



Grimsby Water Treatment Plant

Regional Municipality of Niagara

2025 Annual Water Quality Report

(Prepared under Ontario Regulation 170/03)

January 1 to December 31, 2025

Ministry of the Environment, Conservation and Parks

Municipal Drinking Water License # 007-105

Drinking Water Works Permit # 007-205

Grimsby Water Treatment Plant - 2025 Annual Water Quality Report

This annual water quality report summarizes the quality of drinking water from the Grimsby Water Treatment Plant, drinking water system number 220007150, from January 1 to December 31, 2025.

This report satisfies the requirements of Ontario Regulation 170/03 – Drinking Water Systems.

Description of Drinking Water System

A conventional surface water treatment plant incorporates the following steps in its purification process:

- Zebra mussel control
- Travelling screens
- Coagulation
- Flocculation
- Sedimentation
- Filtration
- Disinfection

The plant has a rated daily flow capacity of 44,000 m³/day. Primary disinfection is achieved with sodium hypochlorite.

The Grimsby Water Treatment Plant supplies water to the towns of Grimsby (260001851), Lincoln (260004319), and West Lincoln (260002876) in the Niagara region. The Grimsby Water Treatment Plant is located on Lot 115, Concession 1, in North Grimsby.

The water treatment chemicals used over this reporting period are:

- Sodium Hypochlorite
- Aluminum Sulphate

Water Treatment Plant Infrastructure / System Infrastructure

Monetary Expenses:

To ensure safe and efficient operations, the following major repairs or upgrade projects took place:

- | | |
|---|-------------|
| • Ontario Street W/M Replacement (Complete) | \$1,586,657 |
| • New Transmission Main Smithville (In Progress) | \$726,415 |
| • Grimsby WTP Expansion (In Progress) | \$219,697 |
| • New Trunk Watermain from Grimsby WTP to Parkridge Reservoir (In Progress) | \$157,997 |
| • Phase 2 Grimsby Watermain Replacement (Baker Rd. to Park Rd.) (Complete) | \$140,595 |
| • Grimsby WTP Low Lift Pump Addition (In Progress) | \$108,895 |
| • Grimsby Water System Storage Addition (15 ML) (Complete) | \$39,093.75 |

Summary of Adverse Water Quality Incidents

The following table summarizes the notices of adverse water quality incidents submitted in accordance with the Safe Drinking Water Act. Adverse water quality incidents are reported to the Spills Action Centre and the Medical Officer of Health.

Where there have been no adverse water quality incidents for the reporting period, the table will show "NIL".

Incident Date	Location	Adverse Condition	Corrective Action	Notice of Issue Resolution
September 9 th , 2025	Smithville Elevated Tank	Laboratory sample likely contaminated. Sample ID: 5716-5T Smithville Elevated Tank; taken Date 2025/09/08 Time 10:54 AM analytical results = 2 TC (Total Coliform); 1 EC (E.Coli) FAC = 0.92 mg/L	Sample ports thoroughly flushed. Two sets of samples were collected and submitted to external lab for analysis; at location of original sample in question, plus upstream and downstream locations. Both resampled bacteriological analytical results were negative.	September 12 th , 2025
November 6 th , 2025	Grimsby WTP	Draw down sight tube was left closed after draw down tests were done which caused possible under dosing of Alum on side B of the treatment train. The relief in the plant MDWL states a loss of coagulation greater then 20 minutes must be reported. Even though there was no alarm for loss of coagulation and the flow meter showed flow, proper dosage can't be confirmed for that time frame.	Alum flow restored to side B of the treatment train. Alum pump was run at max speed for a few minutes to clear any air in the line. Draw down confirmed proper alum dosage is being attained. Instrumentation called in and confirmed that the alum flow meter was reading correctly. Operators did manual turbidity samples every half hour on side B settled water and every hour on Filters 3 and 4 effluent turbidities to monitor effects of possible under dosing. No abnormal turbidity reading noted and all samples well within operating parameters.	November 6 th , 2025

Water Quality Test Results

Reported results that are shown with “ND” (non-detect) instead of a numerical value indicates that the sample result is below the lowest possible detection limit for the parameter.

Microbiological Testing

Microbiological testing carried out under Schedule 10 of Ontario Regulation 170/03 – Drinking Water systems, during this reporting period.

Location	Number of Samples	Range of E.Coli Results (minimum number)-(maximum number)	Range of Total Coliform Results (minimum number)-(maximum number)	Prescribed Standard*	Unit of Measure
Raw	52	0 - 2	0 – 140	Not applicable	CFU/100ml
Treated	52	0	0	Not detectable	CFU/100ml
Distribution	210	0	0	Not detectable	CFU/100ml

*Prescribed standards are copied from Ontario Regulation 169/03 - Ontario Drinking Water Quality Standards.

Heterotrophic Plate Count Testing

Heterotrophic plate count (HPC) testing is conducted on some treated and distribution system samples. The HPC test is used as a tool to monitor overall quality, but the results are not indicators of water safety. There is no prescribed standard for HPC.

Location	Number of Samples	Range of HPC Results (minimum number)-(maximum number)	Unit of Measure
Treated	52	0 - 2	CFU/ml
Distribution	210	0 - 8	CFU/ml

Operational Testing

Operational testing carried out under Schedule 7 of Ontario Regulation 170/03 – Drinking Water Systems, during this reporting period. An analyzer continuously monitors the water treatment process and records results on a predetermined frequency. Where continuous monitors are used, 8760 is reflected as the number of samples.

Parameter	Number of Samples	Range of Results (minimum number)-(maximum number)	Unit of Measure
Filter Turbidity	8760	0.012 – 0.231	NTU*
Treated Chlorine	8760	0.92 - 1.27	mg/L

*NTU (nephelometric turbidity units) is a unit that measures the lack of water clarity.

Additional Testing

Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument.

Date of Legal Instrument Issued	Location: Parameter	Date Sampled	Result Value or Range (minimum number)-(maximum number)	Requirement	Unit of Measure
Municipal Drinking Water License Issue 10 December 16 th 2024	Environmental Discharge: Free Chlorine Residual	Weekly (January – December)	0 - 0.01	< 0.02	mg/L
Municipal Drinking Water License Issue 10 December 16 th 2024	Environmental Discharge: Total Suspended Solids	Monthly (January – December)	< 3- 92	25 (Running Annual Average)	mg/L
Municipal Drinking Water License Issue 10 December 16 th 2024	Raw: Microcystin	Weekly (June – October)	ND	0.0015*	mg/L
Municipal Drinking Water License Issue 10 December 16 th 2024	Treated: Microcystin	Weekly (June – October)	ND	0.0015*	mg/L

*Prescribed standards are copied from Ontario Regulation 169/03 - Ontario Drinking Water Quality Standards.

Inorganic Testing

Inorganic parameter testing carried out under Schedule 13 of Ontario Regulation 170/03 – Drinking Water Systems, during this reporting period. Inorganic substances include heavy metals and dissolved minerals that may be present in treated drinking water.

Parameter	Number of Samples	Last Sample Date	Range of Results (minimum number)-(maximum number)	Prescribed Standard*	Unit of Measure	Exceedance
Antimony	4	2025-11-05	ND	0.006	mg/L	No
Arsenic	4	2025-11-05	ND – 0.0006	0.01	mg/L	No
Barium	4	2025-11-05	0.021 – 0.023	1.0	mg/L	No
Boron	4	2025-11-05	0.021 – 0.026	5.0	mg/L	No
Cadmium	4	2025-11-05	ND	0.005	mg/L	No
Chromium	4	2025-11-05	ND – 0.001	0.05	mg/L	No

Parameter	Number of Samples	Last Sample Date	Range of Results (minimum number)-(maximum number)	Prescribed Standard*	Unit of Measure	Exceedance
Fluoride	12	2025-11-05	ND – 0.08	1.5	mg/L	No
Mercury	4	2025-11-05	ND	0.001	mg/L	No
Nitrate	12	2025-11-05	0.2 – 0.42	1.0	mg/L	No
Nitrite	12	2025-11-05	ND	10.0	mg/L	No
Selenium	4	2025-11-05	0.0004 – 0.0005	0.05	mg/L	No
Sodium	4	2025-11-05	15.5 – 16.9	20	mg/L	No
Uranium	4	2025-11-05	ND	0.02	mg/L	No

*Prescribed standards are copied from Ontario Regulation 169/03 - Ontario Drinking Water Quality Standards. The prescribed standard for sodium is copied from Ontario Regulation 170/03 – Drinking Water Systems.

Lead Testing

Lead testing carried out under Schedule 15.1 of Ontario Regulation 170/03 – Drinking Water Systems, during this reporting period.

Location	Number of Samples	Last Sample Date	Range of Lead Results (minimum number)-(maximum number)	Prescribed Standard*	Unit of Measure	Exceedance
Treated	4	2025-11-05	ND	0.010	mg/L	No
Distribution	4	2025-11-05	ND	0.010	mg/L	No

*Prescribed standards are copied from Ontario Regulation 169/03 - Ontario Drinking Water Quality Standards.

Organic Testing

Organic parameter testing carried out under Schedule 13 of Ontario Regulation 170/03 – Drinking Water Systems, during this reporting period. Trace organic test parameters include volatile organic substances, pesticides, solvents, dioxins, PCB's, and disinfection by-products.

Parameter	Number of Samples	Last Sample Date	Range of Results (minimum number)-(maximum number)	Prescribed Standard*	Unit of Measure	Exceedance
1,1-Dichloroethylene (vinylidene chloride)	4	2025-11-05	ND	0.014	mg/L	No
1,2-Dichlorobenzene	4	2025-11-05	ND	0.2	mg/L	No
1,2-Dichloroethane	4	2025-11-05	ND	0.005	mg/L	No
1,4-Dichlorobenzene	4	2025-11-05	ND	0.005	mg/L	No
2,3,4,6-Tetrachlorophenol	4	2025-11-05	ND	0.1	mg/L	No

Parameter	Number of Samples	Last Sample Date	Range of Results (minimum number)-(maximum number)	Prescribed Standard*	Unit of Measure	Exceedance
2,4,6-Trichlorophenol	4	2025-11-05	ND	0.005	mg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	4	2025-11-05	ND	0.1	mg/L	No
2-4 Dichlorophenol	4	2025-11-05	ND	0.9	mg/L	No
2-Methyl-4-chlorophenoxyacetic acid (MCPA)	4	2025-11-05	ND	0.1	mg/L	No
Alachlor	4	2025-11-05	ND	0.005	mg/L	No
Atrazine + N-dealkylated metabolites	4	2025-11-05	ND	0.005	mg/L	No
Azinphos-methyl	4	2025-11-05	ND	0.02	mg/L	No
Benzene	4	2025-11-05	ND	0.001	mg/L	No
Benzo(a)pyrene	4	2025-11-05	ND	0.00001	mg/L	No
Bromoxynil	4	2025-11-05	ND	0.005	mg/L	No
Carbaryl	4	2025-11-05	ND	0.09	mg/L	No
Carbofuran	4	2025-11-05	ND	0.09	mg/L	No
Carbon Tetrachloride	4	2025-11-05	ND	0.002	mg/L	No
Chlorpyrifos	4	2025-11-05	ND	0.09	mg/L	No
Diazinon	4	2025-11-05	ND	0.02	mg/L	No
Dicamba	4	2025-11-05	ND	0.12	mg/L	No
Dichloromethane	4	2025-11-05	ND	0.05	mg/L	No
Diclofop-methyl	4	2025-11-05	ND	0.009	mg/L	No
Dimethoate	4	2025-11-05	ND	0.02	mg/L	No
Diquat	4	2025-11-05	ND	0.07	mg/L	No
Diuron	4	2025-11-05	ND	0.15	mg/L	No
Glyphosate	4	2025-11-05	ND	0.28	mg/L	No
HAA – Distribution (latest running annual average)	12	2025-12-17	0.020	0.080 (running annual average)	mg/L	No
Malathion	4	2025-11-05	ND	0.19	mg/L	No
Metolachlor	4	2025-11-05	ND	0.05	mg/L	No
Metribuzin	4	2025-11-05	ND	0.08	mg/L	No
Monochlorobenzene	4	2025-11-05	ND	0.08	mg/L	No
Paraquat	4	2025-11-05	ND	0.01	mg/L	No
Pentachlorophenol	4	2025-11-05	ND	0.06	mg/L	No

Parameter	Number of Samples	Last Sample Date	Range of Results (minimum number)-(maximum number)	Prescribed Standard*	Unit of Measure	Exceedance
Phorate	4	2025-11-05	ND	0.002	mg/L	No
Picloram	4	2025-11-05	ND	0.19	mg/L	No
Polychlorinated Biphenyls (PCB)	4	2025-11-05	ND	0.003	mg/L	No
Prometryn	4	2025-11-05	ND	0.001	mg/L	No
Simazine	4	2025-11-05	ND	0.01	mg/L	No
Terbufos	4	2025-11-05	ND	0.001	mg/L	No
Tetrachloroethylene	4	2025-11-05	ND	0.01	mg/L	No
THM – Distribution (latest running annual average)	12	2025-12-17	0.029	0.100 (running annual average)	mg/L	No
Triallate	4	2025-11-05	ND	0.23	mg/L	No
Trichloroethylene	4	2025-11-05	ND	0.005	mg/L	No
Trifluralin	4	2025-11-05	ND	0.045	mg/L	No
Vinyl Chloride	4	2025-11-05	ND	0.001	mg/L	No

*Prescribed standards are copied from Ontario Regulation 169/03 - Ontario Drinking Water Quality Standards.

Parameters Exceeding Prescribed Half-Standard

Any inorganic or organic parameter(s) that exceeded half the standard prescribed in Schedule 2 of prescribed standards documented in Ontario Regulation 169/03 - Ontario Drinking Water Quality Standards or prescribed standards documented within Ontario Regulation 170/03 – Drinking Water Systems for large municipal residential drinking water systems.

Where there have been no instances of a half-standard exceedance for the reporting period, the table will show “NIL”.

Parameter	Result Value or Range (minimum number)-(maximum number)	Prescribed Standard*	Unit of Measure	Date of Sample
Sodium	15.5 – 16.9	20	mg/L	2025-02-03 2025-05-05 2025-08-05 2025-11-05

*Prescribed standards are copied from Ontario Regulation 169/03 - Ontario Drinking Water Quality Standards. The prescribed standard for sodium is copied from Ontario Regulation 170/03 – Drinking Water Systems.