

Haley Drinking Water System

Waterworks # 250001233
System Category – Small Municipal Residential

Annual Water Report

Prepared For: The Township of Whitewater Region

Reporting Period of January 1st – December 31st 2021

Issued: February 28th, 2022

Operating Authority:



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

Table of Contents

Report Availability	1
Compliance Report Card	1
System Process Description.....	1
Raw Source	1
Treatment	2
Distribution	2
Treatment Chemicals used during the reporting year:	2
Summary of Non-Compliance.....	3
Adverse Water Quality Incidents.....	3
Non-Compliance	3
Non-Compliance Identified in a Ministry Inspection:.....	3
Flows.....	4
Raw Water Flows	4
Well 1 Total Monthly Flows	4
Well 1 Maximum Flow Rates.....	4
Well 2 Total Monthly Flows	5
Well Maximum Flow Rates.....	5
Treated Water Flows	6
Treated Flows.....	6
Annual Total Flow Comparison	6
Regulatory Sample Results Summary	7
Microbiological Testing.....	7
Operational Testing	7
Inorganic Parameters	7
Schedule 15 Sampling:	8
Organic Parameters.....	8
Additional Legislated Samples.....	10
Maintenance Summary.....	10
WTRS Data and Submission Confirmation	A

Report Availability

The annual report will be available to residents at the Township of Whitewater Region's Municipal Office and copies provided free of charge if requested. The Township of Whitewater Region's Municipal Office is located at, 44 Main Street, Cobden, Ontario.

There are no additional drinking water systems that receive water from this facility.

Compliance Report Card

Compliance Event	# of Events
Ministry of Environment Inspections	1 MECP Inspection on August 17 th 2021 100% Rating
Ministry of Labour Inspections	0
QEMS External Audit	1 Audit completed on February 17 th 2021 by SAI Global. No major or minor non-conformances were identified.
AWQI's/BWA	0/0
Non-Compliance	2
Community Complaints	3
Spills	0
Watermain Breaks	0

System Process Description

Raw Source

The Haley DWS drinking water is drawn from two ground water production wells. Both wells are located outside the treatment plant, in a fenced enclosure at 565 Heather Place, in Haley Station Ontario. Well #1 was drilled in late 2005, measuring 150 mm in diameter, 61 m deep and is equipped with a submersible pump rated at 115 L/min at a total dynamic head of 42 m. Well 1 is not under the direct influence of surface water.

Well #2 was drilled in September 2006, measuring 150 mm diameter, 103 m deep and is equipped with a submersible pump rated at 115 L/min with a total dynamic head of 42 m. Well #2 is potentially ground water under the direct influence of surface water (GUDI) however, there is adequate in-situ filtration.

Treatment

Raw water enters the treatment plant via one of two 50 mm discharge lines, one for each well, before joining a common header and being injected with sodium hypochlorite from one of two chemical metering pumps. A below-grade 12 m long pipeline provides contact time for disinfection to occur. Treated water leaving the plant is continuously monitored for flow and chlorine residual.

Distribution

This Class 2 Water Distribution and Supply system supplies treated water to 34 single family homes. The most recent estimate of the population served is 96 people. An examination of the residential services completed in 2002, confirmed the absence of cross-connections. The complete replacement of all distribution piping occurred in the fall of 2010.

A hydraulic pressure tank, which is essential in maintaining adequate pressure in the distribution system during the time it takes to switch between the production wells is located at 532 Sullivan Street. The townsite is presently without hydrant-based fire protection since the hydrants have been disconnected from their water supply. Sampling/flushing stations are installed at two dead end locations at Heather Street and Sullivan Street.

Treatment Chemicals used during the reporting year:

Chemical Name	Use	Supplier
Sodium Hypochlorite (12%)	Disinfection	Brenntag Canada Inc.

Summary of Non-Compliance

Adverse Water Quality Incidents

Date	AWQI #	Location	Problem	Details	Legislation	Corrective Action Taken
None to report.						

Non-Compliance

Legislation	requirement(s) system failed to meet	duration of the failure (i.e. date(s))	Corrective Action	Status
PTTW	Well #2 Maximum allowable flow rate of 115 L/min was exceeded	March 3 rd 2021 for three minutes and 56 seconds	Generator failed to start in auto, once started in manual a 127.8 L/min flow rate occurred when system re-pressurized. The high flow rate lock out level alarm set points were lowered and the well pump VFD's were adjusted to slow the well pumps upon start up. A new generator for the Haley Town Site DWS was installed in late 2021.	Complete
PTTW	Well #1 Maximum allowable flow rate of 115 L/min was exceeded	September 20 th 2021 for one minute and 30 seconds	Broken chlorine analyzer feed line was repaired, 120.6 L/min flow rate occurred when line was re-pressurized	Complete

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
None to report.				

Flows

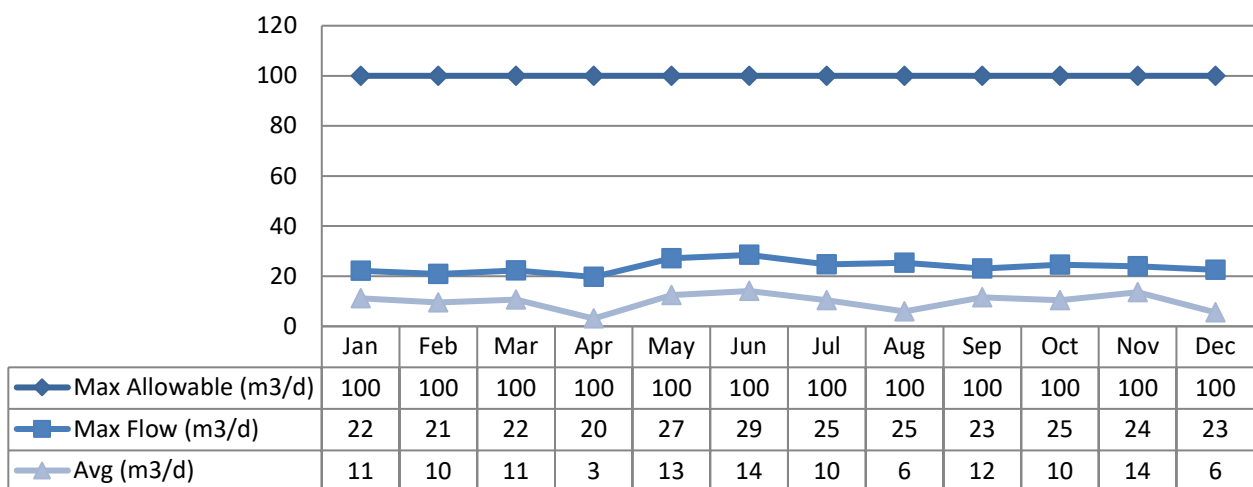
The Haley Drinking Water System is operating on average under half the rated capacity.

Raw Water Flows

The Raw Water flows are regulated under the Permit to Take Water (PTTW). 2021 Raw Flow Data was submitted to the Ministry electronically under permit #6422-8W9PUB. The confirmation and a copy of the data that was submitted are attached in Appendix A.

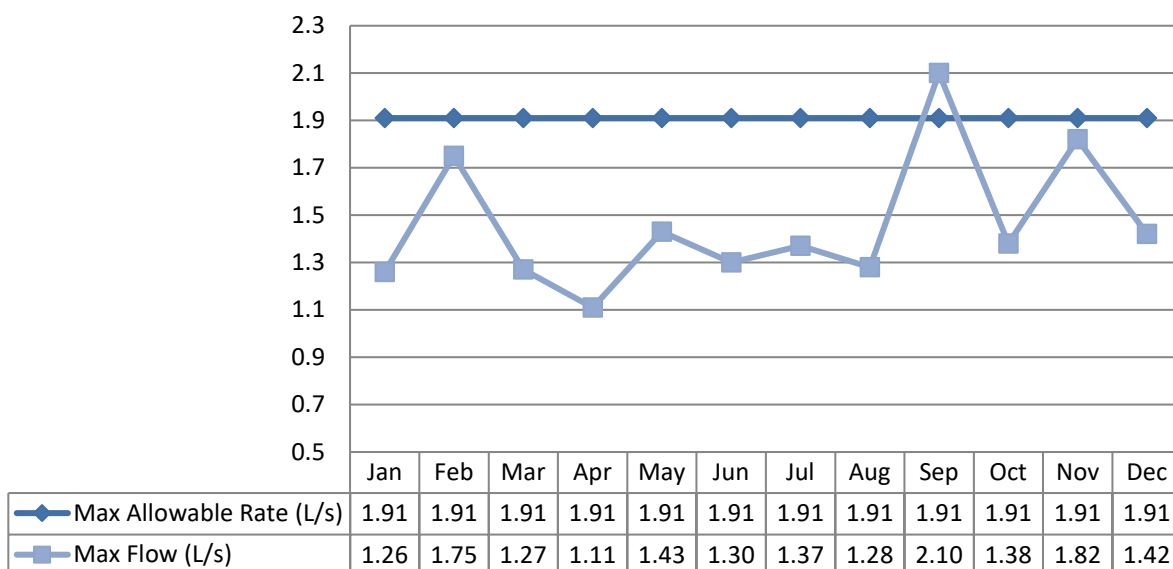
Well 1 Total Monthly Flows

Max Allowable - PTTW



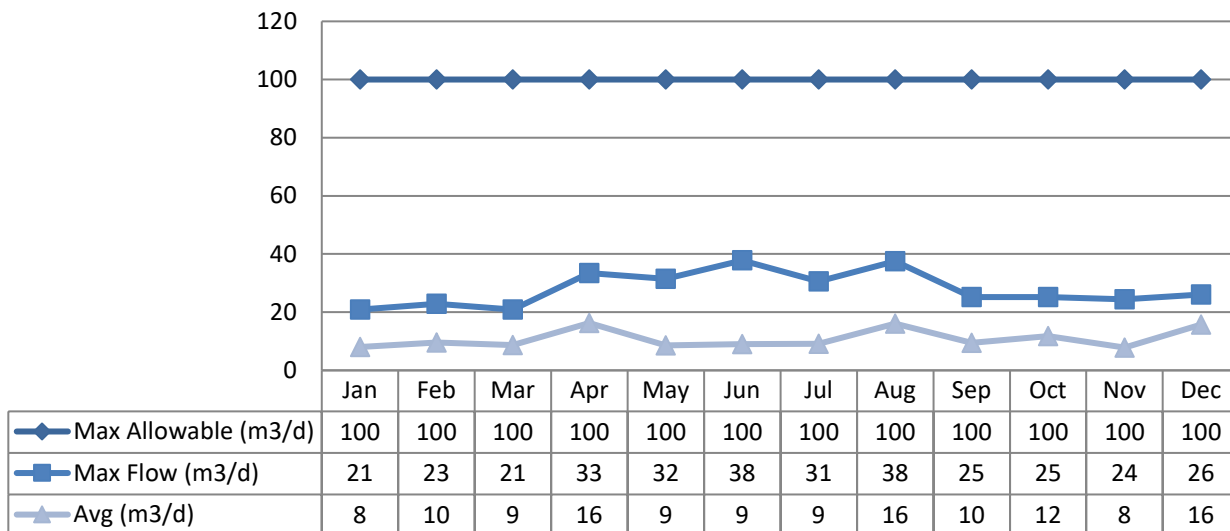
Well 1 Maximum Flow Rates

Max Allowable Rate - PTTW

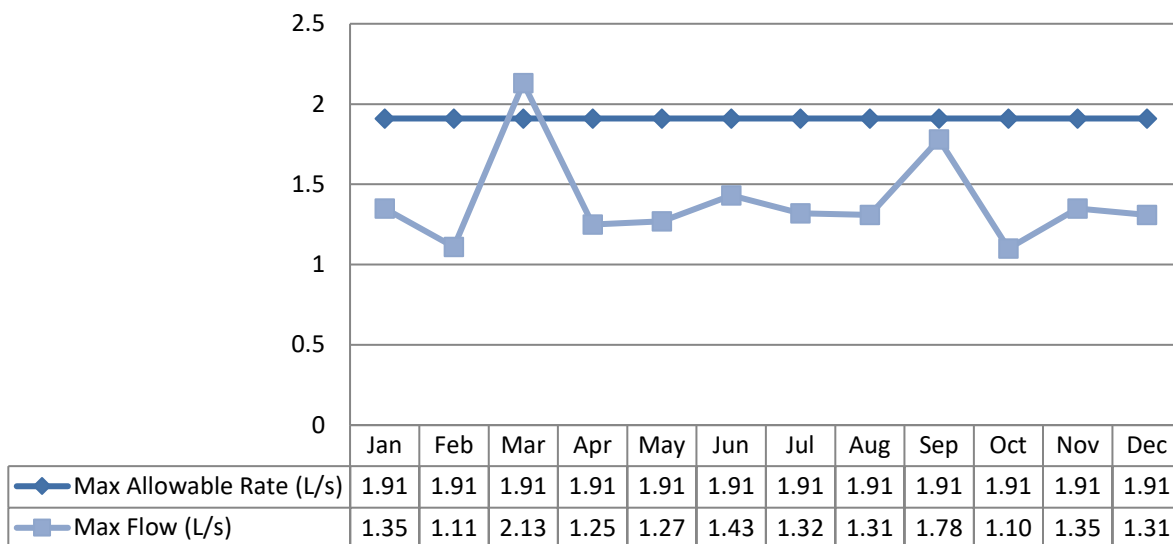


Well 2 Total Monthly Flows

Max Allowable - PTTW

Well Maximum Flow Rates

Max Allowable Rate - PTTW

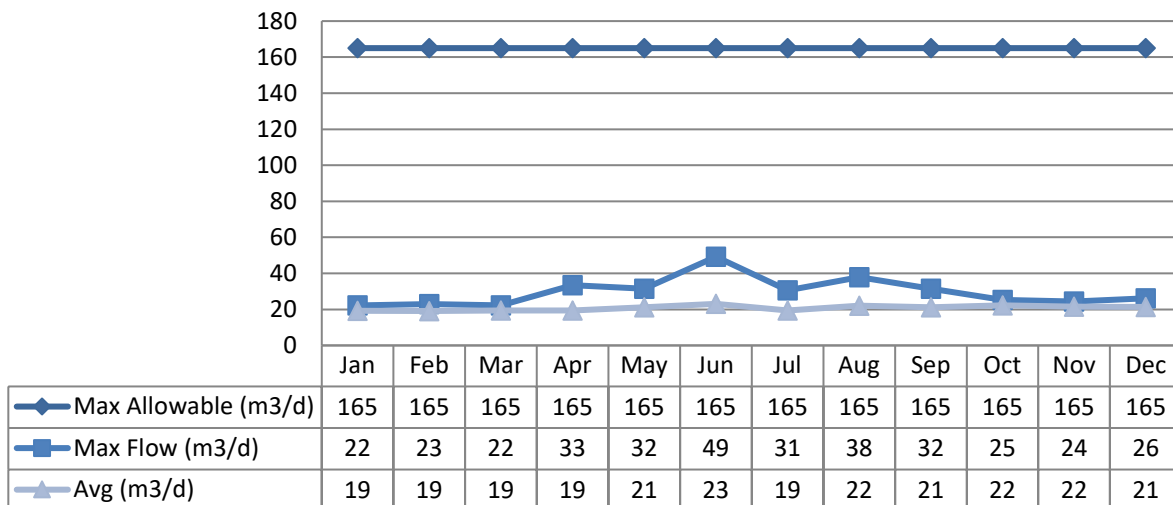


Treated Water Flows

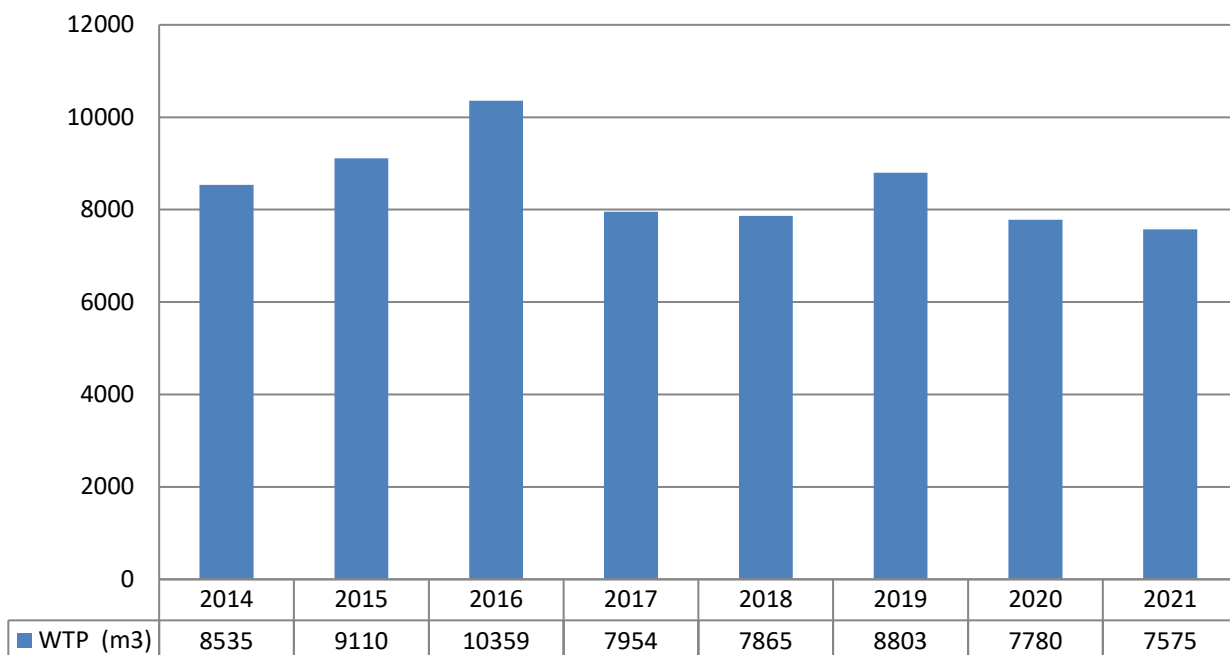
Treated water flows are regulated under the Municipal Drinking Water Licence (MDWL).

Treated Flows

Rated Capacity - MDWL



Annual Total Flow Comparison



Regulatory Sample Results Summary

Microbiological Testing

	No. of Samples Collected	Range of E.Coli Results		Range of Total Coliform Results		Range of HPC Results	
		Min	Max	Min	Max	Min	Max
Raw Water Well 1	12	0	0	0	0	N/A	N/A
Raw Water Well 2	12	0	0	0	0	N/A	N/A
Distribution Water	26	0	0	0	0	0	2

Operational Testing

	No. of Samples Collected	Range of Results	
		Minimum	Maximum
Turbidity, In-House (NTU) - RW1	13	0.35	1.15
Turbidity, In-House (NTU) - RW2	12	0.21	1.57
Turbidity, In-House (NTU) - TW	239	0.13	0.99
Free Chlorine Residual, In-House (mg/L) - DW	104	0.74	1.62
Free Chlorine Residual, On-Line (mg/L) - TW	8760	0.75	2.59

NOTE: Spikes recorded by on-line 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 60 months. Nitrate and Nitrite are tested quarterly and metals are tested every 60 months as required under O. Reg. 170/03. In the event any parameter exceeds half the maximum allowable concentration the parameter is required to be sampled quarterly.

- MAC = Maximum Allowable Concentration as per O. Reg. 169/03
- <MDL = Less than Method Detection Limit

	Sample Date (yyyy/mm/dd)	Sample Result	MAC	No. of Exceedances	
				MAC	1/2 MAC
Treated Water					
Antimony: Sb (ug/L) - TW	2021/01/13	<MDL 0.9	6.0	No	No
Arsenic: As (ug/L) - TW	2021/01/13	0.8	10.0	No	No
Barium: Ba (ug/L) - TW	2021/01/13	547	1000.0	No	Yes
Barium: Ba (ug/L) - TW	2021/04/22	567	1000.0	No	Yes
Barium: Ba (ug/L) - TW	2021/07/22	518	1000.0	No	Yes
Barium: Ba (ug/L) - TW	2021/10/28	564	1000.0	No	Yes
Boron: B (ug/L) - TW	2021/01/13	24.0	5000.0	No	No
Cadmium: Cd (ug/L) - TW	2021/01/13	0.172	5.0	No	No
Chromium: Cr (ug/L) - TW	2021/01/13	1.36	50.0	No	No
Mercury: Hg (ug/L) - TW	2021/01/13	<MDL 0.01	1.0	No	No
Selenium: Se (ug/L) - TW	2021/01/13	0.4	50.0	No	No
Uranium: U (ug/L) - TW	2021/01/13	1.47	20.0	No	No
Additional Inorganics					

	Sample Date (yyyy/mm/dd)	Sample Result	MAC	No. of Exceedances	
				MAC	1/2 MAC
Nitrite (mg/L) - TW	2021/01/13	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2021/04/22	0.004	1.0	No	No
Nitrite (mg/L) - TW	2021/07/22	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2021/10/28	<MDL 0.003	1.0	No	No
Nitrate (mg/L) - TW	2021/01/13	7.45	10.0	No	No
Nitrate (mg/L) - TW	2021/04/22	6.94	10.0	No	No
Nitrate (mg/L) - TW	2021/07/22	4.5	10.0	No	No
Nitrate (mg/L) - TW	2021/10/28	5.85	10.0	No	No
Fluoride (mg/L) - TW	2019/01/03	0.15	1.5	No	No
Sodium: Na (mg/L) - TW	2019/01/08	45	20*	Yes	Yes

*There is no "MAC" for Sodium. The aesthetic objective for sodium in drinking water is 200 mg/L. The local Medical Officer of Health should be notified mg/L when the sodium concentration exceeds 20 mg/L so that this information may be communicated to local physicians for their use with patients on sodium restricted diets.

Schedule 15 Sampling:

The Schedule 15 Sampling is required under O.Reg 170/03. This system is under reduced sampling. No plumbing samples were collected.

Distribution System	Number of Sampling Points	Number of Samples	Range of Results		MAC (ug/L)	Number of Exceedances
			Minimum	Maximum		
Alkalinity (mg/L)	1	2	299	299	N/A	N/A
pH	1	2	7.5	7.6	N/A	N/A
Lead (ug/L)	1	2	0.28	0.37	10	0

Organic Parameters

These parameters are tested every 60 months as a requirement under O. Reg. 170/03. In the event any parameter exceeds half the maximum allowable concentration the parameter is required to be sampled quarterly.

- MAC = Maximum Allowable Concentration as per O. Reg. 169/03
- <MDL = Less than Method Detection Limit

	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Number of Exceedances	
				MAC	1/2 MAC
Treated Water					
Alachlor (ug/L) - TW	2021/01/13	<MDL 0.02	5.0	No	No
Atrazine + N-dealkylated metabolites (ug/L) - TW	2021/01/13	<MDL 0.01	5.0	No	No
Azinphos-methyl (ug/L) - TW	2021/01/13	<MDL 0.05	20.0	No	No
Benzene (ug/L) - TW	2021/01/13	<MDL 0.32	1.0	No	No
Benzo(a)pyrene (ug/L) - TW	2021/01/13	<MDL 0.004	0.01	No	No
Bromoxynil (ug/L) - TW	2021/01/13	<MDL 0.33	5.0	No	No
Carbaryl (ug/L) - TW	2021/01/13	<MDL 0.05	90.0	No	No
Carbofuran (ug/L) - TW	2021/01/13	<MDL 0.01	90.0	No	No
Carbon Tetrachloride (ug/L) - TW	2021/01/13	<MDL 0.17	2.0	No	No
Chlorpyrifos (ug/L) - TW	2021/01/13	<MDL 0.02	90.0	No	No

	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Number of Exceedances	
				MAC	1/2 MAC
Diazinon (ug/L) - TW	2021/01/13	<MDL 0.02	20.0	No	No
Dicamba (ug/L) - TW	2021/01/13	<MDL 0.2	120.0	No	No
1,2-Dichlorobenzene (ug/L) - TW	2021/01/13	<MDL 0.41	200.0	No	No
1,4-Dichlorobenzene (ug/L) - TW	2021/01/13	<MDL 0.36	5.0	No	No
1,2-Dichloroethane (ug/L) - TW	2021/01/13	<MDL 0.35	5.0	No	No
1,1-Dichloroethylene (ug/L) - TW	2021/01/13	<MDL 0.33	14.0	No	No
Dichloromethane (Methylene Chloride) (ug/L) - TW	2021/01/13	<MDL 0.35	50.0	No	No
2,4-Dichlorophenol (ug/L) - TW	2021/01/13	<MDL 0.15	900.0	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L) - TW	2021/01/13	<MDL 0.19	100.0	No	No
Diclofop-methyl (ug/L) - TW	2021/01/13	<MDL 0.4	9.0	No	No
Dimethoate (ug/L) - TW	2021/01/13	<MDL 0.06	20.0	No	No
Diquat (ug/L) - TW	2021/01/13	<MDL 1.0	70.0	No	No
Diuron (ug/L) - TW	2021/01/13	<MDL 0.03	150.0	No	No
Glyphosate (ug/L) - TW	2021/01/13	<MDL 1.0	280.0	No	No
Malathion (ug/L) - TW	2021/01/13	<MDL 0.02	190.0	No	No
Metolachlor (ug/L) - TW	2021/01/13	<MDL 0.01	50.0	No	No
Metribuzin (ug/L) - TW	2021/01/13	<MDL 0.02	80.0	No	No
MCPA (ug/L) - TW	2021/01/13	<0.12	100.0	No	No
Monochlorobenzene (Chlorobenzene) (ug/L) - TW	2021/01/13	<MDL 0.3	80.0	No	No
Paraquat (ug/L) - TW	2021/01/13	<MDL 1.0	10.0	No	No
PCB (ug/L) - TW	2021/01/13	<MDL 0.04	3.0	No	No
Pentachlorophenol (ug/L) - TW	2021/01/13	<MDL 0.15	60.0	No	No
Phorate (ug/L) - TW	2021/01/13	<MDL 0.01	2.0	No	No
Picloram (ug/L) - TW	2021/01/13	<MDL 1.0	190.0	No	No
Prometryne (ug/L) - TW	2021/01/13	<MDL 0.03	1.0	No	No
Simazine (ug/L) - TW	2021/01/13	<MDL 0.01	10.0	No	No
Terbufos (ug/L) - TW	2021/01/13	<MDL 0.01	1.0	No	No
Tetrachloroethylene (ug/L) - TW	2021/01/13	<MDL 0.35	10.0	No	No
2,3,4,6-Tetrachlorophenol (ug/L) - TW	2021/01/13	<MDL 0.2	100.0	No	No
Triallate (ug/L) - TW	2021/01/13	<MDL 0.01	230.0	No	No
Trichloroethylene (ug/L) - TW	2021/01/13	<MDL 0.44	5.0	No	No
2,4,6-Trichlorophenol (ug/L) - TW	2021/01/13	<MDL 0.25	5.0	No	No
2-methyl-4-chlorophenoxyacetic acid (MCPA) (ug/L) - TW	2021/01/13	<MDL 0.12	100.0	No	No
Trifluralin (ug/L) - TW	2021/01/13	<MDL 0.02	45.0	No	No
Vinyl Chloride (ug/L) - TW	2021/01/13	<MDL 0.17	1.0	No	No

Distribution samples are tested quarterly for THM's and HAA's in accordance with O. Reg. 170/03.

	Sample Year	Sample Result	MAC	No. of Exceedances	
				MAC	1/2 MAC
Distribution Water					
Trihalomethane (THM): Total (ug/L) Annual Average - DW	2021	12.3	100.0	No	No
Haloacetic Acid (HAA): Total (ug/L) Annual Average - DW	2021	5.3	80.0	No	No

Additional Legislated Samples

No additional sampling required.

Maintenance Summary

WO #	Description
2541810	Replaced natural gas generator
2539251	Replaced PLC UPS unit

Appendix A

WTRS Data and Submission Confirmation



Location: [WTRS](#) / [WT DATA](#) / [Input WT Record](#)

WTRS-WT-008

Water Taking Data submitted successfully.

Confirmation:

Thank you for submitting your water taking data online.

Permit Number: 6422-8W9PUB

Permit Holder: THE CORPORATION OF THE TOWNSHIP OF WHITEWATER REGION.

Received on: Feb 11, 2022 3:11 PM

This confirmation indicates that your data has been received by the Ministry, but should not be construed as acceptance of this data if it differs from that specified on the Permit Number, assigned to the Permit Holder stated above.

[Return to Main Page](#)

KAYLEE SAAR | 2022/02/11

version: v4.5.0.21 (build#: 22)

Last modified: 2018/09/18



This site maintained by
the Government of Ontario

©2022 [Queen's Printer for Ontario](#)

Water Taking Data submitted successfully.

Confirmation:

Thank you for submitting your water taking data online.

Permit Number: 6422-8W9PUB
Permit Holder: THE CORPORATION OF THE TOWNSHIP OF WHITEWATER REGION.
Received on: Feb 22, 2022 2:00 PM

This confirmation indicates that your data has been received by the Ministry, but should not be construed as acceptance of this data if it differs from that specified on the Permit Number, assigned to the Permit Holder stated above.