

# Sonya Drinking Water System

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Waterworks # 2600056516  
System Category – Small Municipal Residential

## Annual Water Report

Reporting Period of January 1<sup>st</sup> – December 31<sup>st</sup>, 2023

Issued: February 14, 2024

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 by appointment and on the [City's website](#). 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:** 260006516

**Drinking Water System Name:** Sonya DWS

**Drinking Water System Owner:** City of Kawartha Lakes

**Drinking Water System Category:** Small Municipal Residential

**Period Being Reported:** January 1, 2023 - December 31, 2023

	# Events	Date	Details
<b>Drinking Water</b>			
MECP Inspections	1	November 16, 2023	Announced - Focused Drinking Water Inspection - Final Inspection Rating – 100%
AWQI's	0		
Number of Non-Compliances	0		
Number of Boil Water Advisories	0		

## System Process Description

### Raw Source

The water supply for the Sonya DWS comes from two (2) groundwater wells that are designated as non-GUDI (groundwater under direct influence).

### Treatment

The treatment system consists of the following:

- Two (2) cartridge filtration systems,
- Primary disinfection from the sodium hypochlorite system,
- Secondary disinfection from the sodium hypochlorite system,
- Hydropneumatic tanks,
- Clearwell,

- High lift pump system,
- Sodium silicate injection system for iron removal,
- Stand-by diesel generator on-site.

Treatment Chemicals used during the reporting year:

<b>Chemical Name</b>	<b>Use</b>	<b>Supplier</b>
Sodium Hypochlorite	Disinfection	LAVO
Sodium Silicate	Iron Removal	Brenntag

## **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-compliances reported during the reporting period.

### **Non-Compliance Identified in a Ministry Inspection:**

There were no non-compliances identified in a Ministry Inspection during this period.

## **Flows**

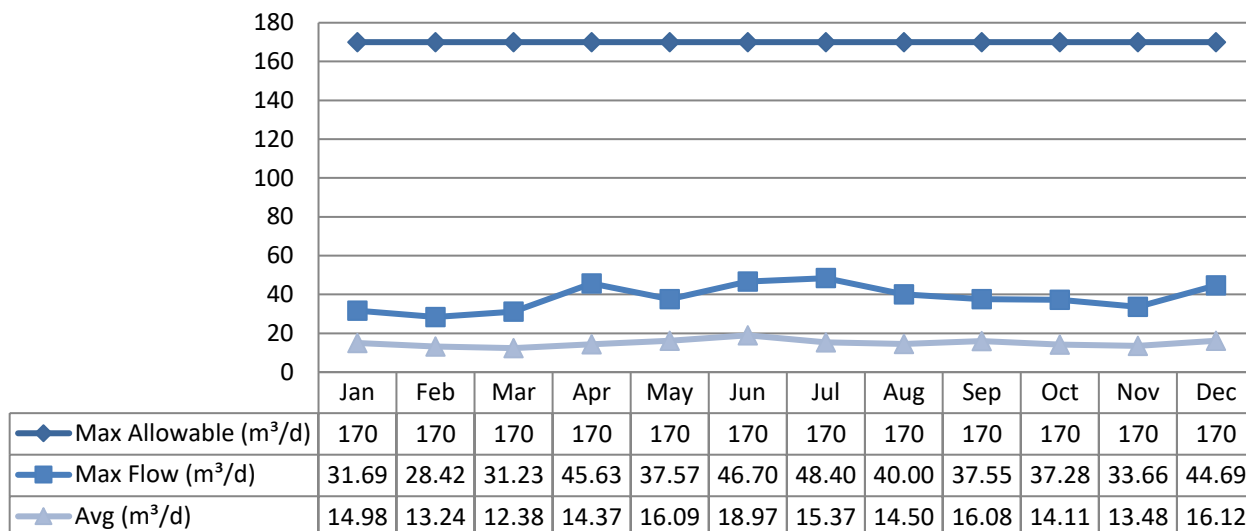
The Sonya Drinking Water System is operating on average under half the rated capacity.

### **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 #1246-AWTJXZ. The confirmation of the data that was submitted are attached in Appendix A.

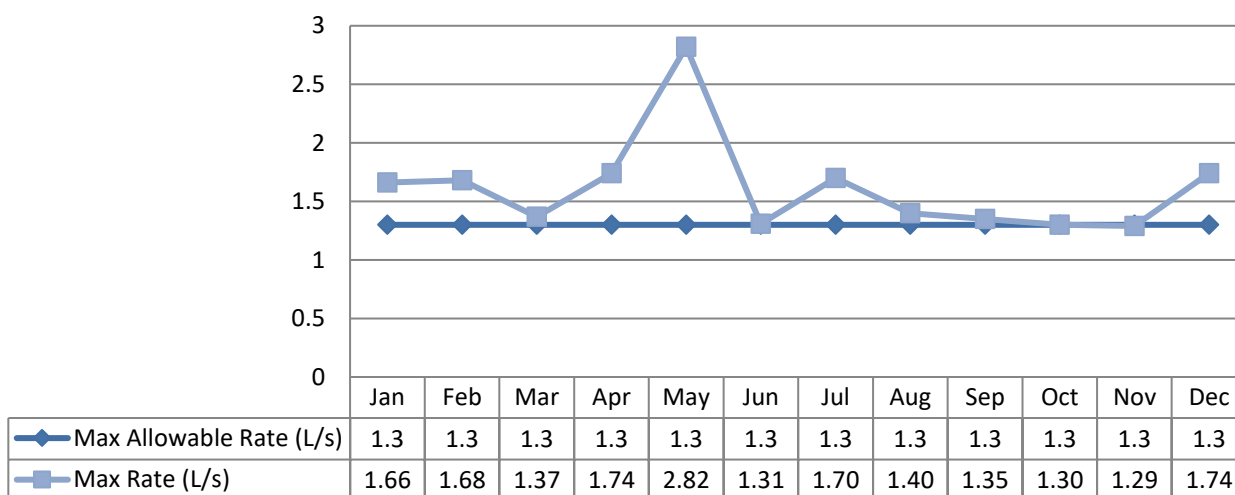
Total Monthly Flows (m<sup>3</sup>/d)

Max Allowable PTTW – Well #1



Monthly Rated Flows (L/s)

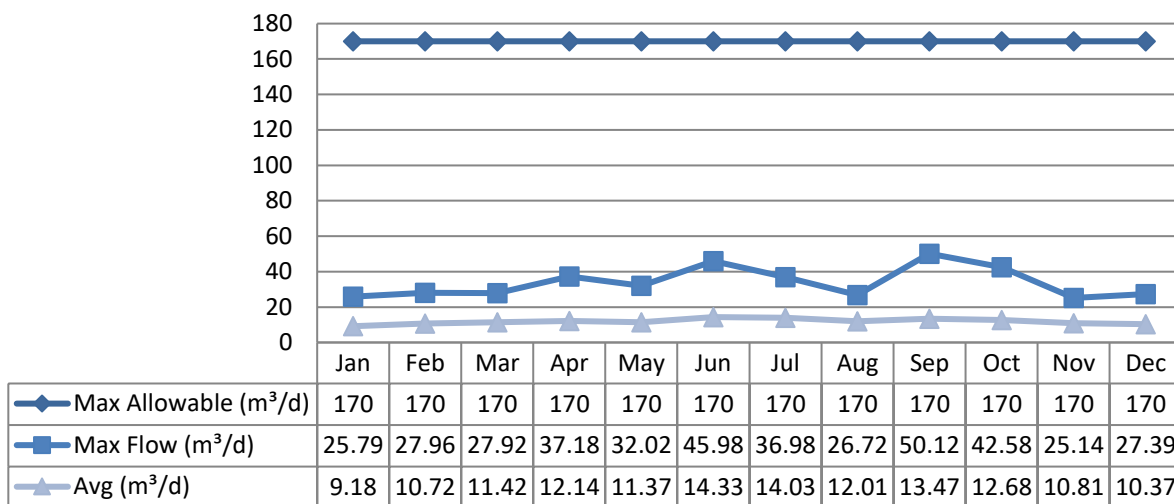
Max allowable rate – PTTW – Well #1



Note: The above table shows there were exceedances in instantaneous peak flow rate (L/s) but these exceedances were short in duration. Spikes recorded by on-line instrumentation were a result of air bubbles and various maintenance/calibration activities. The significant spike in May was due to schedule flow meter calibration. All spikes are reviewed for compliance with O. Reg. 170/03.

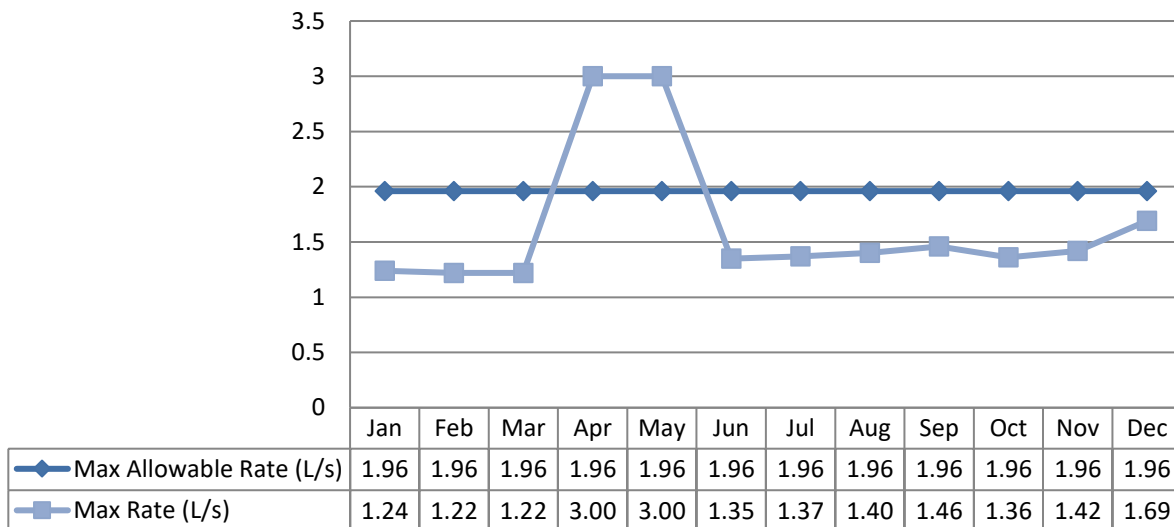
Total Monthly Flows (m<sup>3</sup>/d)

Max Allowable PTTW – Well #3



Monthly Rated Flows (L/s)

Max allowable rate – PTTW – Well #3



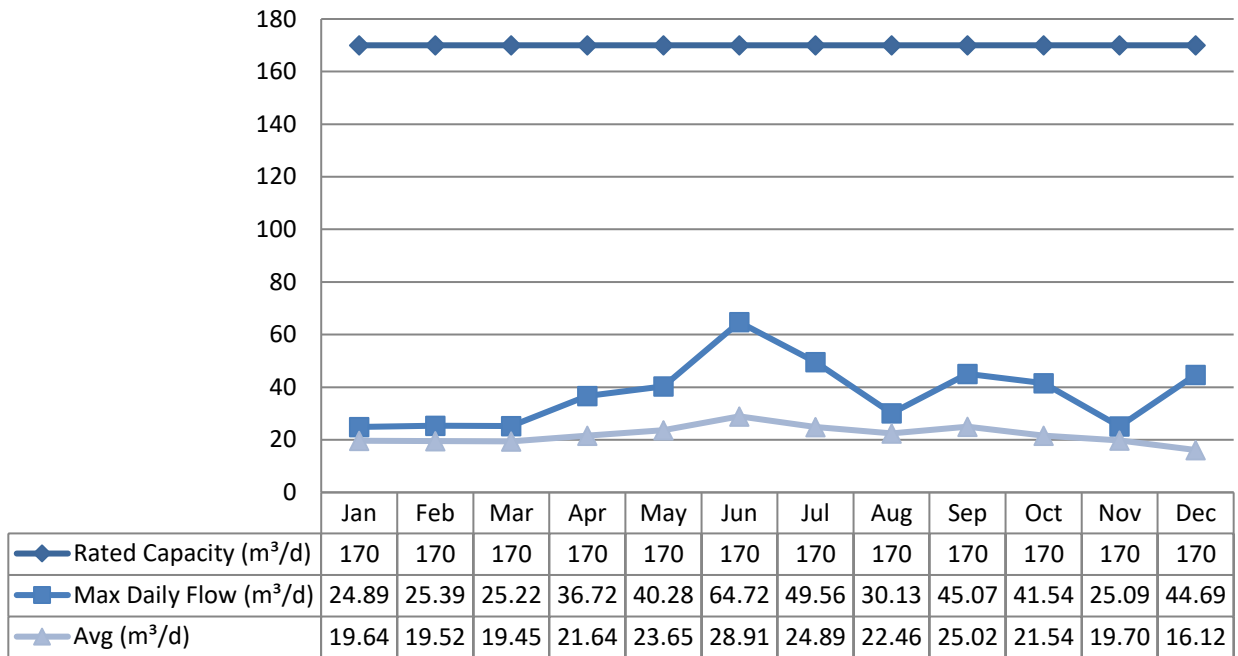
Note: The above table shows there were exceedances in instantaneous peak flow rate (L/s) but these exceedances were short in duration. Spikes recorded by on-line instrumentation were a result of air bubbles and various maintenance/calibration activities. The significant spike in May was due to scheduled Flow Meter calibration. All spikes are reviewed for compliance with O. Reg.170/03.

### Treated Water Flows

The Treated Water flows are regulated under the Municipal Licence 141-107.

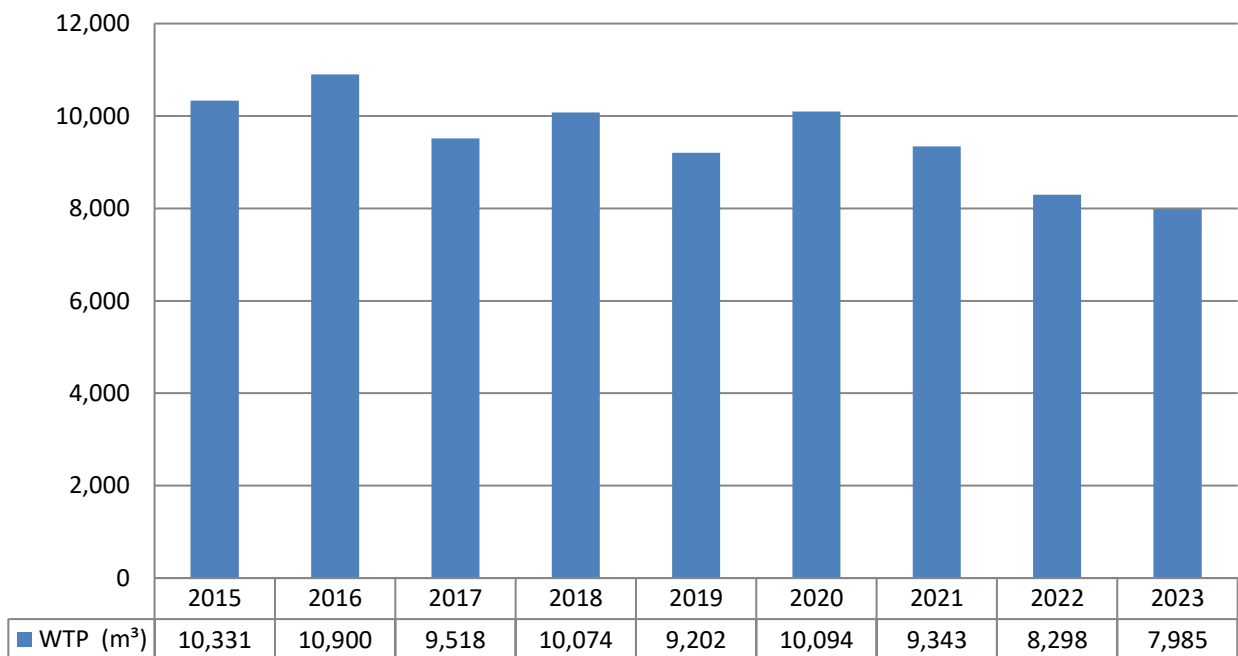
#### Monthly Rated Flows

Rated Capacity – MDWL



#### Annual Total Flow Comparison

Total Annual m<sup>3</sup>



## Regulatory Sample Results Summary

### Microbiological Testing

	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 1	52	0	<20	0	<20	N/A	N/A
Raw Well 3	52	0	0	0	<20	N/A	N/A
Treated	51	0	0	0	0	N/A	N/A
Distribution	51	0	0	0	0	0	11

### Operational Testing

Parameter	Number of Samples Collected	Range of Results Minimum	Range of Results Maximum
Turbidity Well 1 (NTU)	12	0.38	2.80
Turbidity Well 3 (NTU)	12	0.26	1.54
Chlorine	8760	0	2.21
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.

### 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

	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Exceedances MAC	Exceedances ½ MAC
<b>Treated Water</b>					
Antimony: Sb (ug/L) - TW	2020 08 04	0.1	6.0	No	No
Arsenic: As (ug/L) - TW	2020 08 04	0.4	10.0	No	No



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	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Exceedances MAC	Exceedances ½ MAC
Barium: Ba (ug/L) - TW	2020 08 04	159.0	1000.0	No	No
Boron: B (ug/L) - TW	2020 08 04	20.0	5000.0	No	No
Cadmium: Cd (ug/L) - TW	2020 08 04	<MDL 0.003	5.0	No	No
Chromium: Cr (ug/L) - TW	2020 08 04	0.12	50.0	No	No
Mercury: Hg (ug/L) - TW	2020 08 04	<MDL 0.01	1.0	No	No
Selenium: Se (ug/L) - TW	2020 08 04	<MDL 0.04	50.0	No	No
Uranium: U (ug/L) - TW	2020 08 04	0.55	20.0	No	No
<b>Additional Organics</b>					
Fluoride (mg/L) - TW	2023 01 04	0.08	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 02	<MDL 0.003	1.0	No	No
Nitrate (mg/L) - TW	2023 01 04	0.223	10.0	No	No
Nitrate (mg/L) - TW	2023 04 03	0.094	10.0	No	No
Nitrate (mg/L) - TW	2023 07 04	0.092	10.0	No	No
Nitrate (mg/L) - TW	2023 10 02	0.094	10.0	No	No
Sodium: Na (mg/L) - TW	2023 12 11	12.6	20*	No	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 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 (µg/L)	Number of Exceedances
Alkalinity (mg/L)	1	2	256	256	N/A	N/A
pH	1	2	7.49	7.67	N/A	N/A
Lead (µg/l)	1	2	0.07	0.15	10	0

**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.

<b>Treated Water Parameter</b>	<b>Sample Date (yyyy/mm/dd)</b>	<b>Sample Result</b>	<b>MAC</b>	<b>Exceedance MAC</b>	<b>Exceedance ½ MAC</b>
Alachlor (ug/L)	2020/08/04	<MDL 0.02	5.0	No	No
Atrazine + N-dealkylated metabolites (ug/L)	2020/08/04	<MDL 0.01	5.0	No	No
Azinphos-methyl (ug/L)	2020/08/04	<MDL 0.05	20.0	No	No
Benzene (ug/L)	2020/08/04	<MDL 0.32	1.0	No	No
Benzo(a)pyrene (ug/L)	2020/08/04	<MDL 0.004	0.01	No	No
Bromoxynil (ug/L)	2020/08/04	<MDL 0.33	5.0	No	No
Carbaryl (ug/L)	2020/08/04	<MDL 0.05	90.0	No	No
Carbofuran (ug/L)	2020/08/04	<MDL 0.01	90.0	No	No
Carbon Tetrachloride (ug/L)	2020/08/04	<MDL 0.17	2.0	No	No
Chlorpyrifos (ug/L)	2020/08/04	<MDL 0.02	90.0	No	No
Diazinon (ug/L)	2020/08/04	<MDL 0.02	20.0	No	No
Dicamba (ug/L)	2020/08/04	<MDL 0.2	120.0	No	No
1,2-Dichlorobenzene (ug/L)	2020/08/04	<MDL 0.41	200.0	No	No
1,4-Dichlorobenzene (ug/L)	2020/08/04	<MDL 0.36	5.0	No	No
1,2-Dichloroethane (ug/L)	2020/08/04	<MDL 0.35	5.0	No	No
1,1-Dichloroethylene (ug/L)	2020/08/04	<MDL 0.33	14.0	No	No
Dichloromethane (Methylene Chloride) (ug/L)	2020/08/04	<MDL 0.35	50.0	No	No
2,4-Dichlorophenol (ug/L)	2020/08/04	<MDL 0.15	900.0	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L)	2020/08/04	<MDL 0.19	100.0	No	No
Diclofop-methyl (ug/L)	2020/08/04	<MDL 0.4	9.0	No	No
Dimethoate (ug/L)	2020/08/04	<MDL 0.06	20.0	No	No
Diquat (ug/L)	2020/08/04	<MDL 1.0	70.0	No	No
Diuron (ug/L)	2020/08/04	<MDL 0.03	150.0	No	No
Glyphosate (ug/L)	2020/08/04	<MDL 1.0	280.0	No	No
Malathion (ug/L)	2020/08/04	<MDL 0.02	190.0	No	No
Metolachlor (ug/L)	2020/08/04	<MDL 0.01	50.0	No	No
Metribuzin (ug/L)	2020/08/04	<MDL 0.02	80.0	No	No
Monochlorobenzene (Chlorobenzene) (ug/L)	2020/08/04	<MDL 0.3	80.0	No	No
Paraquat (ug/L)	2020/08/04	<MDL 1.0	10.0	No	No
PCB (ug/L)	2020/08/04	<MDL 0.04	3.0	No	No
Pentachlorophenol (ug/L)	2020/08/04	<MDL 0.15	60.0	No	No
Phorate (ug/L)	2020/08/04	<MDL 0.01	2.0	No	No
Picloram (ug/L)	2020/08/04	<MDL 1.0	190.0	No	No
Prometryne (ug/L)	2020/08/04	<MDL 0.03	1.0	No	No

Treated Water Parameter	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Exceedance MAC	Exceedance ½ MAC
Simazine (ug/L)	2020/08/04	<MDL 0.01	10.0	No	No
Terbufos (ug/L)	2020/08/04	<MDL 0.01	1.0	No	No
Tetrachloroethylene (ug/L)	2020/08/04	<MDL 0.35	10.0	No	No
2,3,4,6-Tetrachlorophenol (ug/L)	2020/08/04	<MDL 0.2	100.0	No	No
Triallate (ug/L)	2020/08/04	<MDL 0.01	230.0	No	No
Trichloroethylene (ug/L)	2020/08/04	<MDL 0.44	5.0	No	No
2,4,6-Trichlorophenol (ug/L)	2020/08/04	<MDL 0.25	5.0	No	No
Trifluralin (ug/L)	2020/08/04	<MDL 0.12	100.0	No	No
Vinyl Chloride (ug/L)	2020/08/04	<MDL 0.02	45.0	No	No
<b>Distribution Water</b>					
Trihalomethane: Total (ug/L) Annual Average Q1 - DW	2023/01/04	13.50	100.0	No	No
Trihalomethane: Total (ug/L) Annual Average Q2 - DW	2023/04/03	13.25	100.0	No	No
Trihalomethane: Total (ug/L) Annual Average Q3 - DW	2023/07/04	12.25	100.0	No	No
Trihalomethane: Total (ug/L) Annual Average Q4 - DW	2023/10/02	11.75	100.0	No	No
HAA Total (ug/L) Annual Average Q1 - DW	2023/01/04	5.3	80.0	No	No
HAA Total (ug/L) Annual Average Q2 - DW	2023/04/03	5.3	80.0	No	No
HAA Total (ug/L) Annual Average Q3 - DW	2023/07/04	5.3	80.0	No	No
HAA Total (ug/L) Annual Average Q4 - DW	2023/10/02	5.3	80.0	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
No WO assigned	Replaced Clearwell Level Controller
61193	TSSA Generator Upgrades

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<b>WO #</b>	<b>Description</b>
69277/69278	Cleansed Well #1 and Well #3

# Appendix A

## WTRS Submission Confirmation

