

# Western Trent/Palmina Drinking Water System

---

Waterworks # 220008131  
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 13 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

## 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 .....	2
Raw Water Flows .....	2
Total Monthly Flows (m <sup>3</sup> /d)-Well #1.....	3
Monthly Rated Flows (L/s)-Well #1 .....	3
Total Monthly Flows (m <sup>3</sup> /d)-Well #2.....	4
Monthly Rated Flows (L/s)-Well #2.....	4
Treated Water Flows .....	5
Monthly Rated Flows.....	5
Annual Total Flow Comparison .....	5
Regulatory Sample Results Summary .....	6
Microbiological Testing.....	6
Operational Testing .....	6
Inorganic Parameters .....	6
Schedule 15 Sampling: .....	7
Organic Parameters .....	8
Additional Legislated Samples .....	10
Major Maintenance Summary .....	10
WTRS Data 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:** 220008131

**Drinking Water System Name:** Western Trent/Palmina 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
Health & Safety			
Number of Incidents	0		
Drinking Water			
MECP Inspections	1	June 7, 2022	Announced-Focused Drinking Water Inspection - Final Inspection Rating of 100%
AWQI's	0		
Number of Non-Compliances	0		
Number of Boil Water Advisories	0		

## System Process Description

### Raw Source

The Western Trent/Palmina Water Treatment Plant is supplied with raw groundwater from two GUDI wells: Well # 1 (Palmina Well) and Well # 2 (Western Trent Well).

### Treatment

The treatment system consists of the following:

- Two drilled groundwater production wells deemed GUDI
- Raw and treated water flow meters
- Cartridge filtration system
- Chlorine contact chamber
- Treated water storage reservoir

- Two vertical turbine high lift pumps
- Chemical feed system consisting of four metering pumps for pre and post-chlorination and two sodium hypochlorite storage tanks with spill containment
- Standby power generator on site

Treatment Chemicals used during the reporting year:

Chemical Name	Use	Supplier
Sodium Hypochlorite	Disinfection	Jutzi Water Technology

## Summary of Non-Compliance

### Adverse Water Quality Incidents

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

### Non-Compliance

There were no non-compliance issues reported during the reporting period.

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

There were no non-compliance issues identified during the reporting period.

## Flows

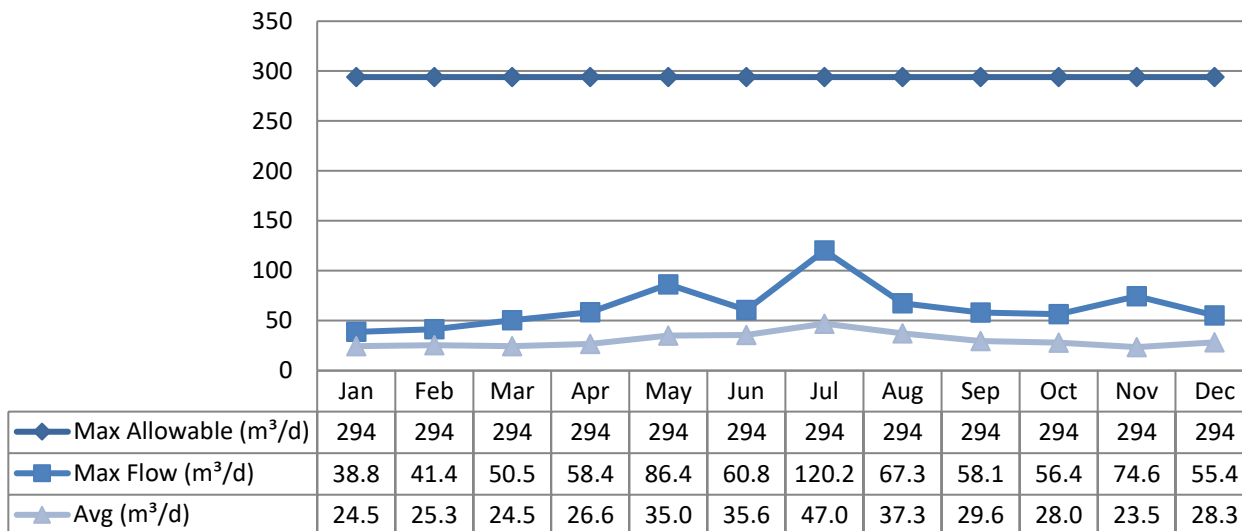
The Western Trent/Palmina Drinking Water System is operating on average under half the rated capacity.

### Raw Water Flows

The Raw Water takings are regulated by the Permit to Take Water (PTTW). 2022 Raw Flow Data was submitted to the Ministry electronically under permit PTTW # 2180-B4CKK3. The confirmation for the data that was submitted is attached in Appendix A.

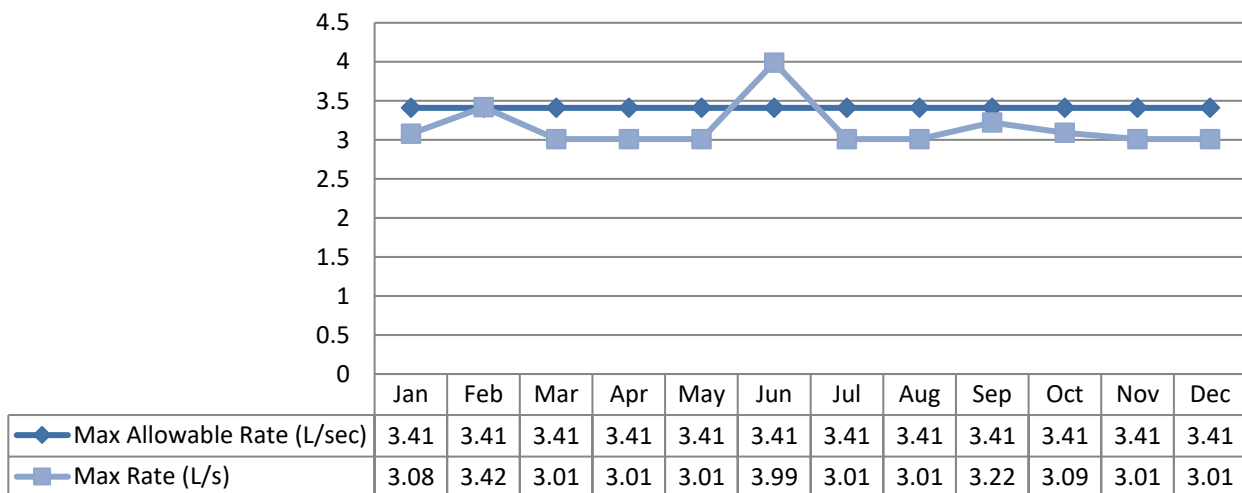
Total Monthly Flows (m<sup>3</sup>/d)

Max Allowable PTTW- Well #1



Monthly Rated Flows (L/s)

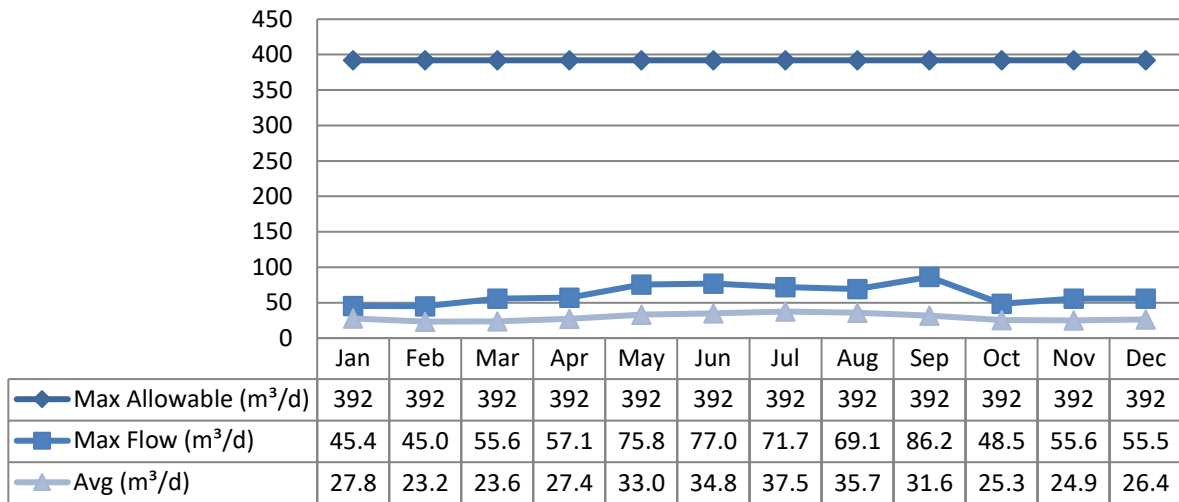
Max allowable rate – PTTW- Well #1



Note: The above table shows an exceedance in instantaneous peak flow rate (L/s) in February. The actual limit in the PTTW is 205L/min. Spike in February was < 1minute in duration. Spike in June due to flow meter calibration.

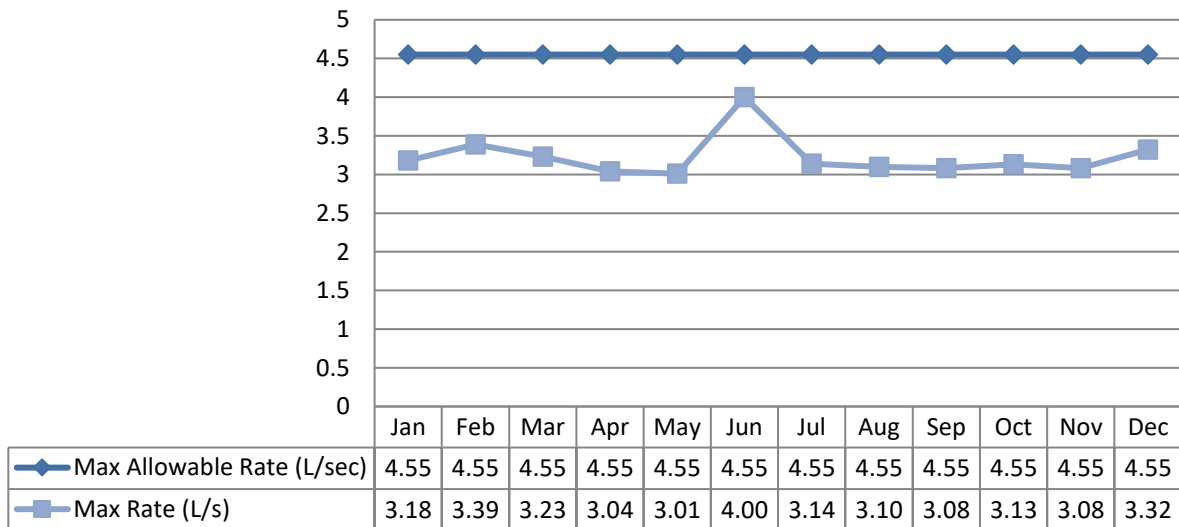
Total Monthly Flows (m<sup>3</sup>/d)

Max Allowable PTTW- Well #2



Monthly Rated Flows (L/s)

Max allowable rate – PTTW- Well #2

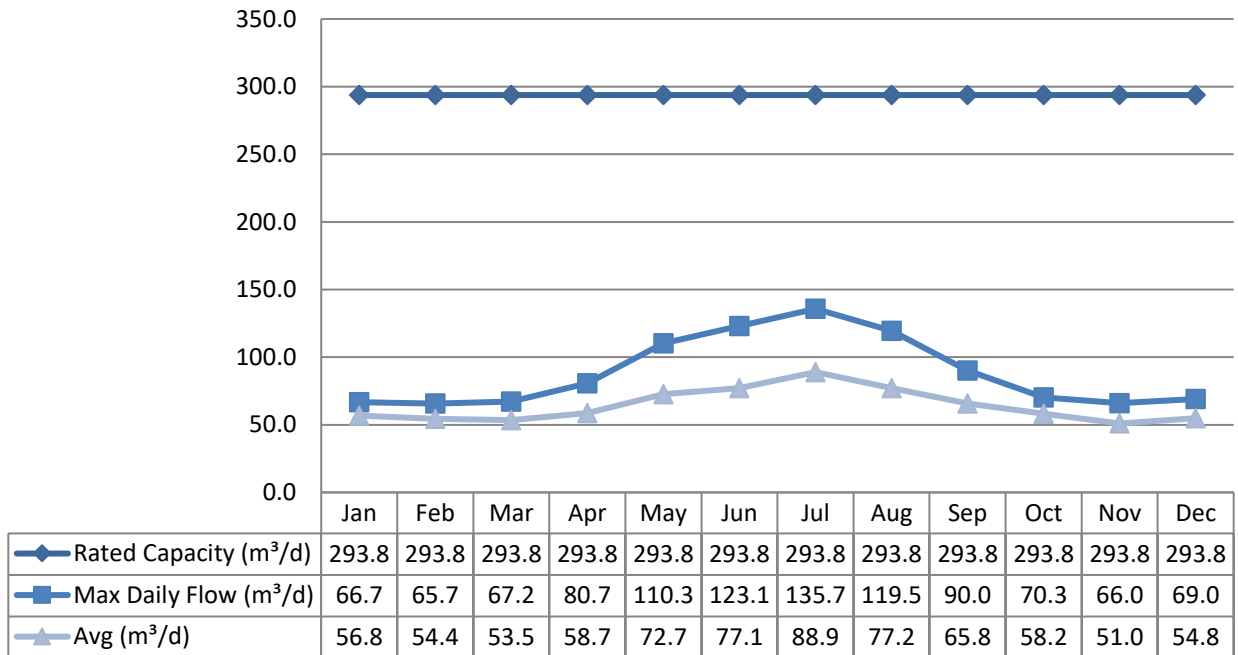


### Treated Water Flows

The Treated Water flows are regulated under the Municipal Licence.

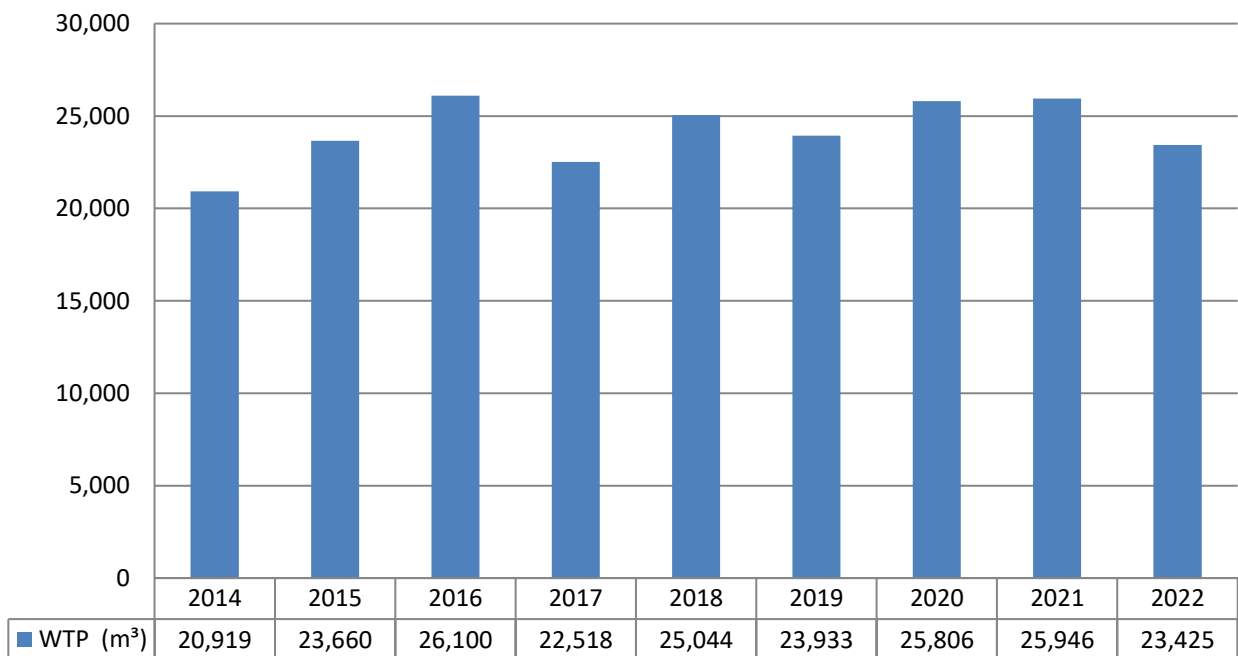
#### Monthly Rated Flows

Rated Capacity - MDWL



#### Annual Total Flow Comparison

Total Annual m³



NOTE: 2014 data for March to December as DWS operated by the City until Feb 2014.

## Regulatory Sample Results Summary

### Microbiological Testing

Location	No. of Samples Collected	Range of E.coli Results Minimum	Range of E.coli Results Maximum	Range of Total Coliform Results Minimum	Range of Total Coliform Results Maximum	No. of Samples Collected	Range of HPC Results Minimum	Range of HPC Results Maximum
Raw Well 1	82	0	0	0	4			
Raw Well 2	82	0	1	0	11			
Treated	82	0	0	0	0	66	0	1
Distribution	156	0	0	0	0	156	0	560

### Operational Testing

Location	No. of Samples Collected	Range of Results Minimum	Range of Results Maximum
Turbidity Filter 1	8760	0.03	1.50
Turbidity Filter 2	8760	0.02	1.50
Chlorine	8760	1.20	2.37
Fluoride (If the	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



<b>Treated Water</b>	<b>Sample Date (yyyy/mm/dd)</b>	<b>Sample Result</b>	<b>MAC</b>	<b>Exceedances MAC</b>	<b>Exceedances ½ MAC</b>
Antimony: Sb (ug/L) - TW	2022/09/06	<MDL 0.6	6.0	No	No
Arsenic: As (ug/L) - TW	2022/09/06	<MDL 0.2	10.0	No	No
Barium: Ba (ug/L) - TW	2022/09/06	61.5	1000.0	No	No
Boron: B (ug/L) - TW	2022/09/06	57.0	5000.0	No	No
Cadmium: Cd (ug/L) - TW	2022/09/06	0.007	5.0	No	No
Chromium: Cr (ug/L) - TW	2022/09/06	0.68	50.0	No	No
Mercury: Hg (ug/L) - TW	2022/09/06	<MDL 0.01	1.0	No	No
Selenium: Se (ug/L) - TW	2022/09/06	0.10	50.0	No	No
Uranium: U (ug/L) - TW	2022/09/06	0.268	20.0	No	No
<b>Additional Inorganics</b>					
Fluoride (mg/L) - TW	2018/12/03	0.21	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	2022/07/05	<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	0.098	10.0	No	No
Nitrate (mg/L) - TW	2022/04/04	0.069	10.0	No	No
Nitrate (mg/L) - TW	2022/07/05	0.079	10.0	No	No
Nitrate (mg/L) - TW	2022/10/03	0.481	10.0	No	No
Sodium: Na (mg/L) - TW	2018/12/07	18.1	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 mg/L 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	No. of Sampling Points	No. of Samples	Range of Results Minimum	Range of Results Maximum	MAC (ug/L)	No. of Exceedances
Alkalinity (mg/L)	2	2	220	222	N/A	N/A
pH	2	2	7.22	7.88	N/A	N/A
Lead (ug/l)	N/A	N/A	N/A	N/A	N/A	N/A

### Organic Parameters

These parameters are tested annually 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.

Treated Water	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Exceedance MAC	Exceedance ½ MAC
Alachlor (ug/L) - TW	2022/09/06	<MDL 0.02	5.0	No	No
Atrazine + N-dealkylated metabolites (ug/L) - TW	2022/09/06	<MDL 0.01	5.0	No	No
Azinphos-methyl (ug/L) - TW	2022/09/06	<MDL 0.05	20.0	No	No
Benzene (ug/L) - TW	2022/09/06	<MDL 0.32	1.0	No	No
Benzo(a)pyrene (ug/L) - TW	2022/09/06	<MDL 0.004	0.01	No	No
Bromoxynil (ug/L) - TW	2022/09/06	<MDL 0.33	5.0	No	No
Carbaryl (ug/L) - TW	2022/09/06	<MDL 0.05	90.0	No	No
Carbofuran (ug/L) - TW	2022/09/06	<MDL 0.01	90.0	No	No
Carbon Tetrachloride (ug/L) - TW	2022/09/06	<MDL 0.17	2.0	No	No
Chlorpyrifos (ug/L) - TW	2022/09/06	<MDL 0.02	90.0	No	No
Diazinon (ug/L) - TW	2022/09/06	<MDL 0.02	20.0	No	No
Dicamba (ug/L) - TW	2022/09/06	<MDL 0.2	120.0	No	No
1,2-Dichlorobenzene (ug/L) - TW	2022/09/06	<MDL 0.41	200.0	No	No
1,4-Dichlorobenzene (ug/L) - TW	2022/09/06	<MDL 0.36	5.0	No	No
1,2-Dichloroethane (ug/L) - TW	2022/09/06	<MDL 0.35	5.0	No	No
1,1-Dichloroethylene (ug/L) - TW	2022/09/06	<MDL 0.33	14.0	No	No
Dichloromethane (Methylene Chloride) (ug/L) - TW	2022/09/06	<MDL 0.35	50.0	No	No
2,4-Dichlorophenol (ug/L) - TW	2022/09/06	<MDL 0.15	900.0	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L) - TW	2022/09/06	<MDL 0.19	100.0	No	No
Diclofop-methyl (ug/L) - TW	2022/09/06	<MDL 0.4	9.0	No	No

Western Trent/Palmina Drinking Water System – 2022 Annual Water Reports

<b>Treated Water</b>	<b>Sample Date (yyyy/mm/dd)</b>	<b>Sample Result</b>	<b>MAC</b>	<b>Exceedance MAC</b>	<b>Exceedance ½ MAC</b>
Dimethoate (ug/L) - TW	2022/09/06	<MDL 0.06	20.0	No	No
Diquat (ug/L) - TW	2022/09/06	<MDL 1.0	70.0	No	No
Diuron (ug/L) - TW	2022/09/06	<MDL 0.03	150.0	No	No
Glyphosate (ug/L) - TW	2022/09/06	<MDL 1.0	280.0	No	No
Malathion (ug/L) - TW	2022/09/06	<MDL 0.02	190.0	No	No
Metolachlor (ug/L) - TW	2022/09/06	<MDL 0.01	50.0	No	No
Metribuzin (ug/L) - TW	2022/09/06	<MDL 0.02	80.0	No	No
Monochlorobenzene (Chlorobenzene) (ug/L) - TW	2022/09/06	<MDL 0.3	80.0	No	No
Paraquat (ug/L) - TW	2022/09/06	<MDL 1.0	10.0	No	No
PCB (ug/L) - TW	2022/09/06	<MDL 0.04	3.0	No	No
Pentachlorophenol (ug/L) - TW	2022/09/06	<MDL 0.15	60.0	No	No
Phorate (ug/L) - TW	2022/09/06	<MDL 0.01	2.0	No	No
Picloram (ug/L) - TW	2022/09/06	<MDL 1.0	190.0	No	No
Prometryne (ug/L) - TW	2022/09/06	<MDL 0.03	1.0	No	No
Simazine (ug/L) - TW	2022/09/06	<MDL 0.01	10.0	No	No
Terbufos (ug/L) - TW	2022/09/06	<MDL 0.01	1.0	No	No
Tetrachloroethylene (ug/L) - TW	2022/09/06	<MDL 0.35	10.0	No	No
2,3,4,6-Tetrachlorophenol (ug/L) - TW	2022/09/06	<MDL 0.2	100.0	No	No
Triallate (ug/L) - TW	2022/09/06	<MDL 0.01	230.0	No	No
Trichloroethylene (ug/L) - TW	2022/09/06	<MDL 0.44	5.0	No	No
2,4,6-Trichlorophenol (ug/L) - TW	2022/09/06	<MDL 0.25	5.0	No	No
2-methyl-4- chlorophenoxyacetic acid (MCPA) (ug/L) - TW	2022/09/06	<MDL 0.12	100.0	No	No
Trifluralin (ug/L) - TW	2022/09/06	<MDL 0.02	45.0	No	No
Vinyl Chloride (ug/L) - TW	2022/09/06	<MDL 0.17	1.0	No	No
<b>Distribution Water</b>					
Trihalomethane: Total (ug/L) Annual Average - DW	2022	37.8	100	No	No
HAA Total (ug/L) Annual Average - DW	2022	12.1	80	No	No

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

MDL = Method Detection Limit

**Additional Legislated Samples**

Under Schedule D of MDWL 141-102 Issue number 6 dated May 10, 2022, Regulatory Relief from ANSI/NSF Standard 53 certification or equivalent was granted for the 1 micron absolute cartridge filters as there are no remaining stock of certified cartridge filters for this drinking water system. Subject to this approval, bacteriological sampling twice per week for all raw sources and treated water is required when the non certified filters are in use.



As of June 8, 2022, non ANSI/NSF Standard 53 certified 1 micron absolute cartridge filters, as approved by MECP, were installed and twice per week bacteriological sampling for all raw sources and treated water was initiated. The results for this additional sampling are included in the Microbiological Testing table under the Regulatory Sample Results Summary section on page 6 of this report.

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

<b>WO #</b>	<b>Description</b>
3108953	Replaced Needle Valve for Singer Valve
3104834	Install Hot Water Line and Thermal Mixing Valve to Eyewash/Shower
2722798	Replaced Chlorine Analyzer Feed Pump
3017095	Repaired Post Filter Pipe and Injector
2542351	Replaced Cellular Alarm Dialer

# Appendix A

## WTRS Data 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: 2180-B4CKK3  
Permit Holder: THE CORPORATION OF THE CITY OF KAWARTHA LAKES.  
Received on: Jan 27, 2023 3:53 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.

[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

 This site maintained by  
the Government of Ontario

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