

January 5, 2024

Treasurer Brayden Robinson and Council
The Corporation of the Municipality of Powassan
250 Clark St.
Powassan, ON P0H 1Z0

Re: 2023 Annual/Summary Report for the Powassan Drinking Water System

Dear Brayden Robinson and Council:

Ontario's Drinking-Water Systems Regulation (O. Reg. 170/03), made under the *Safe Drinking Water Act in 2002*, requires that the owner of a drinking water system prepare an Annual Report and an Annual Summary Report of the operation of the system and the quality of its water.

Annual Report

The annual report must cover the period of January 1st to December 31st in a year and must be prepared not later than February 28th of the following year. Pursuant to the legislative requirements, enclosed for your records is the 2023 Annual Report for the Powassan Drinking Water System.

In accordance with Section 11 (6), the annual report must:

- (a) contain a brief description of the drinking-water system, including a list of water treatment chemicals used by the system during the period covered by the report;
- (b) summarize any reports made to the Ministry under subsection 18 (1) of the Act or section 16-4 of Schedule 16 during the period covered by the report;
- (c) summarize the results of tests required under the Regulation, or an approval or order, including an OWRA order, during the period covered by the report and, if tests required under this Regulation in respect of a parameter were not required during that period, summarize the most recent results of tests of that parameter;
- (d) describe any corrective actions taken under Schedule 17 or 18 during the period covered by the report;
- (e) describe any major expenses incurred during the period covered by the report to install, repair or replace required equipment; and
- (f) if the case of a large municipal residential system or a small municipal residential system, include a statement of where a report prepared under Schedule 22 will be available for inspection under subsection 12 (4) O. Reg. 170/03, s. 11 (6).

In addition, Section 11 (7) gives the direction that a copy of an annual report for the system is given, without charge, to every person who requests a copy and be made available for inspection by any member of the public during normal business hours. The reports should be made available at the office of the municipality, or at a location that is accessible to the users of the water system.

Summary Report

The annual summary report must cover the period of January 1st to December 31st in a year and must be prepared not later than March 31st of the following year. Pursuant to the legislative requirements, enclosed for your records is the 2023 Annual Summary for the Powassan Drinking Water System.

As required in *Schedule 22, Summary Reports for Municipalities*, the annual summary must:

- (2) (a) list the requirements of the Act, the regulations, the system's approval, drinking water works permit, municipal drinking water licence, and any orders applicable to the system that were not met at any time during the period covered by the report; and
 - (b) for each requirement referred to in clause (a) that was not met, specify the duration of the failure and the measures that were taken to correct the failure.
- (3) The report must also include the following information for the purpose of enabling the owner of the system to assess the capability of the system to meet existing and planned uses of the system:
 1. A summary of the quantities and flow rates of the water supplied during the period covered by the report, including monthly average and maximum daily flows.
 2. A comparison of the summary referred to in paragraph 1 to the rated capacity and flow rates approved in the system's approval, drinking water works permit or municipal drinking water licence, or if the system is receiving all of its water from another system under an agreement pursuant to subsection 5 (4), to the flow rates specified in the written agreement.

In addition, Section 12 (1) – 4 – gives the direction that a copy of the annual summary for the system is given, without charge, to every person who requests a copy and be made available for inspection by any member of the public during normal business hours. The reports should be made available at the office of the municipality, or at a location that is accessible to the users of the water system.

These reports were prepared by the Ontario Clean Water Agency on behalf of the Municipality of Powassan and are based on information kept on record by OCWA at the Powassan WTP. The reports cover the period January 1st to December 31st 2023.

Please note that any Provincial Officers Orders or non-compliance issues that you have received directly from the MECP should be reviewed. Where non-compliance with the Order or Issue is evident and it is not included in the attached 2023 Annual/Summary Report, then we recommend that this information be added to the report.

After your review and inclusion of any additional information, this report is to be provided to the Council members representing the Municipality of Powassan before March 31, 2024. Please ensure this distribution.

Yours truly,
Ontario Clean Water Agency

Joshua Gravelle
Process and Compliance Technician

Copy to: Erin Spires, Drinking Water Inspector, Ministry of the Environment, Conservation and Parks

Powassan Drinking Water System



2023 ANNUAL/SUMMARY REPORT

Prepared by the Ontario Clean Water Agency
on behalf of the Municipality of Powassan



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INTRODUCTION

Municipalities throughout Ontario have been required to comply with Ontario Regulation 170/03 made under the Safe Drinking Water Act (SDWA) since June 2003. The Act was enacted 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.

Section 11 of Regulation 170/03 requires the owner to produce an Annual Report. This report must include the following:

1. Description of system & 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.

Section 22 of the regulation also requires a Summary Report which must be presented & accepted by Council by March 31st of each year for the preceding calendar year.

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 Provincial Officer Order 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 reports have been prepared by the Ontario Clean Water Agency (OCWA) on behalf of the Owner and presented to council as the 2023 Annual/Summary Report.



Powassan Drinking Water System

Section 11

2023 ANNUAL REPORT



Section 11 - ANNUAL REPORT

1.0 Introduction

Drinking-Water System Name: POWASSAN DRINKING WATER SYSTEM
Drinking-Water System No.: 220000576
Drinking-Water System Owner: The Corporation of the Municipality of Powassan
Drinking-Water System Category: Large Municipal, Residential System
Period being reported: January 1, 2023 to December 31, 2023

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.

Powassan Municipal Office
250 Clark St.
Powassan Ontario

Drinking Water Systems that receive drinking water from the Powassan Drinking Water System

The Powassan Drinking Water System (DWS) provides all drinking water to the community of Powassan.

The Annual Report was not provided to any other Drinking Water System Owners.

The Ontario Clean Water Agency prepared the 2023 Annual/Summary Report for the Powassan DWS and provided a copy to the system owner; the Municipality of Powassan. The Powassan DWS is a stand-alone system that does not receive water from or send water to another system.

Notification to system users that the Annual Report is available for viewing is accomplished through:

- A notice via an annual community newsletter that is sent to every resident and via a notification included on the municipal utility billing.
- System analysis and reports available in the water System Information Binder available for the public to review at the municipal office.



2.0 Powassan Drinking Water System (DWS No. 220000576)

The Powassan DWS is owned by the Corporation of the Municipality of Powassan and consists of a Class 1 water treatment subsystem and a Class 1 water distribution subsystem. The Ontario Clean Water Agency (OCWA) is designated the Overall Responsible Operator for both the water supply and water distribution facilities.

Raw Water Supply

The Municipality of Powassan municipal water system is a ground water system supplied by two (2) municipal drilled wells. The well operating pressures are controlled by pressure reducing valves in the adjacent pump house and are compatible with the top water level (TWL) of the in-ground reservoir of 310 meters (m) above sea level (A.S.L.) (elevation 1017 feet A.S.L.)

Well #1, constructed in 1981 and upgraded in 2003, consists of a 150 millimeter (mm) diameter steel casing, 23.1 m deep drilled production well including 3.8 m of screen across a coarse sand and gravel from approximately 23.1 m to 19.2 m, Well Pump No.1 is a 19 kilowatt (kW), 3 phase, 60 Hertz (Hz), 575 Volt, 25 horsepower (HP) Grundfos Submersible Pump Model 230s250-8B with the capacity of 15.2 litres per second (L/s) or 1,313 cubic meters per day (m³/d) at a total dynamic head (TDH) of 92.2 m. The well is capped, and a monitoring well is located 5 m south of well #1, which is protected by a vertical 0.45 m diameter corrugated steel pipe around the well casing and standing 1.2 m above the ground. Well No. 1 is operated at 15.2 L/s at an operating pressure of 650 kilopascals (kPa). Well #1 is located about 75 m South of Well #2.

Well #2, constructed in 1983, consists of a 300 mm diameter screened well, screened across a sand and gravel interval from approximately 11.0 to 18.5 m, pump is 22.4 kW, 3 phase, 60 Hertz, 575 Volt, Well Pump no. 2 is a 22.4 kW, 3 phase, 60 Hertz, 575 Volt, 30 HP Grundfos Submersible Pump (installed new in 2002), Model 230s300-9 with the capacity of 15.2 L/s or 1,313 m³/d at a TDH of 92.2 m. The well casing was raised 2 m in 2003 and furnished with a pit less adapter and locked down insect proof vented cap. A 0.15 m diameter test well is located approximately 3 m east of well #2. Well No. 2 is operated at 15.2 L/s at an operating pressure of 650 kPa. Well #2 is situated about 30 metres from Genesee Creek within the Genesee Creek floodplain.

Water Treatment

The water treatment facility was originally constructed in 1981 and upgraded in 2003 to meet new regulatory requirements. In April 2009 a newly constructed 1278 m³ in ground water storage reservoir was put into service to replace the aged 900 m³ (1955) steel standpipe. The treatment process at the Powassan Well Supply is comprised of primary and secondary disinfection by dosing with sodium hypochlorite. The pump house building contains the process piping, flow meters and treated water sample points, the sodium hypochlorite disinfection feed system, process monitoring instrumentation, standby pumping system controls, electrical system and all associated appurtenances. A 49 m length of 600 mm serpentine pipe is installed below grade at the well/pump house to provide a minimum 15 minutes of disinfection contact time determined at maximum design flow and before the first consumer. The disinfection system is comprised of two sodium hypochlorite metering pumps, with a maximum capacity of 3.13 litres per hour (L/hr) at 690 kPa, with manual switchover controls, and two 160 litre (L) storage tanks (one duty & one standby) with secondary spill containment.



Water Storage and Pumping Capabilities

An in-ground reservoir constructed in 2008-09 is located approximately 60 m east from Big Bend Avenue at the end of McRae Drive was brought on-line in April 2009. The reservoir is an interconnected dual cell reservoir; each sized approximately 9.3 m x 13 m x 5.5 m water depth with a total capacity of 1,278 m³. Each cell is equipped with an inlet/outlet level sensor and a 300 mm diameter emergency overflow pipe; a 3.8 m x 4 m in-ground valve chamber. A prefabricated rechlorination building is located on top of the valve chamber and houses one (1) 100 L sodium hypochlorite storage tank with secondary containment and two (2) chemical metering pumps (duty and standby) each rated at 1.4 L/hr available to inject sodium hypochlorite into the reservoir outlet line (on demand) when required. An on-line chlorine residual analyzer is provided to sample water from the reservoir outlet line. The reservoir is operated and controlled based on water demand/pressure in the distribution system.

Emergency Power

Standby power in the event of a power interruption is supplied by a 65 kW/81 thousand volt amps (KVA), 347/600/3PH/60 Hz, diesel generator set with an automatic transfer switch in an external pad mounted weatherproof acoustical enclosure equipped with a double walled fuel tank in the sub base.

Distribution System

The Powassan DWS is categorized as a Large Municipal Residential Drinking Water System and serves an estimated population of 1000 residents. The distribution system consists of approximately 10.8 kilometers (km) of water mains made up of cast iron and polyvinyl chloride (PVC) piping ranging in size from 100 mm to 200 mm in diameter. Approximately 2.1 km of 250 mm diameter water main is installed in conjunction with the in-ground storage reservoir. The distribution system undergoes routine flushing twice a year, in the spring and in the fall.

3.0 List of Water Treatment Chemicals Used Over the Reporting Period

The following chemicals were used in the treatment process at the Powassan Water Treatment Plant.

- Sodium hypochlorite – Disinfection

4.0 Significant Expenses Incurred in the Drinking Water System

OCWA is committed to maintaining the assets of the drinking water system and maintains a program of scheduled inspection and maintenance activities using a computerized Work Management System (WMS). OCWA implemented a new Workplace Management System (Maximo) in 2015, which better maintains and optimizes facility assets. All routine maintenance activities conducted at the water treatment plant were accomplished in 2023.

Significant expenses incurred in the drinking water system include:

- Fire flow tested 6 hydrants as requested by Public Works.
- Repaired a hydrant and provided training on hydrants for the fire department.
- Electrical storm damaged communications equipment causing operational issues. Changed out damaged radios with spare Pribusin radios.

5.0 Drinking Water System Highlights

- The Ministry of the Environment, Conservation and Parks (MECP) performed their last annual inspection on October 6, 2022. The inspection included a physical assessment of the Powassan Water Treatment Plant and a document review. The system received a risk rating of 0.00%, with a final inspection rating of 100%. There were no MECP inspections during the year of 2023.
- SAI Global conducted an off-site external 12-month surveillance audit of the Powassan Drinking Water System’s Quality and Environmental Management System (QEMS). The system and processes associated with the QEMS were evaluated on May 16, 2023 to ensure implementation of the Operational Plan and procedures and conformance to the Drinking Water Quality Management Standard version 2.0. There were no findings identified. Re-accreditation achieved on June 9, 2022.

6.0 Details on Notices of Adverse Test Results and Other Problems Reported to & Submitted to the Spills Action Center

Based on information kept on record by OCWA, zero (0) adverse water quality incidents (AWQI) were reported to the MOE’s Spills Action Centre (MOE SAC) in 2023.

7.0 Microbiological Testing Performed During the Reporting Period

Summary of Microbiological Data

| 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 | 0 | N/A |
| Raw (Well No. 2) | 52 | 0 to 0 | 0 to 0 | 0 | N/A |
| Treated | 52 | 0 to 0 | 0 to 0 | 52 | 0 to NDOGHPC |
| Distribution | 157 | 0 to 0 | 0 to 0 | 53 | 0 to 39 |

Maximum Allowable Concentration (MAC) for *E. coli* = 0 Counts/100 mL

MAC for Total Coliforms = 0 Counts/100 mL

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

NDOGHPC – No Data: Overgrown with HPC.

Notes: One microbiological sample is collected and tested each week from the raw (each well) and treated water supply. A total of three microbiological samples are collected and tested each week from the Powassan distribution system.

Refer to *Appendix A* for a monthly summary of microbiological test results.

8.0 Operational Testing Performed During the Reporting Period

Summary of Raw Water Turbidity Data

| Parameter | # of Samples | Range of Results (min to max) | Unit of Measure |
|------------------------|--------------|----------------------------------|-----------------|
| Turbidity (Well No. 1) | 52 | 0.05 to 0.16 | NTU |
| Turbidity (Well No. 2) | 52 | 0.06 to 0.21 | |

Continuous Monitoring in the Treatment Process

| Parameter | # of Samples | Range of Results (min to max) | Unit of Measure | Standard |
|---------------|--------------|----------------------------------|-----------------|----------|
| Free Chlorine | 8760 | 0.85 to 3.19 | mg/L | CT* |

Notes: For continuous monitors 8760 is used as the number of samples.

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 Powassan water plant if the free chlorine residual level drops below 0.45 mg/L to ensure primary disinfection is achieved. The Water Treatment Plant is equipped with an automatic plant shutdown at 0.80 mg/L, with no delay.

Summary of Chlorine Residual Data in the Distribution System

| Parameter | No. of Samples | Range of Results (min to max) | Unit of Measure | Standard |
|---------------|----------------|----------------------------------|-----------------|----------|
| Free Chlorine | 364 | 0.97 to 2.16 | 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 B* for a monthly summary of the above operational data.

Summary of Nitrate & Nitrite Data (sampled at the water treatment plant)

| Date of Sample | Nitrate Result Value | Nitrite Result Value | Unit of Measure | Exceedance |
|----------------|----------------------|----------------------|-----------------|------------|
| January 17 | 0.863 | < 0.003 | mg/L | No |
| April 11 | 0.850 | < 0.003 | mg/L | No |
| July 11 | 0.845 | < 0.003 | mg/L | No |
| October 11 | 0.865 | < 0.003 | mg/L | No |

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

Summary of Total Trihalomethane Data (sampled in the distribution system)

| Date of Sample | Result Value | Unit of Measure | Running Average | Exceedance |
|----------------|--------------|-----------------|-----------------|------------|
| January 17 | 5.5 | ug/L | Q1 = 6.98 | No |
| April 11 | 1.8 | | Q2 = 7.10 | |
| July 11 | 1.8 | | Q3 = 5.28 | |
| October 11 | 1.7 | | Q4 = 2.70 | |

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

Summary of Total Haloacetic Acids Data (sampled in the distribution system)

| Date of Sample | Result Value | Unit of Measure | Running Average | Exceedance |
|----------------|--------------|-----------------|-----------------|------------|
| January 17 | <5.3 | ug/L | Q1 = <5.3 | No |
| April 11 | <5.3 | | Q2 = <5.3 | |
| July 11 | <5.3 | | Q3 = <5.3 | |
| October 11 | <5.3 | | Q4 = <5.3 | |

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

Summary of Most Recent Lead Data under Schedule 15.1

(applicable to the following drinking water systems; large municipal residential systems, small, municipal residential systems, and non-municipal year-round residential systems)

The Powassan DWS was eligible to follow the “Exemption from Plumbing Sampling” as described in section 15.1-5(9) and 15.1-5(10) of Schedule 15.1 of Ontario Regulation 170/03. The exemption applies to a drinking water system if, in two consecutive periods at reduced sampling, not more than 10% of all samples from plumbing exceed the maximum allowable concentration (MAC) of 10 ug/L for lead. As such, the system was required to test for total alkalinity and pH in one distribution sample collected during the periods of December 15 to April 15 (winter period) and 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. Two rounds of lead, alkalinity and pH testing were carried out on April 12th and September 28th of 2023. Results are summarized in the table below.

Summary of Lead, pH & Alkalinity Data (sampled in the distribution system)

| Date of Sample | # of Samples | Sample Location | Lead (ug/L) | Field pH | Alkalinity (mg/L) |
|----------------|--------------|---------------------------------|-------------|----------|-------------------|
| April 12 | 1 | Hydrant at 76 Fairview Lane | 0.40 | 6.88 | 95 |
| April 12 | 1 | Hydrant at 30 Valleyview Dr. E. | 0.44 | 6.90 | 95 |
| Sept. 28 | 1 | Hydrant at 290 Edward St. | 0.06 | 7.43 | 105 |
| Sept. 28 | 1 | Hydrant at 30 Valleyview Dr. E. | 0.14 | 7.03 | 86 |

Most Recent Schedule 23 Inorganic Data Tested at the Water Treatment Plant

| Parameter | Result Value | Unit of Measure | Standard | Exceedance |
|-----------|--------------|-----------------|----------|------------|
| Antimony | <MDL 0.9 | ug/L | 6 | No |
| Arsenic | <MDL 0.2 | ug/L | 10 | No |
| Barium | 97.9 | ug/L | 1000 | No |
| Boron | 9.0 | ug/L | 5000 | No |
| Cadmium | 0.006 | ug/L | 5 | No |
| Chromium | 1.14 | ug/L | 50 | No |
| Mercury | <MDL 0.01 | ug/L | 1 | No |
| Selenium | 0.13 | ug/L | 50 | No |
| Uranium | 0.565 | ug/L | 20 | No |

Note: Sample required every 36 months (sample date = Jan. 18, 2021). Next sampling scheduled for January 2024.



Most Recent Schedule 24 Organic Data Tested at the Water Treatment Plant

| TREATED WATER | Sample Date (yyyy/mm/dd) | Sample Result | MAC | Number of Exceedances | |
|--|-----------------------------|---------------|-------|-----------------------|---------|
| | | | | MAC | 1/2 MAC |
| Alachlor (ug/L) - TW1 | 2021/01/18 | <MDL 0.02 | 5.0 | No | No |
| Atrazine + N-dealkylated metabolites (ug/L) - T | 2021/01/18 | <MDL 0.01 | 5.0 | No | No |
| Azinphos-methyl (ug/L) - TW1 | 2021/01/18 | <MDL 0.05 | 20.0 | No | No |
| Benzene (ug/L) - TW1 | 2021/01/18 | <MDL 0.32 | 1.0 | No | No |
| Benzo(a)pyrene (ug/L) - TW1 | 2021/01/18 | <MDL 0.004 | 0.01 | No | No |
| Bromoxynil (ug/L) - TW1 | 2021/01/18 | <MDL 0.33 | 5.0 | No | No |
| Carbaryl (ug/L) - TW1 | 2021/01/18 | <MDL 0.05 | 90.0 | No | No |
| Carbofuran (ug/L) - TW1 | 2021/01/18 | <MDL 0.01 | 90.0 | No | No |
| Carbon Tetrachloride (ug/L) - TW1 | 2021/01/18 | <MDL 0.17 | 2.0 | No | No |
| Chlorpyrifos (ug/L) - TW1 | 2021/01/18 | <MDL 0.02 | 90.0 | No | No |
| Diazinon (ug/L) - TW1 | 2021/01/18 | <MDL 0.02 | 20.0 | No | No |
| Dicamba (ug/L) - TW1 | 2021/01/18 | <MDL 0.2 | 120.0 | No | No |
| 1,2-Dichlorobenzene (ug/L) - TW1 | 2021/01/18 | <MDL 0.41 | 200.0 | No | No |
| 1,4-Dichlorobenzene (ug/L) - TW1 | 2021/01/18 | <MDL 0.36 | 5.0 | No | No |
| 1,2-Dichloroethane (ug/L) - TW1 | 2021/01/18 | <MDL 0.35 | 5.0 | No | No |
| 1,1-Dichloroethylene (ug/L) - TW1 | 2021/01/18 | <MDL 0.33 | 14.0 | No | No |
| Dichloromethane (Methylene Chloride) (ug/L) | 2021/01/18 | <MDL 0.35 | 50.0 | No | No |
| 2,4-Dichlorophenol (ug/L) - TW1 | 2021/01/18 | <MDL 0.15 | 900.0 | No | No |
| 2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L) - | 2021/01/18 | <MDL 0.19 | 100.0 | No | No |
| Diclofop-methyl (ug/L) - TW1 | 2021/01/18 | <MDL 0.4 | 9.0 | No | No |
| Dimethoate (ug/L) - TW1 | 2021/01/18 | <MDL 0.06 | 20.0 | No | No |
| Diquat (ug/L) - TW1 | 2021/01/18 | <MDL 1.0 | 70.0 | No | No |
| Diuron (ug/L) - TW1 | 2021/01/18 | <MDL 0.03 | 150.0 | No | No |
| Glyphosate (ug/L) - TW1 | 2021/01/18 | <MDL 1.0 | 280.0 | No | No |
| Malathion (ug/L) - TW1 | 2021/01/18 | <MDL 0.02 | 190.0 | No | No |
| Metolachlor (ug/L) - TW1 | 2021/01/18 | <MDL 0.01 | 50.0 | No | No |
| Metribuzin (ug/L) - TW1 | 2021/01/18 | <MDL 0.02 | 80.0 | No | No |
| Monochlorobenzene (Chlorobenzene) (ug/L) - | 2021/01/18 | <MDL 0.3 | 80.0 | No | No |
| Paraquat (ug/L) - TW1 | 2021/01/18 | <MDL 1.0 | 10.0 | No | No |
| PCB (ug/L) - TW1 | 2021/01/18 | <MDL 0.04 | 3.0 | No | No |
| Pentachlorophenol (ug/L) - TW1 | 2021/01/18 | <MDL 0.15 | 60.0 | No | No |
| Phorate (ug/L) - TW1 | 2021/01/18 | <MDL 0.01 | 2.0 | No | No |
| Picloram (ug/L) - TW1 | 2021/01/18 | <MDL 1.0 | 190.0 | No | No |
| Prometryne (ug/L) - TW1 | 2021/01/18 | <MDL 0.03 | 1.0 | No | No |
| Simazine (ug/L) - TW1 | 2021/01/18 | <MDL 0.01 | 10.0 | No | No |
| Terbufos (ug/L) - TW1 | 2021/01/18 | <MDL 0.01 | 1.0 | No | No |
| Tetrachloroethylene (ug/L) - TW1 | 2021/01/18 | <MDL 0.35 | 10.0 | No | No |
| 2,3,4,6-Tetrachlorophenol (ug/L) - TW1 | 2021/01/18 | <MDL 0.2 | 100.0 | No | No |
| Triallate (ug/L) - TW1 | 2021/01/18 | <MDL 0.01 | 230.0 | No | No |
| Trichloroethylene (ug/L) - TW1 | 2021/01/18 | <MDL 0.44 | 5.0 | No | No |
| 2,4,6-Trichlorophenol (ug/L) - TW1 | 2021/01/18 | <MDL 0.25 | 5.0 | No | No |
| 2-methyl-4-chlorophenoxyacetic acid (MCPA) (| 2021/01/18 | <MDL 0.12 | 100.0 | No | No |
| Trifluralin (ug/L) - TW1 | 2021/01/18 | <MDL 0.02 | 45.0 | No | No |
| Vinyl Chloride (ug/L) - TW1 | 2021/01/18 | <MDL 0.17 | 1.0 | No | No |

Note: Sample required every 36 months (sample date = Jan. 18, 2021). Next sampling scheduled for January 2024.

Inorganic or Organic Test Results that Exceeded Half the Standard Prescribed in Schedule 2 of the Ontario Drinking Water Quality Standards.

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



Most Recent Sodium Data Sampled at the Water Treatment Plant

| Date of Sample | # of Samples | Result Value | Unit of Measure | Standard | Exceedance |
|-------------------|--------------|--------------|-----------------|----------|------------|
| January 24, 2022 | 1 | 11.9 | mg/L | 20 | No |
| February 27, 2017 | 1 | 9.35 | mg/L | 20 | No |

Note: Sample required every 60 months. Next sampling scheduled for January 2027.

Most Recent Fluoride Data Sampled at the Water Treatment Plant

| Date of Sample | # of Samples | Result Value | Unit of Measure | Standard | Exceedance |
|------------------|--------------|--------------|-----------------|----------|------------|
| January 14, 2019 | 1 | 0.24 | mg/L | 1.5 | No |

Note: Sample required every 60 months. Next sampling scheduled for January 2024.

Summary of Additional Testing Performed in Accordance with a Legal Instrument.

No additional sampling and testing was required for the Powassan DWS during the 2023 reporting period.



Powassan Drinking Water System

Schedule 22

2023 SUMMARY REPORT

FOR MUNICIPALITIES



Schedule 22 - SUMMARY REPORTS FOR MUNICIPALITIES

1.0 Introduction

| | |
|---|---------------------------------------|
| Drinking-Water System Name: | POWASSAN DRINKING WATER SYSTEM |
| Municipal Drinking Water Licence (MDWL) No.: | 266-101-3 (issued April 9, 2021) |
| Drinking Water Work Permit (DWWP) No.: | 266-201-3 (issued April 9, 2021) |
| Permit to Take Water (PTTW) No.: | 7867-CDEJHF (issued April 14, 2022) |
| Period being reported: | January 1, 2023 to December 31, 2023 |

2.0 Requirements the System Failed to Meet

According to information kept on record by OCWA, the Powassan Drinking Water System has complied with all the requirements set out in the system’s MDWL, its DWWP, the Act and its Regulations. With the exceptions noted below.

The last MECP inspection report dated October 6, 2022 identified zero non-compliance/best practice items.

According to information kept on record by OCWA; there were two non-compliance issues during 2023. No MECP inspections took place in 2023.

Two Incidents of Non-Compliance: Failure to monitor POE Chlorine residuals while the facility was producing water to the distribution system & Failure to alarm / lock out well pumps when analyzer failed. Operator Arrived at Well House July 17, 2023 at 12:30 to complete 72 Hr. compliance review via online data logger. Chlorine POE analyzer was off, and no residuals were being displayed on the data logger. The chlorine analyzer was plugged into a GFCI outlet that was tripped. The GFCI outlet was reset and The Analyzer was restored immediately. Trending shows the analyzer lost power on July 17, 2023 at 12:50 pm and was restored July 17, 2023 at 12:35 pm. No alarms were triggered and four pumping cycles occurred during the time the analyzer was without power. Resolution: Round sheet completed upon arrival indicating chlorine dosage calculated from Friday is consistent (slightly higher) than previous dosage calculations, online trending at the in-ground Reservoir is consistent with the previous trending, low chlorine alarm / lockout test is conducted monthly (last test was June 20, 2023), RAW, POE and Distribution bacti samples and residuals were collected today and residuals are consistent with normal operations (see attached chain of custody and weekly residual sampling sheets). An instrument technician will be contacted to help identify the failure of the analyzer to alarm out on power failure. MECP notified verbally and send non-compliance form via email.



3.0 Summary of Quantities and Flow Rates

Flow Monitoring

MDWL No. 266-101 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 treated water that flows from the treatment subsystem the distribution system, and
- the flow rate and daily volume of water that flows into the treatment subsystem.

The flow monitoring equipment identified in the MDWL is present and operating as required. The flow meter is calibrated on an annual basis as specified in the manufacturers’ instructions.

Water Usage

The following water usage tables summarize the quantities and flow rates of water taken and produced during the 2023 reporting period, including total monthly volumes, average monthly volumes, maximum monthly volumes, and maximum flow rates.

Raw Water

2023 - Monthly Summary of Water Takings from the Source (Well #1)

Regulated by Permit to Take Water (PTTW) #7867-CDEJHF, issued April 14, 2022

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Year to Date |
|---|------|------|------|------|------|------|------|------|------|------|------|------|--------------|
| Total Volume (m ³) | 5828 | 5334 | 6187 | 6510 | 6306 | 6745 | 6493 | 7050 | 6885 | 7363 | 7520 | 7493 | 79714 |
| Average Volume (m ³ /d) | 188 | 191 | 200 | 217 | 203 | 225 | 209 | 227 | 230 | 238 | 251 | 242 | 218 |
| Maximum Volume (m ³ /d) | 282 | 281 | 308 | 415 | 340 | 477 | 304 | 587 | 353 | 495 | 640 | 543 | 640 |
| PTTW - Maximum Allowable Volume (m ³ /day) | 1313 | 1313 | 1313 | 1313 | 1313 | 1313 | 1313 | 1313 | 1313 | 1313 | 1313 | 1313 | 1313 |
| Maximum Flow Rate (L/min) | 878 | 871 | 883 | 875 | 880 | 882 | 874 | 868 | 876 | 868 | 876 | 872 | 883 |
| PTTW - Maximum Allowable Flow Rate (L/min) | 912 | 912 | 912 | 912 | 912 | 912 | 912 | 912 | 912 | 912 | 912 | 912 | 912 |

2023 - Monthly Summary of Water Takings from the Source (Well #2)

Regulated by Permit to Take Water (PTTW) #7867-CDEJHF, issued April 14, 2022

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Year to Date |
|---|------|------|------|------|------|------|------|------|------|------|------|------|--------------|
| Total Volume (m ³) | 5713 | 5065 | 5693 | 5181 | 6103 | 5963 | 6408 | 6157 | 6542 | 6806 | 6277 | 6324 | 72232 |
| Average Volume (m ³ /d) | 184 | 181 | 184 | 173 | 197 | 199 | 207 | 199 | 218 | 220 | 209 | 204 | 198 |
| Maximum Volume (m ³ /d) | 265 | 252 | 266 | 302 | 279 | 298 | 254 | 419 | 394 | 361 | 263 | 265 | 419 |
| PTTW - Maximum Allowable Volume (m ³ /day) | 1313 | 1313 | 1313 | 1313 | 1313 | 1313 | 1313 | 1313 | 1313 | 1313 | 1313 | 1313 | 1313 |
| Maximum Flow Rate (L/min) | 881 | 887 | 880 | 883 | 887 | 887 | 884 | 884 | 886 | 887 | 886 | 888 | 888 |
| PTTW - Maximum Allowable Flow Rate (L/min) | 912 | 912 | 912 | 912 | 912 | 912 | 912 | 912 | 912 | 912 | 912 | 912 | 912 |

2023 - Monthly Summary of Combined Water Takings from the Source (Well#1 and Well #2)

Regulated by Permit to Take Water (PTTW) #7867-CDEJHF, issued April 14, 2022

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Year to Date |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------------|
| Total Volume (m ³) | 11541 | 10399 | 11880 | 11692 | 12410 | 12709 | 12901 | 13207 | 13427 | 14169 | 13796 | 13817 | 151947 |
| Average Volume (m ³ /d) | 372 | 371 | 383 | 390 | 400 | 424 | 416 | 426 | 448 | 457 | 460 | 446 | 416 |
| Maximum Volume (m ³ /d) | 439 | 442 | 496 | 461 | 578 | 725 | 475 | 702 | 547 | 558 | 727 | 588 | 727 |
| PTTW - Maximum Allowable Volume (m ³ /day) | 1313 | 1313 | 1313 | 1313 | 1313 | 1313 | 1313 | 1313 | 1313 | 1313 | 1313 | 1313 | 1313 |

The system's Permit to Take Water #7346-8VFJKR, allows the Municipality to withdraw water at the following rates:

Well No. 1: 1313.28 m³/day / 912 L/minute

Well No. 2: 1313.28 m³/day / 912 L/minute

Total Combined Daily Volume: 1313.28 m³/day

The system's Permit to Take Water #7346-8VFJKR allows the municipality to withdraw a maximum volume of 1313.28 cubic meters from each well each day with a maximum of 1313.28 cubic meters per day combined. A review of the raw water flow data indicates that the system never exceeded this allowable limit having a maximum volume of 727 m³ in November 2023. The Permit also allows a maximum flow rate of 912 L/minute. At no point during the reporting period did the system exceed this rate having a maximum recorded flow of 888 L/minute in December 2023.

Treated Water

2023 - Monthly Summary of Treated Water Supplied to the Distribution System

Regulated by Municipal Drinking Water Licence (MDWL) #266-101 - Issue 3, issued April 9, 2021

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Year to Date |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------------|
| Total Volume (m ³) | 11541 | 10399 | 11880 | 11692 | 12410 | 12709 | 12901 | 13207 | 13427 | 14169 | 13796 | 13817 | 151947 |
| Average Volume (m ³ /d) | 372 | 371 | 383 | 390 | 400 | 424 | 416 | 426 | 448 | 457 | 460 | 446 | 416 |
| Maximum Volume (m ³ /d) | 439 | 442 | 496 | 461 | 578 | 725 | 475 | 702 | 547 | 558 | 727 | 588 | 727 |
| MDWL - Rated Capacity (m ³ /day) | 1313 | 1313 | 1313 | 1313 | 1313 | 1313 | 1313 | 1313 | 1313 | 1313 | 1313 | 1313 | 1313 |

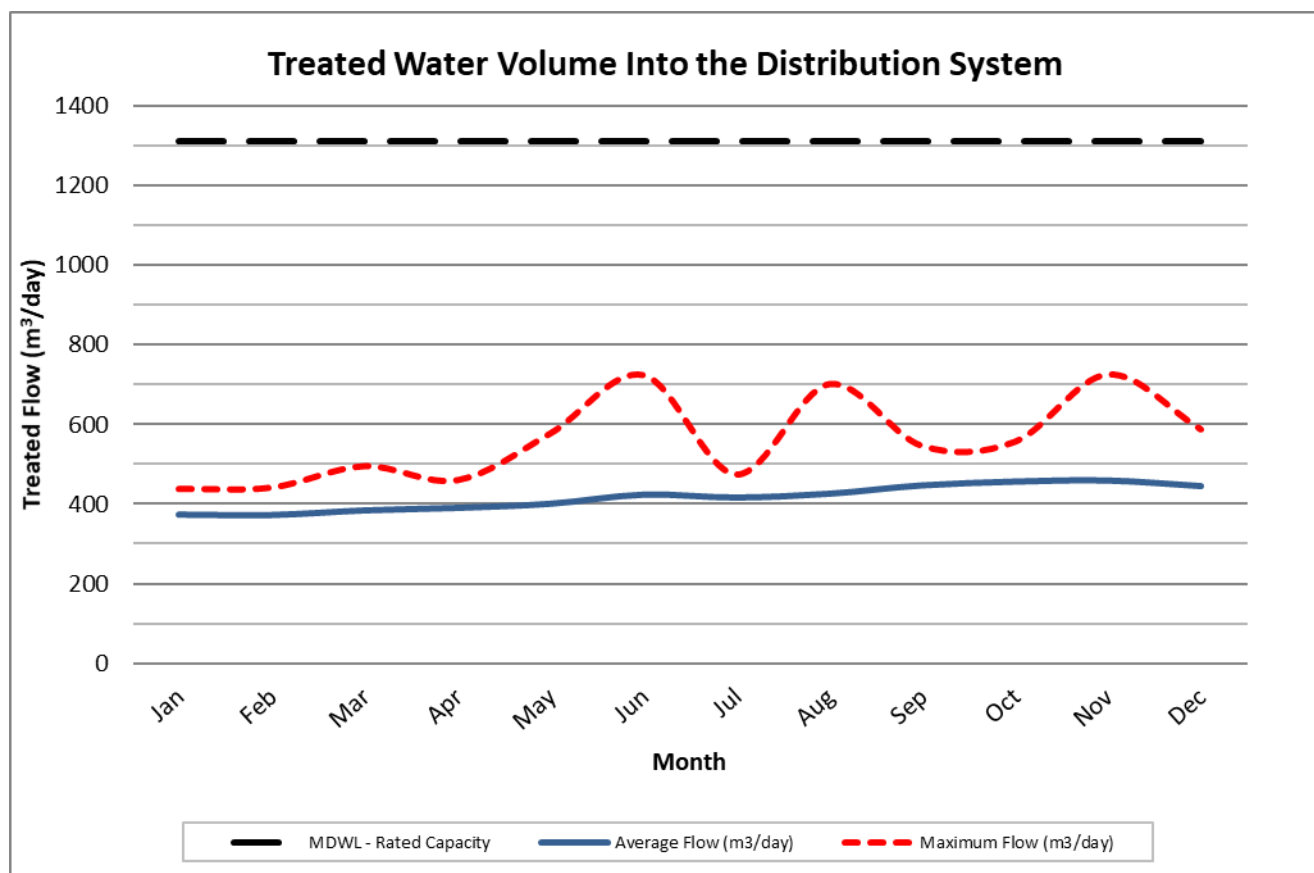
Schedule C, Section 1.1 of MDWL No. 266-101 states that the maximum daily volume of treated water that flows from the treatment subsystem to the distribution system shall not exceed a maximum flow rate of 1313 m³/day. The Powassan DWS complied with this limit having a recorded maximum volume of 727 m³ in November 2023, which is 55.4% of the rated capacity.

Figure 1 compares the average and maximum flow rates into the distribution system to the rated capacity of the system identified in the MDWL. This information enables the Owner to assess the system's existing and future planned water usage needs.

Comparison of the Flow Summary to the Systems Licence & Permit

| | | |
|--------------------------------------|--------------------------|-----------------------------|
| Rated Capacity of the Plant (MDWL) | 1313 m ³ /day | |
| Average Daily Flow for 2023 | 416 m ³ /day | 31.7% of the rated capacity |
| Maximum Daily Flow for 2023 | 727 m ³ /day | 55.4% of the rated capacity |
| Total Treated Water Produced in 2023 | 151,947 m ³ | |

The Powassan Water Treatment Plant is rated to produce 1313 cubic meters of water per day as specified in the system’s Municipal Drinking Water Licence. The average daily flow was 416 m³ per day, which is 31.7% of the rated capacity. This information clearly shows that the plant is well within its rated capacity and is able to meet current demands of consumers.



CONCLUSION

In 2023, the Powassan DWS provided safe and reliable drinking water to the community of Powassan. The system complied with the regulatory requirements of the Safe Drinking Water Act and its Regulations and met the terms and conditions outlined in its site specific drinking water works permit and municipal drinking water licence with two exceptions noted above.



APPENDIX A

Monthly Summary of Microbiological
Test Results

**Powassan Drinking Water System
Monthly Summary of Microbiological Test Results**

From: 01/01/2023 to 31/12/2023

Report extracted 01/04/2024 15:45

Facility Org Number: 6033
Facility Works Number: 220000576
Facility Name: POWASSAN DRINKING WATER SYSTEM
Facility Owner: Municipality Of Powassan
Total Design Capacity: 1313.0 m3/day

| | 01/2023 | 02/2023 | 03/2023 | 04/2023 | 05/2023 | 06/2023 | 07/2023 | 08/2023 | 09/2023 | 10/2023 | 11/2023 | 12/2023 | Total | Avg | Max | Min |
|--|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-------|-------|---------|-----|
| Distribution / E. Coli - cfu/100mL | | | | | | | | | | | | | | | | |
| Count Lab | 15 | 12 | 12 | 12 | 16 | 12 | 15 | 12 | 12 | 15 | 12 | 12 | 157 | | | |
| Max Lab | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | 0 | |
| Mean Lab | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | | |
| Min Lab | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | 0 |
| Distribution / HPC - cfu/mL | | | | | | | | | | | | | | | | |
| Count Lab | 5 | 4 | 4 | 4 | 6 | 4 | 5 | 4 | 4 | 5 | 4 | 4 | 53 | | | |
| Max Lab | 1 | 1 | 1 | 1 | 1 | 1 | 39 | 12 | 10 | 34 | 4 | 0 | | | 39 | |
| Mean Lab | 0.2 | 0.25 | 0.25 | 0.25 | 0.5 | 0.25 | 9.4 | 3.25 | 5.25 | 6.8 | 1.5 | 0 | | 2.434 | | |
| Min Lab | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | | | | 0 |
| Distribution / Total Coliform: TC - cfu/100mL | | | | | | | | | | | | | | | | |
| Count Lab | 15 | 12 | 12 | 12 | 16 | 12 | 15 | 12 | 12 | 15 | 12 | 12 | 157 | | | |
| Max Lab | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | 0 | |
| Mean Lab | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | | |
| Min Lab | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | 0 |
| Raw Well 1 / E. Coli: EC - cfu/100mL | | | | | | | | | | | | | | | | |
| Count Lab | 5 | 4 | 4 | 4 | 5 | 4 | 5 | 4 | 4 | 5 | 4 | 4 | 52 | | | |
| Max Lab | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | 0 | |
| Mean Lab | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | | |
| Min Lab | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | 0 |
| Raw Well 1 / Total Coliform: TC - cfu/100mL | | | | | | | | | | | | | | | | |
| Count Lab | 5 | 4 | 4 | 4 | 5 | 4 | 5 | 4 | 4 | 5 | 4 | 4 | 52 | | | |
| Max Lab | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | 0 | |
| Mean Lab | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | | |
| Min Lab | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | 0 |
| Raw Well 2 / E. Coli: EC - cfu/100mL | | | | | | | | | | | | | | | | |
| Count Lab | 5 | 4 | 4 | 4 | 5 | 4 | 5 | 4 | 4 | 5 | 4 | 4 | 52 | | | |
| Max Lab | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | 0 | |
| Mean Lab | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | | |
| Min Lab | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | 0 |
| Raw Well 2 / Total Coliform: TC - cfu/100mL | | | | | | | | | | | | | | | | |
| Count Lab | 5 | 4 | 4 | 4 | 5 | 4 | 5 | 4 | 4 | 5 | 4 | 4 | 52 | | | |
| Max Lab | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | 0 | |
| Mean Lab | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | | |
| Min Lab | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | 0 |
| TW1 / E. Coli: EC - cfu/100mL | | | | | | | | | | | | | | | | |
| Count Lab | 2 | 2 | 4 | 3 | 2 | 2 | 3 | 1 | 2 | 4 | 3 | 1 | 29 | | | |
| Max Lab | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | 0 | |
| Mean Lab | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | | |
| Min Lab | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | 0 |
| TW1 / HPC - cfu/mL | | | | | | | | | | | | | | | | |
| Count Lab | 2 | 2 | 4 | 3 | 2 | 2 | 3 | 1 | 2 | 4 | 3 | 1 | 29 | | | |
| Max Lab | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | NDOGHPC | 0 | | | NDOGHPC | |
| Mean Lab | 0 | 0 | 0 | 0.333 | 0 | 0.5 | 0 | 1 | 0 | 0 | 0 | 0 | | 0.107 | | |
| Min Lab | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | | | | 0 |
| TW1 / Total Coliform: TC - cfu/100mL | | | | | | | | | | | | | | | | |
| Count Lab | 2 | 2 | 4 | 3 | 2 | 2 | 3 | 1 | 2 | 4 | 3 | 1 | 29 | | | |
| Max Lab | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | 0 | |
| Mean Lab | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | | |
| Min Lab | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | 0 |
| TW2 / E. Coli: EC - cfu/100mL | | | | | | | | | | | | | | | | |
| Count Lab | 3 | 2 | 0 | 1 | 3 | 2 | 2 | 3 | 2 | 1 | 1 | 3 | 23 | | | |
| Max Lab | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | 0 | |
| Mean Lab | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | | |
| Min Lab | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | 0 |
| TW2 / HPC - cfu/mL | | | | | | | | | | | | | | | | |
| Count Lab | 3 | 2 | 0 | 1 | 3 | 2 | 2 | 3 | 2 | 1 | 1 | 3 | 23 | | | |
| Max Lab | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | | | 1 | |
| Mean Lab | 0.333 | 0 | 0 | 0 | 0 | 0 | 0.5 | 0.333 | 0 | 0 | 0 | 0 | | 0.13 | | |
| Min Lab | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | 0 |
| TW2 / Total Coliform: TC - cfu/100mL | | | | | | | | | | | | | | | | |
| Count Lab | 3 | 2 | 0 | 1 | 3 | 2 | 2 | 3 | 2 | 1 | 1 | 3 | 23 | | | |
| Max Lab | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | 0 | |
| Mean Lab | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | | |
| Min Lab | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | 0 |
| NDOGHPC - No Data: Overgrown with HPC. | | | | | | | | | | | | | | | | |



APPENDIX B

Monthly Summary of Operational Data

**Powassan Drinking Water System
Monthly Summary of Operational Data**

Report extracted 01/04/2024 16:11

From: 01/01/2023 to 31/12/2023

Facility Org Number: 6033
Facility Works Number: 220000576
Facility Name: POWASSAN DRINKING WATER SYSTEM
Facility Owner: Municipality: Municipality Of Powassan
Total Design Capacity: 1313.0 m3/day

| | 01/2023 | 02/2023 | 03/2023 | 04/2023 | 05/2023 | 06/2023 | 07/2023 | 08/2023 | 09/2023 | 10/2023 | 11/2023 | 12/2023 | Total | Avg | Max | Min |
|--|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--------|-------|-------|------|
| Distribution / Cl Residual: Free DW1 - mg/L | | | | | | | | | | | | | | | | |
| Count IH | 9 | 8 | 9 | 8 | 9 | 9 | 9 | 8 | 9 | 9 | 9 | 8 | 104 | | | |
| Total IH | 15.66 | 13.42 | 15.66 | 13.12 | 14.11 | 14.07 | 13.96 | 11.19 | 11.34 | 14.77 | 15.49 | 12.17 | 164.96 | | | |
| Max IH | 2.05 | 1.95 | 2.16 | 1.89 | 1.82 | 1.82 | 1.78 | 1.57 | 1.61 | 1.93 | 1.96 | 1.92 | | | 2.16 | |
| Mean IH | 1.74 | 1.678 | 1.74 | 1.64 | 1.568 | 1.563 | 1.551 | 1.399 | 1.26 | 1.641 | 1.721 | 1.521 | | 1.586 | | |
| Min IH | 1.32 | 1.3 | 1.33 | 1.48 | 1.41 | 1.39 | 1.44 | 1.09 | 0.97 | 1.2 | 1.31 | 1.25 | | | | 0.97 |
| Distribution / Cl Residual: Free DW2 - mg/L | | | | | | | | | | | | | | | | |
| Count IH | 9 | 8 | 9 | 8 | 9 | 9 | 9 | 8 | 9 | 9 | 9 | 8 | 104 | | | |
| Total IH | 14.95 | 14.14 | 15.69 | 13.51 | 14.53 | 14.28 | 13.48 | 11.9 | 11.67 | 13.94 | 16.05 | 12.85 | 166.99 | | | |
| Max IH | 1.92 | 2 | 1.85 | 1.81 | 1.74 | 1.81 | 1.7 | 1.62 | 1.41 | 1.8 | 2.1 | 1.96 | | | 2.1 | |
| Mean IH | 1.661 | 1.768 | 1.743 | 1.689 | 1.614 | 1.587 | 1.498 | 1.488 | 1.297 | 1.549 | 1.783 | 1.606 | | 1.606 | | |
| Min IH | 1.39 | 1.51 | 1.53 | 1.58 | 1.48 | 1.42 | 1.4 | 1.24 | 1.22 | 1.28 | 1.52 | 1.34 | | | | 1.22 |
| Distribution / Cl Residual: Free DW3 - mg/L | | | | | | | | | | | | | | | | |
| Count IH | 9 | 8 | 9 | 8 | 9 | 9 | 9 | 8 | 9 | 9 | 9 | 8 | 104 | | | |
| Total IH | 14.13 | 14.31 | 15.89 | 13.92 | 13.88 | 14.73 | 13.73 | 11.66 | 12.12 | 14.63 | 14.95 | 12.45 | 166.4 | | | |
| Max IH | 1.9 | 1.98 | 1.98 | 2 | 1.67 | 1.92 | 1.62 | 1.65 | 1.53 | 1.79 | 1.84 | 1.92 | | | 2 | |
| Mean IH | 1.57 | 1.789 | 1.766 | 1.74 | 1.542 | 1.637 | 1.526 | 1.458 | 1.347 | 1.626 | 1.661 | 1.556 | | 1.6 | | |
| Min IH | 1.22 | 1.53 | 1.54 | 1.57 | 1.41 | 1.45 | 1.4 | 1.18 | 1.13 | 1.45 | 1.28 | 1.41 | | | | 1.13 |
| Distribution / Cl Residual: Free DW4 - mg/L | | | | | | | | | | | | | | | | |
| Count IH | 5 | 4 | 4 | 4 | 5 | 4 | 5 | 4 | 4 | 5 | 4 | 4 | 52 | | | |
| Total IH | 7.85 | 7.31 | 6.96 | 6.77 | 7.82 | 6.09 | 7.92 | 5.6 | 5.51 | 7.94 | 7.03 | 6.56 | 83.36 | | | |
| Max IH | 1.73 | 1.92 | 1.9 | 1.83 | 1.72 | 1.71 | 1.76 | 1.54 | 1.53 | 1.8 | 1.92 | 1.83 | | | 1.92 | |
| Mean IH | 1.57 | 1.828 | 1.74 | 1.693 | 1.564 | 1.523 | 1.584 | 1.4 | 1.378 | 1.588 | 1.758 | 1.64 | | 1.603 | | |
| Min IH | 1.37 | 1.78 | 1.61 | 1.56 | 1.32 | 1.32 | 1.46 | 1.2 | 1.2 | 1.27 | 1.49 | 1.51 | | | | 1.2 |
| Raw Well 1 / Turbidity - NTU | | | | | | | | | | | | | | | | |
| Count IH | 5 | 4 | 4 | 4 | 5 | 4 | 5 | 4 | 4 | 5 | 4 | 4 | 52 | | | |
| Total IH | 0.45 | 0.36 | 0.32 | 0.32 | 0.48 | 0.38 | 0.44 | 0.43 | 0.29 | 0.48 | 0.41 | 0.33 | 4.69 | | | |
| Max IH | 0.12 | 0.11 | 0.1 | 0.12 | 0.12 | 0.11 | 0.12 | 0.14 | 0.09 | 0.16 | 0.14 | 0.1 | | | 0.16 | |
| Mean IH | 0.09 | 0.09 | 0.08 | 0.08 | 0.096 | 0.095 | 0.088 | 0.108 | 0.073 | 0.096 | 0.103 | 0.083 | | 0.09 | | |
| Min IH | 0.06 | 0.07 | 0.06 | 0.05 | 0.07 | 0.08 | 0.05 | 0.09 | 0.06 | 0.07 | 0.07 | 0.06 | | | | 0.05 |
| Raw Well 2 / Turbidity - NTU | | | | | | | | | | | | | | | | |
| Count IH | 5 | 4 | 4 | 4 | 5 | 4 | 5 | 4 | 4 | 5 | 4 | 4 | 52 | | | |
| Total IH | 0.56 | 0.51 | 0.38 | 0.39 | 0.47 | 0.45 | 0.5 | 0.41 | 0.31 | 0.51 | 0.44 | 0.36 | 5.29 | | | |
| Max IH | 0.16 | 0.17 | 0.12 | 0.13 | 0.13 | 0.21 | 0.14 | 0.14 | 0.12 | 0.12 | 0.14 | 0.11 | | | 0.21 | |
| Mean IH | 0.112 | 0.128 | 0.095 | 0.098 | 0.094 | 0.112 | 0.1 | 0.103 | 0.078 | 0.102 | 0.11 | 0.09 | | 0.102 | | |
| Min IH | 0.07 | 0.11 | 0.07 | 0.06 | 0.07 | 0.06 | 0.06 | 0.08 | 0.06 | 0.08 | 0.09 | 0.07 | | | | 0.06 |
| Treated Water / Cl Residual: Free Min = 0.45 - mg/L | | | | | | | | | | | | | | | | |
| Max OL | 2.383 | 2.545 | 2.373 | 2.503 | 2.072 | 2.906 | 2.253 | 2.101 | 1.894 | 2.401 | 2.453 | 3.192 | | | 3.192 | |
| Mean OL | 1.79 | 1.847 | 1.817 | 1.694 | 1.476 | 1.552 | 1.493 | 1.48 | 1.395 | 1.697 | 1.784 | 1.742 | | 1.647 | | |
| Min OL | 1.108 | 1.141 | 1.307 | 0.988 | 0.966 | 0.939 | 1.017 | 0.929 | 0.948 | 1.05 | 1.018 | 0.85 | | | | 0.85 |