

# Manorview Drinking Water System

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Waterworks # 260001864

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>, 2019

Issued: February 18, 2020

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 online at [the City's website](http://www.kawarthalakes.ca) (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:** 260001864

**Drinking Water System Name:** Manorview DWS

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

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

**Period Being Reported:** January 1, 2019 - December 31, 2019

	# of Events	Date	Details
<b>Health &amp; Safety</b>			
Number of Incidents	0		
<b>Drinking Water</b>			
MECP Inspections	1	Jun. 26, 2019	Announced - Focused 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 supply for the DWS comes from two (2) groundwater wells that are designated as GUDI (Groundwater Under the Direct Influence of Surface Water).

### Treatment

The treatment system consists of the following:

- a sodium hypochlorite disinfection system
- cartridge filtration
- two (2) UV reactors
- underground clearwell
- hydropneumatic tank

- high lift pumping system
- on-line monitoring of chlorine
- 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**

There were no adverse water quality incidents identified during this reporting period.

**Non-Compliance**

There were no non-compliances identified during this reporting period.

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

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

**Flows**

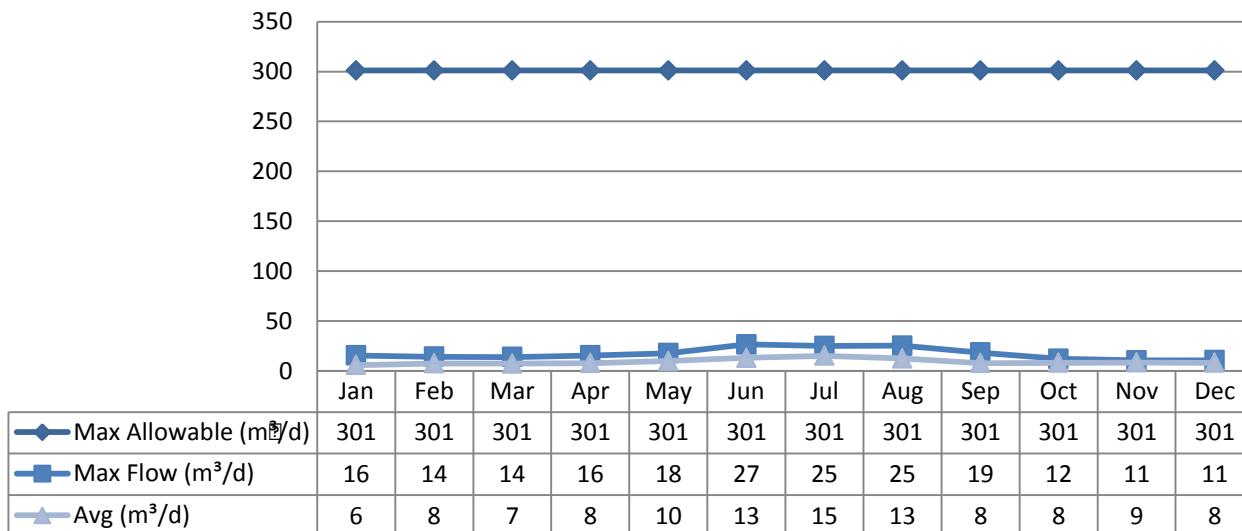
The Manorview Drinking Water System is operating on average under half the rated capacity.

**Raw Water Flows**

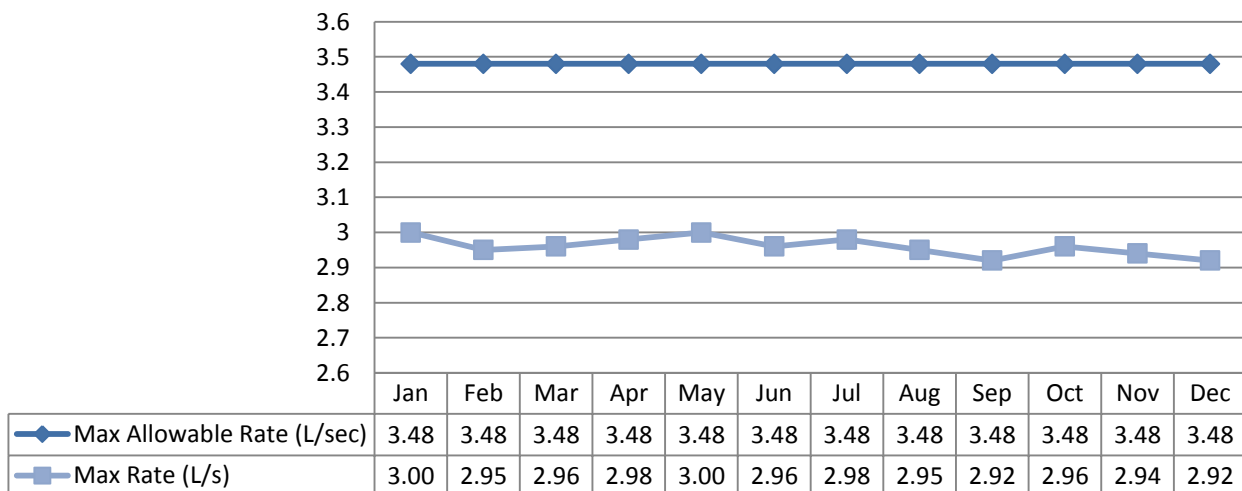
The Raw Water flows are regulated under the Permit to Take Water. 2019 Raw Flow Data was submitted to the Ministry electronically under permits #6774-7JCKC8 and #1163-AYRJ36. The confirmation that the data was submitted is attached in Appendix A.

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

## Max Allowable PTTW – Well #1

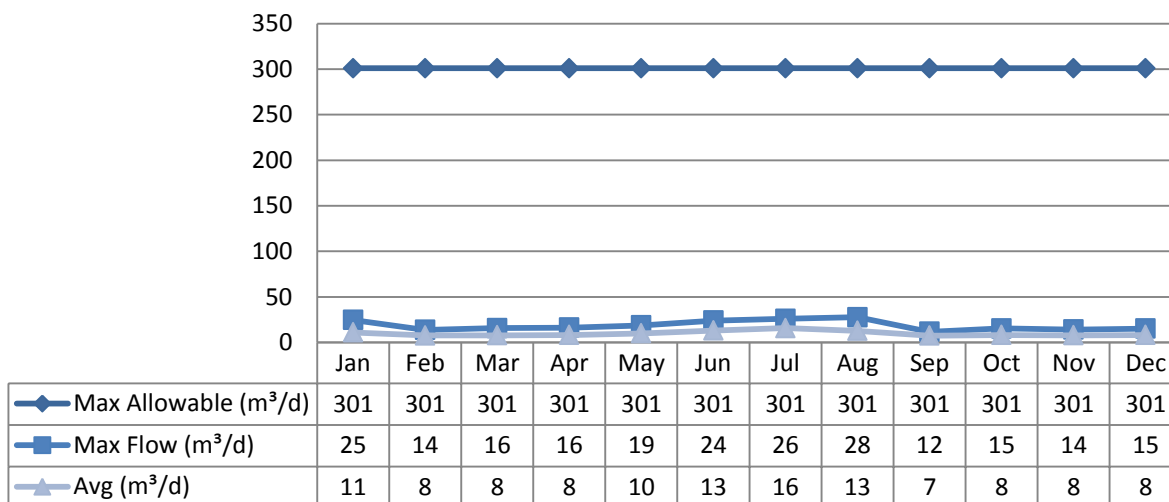
Monthly Rated Flows (L/s)

## Max allowable rate – PTTW – Well #1

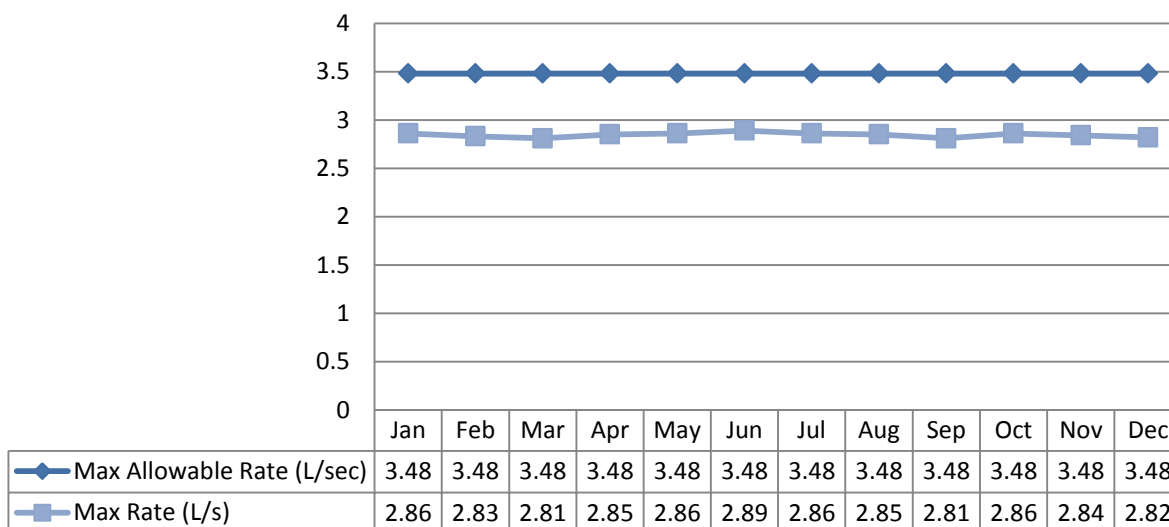


Total Monthly Flows (m<sup>3</sup>/d)

Max Allowable PTTW – Well #2

Monthly Rated Flows (L/s)

Max allowable rate – PTTW – Well #2

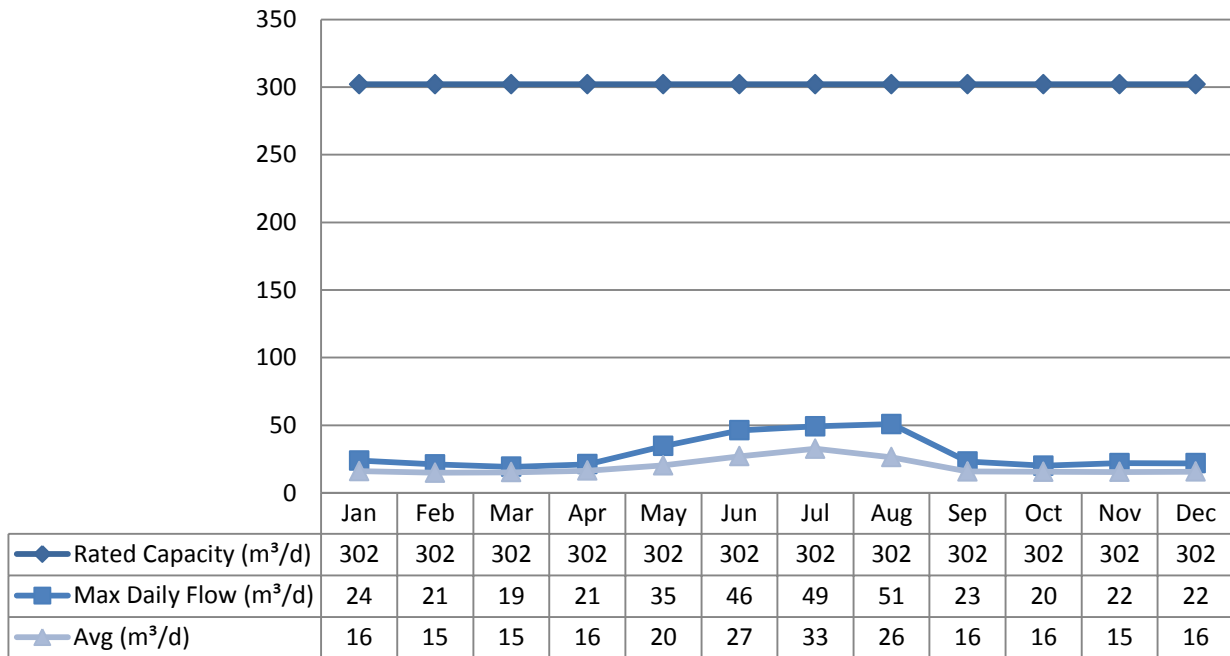


**Treated Water Flows**

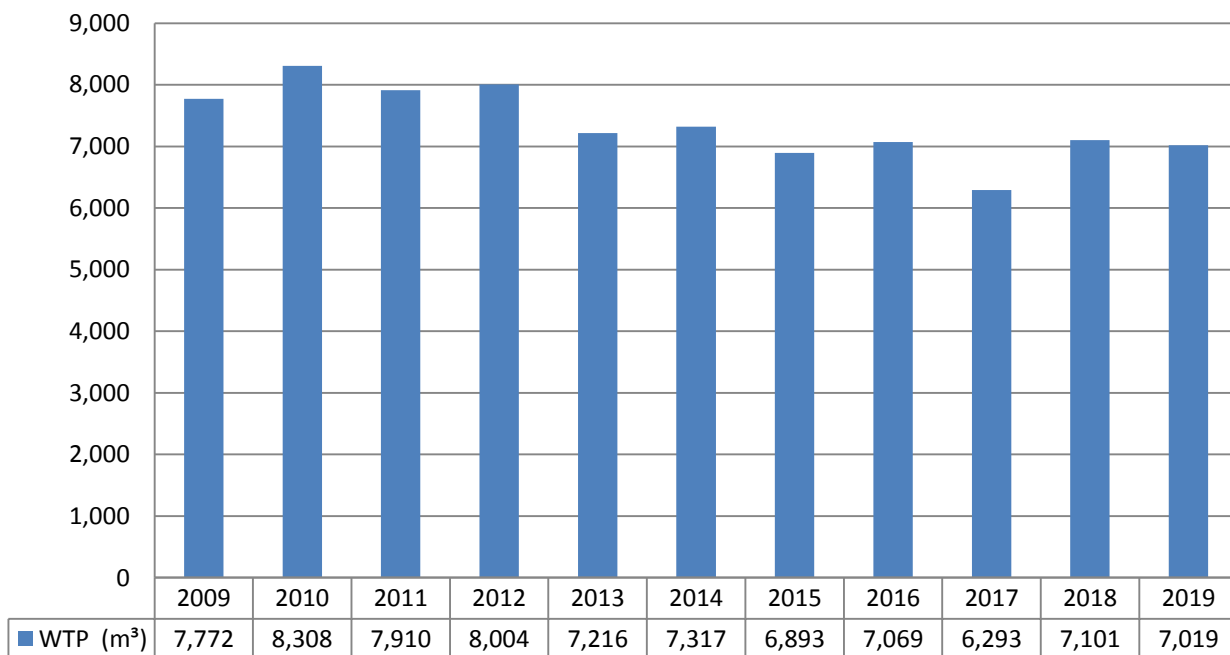
The Treated Water flows are regulated under the Municipal Licence.

**Monthly Rated Flows**

Rated Capacity – MDWL

**Annual Total Flow Comparison**

Total Annual m³



## Regulatory Sample Results Summary

### Microbiological Testing

Location	No. of Samples Collected	Range of E.coli Results (MIN)	Range of E.coli Results (MAX)	Range of Total Coliform Results (MIN)	Range of Total Coliform Results (MAX)	Range of HPC Results (MIN)	Range of HPC Results (MAX)
Raw Well 1	27	0	0	0	0		
Raw Well 2	27	0	0	0	0		
Treated	2	0	0	0	0	1	1
Distribution	51	0	0	0	0	0	3

### Operational Testing

Parameter	No. of Samples Collected	Range of Results (MIN)	Range of Results (MAX)
Turbidity Well 1 (NTU)	12	0.11	0.49
Turbidity Well 2 (NTU)	12	0.09	0.42
Turbidity – Filter (NTU)	8760	0	2
Chlorine	8760	0.44	1.63
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, Fluoride and metals are required to be tested every five years. Nitrate and Nitrite are tested quarterly 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

Parameter (Treated Water)	Sample Date (yyyy/mm/dd)	Sample Results	MAC	No. of Exceedances MAC	No. of Exceedances ½ MAC
Antimony: Sb (ug/L) - TW	2015/01/05	< 0.02	6.0	No	No
Arsenic: As (ug/L) - TW	2015/01/05	0.5	10.0	No	No



Parameter (Treated Water)	Sample Date (yyyy/mm/dd)	Sample Results	MAC	No. of Exceedances MAC	No. of Exceedances $\frac{1}{2}$ MAC
Barium: Ba (ug/L) - TW	2015/01/05	68.1	1000.0	No	No
Boron: B (ug/L) - TW	2015/01/05	7.3	5000.0	No	No
Cadmium: Cd (ug/L) - TW	2015/01/05	< 0.003	5.0	No	No
Chromium: Cr (ug/L) - TW	2015/01/05	0.26	50.0	No	No
Mercury: Hg (ug/L) - TW	2015/01/05	< 0.01	1.0	No	No
Selenium: Se (ug/L) - TW	2015/01/05	< 1.0	50.0	No	No
Uranium: U (ug/L) - TW	2015/01/05	0.509	20.0	No	No
<b>Additional Inorganics</b>					
Fluoride (mg/L) - TW	2015/01/05	0.06	1.5	No	No
Nitrite (mg/L) - TW	2019/01/07	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2019/04/01	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2019/07/02	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2019/10/07	<MDL 0.003	1.0	No	No
Nitrate (mg/L) - TW	2019/01/07	0.081	10.0	No	No
Nitrate (mg/L) - TW	2019/04/01	0.072	10.0	No	No
Nitrate (mg/L) - TW	2019/07/02	0.073	10.0	No	No
Nitrate (mg/L) - TW	2019/10/07	0.08	10.0	No	No
Sodium: Na (mg/L) - TW	2020/01/07	4.64	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.

Parameters (Distribution System)	No. of Sampling Points	No. of Samples	Range of Results	MAC	Exceedances (MIN)	Exceedances (MAX)
Alkalinity (mg/L)	2	2	181	190	N/A	N/A
pH	2	2	7.93	8.07	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.

Parameters (Treated Water)	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Exceedances (MAC)	Exceedances (1/2 MAC)
Alachlor (ug/L) - TW	2015/01/05	< 0.02	5.00	No	No
Atrazine + N-dealkylated metabolites (ug/L) - TW	2015/01/05	< 0.01	5.00	No	No
Azinphos-methyl (ug/L) - TW	2015/01/05	< 0.02	20.00	No	No
Benzene (ug/L) - TW	2015/01/05	< 0.32	1.00	No	No
Benzo(a)pyrene (ug/L) - TW	2015/01/05	< 0.004	0.01	No	No
Bromoxynil (ug/L) - TW	2015/01/05	< 0.33	5.00	No	No
Carbaryl (ug/L) - TW	2015/01/05	< 0.01	90.00	No	No
Carbofuran (ug/L) - TW	2015/01/05	< 0.01	90.00	No	No
Carbon Tetrachloride (ug/L) - TW	2015/01/05	< 0.16	2.00	No	No
Chlorpyrifos (ug/L) - TW	2015/01/05	< 0.02	90.00	No	No
Diazinon (ug/L) - TW	2015/01/05	< 0.02	20.00	No	No
Dicamba (ug/L) - TW	2015/01/05	< 0.2	120.00	No	No
1,2-Dichlorobenzene (ug/L) - TW	2015/01/05	< 0.41	200.00	No	No
1,4-Dichlorobenzene (ug/L) - TW	2015/01/05	< 0.36	5.00	No	No
1,2-Dichloroethane (ug/L) - TW	2015/01/05	< 0.35	5.00	No	No
1,1-Dichloroethylene (ug/L) - TW	2015/01/05	< 0.33	14.00	No	No
Dichloromethane	2015/01/05	< 0.35	50.00	No	No

Parameters (Treated Water)	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Exceedances (MAC)	Exceedances (1/2 MAC)
(Methylene Chloride) (ug/L) - TW					
2,4-Dichlorophenol (ug/L) - TW	2015/01/05	< 0.15	900.00	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L) - TW	2015/01/05	< 0.19	100.00	No	No
Diclofop-methyl (ug/L) - TW	2015/01/05	< 0.4	9.00	No	No
Dimethoate (ug/L) - TW	2015/01/05	< 0.03	20.00	No	No
Diquat (ug/L) - TW	2015/01/05	< 1.0	70.00	No	No
Diuron (ug/L) - TW	2015/01/05	< 0.03	150.00	No	No
Glyphosate (ug/L) - TW	2015/01/05	< 1.0	280.00	No	No
Malathion (ug/L) - TW	2015/01/05	< 0.02	190.00	No	No
2-Methyl-4chlorophenoxyacetic Acid (MCPA)	N/A				
Metolachlor (ug/L) - TW	2015/01/05	< 0.01	50.00	No	No
Metribuzin (ug/L) - TW	2015/01/05	< 0.02	80.00	No	No
Monochlorobenzene (Chlorobenzene) (ug/L) - TW	2015/01/05	< 0.3	80.00	No	No
Paraquat (ug/L) - TW	2015/01/05	< 1.0	10.00	No	No
PCB (ug/L) - TW	2015/01/05	< 0.04	3.00	No	No
Pentachlorophenol (ug/L) - TW	2015/01/05	< 0.15	60.00	No	No
Phorate (ug/L) - TW	2015/01/05	< 0.01	2.00	No	No
Picloram (ug/L) - TW	2015/01/05	< 1.0	190.00	No	No
Prometryne (ug/L) - TW	2015/01/05	< 0.03	1.00	No	No
Simazine (ug/L) - TW	2015/01/05	< 0.01	10.00	No	No
Terbufos (ug/L) - TW	2015/01/05	< 0.01	1.00	No	No
Tetrachloroethylene (ug/L) - TW	2015/01/05	< 0.35	10.00	No	No
2,3,4,6-Tetrachlorophenol (ug/L) - TW	2015/01/05	< 0.14	100.00	No	No
Triallate (ug/L) - TW	2015/01/05	< 0.01	230.00	No	No
Trichloroethylene (ug/L) - TW	2015/01/05	< 0.44	5.00	No	No
2,4,6-Trichlorophenol (ug/L) - TW	2015/01/05	< 0.25	5.00	No	No

Parameters (Treated Water)	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Exceedances (MAC)	Exceedances (1/2 MAC)
Trifluralin (ug/L) - TW	2015/01/05	< 0.02	45.00	No	No
Vinyl Chloride (ug/L) - TW	2015/01/05	< 0.17	1.00	No	No
<b>Distribution Water</b>					
Trihalomethane: Total (ug/L) Annual Average - DW	2019	6.7	100	No	No
HAA Total (ug/L) Annual Average - DW	2019	5.3	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
1299871	Repair Discharge End Motor HLP #1

# Appendix A

## WTRS Submission Confirmation





Ministry of the Environment,  
Conservation and Parks

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Location: [WTRS](#) / [WT DATA](#) / [Input WT Record](#) WTRS-WT-008

**Water Taking Data submitted successfully.**


**Confirmation:**

Thank you for submitting your water taking data online.

Permit Number: 1163-AYRJ36  
Permit Holder: THE CORPORATION OF THE CITY OF KAWARTHA LAKES.  
Received on: Feb 10, 2020 1:30 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.

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