Grimsby Distribution System

The Corporation of the Town of Grimsby

2023 Annual Water Quality Report

(Prepared under Ontario Regulation 170/03)

January 1 to December 31, 2023

Ministry of the Environment, Conservation and Parks

Drinking Water System # 260001851
Municipal Drinking Water License # 065-101
Drinking Water Works Permit # 065-201

Grimsby Distribution System - 2023 Annual Water Quality Report

This annual water quality report summarizes the quality of drinking water from the Grimsby Distribution System, from January 1 to December 31, 2023.

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

Description of Drinking Water System

The *Grimsby Distribution System* is a stand-alone drinking water distribution system which receives one hundred percent (100%) of its drinking water from the Region of Niagara's *Grimsby Water Treatment Plant* and through connections with the Region of Niagara's *Grimsby Water System.*

The *Grimsby Distribution System* distributes water to approximately 30,035 customers within the Town of Grimsby and also distributes drinking water to the City of Hamilton's *Fifty Road Subsystem (system # 260069173),* which is located in Winona.

The *Grimsby Distribution System* consists of approximately 136.1 km of watermain ranging in size from 100 mm to 300mm in diameter.

Report Distribution

The annual report is available to the public at no charge on the Town's website or through Public Request. As required under O.Reg. 170/03 Schedule 22, the report will be available for inspection at 160 Livingston Ave., Grimsby, ON. Furthermore, the report is distributed to all Drinking Water System owners which are connected to the Grimsby Distribution System.

Monetary Expenses Incurred

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

Capital Watermain Rehabilitation:

Governors Rd, Dorchester Dr.	$1,355,000

Water Treatment Chemicals

There were no water treatment chemicals used over the reporting period.

Summary of Adverse Water Quality Incidents

The following table summarizes the notices of adverse water quality incidents submitted in accordance with subsection 18(1) of the Safe Drinking Water Act, and/or section 16-4 of Schedule 16 of O.Reg. 170/03. 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	AWQI #	Parameter	Result	Unit of Measure	Corrective Action	Notice of Issue of Resolution
2023/03/16	161517	Sodium	22	mg/L	Resamples collected and results within acceptable limits	2023/03/24
2023/03/16	161518	Sodium	22	mg/L	Resamples collected and results within acceptable limits	2023/03/24
2023/03/16	161519	Sodium	22	mg/L	Resamples collected and results within acceptable limits	2023/03/24
2023/03/16	161520	Sodium	22	mg/L	Resamples collected and results within acceptable limits	2023/03/24
2023/07/13	162557	Total Coliforms	1	CFU/ 100mL	Resamples collected and results within acceptable limits	2023/07/18
2023/08/24	163161	Total Coliforms	1	CFU/ 100mL	Resamples collected and results within acceptable limits	2023/08/28
2023/11/09	164000	Total Coliforms	2	CFU/ 100mL	Resamples collected and results within acceptable limits	2023/11/13

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, 11 or 12 of Ontario Regulation 170/03 – Drinking Water systems, during this reporting period.

	Number of Samples[1]	**Range of E.Coli or Fecal Results**	**Range of Total Coliform Results**	**Range of Background Results**	**Range of HPC Results**
		Min - Max	**Min - Max**	**Min - Max**	**Min - Max**
Raw	-	-	-	-	-
Treated	-	-	-	-	-
Distribution (Schedule 10)[2]	624	0	0 – 1	0 – 3	0 – 21
Distribution (Other)[3]	40	0	0 – 2	0 – 0	0 - 2
Distribution (Other)[3]	-	-	-	-	-

[1] All samples collected were tested for E. coli, Total Coliform, HPC and background.

[2] Weekly routine microbiological samples collected per Schedule 10.

[3] Microbiological samples collected in no-routine instances (i.e. watermain breaks, new connections, AWQI follow up resample(s), etc.).

Operational Testing

Operational testing carried out under Schedule 7, 8 or 9 of Ontario Regulation 170/03 – Drinking Water Systems, during this reporting period.

	Number of Grab Samples	Free Chlorine Range of Results	Unit of Measure	Total Chlorine Range of Results	Unit of Measure
		Min - Max		Min - Max	
Turbidity	-	-	-	-	-
Chlorine (Schedule 6)[1]	624	0.67 - 1.39	mg/L	0.83 - 1.52	mg/L
Chlorine (Schedule 7)[2]	416	0.39 - 1.14	mg/L	-	-
Chlorine (Schedule 13)[3]	8	0.83 - 1.10	mg/L	0.89 - 1.29	mg/L
Chlorine (Schedule 15.1)[4]	8	0.68 - 1.31	mg/L	0.83 - 1.37	mg/L
Chlorine (Other)[5]	40	0.85 - 1.23	mg/L	1.01 - 1.37	mg/L
Chlorine (Other)[5]	1765	0.40 - 1.26	mg/L	-	-
Fluoride	-	-	-	-	-

[1] Chlorine measured when collecting weekly routine microbiological samples per Schedule 10.

[2] Chlorine measured during weekly (typically Tuesdays & Thursdays) operational checks per Schedule 7.

[3] Chlorine measured when collecting quarterly Total Haloacetic Acids (HHAs) and Total Trihalomethane (THM) Samples per Schedule 13.

[4] Chlorine measured when collecting semi-annual lead sample per Schedule 15.1.

[5] Chlorine measured for all other special purposes (i.e. system flushing, watermain breaks, new connections, etc.).

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	Parameter	Date Sampled	Result	Unit of Measure
-	-	-	-	-

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	Sample Date	No. of Samples	Result Value	Unit of Measure	Exceedance
Antimony	-	-	-	-	-
Arsenic	-	-	-	-	-
Barium	-	-	-	-	-
Boron	-	-	-	-	-
Cadmium	-	-	-	-	-
Chromium	-	-	-	-	-
*Lead	-	-	-	-	-
Mercury	-	-	-	-	-
Selenium	-	-	-	-	-
Sodium	-	-	-	-	-
Uranium	-	-	-	-	-
Fluoride	-	-	-	-	-
Nitrite	-	-	-	-	-
Nitrate	-	-	-	-	-

*only for drinking water systems testing under Schedule 15.2; this includes large municipal non-residential systems, small municipal non-residential systems, non-municipal seasonal residential systems, large non-municipal non-residential systems, and small non-municipal non-residential 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	Range of Lead Results	Unit of Measure	Number of Exceedances	Range of Alkalinity Results	Unit of Measure	Range of pH Results
		Min – Max			Min - Max		Min - Max
Plumbing	-	-	-	-	-	-	-
Distribution	8	0 – 0.61	ug/L	0	73 – 89	mg/L	6.72 – 7.59

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. 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.

Parameter	Sample Date & Number of Samples	Result Value	Unit of Measure	Exceedance
Alachlor	-	-	-	-
Aldicarb	-	-	-	-
Aldrin + Dieldrin	-	-	-	-
Atrazine + N-dealkylated metobolites	-	-	-	-
Azinphos-methyl	-	-	-	-
Bendiocarb	-	-	-	-
Benzene	-	-	-	-
Benzo(a)pyrene	-	-	-	-
Bromoxynil	-	-	-	-
Carbaryl	-	-	-	-
Carbofuran	-	-	-	-
Carbon Tetrachloride	-	-	-	-
Chlordane (Total)	-	-	-	-
Chlorpyrifos	-	-	-	-
Cyanazine	-	-	-	-
Diazinon	-	-	-	-
Dicamba	-	-	-	-
1,2-Dichlorobenzene	-	-	-	-
1,4-Dichlorobenzene	-	-	-	-
Dichlorodiphenyltrichloroethane (DDT) + metabolites	-	-	-	-
1,2-Dichloroethane	-	-	-	-
1,1-Dichloroethylene (vinylidene chloride)	-	-	-	-

Parameter	Sample Date & Number of Samples	Result Value	Unit of Measure	Exceedance
Dichloromethane	-	-	-	-
2-4 Dichlorophenol	-	-	-	-
2,4-Dichlorophenoxy acetic acid (2,4-D)	-	-	-	-
Diclofop-methyl	-	-	-	-
Dimethoate	-	-	-	-
Dinoseb	-	-	-	-
Diquat	-	-	-	-
Diuron	-	-	-	-
Glyphosate	-	-	-	-
Heptachlor + Heptachlor Epoxide	-	-	-	-
Lindane (Total)	-	-	-	-
Malathion	-	-	-	-
Methoxychlor	-	-	-	-
Metolachlor	-	-	-	-
Metribuzin	-	-	-	-
Monochlorobenzene	-	-	-	-
Paraquat	-	-	-	-
Parathion	-	-	-	-
Pentachlorophenol	-	-	-	-
Phorate	-	-	-	-
Picloram	-	-	-	-
Polychlorinated Biphenyls(PCB)	-	-	-	-
Prometryne	-	-	-	-
Simazine	-	-	-	-
Total Haloacetic Acids	**2023/01/01 To 2023/12/31 (4 samples)**	**ND**	ug/L	0
Total Trihalomethanes (THM) (Running Annual Average)	**2023/01/01 To 2023/12/31 (4 samples)**	**20.95**	ug/L	0
Temephos	-	-	-	-
Terbufos	-	-	-	-
Tetrachloroethylene	-	-	-	-
2,3,4,6-Tetrachlorophenol	-	-	-	-
Triallate	-	-	-	-
Trichloroethylene	-	-	-	-
2,4,6-Trichlorophenol	-	-	-	-
2,4,5-Trichlorophenoxy acetic acid 2,4,5-T)	-	-	-	-
Trifluralin	-	-	-	-
Vinyl Chloride	-	-	-	-

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	Prescribed Standard*	Unit of Measure	Date of Sample
Sodium	22	20	mg/L	2023/03/16

*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.

Report Date: January 19, 2024

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B. Wartman
Director of Public Works