Kinmount Drinking Water System

2024 Annual Water Report

Drinking Water System Number: 260075231

Drinking Water System Operating Authorities: City of Kawartha Lakes and Ontario Clean Water Agency

Drinking Water System Category: Small Municipal Residential

Reporting Period: January 1 – December 31, 2024

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Annual Drinking Water Report
City of Kawartha Lakes

Kawartha Lakes
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Table of Contents

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: 260075231
Drinking Water System Name: Kinmount 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	April 29, 2024	2024/2025 Announced Focused Drinking Water Inspection – Final Inspection Rating of 100%
Adverse Water Quality Incidents (AWQIs)	0		
Non-Compliances	0		
Boil Water Advisories	0		
Health and Safety	0		

Drinking Water System Description

The Kinmount drinking water system is a small municipal residential drinking water system that serves the Village of Kinmount, Ontario. The drinking water system is classified as a Class II Water Treatment and Class I Water Distribution subsystems under O. Reg. 128/04

Source Water

The water supply for the system comes from the Burnt River, which is a surface water source.

Water Treatment Facility

The Kinmount drinking water system consists of a dual train conventional filtration package system. Each train consists of a two stage variable speed flocculator, tube settler clarifier, and one (1) dual media rapid gravity filter. Sodium hypochlorite is used for primary and secondary disinfection. Chlorine contact time is achieved by the use of a twin-cell clearwell. Treated water is directed to the distribution system using four (4) high lift vertical turbine pumps. The backwash wastewater system consists of a concrete settling tank that receives the filter backwash wastewater and clarifier desludging wastes. A composite sampler monitors the supernatant quality before discharging.

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 2.3 kilometers of watermains and is not rated for fire protection. There is no storage, chlorine boosting, secondary disinfection or pressure boosting capabilities within the control of the distribution system. The watermains in the Kinmount Distribution System are all PVC.

Table 2. Treatment Chemicals Used

Chemical Name	Use	Supplier
Sodium Hypochlorite	Disinfection	Jutzi Water Technology
Polyaluminum Chloride	Flocculation	Univar Solutions
Polymer	Flocculation	Basf
Sodium Hydroxide	pH Adjustment	Not required in 2024

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.

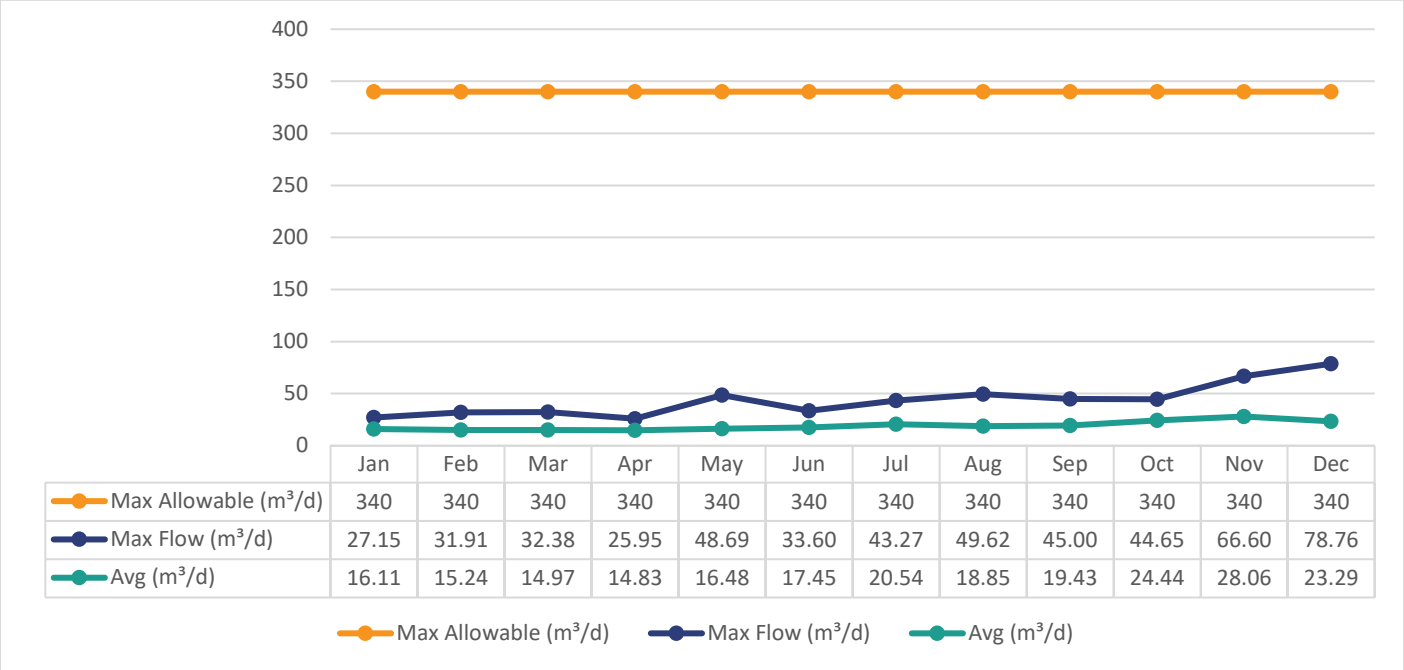
Flows

The Kinmount Drinking Water System is operating on average under half the rated capacity. The rated capacity of the system (treated water flows) is 340 m^3/day.

Raw Water Flows

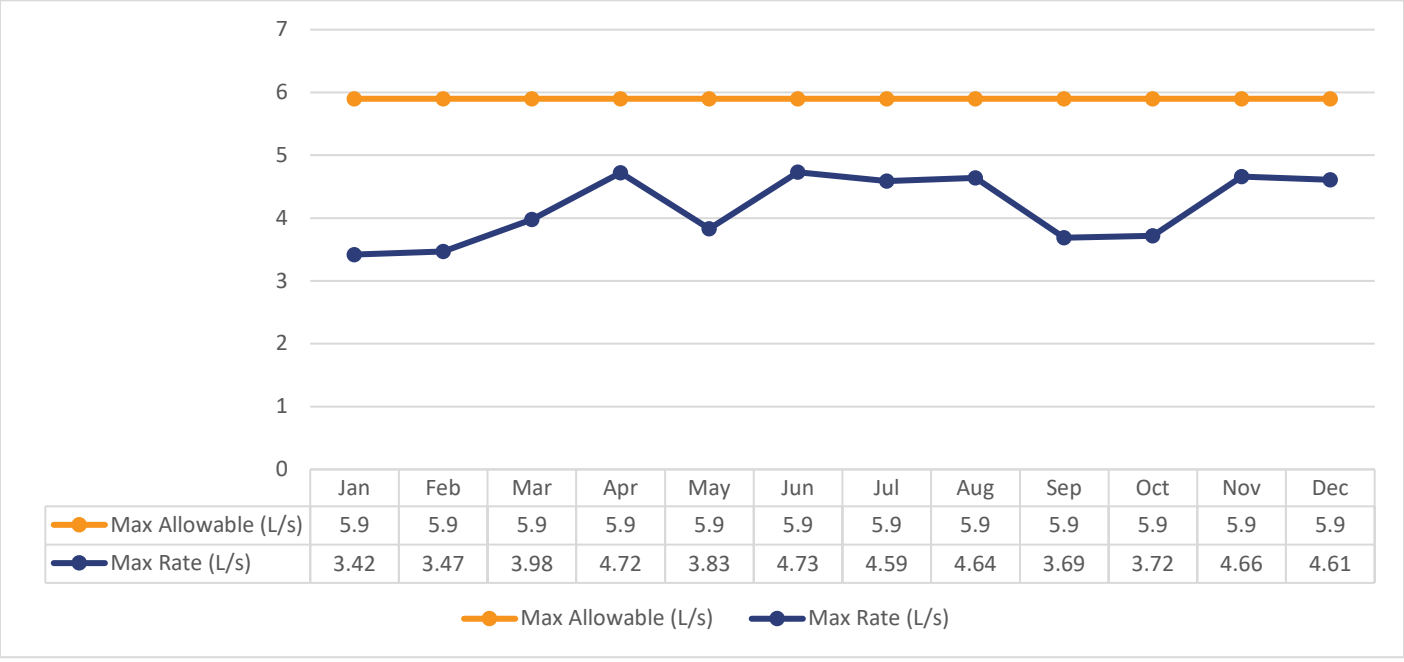
The raw water flows are regulated under the Permit to Take Water. Raw flow data for 2024 was submitted to the Ministry of Environment, Conservation and Parks (MECP) electronically under permit #2447-AWDJEA. The confirmation of the data that was submitted is attached in Appendix A.

Graph 1. Total Monthly Flows (m³/d) – Burnt River (Max Allowable PTTW)



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable (m³/d)	340	340	340	340	340	340	340	340	340	340	340	340
Max Flow (m³/d)	27.15	31.91	32.38	25.95	48.69	33.60	43.27	49.62	45.00	44.65	66.60	78.76
Avg (m³/d)	16.11	15.24	14.97	14.83	16.48	17.45	20.54	18.85	19.43	24.44	28.06	23.29

Graph 2. Monthly Rated Flows (L/s) – Burnt River (Max Allowable Rate PTTW)

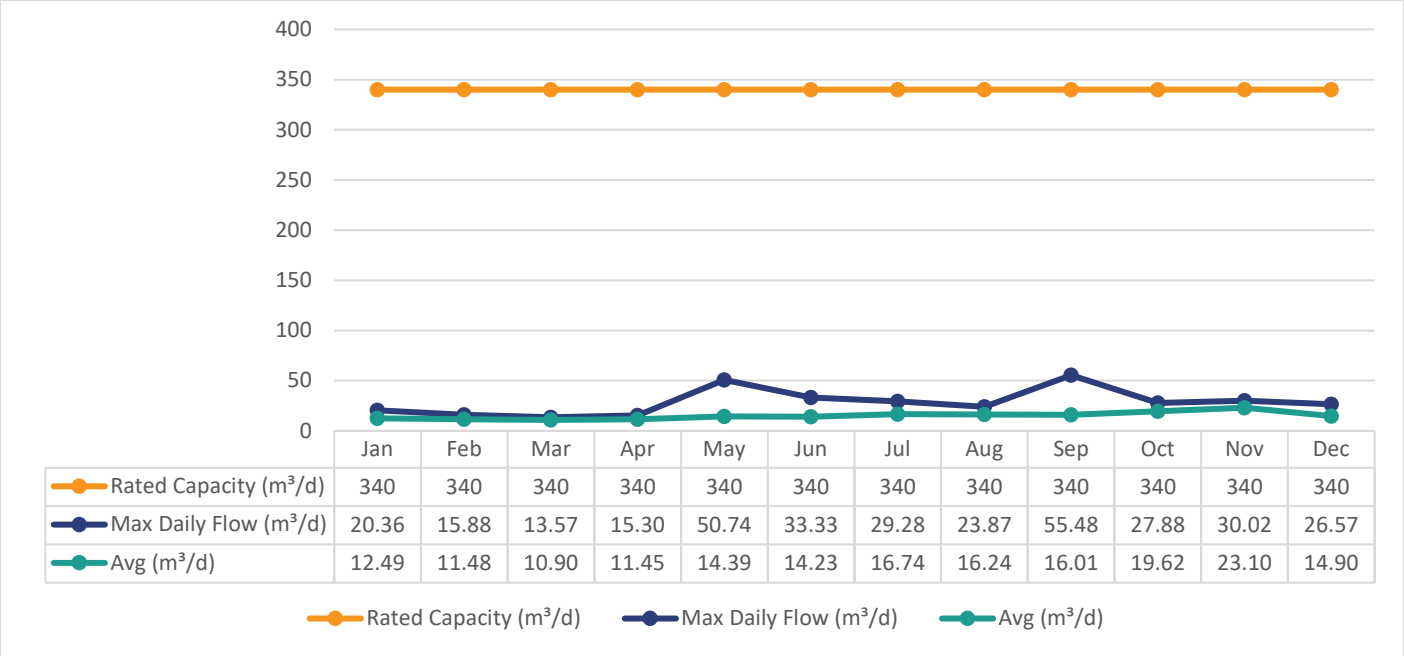


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable (L/s)	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9
Max Rate (L/s)	3.42	3.47	3.98	4.72	3.83	4.73	4.59	4.64	3.69	3.72	4.66	4.61

Treated Water Flows

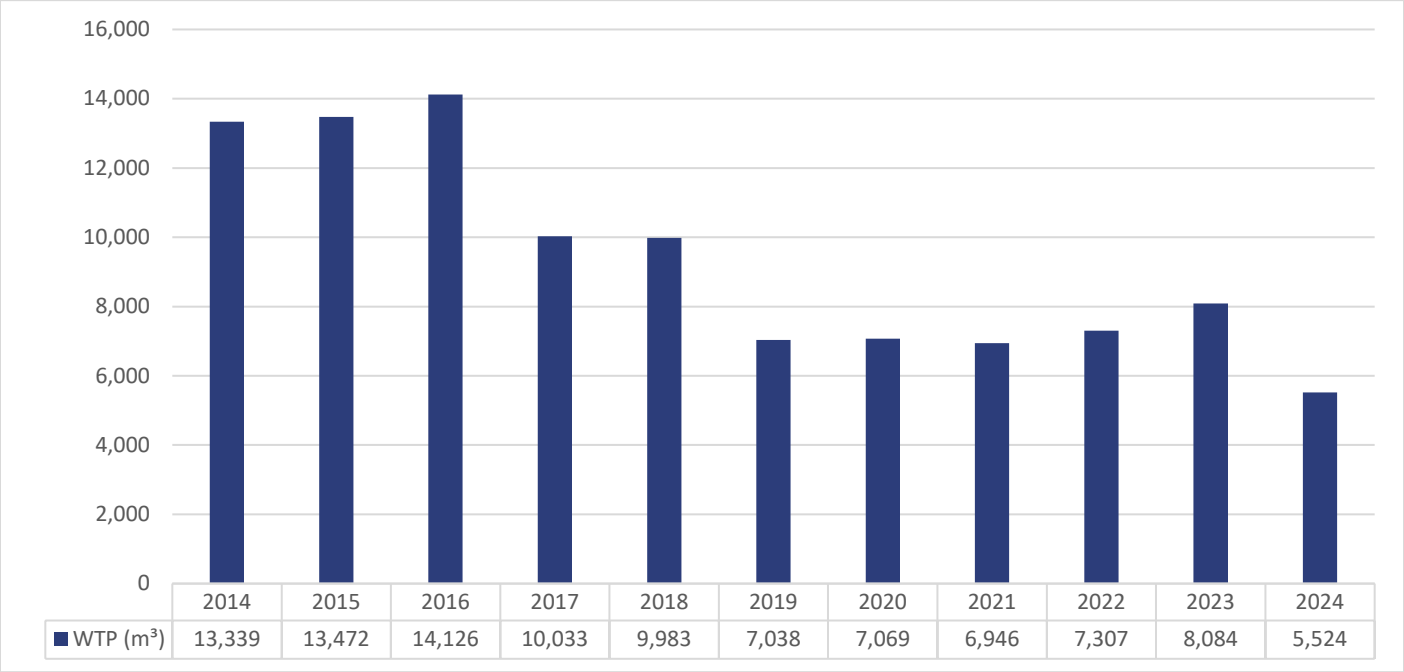
The Treated Water flows are regulated under the Municipal Drinking Water Licence 141-121.

Graph 3. Monthly Rated Flows (m³/d) – Rated Capacity - MDWL



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rated Capacity (m³/d)	340	340	340	340	340	340	340	340	340	340	340	340
Max Daily Flow (m³/d)	20.36	15.88	13.57	15.30	50.74	33.33	29.28	23.87	55.48	27.88	30.02	26.57
Avg (m³/d)	12.49	11.48	10.90	11.45	14.39	14.23	16.74	16.24	16.01	19.62	23.10	14.90

Graph 4. Annual Total Flow Comparison (m³)



	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
WTP (m³)	13,339	13,472	14,126	10,033	9,983	7,038	7,069	6,946	7,307	8,084	5,524

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
Raw	26	0	23	20	480	N/A	N/A
Distribution	53	0	0	0	0	0	1

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
Turbidity Filter 1 (NTU)	8760	0.00	1.99
Turbidity Filter 2 (NTU)	8760	0.00	1.53
Chlorine	8760	0.00	2.39
Fluoride (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
Treated Water					
Antimony	2020 01 06	<MDL 0.09	µg/L	6.0	No
Arsenic	2020 01 06	<MDL 0.2	µg/L	10.0	No
Barium	2020 01 06	18.5	µg/L	1000.0	No
Boron	2020 01 06	5.0	µg/L	5000.0	No
Cadmium	2020 01 06	<MDL 0.003	µg/L	5.0	No
Chromium	2020 01 06	0.28	µg/L	50.0	No
Mercury	2020 01 06	<MDL 0.01	µg/L	1.0	No
Selenium	2020 01 06	<MDL 0.04	µg/L	50.0	No
Uranium	2020 01 06	0.029	µg/L	20.0	No
Additional Inorganics					
Fluoride	2020 01 06	<MDL 0.06	mg/L	1.5	No
Nitrite	2024 01 15	<MDL 0.003	mg/L	1.0	No
Nitrite	2024 04 08	<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 15	0.078	mg/L	10.0	No
Nitrate	2024 04 08	0.078	mg/L	10.0	No
Nitrate	2024 07 02	0.068	mg/L	10.0	No
Nitrate	2024 10 07	0.037	mg/L	10.0	No
Sodium	2020 01 06	9.01	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
Alkalinity (mg/L)	1	2	30	33	N/A	N/A
pH	1	2	7.14	7.18	N/A	N/A
Lead (µg/L)	0	0			10.0	

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
Treated Water					
Alachlor	2020 01 06	<MDL 0.02	µg/L	5.0	No
Atrazine + N-dealkylated metabolites	2020 01 06	<MDL 0.01	µg/L	5.0	No
Azinphos-methyl	2020 01 06	<MDL 0.05	µg/L	20.0	No
Benzene	2020 01 06	<MDL 0.32	µg/L	1.0	No
Benzo(a)pyrene	2020 01 06	<MDL 0.004	µg/L	0.01	No
Bromoxynil	2020 01 06	<MDL 0.33	µg/L	5.0	No
Carbaryl	2020 01 06	<MDL 0.05	µg/L	90.0	No
Carbofuran	2020 01 06	<MDL 0.01	µg/L	90.0	No
Carbon Tetrachloride	2020 01 06	<MDL 0.17	µg/L	2.0	No
Chlorpyrifos	2020 01 06	<MDL 0.02	µg/L	90.0	No
Diazinon	2020 01 06	<MDL 0.02	µg/L	20.0	No
Dicamba	2020 01 06	<MDL 0.2	µg/L	120.0	No

	Sample Date (yyyy/mm/dd)	Sample Result	Unit of Measure	MAC	Exceedance
1,2-Dichlorobenzene	2020 01 06	<MDL 0.41	µg/L	200.0	No
1,4-Dichlorobenzene	2020 01 06	<MDL 0.36	µg/L	5.0	No
1,2-Dichloroethane	2020 01 06	<MDL 0.35	µg/L	5.0	No
1,1-Dichloroethylene	2020 01 06	<MDL 0.33	µg/L	14.0	No
Dichloromethane (Methylene Chloride)	2020 01 06	<MDL 0.35	µg/L	50.0	No
2,4-Dichlorophenol	2020 01 06	<MDL 0.15	µg/L	900.0	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	2020 01 06	<MDL 0.19	µg/L	100.0	No
Diclofop-methyl	2020 01 06	<MDL 0.4	µg/L	9.0	No
Dimethoate	2020 01 06	<MDL 0.06	µg/L	20.0	No
Diquat	2020 01 06	<MDL 1.0	µg/L	70.0	No
Diuron	2020 01 06	<MDL 0.03	µg/L	150.0	No
Glyphosate	2020 01 06	<MDL 1.0	µg/L	280.0	No
Malathion	2020 01 06	<MDL 0.02	µg/L	190.0	No
2-Methyl-4chlorophenoxyacetic Acid (MCPA)					
Metolachlor	2020 01 06	<MDL 0.01	µg/L	50.0	No
Metribuzin	2020 01 06	<MDL 0.02	µg/L	80.0	No
Monochlorobenzene (Chlorobenzene)	2020 01 06	<MDL 0.3	µg/L	80.0	No
Paraquat	2020 01 06	<MDL 1.0	µg/L	10.0	No
PCB	2020 01 06	<MDL 0.04	µg/L	3.0	No
Pentachlorophenol	2020 01 06	<MDL 0.15	µg/L	60.0	No
Phorate	2020 01 06	<MDL 0.01	µg/L	2.0	No
Picloram	2020 01 06	<MDL 1.0	µg/L	190.0	No
Prometryne	2020 01 06	<MDL 0.03	µg/L	1.0	No
Simazine	2020 01 06	<MDL 0.01	µg/L	10.0	No
Terbufos	2020 01 06	<MDL 0.01	µg/L	1.0	No
Tetrachloroethylene	2020 01 06	<MDL 0.35	µg/L	10.0	No
2,3,4,6-Tetrachlorophenol	2020 01 06	<MDL 0.2	µg/L	100.0	No
Triallate	2020 01 06	<MDL 0.01	µg/L	230.0	No
Trichloroethylene	2020 01 06	<MDL 0.44	µg/L	5.0	No
2,4,6-Trichlorophenol	2020 01 06	<MDL 0.25	µg/L	5.0	No
Trifluralin	2020 01 06	<MDL 0.02	µg/L	45.0	No
Vinyl Chloride	2020 01 06	<MDL 0.17	µg/L	1.0	No
Distribution Water					
Trihalomethane Total Annual Average Q1	2024 01 15	76.75	µg/L	100.0	No

	Sample Date (yyyy/mm/dd)	Sample Result	Unit of Measure	MAC	Exceedance
Trihalomethane Total Annual Average Q2	2024 04 08	79.5	µg/L	100.0	No
Trihalomethane Total Annual Average Q3	2024 07 02	84.5	µg/L	100.0	No
Trihalomethane Total Annual Average Q4	2024 10 07	83.5	µg/L	100.0	No
HAA Total Annual Average Q1	2024 01 15	62.68	µg/L	80.0	No
HAA Total Annual Average Q2	2024 04 08	65.85	µg/L	80.0	No
HAA Total Annual Average Q3	2024 07 02	64.43	µg/L	80.0	No
HAA Total Annual Average Q4	2024 10 07	66.85	µg/L	80.0	No

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

Additional Legislated Samples

Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument.

Harmful Algal Blooms monitoring is required as a condition within the Municipal Drinking Water Licence between June and October of each reporting year at a minimum. Treated and Raw samples are collected weekly during this time period and tested for Microcystin, which is an indicator for harmful algal blooms.

Table 8. Microcystin Sample Results

Municipal Drinking Water Licence	Collected Weekly June – Oct	Total Microcystin Raw Results Range (µg/L)	Total Microcystin Treated Water Results Range (µg/L)	Treated Water Total Microcystin Limit 1.5 µg/L Exceeded
Harmful Algal Blooms Monitoring	June	<0.1 - <0.1	<0.1 - <0.1	N
	July	<0.1 - <0.1	<0.1 - <0.1	N
	August	<0.1 - <0.1	<0.1 - <0.1	N
	September	<0.1 - <0.1	<0.1 - <0.1	N
	October	<0.1 - <0.1	<0.1 - <0.1	N

Method Detection Limit is 0.1 µg/L

Table 9. Suspended Solids Sample Results

Municipal Drinking Water Licence	Date Collected	Suspended Solids to Sanitary Sewer (mg/L)	Free Chlorine Residual (mg/L)
Settling Tank Discharge Point	January	<2	0.02
	February	<2	0.01
	March	5	0.01
	April	<2	0.02
	May	6	0.02
	June	<2	0.01
	July	<2	0.02
	August	<2	0.00
	September	<2	0.03
	October	<2	0.01
	November	5	0.02
	December	<2	0.04
	Average	2.83	

Note: The Suspended Solids 12 month running average limit is 25 mg/L.

Minor Maintenance

- Mixer installed
- Dehumidifier repairs
- Replace blower #1
- AC breaker installed

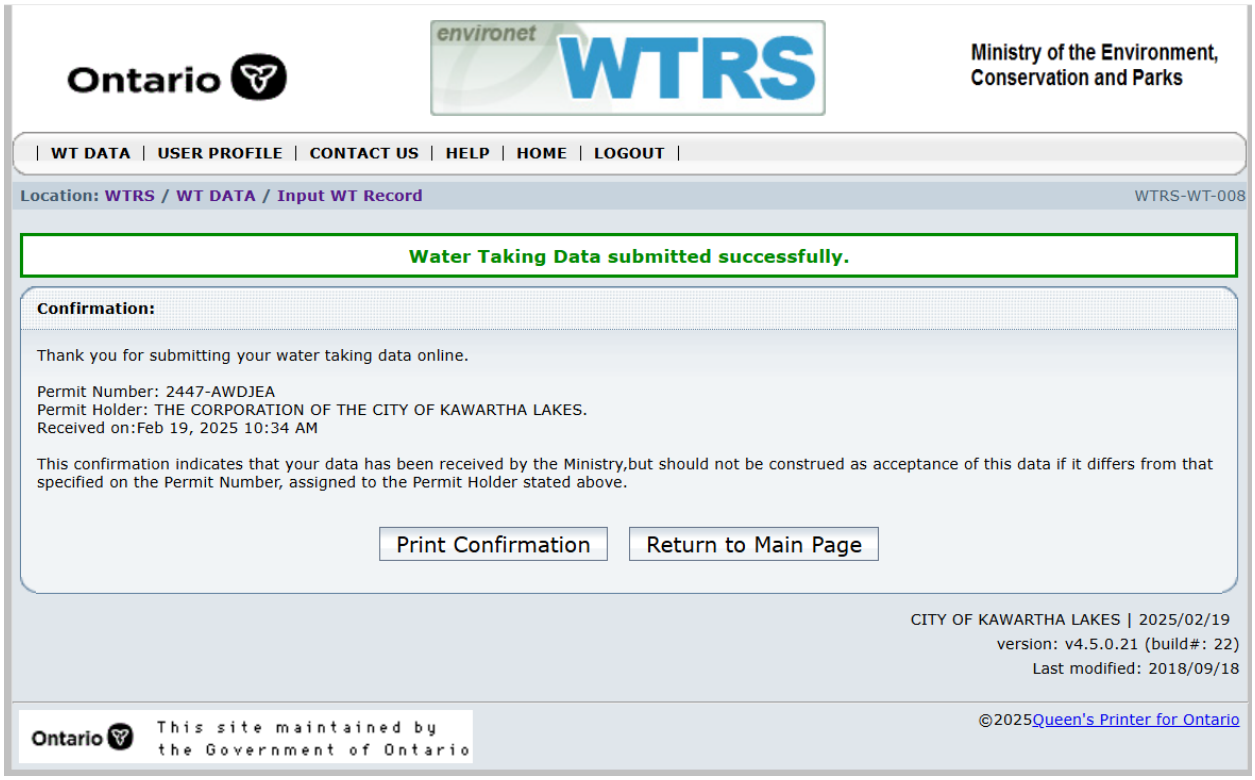
Major Maintenance Expense (above $10,000)

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



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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: 2447-AWDJEA
Permit Holder: THE CORPORATION OF THE CITY OF KAWARTHA LAKES.
Received on:Feb 19, 2025 10:34 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 | 2025/02/19
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