

# Sonya Drinking Water System

---

Waterworks # 2600056515  
System Category – Small Municipal Residential

## Annual Water Report

Prepared For: The City of Kawartha Lakes

Reporting Period of January 1<sup>st</sup> – December 31<sup>st</sup>, 2018

Issued: February 22, 2019

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

## Table of Contents

Annual Water Report .....	1
Report Availability .....	2
Compliance Report Card .....	2
System Process Description .....	2
Raw Source .....	2
Treatment .....	2
Treatment Chemicals used during the reporting year .....	3
Summary of Non-Compliance.....	3
Adverse Water Quality Incidents.....	3
Non-Compliance .....	3
Non-Compliance Identified in a Ministry Inspection .....	3
Flows .....	3
Raw Water Flows.....	4
Total Monthly Flows (m <sup>3</sup> /d)-Well #1 .....	4
Monthly Rate Flows (L/s)-Well #1 .....	4
Total Monthly Flows (m <sup>3</sup> /d)-Well #3 .....	5
Monthly Rate Flows (L/s)-Well #3.....	5
Treated Water Flows .....	6
Monthly Rated 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.....	9
Additional Legislated Samples.....	10
Major Maintenance Summary.....	10
WTRS Submission Confirmation .....	A

## 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](http://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 12 Peel Street 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, 2018 - December 31, 2018

	# of Events	Date	Details
<b>Health &amp; Safety</b>			
Number of Incidents	0		
<b>Drinking Water</b>			
MECP Inspections	1	May 17, 2018	Unannounced - Detailed Drinking Water Inspection - Final Inspection Rating of 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 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,
- Four (4) UV disinfection systems,
- Secondary disinfection from the sodium hypochlorite system,
- Hydropneumatic tanks
- Clearwell,

- High lift pump system,
- Stand-by diesel generator on-site.

### Treatment Chemicals used during the reporting year:

Chemical Name	Use	Supplier
Sodium Hypochlorite	Disinfection	Brenntag

### Summary of Non-Compliance

#### Adverse Water Quality Incidents

Date	AWQI #	Location	Problem	Details	Legislation	Corrective Action Taken
There were no adverse water quality incidents reported during the reporting period.						

#### Non-Compliance(s)

Legislation	Requirement(s) system failed to meet	Duration of the failure (i.e. dates)	Corrective Action	Status
There were no non-compliance issues reported during the reporting period.				

#### Non-Compliance(s) Identified in a Ministry Inspection:

Legislation	Requirement(s) system failed to meet	Duration of the failure (i.e. dates)	Corrective Action	Status
There were no non-compliances identified in a Ministry Inspection during this reporting period.				

### Flows

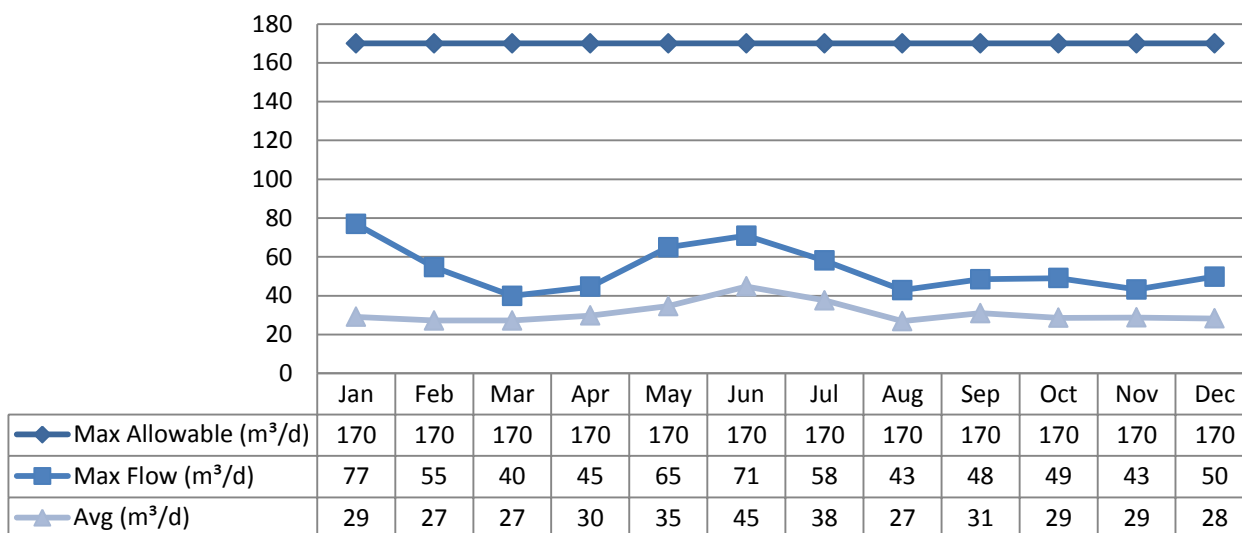
The Sonya Drinking Water System is operating on average under half the rated capacity.

#### Raw Water Flows

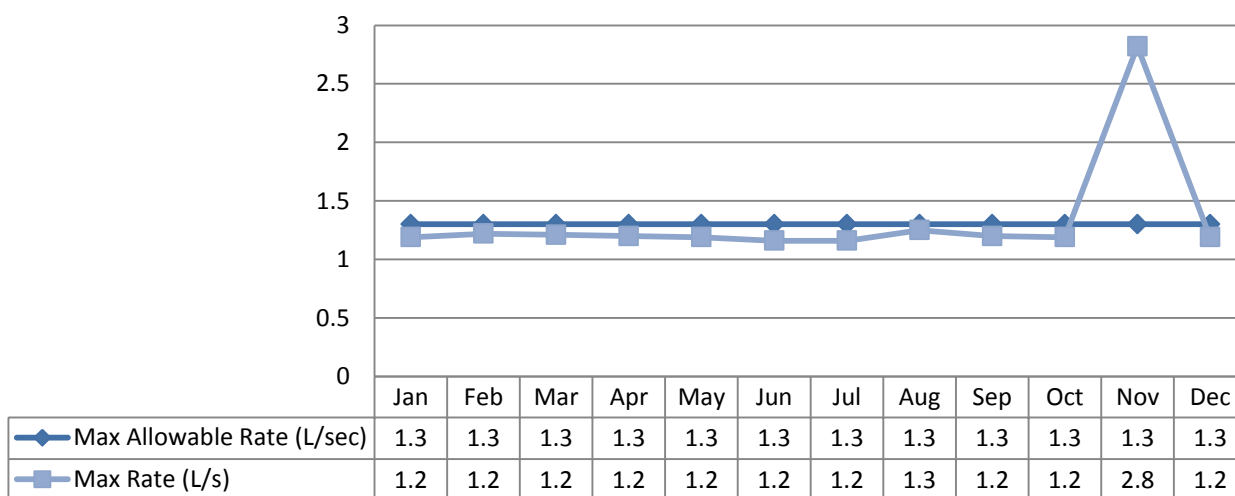
The Raw Water flows are regulated under the Permit to Take Water. 2018 Raw Flow Data was submitted to the Ministry electronically under permit #6272-7JDP43 and #1246-AWTJXZ. The confirmation of the data that was submitted are attached in Appendix A.

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

Max Allowable PTTW – Well #1

Monthly Rated Flows (L/s)

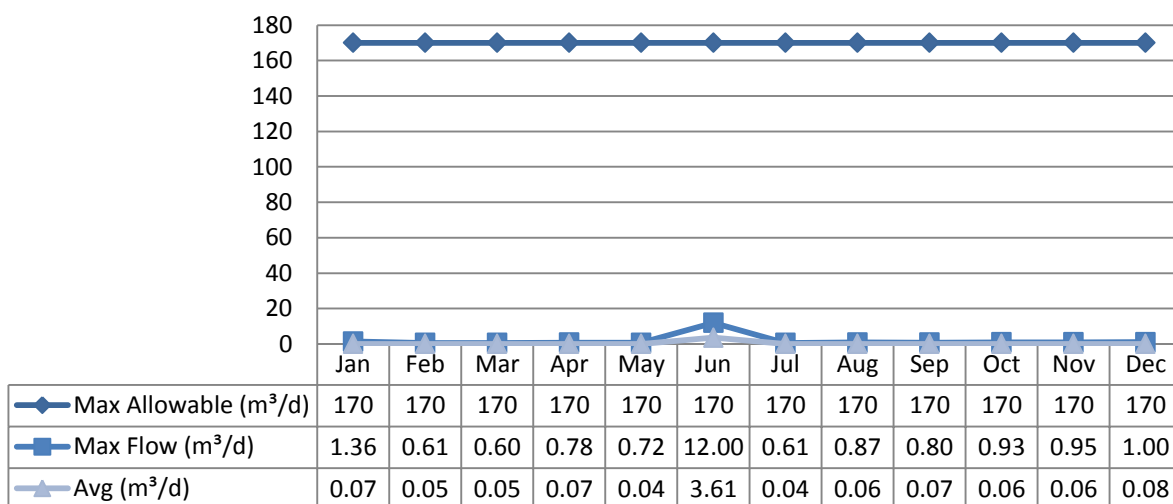
Max allowable rate – PTTW – Well #1



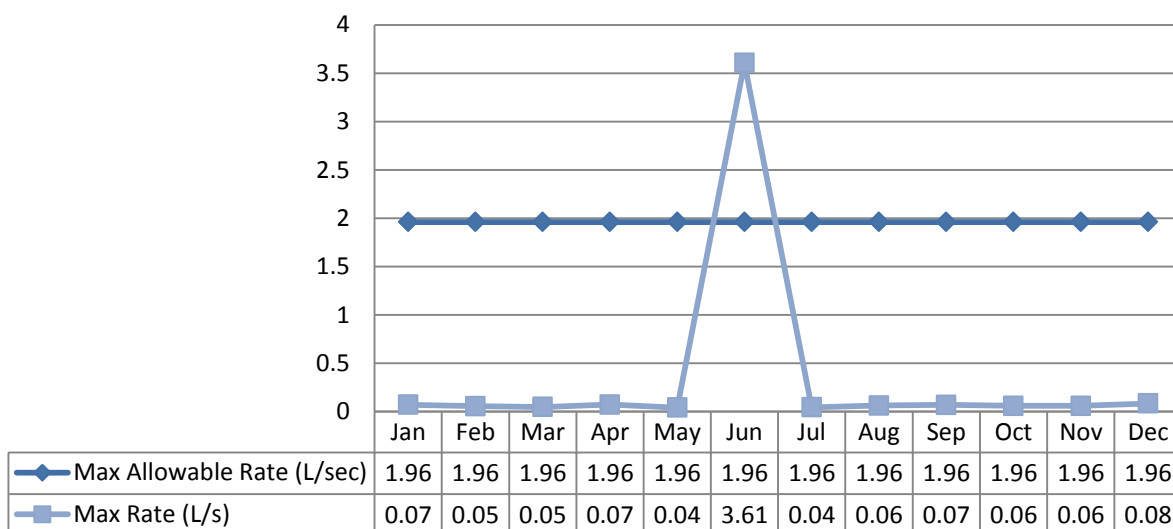
Note: The above table shows there were exceedances in instantaneous peak flow rate (L/s). The significant spike in November was due to scheduled Flow Meter calibration.

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

Max Allowable PTTW – Well #3

Monthly Rated Flows (L/s)

Max allowable rate – PTTW – Well #3



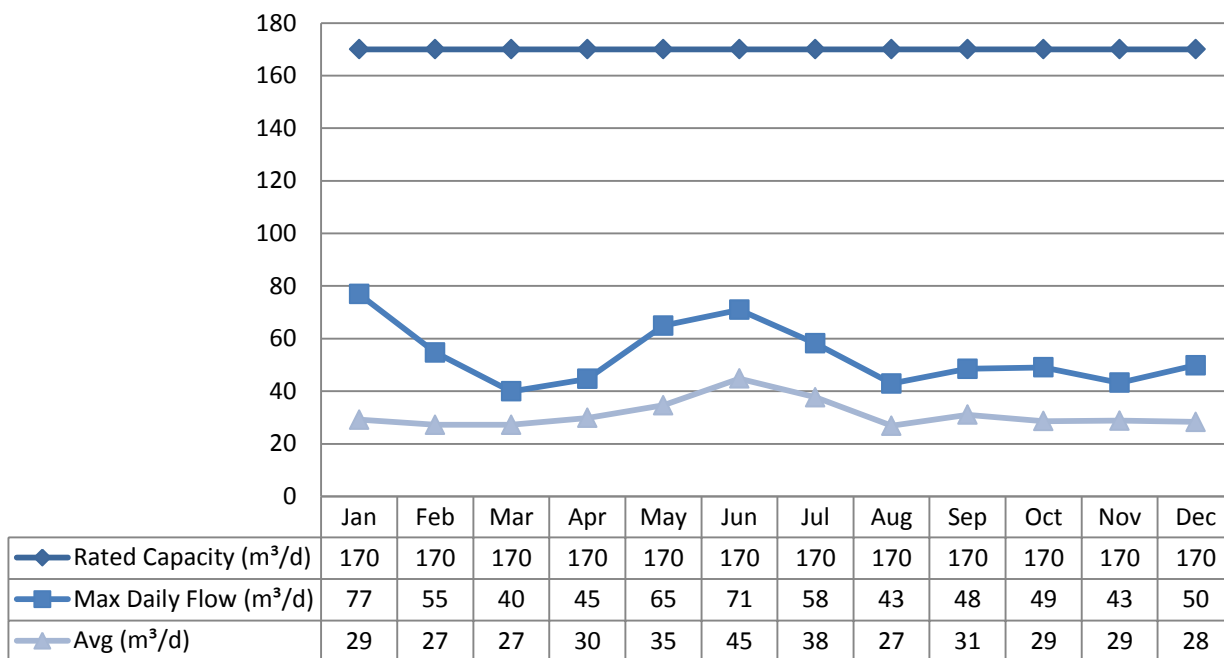
**Note:** The above table shows there were exceedances in instantaneous peak flow rate (L/s). The significant spike in June was due to scheduled well cleaning.

**Treated Water Flows**

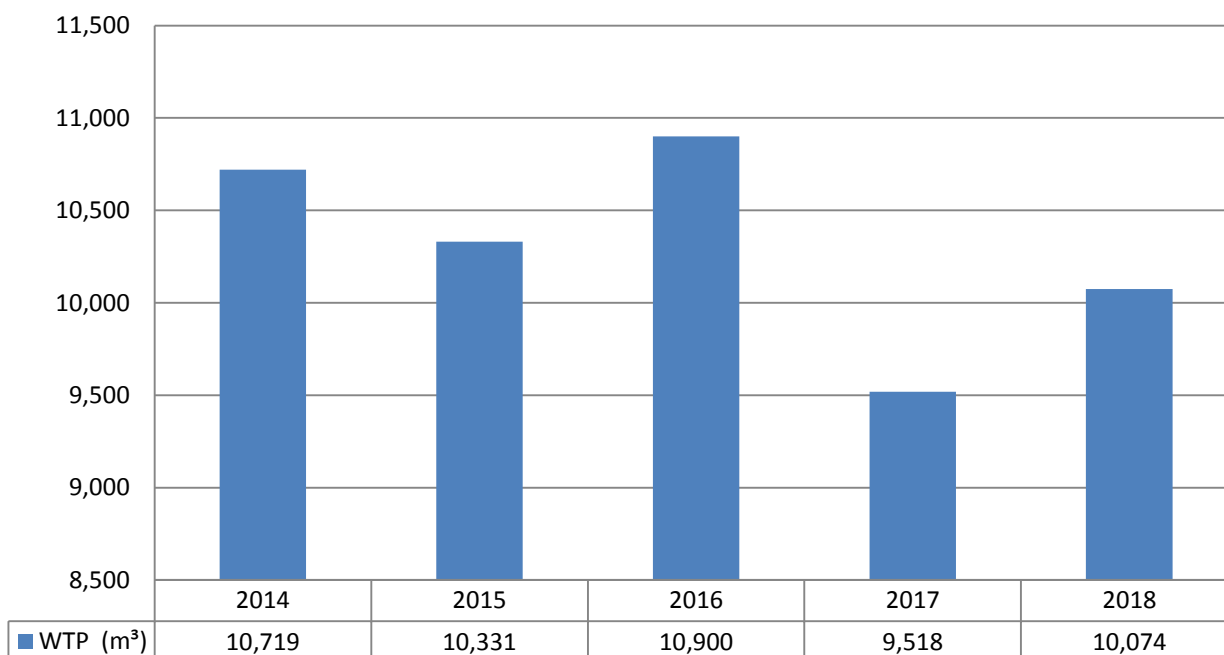
The Treated Water flows are regulated under the Municipal Licence.

**Monthly Rated Flows**

Rated Capacity – MDWL

**Annual Total Flow Comparison**

Total Annual m³



## Regulatory Sample Results Summary

### Microbiological Testing

		Range of E. coli Results		Range of Total Coliform Results		Range of HPC Results	
Source	# of Samples	Min	Max	Min	Max	Min	Max
Raw Well 1	32	0	0	0	3		
Raw Well 3	30	0	0	0	0		
Treated	N/A						
Distribution	53	0	0	0	0	0	61

### Operational Testing

Parameter No. of Samples	Number of Samples Collected	Range of Results Minimum	Range of Results Maximum
Turbidity Well 1 (NTU)	12	0.031	0.53
Turbidity Well 3 (NTU)	12	0.068	1.23
Chlorine	8760	1.05	2.75
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	1/2 MAC
Treated Water					



	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Exceedances	
				MAC	1/2 MAC
Antimony: Sb (ug/L) - TW	2018/08/20	0.06	6.0	No	No
Arsenic: As (ug/L) - TW	2018/08/20	0.4	10.0	No	No
Barium: Ba (ug/L) - TW	2018/08/20	186.0	1000.0	No	No
Boron: B (ug/L) - TW	2018/08/20	11.0	5000.0	No	No
Cadmium: Cd (ug/L) - TW	2018/08/20	<MDL 0.003	5.0	No	No
Chromium: Cr (ug/L) - TW	2018/08/20	0.15	50.0	No	No
Mercury: Hg (ug/L) - TW	2018/08/20	0.02	1.0	No	No
Selenium: Se (ug/L) - TW	2018/08/20	0.04	50.0	No	No
Uranium: U (ug/L) - TW	2018/08/20	0.51	20.0	No	No
<b>Additional Inorganics</b>					
Fluoride (mg/L) - TW	2018/01/08	0.08	1.5	No	No
Nitrite (mg/L) - TW	2018/01/08	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2018/04/17	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2018/07/16	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2018/10/09	<MDL 0.003	1.0	No	No
Nitrate (mg/L) - TW	2018/01/08	0.043	10.0	No	No
Nitrate (mg/L) - TW	2018/04/17	0.047	10.0	No	No
Nitrate (mg/L) - TW	2018/07/16	<MDL 0.006	10.0	No	No
Nitrate (mg/L) - TW	2018/10/09	0.05	10.0	No	No
Sodium: Na (mg/L) - TW	2018/12/07	11.9	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		MAC (ug/L)	Number of Exceedances
			Minimum	Maximum		
Alkalinity (mg/L)	2	2	249	252	N/A	N/A
pH	2	2	7.66	7.97	N/A	N/A
Lead (ug/l)	N/A	N/A				

**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.

	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Number of Exceedances	
				MAC	1/2 MAC
<b>Treated Water</b>					
Alachlor (ug/L) - TW	2018/08/20	<MDL 0.02	5.00	No	No
Atrazine + N-dealkylated metabolites (ug/L) - TW	2018/08/20	<MDL 0.01	5.00	No	No
Azinphos-methyl (ug/L) - TW	2018/08/20	<MDL 0.05	20.00	No	No
Benzene (ug/L) - TW	2018/08/20	<MDL 0.32	1.00	No	No
Benzo(a)pyrene (ug/L) - TW	2018/08/20	<MDL 0.004	0.01	No	No
Bromoxynil (ug/L) - TW	2018/08/20	<MDL 0.33	5.00	No	No
Carbaryl (ug/L) - TW	2018/08/20	<MDL 0.05	90.00	No	No
Carbofuran (ug/L) - TW	2018/08/20	<MDL 0.01	90.00	No	No
Carbon Tetrachloride (ug/L) - TW	2018/08/20	<MDL 0.16	2.00	No	No
Chlorpyrifos (ug/L) - TW	2018/08/20	<MDL 0.02	90.00	No	No
Diazinon (ug/L) - TW	2018/08/20	<MDL 0.02	20.00	No	No
Dicamba (ug/L) - TW	2018/08/20	<MDL 0.2	120.00	No	No
1,2-Dichlorobenzene (ug/L) - TW	2018/08/20	<MDL 0.41	200.00	No	No
1,4-Dichlorobenzene (ug/L) - TW	2018/08/20	<MDL 0.36	5.00	No	No
1,2-Dichloroethane (ug/L) - TW	2018/08/20	<MDL 0.35	5.00	No	No
1,1-Dichloroethylene (ug/L) - TW	2018/08/20	<MDL 0.33	14.00	No	No
Dichloromethane (Methylene Chloride) (ug/L) - TW	2018/08/20	<MDL 0.35	50.00	No	No
2,4-Dichlorophenol (ug/L) - TW	2018/08/20	<MDL 0.15	900.00	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L) - TW	2018/08/20	<MDL 0.19	100.00	No	No
Diclofop-methyl (ug/L) - TW	2018/08/20	<MDL 0.4	9.00	No	No
Dimethoate (ug/L) - TW	2018/08/20	<MDL 0.03	20.00	No	No
Diquat (ug/L) - TW	2018/08/20	<MDL 1.0	70.00	No	No
Diuron (ug/L) - TW	2018/08/20	<MDL 0.03	150.00	No	No
Glyphosate (ug/L) - TW	2018/08/20	<MDL 1.0	280.00	No	No
Malathion (ug/L) - TW	2018/08/20	<MDL 0.02	190.00	No	No
2-Methyl-4chlorophenoxyacetic Acid (MCPA)	2018/08/20	<MDL 0.012	100.00	No	No
Metolachlor (ug/L) - TW	2018/08/20	<MDL 0.01	50.00	No	No
Metribuzin (ug/L) - TW	2018/08/20	<MDL 0.02	80.00	No	No
Monochlorobenzene (Chlorobenzene)	2018/08/20	<MDL 0.3	80.00	No	No

	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Number of Exceedances	
				MAC	1/2 MAC
(ug/L) - TW					
Paraquat (ug/L) - TW	2018/08/20	<MDL 1.0	10.00	No	No
PCB (ug/L) - TW	2018/08/20	<MDL 0.04	3.00	No	No
Pentachlorophenol (ug/L) - TW	2018/08/20	<MDL 0.15	60.00	No	No
Phorate (ug/L) - TW	2018/08/20	<MDL 0.01	2.00	No	No
Picloram (ug/L) - TW	2018/08/20	<MDL 1.0	190.00	No	No
Prometryne (ug/L) - TW	2018/08/20	<MDL 0.03	1.00	No	No
Simazine (ug/L) - TW	2018/08/20	<MDL 0.01	10.00	No	No
Terbufos (ug/L) - TW	2018/08/20	<MDL 0.01	1.00	No	No
Tetrachloroethylene (ug/L) - TW	2018/08/20	<MDL 0.35	10.00	No	No
2,3,4,6-Tetrachlorophenol (ug/L) - TW	2018/08/20	<MDL 0.2	100.00	No	No
Triallate (ug/L) - TW	2018/08/20	<MDL 0.01	230.00	No	No
Trichloroethylene (ug/L) - TW	2018/08/20	<MDL 0.44	5.00	No	No
2,4,6-Trichlorophenol (ug/L) - TW	2018/08/20	<MDL 0.25	5.00	No	No
Trifluralin (ug/L) - TW	2018/08/20	<MDL 0.02	45.00	No	No
Vinyl Chloride (ug/L) - TW	2018/08/20	<MDL 0.17	1.00	No	No
<b>Distribution Water</b>					
Trihalomethane: Total (ug/L) Annual Average - DW	2018	15.825	100	No	No
HAA Total (ug/L) Annual Average - DW	2018	5.65	N/A	N/A	N/A

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
982092	Chlorine diaphragm pump #2 – pump head replacement

# Appendix A

---

## WTRS Submission Confirmation

Water Taking Data submitted successfully.
<p><b>Confirmation:</b></p> <p>Thank you for submitting your water taking data online.</p> <p>Permit Number: 6272-7JDP43 Permit Holder: THE CORPORATION OF THE CITY OF KAWARTHA LAKES. Received on: Feb 21, 2019 11:36 AM</p> <p>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.</p> <p><a href="#">Print Confirmation</a> <a href="#">Return to Main Page</a></p>

Water Taking Data submitted successfully.
<p><b>Confirmation:</b></p> <p>Thank you for submitting your water taking data online.</p> <p>Permit Number: 1246-AWTJXZ Permit Holder: THE CORPORATION OF THE CITY OF KAWARTHA LAKES. Received on: Feb 21, 2019 11:38 AM</p> <p>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.</p> <p><a href="#">Print Confirmation</a> <a href="#">Return to Main Page</a></p>