Omemee Drinking Water System

2024 Annual Water Report

Drinking Water System Number: 210002227

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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ONTARIO CLEAN WATER AGENCY
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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: 210002227
Drinking Water System Name: Omemee 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	November 22, 2024	Unannounced Focused Drinking Water Inspection – Final Inspection Rate of 100%
Adverse Water Quality Incidents (AWQIs)	0		
Non-Compliances	0		
Boil Water Advisories	0		
Health and Safety	0		

Drinking Water System Description

The Omemee drinking water system is a small municipal residential drinking water system that serves the Victoria Glen subdivision located in Omemee, in the City of Kawartha Lakes. 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 and Well #2. The wells are designated as non-GUDI (groundwater under the direct influence).

Water Treatment Facility

The treatment system consists of the following: an underground clearwell, disinfection using sodium hypochlorite, iron sequestering using sodium silicate, high lift pumps, pressure/ballast tanks, and a chlorine contact serpentine pipe.

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

Table 2. Treatment Chemicals Used

Chemical Name	Use	Supplier
Sodium Hypochlorite	Disinfection	Jutzi Water Technologies
Sodium Silicate	Iron Sequestering	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-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.

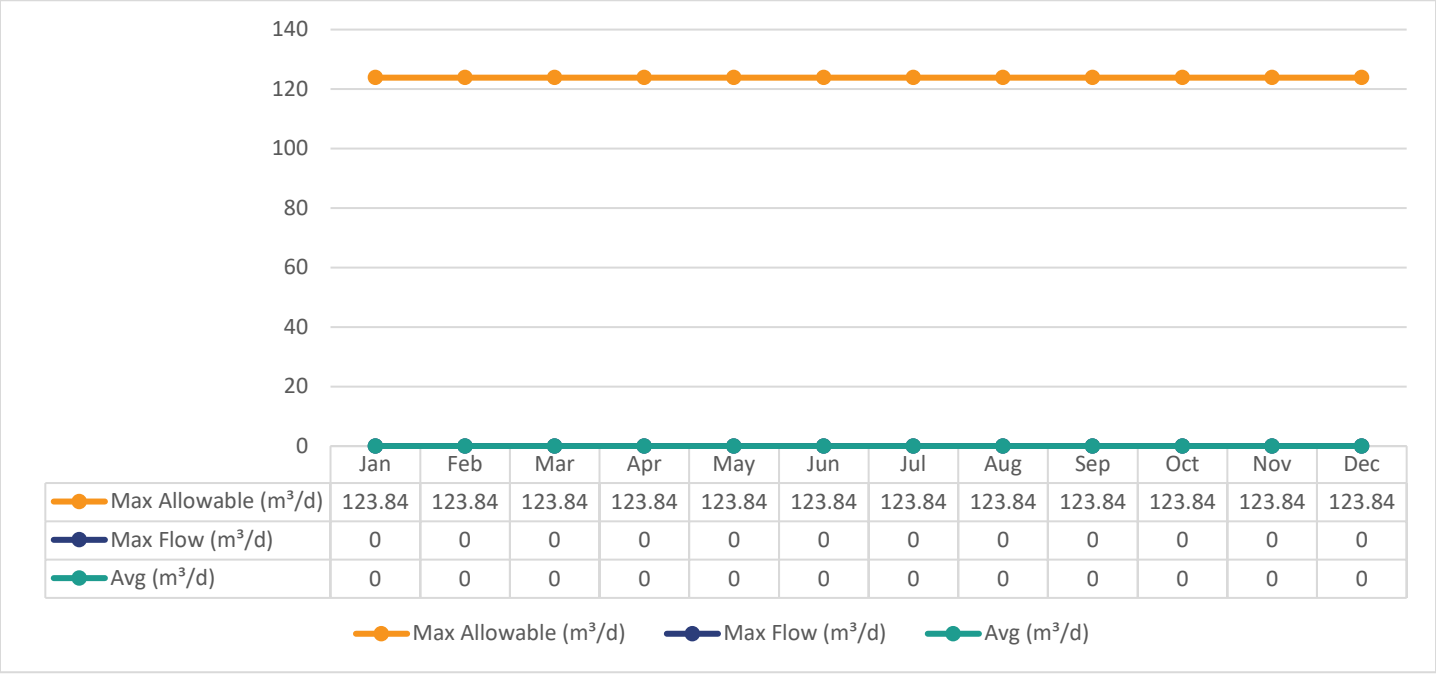
Flows

The Omemee Drinking Water System is operating on average under half the rated capacity. The rated capacity of the system (treated water flows) is 461 m³/day.

Raw Water Flows

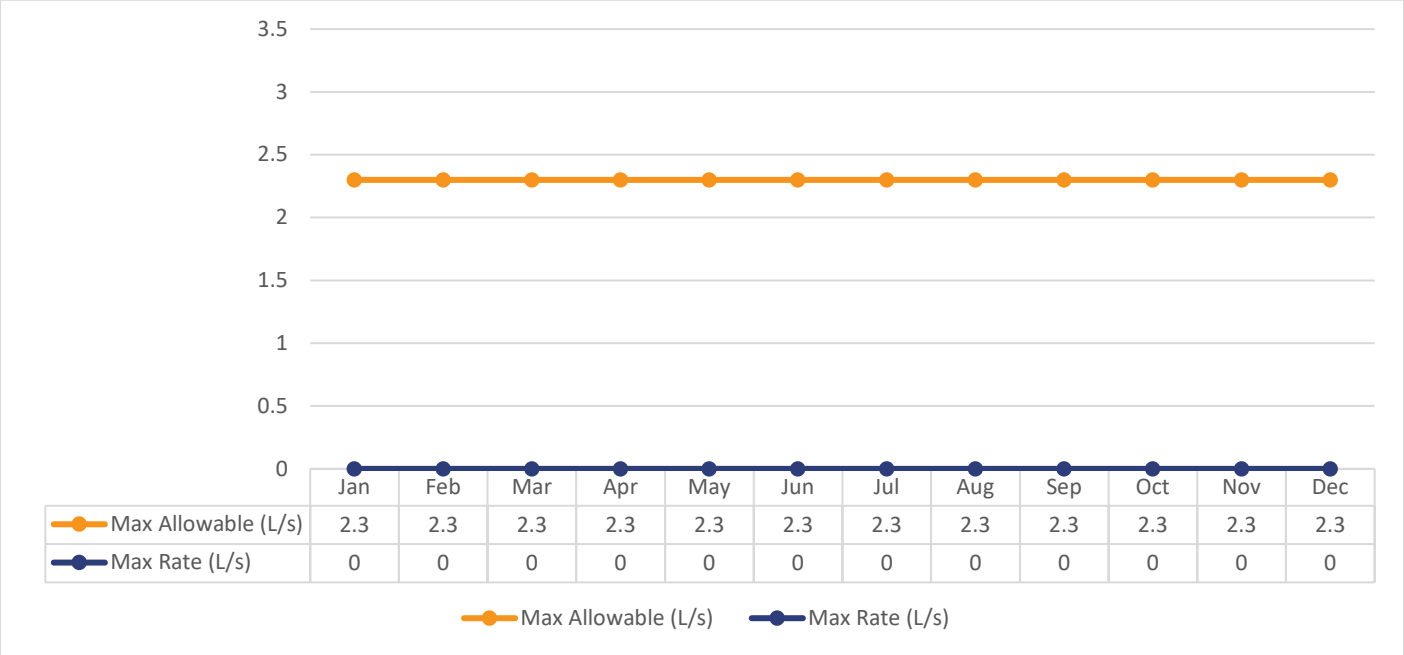
The raw water flows are regulated under the Permit to Take Water. Raw flow data for 2024 was submitted to the Ministry of Environment, Conservation and Parks (MECP) electronically under permit #6634-B23PER. The confirmation of the data that was submitted is attached in Appendix A. The Permit to Take Water compliance criteria is in litres per minute (L/min) but for the purposes of this report the flow rate is reported in litres per second (L/sec) based on industry standard for flow monitoring recording.

Graph 1. Total Monthly Flows (m³/d) – Well #1 (Max Allowable PTTW)



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable (m³/d)	123.84	123.84	123.84	123.84	123.84	123.84	123.84	123.84	123.84	123.84	123.84	123.84
Max Flow (m³/d)	0	0	0	0	0	0	0	0	0	0	0	0
Avg (m³/d)	0	0	0	0	0	0	0	0	0	0	0	0

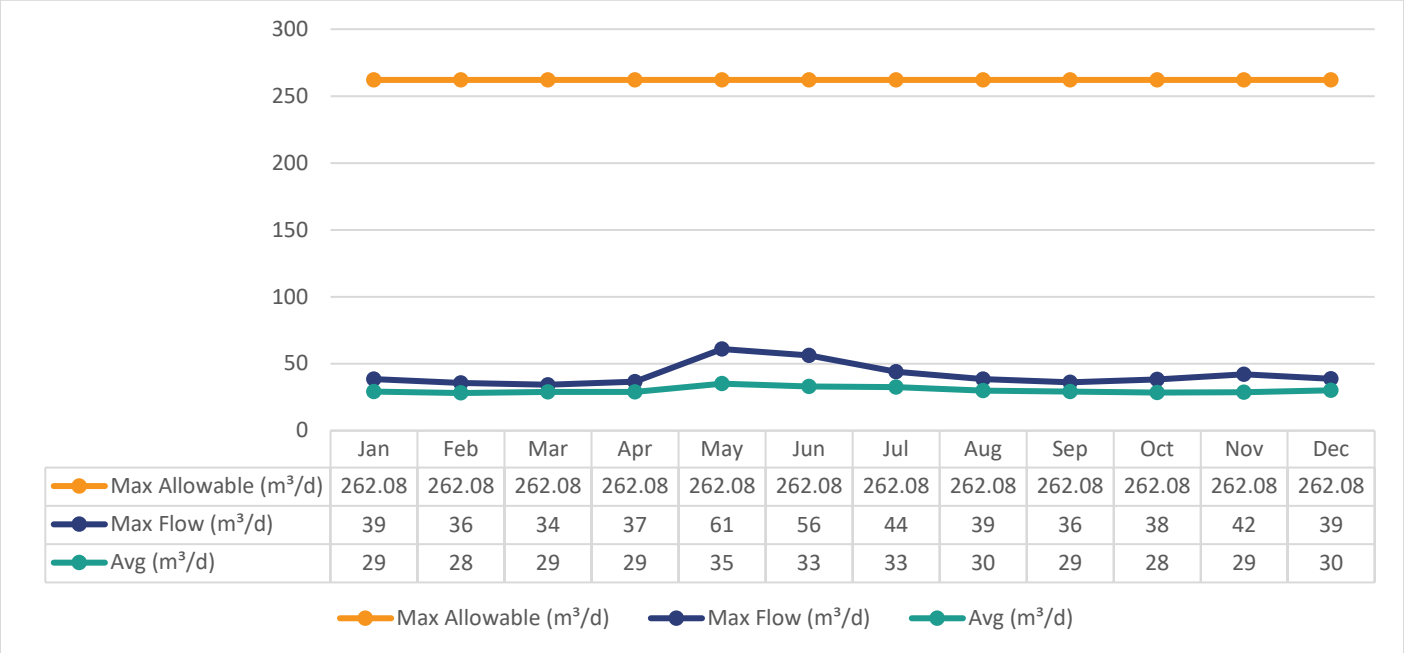
Graph 2. Monthly Rated Flows (L/s) – Well #1 (Max Allowable Rate PTTW)



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable (L/s)	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
Max Rate (L/s)	0	0	0	0	0	0	0	0	0	0	0	0

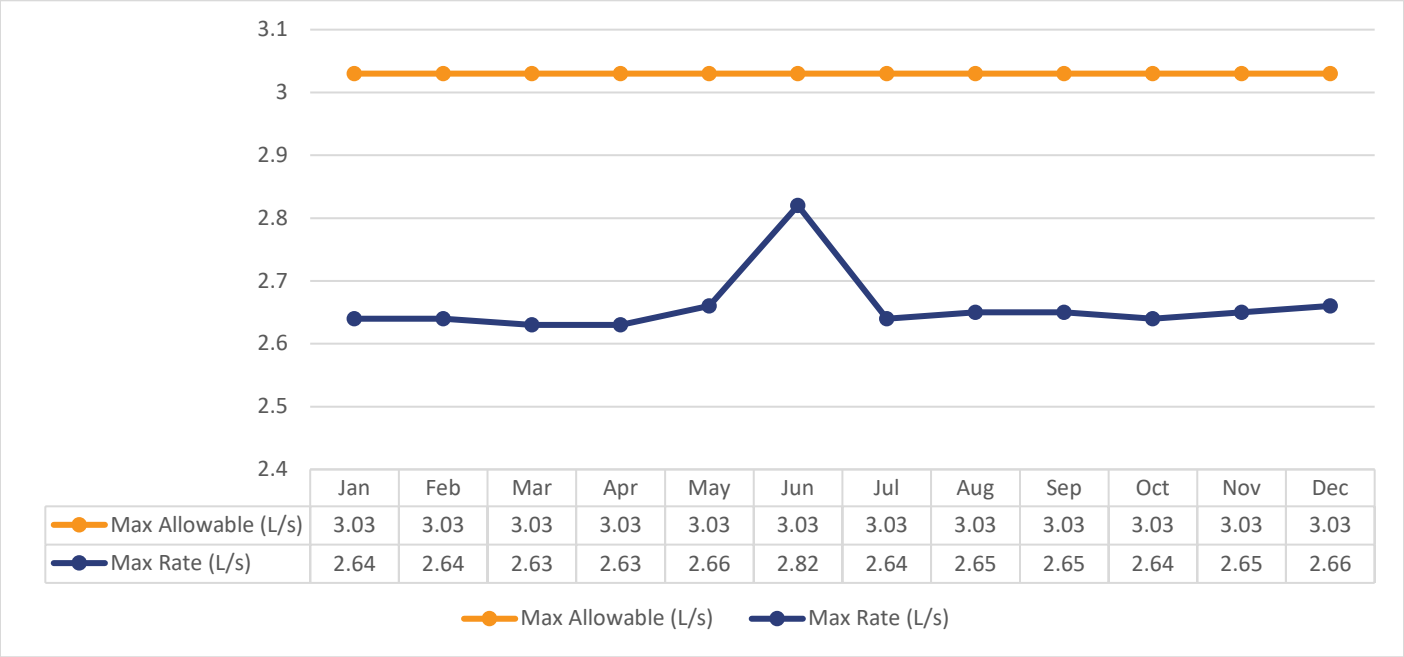
Note: Well #1 was not in production during the reporting period.

Graph 3. Total Monthly Flows (m³/d) – Well #2 (Max Allowable PTTW)



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable (m³/d)	262.08	262.08	262.08	262.08	262.08	262.08	262.08	262.08	262.08	262.08	262.08	262.08
Max Flow (m³/d)	39	36	34	37	61	56	44	39	36	38	42	39
Avg (m³/d)	29	28	29	29	35	33	33	30	29	28	29	30

Graph 4. Monthly Rated Flows (L/s) – Well #2 (Max Allowable Rate

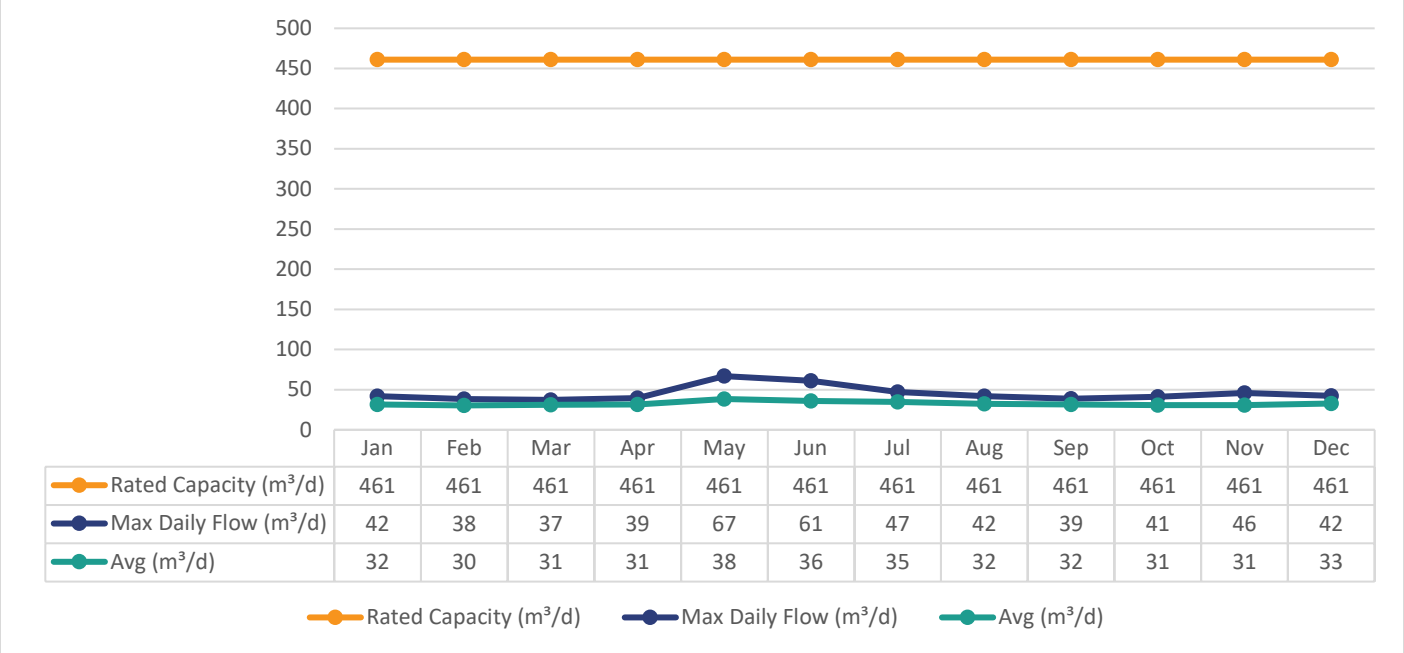


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable (L/s)	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03
Max Rate (L/s)	2.64	2.64	2.63	2.63	2.66	2.82	2.64	2.65	2.65	2.64	2.65	2.66

Treated Water Flows

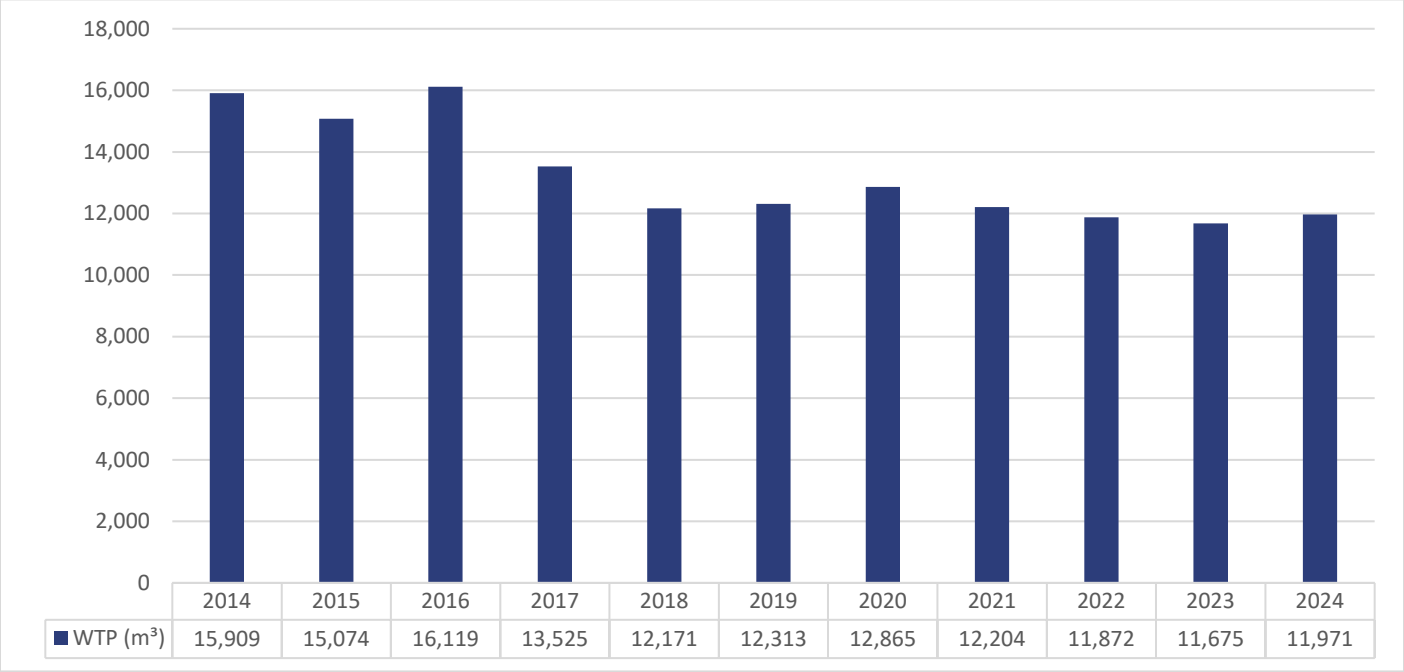
The Treated Water flows are regulated under the Municipal Drinking Water Licence 141-108.

Graph 5. Monthly Rated Flows (m³/d) – Rated Capacity - MDWL



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rated Capacity (m³/d)	461	461	461	461	461	461	461	461	461	461	461	461
Max Daily Flow (m³/d)	42	38	37	39	67	61	47	42	39	41	46	42
Avg (m³/d)	32	30	31	31	38	36	35	32	32	31	31	33

Graph 6. Annual Total Flow Comparison (m³)



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 Well 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Raw Well 2	28	0	0	0	0	N/A	N/A
Treated	1	0	0	0	0	N/A	N/A
Distribution	53	0	0	0	0	0	2

OG = Overgrowth

HPC = Heterotrophic Plate Count

Note: Well #1 was not in production during the reporting period.

Operational Testing

Table 4. Operational Test Results

Parameter	Number of Samples Collected	Range of Results Minimum	Range of Results Maximum
Turbidity Well 1 (NTU)	N/A	N/A	N/A
Turbidity Well 2 (NTU)	12	0.07	0.22
Turbidity – TW (NTU)	8760	0.00	2.00
Chlorine	8760	0.08	4.22
Fluoride (If the DWS provides fluoridation)	N/A	N/A	N/A

Note: Well #1 was not in production during the reporting period.
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, any true exceedance would be documented in this report.

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	206.0	µg/L	1000.0	No
Boron	2020 01 06	14.0	µg/L	5000.0	No
Cadmium	2020 01 06	<MDL 0.003	µg/L	5.0	No
Chromium	2020 01 06	0.12	µg/L	50.0	No

	Sample Date (yyyy/mm/dd)	Sample Result	Unit of Measure	MAC	Exceedance
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	0.012	µg/L	20.0	No
Additional Organics					
Fluoride	2020 01 06	0.14	mg/L	1.5	No
Nitrite	2024 01 01	<MDL 0.003	mg/L	1.0	No
Nitrite	2024 04 03	<MDL 0.003	mg/L	1.0	No
Nitrite	2024 07 02	<MDL 0.003	mg/L	1.0	No
Nitrite	2024 10 08	<MDL 0.003	mg/L	1.0	No
Nitrate	2024 01 01	0.007	mg/L	10.0	No
Nitrate	2024 04 03	<MDL 0.006	mg/L	10.0	No
Nitrate	2024 07 02	0.006	mg/L	10.0	No
Nitrate	2024 10 08	<MDL 0.006	mg/L	10.0	No
Sodium	2020 01 06	21.4	mg/L	20*	Yes

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	220	220	N/A	N/A

	Number of Sampling Points	Number of Samples	Range of Results Minimum	Range of Results Maximum	MAC (µg/L)	Number of Exceedances
pH	1	2	7.54	7.68	N/A	N/A
Lead (µg/L)	N/A	N/A	N/A	N/A	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 0.01	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	<MDL0.02	µg/L	20.0	No
Dicamba	2020 01 06	<MDL 0.2	µg/L	120.0	No
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	<MDL0.35	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

	Sample Date (yyyy/mm/dd)	Sample Result	Unit of Measure	MAC	Exceedance
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)	2020 01 06	<MDL 0.12	µg/L	100.0	No
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	<MDL0.25	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 01	13.25	µg/L	100.0	No
Trihalomethane Total Annual Average Q2	2024 04 03	13.75	µg/L	100.0	No
Trihalomethane Total Annual Average Q3	2024 07 02	12.75	µg/L	100.0	No
Trihalomethane Total Annual Average Q4	2024 10 08	11.75	µg/L	100.0	No
HAA Total Annual Average Q1	2024 01 01	<MDL 5.3	µg/L	80.0	No
HAA Total Annual Average Q2	2024 04 03	<MDL 5.3	µg/L	80.0	No

	Sample Date (yyyy/mm/dd)	Sample Result	Unit of Measure	MAC	Exceedance
HAA Total Annual Average Q3	2024 07 02	<MDL 5.3	µg/L	80.0	No
HAA Total Annual Average Q4	2024 10 08	<MDL 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.

Minor Maintenance

- Raw water pipe in plant leaking - fixed

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