

Manorview Drinking Water System

2024 Annual Water Report

Drinking Water System Number: 260001864

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



Table of Contents

| | |
|--|----|
| 2024 Annual Drinking Water System Summary Report..... | 3 |
| General Information | 3 |
| Compliance Summary | 3 |
| Drinking Water System Description | 4 |
| Source Water | 4 |
| Water Treatment Facility | 4 |
| Distribution System | 4 |
| Summary of Non-Compliance | 4 |
| Adverse Water Quality Incidents | 4 |
| Non-Compliance..... | 4 |
| Non-Compliance Identified in a Ministry Inspection | 5 |
| Flows | 5 |
| Raw Water Flows | 5 |
| Treated Water Flows | 7 |
| Regulatory Sample Results Summary | 8 |
| Microbiological Testing | 8 |
| Operational Testing | 8 |
| Inorganic Parameters | 9 |
| Schedule 15 Sampling (Lead)..... | 10 |
| Organic Parameters..... | 11 |
| Additional Legislated Samples | 13 |
| Minor Maintenance | 13 |
| Major Maintenance Expense (above \$10,000) | 13 |
| APPENDIX A | 14 |
| WTR Submission Confirmation | 14 |

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: 260001864

Drinking Water System Name: Manorview 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 | June 7, 2024 | 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 Manorview drinking water system is a small municipal residential drinking water system that serves the Manorview subdivision located in the community of Bethany, in the City of Kawartha Lakes. The drinking water system is classified as a Class I Water Treatment and Class I Water Distribution 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 GUDI (groundwater under the direct influence of surface water).

Water Treatment Facility

The treatment system consists of the following: a sodium hypochlorite disinfection system, cartridge filtration, two (2) UV reactors, underground clearwell, hydropneumatic tanks, high lift pumping system, and online monitoring of chlorine and turbidity.

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 one (1) kilometer of watermains and is not rated for fire protection. The watermains in the Manorview 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 |

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.

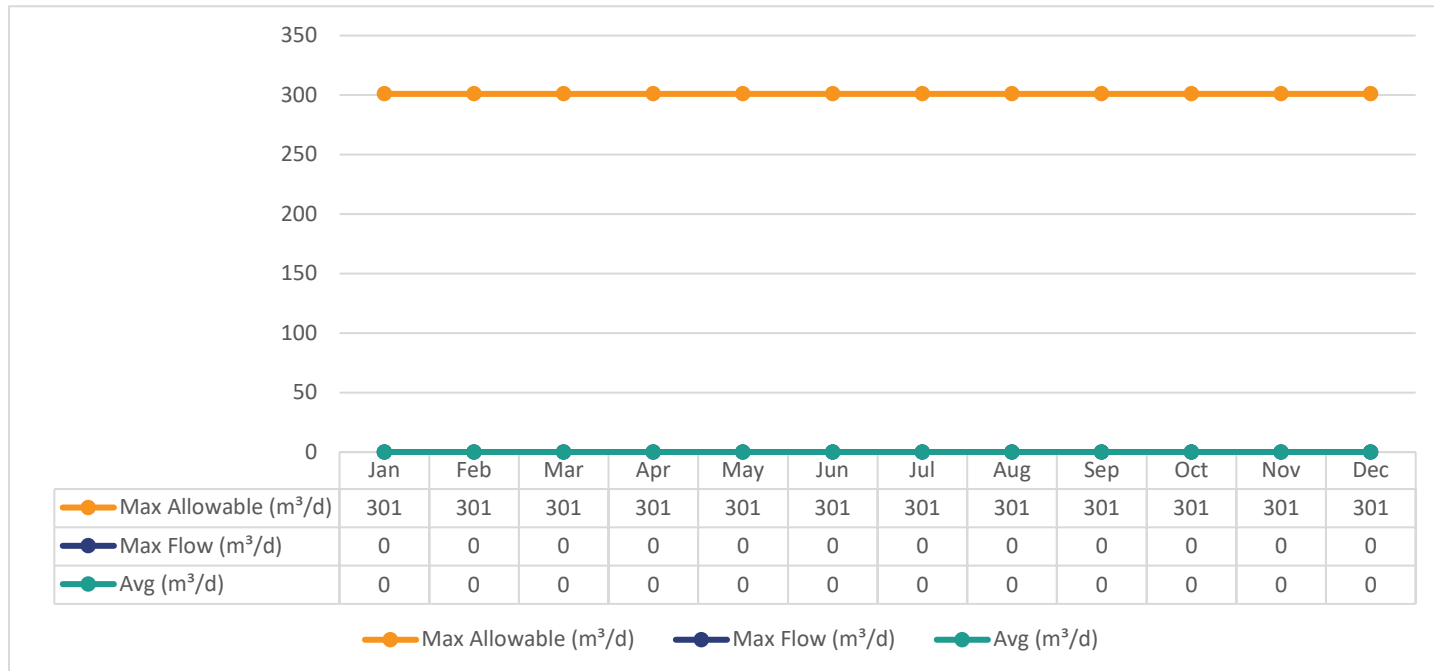
Flows

The Manorview Drinking Water System is operating on average under half the rated capacity. The rated capacity of the system (treated water flows) is 302 m³/day.

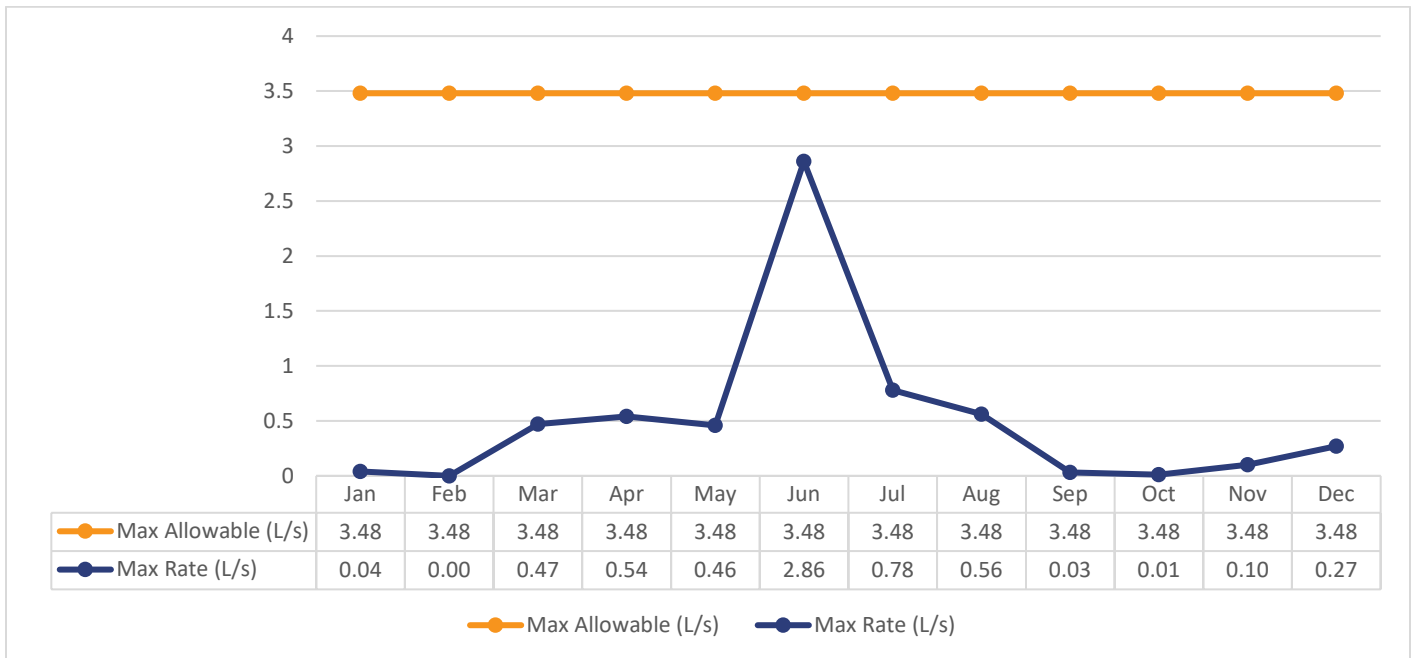
Raw Water Flows

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 #1163-AYRJ36. 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)

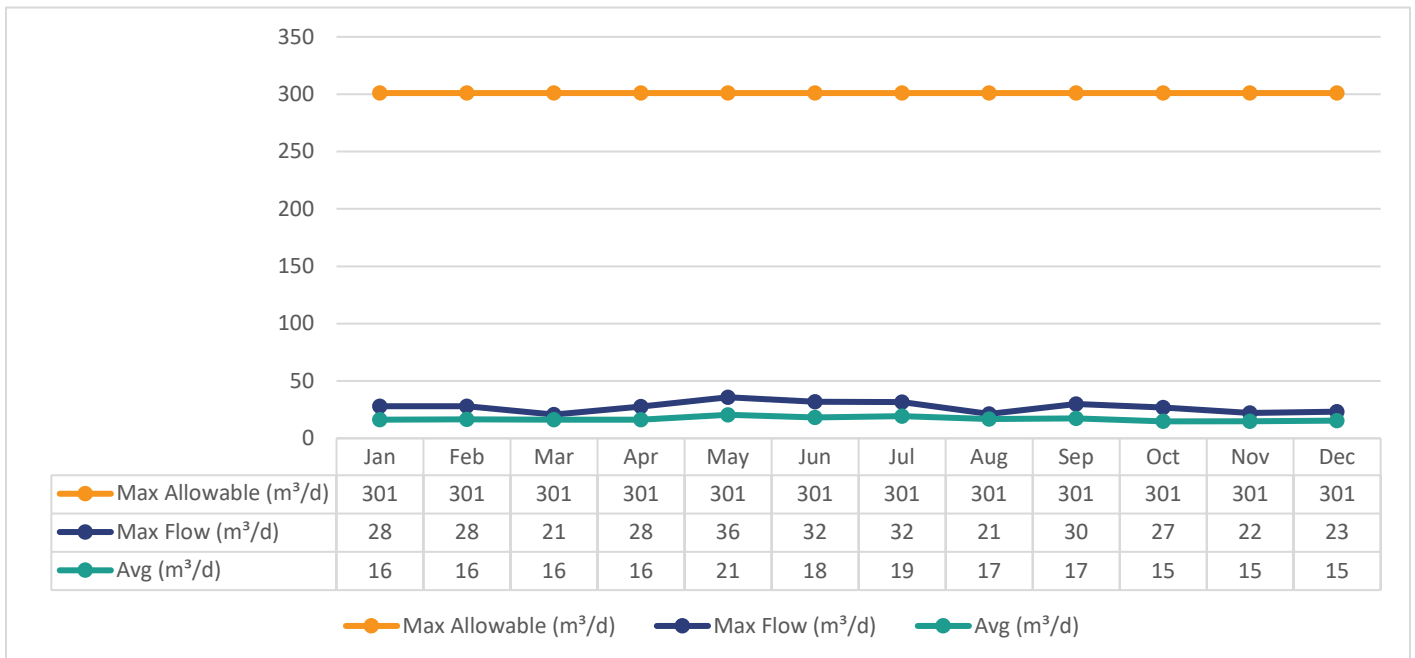


Graph 2. Monthly Rated Flows (L/s) – Well #1 (Max Allowable Rate PTTW)

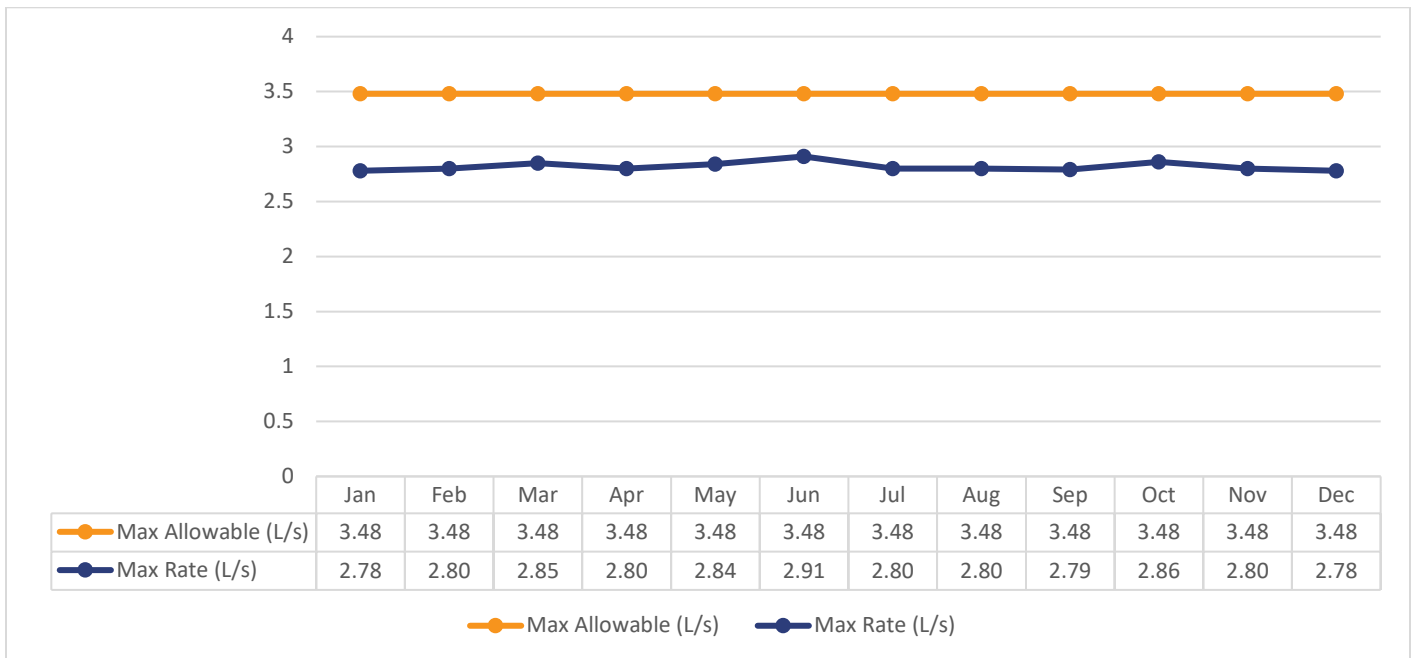


Note: Since October 6, 2023 Well #1 was moved from production to stand-by status due to higher levels of turbidity present in the well.

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



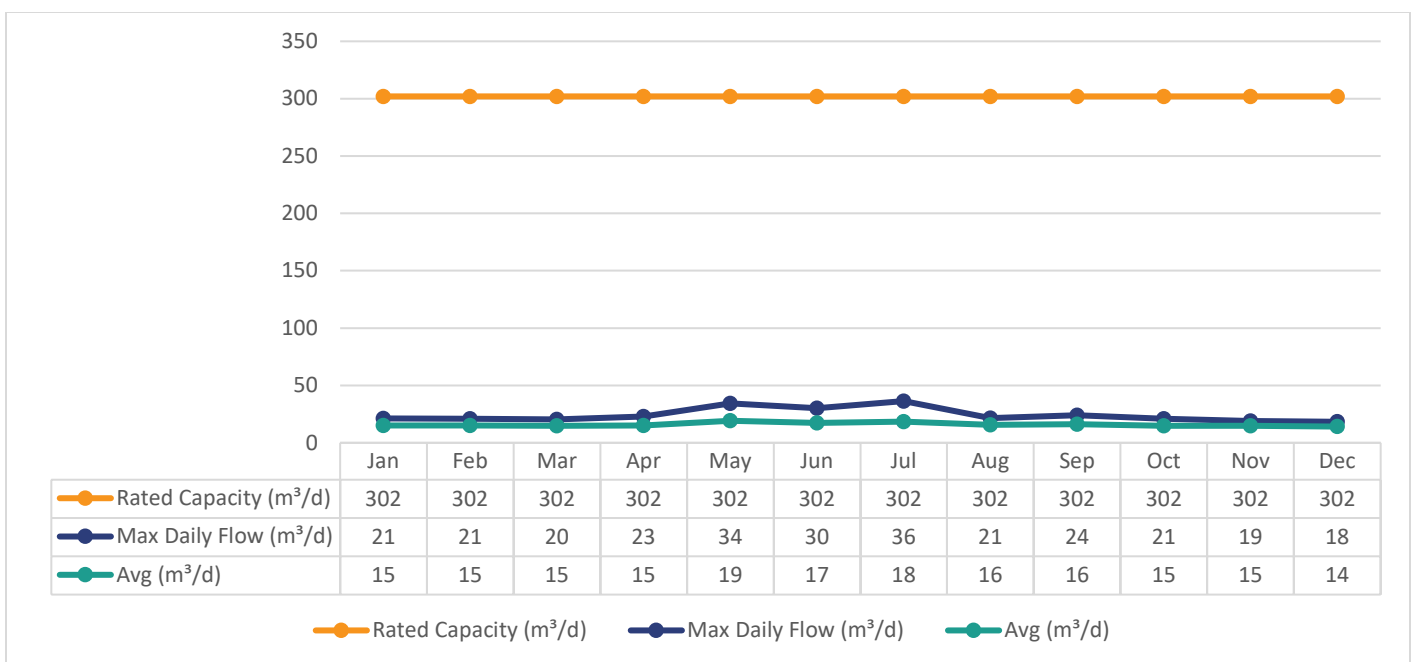
Graph 4. Monthly Rated Flows (L/s) – Well #2 (Max Allowable Rate



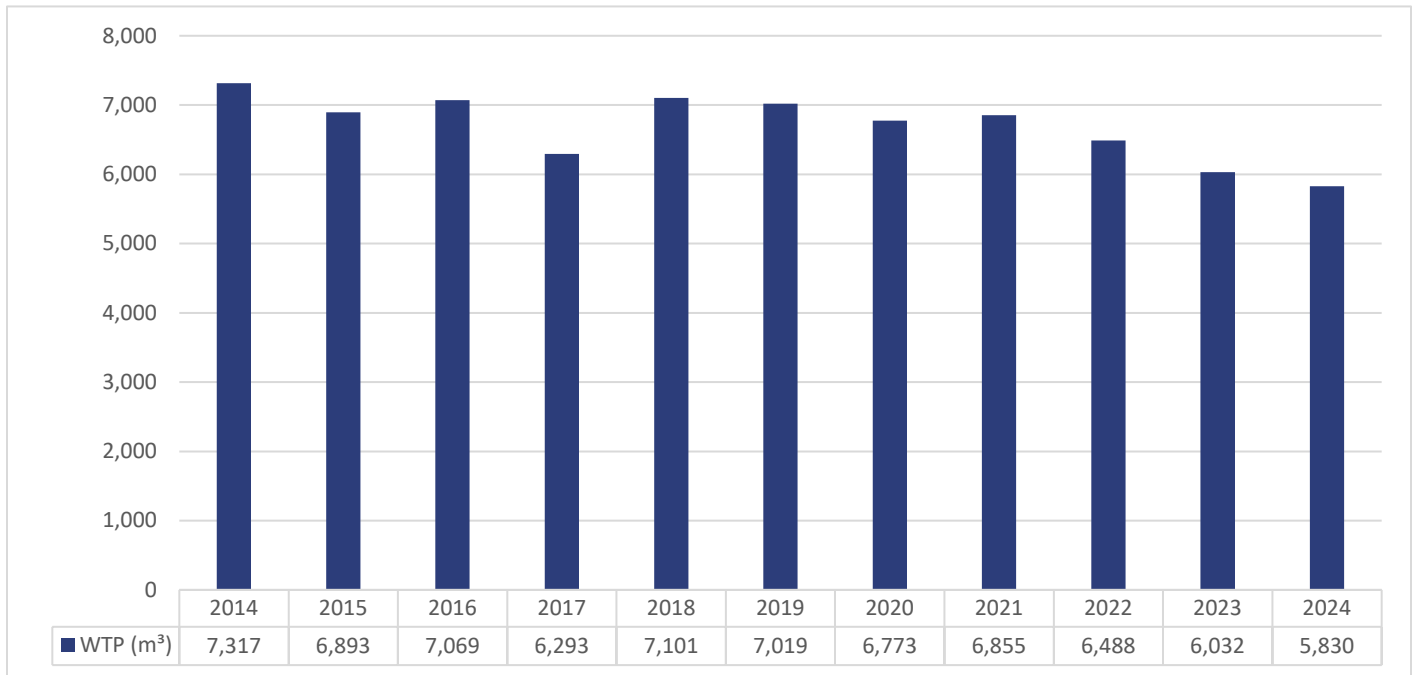
Treated Water Flows

The Treated Water flows are regulated under the Municipal Drinking Water Licence 141-118.

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



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 | 26 | 0 | 0 | 0 | 0 | N/A | N/A |
| Raw Well 2 | 26 | 0 | 0 | 0 | 3 | N/A | N/A |
| Treated | 1 | 0 | 0 | 0 | 0 | N/A | N/A |
| Distribution | 54 | 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 Well 1 (NTU) | 13 | 1.69 | 14.20 |
| Turbidity Well 2 (NTU) | 12 | 0.21 | 0.70 |
| Turbidity – Filter (NTU) | 8760 | 0.00 | 1.05 |
| Chlorine | 8760 | 0.24 | 1.80 |
| 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, 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 0.6 | µg/L | 6.0 | No |
| Arsenic | 2020 01 06 | 0.4 | µg/L | 10.0 | No |
| Barium | 2020 01 06 | 67.7 | µg/L | 1000.0 | No |
| Boron | 2020 01 06 | 6.0 | µg/L | 5000.0 | No |
| Cadmium | 2020 01 06 | <MDL 0.003 | µg/L | 5.0 | No |
| Chromium | 2020 01 06 | 0.51 | µg/L | 50.0 | No |
| Mercury | 2020 01 06 | <MDL 0.01 | µg/L | 1.0 | No |
| Selenium | 2020 01 06 | 0.18 | µg/L | 50.0 | No |
| Uranium | 2020 01 06 | 0.528 | µg/L | 20.0 | No |

| | Sample Date (yyyy/mm/dd) | Sample Result | Unit of Measure | MAC | Exceedance |
|----------------------------|-----------------------------|------------------|--------------------|------|------------|
| Additional Organics | | | | | |
| Fluoride | 2020 01 06 | 0.08 | mg/L | 1.5 | No |
| Nitrite | 2024 01 02 | <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 02 | 0.68 | mg/L | 10.0 | No |
| Nitrate | 2024 04 08 | 1.04 | mg/L | 10.0 | No |
| Nitrate | 2024 07 02 | 1.42 | mg/L | 10.0 | No |
| Nitrate | 2024 10 07 | 0.926 | mg/L | 10.0 | No |
| Sodium | 2020 01 06 | 4.64 | 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 | 199 | 223 | N/A | N/A |
| pH | 1 | 2 | 7.31 | 7.80 | 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 | <MDL 0.02 | 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 | <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 |

| | Sample Date (yyyy/mm/dd) | Sample Result | Unit of Measure | MAC | Exceedance |
|---|-----------------------------|------------------|--------------------|-------|------------|
| 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 02 | 8.55 | µg/L | 100.0 | No |
| Trihalomethane Total Annual Average Q2 | 2024 04 08 | 8.9 | µg/L | 100.0 | No |
| Trihalomethane Total Annual Average Q3 | 2024 07 02 | 10 | µg/L | 100.0 | No |
| Trihalomethane Total Annual Average Q4 | 2024 10 07 | 9.5 | µg/L | 100.0 | No |
| HAA Total Annual Average Q1 | 2024 01 02 | <MDL 5.3 | µg/L | 80.0 | No |
| HAA Total Annual Average Q2 | 2024 04 08 | <MDL 5.3 | µg/L | 80.0 | No |
| HAA Total Annual Average Q3 | 2024 07 02 | <MDL 5.3 | µg/L | 80.0 | No |
| HAA Total Annual Average Q4 | 2024 10 07 | <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

- Leaking pipe repair
- Replace eyewash station
- Well #2 lid replacement
- Generator repair
- UV light calibration, replace sensor 2



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:

- Manorview Water Distribution – Install New Fire Hydrants - \$15,912

APPENDIX A

WTR Submission Confirmation



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: 1163-AYRJ36
Permit Holder: THE CORPORATION OF THE CITY OF KAWARTHA LAKES.
Received on: Feb 12, 2025 12:32 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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