



ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

2025 Annual/Summary Report for the Virginiatown-Kearns Drinking Water System

PREPARED BY

Ontario Clean Water Agency
on behalf of the Township of McGarry

February 17, 2026

Rev: 0

Revision History

Rev. No.	Date	Prepared by:	Approved by:	Description
0	February 17, 2026	I. Bruneau, PCT	P. Roy, Senior Operations Manager	Revision 0 issued

Table of Contents

Background.....	1
Section 11 – Annual Report.....	2
1. Introduction	2
2. Description of the Virginiatown-Kearns Drinking Water System	3
3. List of Water Treatment Chemicals Used	4
4. Significant Expenses Incurred in the Drinking Water System.....	4
5. Details of Notices Reported & Submitted to the Spills Action Center	5
6. Microbiological Testing.....	6
7. Operational Testing.....	6
8. Chemical Testing	7
9. Additional Testing Performed in Accordance with a Legal Instrument.....	12
Schedule 22 – Summary Reports for Municipalities	13
10. Requirements the System Failed to Meet	13
11. Summary of Quantities and Flow Rates.....	13
11.1 Flow Monitoring.....	13
11.2 Rated Capacity & Flow Rates	13
11.3 System Performance	17
Conclusion	18

List of Tables

Table 1: Summary of Microbiological Results.....	6
Table 2: Summary of Raw Water Turbidity Results	6
Table 3: Continuous Monitoring in the Treatment Process	7
Table 4: Summary of Chlorine Residuals in the Distribution System	7
Table 5: Summary of Nitrate & Nitrite Data from the Water Treatment Plant	7
Table 6: Summary of Total Trihalomethane Results from the Distribution System.....	8
Table 7: Summary of Total Haloacetic Acid Results from the Distribution System.....	8
Table 8: Summary of Lead Results under Schedule 15.1 (from the distribution system)	8
Table 9: Most Recent Schedule 23 Inorganic Results from the Water Treatment Plant	9
Table 10: Most Recent Schedule 24 Organic Results from the Water Treatment Plant.....	9

Table 11: Most Recent Sodium Data (from the Water Treatment Plant)	11
Table 12: Most Recent Fluoride Data Sampled at the Water Treatment Plant	12
Table 14: Requirements the System Failed to Meet	13
Table 15: 2025 – Monthly Summary of Water Takings from the Source (Well No. 1)	15
Table 16: 2025 – Monthly Summary of Water Takings from the Source (Well No. 2)	15
Table 17: 2025 – Monthly Summary of Combined Water Takings from the Source (Wells 1 & 2)	15
Table 18: 2025 – Monthly Summary of Treated Water Supplied to the Distribution System	16
Table 19: 2025 – Historical Maximum Treated Flows (2020 to 2025).....	17

List of Figures

Figure 1: Comparison of Raw Water Flows to the Maximum Allowable Water Taking	16
Figure 2: Comparison of Treated Flows to the Maximum Rated Capacity.....	17

Appendices

Appendix A: Monthly Summary of Microbiological & Operational Test Results

Background

Municipalities throughout Ontario are required to comply with Ontario Regulation 170/03 made under the Safe Drinking Water Act (SDWA) since June 2003. The Act was passed following recommendations made by Commissioner O'Conner after the Walkerton Inquiry. The Act's purpose is to protect human health through the control and regulation of drinking-water systems. O. Reg. 170/03 regulates drinking water testing, use of licensed laboratories, treatment requirements and reporting requirements.

O. Reg. 170/03 requires the owner to produce an Annual Report, under Section 11. This report must include the following:

1. Description of system and chemical(s) used
2. Summary of any adverse water quality reports and corrective actions
3. Summary of all required testing
4. Description of any major expenses incurred to install, repair or replace equipment

This Annual Report must be completed by February 28th of each year.

The regulation also requires a Summary Report which must be presented and accepted by Council by March 31st of each year for the preceding calendar year reporting period.

The report must list the requirements of the Act, its regulations, the system's Drinking Water Works Permit (DWWP), Municipal Drinking Water Licence (MDWL), Certificate of Approval (if applicable), and any regulatory requirement the system failed to meet during the reporting period. The report must also specify the duration of the failure, and for each failure referred to, describe the measures that were taken to correct the failure.

The Safe Drinking Water Act, 2002 and the drinking water regulations can be viewed at the following website: <http://www.e-laws.gov.on.ca>.

To enable the Owner to assess the rated capacity of their system to meet existing and future planned water uses, the following information is also required in the report.

1. A summary of the quantities and flow rates of water supplied during the reporting period, including the monthly average and the maximum daily flows.
2. A comparison of the summary to the rated capacity and flow rates approved in the systems approval, drinking water works permit or municipal drinking water licence or a written agreement if the system is receiving all its water from another system under an agreement.

The two reports have been prepared by the Ontario Clean Water Agency (OCWA) on behalf of the Owner and presented to council as the 2025 Annual/Summary Report.

Section 11 – Annual Report

1. Introduction

Drinking-Water System Name	Virginiatown-Kearns Drinking Water System
Drinking-Water System Number	220000317
Drinking-Water System Owner	The Corporation of the Township of McGarry
Drinking-Water System Category	Large Municipal, Residential System
Municipal Drinking Water Licence No.	280-101 (issued August 1, 2025)
Drinking Water Works Permit No.	280-201 (issued August 1, 2025)
Permit to Take Water No.	8844-C6UQEY (issued September 16, 2021)
Reporting Period	January 1, 2025 to December 31, 2025

Does your Drinking-Water System serve more than 10,000 people? No

Is your annual report available to the public at no charge on a web site on the Internet? No

Location where Report required under O. Reg. 170/03 Schedule 22 will be available for inspection:

McGarry Township Office
27 Webster Street,
Virginiatown Ontario P0K 1X0

Drinking Water Systems that receive drinking water from the Virginiatown-Kearns Drinking Water System

The Virginiatown-Kearns Drinking Water System provides drinking water to the communities of Virginiatown, North Virginiatown and Kearns.

The Annual Report was provided to all connected Drinking Water System Owners

The Ontario Clean Water Agency prepared the 2025 Annual/Summary Report for the Virginiatown-Kearns Drinking Water System and provided a copy to the system owner; the Township of McGarry.

System Users are notified that the Annual Report is available for viewing through:

- Notice on the Town's website

2. Description of the Virginiatown-Kearns Drinking Water System

The Virginiatown-Kearns Drinking Water System is owned by the Corporation of the Township of McGarry and operated by the Ontario Clean Water Agency (OCWA). The system consists of a Class 2 water distribution and supply subsystem. The Ontario Clean Water Agency (OCWA) is the accredited operating authority and is designated as the Overall Responsible Operator for both the water supply and water distribution facilities.

Raw Water Supply

The main building for the water treatment plant/pumphouse is located approximately 6 km northeast of the Virginiatown Community Centre and approximately 500 metres east of Cheminis Road. Groundwater is supplied to the plant from production Well No. 1 (Cheminis Well) which is situated within the plant and Well No. 2 (T3/91); a standby well which is located 10 metres east of the well house.

Well No.1 (Cheminis Well) was drilled in October 1994 to a depth of 26.2 metres. The well is “double-case” constructed which consists of a 300 mm diameter steel casing and is equipped with a vertical turbine pump assembly and fixed-rate control system to pump at a maximum rate of 1,420 L/minute. A magnetic flow meter is mounted on the 150 mm diameter discharge line from the well into the treatment process.

Well No. 2 (T3/91) was originally drilled in February 1991 and maintained as a test well. It was modified in December 2014 to service as a standby well. It is located approximately 10 m east of the well house and Well No. 1. It is drilled to a depth of 28.65 metres and equipped with a submersible deep well pump rated at 1,105 L/minute. It includes a pitless adaptor and 100 mm diameter discharge pipe that connects to the Well No. 1 discharge header at a point just before the flow meter located inside the plant.

The standby well is intended for use when production Well No.1 has been taken out of service for repair and maintenance, or in an emergency situation. The well can also be used periodically as required to ensure water quality; it is currently configured to operate once in every 10 tower filling cycles.

Water Treatment

The wells feed the water treatment system that has a maximum rated capacity of 2,045 cubic meters per day (m³/d).

The groundwater is chlorinated using a sodium hypochlorite disinfection system, complete with a chemical feed panel consisting of duplicate chemical metering pumps (duty and standby), and a single 400 L storage tank with secondary spill containment and an outside fill line. A chlorine analyzer with alarm capabilities was recently installed in the pumphouse to monitor free chlorine residual to improve operational control.

Also integrated into the treatment process are off-site chlorine contact facilities. The first is a 6 km long by 200 mm diameter ductile iron forcemain (pipe) with no service connections that extends from the treatment plant to the elevated reservoir/tower.

Water Storage

The tower is located approximately 150 m to the west of the Virginiatown Community Centre at the intersection of Twenty-Seventh Avenue and Twenty-Seventh Street within the community of North Virginiatown. The tower has 1,300 cubic metres of usable volume for water storage. A free chlorine residual analyzer and a pressure transmitter both using a circular chart recorder are on-site and utilize the alarm communication device. An 8" Promag 50W magnetic flow meter installed on the tower discharge line continuously monitors the flow rate and daily volume of treated water directed to the distribution system. Piping for filling, discharging, draining, sampling and bypassing purposes are also housed within the elevated water storage.

Emergency Power

A 56 kW diesel engine generator set and its associated fuel storage and secondary spill containment is available at the pump house for standby power.

A 15 KW diesel generator is also available outside the water tower to provide emergency power in case of a power failure.

Distribution System

The distribution system serves an estimated population of approximately 600 people spread throughout the residential areas of Virginiatown, North Virginiatown and Kearns. The distribution system itself consists primarily of ten (10), eight (8), and six (6) inch ductile iron constructed water mains. The service life of the distribution system ranges from 60 years (for the North Virginiatown sector) to 80 years (for the Virginiatown sector). More recent watermain installations and repair sections are comprised of polyvinyl chlorite (PVC) piping. There are 48 fire hydrants connected to the distribution system to aid in fire protection. Based on the number of service connections, the system is classified as a Large Municipal Residential Drinking Water System.

3. List of Water Treatment Chemicals Used

Sodium Hypochlorite, used as a disinfectant, was the only chemical used at the Water Treatment Plant.

This chemical meets AWWA and NSF/ANSI standards.

4. Significant Expenses Incurred in the Drinking Water System

OCWA is committed to maintaining the assets of the drinking water system and sustains a program of scheduled inspection and maintenance activities using a computerized Work Management System (WMS).

Significant expenses that were incurred for the drinking water system in 2025 include:

- Alum pump replacement
- Chemical metering pump
- Annual generator service
- Distribution – emergency watermain break repairs
- DWQMS re-accreditation external audit
- Municipal Drinking water License renewal

5. Details of Notices Reported & Submitted to the Spills Action Center

Based on information kept on record by OCWA, two (2) adverse water quality incidents were reported to the Ministry's Spills Action Centre in 2025.

Incident #1: Loss of Pressure/ BWA

AWQI No.	168998
Date	July 15, 2025
Details	A leaking service connection was scheduled for repair, but the watermain had to be shut off to complete the work. This caused a loss of pressure on Casselman Avenue, affecting approximately 12 homes.
Corrective Actions	After the work was complete and pressure restored the same day, the area was flushed until an acceptable combined chlorine residual was achieved. Two sets of 3 bacteriological samples were collected 24 hours apart (1 upstream, 1 downstream and 1 near the site of the work) on July 15 th and July 16 th . Sample results were acceptable having zero total coliforms and <i>E.coli</i> . The MOH lifted the BWA on July 18 th .

Incident #2: Loss of Pressure/ BWA

AWQI No.	170483
Date	October 22, 2025
Details	A sodium sample taken on October 14 th at 2:05 pm from the V-Town point of entry to the distribution system (POE) located at 27th Avenue and 27th Street. The sample had a sodium result of 20.2 mg/L.

Incident #2: Loss of Pressure/ BWA

Corrective Actions	A resample was collected from the POE on October 23, 2025. The re-sample result was confirmed to be below the limit of 20 mg/L having a result of 19.2 mg/L. The re-sample results were provided to the Health Unit on November 3, 2025.
---------------------------	--

6. Microbiological Testing

Table 1: Summary of Microbiological Results

Sample Type	# of Samples	Range of <i>E.coli</i> Results (min to max)	Range of Total Coliform Results (min to max)	# of HPC Samples	Range of HPC Results (min to max)
Raw – Well No. 1	52	0 to 0	0 to 0	N/A	N/A
Raw – Well T3/91	52	0 to 0	0 to 0	N/A	N/A
Treated	52	0 to 0	0 to 0	52	< 10 to 50
Distribution	104	0 to 0	0 to 0	52	< 10 to 40

Maximum Acceptable Concentration (MAC) for treated and distribution samples: *E. coli* = 0 CFUs/100 mL and MAC for Total Coliforms = 0 CFUs/100 mL

“<” denotes less than the laboratory’s method detection limit

Notes:

1. Well No.1 (Cheminis Well) is the main production well and Well T3/91 is a standby well.
2. One microbiological sample is collected and tested each week from the raw (each well) and treated water supply. A total of two microbiological samples are collected and tested each week from the distribution system. At least 25% of the distribution samples must be tested for HPC bacteria.

7. Operational Testing

Table 2: Summary of Raw Water Turbidity Results

Parameter	# of Samples	Range of Results (min to max)	Unit of Measure
Turbidity – Well No. 1	24	0.12 to 1.26	NTU
Turbidity – Well T3/91	24	0.31 to 1.81	NTU

Note: Turbidity samples are required once every month.

Table 3: Continuous Monitoring in the Treatment Process

Parameter	# of Samples	Range of Results (min to max)	Unit of Measure	Standard
Free Chlorine Residual	8760	0.47 to 2.0	NTU	CT

Notes:

1. For continuous monitors 8760 is used as the number of samples.
2. CT is the concentration of chlorine in the water times the time of contact that the chlorine has with the water. It is used to demonstrate the level of disinfection treatment in the water. CT calculations are performed for the Virginiatown-Kearns drinking water system if the free chlorine residual level drops below 0.10 mg/L to ensure primary disinfection is achieved.

Table 4: Summary of Chlorine Residuals in the Distribution System

Parameter	# of Samples	Range of Results (min to max)	Unit of Measure	Standard
Free Chlorine Residual	364	0.26 to 1.51	mg/L	≥ 0.05

Note: A total of seven operational checks for chlorine residual in the distribution system are collected each week. Four (4) samples are tested one day and three (3) on a second day. The sample sets are collected at least 48-hours apart and samples collected on the same day are from different locations.

Refer to Appendix A for a monthly summary of the above microbiological and operational test results.

8. Chemical Testing

Table 5: Summary of Nitrate & Nitrite Data from the Water Treatment Plant

Date of Sample	Nitrate Result	Nitrite Result	Unit of Measure	Exceedance
January 13	0.7	< 0.01	mg/L	No
April 14	0.2	< 0.01	mg/L	No
July 7	0.2	< 0.01	mg/L	No
October 14	0.1	< 0.01	mg/L	No

Maximum Allowable Concentration (MAC) for Nitrate = 10 mg/L and for Nitrite = 1 mg/L

Table 6: Summary of Total Trihalomethane Results from the Distribution System

Date of Sample	THM Result	Unit of Measure	Running Average	Exceedance
January 13	3.0	ug/L	Q1 = 3.1	No
April 14	3.0	ug/L	Q2 = 3.2	No
July 7	4.3	ug/L	Q3 = 3.3	No
October 14	3.3	ug/L	Q4 = 3.4	No

Maximum Allowable Concentration (MAC) for Total Trihalomethanes = 100 ug/L (Four Quarter Running Average)

Table 7: Summary of Total Haloacetic Acid Results from the Distribution System

Date of Sample	Result Value	Unit of Measure	Running Average	Exceedance
January 13	< 8	ug/L	Q1 = 9.5	No
April 14	< 8	ug/L	Q2 = 9.5	No
July 7	9	ug/L	Q3 = 9.5	No
October 14	< 8	ug/L	Q4 = 8.3	No

Maximum Allowable Concentration (MAC) for Total Haloacetic Acid = 80 ug/L (Four Quarter Running Average)

Table 8: Summary of Lead Results under Schedule 15.1 (from the distribution system)

Date of Sample	# of Samples	Field pH (min to max)	Field Temperature (°C) (min to max)	Alkalinity (mg/L) (min to max)	Lead (ug/L) (min to max)
April 7	2	7.61 to 7.85	7.2 to 8.9	49 to 69	N/A
October 1	2	7.49 to 7.74	8.6 to 10.3	70 to 72	N/A

Maximum Allowable Concentration (MAC) for Lead -10 ug/L

The system is required to test for total alkalinity and pH in two distribution samples collected during the period of December 15 to April 15 (winter period) and two distribution samples during the period of June 15 to October 15 (summer period). This testing is required in every 12-month period with lead testing in every third 12-month period.

Lead testing was not required this reporting period, but was done in 2023. The results ranged from 0.2 to 0.6 ug/L sampled on March 13th, <0.1 sampled on October 11th and 0.2 ug/L on October 12th.

Next lead sampling is scheduled for 2026.

Table 9: Most Recent Schedule 23 Inorganic Results from the Water Treatment Plant

Parameter	Result Value	Unit of Measure	MAC	MAC Exceedance	½ MAC Exceedance
Antimony	< 0.5	ug/L	6	No	No
Arsenic	< 1.0	ug/L	10	No	No
Barium	9.0	ug/L	1000	No	No
Boron	< 2.0	ug/L	5000	No	No
Cadmium	< 0.1	ug/L	5	No	No
Chromium	1.0	ug/L	50	No	No
Mercury	< 0.1	ug/L	1	No	No
Selenium	< 0.2	ug/L	50	No	No
Uranium	< 1.0	ug/L	20	No	No

Note: Sample required every 36 months (sample date = *October 10, 2023*). Next sampling scheduled for October 2026.

Table 10: Most Recent Schedule 24 Organic Results from the Water Treatment Plant

Parameter	Result Value	Unit of Measure	Standard	MAC Exceedance	½ MAC Exceedance
Alachlor	< 0.289	ug/L	5	No	No
Atrazine + N-dealkylated metabolites	< 0.5	ug/L	5	No	No
Azinphos-methyl	< 0.216	ug/L	20	No	No
Benzene	< 0.1	ug/L	1	No	No
Benzo(a)pyrene	< 0.01	ug/L	0.01	No	No
Bromoxynil	< 0.0989	ug/L	5	No	No
Carbaryl	< 2.0	ug/L	90	No	No
Carbofuran	< 4.0	ug/L	90	No	No
Carbon Tetrachloride	< 0.2	ug/L	2	No	No
Chlorpyrifos	< 0.216	ug/L	90	No	No

Parameter	Result Value	Unit of Measure	Standard	MAC Exceedance	½ MAC Exceedance
Diazinon	< 0.216	ug/L	20	No	No
Dicamba	< 0.0865	ug/L	120	No	No
1,2-Dichlorobenzene	< 0.2	ug/L	200	No	No
1,4-Dichlorobenzene	< 0.3	ug/L	5	No	No
1,2-Dichloroethane	< 0.2	ug/L	5	No	No
1,1-Dichloroethylene (vinylidene chloride)	< 0.3	ug/L	14	No	No
Dichloromethane	< 1.0	ug/L	50	No	No
2-4 Dichlorophenol	< 0.2	ug/L	900	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	< 0.371	ug/L	100	No	No
Diclofop-methyl	< 0.124	ug/L	9	No	No
Dimethoate	< 0.216	ug/L	20	No	No
Diquat	< 0.2	ug/L	70	No	No
Diuron	< 10	ug/L	150	No	No
Glyphosate	< 20	ug/L	280	No	No
Malathion	< 0.216	ug/L	190	No	No
Metolachlor	< 0.144	ug/L	50	No	No
Metribuzin	< 0.144	ug/L	80	No	No
Monochlorobenzene	< 0.5	ug/L	80	No	No
Paraquat	< 0.2	ug/L	10	No	No
Polychlorinated Biphenyls (PCBs)	< 0.06	ug/L	3	No	No
Pentachlorophenol	< 0.3	ug/L	60	No	No
Phorate	< 0.144	ug/L	2	No	No
Picloram	< 0.0865	ug/L	190	No	No
Prometryne	< 0.0721	ug/L	1	No	No
Simazine	< 0.216	ug/L	10	No	No
Terbufos	< 0.144	ug/L	1	No	No

Parameter	Result Value	Unit of Measure	Standard	MAC Exceedance	½ MAC Exceedance
Tetrachloroethylene	< 0.3	ug/L	10	No	No
2,3,4,6-Tetrachlorophenol	< 0.3	ug/L	100	No	No
Triallate	< 0.144	ug/L	230	No	No
Trichloroethylene	< 0.2	ug/L	5	No	No
2,4,6-Trichlorophenol	< 0.2	ug/L	5	No	No
2-methyl-4-chlorophenoxyacetic acid (MCPA)	< 6.18	ug/L	100	No	No
Trifluralin	< 0.144	ug/L	45	No	No
Vinyl Chloride	< 0.1	ug/L	1	No	No

Note: Sample required every 36 months (sample date = *October 10, 2023*). Next sampling scheduled for October 2026.

Inorganic or Organic Parameter(s) that Exceeded Half the Standard Prescribed in Schedule 2 of Ontario Drinking Water Quality Standards

No inorganic or organic parameter(s) listed in Schedule 23 and 24 of Ontario Regulation 170/03 (parameters listed in Table 9 and Table 10 of this report) exceeded half the standard found in Schedule 2 of the Ontario Drinking Water Standard (O. Reg.169/03) during the reporting period.

Table 11: Most Recent Sodium Data (from the Water Treatment Plant)

Date of Sample	# of Samples	Result Value	Unit of Measure	MAC	Exceedance
October 14, 2025	1	20.2	mg/L	20	YES
October 23, 2025	1	19.2	mg/L	20	No

Note: Sample required every 60 months. Next sampling scheduled for October 2030.

The aesthetic objective for sodium in drinking water is 200 mg/L at which it can be detected by a salty taste. It is required that the local Medical Officer of Health be notified when the concentration exceeds 20 mg/L so that persons on sodium restricted diets can be notified by their physicians.

The above adverse sodium result was reported to the Ministry's SAC and the Health Unit on October 22, 2025 as required under Ontario Regulation 170/03 (AWQI No. 170483).

Table 12: Most Recent Fluoride Data Sampled at the Water Treatment Plant

Date of Sample	# of Samples	Result Value	Unit of Measure	MAC	Exceedance
October 14, 2025	1	< 0.05	mg/L	1.5	No
October 23, 2025	1	< 0.05	mg/L	1.5	No

Note: Sample required every 60 months. Next sampling scheduled for October 2030.

9. Additional Testing Performed in Accordance with a Legal Instrument

No additional sampling and testing was required for the Virginiatown-Kearns Distribution System during the 2025 reporting period.

Schedule 22 – Summary Reports for Municipalities

10. Requirements the System Failed to Meet

The following table lists the requirements of the Safe Drinking Water Act (2002), the drinking water regulations, the Permit to Take Water (PTTW), the Municipal Drinking Water Licence (MDWL), the Drinking Water Works Permit (DWWP), and any other orders applicable to the system that were not met at any time during the reporting period. According to information kept on record by OCWA, the Virginiatown-Kearns Drinking Water System complied with all the requirements set out in the above mentioned legal instruments.

Table 13: Requirements the System Failed to Meet

Legislation	Requirement(s) not Met	Details	Corrective Action(s)
	None		

Also noted in this section, two (2) adverse water quality incidents were reported to the Ministry's Spills Action Center during the reporting period. Refer to *Section 5 - Details of Notices Reported & Submitted* to the Spills Action Center on page 5 of this report for details.

11. Summary of Quantities and Flow Rates

11.1 Flow Monitoring

Municipal Drinking Water Licence (MDWL) No. 280-101 requires the owner to install a sufficient number of flow measuring devices to permit the continuous measurement and recording of:

- the flow rate and daily volume of water conveyed from the treatment system to the distribution system, and
- the flow rate and daily volume of water conveyed into the treatment system.

The system's Permit to Take Water (PTTW) No. 8844-C6UQEY requires that on each day water is taken from the source, the date, the volume of water taken on that date and the rate at which it was taken be recorded.

The Virginiatown-Kearns drinking water system has two flow meters to monitor the raw water from each well entering the pump house and one to monitor the treated water entering the distribution system from the tower. These flow metering devices were calibrated in accordance to manufacturers' specifications on an annual basis and are operating as required.

11.2 Rated Capacity & Flow Rates

The system's Permit to Take Water #8844-C6UQEY, allows the Township to withdraw water at the following rates:

Well No. 1 (Cheminis Well):	2,044.8 m ³ /day	1,420 L/minute
Well T3/91 No. 2 (Standby Well):	1,500 m ³ /day	1,105 L/minute

Total Combined Daily Volume:	2,044.8 m ³ /day
------------------------------	-----------------------------

A review of the raw water flow data indicates that the system did not exceed the allowable daily volumes. The maximum volume taken from Well No. 1 was 1427 m³/day, the maximum taking from Well No. 2 was 293 m³/day and the combined maximum taking was 1427 m³/day.

The flow data indicates that both wells appeared to exceed their maximum allowable flow rates; however, these exceedances are not valid. On December 31, 2024, a hydro-line transformer failure near the McGarry pump house caused an issue with the way Wonderware (OCWA's SCADA system) was recording flow rate data. Subsequent investigation and testing confirmed that actual flow rates remain within the limits established in the PTTW, and that the anomalies are the result of skewed data within Wonderware.

OCWA's Instrumentation Technician has replaced all components that may have been affected by the transformer failure, although the data issue persists. The Township of McGarry has been notified of the situation and the need to implement corrective measures to restore system performance and ensure reliable monitoring and regulatory compliance. Planning is in progress to replace the PLC and associated radio communication equipment to re-establish stable and accurate data acquisition.

The standby well (Well No. 2) is allowed to run for a maximum of 10 hours per day and 140 days per year. The well operated for a total of 77 days in 2025 and did not exceed its maximum allowable run time.

Condition 1.0 (1.1) to Schedule C of MDWL No. 280-101 states that the maximum daily volume of treated water that flows from the treatment subsystem to the distribution system not exceed a maximum flow of 2045 m³ on any calendar day. The Virginiatown-Kearns DWS complied with this limit having a recorded maximum volume of 831 m³/day, which is 41% of the rated capacity.

Table 14, Table 15, Table 16 and Table 17 show the quantities and flow rates of water taken and produced during the reporting period, including monthly average flows, maximum daily flows and total monthly volumes. A comparison of the water data is made to the rated capacity and flow rates specified in the system's Permit to Take Water and the Municipal Drinking Water License.

Figure 1 is a comparison of the maximum allowed water taking identified in the system's PTTW to the average and maximum raw water flows entering the water treatment plant.

Figure 2 is a comparison of the maximum rated capacity specified in the system's MDWL to the average and maximum flows entering the treatment system.

Table 18: 2025 – Historical Maximum Treated Flows (2020 to 2025)

Table 14: 2025 – Monthly Summary of Water Takings from the Source (Well No. 1)

Regulated by Permit to Take Water (PTTW) #8844-C6UQEY, issued September 16, 2021

Well No. 1 (Cheminis)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Total Volume (m ³)	13451	11019	12023	12341	13198	11511	10372	9484	8530	10875	9094	13175	135073
Average Volume (m ³ /d)	434	394	388	411	426	384	335	306	284	351	303	425	370
Maximum Volume (m ³ /d)	628	474	489	655	855	636	445	372	474	806	464	1427	1427
PTTW - Maximum Allowable Volume (m ³ /day)	2045	2045	2045	2045	2045	2045	2045	2045	2045	2045	2045	2045	2045
Maximum Flow Rate (L/min)	1877	2000	1966	4000	1890	2115	2021	1595	1753	2134	2209	1998	4000
PTTW - Maximum Allowable Flow Rate (L/min)	1420	1420	1420	1420	1420	1420	1420	1420	1420	1420	1420	1420	1420

Table 15: 2025 – Monthly Summary of Water Takings from the Source (Well No. 2)

Regulated by Permit to Take Water (PTTW) #8844-C6UQEY, issued September 16, 2021

Well No. 2 (T3/91)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Total Volume (m ³)	134	280	271	189	142	453	248	119	248	127	240	129	2580
Average Volume (m ³ /d)	4	10	9	6	5	15	8	4	8	4	8	4	7
Maximum Volume (m ³ /d)	114	127	132	169	119	293	120	108	119	104	117	105	293
PTTW - Maximum Allowable Volume (m ³ /day)	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Maximum Flow Rate (L/min)	1078	1620	1101	5120	1721	1742	1817	1334	1418	1186	1065	1092	5120
PTTW - Maximum Allowable Flow Rate (L/min)	1105	1105	1105	1105	1105	1105	1105	1105	1105	1105	1105	1105	1105

Note: High flow rates for each well occurred after a hydro-line transformer failure near the pump house disrupted Wonderware's flow-rate measurement and data-logging functions.

Table 16: 2025 – Monthly Summary of Combined Water Takings from the Source (Wells 1 & 2)

Combined (Well 1 & 2)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Total Volume (m ³)	13585	11299	12294	12530	13340	11964	10620	9603	8778	11131	9334	13304	137782
Average Volume (m ³ /d)	438	404	397	418	430	399	343	310	293	359	311	429	378
Maximum Volume (m ³ /d)	628	515	493	655	862	682	445	372	474	806	464	1427	1427
PTTW - Maximum Allowable Volume (m ³ /day)	2045	2045	2045	2045	2045	2045	2045	2045	2045	2045	2045	2045	2045

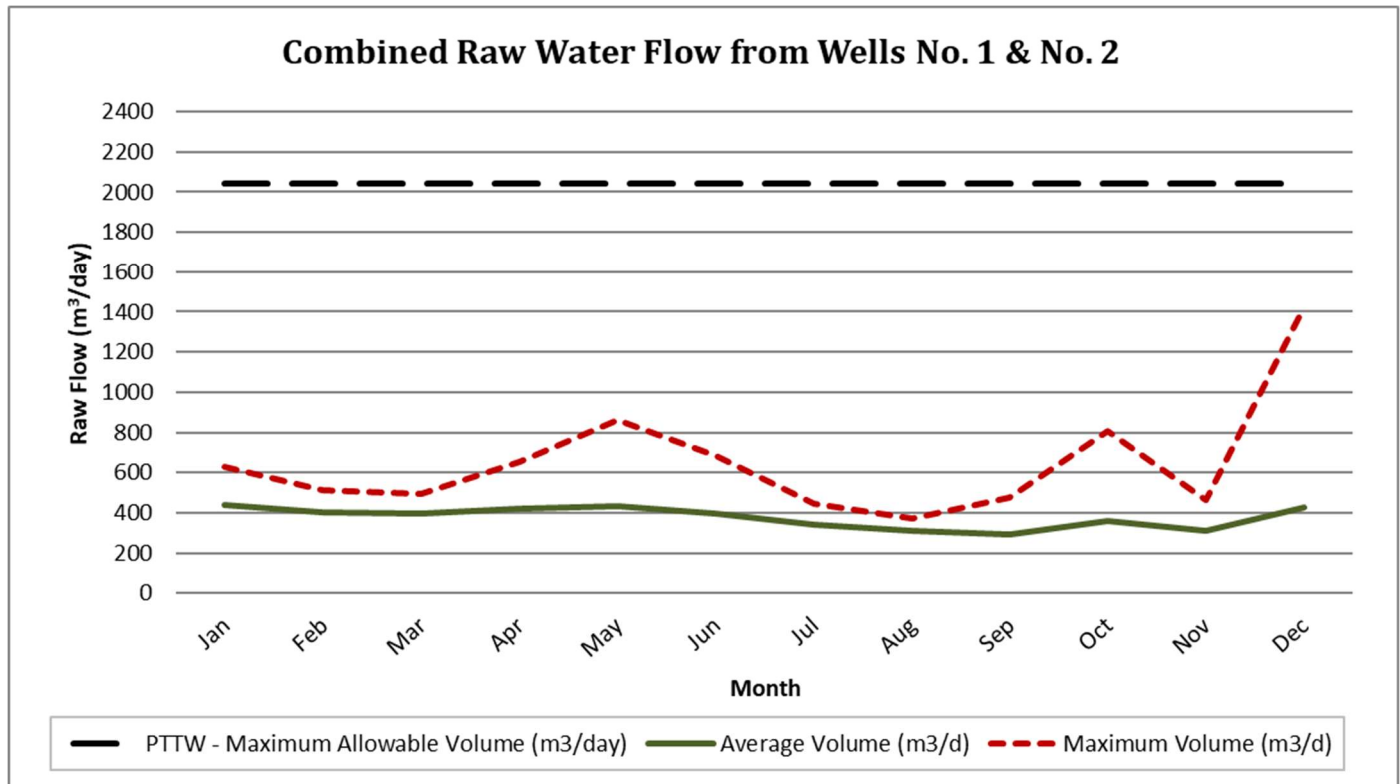


Figure 1: Comparison of Raw Water Flows to the Maximum Allowable Water Taking

Table 17: 2025 – Monthly Summary of Treated Water Supplied to the Distribution System

Regulated by Municipal Drinking Water Licence (MDWL) #280-101-6, issued August 1, 2025

Water Tower	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Total Volume (m ³)	12899	10600	11506	10725	12820	11031	10446	9159	8290	10396	9038	10490	127400
Average Volume (m ³ /d)	416	379	371	358	414	368	337	305	276	335	301	338	350
Maximum Volume (m ³ /d)	467	457	431	518	831	605	390	353	313	640	353	401	831
MDWL - Rated Capacity (m ³ /day)	2045	2045	2045	2045	2045	2045	2045	2045	2045	2045	2045	2045	2045

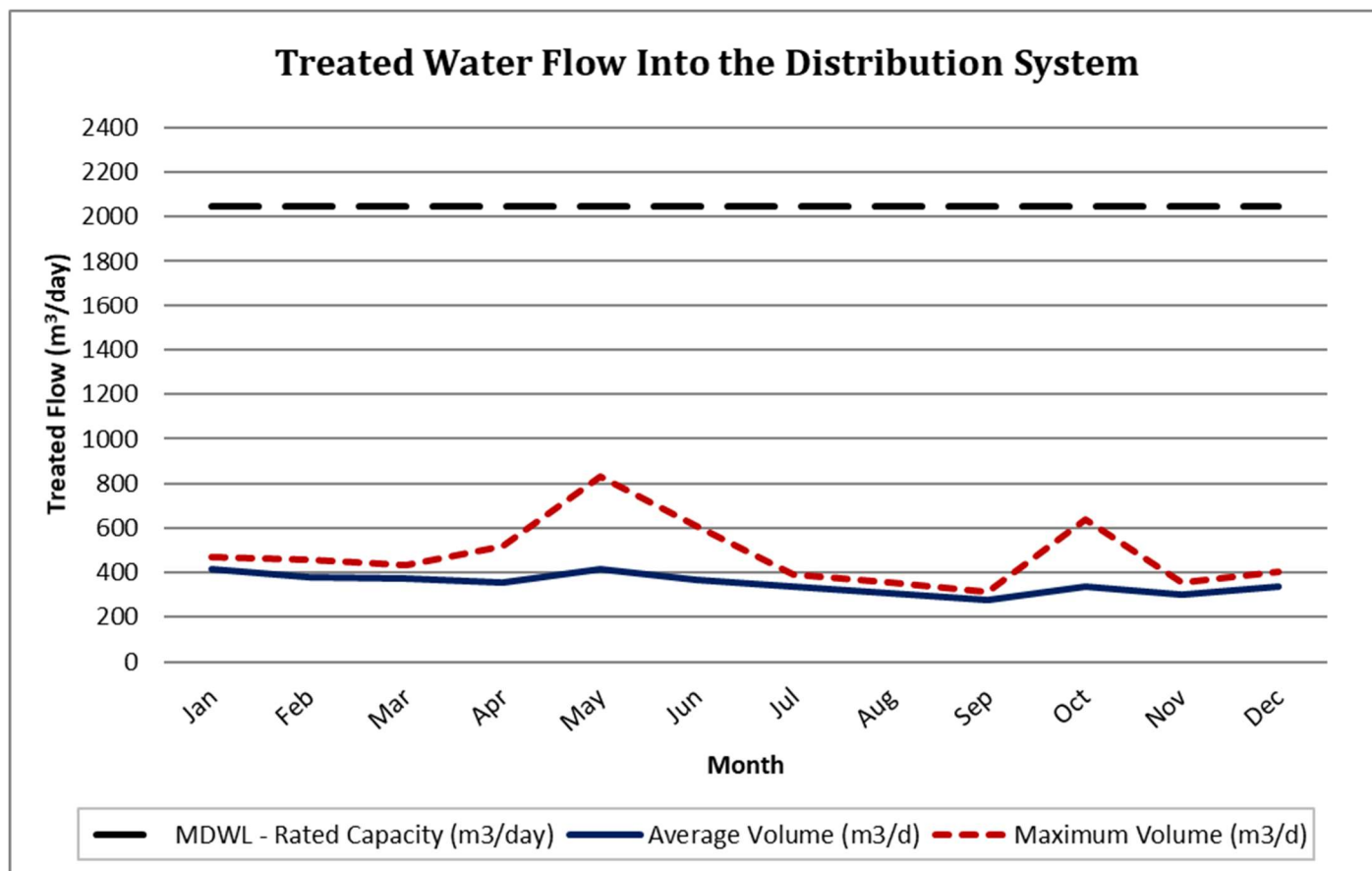


Figure 2: Comparison of Treated Flows to the Maximum Rated Capacity

11.3 System Performance

The following information is provided to enable the Owner to assess the capability of the system to meet existing and future water usage needs:

Rated Capacity of the Plant (MDWL)	2045 m ³ /day	
Average Daily Flow for 2025	350 m ³ /day	17 % of the rated capacity
Maximum Daily Flow for 2025	831 m ³ /day	41 % of the rated capacity
Total Treated Water Produced in 2025	127,400 m ³	

Table 18: 2025 – Historical Maximum Treated Flows (2020 to 2025)

Year	Maximum Treated Flow (m ³ /d)	Max. Day % of MDWL Capacity (2045 m ³ /d)	Average Daily Treated Flow (m ³ /d)	Avg. Day % of MDWL Capacity (2045 m ³ /d)
2025	831	41%	350	17%

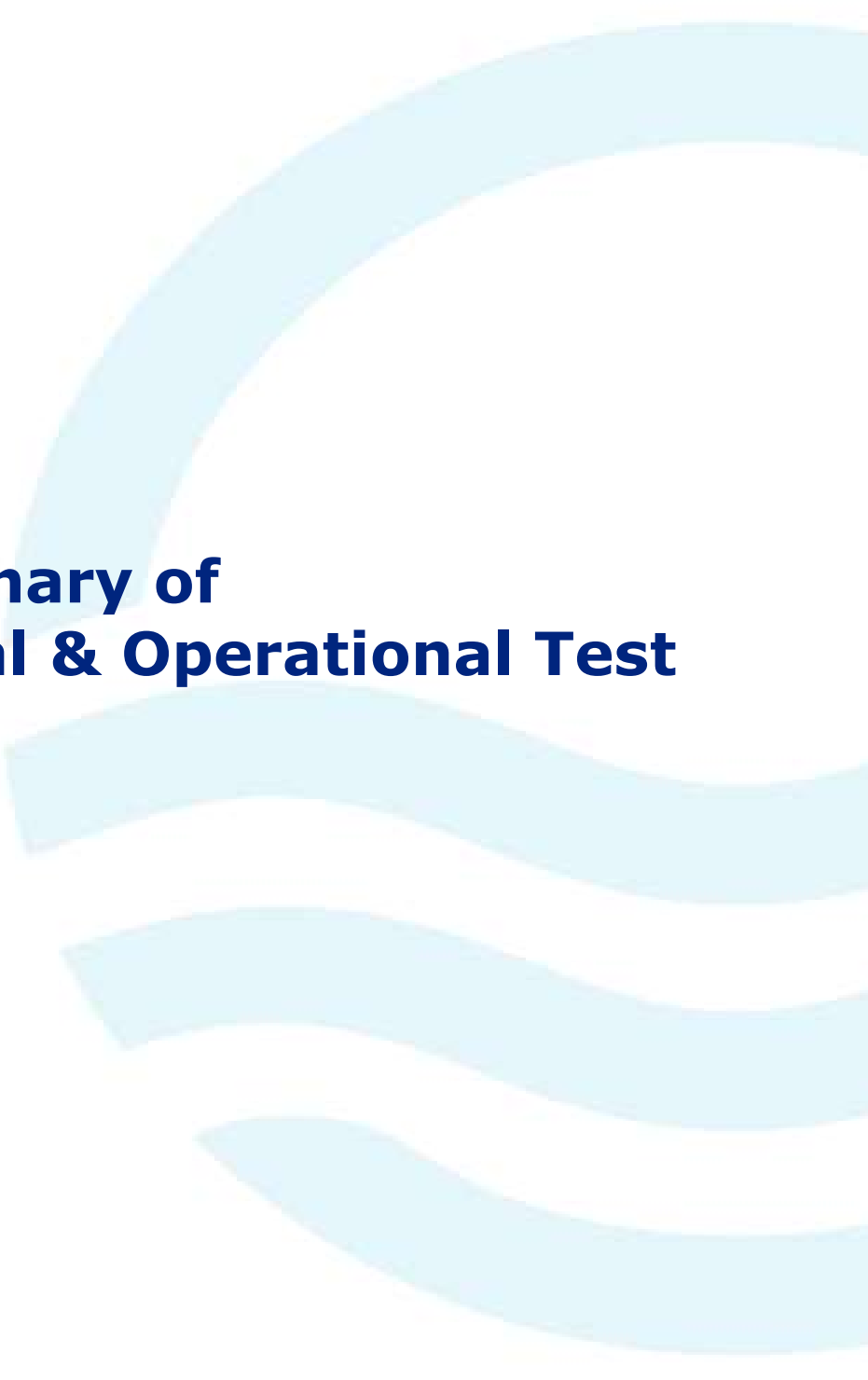
Year	Maximum Treated Flow (m ³ /d)	Max. Day % of MDWL Capacity (2045 m ³ /d)	Average Daily Treated Flow (m ³ /d)	Avg. Day % of MDWL Capacity (2045 m ³ /d)
2024	1903	93%	418	20%
2023	684	33%	407	20%
2022	1254	61%	458	22%
2021	789	39%	391	19%
2020	889	43%	515	25%

Conclusion

The water quality data collected in 2025 demonstrates that the Virginiatown-Kearns drinking water system provided high quality drinking water to its users.

The system was able to operate in accordance with the terms and conditions of the Permit to Take Water and in accordance with the rated capacity of the Municipal Drinking Water Licence while meeting the community's demand for water use.

All Adverse Water Quality Incidents that occurred during the reporting period were responded to and reported as per Schedule 16 of Ontario Regulation 170/03 under the Safe Drinking Water Act. All corrective actions were implemented and the incidents were resolved as soon as possible.



APPENDIX A

Monthly Summary of Microbiological & Operational Test Results

Customized Monthly Report

From 01/01/2025 to 12/31/2025

Facility Name: VIRGINIATOWN-KEARNS (MCGARRY) DRINKING WATER SYSTEM

Facility Org Number: 5085
Facility Owner: Municipality: Township of McGarry
Service Population: 590

Works: 220000317
Facility Classification: None required
Total Design Capacity: 2045 m3/day



Raw Water														2025				
Well 1 (Cheminis)		Jan 2025	Feb 2025	Mar 2025	Apr 2025	May 2025	Jun 2025	Jul 2025	Aug 2025	Sep 2025	Oct 2025	Nov 2025	Dec 2025	Total	Avg	Max	Min	
	E. Coli: EC - cfu/100mL																	
	Lab Count	4.00	4.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	52.00				
	Lab Month.Max	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.00		
	Lab Month.Mean	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00			
	Lab Month.Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					0.00
Total Coliform: TC - cfu/100mL																		
	Lab Count	4.00	4.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	52.00				
	Lab Month.Max	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.00		
	Lab Month.Mean	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00			
	Lab Month.Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					0.00
Turbidity - NTU																		
	IH Edited Count	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	24.00				
	IH Month.Max	0.20	0.34	0.51	0.36	0.31	0.52	0.36	1.02	0.28	0.16	0.35	1.26			1.26		
	IH Month.Mean	0.20	0.27	0.40	0.27	0.30	0.47	0.30	0.66	0.26	0.14	0.34	1.18		0.40			
	IH Month.Min	0.19	0.19	0.28	0.18	0.28	0.41	0.24	0.29	0.23	0.12	0.33	1.10					0.12
Well 2 (T3/91-Standby)		Jan 2025	Feb 2025	Mar 2025	Apr 2025	May 2025	Jun 2025	Jul 2025	Aug 2025	Sep 2025	Oct 2025	Nov 2025	Dec 2025	Total	Avg	Max	Min	
	E. Coli: EC - cfu/100mL																	
	Lab Count	4.00	4.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	52.00				
	Lab Month.Max	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.00		
	Lab Month.Mean	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00			
	Lab Month.Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					0.00
Total Coliform: TC - cfu/100mL																		
	Lab Count	4.00	4.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	52.00				
	Lab Month.Max	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.00		
	Lab Month.Mean	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00			
	Lab Month.Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					0.00
Turbidity - NTU																		
	IH Edited Count	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	24.00				
	IH Month.Max	1.70	0.88	0.42	0.84	0.75	0.79	1.03	1.81	0.54	0.45	1.41	1.58			1.81		
	IH Month.Mean	1.32	0.73	0.42	0.59	0.74	0.76	0.99	1.56	0.52	0.38	1.39	1.51		0.91			
	IH Month.Min	0.94	0.57	0.41	0.34	0.73	0.73	0.94	1.30	0.50	0.31	1.36	1.43					0.31

From 01/01/2025 to 12/31/2025

2

From 01/01/2025 to 12/31/2025

‘

Customized Monthly Report

From 01/01/2025 to 12/31/2025

Facility Name: VIRGINIATOWN-KEARNS (MCGARRY) DRINKING WATER SYSTEM

Facility Org Number: 5085
Facility Owner: Municipality: Township of McGarry
Service Population: 590

Works: 220000317
Facility Classification: None required
Total Design Capacity: 2045 m3/day



Residual No. 3		Jan 2025	Feb 2025	Mar 2025	Apr 2025	May 2025	Jun 2025	Jul 2025	Aug 2025	Sep 2025	Oct 2025	Nov 2025	Dec 2025	Total	Avg	Max	Min
	CI Residual: Free - mg/L																
	IH Edited Count	9.00	8.00	9.00	8.00	9.00	9.00	9.00	8.00	9.00	9.00	8.00	9.00	104.00			
	IH Month.Max	1.32	1.25	1.19	1.31	1.41	1.15	1.12	1.14	1.04	1.23	1.06	1.17			1.41	
	IH Month.Mean	1.09	1.00	0.97	0.96	1.01	0.94	0.82	0.71	0.77	0.82	0.80	0.92		0.90		
	IH Month.Min	0.85	0.76	0.80	0.75	0.70	0.63	0.40	0.50	0.45	0.54	0.50	0.45				0.40
Residual No. 4		Jan 2025	Feb 2025	Mar 2025	Apr 2025	May 2025	Jun 2025	Jul 2025	Aug 2025	Sep 2025	Oct 2025	Nov 2025	Dec 2025	Total	Avg	Max	Min
	CI Residual: Free - mg/L																
	IH Edited Count	4.00	4.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	52.00			
	IH Month.Max	1.35	1.34	1.13	0.99	1.36	1.35	1.31	1.48	1.14	1.26	1.22	1.29			1.48	
	IH Month.Mean	1.28	1.21	0.95	0.92	1.08	1.19	1.08	1.16	0.91	0.88	0.91	1.12		1.06		
	IH Month.Min	1.26	1.03	0.82	0.86	0.84	1.04	0.66	0.93	0.62	0.26	0.53	0.82				0.26