

Minden Drinking Water System

Drinking Water System Number: 210000194

Drinking Water System Category: Large Municipal Residential

2025 Annual Water Report

Reporting Period: January 1st – December 31st, 2025

Issued: February 27, 2026, Revision: 0

Prepared for: The Township of Minden Hills

Drinking Water System Operating Authority: Ontario Clean Water Agency



This report has been prepared to satisfy the annual reporting requirements in O.Reg 170/03 Section 11 and Schedule 22

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2025 Annual Drinking Water System Summary Report

Report Availability

This system does not serve more than 10,000 residence and the annual reports will be available to residents at the Township of Minden Hills Municipal Office. Notification will be at the Municipal Office and copies provided free of charge if requested. The Township of Minden Hills Administration Office is located at 7 Milne Street in Minden, Ontario.

Drinking Water System Number: 210000194

Drinking Water System Name: Minden Drinking Water System

Drinking Water System Owner: Township of Minden Hills

Drinking Water System Category: Large Municipal Residential

Reporting Period: January 1, 2025 – December 31, 2025

Compliance Summary

Table 1. Drinking Water Compliance Summary

	Number of Events	Date	Details
Ministry (MECP) Inspections	1	April 23, 2025	2025/2026 Unannounced Focused Drinking Water Inspection – Final Inspection Rating of 95.23%
Adverse Water Quality Incidents (AWQIs)	0		
Non-Compliances	1	June 06, 2025	Inspection Finding: Documentation of distribution maintenance disinfection was not completed at the time of installation.
Boil Water Advisories	0		
Health and Safety	0		

Drinking Water System Process Description

The Minden drinking water system is a large municipal residential drinking water system that serves Minden Hills, Ontario. The drinking water system is classified as a Class II Water Distribution and Supply subsystem O. Reg. 128/04.

Source Water

The Minden Drinking Water System is supplied with raw groundwater from two non-GUDI wells: Well # 1 and Well # 2.

Water Treatment Facility

The treatment system consists of the following:

- Two drilled groundwater production wells deemed non-GUDI
- Raw water flow meters
- Chemical feed system consisting of two metering pumps for iron and manganese sequestering with sodium silicate and two metering pumps for primary and secondary disinfection with sodium hypochlorite solution
- Chlorine contact chamber
- Continuous online free chlorine residual monitoring of treated water prior to entering the distribution system
- 1500 cubic meter elevated water storage tower
- Standby power generator at pumphouse

Table 2. Treatment Chemicals Used

Chemical Name	Use	Supplier
Sodium Hypochlorite	Disinfection	Jutzi Water Technology
Sodium Silicate	Iron and Manganese Sequestering	Brenntag

Summary of Non-Compliance

Adverse Water Quality Incidents

Table 3. Adverse Water Quality Incidents

Date	AWQI #	Location	Problem	Details	Legislation	Corrective Action Taken
There were no adverse water quality incidents during the reporting period.						

Non-Compliance

Table 4. Non-Compliance

Legislation	Requirement(s) system failed to meet	Duration of the failure (i.e. date(s))	Corrective Action	Status
There were no non-compliances during the reporting period.				

Non-Compliance Identified in a Ministry Inspection

Table 5. Non-Compliance Identified in a Ministry Inspection

Legislation	Requirement(s) system failed to meet	Duration of the failure (i.e. date(s))	Corrective Action	Status
SDWA 31 (1)	All parts of the drinking water system were not disinfected in accordance with a procedure listed in Schedule B of the Drinking Water Works Permit.	Curb stop replaced June 5, 2024 disinfection process completed but documentation was not completed at the time of disinfection.	By June 13, 2025 the operating authority to complete watermain disinfection form for the curb stop replacement at the fire hall. Operating authority provided completed disinfection form using log book entry as reference.	Complete

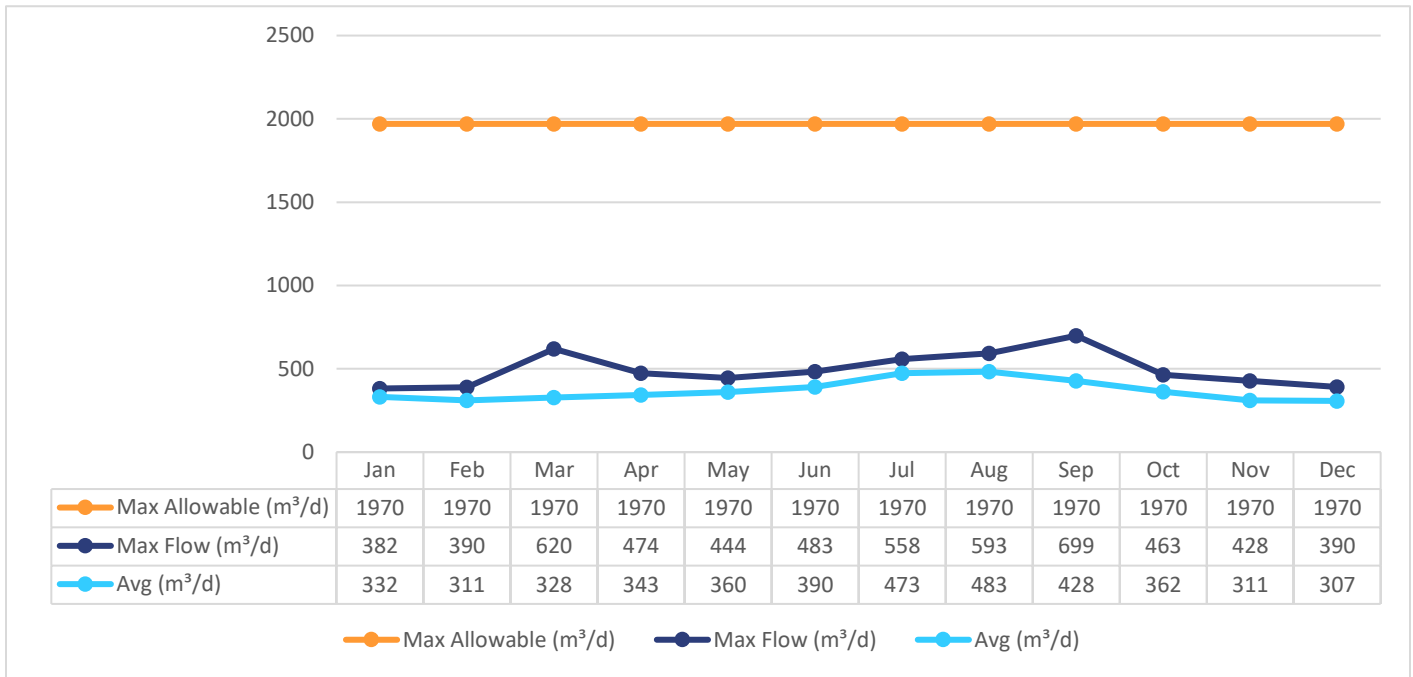
Flows

The Minden Drinking Water System is operating on average under half the rated capacity.

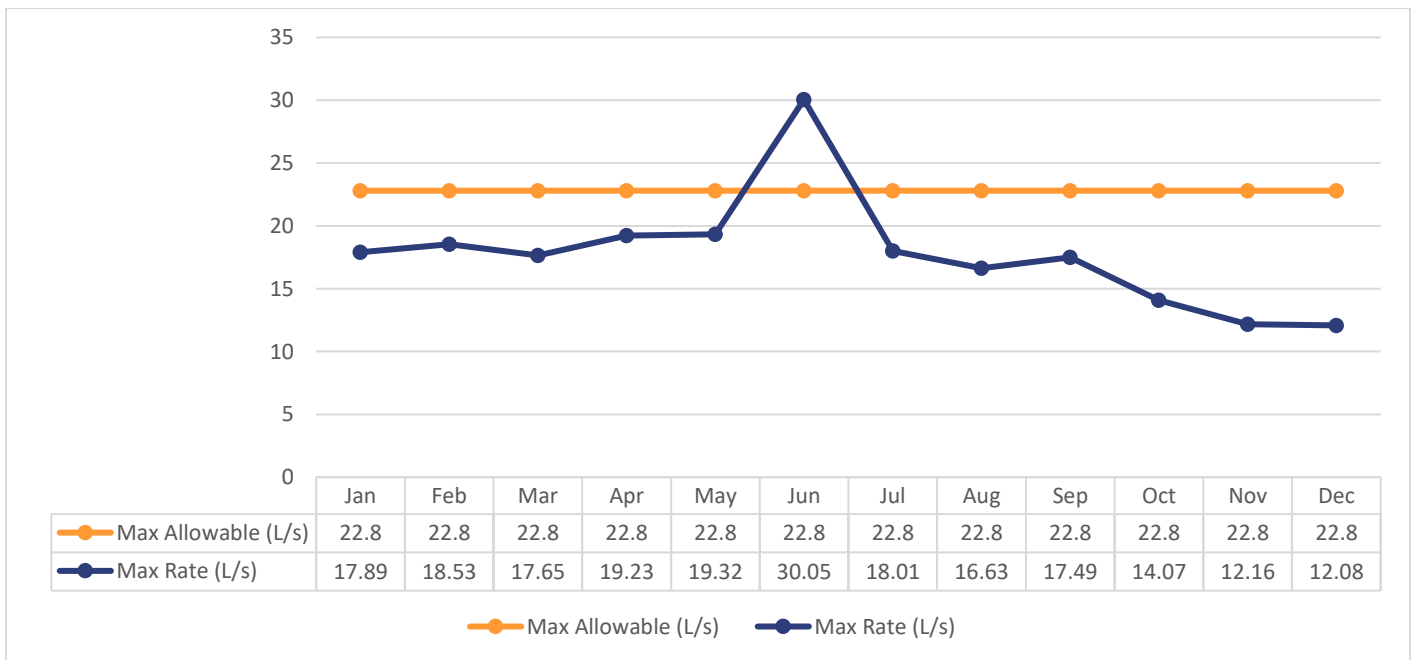
Raw Water Flows

The raw water flows are regulated under the Permit to Take Water. Raw flow data for 2025 was submitted to the Ministry electronically under permit P-300-1204962529. The confirmation of the data that was submitted is attached in Appendix A.

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

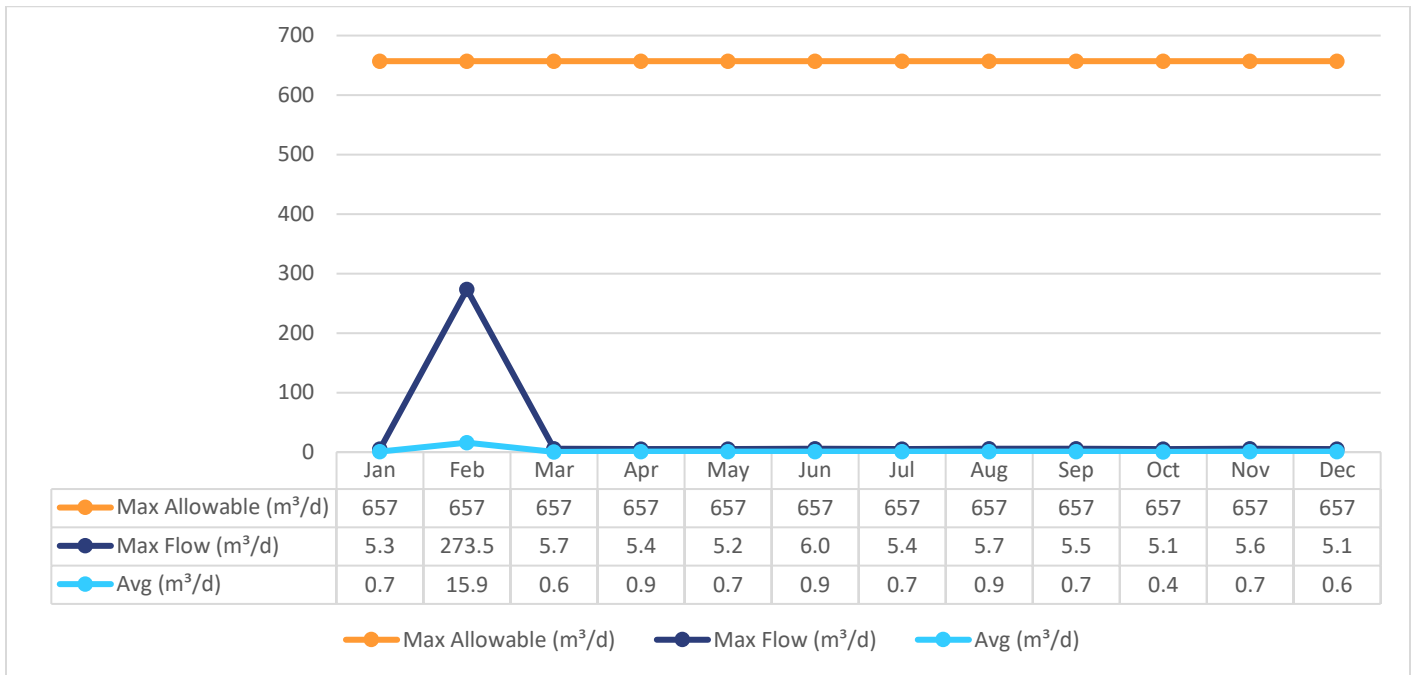


Graph 2. Monthly Rated Flows (L/s) – Well #1 (Max Allowable Rate PTTW)

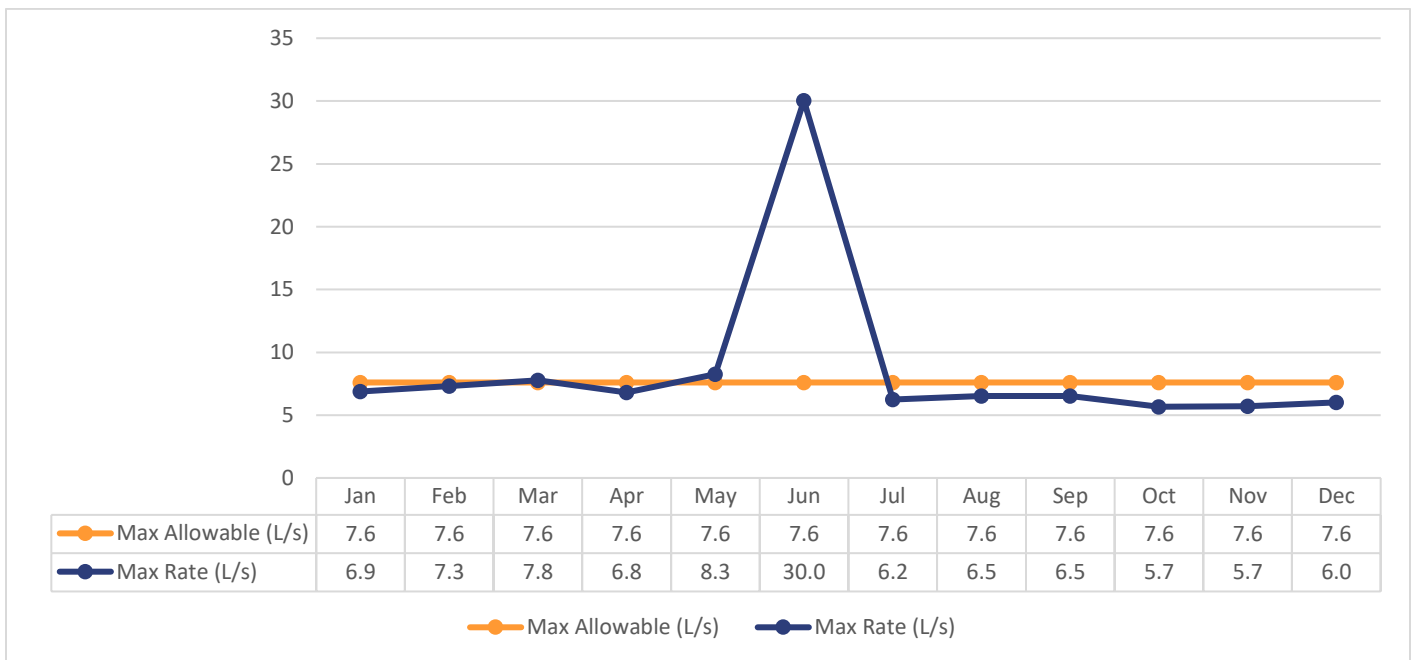


Note: The above table shows an exceedance in instantaneous peak flow rate (L/s) in June. The actual limit in the PTTW is 1,368L/min. The spike in June was due to flow meter calibration.

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



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



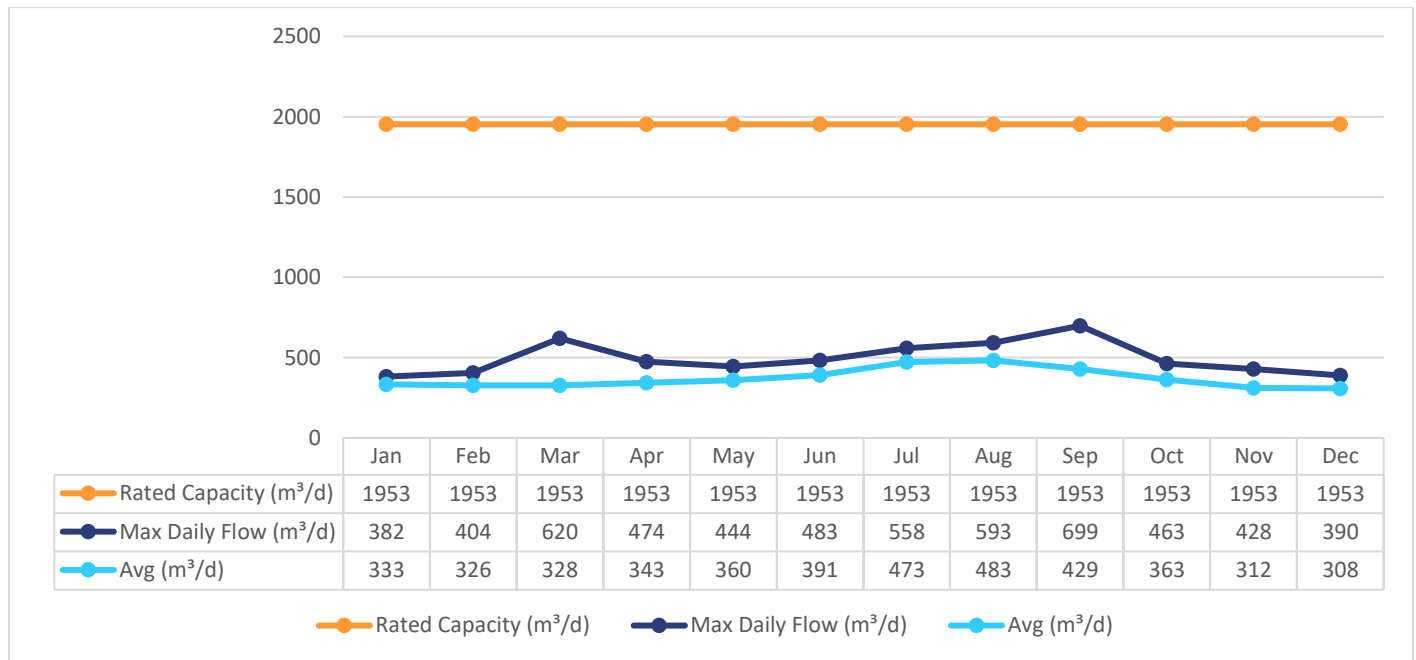
Note: The above table shows exceedances in instantaneous peak flow rate (L/s) in March, May and June. The actual limit in the PTTW is 456 L/min. Spikes recorded by online instrumentation

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.

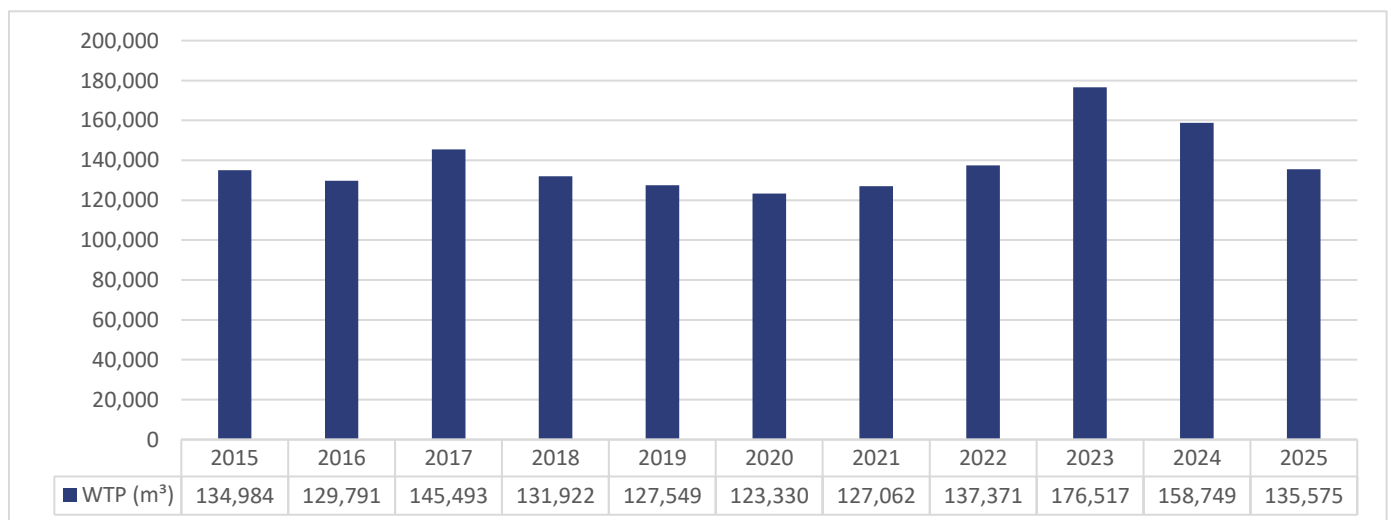
Treated Water Flows

The Treated Water flows are regulated under the Municipal Drinking Water Licence (MDWL). The Minden Drinking Water System does not have a treated flow meter so the total raw water flows are used.

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



Graph 6. Annual Total Flow Comparison (m³)



Regulatory Sample Results Summary

Microbiological Testing

Table 6. Microbiological Test Results

	No. of Samples Collected	Range of E. Coli Results		Range of Total Coliform Results		No. of Samples Collected	Range of HPC Results	
		Min	Max	Min	Max		Min	Max
Raw Well 1	53	0	0	0	0	N/A	N/A	N/A
Raw Well 2	52	0	0	0	0	N/A	N/A	N/A
Treated	52	0	0	0	0	52	0	2
Distribution	156	0	0	0	0	156	0	198

HPC = Heterotrophic Plate Count

Operational Testing

Table 7. Operational Test Results

Parameter	Number of Samples Collected	Range of Results Minimum	Range of Results Maximum
Chlorine	8760	0.00	5.01
Fluoride (If the DWS provides fluoridation)	N/A	N/A	N/A

Note: Record the unit of measurement if it is **not** milligrams per litre.

Note: For continuous monitors 8760 is used as the number of samples. Spikes recorded by online instrumentation were a result of air bubbles and various maintenance/calibration activities. All spikes are reviewed for compliance with O. Reg. 170/03.

Inorganic Parameters

These parameters are tested as a requirement under O. Reg. 170/03. Sodium and Fluoride are required to be tested every five years. Nitrate and Nitrate are tested quarterly and the metals are tested every three 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 8. Inorganic Parameters Test Results

	Sample Date (yyyy/mm/dd)	Sample Result	Unit of Measure	MAC	Exceedances	
					MAC	1/2 MAC
Treated Water						
Antimony	2023 01 05	<MDL 0.6	µg/L	6.0	No	No
Arsenic	2023 01 05	<MDL 0.2	µg/L	10.0	No	No
Barium	2023 01 05	151	µg/L	1000.0	No	No
Boron	2023 01 05	35	µg/L	5000.0	No	No
Cadmium	2023 01 05	<MDL 0.003	µg/L	5.0	No	No
Chromium	2023 01 05	0.22	µg/L	50.0	No	No
Mercury	2023 01 05	<MDL 0.01	µg/L	1.0	No	No
Selenium	2023 01 05	0.07	µg/L	50.0	No	No
Uranium	2023 01 05	1.07	µg/L	20.0	No	No
Additional Inorganics						
Fluoride	2023 01 05	0.2	mg/L	1.5	No	No
Nitrite	2025 01 06	<MDL 0.003	mg/L	1.0	No	No
Nitrite	2025 04 08	<MDL 0.003	mg/L	1.0	No	No
Nitrite	2025 07 14	<MDL 0.003	mg/L	1.0	No	No
Nitrite	2025 10 06	<MDL 0.003	mg/L	1.0	No	No
Nitrate	2025 01 06	<MDL 0.006	mg/L	10.0	No	No
Nitrate	2025 04 08	<MDL 0.006	mg/L	10.0	No	No
Nitrate	2025 07 14	<MDL 0.006	mg/L	10.0	No	No
Nitrate	2025 10 06	<MDL 0.006	mg/L	10.0	No	No
Sodium	2023 01 05	16.4	mg/L	20*	No	Yes

MAC = Maximum Allowable Concentration as per O. Reg. 169/03

MDL = Method Detection Limit

*There is no “MAC” for Sodium. The aesthetic objective for sodium in drinking water is 200 mg/L. Sodium results exceeding 20 mg/L are to be reported to the Medical Officer of Health as per Schedule 16-3 (8) of O. Reg. 170/03.

Schedule 15 Sampling (Lead)

The Schedule 15 sampling is required under O. Reg. 170/03. This system is under reduced sampling. Only distribution samples were collected, and no plumbing samples were collected.

Table 9. 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)	2	4	146	165	N/A	N/A
pH	2	4	7.95	8.26	N/A	N/A

	Number of Sampling Points	Number of Samples	Range of Results Minimum	Range of Results Maximum	MAC (µg/L)	Number of Exceedances
Lead (µg/L)	2	4	0.03	0.1	10.0	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 10. Organic Parameters Test Results

	Sample Date (yyyy/mm/dd)	Sample Result	Unit of Measure	MAC	Exceedance	
					MAC	1/2 MAC
Treated Water						
Alachlor	2023 01 05	<MDL 0.02	µg/L	5.0	No	No
Atrazine + N-dealkylated metabolites	2023 01 05	<MDL 0.01	µg/L	5.0	No	No
Azinphos-methyl	2023 01 05	<MDL 0.05	µg/L	20.0	No	No
Benzene	2023 01 05	<MDL 0.32	µg/L	1.0	No	No
Benzo(a)pyrene	2023 01 05	<MDL 0.004	µg/L	0.01	No	No
Bromoxynil	2023 01 05	<MDL 0.33	µg/L	5.0	No	No
Carbaryl	2023 01 05	<MDL 0.05	µg/L	90.0	No	No
Carbofuran	2023 01 05	<MDL 0.01	µg/L	90.0	No	No
Carbon Tetrachloride	2023 01 05	<MDL 0.17	µg/L	2.0	No	No
Chlorpyrifos	2023 01 05	<MDL 0.02	µg/L	90.0	No	No
Diazinon	2023 01 05	<MDL 0.02	µg/L	20.0	No	No
Dicamba	2023 01 05	<MDL 0.2	µg/L	120.0	No	No
1,2-Dichlorobenzene	2023 01 05	<MDL 0.41	µg/L	200.0	No	No
1,4-Dichlorobenzene	2023 01 05	<MDL 0.36	µg/L	5.0	No	No
1,2-Dichloroethane	2023 01 05	<MDL 0.35	µg/L	5.0	No	No
1,1-Dichloroethylene	2023 01 05	<MDL 0.33	µg/L	14.0	No	No
Dichloromethane (Methylene Chloride)	2023 01 05	<MDL 0.35	µg/L	50.0	No	No
2,4-Dichlorophenol	2023 01 05	<MDL 0.15	µg/L	900.0	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	2023 01 05	<MDL 0.19	µg/L	100.0	No	No
Diclofop-methyl	2023 01 05	<MDL 0.4	µg/L	9.0	No	No
Dimethoate	2023 01 05	<MDL 0.06	µg/L	20.0	No	No
Diquat	2023 01 05	<MDL 1.0	µg/L	70.0	No	No

	Sample Date (yyyy/mm/dd)	Sample Result	Unit of Measure	MAC	Exceedance	
					MAC	1/2 MAC
Diuron	2023 01 05	<MDL 0.03	µg/L	150.0	No	No
Glyphosate	2023 01 05	<MDL 1.0	µg/L	280.0	No	No
Malathion	2023 01 05	<MDL 0.02	µg/L	190.0	No	No
2-Methyl-4- chlorophenoxyacetic Acid (MCPA)	2023 01 05	<MDL 0.12	µg/L	100.0	No	No
Metolachlor	2023 01 05	<MDL 0.01	µg/L	50.0	No	No
Metribuzin	2023 01 05	<MDL 0.02	µg/L	80.0	No	No
Monochlorobenzene (Chlorobenzene)	2023 01 05	<MDL 0.3	µg/L	80.0	No	No
Paraquat	2023 01 05	<MDL 1.0	µg/L	10.0	No	No
PCB	2023 01 05	<MDL 0.04	µg/L	3.0	No	No
Pentachlorophenol	2023 01 05	<MDL 0.15	µg/L	60.0	No	No
Phorate	2023 01 05	<MDL 0.01	µg/L	2.0	No	No
Picloram	2023 01 05	<MDL 1.0	µg/L	190.0	No	No
Prometryne	2023 01 05	<MDL 0.03	µg/L	1.0	No	No
Simazine	2023 01 05	<MDL 0.01	µg/L	10.0	No	No
Terbufos	2023 01 05	<MDL 0.01	µg/L	1.0	No	No
Tetrachloroethylene	2023 01 05	<MDL 0.35	µg/L	10.0	No	No
2,3,4,6-Tetrachlorophenol	2023 01 05	<MDL 0.2	µg/L	100.0	No	No
Triallate	2023 01 05	<MDL 0.01	µg/L	230.0	No	No
Trichloroethylene	2023 01 05	<MDL 0.44	µg/L	5.0	No	No
2,4,6-Trichlorophenol	2023 01 05	<MDL 0.25	µg/L	5.0	No	No
Trifluralin	2023 01 05	<MDL 0.02	µg/L	45.0	No	No
Vinyl Chloride	2023 01 05	<MDL 0.17	µg/L	1.0	No	No
Distribution Water						
Trihalomethane Total Annual Average Q1	2025 01 06	15.83	µg/L	100.0	No	No
Trihalomethane Total Annual Average Q2	2025 04 08	16.70	µg/L	100.0	No	No
Trihalomethane Total Annual Average Q3	2025 07 14	14.45	µg/L	100.0	No	No
Trihalomethane Total Annual Average Q4	2025 10 06	15.45	µg/L	100.0	No	No
HAA Total Annual Average Q1	2025 01 06	5.30	µg/L	80.0	No	No
HAA Total Annual Average Q2	2025 04 08	5.30	µg/L	80.0	No	No
HAA Total Annual Average Q3	2025 07 14	5.30	µg/L	80.0	No	No
HAA Total Annual Average Q4	2025 10 06	5.40	µg/L	80.0	No	No

MAC = Maximum Allowable Concentration as O. Reg. 169/03

MDL = Method Detection Limit

Additional Legislated Samples

There was no additional sampling required.

Major Maintenance Summary Incurred to Install, Repair or Replace Required Equipment

- Repair Minden Tower Airplane Lights
- Curb Stop Repair for Chlorine Analyzer Service
- Complete Minden Drinking Water Rate Study
- Alarm Dialer Troubleshooting
- Troubleshoot Tower Heat Trace Fault
- Hydrant Flow Testing
- Replaced 2 Fire Hydrants

APPENDIX A

RSRS Submission Confirmation

Service ID	Service Type	Version Number	Reference ID	Reporting Year	Description	Status
P-300-1204962529	PTTW	1.0	1000346977	2025	PTTW-Minden Drinking Water System..	SUBMITTED