Janetville Drinking Water System

Waterworks # 220006455
System Category – Large Municipal Residential

Annual Water Report

Prepared For: The City of Kawartha Lakes

Reporting Period of January 1st – December 31st, 2023

Issued: February 21, 2024

Revision: 0

Operating Authorities:

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

This system does not serve more than 10,000 residences. The annual reports will be available to residents at the City of Kawartha Lakes Public Works Administration Office and on the City's website at www.kawarthalakes.ca. Notification that reports are available free of charge will be made on the City of Kawartha Lakes website. The City of Kawartha Lakes Public Works Administration Office is located at 322 Kent Street West in Lindsay, Ontario.

Compliance Report Card

Drinking Water System Number: 220006455
Drinking Water System Name: Janetville DWS
Drinking Water System Owner: City of Kawartha Lakes
Drinking Water System Category: Large Municipal Residential
Period Being Reported: January 1, 2023 - December 31, 2023

	# of Events	Date	Details
Health & Safety			
Number of Incidents	0		
Drinking Water			
MECP Inspections	1	July 12, 2023	Announced - Focused Drinking Water Inspection - Final Inspection Rating of 100%
AWQI's	0		
Number of Non-Compliances identified during MECP Inspection	0		
Number of Boil Water Advisories	0		

System Process Description

Raw Source

The water supply for the DWS comes from three (3) groundwater wells that are designated as non-GUDI (groundwater under direct influence).

Treatment

The treatment system consists of the following:

- a sodium hypochlorite disinfection system
- a sodium silicate metering system
- on-line continuous monitoring for chlorine and turbidity
- a reservoir/clearwell
- hydropneumatic tanks

- high lift pumping system
- stand-by diesel generator on-site

Treatment Chemicals used during the reporting year:

Chemical Name	Use	Supplier
Sodium Hypochlorite	Disinfection	Jutzi Water Technologies
Sodium Silicate	Iron sequestering	Jutzi Water Technologies

Summary of Non-Compliance

Adverse Water Quality Incidents

There were no adverse water quality incidents reported during the reporting period.

Non-Compliance

There were no non-compliance issues reported during the reporting period.

Non-Compliance Identified in a Ministry Inspection

There were no non-compliance identified in a Ministry Inspection for the 2023/2024 inspection report.

Flows

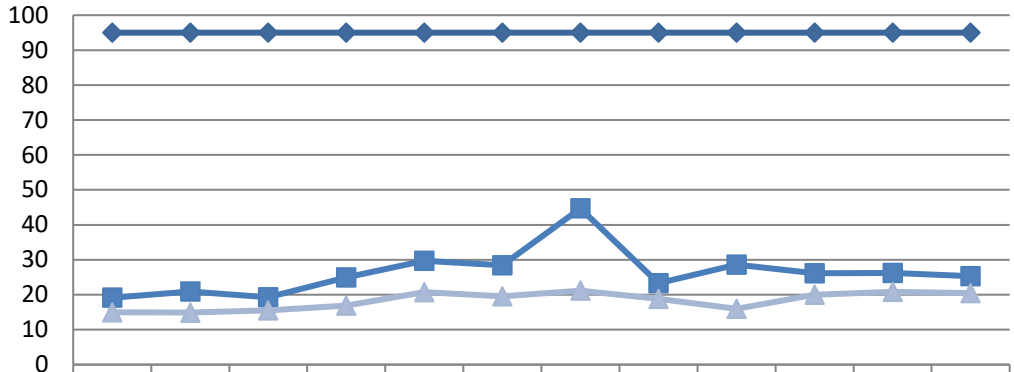
The Janetville Drinking Water System is operating on average under half the rated capacity.

Raw Water Flows

The Raw Water flows are regulated under the Permit to Take Water. 2023 Raw Flow Data was submitted to the Ministry electronically under permit #5583-AQFKVW. A copy of the confirmation is included in Appendix A. The Permit to Take Water compliance criteria is in litres per minute (L/min) but for the purposes of this report the flow rate is reported in litres per second (L/sec) based on industry standard for flow monitoring recording.

Total Monthly Flows (m³/d)

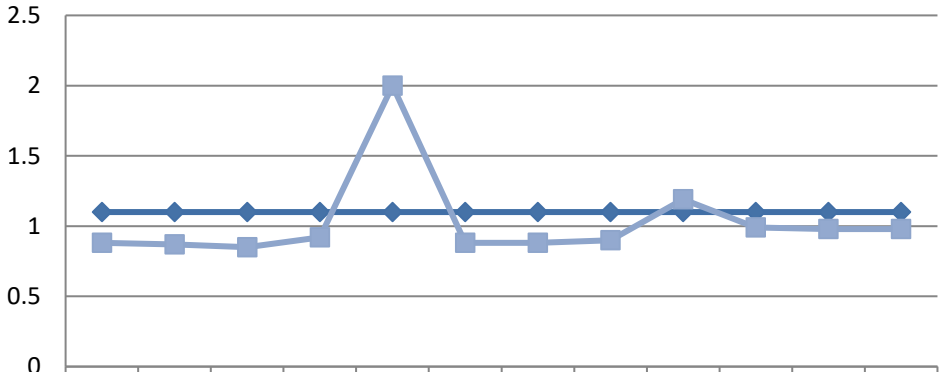
Max Allowable PTTW – Well #3



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable (m³/d)	95	95	95	95	95	95	95	95	95	95	95	95
Max Flow (m³/d)	19	21	19	25	30	28	45	23	29	26	26	25
Avg (m³/d)	15	15	16	17	21	20	21	19	16	20	21	20

Monthly Rated Flows (L/s)

Max Allowable Rate – PTTW – Well #3

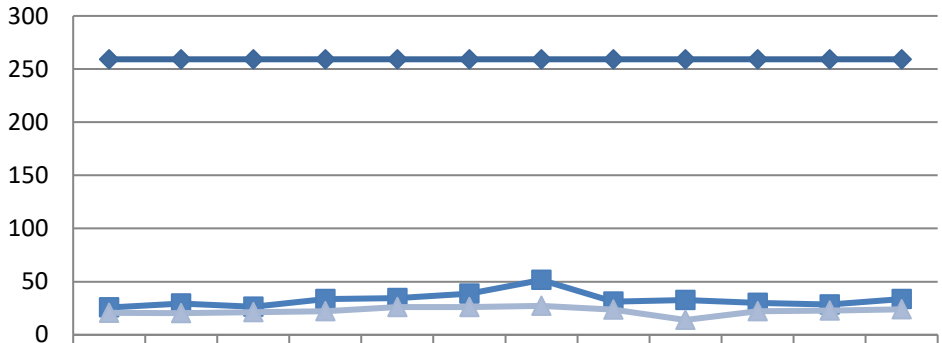


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable Rate (L/sec)	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Max Rate (L/s)	0.88	0.87	0.85	0.92	2.00	0.88	0.88	0.90	1.19	0.99	0.98	0.98

Note: Certain operational circumstances could cause results to be temporarily outside of the allowable rates. In May 2023, the allowable rate was momentarily surpassed as a result of annual calibration of the flow meter and did not indicate a true exceedance. In September 2023, the allowable rate was momentarily surpassed as a result of placing the well back into service after maintenance and did not indicate a true exceedance. A true exceedance would be documented within this report.

Total Monthly Flows (m³/d)

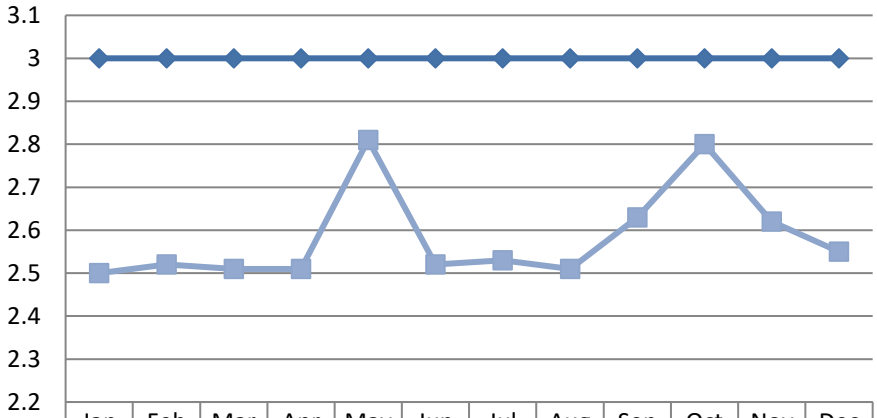
Max Allowable PTTW – Well #4



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable (m³/d)	259.2	259.2	259.2	259.2	259.2	259.2	259.2	259.2	259.2	259.2	259.2	259.2
Max Flow (m³/d)	26	29	26	33	34	39	52	31	33	30	29	33
Avg (m³/d)	21	20	21	22	26	26	27	24	14	22	23	24

Monthly Rated Flows (L/s)

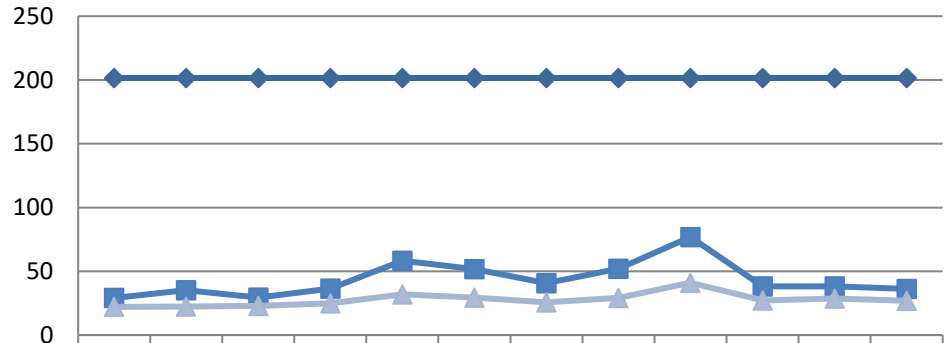
Max Allowable Rate – PTTW – Well #4



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable Rate (L/sec)	3	3	3	3	3	3	3	3	3	3	3	3
Max Rate (L/s)	2.50	2.52	2.51	2.51	2.81	2.52	2.53	2.51	2.63	2.80	2.62	2.55

Total Monthly Flows (m³/d)

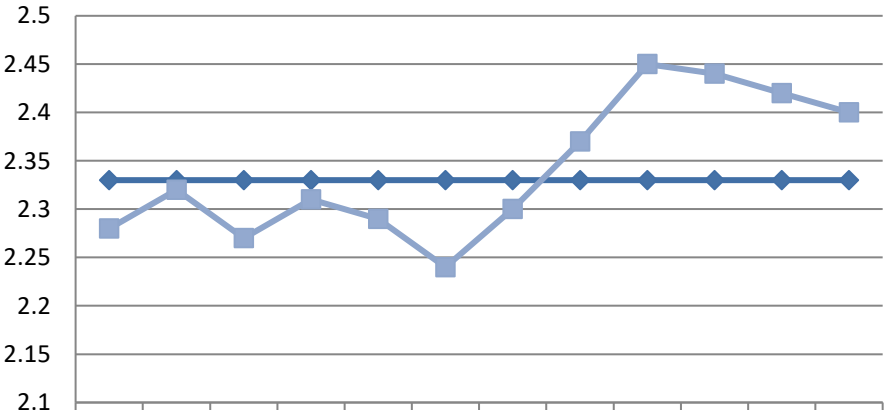
Max Allowable PTTW – Well #5



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable (m³/d)	201.6	201.6	201.6	201.6	201.6	201.6	201.6	201.6	201.6	201.6	201.6	201.6
Max Flow (m³/d)	29	35	29	36	58	52	41	52	77	38	38	36
Avg (m³/d)	22	22	23	25	32	29	26	29	41	27	29	27

Monthly Rated Flows (L/s)

Max Allowable Rate – PTTW – Well #5



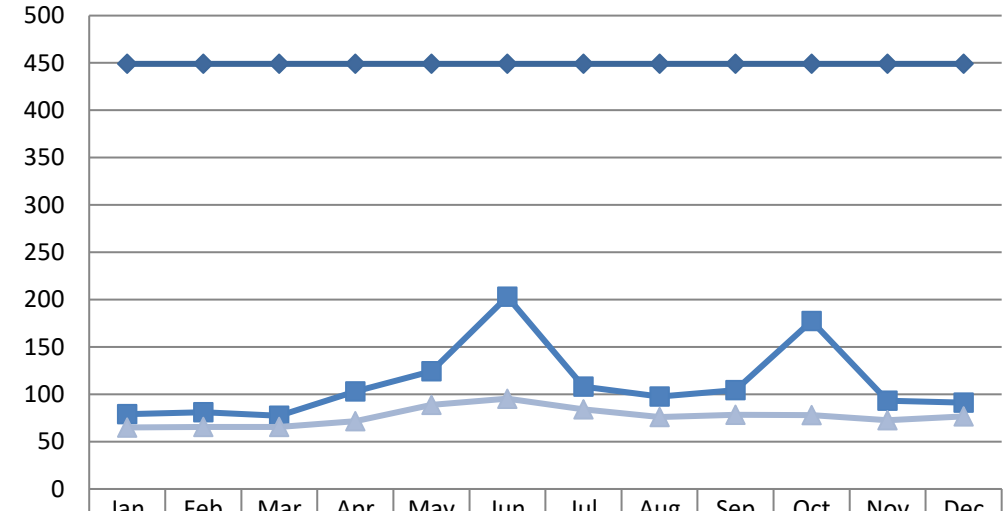
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable Rate (L/sec)	2.33	2.33	2.33	2.33	2.33	2.33	2.33	2.33	2.33	2.33	2.33	2.33
Max Rate (L/s)	2.28	2.32	2.27	2.31	2.29	2.24	2.30	2.37	2.45	2.44	2.42	2.40

Note: Certain operational circumstances could cause results to be temporarily outside of the allowable rates. From August to December 2023, the allowable rate was momentarily surpassed as a result of pump start up and did not indicate a true exceedance. A true exceedance would be documented within this report.

Treated Water Flows

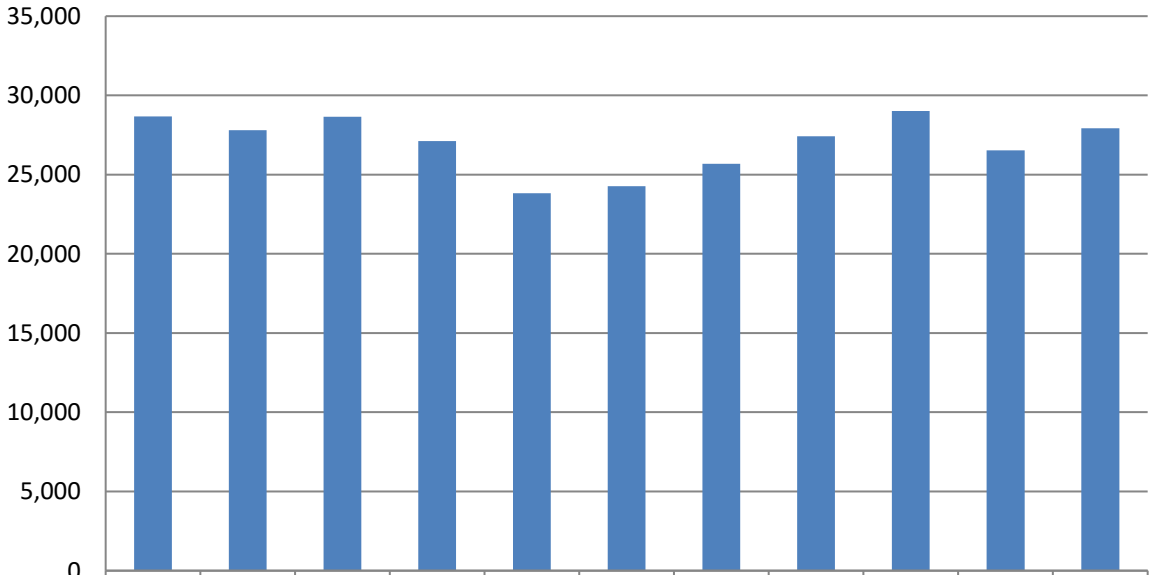
The Treated Water flows are regulated under the Municipal Drinking Water Licence 141-111.

Monthly Rated Flows
Rated Capacity − MDWL



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rated Capacity (m^3/d)	449	449	449	449	449	449	449	449	449	449	449	449
Max Daily Flow (m^3/d)	79	81	77	103	124	203	108	97	104	178	93	91
Avg (m^3/d)	65	65	65	72	89	95	84	76	78	78	73	77

Annual Total Flow Comparison
Total Annual m^3



	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
TW Total (m^3)	28,662	27,810	28,652	27,122	23,814	24,268	25,673	27,419	29,010	26,531	27,927

Regulatory Sample Results Summary

Microbiological Testing

(completed under Schedule 10, 11 or 12 of Ontario Regulation 170/03, during the reporting period).

	No. of Samples Collected	Range of E. Coli Results	Range of E. Coli Results	Range of Total Coliform Results	Range of Total Coliform Results	Range of HPC Results	Range of HPC Results
		Min	Max	Min	Max	Min	Max
Raw Well 3	52	0	0	0	0		
Raw Well 4	57	0	0	0	5		
Raw Well 5	54	0	0	0	0		
Treated	52	0	0	0	0	0	6
Distribution	156	0	0	0	0	0	1620

Operational Testing

(completed under Schedule 7, 8 or 9 of Ontario Regulation 170/03, during the reporting period).

Parameter	Number of Samples Collected	Range of Results Minimum	Range of Results Maximum
Turbidity Well 3 (NTU)	12	0.42	0.76
Turbidity Well 4 (NTU)	13	0.29	2.96
Turbidity Well 5 (NTU)	12	0.39	0.56
Turbidity – TW (NTU)	8760	0	2
Chlorine	8760	0.56	2.83
Fluoride (If the DWS provides fluoridation)	N/A	N/A	N/A

Note: Record the unit of measure if it is **not** milligrams per litre.
Note: For continuous monitors 8760 is used as the number of samples**.** 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, did not indicate a true exceedance. A true exceedance would be documented within this report.

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 Nitrite 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 exceed half of the maximum allowable concentration the parameter is required to be sampled quarterly.

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

Treated Water Parameter	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Exceedance MAC	Exceedance ½ MAC
Antimony: Sb (ug/L) - TW	2023/01/03	<MDL 0.6	6.0	No	No
Arsenic: As (ug/L) - TW	2023/01/03	<MDL 0.2	10.0	No	No
Barium: Ba (ug/L) - TW	2023/01/03	66.7	1000.0	No	No
Boron: B (ug/L) - TW	2023/01/03	10.0	5000.0	No	No
Cadmium: Cd (ug/L) - TW	2023/01/03	<MDL 0.003	5.0	No	No
Chromium: Cr (ug/L) - TW	2023/01/03	0.43	50.0	No	No
Mercury: Hg (ug/L) - TW	2023/01/03	<MDL 0.01	1.0	No	No
Selenium: Se (ug/L) - TW	2023/01/03	0.1	50.0	No	No
Uranium: U (ug/L) - TW	2023/01/03	1.38	20.0	No	No
Additional Inorganics					
Fluoride (mg/L) - TW	2023/01/03	0.17	1.5	No	No
Nitrite (mg/L) - TW	2023/01/03	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2023/04/03	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2023/07/04	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2023/10/03	<MDL 0.003	1.0	No	No
Nitrate (mg/L) - TW	2023/01/03	0.022	10.0	No	No
Nitrate (mg/L) - TW	2023/04/03	0.018	10.0	No	No
Nitrate (mg/L) - TW	2023/07/04	0.013	10.0	No	No
Nitrate (mg/L) - TW	2023/10/03	0.016	10.0	No	No
Sodium: Na (mg/L) - TW	2023/01/03	8.31	20*	No	No

*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 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 Minimum	Range of Results Maximum	MAC (ug/L)	Number of Exceedances
Alkalinity (mg/L)	1	2	220	225	N/A	N/A

Distribution System	Number of Sampling Points	Number of Samples	Range of Results Minimum	Range of Results Maximum	MAC (ug/L)	Number of Exceedances
pH	1	2	7.74	7.97	N/A	N/A
Lead (ug/l)	1	2	0.08	0.15	10	No

Organic Parameters

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

Treated Water Parameter	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Exceedance MAC	Exceedance ½ MAC
Alachlor (ug/L) - TW	2023/01/03	<MDL 0.02	5.00	No	No
Atrazine + N-dealkylated metabolites (ug/L) - TW	2023/01/03	<MDL 0.01	5.00	No	No
Azinphos-methyl (ug/L) - TW	2023/01/03	<MDL 0.05	20.00	No	No
Benzene (ug/L) - TW	2023/01/03	<MDL 0.32	1.00	No	No
Benzo(a)pyrene (ug/L) - TW	2023/01/03	<MDL 0.004	0.01	No	No
Bromoxynil (ug/L) - TW	2023/01/03	<MDL 0.33	5.00	No	No
Carbaryl (ug/L) - TW	2023/01/03	<MDL 0.05	90.00	No	No
Carbofuran (ug/L) - TW	2023/01/03	<MDL 0.01	90.00	No	No
Carbon Tetrachloride (ug/L) - TW	2023/01/03	<MDL 0.17	2.00	No	No
Chlorpyrifos (ug/L) - TW	2023/01/03	<MDL 0.02	90.00	No	No
Diazinon (ug/L) - TW	2023/01/03	<MDL 0.02	20.00	No	No
Dicamba (ug/L) - TW	2023/01/03	<MDL 0.2	120.00	No	No
1,2-Dichlorobenzene (ug/L) - TW	2023/01/03	<MDL 0.41	200.00	No	No
1,4-Dichlorobenzene (ug/L) - TW	2023/01/03	<MDL 0.36	5.00	No	No
1,2-Dichloroethane (ug/L) - TW	2023/01/03	<MDL 0.35	5.00	No	No
1,1-Dichloroethylene (ug/L) - TW	2023/01/03	<MDL 0.33	14.00	No	No
Dichloromethane (Methylene Chloride) (ug/L) - TW	2023/01/03	<MDL 0.35	50.00	No	No
2,4-Dichlorophenol (ug/L) - TW	2023/01/03	<MDL 0.15	900.00	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L) - TW	2023/01/03	<MDL 0.19	100.00	No	No
Diclofop-methyl (ug/L) - TW	2023/01/03	<MDL 0.4	9.00	No	No
Dimethoate (ug/L) - TW	2023/01/03	<MDL 0.06	20.00	No	No
Diquat (ug/L) - TW	2023/01/03	<MDL 1.0	70.00	No	No
Diuron (ug/L) - TW	2023/01/03	<MDL 0.03	150.00	No	No
Glyphosate (ug/L) - TW	2023/01/03	<MDL 1.0	280.00	No	No
Malathion (ug/L) - TW	2023/01/03	<MDL 0.02	190.00	No	No
2-Methyl-4chlorophenoxyacetic Acid (MCPA)	2023/01/03	<MDL 0.12	100.00	No	No
Metolachlor (ug/L) - TW	2023/01/03	<MDL 0.01	50.00	No	No
Metribuzin (ug/L) - TW	2023/01/03	<MDL 0.02	80.00	No	No
Monochlorobenzene	2023/01/03	<MDL 0.3	80.00	No	No

Treated Water Parameter	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Exceedance MAC	Exceedance ½ MAC
(Chlorobenzene) (ug/L) - TW					
Paraquat (ug/L) - TW	2023/01/03	<MDL 1.0	10.00	No	No
PCB (ug/L) - TW	2023/01/03	<MDL 0.04	3.00	No	No
Pentachlorophenol (ug/L) - TW	2023/01/03	<MDL 0.15	60.00	No	No
Phorate (ug/L) - TW	2023/01/03	<MDL 0.01	2.00	No	No
Picloram (ug/L) - TW	2023/01/03	<MDL 1.0	190.00	No	No
Prometryne (ug/L) - TW	2023/01/03	<MDL 0.03	1.00	No	No
Simazine (ug/L) - TW	2023/01/03	<MDL 0.01	10.00	No	No
Terbufos (ug/L) - TW	2023/01/03	<MDL 0.01	1.00	No	No
Tetrachloroethylene (ug/L) - TW	2023/01/03	<MDL 0.35	10.00	No	No
2,3,4,6-Tetrachlorophenol (ug/L) - TW	2023/01/03	<MDL 0.2	100.00	No	No
Triallate (ug/L) - TW	2023/01/03	<MDL 0.01	230.00	No	No
Trichloroethylene (ug/L) - TW	2023/01/03	<MDL 0.44	5.00	No	No
2,4,6-Trichlorophenol (ug/L) - TW	2023/01/03	<MDL 0.25	5.00	No	No
Trifluralin (ug/L) - TW	2023/01/03	<MDL 0.02	45.00	No	No
Vinyl Chloride (ug/L) - TW	2023/01/03	<MDL 0.17	1.00	No	No
Distribution Water					
Trihalomethane: Total (ug/L) Annual Average - DW	2023	19.00	100	No	No
HAA Total (ug/L) Annual Average - DW	2023	5.40	80	No	No

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

Additional Legislated Samples

There were no additional legislated samples required to report during this reporting period.

Major Maintenance Summary incurred to install, repair or replace required equipment

WO #	Description
3201626	Highlift VFD, Alarming
3290875	Sample tap repair 658 & 746 Janetville Rd
3623295	Pump HLP #3, flow low, investigate
3664575	Chlorine day tank repair
3705254	Generator gate, sound fence, repair

Appendix A

WTRS Submission Confirmation