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 2022

Issued: February 22nd, 2023

Operating Authority:

OCWA
ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

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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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	0
Ministry of Labour Inspections	0
QEMS External Audit	1 Audit completed on February 16th 2022 by SAI Global. No major or minor non-conformances were identified.
AWQI's/BWA	0/0
Non-Compliance	0
Community Complaints	1
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 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
None to report.				

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

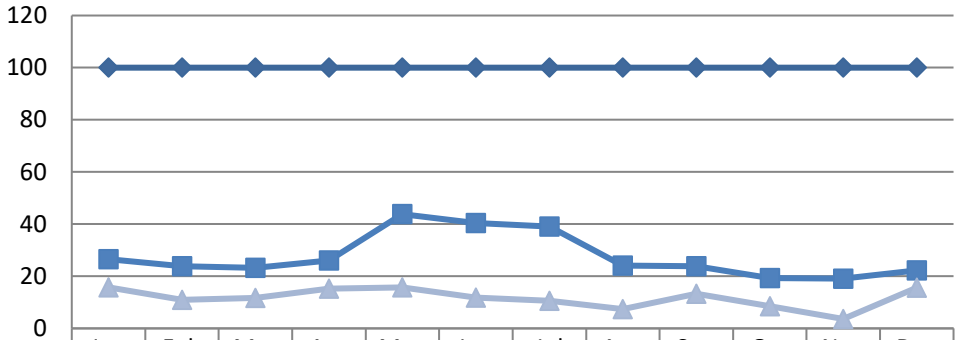
The Haley Drinking Water System is operating on average under half the rated capacity.

Raw Water Flows

The Raw Water flows are regulated under the Permit to Take Water (PTTW). 2022 Raw Flow Data was submitted to the Ministry electronically under permits #6422-8W9PUB and #P-300-8175675490. The confirmations of the data submitted are attached in Appendix A.

Well 1 Total Monthly Flows

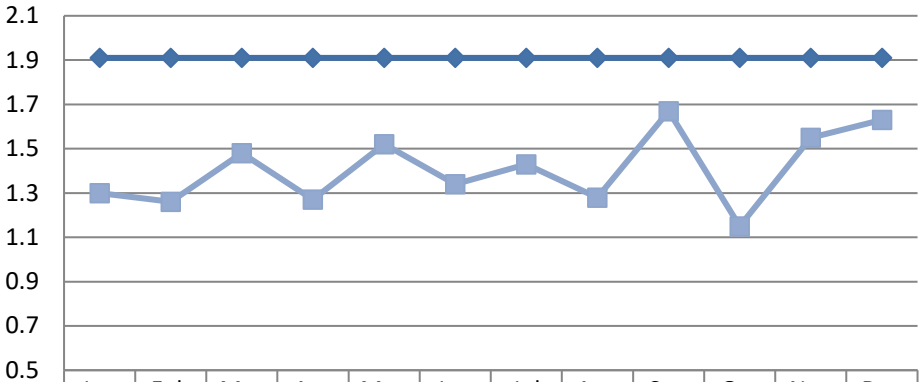
Max Allowable - PTTW



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable (m3/d)	100	100	100	100	100	100	100	100	100	100	100	100
Max Flow (m3/d)	27	24	23	26	44	40	39	24	24	19	19	22
Avg (m3/d)	16	11	12	15	16	12	11	7	13	9	4	16

Well 1 Maximum Flow Rates

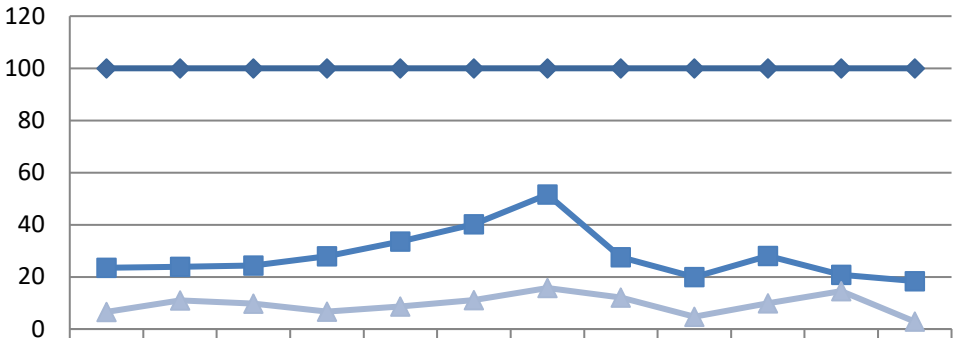
Max Allowable Rate - PTTW



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable Rate (L/s)	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91
Max Flow (L/s)	1.30	1.26	1.48	1.27	1.52	1.34	1.43	1.28	1.67	1.15	1.55	1.63

Well 2 Total Monthly Flows

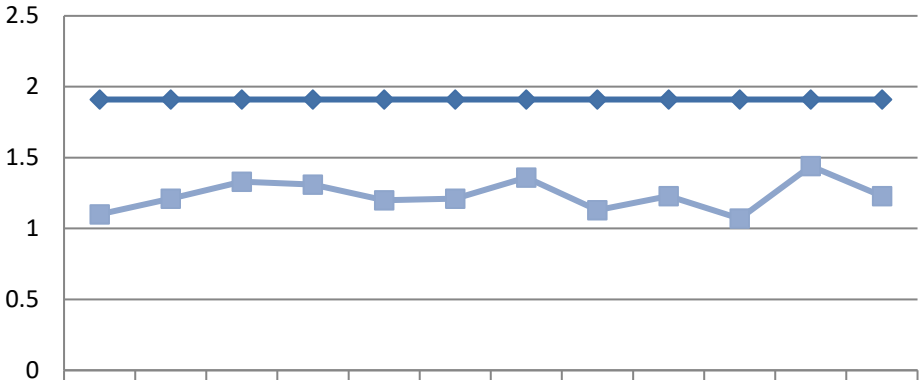
Max Allowable - PTTW



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable (m3/d)	100	100	100	100	100	100	100	100	100	100	100	100
Max Flow (m3/d)	24	24	24	28	34	40	52	28	20	28	21	18
Avg (m3/d)	7	11	10	7	9	11	16	12	5	10	15	3

Well 2 Maximum Flow Rates

Max Allowable Rate - PTTW



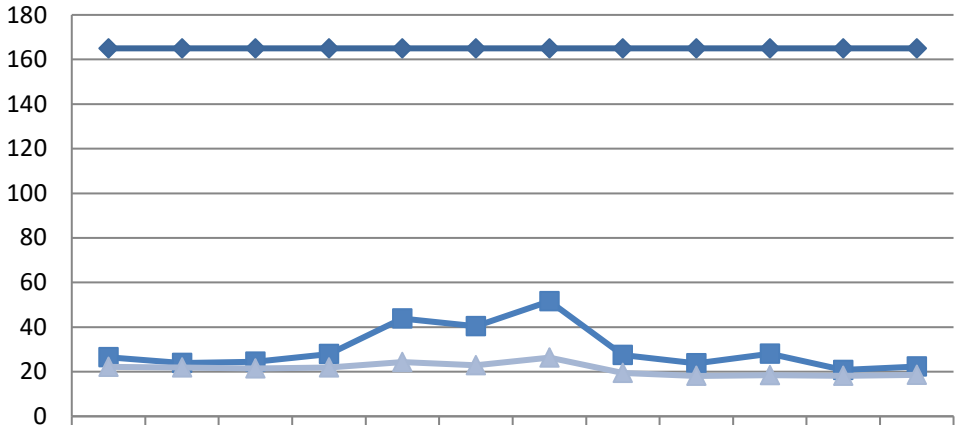
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable Rate (L/s)	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91
Max Flow (L/s)	1.10	1.21	1.33	1.31	1.20	1.21	1.36	1.13	1.23	1.07	1.44	1.23

Treated Water Flows

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

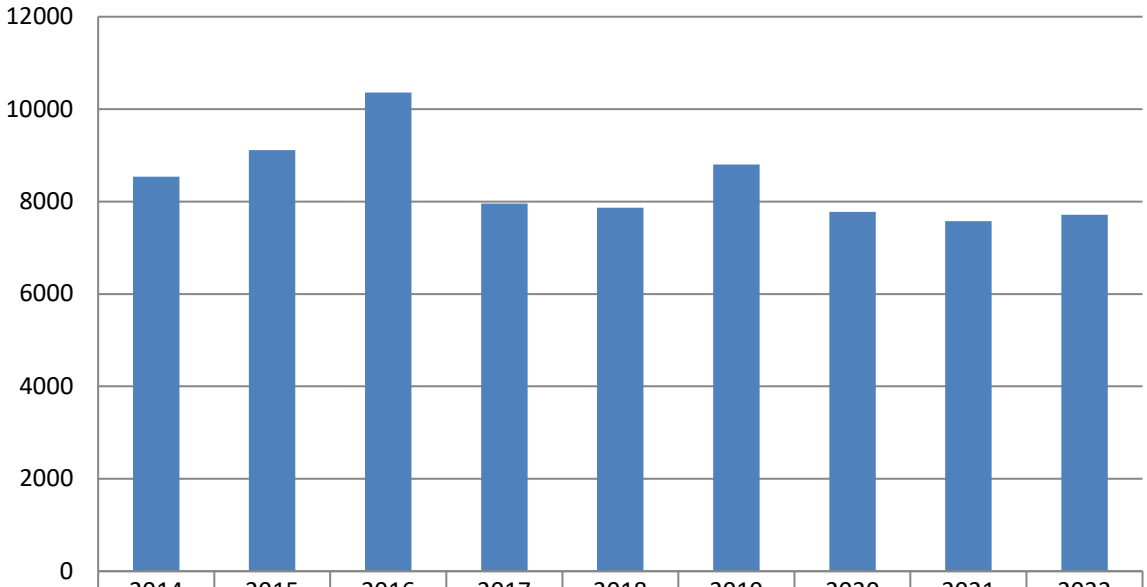
Treated Flows

Rated Capacity - MDWL



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable (m3/d)	165	165	165	165	165	165	165	165	165	165	165	165
Max Flow (m3/d)	27	24	24	28	44	40	52	28	24	28	21	22
Avg (m3/d)	22	22	21	22	24	23	26	19	18	18	18	19

Annual Total Flow Comparison



	2014	2015	2016	2017	2018	2019	2020	2021	2022
WTP (m3)	8535	9110	10359	7954	7865	8803	7780	7575	7715

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	27

Operational Testing

	No. of Samples Collected	Range of Results	
		Minimum	Maximum
Turbidity, In-House (NTU) - RW1	12	0.11	0.98
Turbidity, In-House (NTU) - RW2	13	0.28	0.98
Turbidity, In-House (NTU) - TW	215	0.09	1.23
Free Chlorine Residual, In-House (mg/L) - DW	100	1.17	1.77
Free Chlorine Residual, On-Line (mg/L) - TW	8760	0.95	2.00

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.

	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	2022/01/11	515	1000.0	No	Yes
Barium: Ba (ug/L) - TW	2022/04/05	523	1000.0	No	Yes
Barium: Ba (ug/L) - TW	2022/07/12	554	1000.0	No	Yes
Barium: Ba (ug/L) - TW	2022/10/04	546.0	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					
Nitrite (mg/L) - TW	2022/01/11	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2022/04/05	<MDL 0.003	1.0	No	No

	Sample Date (yyyy/mm/dd)	Sample Result	MAC	No. of Exceedances	
				MAC	1/2 MAC
Nitrite (mg/L) - TW	2022/07/12	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2022/10/04	<MDL 0.003	1.0	No	No
Nitrate (mg/L) - TW	2022/01/11	4.84	10.0	No	No
Nitrate (mg/L) - TW	2022/04/05	4.51	10.0	No	No
Nitrate (mg/L) - TW	2022/07/12	4.46	10.0	No	No
Nitrate (mg/L) - TW	2022/10/04	4.87	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.

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

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	303	317	N/A	N/A
pH	1	2	7.3	7.5	N/A	N/A
Lead (ug/L)	N/A	N/A	N/A	N/A	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. Distribution samples are tested quarterly for THM's and HAA's in accordance with O. Reg. 170/03.

	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
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	Number of Exceedances	
				MAC	1/2 MAC
Distribution Water					
Trihalomethane (THM): Total (ug/L) Annual Running Average - DW	2022	10.1	100.0	No	No
Haloacetic Acid (HAA): Total (ug/L) Annual Running Average - DW	2022	5.3	80.0	No	No

Additional Legislated Samples

No additional sampling required.

Maintenance Summary

WO #	Description
3005094	Replaced chlorine pump injectors, cleaned old injectors to use as spares

Appendix A

WTRS and RSRS Data and Submission Confirmation

Ontario

environet WTRS

Ministry of the Environment, Conservation and Parks

| WT DATA | USER PROFILE | CONTACT US | HELP | HOME | LOGOUT |

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 16, 2023 11:10 AM

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.

Print Confirmation | Return to Main Page

KAYLEE SAAR | 2023/02/16
version: v4.5.0.21 (build#: 22)
Last modified: 2018/09/18

Ontario This site maintained by the Government of Ontario

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Ontario **Regulatory Self-Reporting System** **Ministry of the Environment, Conservation and Parks**

Client Name: THE CORPORATION OF THE TOWNSHIP OF WHITEWATER REGION **Reporting Year:** 2022 **Service:** PTTW **Permit Number:** P-300-8175675490 **Permit Version:** 1.0 **New or Updated Submission:** NEW
Site Name: Haley Water Treatment Plant
Source ID: 500000637580 **Source Name:** Well 1 **Source Type:** Well
UTM(Zone/Easting/Northing): 18/362875.0/5050014.0 **Method of Determination:** Metered **Unit of Measure:** Litre

Description: Well 1 **Purpose Category:** Utilities **Specific Category:** Municipal Supply **Activity** Water Supply

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1								20600.0	21300.0	17300.0	300.0	
2									17900.0	18800.0		
3									17400.0	18200.0		
4									18700.0			
5									18700.0			
6									7500.0			17700.0
7												19600.0
8									10000.0			22300.0
9								17000.0	11200.0			21100.0
10								18600.0	17300.0			21100.0
11								16400.0	19200.0			21100.0
12								18500.0	23800.0			20700.0
13								18400.0	20400.0			17100.0
14								20100.0	15700.0			19100.0
15								21400.0	16100.0			17900.0
16								18500.0	19000.0		16100.0	16700.0
17									19000.0		15700.0	18500.0
18									19000.0		18100.0	21100.0
19									15400.0		19100.0	17500.0
20									19700.0	19300.0	18200.0	13700.0
21									5600.0	18500.0	18100.0	19300.0
22										18500.0	100.0	17700.0
23										18500.0		18400.0
24										18600.0		19800.0
25							19800.0			17100.0		17600.0
26							18200.0			18600.0		18100.0
27							20400.0		11000.0	15200.0		18600.0
28							21100.0		21000.0	17400.0		17800.0
29							21100.0	20600.0	17700.0	17000.0		17900.0
30							21100.0	17000.0	16600.0	17500.0		17600.0

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
31							20600.0	16900.0		14700.0		17500.0

Site Name: Haley Water Treatment Plant
Source ID: 500000637579 **Source Name:** Well 2 **Source Type:** Well
UTM(Zone/Easting/Northing): 18/362870.0/5050014.0 **Method of Determination:** Metered **Unit of Measure:** Litre

Description: Well 2 **Purpose Category:** Utilities **Specific Category:** Municipal Supply **Activity** Water Supply

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1											19000.0	18400.0
2								20800.0			18000.0	18100.0
3								20700.0			17200.0	17400.0
4								21400.0		15700.0	18300.0	18100.0
5								18500.0		28100.0	18300.0	16400.0
6								23000.0	10000.0	27600.0	18300.0	
7								22700.0	20000.0	17600.0	18000.0	
8								16100.0	7300.0	17000.0	19600.0	
9								800.0		18500.0	17700.0	
10										19100.0	15600.0	
11										22800.0	17200.0	
12										12100.0	18600.0	
13										20300.0	19200.0	
14										18000.0	18900.0	
15										16700.0	16700.0	
16										19700.0	3000.0	
17								21300.0		14500.0		
18								18500.0		21000.0		
19								17100.0		17900.0		
20							25500.0	18600.0		100.0		
21							23000.0	18800.0	12900.0			
22							20900.0	17800.0	19500.0		16100.0	
23							20700.0	16500.0	16600.0		17500.0	
24							19300.0	27500.0	17300.0		20800.0	
25								17400.0	19100.0		16200.0	
26								18700.0	15700.0		18000.0	
27								17600.0	5000.0		20800.0	
28								20600.0			17100.0	
29											20500.0	
30											17100.0	
31												

Name of Attester
First Name: Kaylee
Last Name: Saar
Company: Ontario Clean Water Agency
Date Certified/Submitted(yyyy/mm/dd): 2023/02/21