

# Woodville Drinking Water System

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Waterworks # 210001077  
System Category – Large 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 15, 2019

Revision: 0

Operating Authority:



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 and 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:** 210001077

**Drinking Water System Name:** Woodville DWS

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

**Drinking Water System Category:** Large 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 8, 2018	Announced-Detailed Drinking Water Inspection - Final Inspection Rating of 96.97%
AWQI's	1	June 15, 2018	NSF 53 filters were not used as required by the MDWL
Number of Non-Compliances	1		
Number of Boil Water Advisories	0		

## System Process Description

### Raw Source

The Woodville Water Treatment Plant is supplied with two GUDI wells (Wells 1 and 2). Well 3 is a pond makeup well.

### Treatment

The treatment system consists of the following:

- Two parallel treatment trains, each containing two sets of cartridge filters
- Sodium hypochlorite feed system with two metering pumps

- Three turbidity analyzers: raw water and one per filtration train
- Two chlorine residuals analyzers: immediately following the injection point and treated water
- Two flow meters: raw and treated
- Chlorine contact pipe
- SCADA system
- Water storage standpipe with a capacity of 1160 m<sup>3</sup>
- Standby generator

**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
June 15, 2018	139897	Treated Water	NSF 53 filters were not used as required by the MDWL	The 1 micron absolute filters used were not NSF 53 certified	Municipal Drinking Water License	NSF 53 filters were installed.

**Non-Compliance**

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

**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
Municipal Drinking Water License	NSF 53 filters were not used as required by the	Identified during the June 2018 MECP	NSF 53 filters were installed	Complete

Legislation	Requirement(s) system failed to meet	Duration of the failure (i.e. date(s))	Corrective Action	Status
(MDWL)	MDWL	Inspection		

## **Flows**

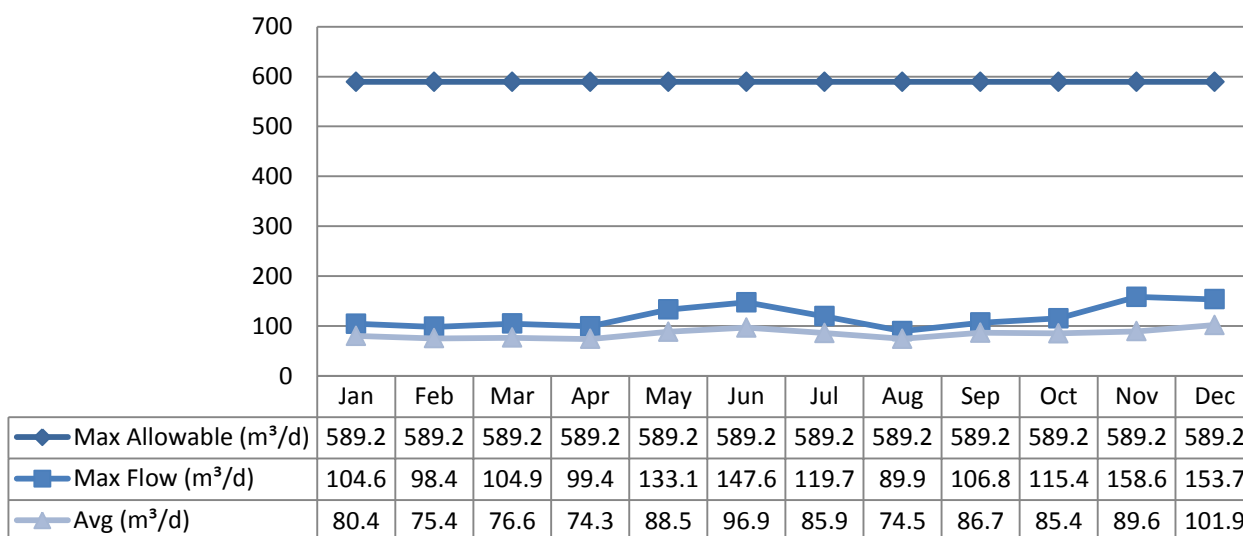
The Woodville Drinking Water System is operating on average under half the rated capacity.

## **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 #1207-AHKRXV. The confirmation and a copy of the data that was submitted are attached in Appendix A.

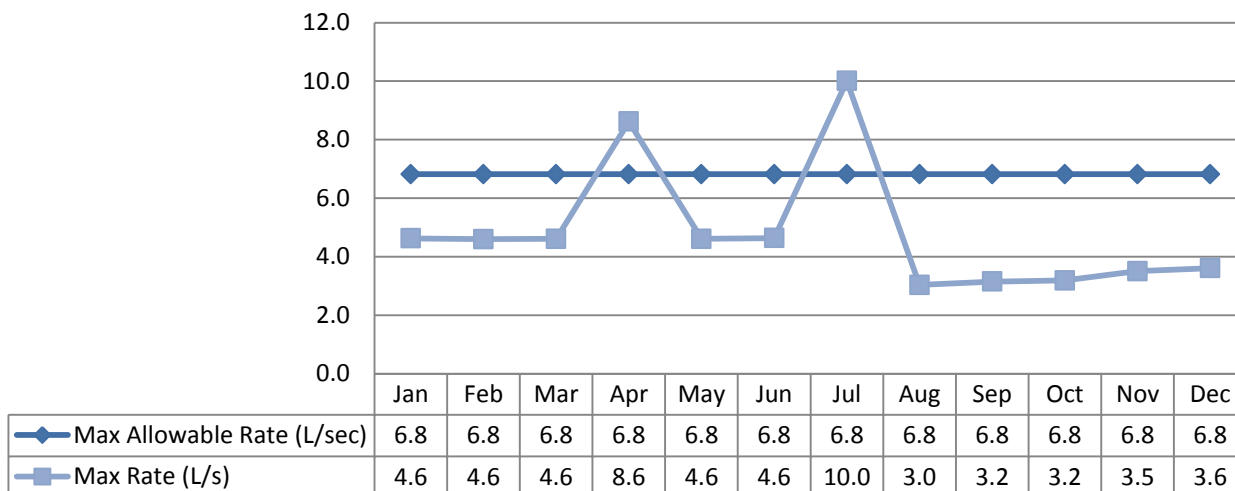
### Total Monthly Flows (m<sup>3</sup>/d)

Max Allowable PTTW- Well #1



Monthly Rated Flows (L/s)

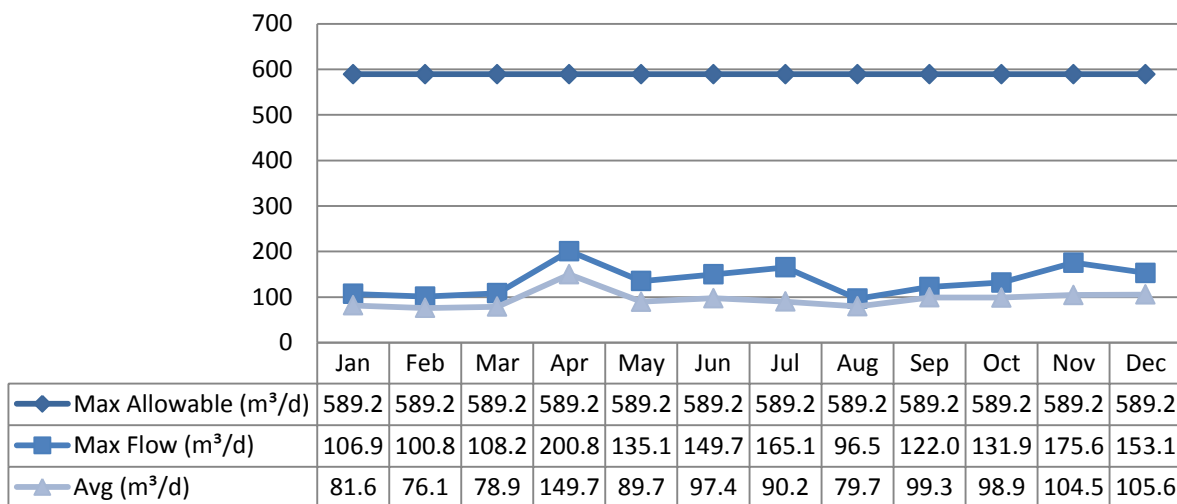
Max allowable rate – PTTW- Well #1



Note: The short term spike in April was caused by a power outage and the significant spike in July was due to scheduled Flow Meter calibration.

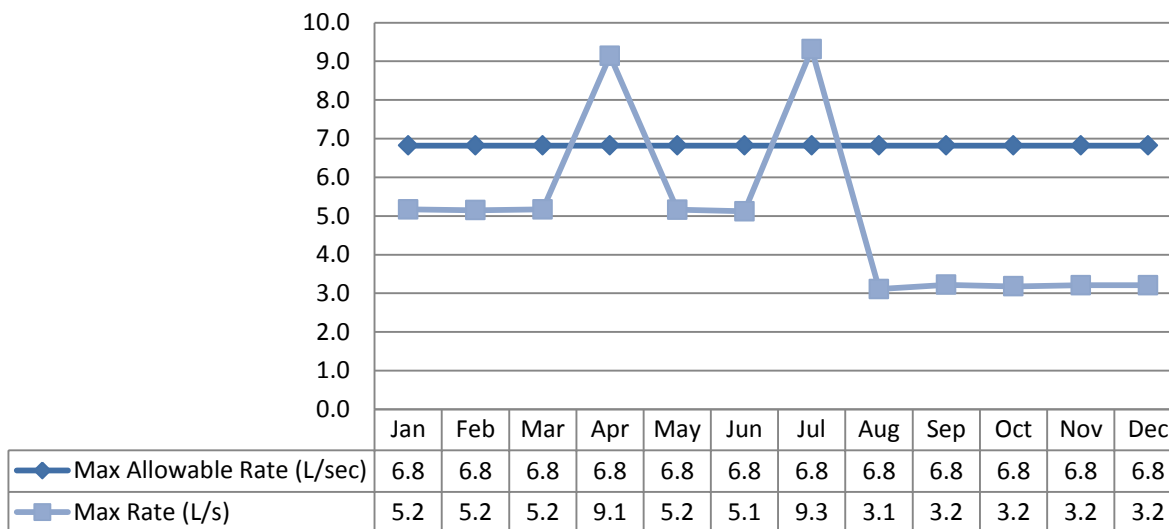
Total Monthly Flows (m<sup>3</sup>/d)

Max Allowable PTTW- Well #2



Monthly Rated Flows (L/s)

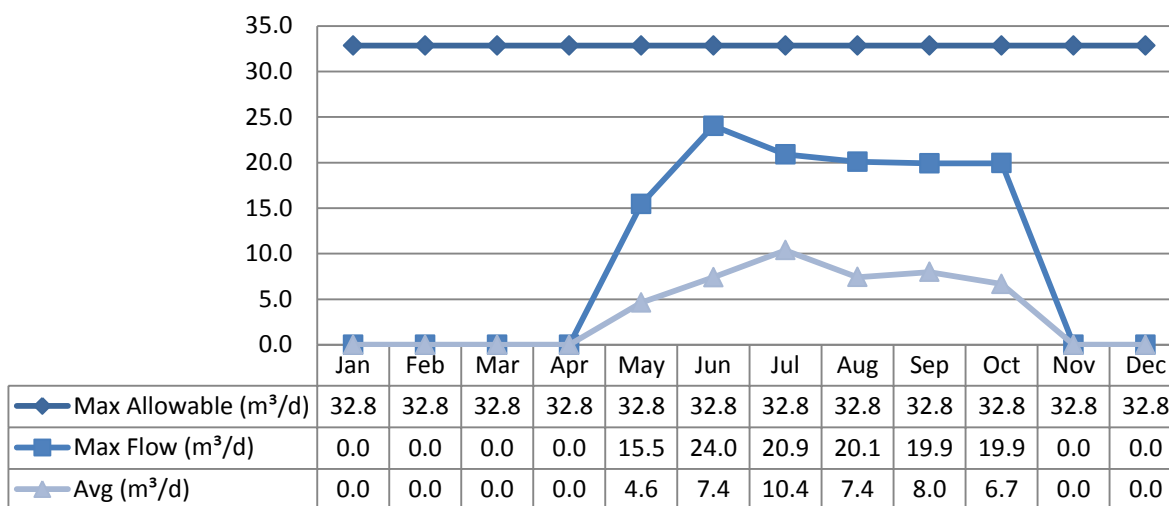
Max allowable rate – PTTW- Well #2



Note: The short term spike in April was caused by a power outage and the significant spike in July was due to scheduled Flow Meter calibration.

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

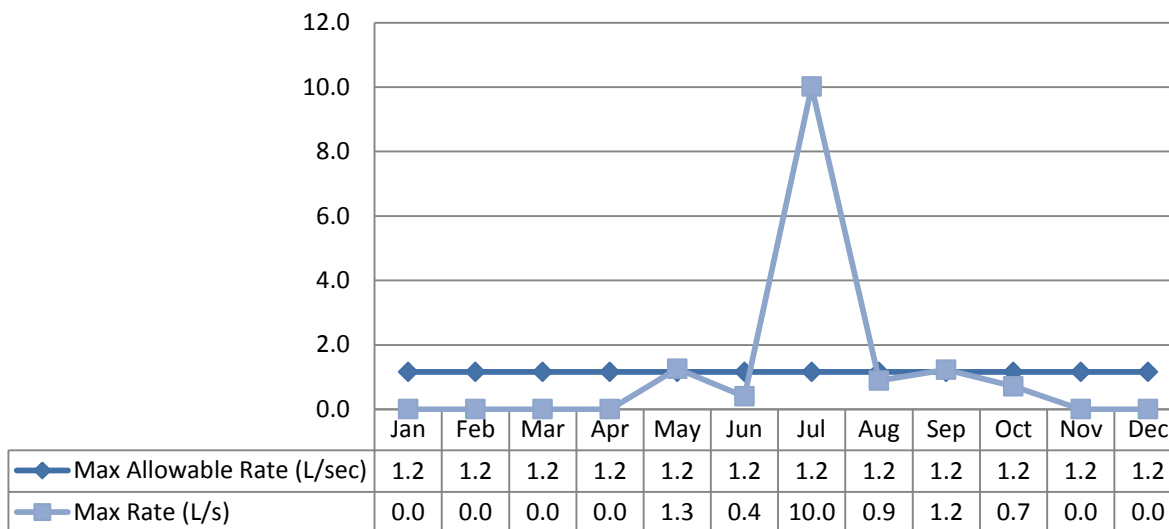
Max Allowable PTTW- Well #3 (Pond Makeup Well)





Monthly Rated Flows (L/s)

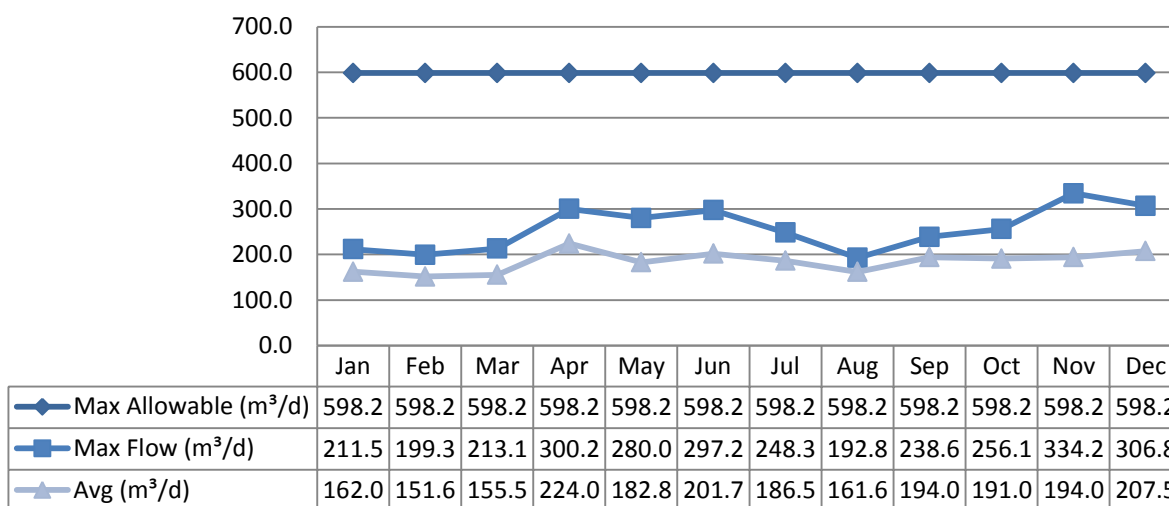
Max allowable rate – PTTW- Well #3



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

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

Max Allowable PTTW- Total Raw

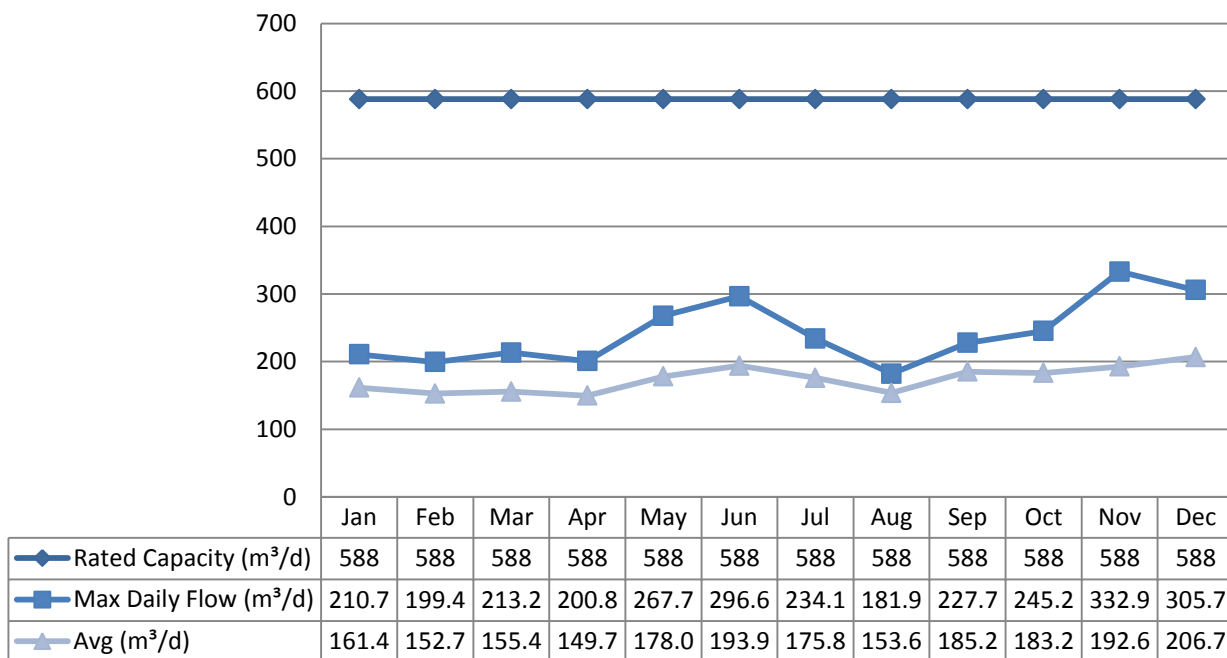


**Treated Water Flows**

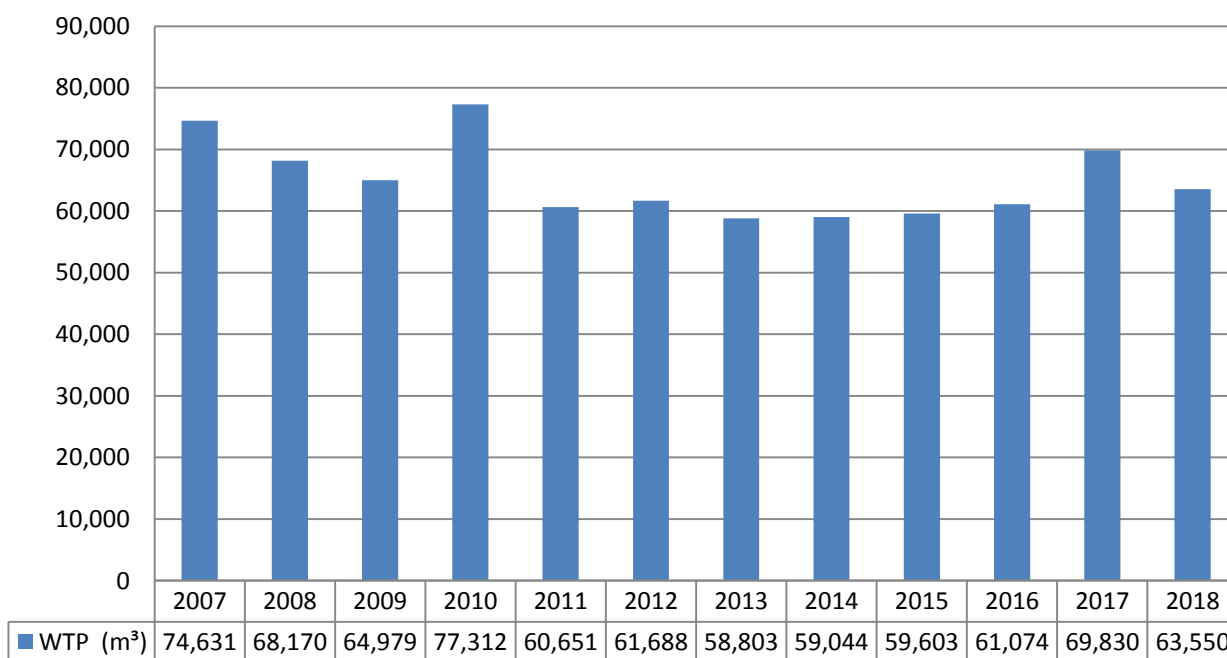
The Treated Water flows are regulated under the Municipal Licence.

**Monthly Rated Flows**

Rated Capacity - MDWL

**Annual Total Flow Comparison**

Total Annual m³



**Regulatory Sample Results Summary****Microbiological Testing**

	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 Well 1	52	0	2	0	9		
Raw Well 2	52	0	0	0	4		
Treated	59	0	0	0	0	0	8
Distribution	156	0	0	0	0	0	7

**Operational Testing**

	No. of Samples Collected	Range of Results	
		Minimum	Maximum
Turbidity Well 1 (NTU)	49	0.05	0.18
Turbidity Well 2 (NTU)	49	0.05	0.17
Chlorine	8760	0	5.01
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 annually 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
<b>Treated Water</b>					
Antimony: Sb (ug/L) - TW	2018/01/15	<MDL 0.02	6.0	No	No
Arsenic: As (ug/L) - TW	2018/01/15	<MDL 0.2	10.0	No	No
Barium: Ba (ug/L) - TW	2018/01/15	39.7	1000.0	No	No

	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Exceedances	
				MAC	1/2 MAC
Boron: B (ug/L) - TW	2018/01/15	19.0	5000.0	No	No
Cadmium: Cd (ug/L) - TW	2018/01/15	0.011	5.0	No	No
Chromium: Cr (ug/L) - TW	2018/01/15	0.16	50.0	No	No
Mercury: Hg (ug/L) - TW	2018/01/15	<MDL 0.01	1.0	No	No
Selenium: Se (ug/L) - TW	2018/01/15	0.17	50.0	No	No
Uranium: U (ug/L) - TW	2018/01/15	0.615	20.0	No	No
<b>Additional Inorganics</b>					
Fluoride (mg/L) - TW	2018/01/15	<MDL 0.06	1.5	No	No
Nitrite (mg/L) - TW	2018/01/15	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2018/04/03	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2018/07/03	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2018/10/02	<MDL 0.003	1.0	No	No
Nitrate (mg/L) - TW	2018/01/15	1.96	10.0	No	No
Nitrate (mg/L) - TW	2018/04/03	2.02	10.0	No	No
Nitrate (mg/L) - TW	2018/07/03	1.75	10.0	No	No
Nitrate (mg/L) - TW	2018/10/02	1.81	10.0	No	No
Sodium: Na (mg/L) - TW	2018/01/15	8.22	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	Range of Results	MAC (ug/L)	Exceedances
			Minimum	Maximum		
Alkalinity (mg/L)	3	3	203	249	N/A	N/A
pH	3	3	7.48	7.90	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	Exceedances	
				MAC	1/2 MAC
<b>Treated Water</b>					
Alachlor (ug/L) - TW	2018/01/15	<MDL 0.02	5.00	No	No
Atrazine + N-dealkylated metabolites (ug/L) - TW	2018/01/15	<MDL 0.01	5.00	No	No
Azinphos-methyl (ug/L) - TW	2018/01/15	<MDL 0.05	20.00	No	No
Benzene (ug/L) - TW	2018/01/15	<MDL 0.32	1.00	No	No
Benzo(a)pyrene (ug/L) - TW	2018/01/15	<MDL 0.004	0.01	No	No
Bromoxynil (ug/L) - TW	2018/01/15	<MDL 0.33	5.00	No	No
Carbaryl (ug/L) - TW	2018/01/15	<MDL 0.05	90.00	No	No
Carbofuran (ug/L) - TW	2018/01/15	<MDL 0.01	90.00	No	No
Carbon Tetrachloride (ug/L) - TW	2018/01/15	<MDL 0.16	2.00	No	No
Chlorpyrifos (ug/L) - TW	2018/01/15	<MDL 0.02	90.00	No	No
Diazinon (ug/L) - TW	2018/01/15	<MDL 0.02	20.00	No	No
Dicamba (ug/L) - TW	2018/01/15	<MDL 0.2	120.00	No	No
1,2-Dichlorobenzene (ug/L) - TW	2018/01/15	<MDL 0.41	200.00	No	No
1,4-Dichlorobenzene (ug/L) - TW	2018/01/15	<MDL 0.36	5.00	No	No
1,2-Dichloroethane (ug/L) - TW	2018/01/15	<MDL 0.35	5.00	No	No
1,1-Dichloroethylene (ug/L) - TW	2018/01/15	<MDL 0.33	14.00	No	No
Dichloromethane (Methylene Chloride) (ug/L) - TW	2018/01/15	<MDL 0.35	50.00	No	No
2,4-Dichlorophenol (ug/L) - TW	2018/01/15	<MDL 0.15	900.00	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L) - TW	2018/01/15	<MDL 0.19	100.00	No	No
Diclofop-methyl (ug/L) - TW	2018/01/15	<MDL 0.4	9.00	No	No
Dimethoate (ug/L) - TW	2018/01/15	<MDL 0.03	20.00	No	No
Diquat (ug/L) - TW	2018/01/15	<MDL 1.0	70.00	No	No
Diuron (ug/L) - TW	2018/01/15	<MDL 0.03	150.00	No	No
Glyphosate (ug/L) - TW	2018/01/15	<MDL 1.0	280.00	No	No
Malathion (ug/L) - TW	2018/01/15	<MDL 0.02	190.00	No	No
Metolachlor (ug/L) - TW	2018/01/15	<MDL 0.01	50.00	No	No
Metribuzin (ug/L) - TW	2018/01/15	<MDL 0.02	80.00	No	No
Monochlorobenzene (Chlorobenzene) (ug/L) - TW	2018/01/15	<MDL 0.3	80.00	No	No
Paraquat (ug/L) - TW	2018/01/15	<MDL 1.0	10.00	No	No
PCB (ug/L) - TW	2018/01/15	<MDL 0.04	3.00	No	No
Pentachlorophenol (ug/L) - TW	2018/01/15	<MDL 0.15	60.00	No	No
Phorate (ug/L) - TW	2018/01/15	<MDL 0.01	2.00	No	No
Picloram (ug/L) - TW	2018/01/15	<MDL 1.0	190.00	No	No
Prometryne (ug/L) - TW	2018/01/15	<MDL 0.03	1.00	No	No
Simazine (ug/L) - TW	2018/01/15	<MDL 0.01	10.00	No	No

	Sample Date yyyy/mm/dd	Sample Result	MAC	Exceedances	
				MAC	1/2 MAC
Terbufos (ug/L) - TW	2018/01/15	<MDL 0.01	1.00	No	No
Tetrachloroethylene (ug/L) - TW	2018/01/15	<MDL 0.35	10.00	No	No
2,3,4,6-Tetrachlorophenol (ug/L) - TW	2018/01/15	<MDL 0.2	100.00	No	No
Triallate (ug/L) - TW	2018/01/15	<MDL 0.01	230.00	No	No
Trichloroethylene (ug/L) - TW	2018/01/15	<MDL 0.44	5.00	No	No
2,4,6-Trichlorophenol (ug/L) - TW	2018/01/15	<MDL 0.25	5.00	No	No
2-methyl-4-chlorophenoxyacetic acid (MCPA) (ug/L) - TW	2018/01/15	<MDL 0.12	100.00	No	No
Trifluralin (ug/L) - TW	2018/01/15	<MDL 0.02	45.00	No	No
Vinyl Chloride (ug/L) - TW	2018/01/15	<MDL 0.17	1.00	No	No
<b>Distribution Water</b>					
Trihalomethane: Total (ug/L) Annual Average - DW	2018	19.25	100.00	No	No
HAA Total (ug/L) Annual Average - DW	2018	9.75	N/A	N/A	N/A

MAC = Maximum Allowable Concentration as per O. Reg. 169/03

MDL = Method Detection Limit

### **Additional Legislated Samples**

Additional Samples required under Permit to Take Water 1207-AHKRZV.

Parameter	Location	No. of Samples Collected	Range of Results Minimum	Range of Results Maximum
Nitrite (mg/L)	Well 1	3	<MDL 0.003	<0.01
Nitrite (mg/L)	Well 2	3	<MDL 0.003	<0.01
Nitrate (mg/L)	Well 1	3	1.76	2.04
Nitrate (mg/L)	Well 2	3	1.77	1.84
Nitrites + Nitrates (mg/L)	Well 1	2	1.76	2.00
Nitrites + Nitrates (mg/L)	Well 2	2	1.77	1.84
Calcium (mg/L)	Well 1	2	107	109
Calcium (mg/L)	Well 2	2	95.7	100
Magnesium (mg/L)	Well 1	3	10.4	11.8
Magnesium (mg/L)	Well 2	3	10.6	11.3
Sodium (mg/L)	Well 1	3	4.36	5.69
Sodium (mg/L)	Well 2	3	5.10	5.80
Potassium (mg/L)	Well 1	3	1.70	1.77
Potassium (mg/L)	Well 2	3	1.80	1.91

Parameter	Location	No. of Samples Collected	Range of Results Minimum	Range of Results Maximum
Chloride (mg/L)	Well 1	2	7.9	8.2
Chloride (mg/L)	Well 2	2	9.0	11.0
Sulphate (mg/L)	Well 1	2	15	18
Sulphate (mg/L)	Well 2	2	17	20
Alkalinity (mg/L as CaCO <sub>3</sub> )	Well 1	3	260	271
Alkalinity (mg/L as CaCO <sub>3</sub> )	Well 2	3	243	251
pH	Well 1	3	7.53	8.07
pH	Well 2	3	7.55	8.07
Ammonia+Ammonium (N) (mg/L)	Well 1	3	<MDL 0.04	<MDL 0.05
Ammonia+Ammonium (N) (mg/L)	Well 2	3	<MDL 0.04	<MDL 0.04
Total Kjeldahl Nitrogen (mg/L)	Well 1	2	0.05	0.22
Total Kjeldahl Nitrogen (mg/L)	Well 2	2	0.10	0.30
Conductivity (uS/cm)	Well 1	2	558	562
Conductivity (uS/cm)	Well 2	2	540	550
Total Dissolved Solids (mg/L)	Well 1	2	331	357
Total Dissolved Solids (mg/L)	Well 2	2	314	349
Hydrogen Sulphide (mg/L)	Well 1	2	<MDL 0.006	<0.006
Hydrogen Sulphide (mg/L)	Well 2	2	<MDL 0.006	<0.006
Ion Ratio	Well 1	2	0.50	1.11
Ion Ratio	Well 2	2	0.01	1.08

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

WO #	Description
	Equipment was maintained in a fit state of repair as per legislation.

# Appendix A

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## WTRS Data and Submission Confirmation

Water Taking Data submitted successfully.
<b>Confirmation:</b>
Thank you for submitting your water taking data online.
Permit Number: 1207-AHKRXV Permit Holder: THE CORPORATION OF THE CITY OF KAWARTHA LAKES. Received on: Jan 30, 2019 8:02 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.