

# Birch Point Drinking Water System

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Waterworks # 220012572  
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>, 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:** 220012572

**Drinking Water System Name:** Birch Point DWS

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

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

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

	# of Events	Date	Details
<b>Health and Safety</b>			
Number of Incidents	0		
<b>Drinking Water</b>			
MECP Inspections	1	February 15, 2019	Unannounced – Detailed Drinking Water Inspection Final Inspection Rating of 100%
	1	December 4, 2019	Announced – Focused Drinking Water Inspection Rating of 100%
AWQI's	1	Jan. 15, 2019	Treated water sodium exceedance
Number of Non-Compliances	0		
Number of Boil Water Advisories	0		

## System Process Description

### Raw Source

The water supply for the DWS comes from three (3) groundwater wells that are designated as non-GUDI (groundwater under direct influence).

### Treatment

The treatment system consists of the following:

- A sodium hypochlorite feed system

- A cartridge filtration system for iron removal consisting of two treatment trains
- A treated water storage reservoirs
- Three centrifugal high lift pumps with variable frequency drives
- Four hydropneumatic tanks
- Raw water and treated water flow meters
- Stand-by power generator on site
- Remote distribution monitoring station (located in Highview Acres)

**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
Jan. 15, 2019	144518	Treated water	Sodium	Result above threshold of 20 mg/L.	O. Reg. 169/03	Resample taken and tested. Notification provided to residents via water bill.

**Non-Compliance(s)**

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

**Non-Compliance(s) Identified in a Ministry Inspection**

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

**Flows**

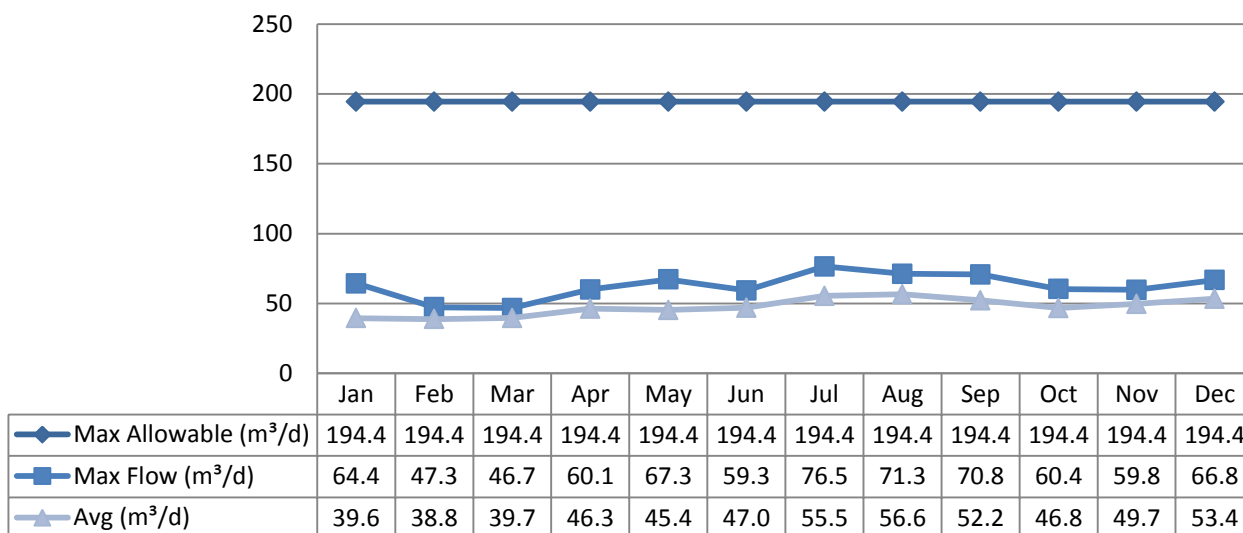
The Birch Point Drinking Water System is operating on average under half the rated capacity.

**Raw Water Flows**

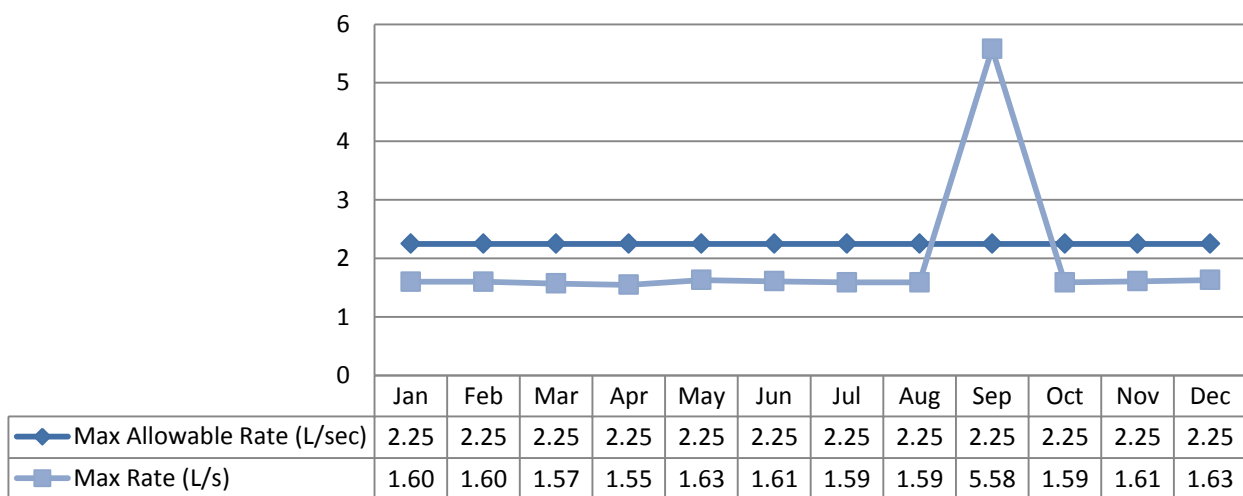
The Raw Water flows are regulated under the Permit to Take Water. 2019 Raw Flow Data was submitted to the Ministry electronically under permit #7147-9Y7HWV. The confirmation of the data that was submitted is attached in Appendix A.

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

## Max Allowable PTTW – Well #3

Monthly Rated Flows (L/s)

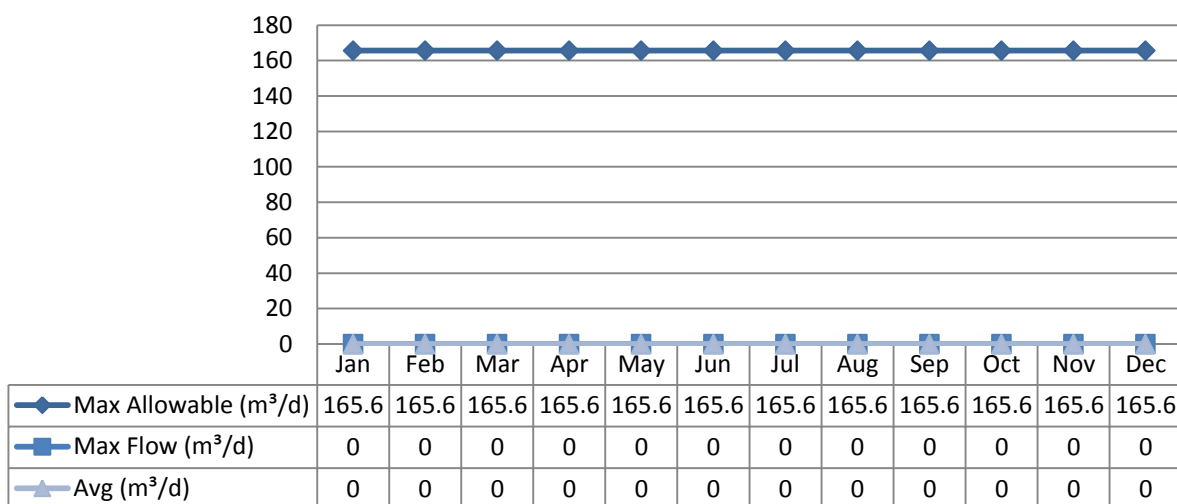
## Max allowable rate – PTTW – Well #3



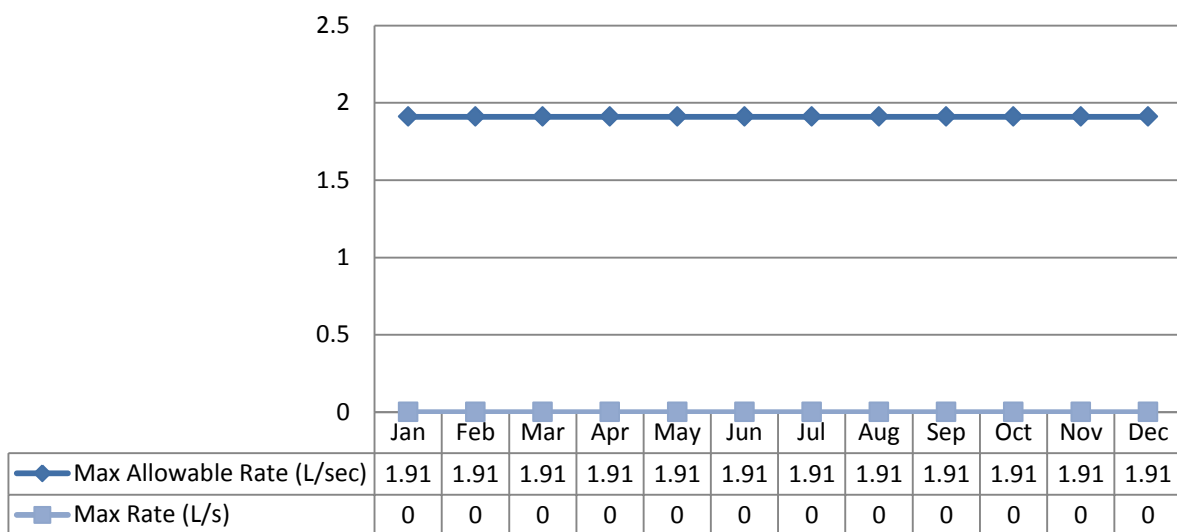
Note: The above table shows there was an exceedance in instantaneous peak flow rate (L/s). The significant spike in September was due to scheduled Flow Meter calibration.

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

Max Allowable PTTW – Well #4

Monthly Rated Flows (L/s)

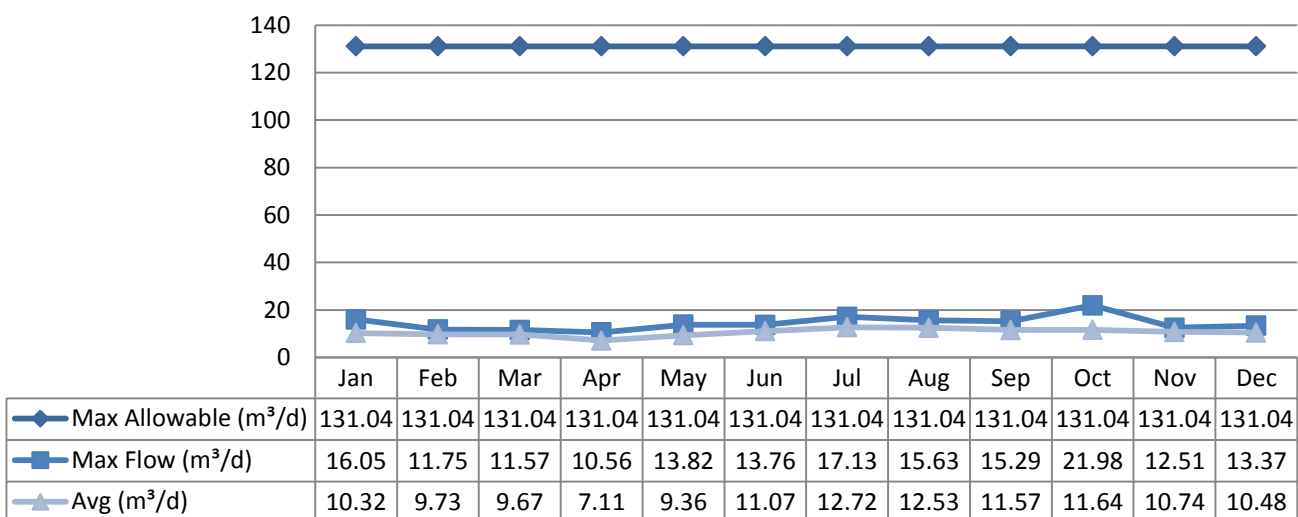
Max allowable rate – PTTW – Well #4



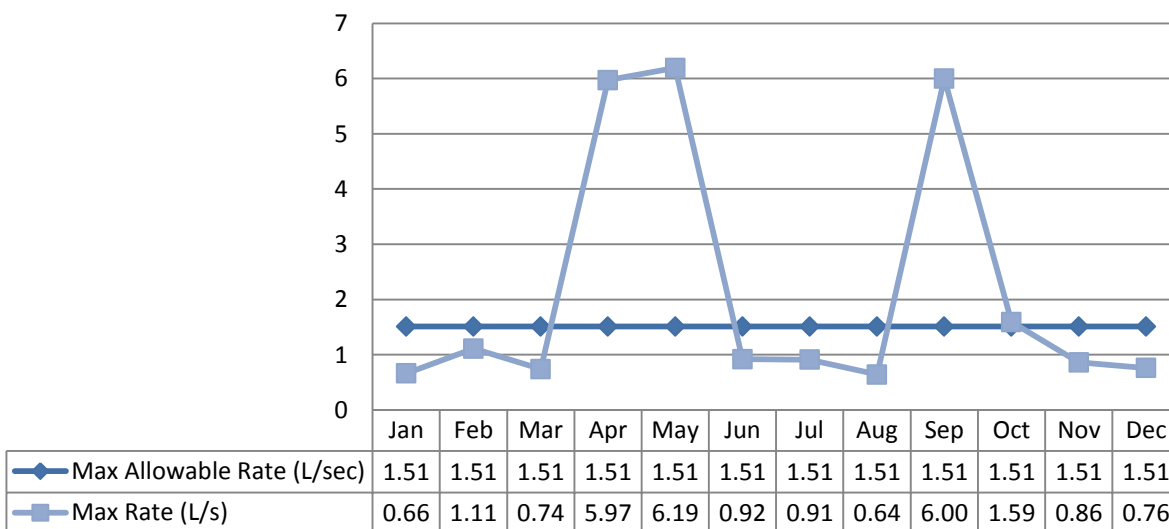
Note: Well 4 was not in production during the reporting period.

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

Max Allowable PTTW – Well #5

Monthly Rated Flows (L/s)

Max allowable rate – PTTW – Well #5



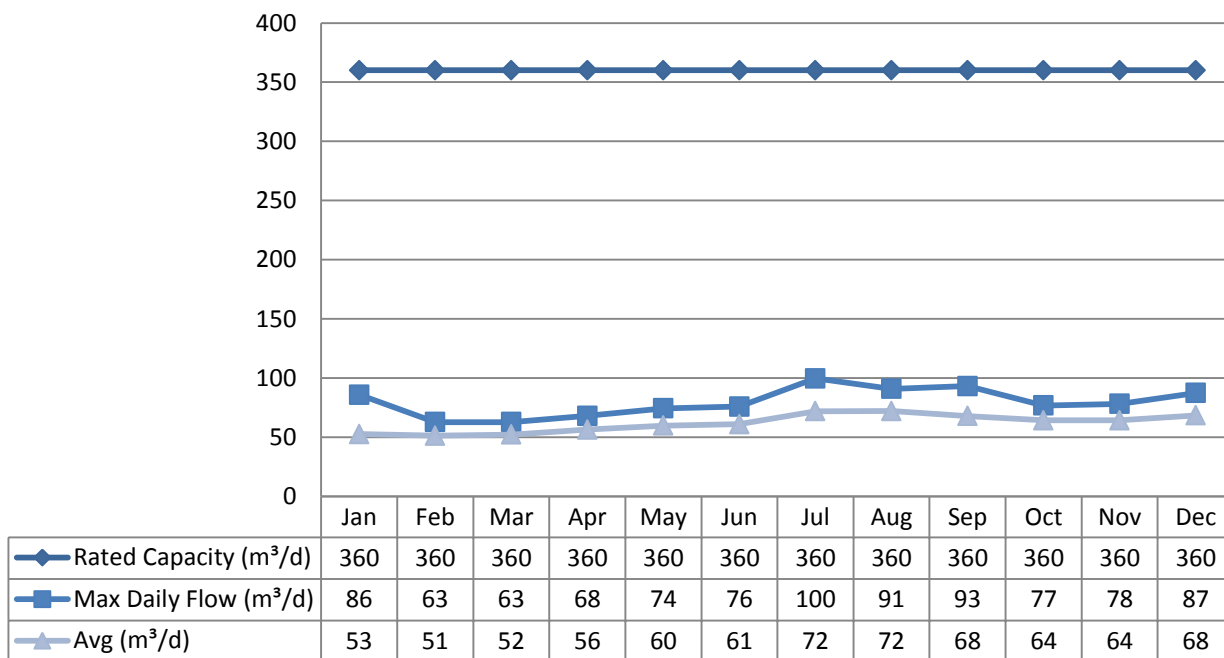
Note: The above table shows there were exceedances in instantaneous peak flow rate (L/s) this is due to well pump start-up. Additionally, in September the Flow Meter was scheduled for calibration.

**Treated Water Flows**

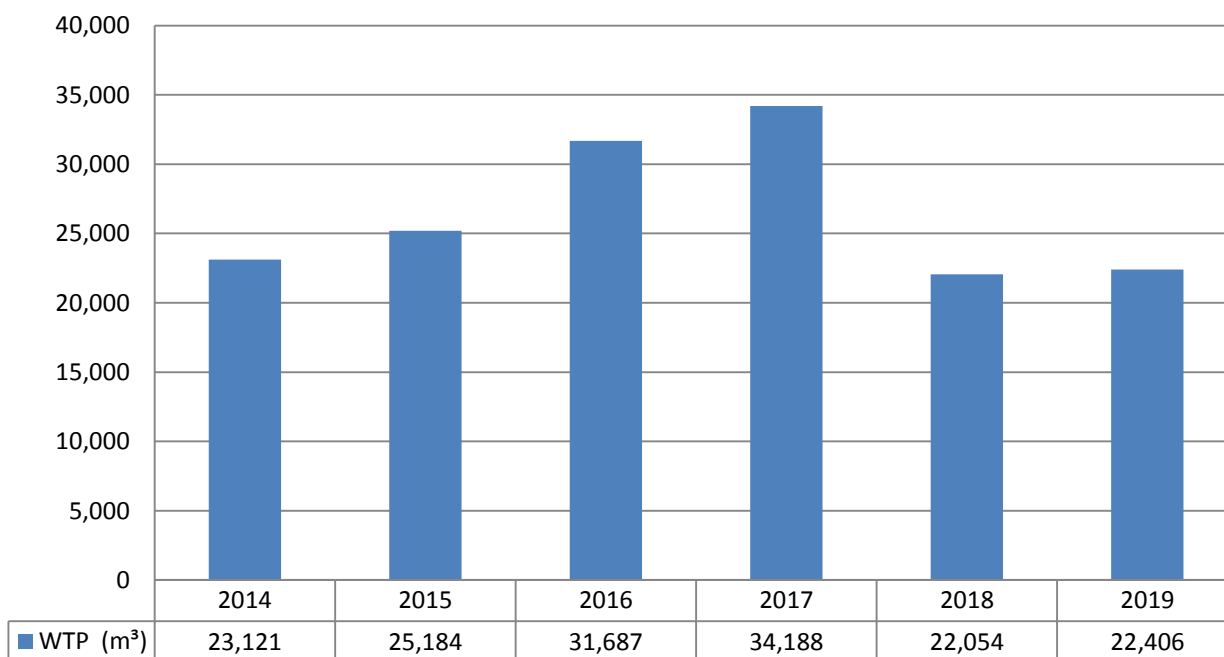
The Treated Water flows are regulated under the Municipal Licence.

**Monthly Rated Flows**

Rated Capacity – MDWL

**Annual Total Flow Comparison**

Total Annual m³





## Regulatory Sample Results Summary

### Microbiological Testing

Parameter	No. of Samples	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	Range of HPC Results
Source		Min	Max	Min	Max	Min	Max
Raw Well 3	54	0	0	0	0		
Raw Well 4	0						
Raw Well 5	52	0	0	0	1		
Treated	52	0	0	0	0	0	1
Distribution	156	0	0	0	0	0	1

**Note:** Well 4 was not in production during the reporting period.

### Operational Testing

Parameter	Number of Samples Collected	Range of Results Minimum	Range of Results Maximum
Turbidity Well 3 (NTU)	12	0.06	0.5
Turbidity Well 4 (NTU)	0	N/A	N/A
Turbidity Well 5 (NTU)	12	0.07	0.46
Chlorine	8760	0	3.22
Fluoride (If the DWS provides fluoridation)	N/A	N/A	N/A

**Note:** Well 4 was not in production during the reporting period.

**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

Treated Water Parameters	Sample Date	Sample Result	MAC	Exceedances MAC	Exceedances ½ MAC
Antimony: Sb (ug/L) - TW	2017/01/09	0.11	6.0	No	No
Arsenic: As (ug/L) - TW	2017/01/09	<MDL 0.2	10.0	No	No
Barium: Ba (ug/L) - TW	2017/01/09	223.0	1000.0	No	No
Boron: B (ug/L) - TW	2017/01/09	91.0	5000.0	No	No
Cadmium: Cd (ug/L) - TW	2017/01/09	0.003	5.0	No	No
Chromium: Cr (ug/L) - TW	2017/01/09	0.52	50.0	No	No
Mercury: Hg (ug/L) - TW	2017/01/09	<MDL 0.01	1.0	No	No
Selenium: Se (ug/L) - TW	2017/01/09	0.16	50.0	No	No
Uranium: U (ug/L) - TW	2017/01/09	0.948	20.0	No	No
<b>Additional Inorganics</b>					
Fluoride (mg/L) - TW	2018/12/10	0.12	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	2.35	10.0	No	No
Nitrate (mg/L) - TW	2019/04/01	2.49	10.0	No	No
Nitrate (mg/L) - TW	2019/07/02	2.41	10.0	No	No
Nitrate (mg/L) - TW	2019/10/07	2.29	10.0	No	No
Sodium: Na (mg/L) - TW	2019/01/15	45.7	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	No. of Sampling Points	No. of Samples	Range of Results (MIN)	Range of Results (MAX)	MAC (ug/L)	No. of Exceedances
Alkalinity (mg/L)	2	2	275	287	N/A	N/A
pH	2	2	7.25	7.26	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.

Parameter (Treated Water)	Sample Date (yyyy/mm/dd )	Sample Result	MAC	No. of Exceedances MAC	No. of Exceedances MIN
Alachlor (ug/L) - TW	2017/01/09	<MDL 0.02	5.00	No	No
Atrazine + N-dealkylated metabolites (ug/L) - TW	2017/01/09	<MDL 0.01	5.00	No	No
Azinphos-methyl (ug/L) - TW	2017/01/09	<MDL 0.05	20.00	No	No
Benzene (ug/L) - TW	2017/01/09	<MDL 0.32	1.00	No	No
Benzo(a)pyrene (ug/L) - TW	2017/01/09	<MDL 0.004	0.01	No	No
Bromoxynil (ug/L) - TW	2017/01/09	<MDL 0.33	5.00	No	No
Carbaryl (ug/L) - TW	2017/01/09	<MDL 0.05	90.00	No	No
Carbofuran (ug/L) - TW	2017/01/09	<MDL 0.01	90.00	No	No
Carbon Tetrachloride (ug/L) - TW	2017/01/09	<MDL 0.16	2.00	No	No
Chlorpyrifos (ug/L) - TW	2017/01/09	<MDL 0.02	90.00	No	No
Diazinon (ug/L) - TW	2017/01/09	<MDL 0.02	20.00	No	No
Dicamba (ug/L) - TW	2017/01/09	<MDL 0.2	120.00	No	No
1,2-Dichlorobenzene (ug/L) - TW	2017/01/09	<MDL 0.41	200.00	No	No
1,4-Dichlorobenzene (ug/L) - TW	2017/01/09	<MDL 0.36	5.00	No	No
1,2-Dichloroethane (ug/L) - TW	2017/01/09	<MDL 0.35	5.00	No	No
1,1-Dichloroethylene (ug/L) - TW	2017/01/09	<MDL 0.33	14.00	No	No
Dichloromethane (Methylene	2017/01/09	<MDL 0.35	50.00	No	No

Parameter (Treated Water)	Sample Date (yyyy/mm/dd )	Sample Result	MAC	No. of Exceedances MAC	No. of Exceedances MIN
Chloride) (ug/L) - TW					
2,4-Dichlorophenol (ug/L) - TW	2017/01/09	<MDL 0.15	900.00	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L) - TW	2017/01/09	<MDL 0.19	100.00	No	No
Diclofop-methyl (ug/L) - TW	2017/01/09	<MDL 0.4	9.00	No	No
Dimethoate (ug/L) - TW	2017/01/09	<MDL 0.03	20.00	No	No
Diquat (ug/L) - TW	2017/01/09	<MDL 1.0	70.00	No	No
Diuron (ug/L) - TW	2017/01/09	<MDL 0.03	150.00	No	No
Glyphosate (ug/L) - TW	2017/01/09	<MDL 1.0	280.00	No	No
Malathion (ug/L) - TW	2017/01/09	<MDL 0.02	190.00	No	No
2-Methyl-4chlorophenoxyacetic Acid (MCPA)	2017/01/09	<MDL 0.012	100.00	No	No
Metolachlor (ug/L) - TW	2017/01/09	<MDL 0.01	50.00	No	No
Metribuzin (ug/L) - TW	2017/01/09	<MDL 0.02	80.00	No	No
Monochlorobenzene (Chlorobenzene) (ug/L) - TW	2017/01/09	<MDL 0.3	80.00	No	No
Paraquat (ug/L) - TW	2017/01/09	<MDL 1.0	10.00	No	No
PCB (ug/L) - TW	2017/01/09	<MDL 0.04	3.00	No	No
Pentachlorophenol (ug/L) - TW	2017/01/09	<MDL 0.15	60.00	No	No
Phorate (ug/L) - TW	2017/01/09	<MDL 0.01	2.00	No	No
Picloram (ug/L) - TW	2017/01/09	<MDL 1.0	190.00	No	No
Prometryne (ug/L) - TW	2017/01/09	<MDL 0.03	1.00	No	No
Simazine (ug/L) - TW	2017/01/09	<MDL 0.01	10.00	No	No
Terbufos (ug/L) - TW	2017/01/09	<MDL 0.01	1.00	No	No
Tetrachloroethylene (ug/L) - TW	2017/01/09	<MDL 0.35	10.00	No	No
2,3,4,6-Tetrachlorophenol (ug/L) - TW	2017/01/09	<MDL 0.2	100.00	No	No
Triallate (ug/L) - TW	2017/01/09	<MDL 0.01	230.00	No	No
Trichloroethylene (ug/L) - TW	2017/01/09	<MDL 0.44	5.00	No	No
2,4,6-Trichlorophenol (ug/L) - TW	2017/01/09	<MDL 0.25	5.00	No	No
Trifluralin (ug/L) - TW	2017/01/09	<MDL 0.02	45.00	No	No
Vinyl Chloride (ug/L) - TW	2017/01/09	<MDL 0.17	1.00	No	No
<b>Distribution Water</b>					
Trihalomethane: Total (ug/L) Annual Average - DW	2019	21.25	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**

<b>WO #</b>	<b>Description</b>
699897	VFD Installation and Highlift Pump Upgrades
1422344	Well Producing 3 and 4 Below Grade Maintenance/Inspection by Contractor
1103062	SPack Replacement, Upgrade

# Appendix A

## WTRS 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-008

**Water Taking Data submitted successfully.**


**Confirmation:**

Thank you for submitting your water taking data online.

Permit Number: 7147-9Y7HWV  
Permit Holder: THE CORPORATION OF THE CITY OF KAWARTHA LAKES.  
Received on: Feb 10, 2020 11:03 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.

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