report was issued by the Provincial Officer responsible for the annual inspection of the Drinking Water System.

## System Process Description

### Raw Source

The water supply for the DWS comes from three (3) groundwater wells that are considered to be GUDI (Groundwater Under the Direct Influence of Surface Water).

## **Treatment**

The treatment system consists of the following:

- sodium hypochlorite disinfection system
- two (2) package treatment units with backwash equipment and backwash waste storage/decant tank system
- two (2) cartridge filtration systems
- two (2) booster pumps and equalization tank system
- hydropneumatic tanks
- a high lift pumping system
- Stand-by diesel generator on-site

### **Treatment Chemicals used during the reporting year:**

<b>Chemical Name</b>	<b>Use</b>	<b>Supplier</b>
Sodium Hypochlorite	Disinfection	Jutzi Water Technologies

## **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-compliance issues reported during the reporting period.

### **Non-Compliance Identified in a Ministry Inspection**

Note: The MECP issued the Inspection Report with a finding listed under Other Inspection Findings. This was an administrative issue.

<b>Legislation</b>	<b>Requirement(s) system failed to meet</b>	<b>Duration of the failure (i.e. date(s))</b>	<b>Corrective Action</b>	<b>Status</b>
Not applicable	MDWL 141-111 Conditions 5.3 and 5.4	Not applicable	Complete and submit Application to MECP Permissions Branch to amend conditions related to Environmental Discharge Parameters.	Complete

## Flows

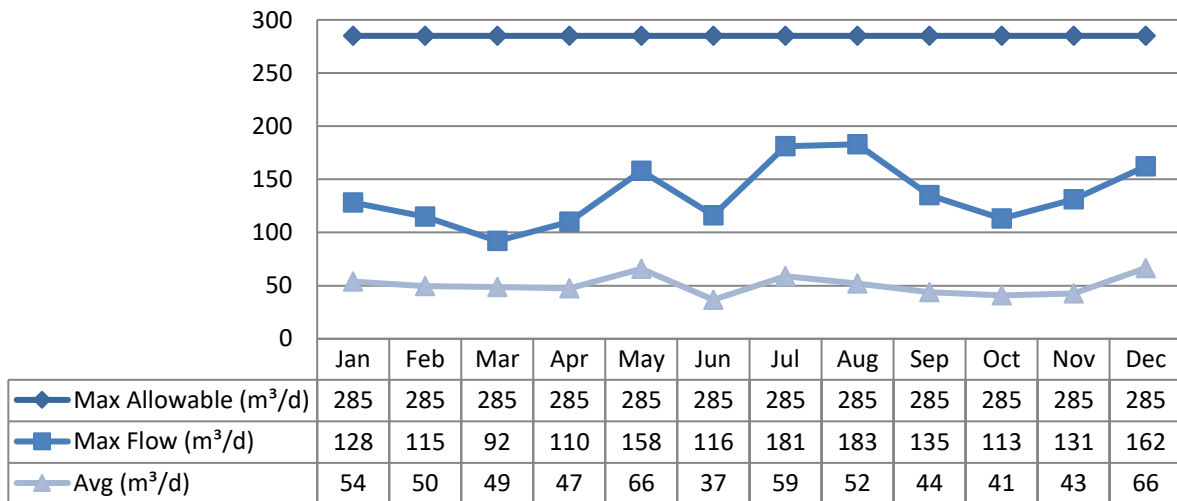
The Canadiana Shores Drinking Water System is operating on average under half the rated capacity.

### 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 #1452-AWDLEX. The confirmations and a copy of the data that was submitted are attached in Appendix A.

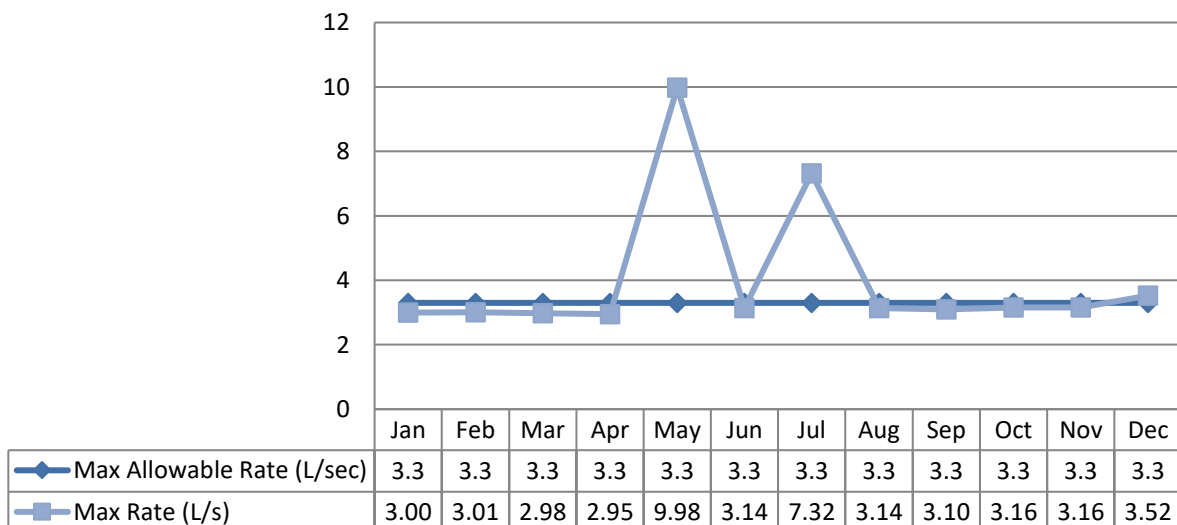
#### Total Monthly Flows (m<sup>3</sup>/d)

Max Allowable PTTW – Well #2



#### Monthly Rated Flows (L/s)

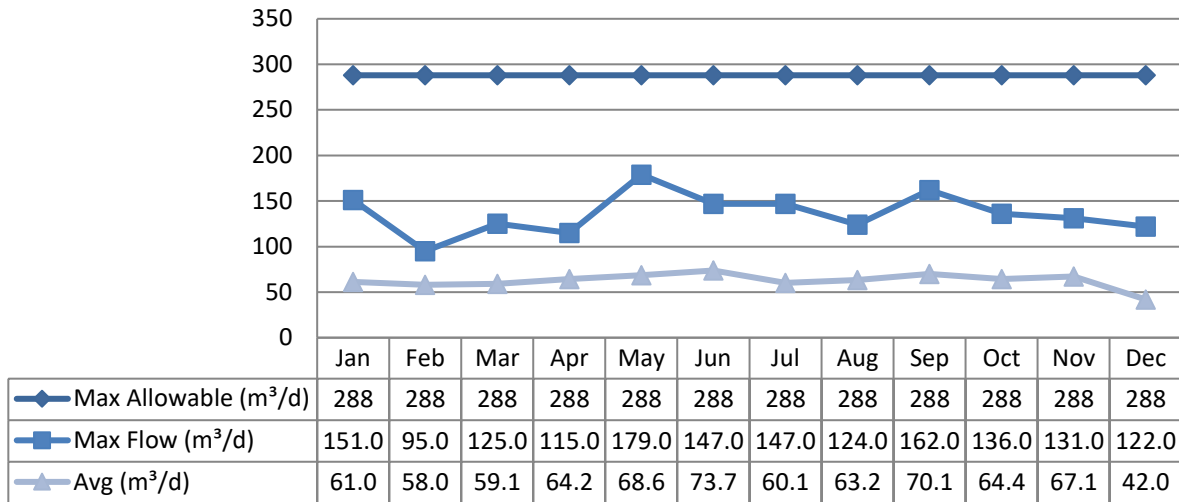
Max allowable rate – PTTW – Well #2



Note: The above table shows there were exceedances in instantaneous peak flow rate (L/s). The significant spike in May was due to scheduled Flow Meter calibration. The significant spike in July was due to well maintenance.

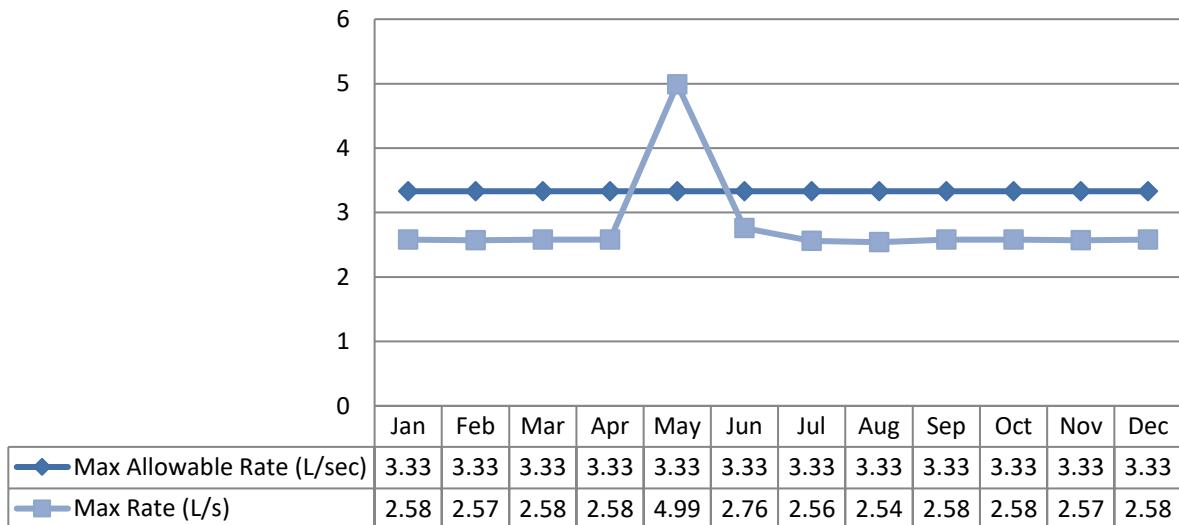
Total Monthly Flows (m<sup>3</sup>/d)

Max Allowable PTTW – Well #3



Monthly Rated Flows (L/s)

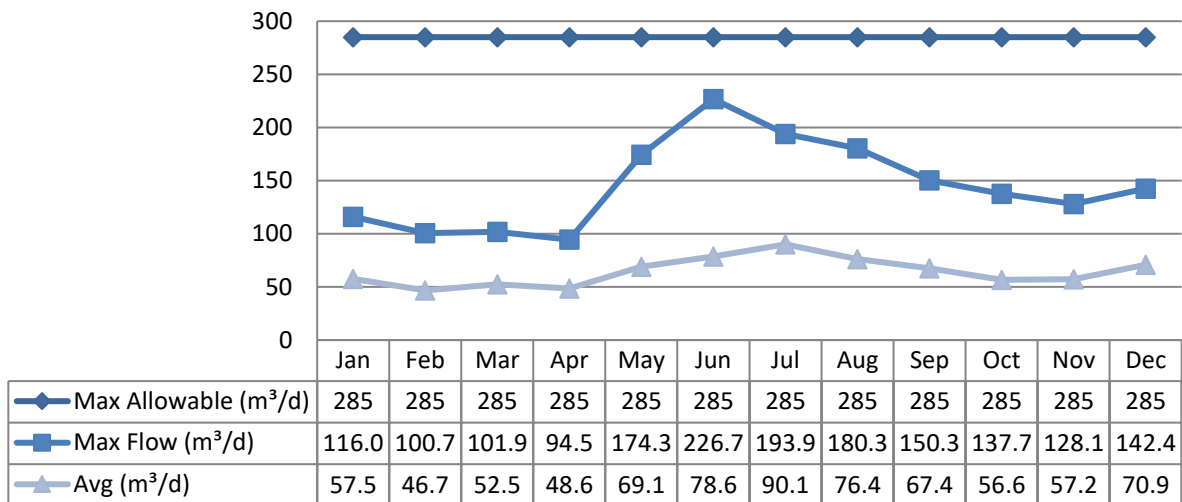
Max allowable rate – PTTW – Well #3



Note: The above table shows there were exceedances in instantaneous peak flow rate (L/s). The significant spike in May was due to scheduled Flow Meter calibration.

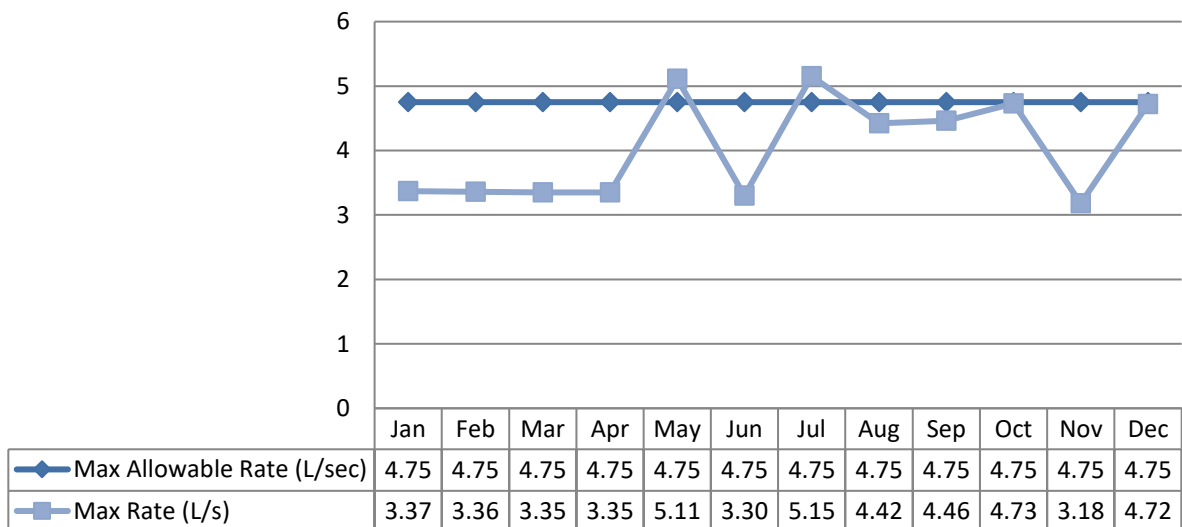
Total Monthly Flows (m<sup>3</sup>/d)

Max Allowable PTTW – Well #4



Monthly Rated Flows (L/s)

Max allowable rate – PTTW – Well #4



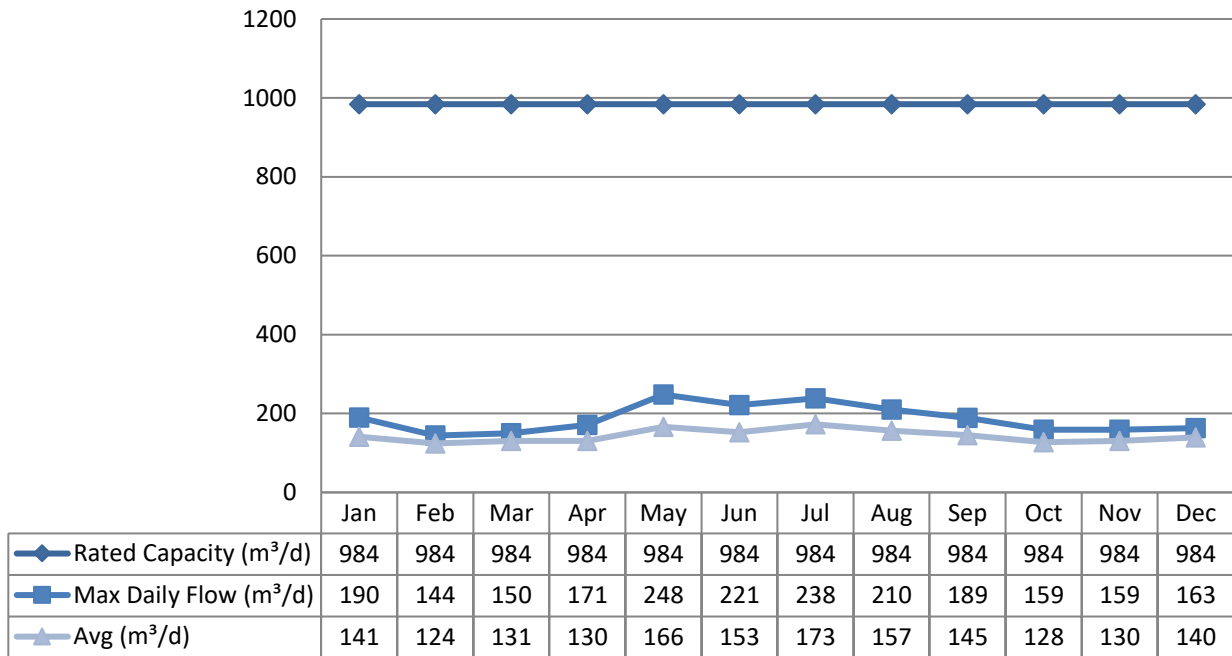
Note: The spike in May was due to scheduled Flow meter calibration. The spike in July was due to power transfer between utility and the onsite generator.

### Treated Water Flows

The Treated Water flows are regulated under the Municipal Licence.

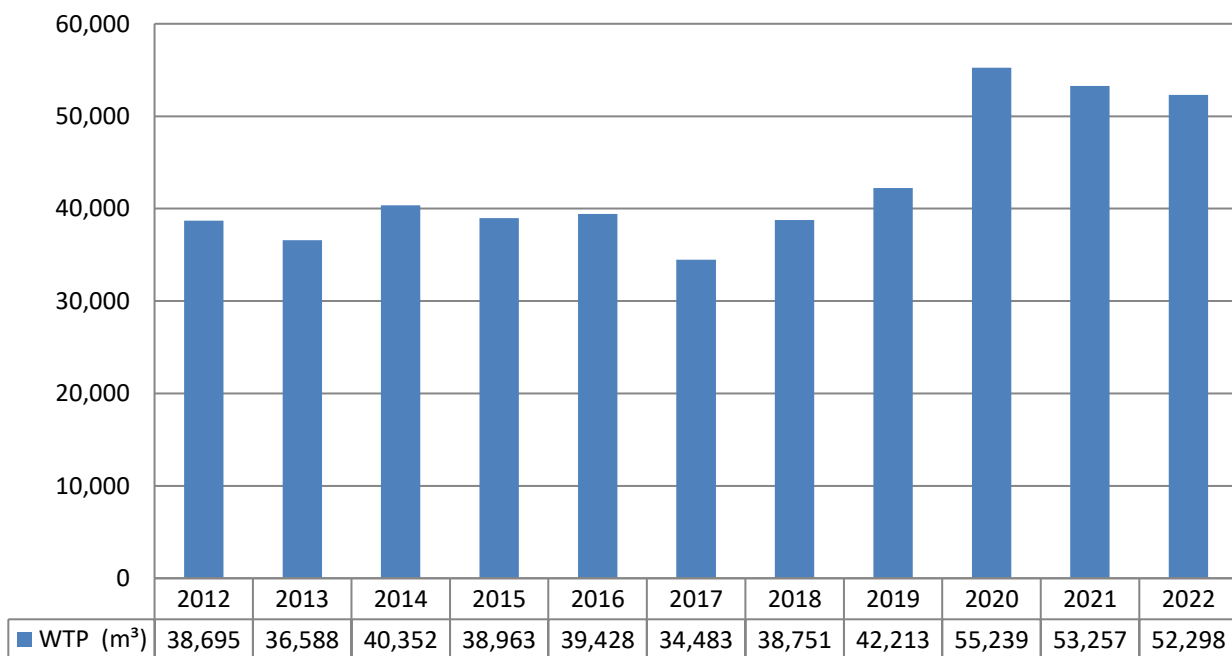
#### Monthly Rated Flows

Rated Capacity – MDWL



#### Annual Total Flow Comparison

Total Annual m<sup>3</sup>





## Regulatory Sample Results Summary

### Microbiological Testing

Source	No. of Samples Collected	Range of e. Coli Results MIN	Range of e. Coli Results MAX	Range of Total Coliforms MIN	Range of Total Coliforms MAX	Range of HPC Results MIN	Range of HPC Results MAX
Raw Well 2	54	0	0	0	0		
Raw Well 3	53	0	0	0	0		
Raw Well 4	52	0	0	0	0		
Treated	52	0	0	0	0	0	4
Distribution	156	0	0	0	0	0	106

### Operational Testing

	No. of Samples Collected	Range of Results MIN	Range of Results MAX
Turbidity Well 2 (NTU)	12	0.12	0.44
Turbidity Well 3 (NTU)	12	0.14	0.5
Turbidity Well 4 (NTU)	12	0.12	0.46
Turbidity – Filter Line 1 (NTU)	8760	0	1.99
Turbidity – Filter Line 2 (NTU)	8760	0	0.99
Chlorine	8760	1.15	2.85
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 5 years. Nitrate and Nitrite are tested quarterly and the metals are tested annually 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	Exceedance MAC	Exceedanc e ½ AMC
<b>Treated Water</b>					
Antimony: Sb (ug/L) - TW	2022/01/04	<MDL 0.6	6.0	No	No
Arsenic: As (ug/L) - TW	2022/01/04	<MDL 0.2	10.0	No	No
Barium: Ba (ug/L) - TW	2022/01/04	142.0	1000.0	No	No
Boron: B (ug/L) - TW	2022/01/04	12.0	5000.0	No	No
Cadmium: Cd (ug/L) - TW	2022/01/04	<MDL 0.003	5.0	No	No
Chromium: Cr (ug/L) - TW	2022/01/04	0.12	50.0	No	No
Mercury: Hg (ug/L) - TW	2022/01/04	<MDL 0.01	1.0	No	No
Selenium: Se (ug/L) - TW	2022/01/04	0.06	50.0	No	No
Uranium: U (ug/L) - TW	2022/01/04	4.15	20.0	No	No
<b>Additional Inorganics</b>					
Fluoride (mg/L) - TW	2018/01/08	0.09	1.5	No	No
Nitrite (mg/L) - TW	2022/01/04	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2022/04/04	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2022/06/20	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2022/10/03	<MDL 0.003	1.0	No	No
Nitrate (mg/L) - TW	2022/01/04	0.815	10.0	No	No
Nitrate (mg/L) - TW	2022/04/04	0.853	10.0	No	No
Nitrate (mg/L) - TW	2022/06/20	0.808	10.0	No	No
Nitrate (mg/L) - TW	2022/10/03	0.718	10.0	No	No
Sodium: Na (mg/L) - TW	2018/01/08	17.0	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 (ug/L)	Number of Exceedances
Alkalinity (mg/L)	2	2	273	295	N/A	N/A
pH	2	2	7.49	8.44	N/A	N/A
Lead (ug/l)	2	0	N/A	N/A	10	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	Exceedance MAC	Exeedance ½ MAC
<b>Treated Water</b>					
Alachlor (ug/L) - TW	2022/01/04	<MDL 0.02	5.00	No	No
Atrazine + N-dealkylated metabolites (ug/L) - TW	2022/01/04	<MDL 0.01	5.00	No	No
Azinphos-methyl (ug/L) - TW	2022/01/04	<MDL 0.05	20.00	No	No
Benzene (ug/L) - TW	2022/01/04	<MDL 0.32	1.00	No	No
Benzo(a)pyrene (ug/L) - TW	2022/01/04	<MDL 0.004	0.01	No	No
Bromoxynil (ug/L) - TW	2022/01/04	<MDL 0.33	5.00	No	No
Carbaryl (ug/L) - TW	2022/01/04	<MDL 0.05	90.00	No	No
Carbofuran (ug/L) - TW	2022/01/04	<MDL 0.01	90.00	No	No
Carbon Tetrachloride (ug/L) - TW	2022/01/04	<MDL 0.17	2.00	No	No
Chlorpyrifos (ug/L) - TW	2022/01/04	<MDL 0.02	90.00	No	No
Diazinon (ug/L) - TW	2022/01/04	<MDL 0.02	20.00	No	No

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	<b>Sample Date (yyyy/mm/dd)</b>	<b>Sample Result</b>	<b>MAC</b>	<b>Exceedance MAC</b>	<b>Exeedance ½ MAC</b>
Dicamba (ug/L) - TW	2022/01/04	<MDL 0.2	120.00	No	No
1,2-Dichlorobenzene (ug/L) - TW	2022/01/04	<MDL 0.41	200.00	No	No
1,4-Dichlorobenzene (ug/L) - TW	2022/01/04	<MDL 0.36	5.00	No	No
1,2-Dichloroethane (ug/L) - TW	2022/01/04	<MDL 0.35	5.00	No	No
1,1-Dichloroethylene (ug/L) - TW	2022/01/04	<MDL 0.33	14.00	No	No
Dichloromethane (Methylene Chloride) (ug/L) - TW	2022/01/04	<MDL 0.35	50.00	No	No
2,4-Dichlorophenol (ug/L) - TW	2022/01/04	<MDL 0.15	900.00	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L) - TW	2022/01/04	<MDL 0.19	100.00	No	No
Diclofop-methyl (ug/L) - TW	2022/01/04	<MDL 0.4	9.00	No	No
Dimethoate (ug/L) - TW	2022/01/04	<MDL 0.06	20.00	No	No
Diquat (ug/L) - TW	2022/01/04	<MDL 1.0	70.00	No	No
Diuron (ug/L) - TW	2022/01/04	<MDL 0.03	150.00	No	No
Glyphosate (ug/L) - TW	2022/01/04	<MDL 1.0	280.00	No	No
Malathion (ug/L) - TW	2022/01/04	<MDL 0.02	190.00	No	No
2-Methyl-4chlorophenoxyacetic Acid (MCPA) (ug/L)	2022/01/04	<MDL 0.12	100.00	No	No
Metolachlor (ug/L) - TW	2022/01/04	<MDL 0.01	50.00	No	No
Metribuzin (ug/L) - TW	2022/01/04	<MDL 0.02	80.00	No	No
Monochlorobenzene (Chlorobenzene) (ug/L) - TW	2022/01/04	<MDL 0.3	80.00	No	No
Paraquat (ug/L) - TW	2022/01/04	<MDL 1.0	10.00	No	No
PCB (ug/L) - TW	2022/01/04	<MDL 0.04	3.00	No	No

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	<b>Sample Date (yyyy/mm/dd)</b>	<b>Sample Result</b>	<b>MAC</b>	<b>Exceedance MAC</b>	<b>Exceedance ½ MAC</b>
Pentachlorophenol (ug/L) - TW	2022/01/04	<MDL 0.15	60.00	No	No
Phorate (ug/L) - TW	2022/01/04	<MDL 0.01	2.00	No	No
Picloram (ug/L) - TW	2022/01/04	<MDL 1.0	190.00	No	No
Prometryne (ug/L) - TW	2022/01/04	<MDL 0.03	1.00	No	No
Simazine (ug/L) - TW	2022/01/04	<MDL 0.01	10.00	No	No
Terbufos (ug/L) - TW	2022/01/04	<MDL 0.01	1.00	No	No
Tetrachloroethylene (ug/L) - TW	2022/01/04	<MDL 0.35	10.00	No	No
2,3,4,6-Tetrachlorophenol (ug/L) - TW	2022/01/04	<MDL 0.2	100.00	No	No
Triallate (ug/L) - TW	2022/01/04	<MDL 0.01	230.00	No	No
Trichloroethylene (ug/L) - TW	2022/01/04	<MDL 0.44	5.00	No	No
2,4,6-Trichlorophenol (ug/L) - TW	2022/01/04	<MDL 0.25	5.00	No	No
Trifluralin (ug/L) - TW	2022/01/04	<MDL 0.02	45.00	No	No
Vinyl Chloride (ug/L) - TW	2022/01/04	<MDL 0.17	1.00	No	No
<b>Distribution Water</b>					
Trihalomethane: Total (ug/L) Annual Average - DW	2022	9.45	100	No	No
HAA Total (ug/L) Annual Average - DW	2022	5.3	80	No	No

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

MDL = Method Detection Limit

**Additional Legislated Samples**

<b>Date of legal instrument issued</b>	<b>Parameter</b>	<b>Date Sampled</b>	<b>Result</b>	<b>Unit of Measure</b>
Sep. 21, 2021	Suspended Solids	Jan. 31, 2022	2	mg/L

<b>Date of legal instrument issued</b>	<b>Parameter</b>	<b>Date Sampled</b>	<b>Result</b>	<b>Unit of Measure</b>
	(Composite)			
Sep. 21, 2021	Suspended Solids (Composite)	Feb. 28, 2022	2	mg/L
Sep. 21, 2021	Suspended Solids (Composite)	Mar. 28, 2022	<2	mg/L
Sep. 21, 2021	Suspended Solids (Composite)	Apr. 25, 2022	3	mg/L
Sep. 21, 2021	Suspended Solids (Composite)	May 30, 2022	3	mg/L
Sep. 21, 2021	Suspended Solids (Composite)	Jun. 27, 2022	4	mg/L
Sep. 21, 2021	Suspended Solids (Composite)	Jul. 25, 2022	2	mg/L
Sep. 21, 2021	Suspended Solids (Composite)	Aug. 29, 2022	<2	mg/L
Sep. 21, 2021	Suspended Solids (Composite)	Sep. 26, 2022	<2	mg/L
Sep. 21, 2021	Suspended Solids (Composite)	Oct. 31, 2022	2	mg/L
Sep. 21, 2021	Suspended Solids (Composite)	Nov. 30, 2022	5	mg/L
Sep. 21, 2021	Suspended Solids (Composite)	Dec. 28, 2022	3	mg/L
Sep. 21, 2021	Suspended Solids 12 month Rolling Average Concentration	2022	2.6	mg/L



Note: Suspended Solids Annual Average Concentration limit is 25 mg/L as per MDWL 141-112.

**Major Maintenance Summary incurred to install, repair or replace required equipment**

<b>WO #</b>	<b>Description</b>
2919885	Ladder, Repair

# Appendix A

## WTRS Submission Confirmations



Ministry of the Environment,  
Conservation and Parks

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

WTRS-WT-008

**Water Taking Data submitted successfully.**

**Confirmation:**

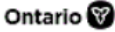
Thank you for submitting your water taking data online.

Permit Number: 1311-BMZH78  
Permit Holder: THE CORPORATION OF THE CITY OF KAWARTHA LAKES.  
Received on: Jan 31, 2023 12:15 PM

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.

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CITY OF KAWARTHA LAKES | 2023/01/31  
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