

# 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 1st – December 31st 2020

Issued: February 10, 2021

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 are available to residents free of charge at the City of Kawartha Lakes – Public Works Administration Office located at 322 Kent Street West in Lindsay, Ontario. The reports are also available online at the [Water and Wastewater pages of the City of Kawartha Lakes website](#).

## Compliance Report Card

**Drinking Water System Number:** 210001077  
**Drinking Water System Name:** Woodville WTP  
**Drinking Water System Owner:** City of Kawartha Lakes  
**Drinking Water System Category:** Large Municipal Residential  
**Period Being Reported:** January 1, 2020 - December 31, 2020

	# of Events	Date	Details
<b>Health &amp; Safety</b>			
Number of Incidents	0		
<b>Drinking Water</b>			
MECP Inspections	1	May 13, 2020	Announced - Focused Drinking Water Inspection - Final Inspection Rating of 100%
AWQI's	1	December 3, 2020	Monthly Filter Performance Exceedance
Number of Non-Compliances	0		
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 used to top-up a pond when required.

### 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
- Two turbidity analyzers: one each per filtration train
- Two chlorine residuals analyzers: immediately following the injection point and treated water
- Four flow meters: three raw and one treated
- Chlorine contact pipe
- SCADA system
- Water storage standpipe with a capacity of 1160 m3
- 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
Dec 3, 2020	153154	Filter effluent	Monthly filter criteria exceeded	Filter 3/4 monthly filter performance exceedance for November 2020, criteria 0.2 NTU, 95% of the time. Result 0.2 NTU, 90.6%. Filter train 3/4 ran for 33 minutes on Nov 10, 2020 only, during maintenance on filter NTU analyzers.	O. Reg. 170 Schedule 1-2(2)	Filter train 1/2 primary production train for month of November, filter performance criteria met, result 0.2 NTU, 99.7%. Reviewed maintenance procedures with operational staff.

**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**

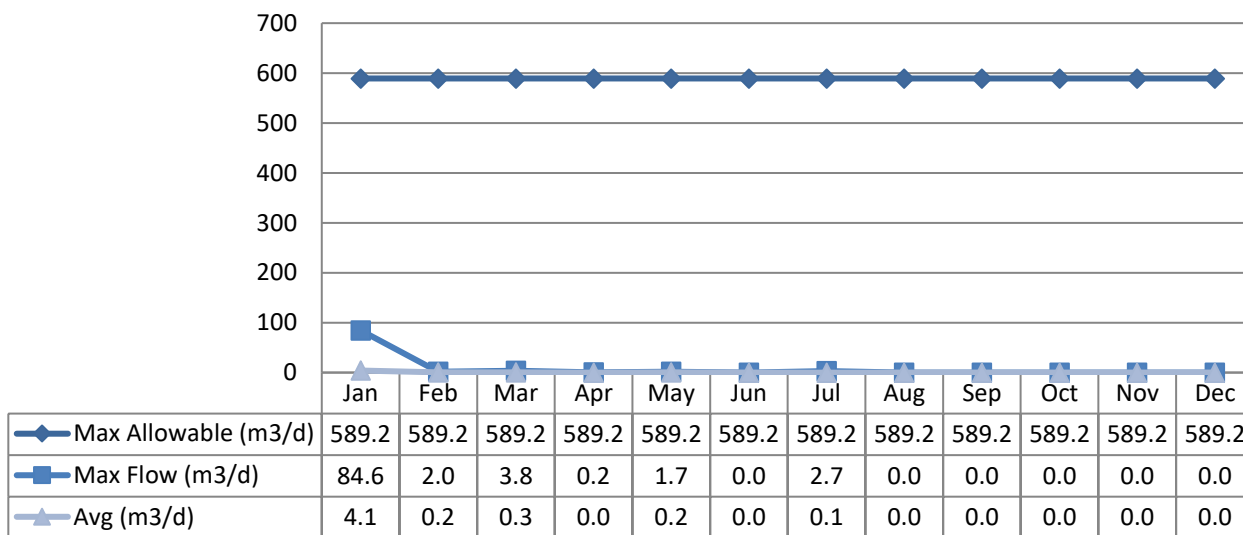
The Woodville Drinking Water System is operating on average under half the rated capacity.

**Raw Water Flows**

The Raw Water flows are regulated under the Permit to Take Water. 2020 Raw low 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.

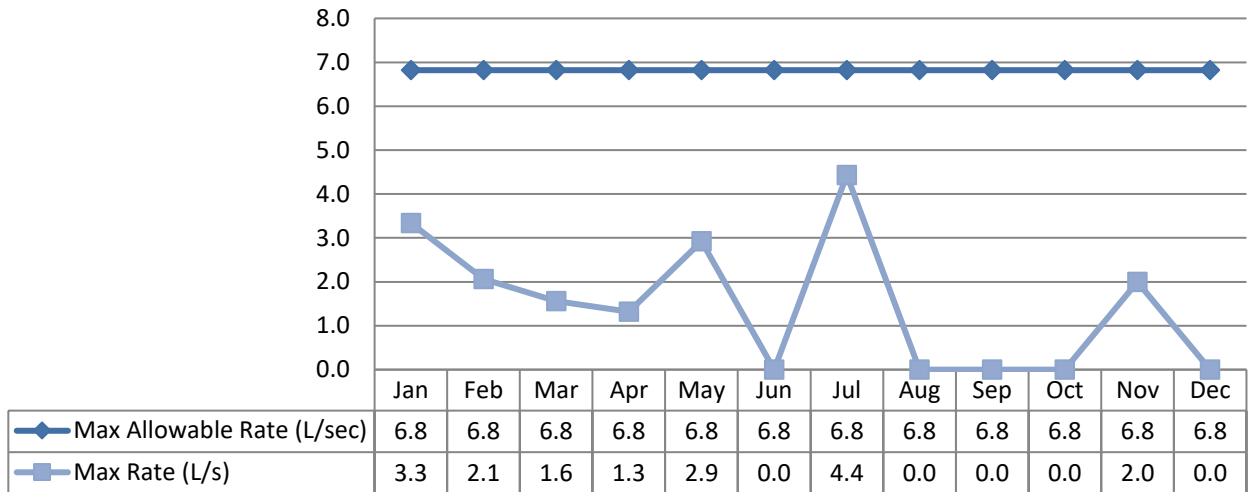
**Total Monthly Flows (m3/d)**

Max Allowable PTTW- Well #1



**Monthly Rated Flows (L/s)**

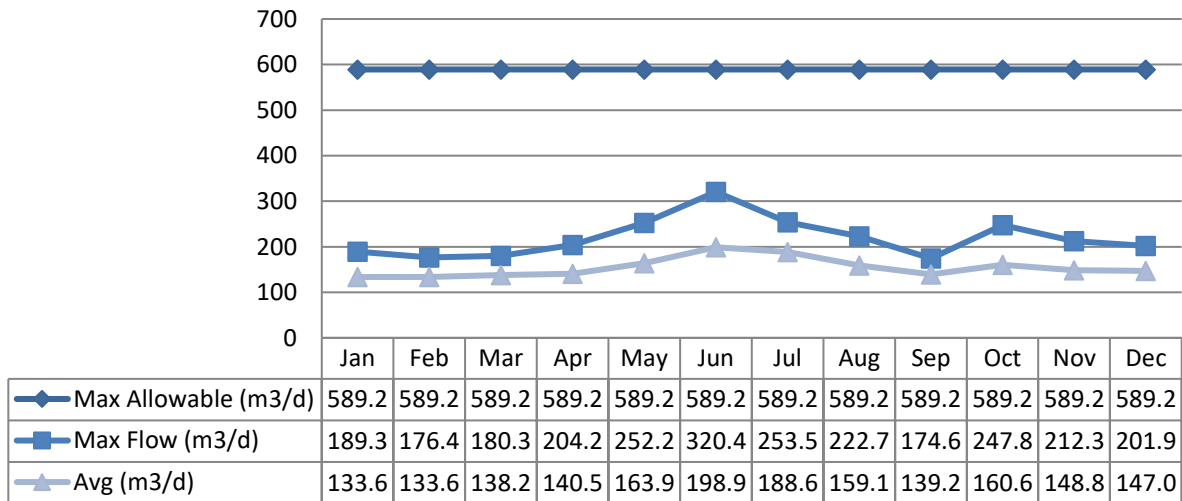
Max allowable rate – PTTW- Well #1



Note: Scheduled Flow Meter calibration occurred in August, 2020.

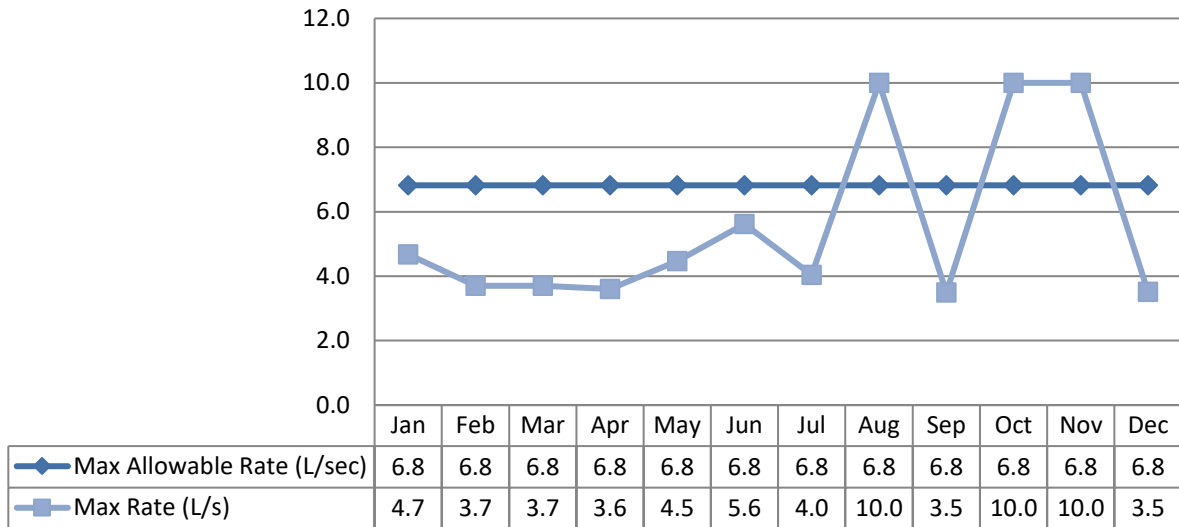
**Total Monthly Flows (m3/d)**

Max Allowable PTTW- Well #2



**Monthly Rated Flows (L/s)**

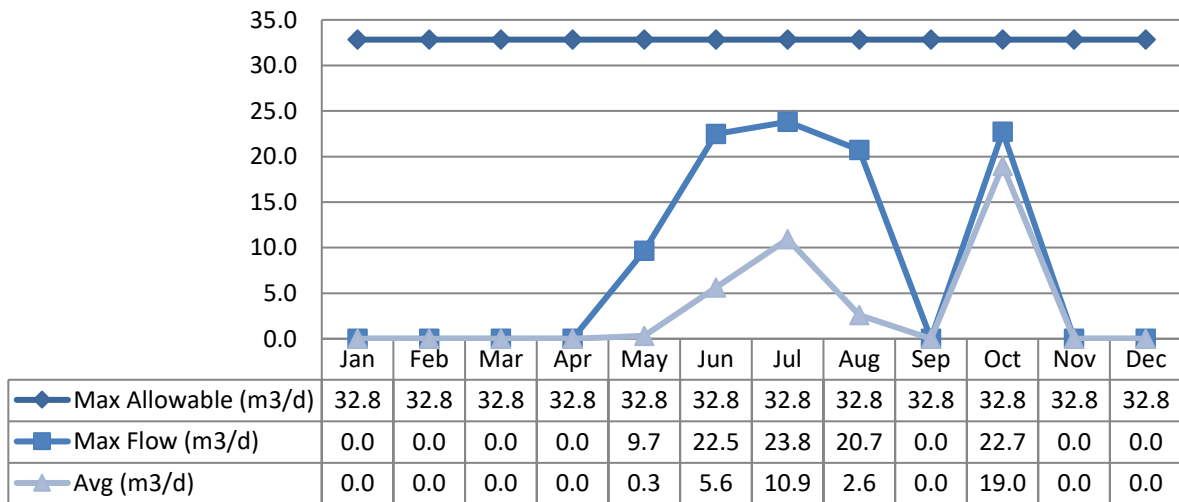
Max allowable rate – PTTW- Well #2



Note: All spikes are reviewed for compliance. The significant spike in August was due to scheduled Flow Meter calibration.

**Total Monthly Flows (m3/d)**

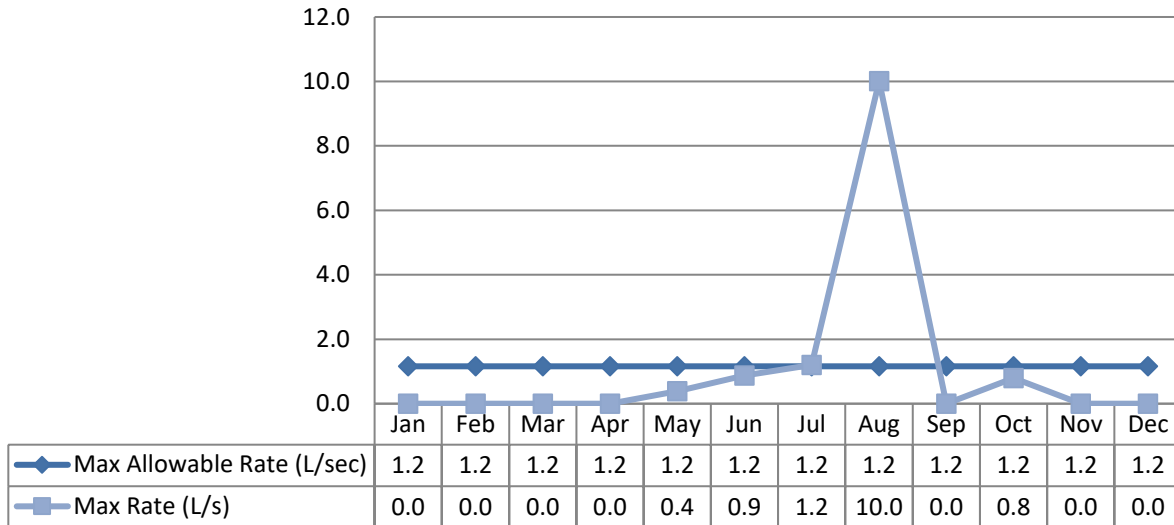
Max Allowable PTTW- Well #3 (Pond Makeup Well)





**Monthly Rated Flows (L/s)**

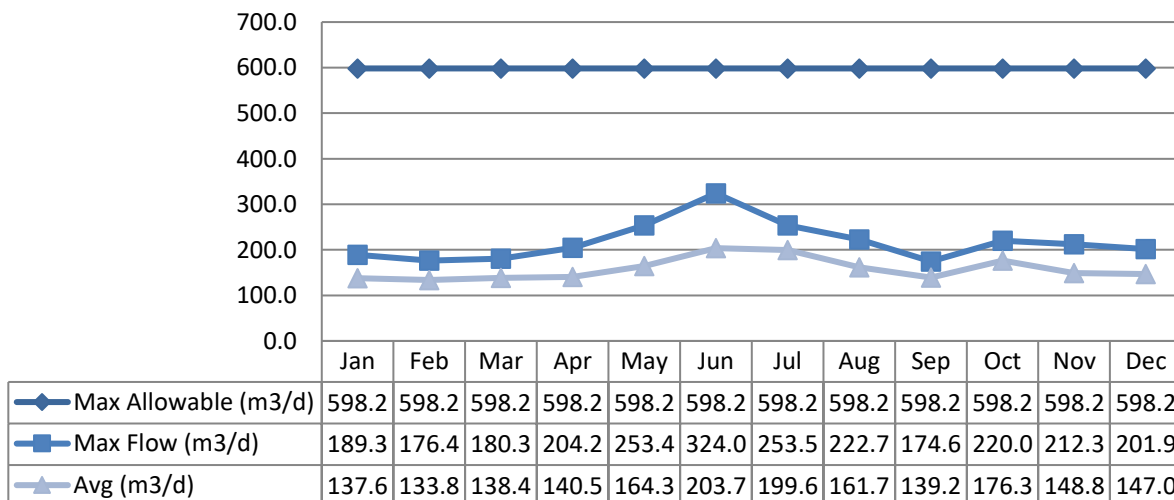
Max allowable rate – PTTW- Well #3



Note: The significant spike in August was due to scheduled Flow Meter calibration.

**Total Monthly Flows (m3/d)**

Max Allowable PTTW- Total Raw

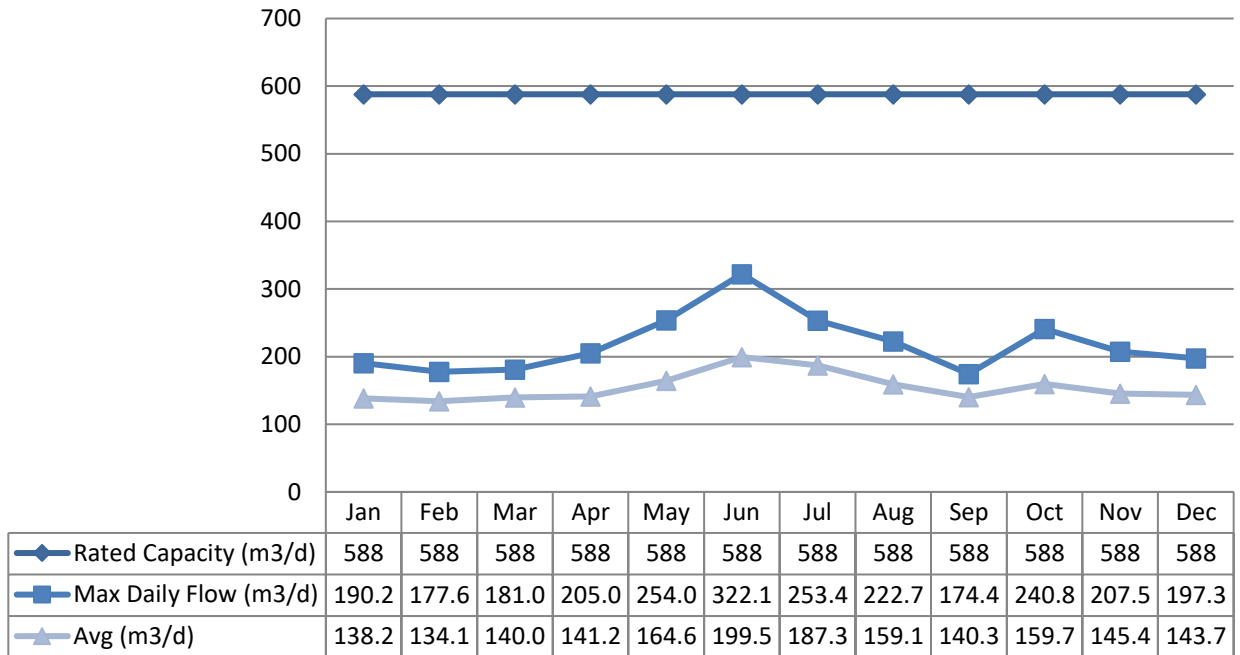


## **Treated Water Flows**

The Treated Water flows are regulated under the Municipal Licence.

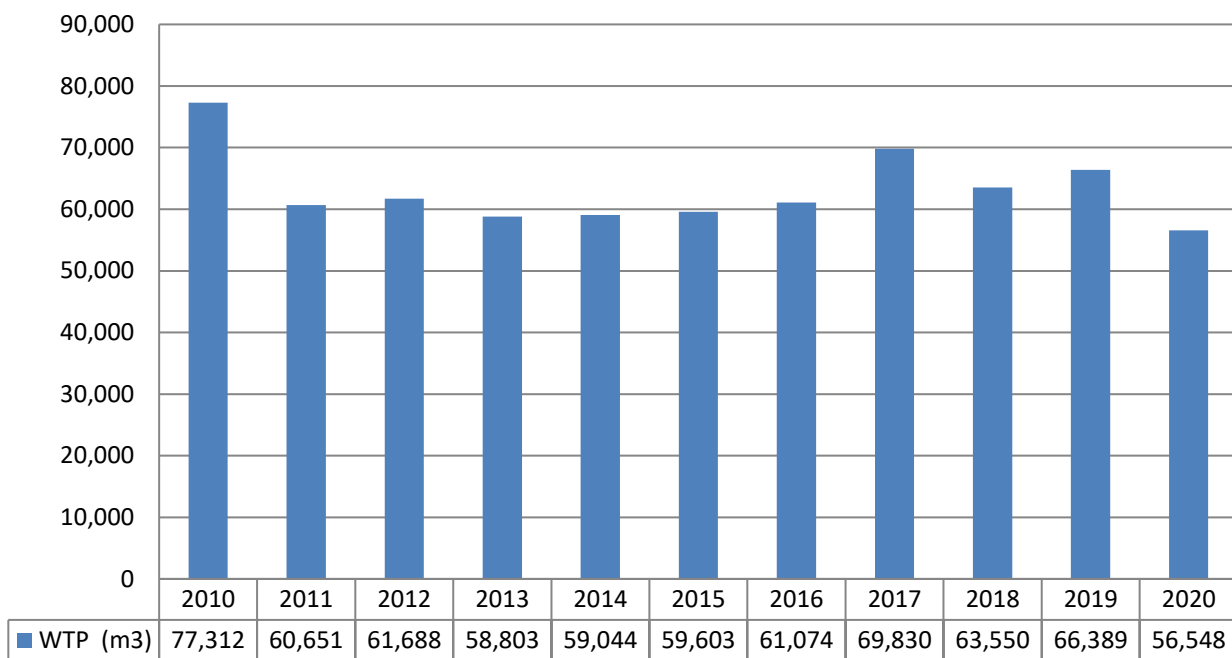
### **Monthly Rated Flows**

Rated Capacity - MDWL



### **Annual Total Flow Comparison (m3)**

Total Annual



## 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	3	0	6		
Raw Well 2	52	0	1	0	1		
Treated	52	0	0	0	0	0	2
Distribution	156	0	0	0	0	0	2000

### Operational Testing

	No. of Samples Collected	Range of Results	Range of Results
		Minimum	Maximum
Turbidity Well 1 (NTU)	51	0.14	2.16
<b>Turbidity Well 2 (NTU)</b>	51	0.05	0.23
Chlorine	8760	0	5.0
<b>Fluoride</b> (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 170/03. Sodium and Fluoride are required to be tested every 5 years. Nitrate and Nitrite are tested quarterly and the metals are tested annually as required under 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

Parameter Treated Water	Sample Date (yyyy/mm/dd)	Sample Result	MAC	No. of Exceedances	No. of Exceedances
				MAC	1/2 MAC
Antimony: Sb (ug/L)	2020/01/06	<MDL 0.09	6.0	No	No
Arsenic: As (ug/L)	2020/01/06	<MDL 0.2	10.0	No	No
Barium: Ba (ug/L)	2020/01/06	38.8	1000.0	No	No
Boron: B (ug/L)	2020/01/06	12.0	5000.0	No	No
Cadmium: Cd (ug/L)	2020/01/06	0.007	5.0	No	No
Chromium: Cr (ug/L)	2020/01/06	0.16	50.0	No	No
Mercury: Hg (ug/L)	2020/01/06	<MDL 0.01	1.0	No	No
Selenium: Se (ug/L)	2020/01/06	0.18	50.0	No	No
Uranium: U (ug/L)	2020/01/06	0.688	20.0	No	No
<b>Additional Inorganics</b>					
Fluoride (mg/L)	2018/01/15	<MDL 0.06	1.5	No	No
Nitrite (mg/L)	2020/01/06	<MDL 0.003	1.0	No	No
Nitrite (mg/L)	2020/04/06	<MDL 0.003	1.0	No	No
Nitrite (mg/L)	2020/07/07	<MDL 0.003	1.0	No	No
Nitrite (mg/L)	2020/10/05	<MDL 0.003	1.0	No	No
Nitrate (mg/L)	2020/01/06	2.04	10.0	No	No
Nitrate (mg/L)	2020/04/06	2.17	10.0	No	No
Nitrate (mg/L)	2020/07/07	1.81	10.0	No	No
Nitrate (mg/L)	2020/10/05	2.2	10.0	No	No

Parameter Treated Water	Sample Date (yyyy/mm/dd)	Sample Result	MAC	No. of Exceedances	No. of Exceedances
				MAC	1/2 MAC
Sodium: Na (mg/L)	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 (µg/L)	No. Of Exceedances
			Minimum	Maximum		
Alkalinity (mg/L)	4	4	251	256	N/A	N/A
pH	4	4	7.11	7.48	N/A	N/A
Lead (µg/l)	4	4	0.04	0.18	10	0

### **Organic Parameters**

These parameters are tested annually 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	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Exceedances	Exceedances
				MAC	1/2 MAC
Alachlor (ug/L)	2020/01/06	<MDL 0.02	5.0	No	No
Atrazine + N-dealkylated metabolites (ug/L)	2020/01/06	<MDL 0.01	5.0	No	No
Azinphos-methyl (ug/L)	2020/01/06	<MDL 0.05	20.0	No	No
Benzene (ug/L)	2020/01/06	<MDL 0.32	1.0	No	No
Benzo(a)pyrene (ug/L)	2020/01/06	<MDL 0.004	0.01	No	No
Bromoxynil (ug/L)	2020/01/06	<MDL 0.33	5.0	No	No
Carbaryl (ug/L)	2020/01/06	<MDL 0.05	90.0	No	No
Carbofuran (ug/L)	2020/01/06	<MDL 0.01	90.0	No	No
Carbon Tetrachloride	2020/01/06	<MDL 0.17	2.0	No	No

Treated Water	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Exceedances	Exceedances
				MAC	1/2 MAC
(ug/L)					
Chlorpyrifos (ug/L)	2020/01/06	<MDL 0.02	90.0	No	No
Diazinon (ug/L)	2020/01/06	<MDL 0.02	20.0	No	No
Dicamba (ug/L)	2020/01/06	<MDL 0.2	120.0	No	No
1,2-Dichlorobenzene (ug/L)	2020/01/06	<MDL 0.41	200.0	No	No
1,4-Dichlorobenzene (ug/L)	2020/01/06	<MDL 0.36	5.0	No	No
1,2-Dichloroethane (ug/L)	2020/01/06	<MDL 0.35	5.0	No	No
1,1-Dichloroethylene (ug/L)	2020/01/06	<MDL 0.33	14.0	No	No
Dichloromethane (Methylene Chloride) (ug/L)	2020/01/06	<MDL 0.35	50.0	No	No
2,4-Dichlorophenol (ug/L)	2020/01/06	<MDL 0.15	900.0	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L)	2020/01/06	<MDL 0.19	100.0	No	No
Dicofop-methyl (ug/L)	2020/01/06	<MDL 0.4	9.0	No	No
Dimethoate (ug/L)	2020/01/06	<MDL 0.06	20.0	No	No
Diquat (ug/L)	2020/01/06	<MDL 1.0	70.0	No	No
Diuron (ug/L)	2020/01/06	<MDL 0.03	150.0	No	No
Glyphosate (ug/L)	2020/01/06	<MDL 1.0	280.0	No	No
Malathion (ug/L)	2020/01/06	<MDL 0.02	190.0	No	No
Metolachlor (ug/L)	2020/01/06	<MDL 0.01	50.0	No	No
Metribuzin (ug/L)	2020/01/06	<MDL 0.02	80.0	No	No
Monochlorobenzene (Chlorobenzene) (ug/L)	2020/01/06	<MDL 0.3	80.0	No	No
Paraquat (ug/L)	2020/01/06	<MDL 1.0	10.0	No	No
PCB (ug/L)	2020/01/06	<MDL 0.04	3.0	No	No
Pentachlorophenol (ug/L)	2020/01/06	<MDL 0.15	60.0	No	No
Phorate (ug/L)	2020/01/06	<MDL 0.01	2.0	No	No
Picloram (ug/L)	2020/01/06	<MDL 1.0	190.0	No	No
Prometryne (ug/L)	2020/01/06	<MDL 0.03	1.0	No	No
Simazine (ug/L)	2020/01/06	<MDL 0.01	10.0	No	No
Terbufos (ug/L) -	2020/01/06	<MDL 0.01	1.0	No	No

Treated Water	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Exceedances	Exceedances
				MAC	1/2 MAC
Tetrachloroethylene (ug/L)	2020/01/06	<MDL 0.35	10.0	No	No
2,3,4,6-Tetrachlorophenol (ug/L)	2020/01/06	<MDL 0.2	100. 0	No	No
Triallate (ug/L)	2020/01/06	<MDL 0.01	230. 0	No	No
Trichloroethylene (ug/L)	2020/01/06	<MDL 0.44	5.0	No	No
2,4,6-Trichlorophenol (ug/L)	2020/01/06	<MDL 0.25	5.0	No	No
2-methyl-4- chlorophenoxyacetic acid (MCPA) (ug/L)	2020/01/06	<MDL 0.12	100. 0	No	No
Trifluralin (ug/L)	2020/01/06	<MDL 0.02	45.0	No	No
Vinyl Chloride (ug/L)	2020/01/06	<MDL 0.17	1.0	No	No
<b>Distribution Water</b>					
Trihalomethane: Total (ug/L) Annual Average	2020/01/01	21.75	100. 0	No	No
HAA Total (ug/L) Annual Average	2020/01/01	14.2	80.0*	No	No

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	Range of Results
			Minimum	Maximum
Nitrite (mg/L)	Well 1	13	<MDL 0.003	0.003
Nitrite (mg/L)	Well 2	13	<MDL 0.003	<MDL 0.003
Nitrate (mg/L)	Well 1	13	1.72	2.44
Nitrate (mg/L)	Well 2	13	1.71	2.32
Nitrites + Nitrates (mg/L)	Well 1	13	1.72	2.44
Nitrites + Nitrates (mg/L)	Well 2	13	1.71	2.44
Calcium (mg/L)	Well 1	2	88.40	108.00
Calcium (mg/L)	Well 2	2	89.40	98.10
Magnesium (mg/L)	Well 1	2	9.43	10.80
Magnesium (mg/L)	Well 2	2	10.20	11.10
Sodium (mg/L)	Well 1	2	4.70	5.30

Parameter	Location	No. of Samples Collected	Range of Results	
			Minimum	Maximum
Sodium (mg/L)	Well 2	2	5.98	6.00
Potassium (mg/L)	Well 1	2	1.53	1.70
Potassium (mg/L)	Well 2	2	1.64	1.66
Chloride (mg/L)	Well 1	2	8.20	11.0
Chloride (mg/L)	Well 2	2	10.0	13.0
Sulphate (mg/L)	Well 1	2	17.0	17.0
Sulphate (mg/L)	Well 2	2	18.0	19.0
Alkalinity (mg/L as CaCO <sub>3</sub> )	Well 1	2	250	251
Alkalinity (mg/L as CaCO <sub>3</sub> )	Well 2	2	249	254
pH	Well 1	2	7.78	8.06
pH	Well 2	2	8.00	8.06
Ammonia+Ammonium (N) (mg/L)	Well 1	12	<MDL 0.04	0.08
Ammonia+Ammonium (N) (mg/L)	Well 2	12	<MDL 0.04	0.08
Total Kjeldahl Nitrogen (mg/L)	Well 1	12	0.05	0.26
Total Kjeldahl Nitrogen (mg/L)	Well 2	12	<MDL 0.05	0.26
Conductivity (uS/cm)	Well 1	2	526	549
Conductivity (uS/cm)	Well 2	2	528	574
Total Dissolved Solids (mg/L)	Well 1	2	286	320
Total Dissolved Solids (mg/L)	Well 2	2	294	320
Hydrogen Sulphide (mg/L)	Well 1	2	<MDL 0.006	MDL<0.006
Hydrogen Sulphide (mg/L)	Well 2	2	<MDL 0.006	MDL<0.006
Ion Ratio	Well 1	2	0.21	2.67
Ion Ratio	Well 2	2	0.30	3.21

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

#### WO #      Description

1915764    Replace Well 2 Flow Meter

1794308    Install Second Dehumidifier



# Appendix A

## WTRS Data and Submission Confirmation



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-00

**Water Taking Data submitted successfully.**

### Confirmation:

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: Feb 8, 2021 3:15 PM

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](#)

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