

Canadiana Shores Drinking Water System

Waterworks # 220006491
System Category – Large Municipal Residential

Annual Water Report

Prepared For: The City of Kawartha Lakes

Reporting Period of January 1st – December 31st, 2019

Issued: February 18, 2020

Revision: 0

Operating Authorities:



OCWA



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: 220006491

Drinking Water System Name: Canadiana Shores 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
Health & Safety			
Number of Incidents	0		
Drinking Water			
MECP Inspections	1	September 10, 2019	Announced - Focused Drinking Water Inspection - Final Inspection Rating of 100%
AWQI's	1	September 18, 2019	217 in Total Coliforms in Distribution
	1	September 25, 2019	6 Total Coliforms in Distribution
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 considered to be GUDI (Groundwater Under the Direct Influence of Surface Water).

Treatment

The treatment system consists of the following:

- sodium hypochlorite disinfection system

- two (2) package treatment units with backwash equipment and backwash waste storage/decant tank system
- two (2) cartridge filtration systems
- two (2) booster pumps and equalization tank system
- hydropneumatic tanks
- a high lift pumping system
- Stand-by diesel generator on-site

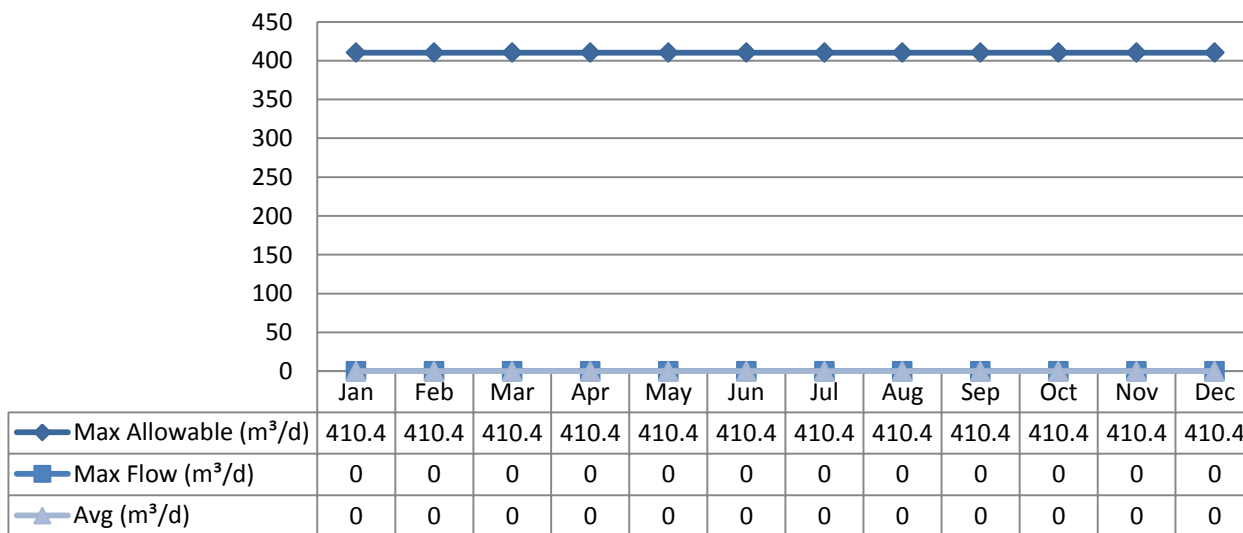
Treatment Chemicals used during the reporting year:

Chemical Name	Use	Supplier
Sodium Hypochlorite	Disinfection	Brenntag

Summary of Non-Compliance

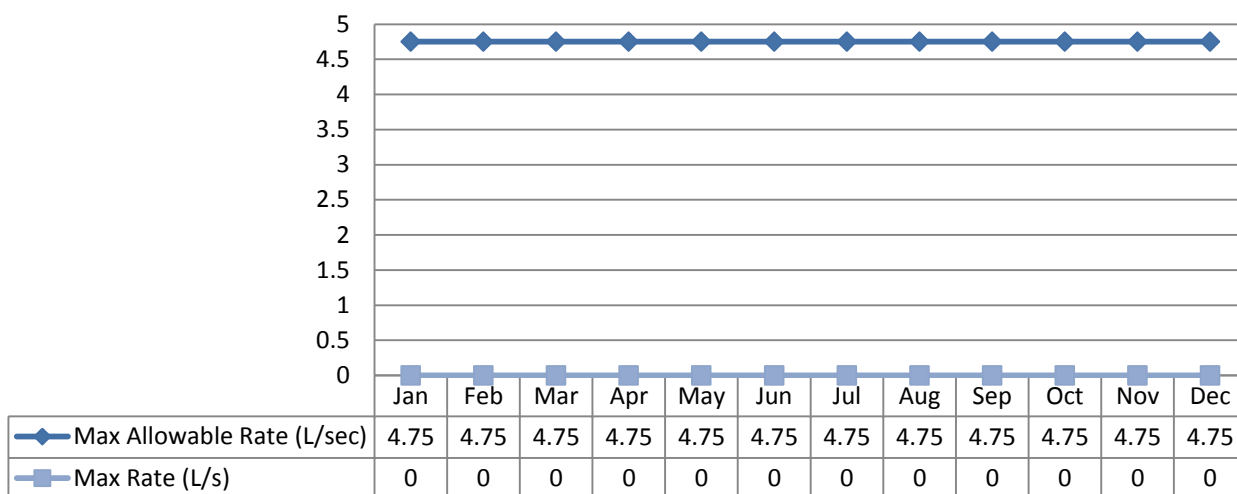
Adverse Water Quality Incidents

Date	AWQI #	Location	Problem	Details	Legislation	Corrective Action Taken
Sep. 18, 2019	148122	Distribution	Total Coliforms	217 Total Coliforms at sampling location 84 Hillside	O. Reg. 170/03	Disinfect sample tap, flush and resample at the adverse location, upstream & downstream of the location. Results received were clear.
Sep. 25, 2019	148224	Distribution	Total Coliforms	6 Total Coliforms at sampling location	O. Reg. 170/03	Disinfect sample tap, flush and resample at the adverse location, upstream & downstream of the location. Results received were clear.



Monthly Rated Flows (L/s)

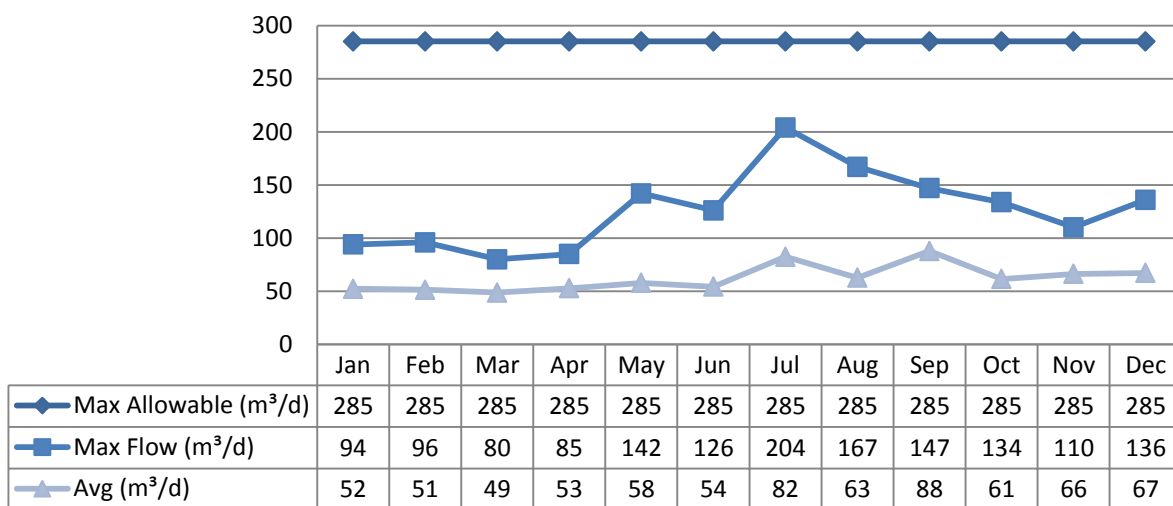
Max allowable rate – PTTW – Well #1



Note: Well 1 was not in production during the reporting period. Well 1 was decommissioned on December 18, 2019.

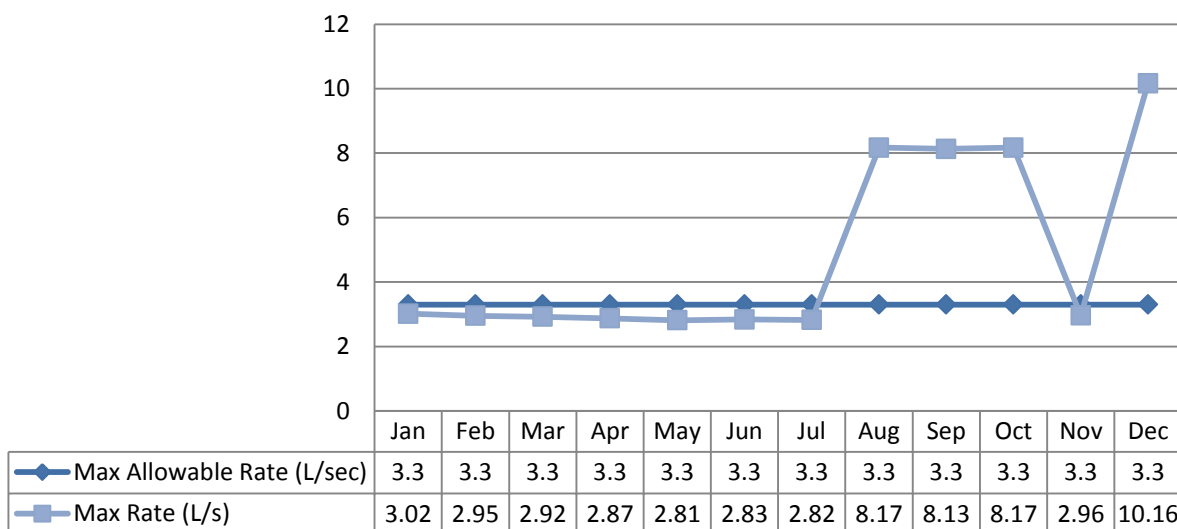
Total Monthly Flows (m³/d)

Max Allowable PTTW – Well #2



Monthly Rated Flows (L/s)

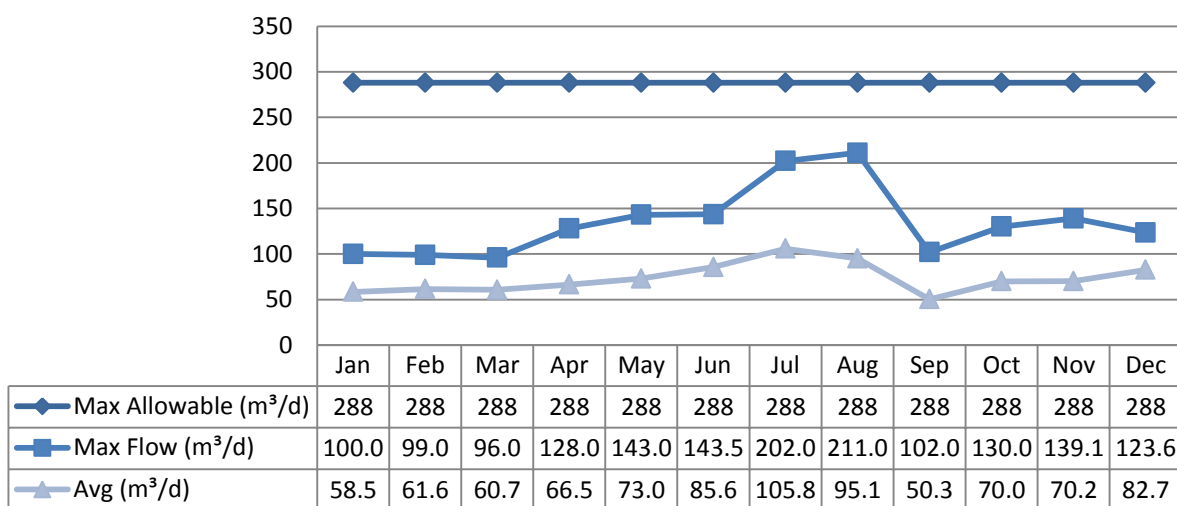
Max allowable rate – PTTW – Well #2



Note: The above table shows there were exceedances in instantaneous peak flow rate (L/s). The significant spike in August, September, October and December were due to power transfer between utility and the onsite generator.

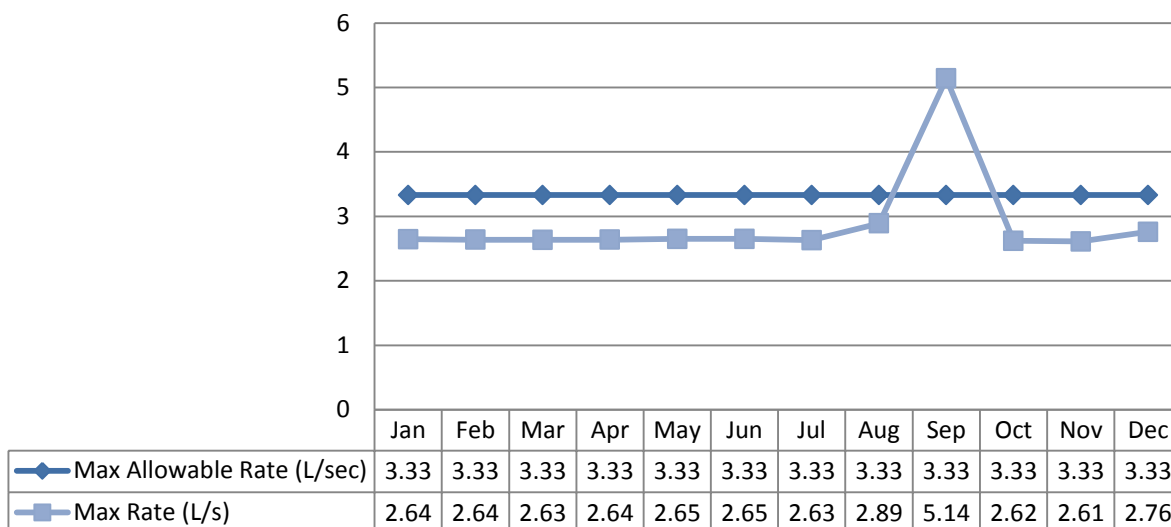
Total Monthly Flows (m³/d)

Max Allowable PTTW – Well #3



Monthly Rated Flows (L/s)

Max allowable rate – PTTW – Well #3



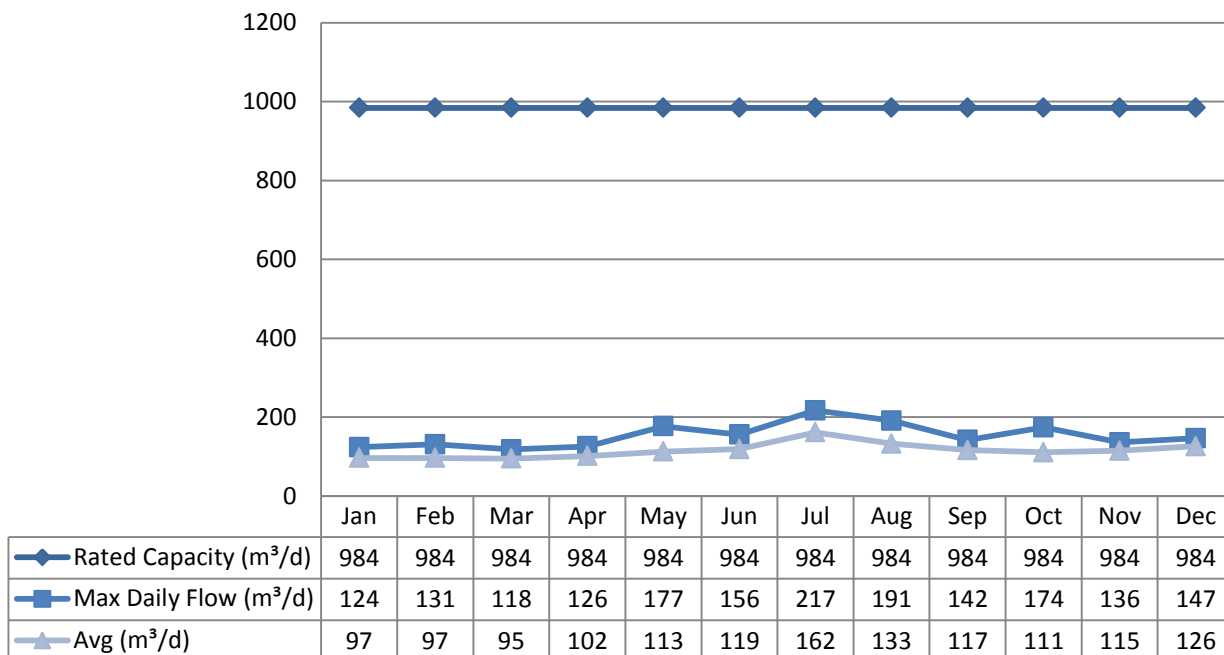
Note: The above table shows there were exceedances in instantaneous peak flow rate (L/s). The significant spike in September was due to power transfer between utility and the onsite generator.

Treated Water Flows

The Treated Water flows are regulated under the Municipal Licence.

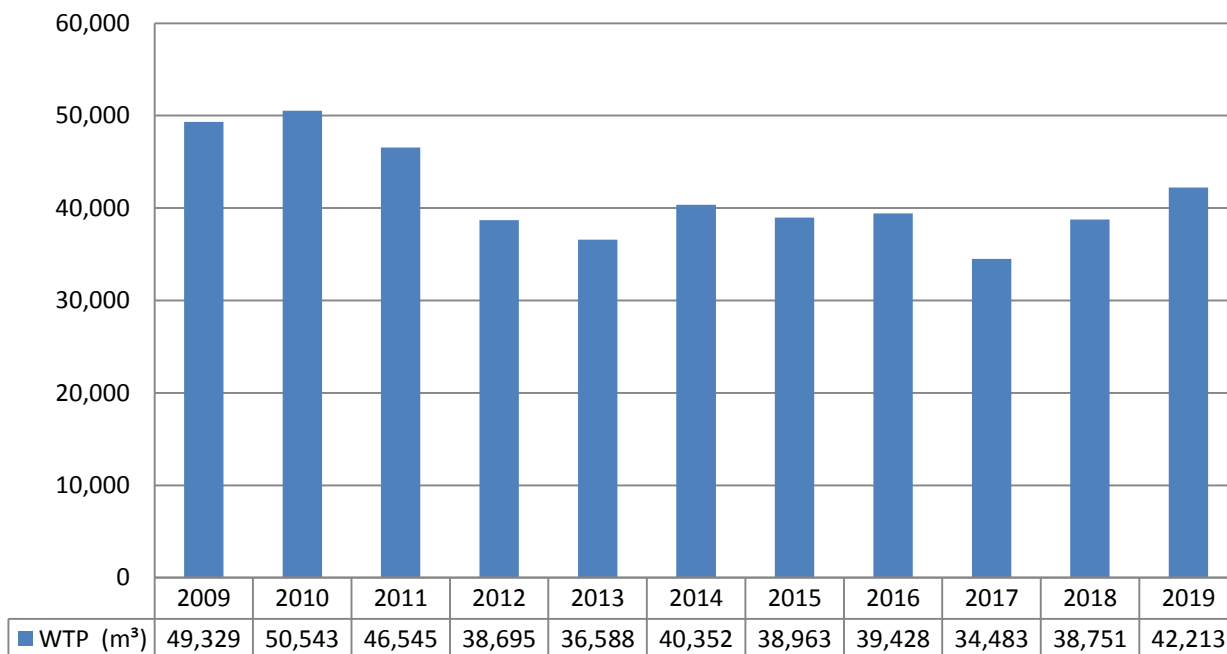
Monthly Rated Flows

Rated Capacity – MDWL



Annual Total Flow Comparison

Total Annual m³



Regulatory Sample Results Summary

Microbiological Testing

Parameter	No. of Samples Collected	Range of E. coli Results (MIN)	Range of E. coli Results (MAX)	Range of Coliform Results (MIN)	Range of Coliform Results (MAX)	Range of HPC Results (MIN)	Range of HPC Results (MAX)
Raw Well 1	1	0	0	0	0		
Raw Well 2	55	0	0	0	0		
Raw Well 3	52	0	0	0	0		
Treated	52	0	0	0	0	0	4
Distribution	165	0	0	0	217	0	9

Note: Well 1 was not in production during this reporting period.

Operational Testing

Parameter	No. of Samples Collected	Range of Results (MIN)	Range of Results (MAX)
Turbidity Well 1 (NTU)	1	0	0
Turbidity Well 2 (NTU)	12	0.08	0.63
Turbidity Well 3 (NTU)	12	0.09	0.88
Turbidity – Filter Line 1 (NTU)	8760	0.00	2.03
Turbidity – Filter Line 2 (NTU)	8760	0.00	5.00
Chlorine	8760	0	3.27
Fluoride (If the DWS provides fluoridation)	N/A	N/A	N/A

Note: Well 1 was not in production during this 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 5 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

Parameters (Treated Water)	Sample Date (yyy/mm/dd)	Sample Result	MAC	Exceedance MAC	Exceedance ½ MAC
Antimony: Sb (ug/L) - TW	2019/01/07	0.04	6.0	No	No
Arsenic: As (ug/L) - TW	2019/01/07	<MDL 0.2	10.0	No	No
Barium: Ba (ug/L) - TW	2019/01/07	104.0	1000.0	No	No
Boron: B (ug/L) - TW	2019/01/07	8.0	5000.0	No	No
Cadmium: Cd (ug/L) - TW	2019/01/07	0.008	5.0	No	No
Chromium: Cr (ug/L) - TW	2019/01/07	0.15	50.0	No	No
Mercury: Hg (ug/L) - TW	2019/01/07	<MDL 0.01	1.0	No	No
Selenium: Se (ug/L) - TW	2019/01/07	0.1	50.0	No	No
Uranium: U (ug/L) - TW	2019/01/07	3.85	20.0	No	No

Parameters (Treated Water)	Sample Date (yyy/mm/dd)	Sample Result	MAC	Exceedance MAC	Exceedance $\frac{1}{2}$ MAC
Fluoride (mg/L) - TW	2018/01/08	0.09	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	1.12	10.0	No	No
Nitrate (mg/L) - TW	2019/04/01	1.19	10.0	No	No
Nitrate (mg/L) - TW	2019/07/02	0.898	10.0	No	No
Nitrate (mg/L) - TW	2019/10/07	0.982	10.0	No	No
Sodium: Na (mg/L) - TW	2018/01/08	17.0	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 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 Minimum	Range of Results Maximum	MAC (ug/L)	Number of Exceedances
Alkalinity (mg/L)	2	4	268	274	N/A	N/A
pH	2	4	7.50	8.04	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	Number of Exceedances MAC	Number of Exceedances ½ MAC
Alachlor (ug/L) - TW	2019/01/07	<MDL 0.02	5.00	No	No
Atrazine + N-dealkylated metabolites (ug/L) - TW	2019/01/07	<MDL 0.01	5.00	No	No
Azinphos-methyl (ug/L) - TW	2019/01/07	<MDL 0.05	20.00	No	No
Benzene (ug/L) - TW	2019/01/07	<MDL 0.32	1.00	No	No
Benzo(a)pyrene (ug/L) - TW	2019/01/07	<MDL 0.004	0.01	No	No
Bromoxynil (ug/L) - TW	2019/01/07	<MDL 0.33	5.00	No	No
Carbaryl (ug/L) - TW	2019/01/07	<MDL 0.05	90.00	No	No
Carbofuran (ug/L) - TW	2019/01/07	<MDL 0.01	90.00	No	No
Carbon Tetrachloride (ug/L) - TW	2019/01/07	<MDL 0.16	2.00	No	No
Chlorpyrifos (ug/L) - TW	2019/01/07	<MDL 0.02	90.00	No	No
Diazinon (ug/L) - TW	2019/01/07	<MDL 0.02	20.00	No	No
Dicamba (ug/L) - TW	2019/01/07	<MDL 0.2	120.00	No	No
1,2-Dichlorobenzene (ug/L) - TW	2019/01/07	<MDL 0.41	200.00	No	No
1,4-Dichlorobenzene (ug/L) - TW	2019/01/07	<MDL 0.36	5.00	No	No
1,2-Dichloroethane (ug/L) - TW	2019/01/07	<MDL 0.35	5.00	No	No
1,1-Dichloroethylene (ug/L) - TW	2019/01/07	<MDL 0.33	14.00	No	No
Dichloromethane (Methylene Chloride) (ug/L) - TW	2019/01/07	<MDL 0.35	50.00	No	No
2,4-Dichlorophenol (ug/L) - TW	2019/01/07	<MDL 0.15	900.00	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L) - TW	2019/01/07	<MDL 0.19	100.00	No	No
Diclofop-methyl (ug/L) - TW	2019/01/07	<MDL 0.4	9.00	No	No
Dimethoate (ug/L) - TW	2019/01/07	<MDL 0.03	20.00	No	No
Diquat (ug/L) - TW	2019/01/07	<MDL 1.0	70.00	No	No
Diuron (ug/L) - TW	2019/01/07	<MDL 0.03	150.00	No	No
Glyphosate (ug/L) - TW	2019/01/07	<MDL 1.0	280.00	No	No
Malathion (ug/L) - TW	2019/01/07	<MDL 0.02	190.00	No	No
2-Methyl-4chlorophenoxyacetic Acid (MCPA) (ug/L)	2019/01/07	<MDL 0.12	100.00	No	No

Parameter Treated Water	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Number of Exceedances MAC	Number of Exceedances $\frac{1}{2}$ MAC
Metolachlor (ug/L) - TW	2019/01/07	<MDL 0.01	50.00	No	No
Metribuzin (ug/L) - TW	2019/01/07	<MDL 0.02	80.00	No	No
Monochlorobenzene (Chlorobenzene) (ug/L) - TW	2019/01/07	<MDL 0.3	80.00	No	No
Paraquat (ug/L) - TW	2019/01/07	<MDL 1.0	10.00	No	No
PCB (ug/L) - TW	2019/01/07	<MDL 0.04	3.00	No	No
Pentachlorophenol (ug/L) - TW	2019/01/07	<MDL 0.15	60.00	No	No
Phorate (ug/L) - TW	2019/01/07	<MDL 0.01	2.00	No	No
Picloram (ug/L) - TW	2019/01/07	<MDL 1.0	190.00	No	No
Prometryne (ug/L) - TW	2019/01/07	<MDL 0.03	1.00	No	No
Simazine (ug/L) - TW	2019/01/07	<MDL 0.01	10.00	No	No
Terbufos (ug/L) - TW	2019/01/07	<MDL 0.01	1.00	No	No
Tetrachloroethylene (ug/L) - TW	2019/01/07	<MDL 0.35	10.00	No	No
2,3,4,6-Tetrachlorophenol (ug/L) - TW	2019/01/07	<MDL 0.2	100.00	No	No
Triallate (ug/L) - TW	2019/01/07	<MDL 0.01	230.00	No	No
Trichloroethylene (ug/L) - TW	2019/01/07	<MDL 0.44	5.00	No	No
2,4,6-Trichlorophenol (ug/L) - TW	2019/01/07	<MDL 0.25	5.00	No	No
Trifluralin (ug/L) - TW	2019/01/07	<MDL 0.02	45.00	No	No
Vinyl Chloride (ug/L) - TW	2019/01/07	<MDL 0.17	1.00	No	No
Distribution Water					
Trihalomethane: Total (ug/L) Annual Average - DW	2019	8.1	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


Date of legal instrument issued	Parameter	Date Sampled	Result	Unit of Measure
July 26, 2016	Suspended Solids (Composite)	January 2019	2	mg/L
July 26, 2016	Suspended Solids (Composite)	February 2019	2	mg/L
July 26, 2016	Suspended Solids (Composite)	March 2019	2	mg/L
July 26, 2016	Suspended Solids (Composite)	April 2019	3	mg/L
July 26, 2016	Suspended Solids (Composite)	May 2019	3	mg/L
July 26, 2016	Suspended Solids (Composite)	June 2019	3	mg/L
July 26, 2016	Suspended Solids (Composite)	July 2019	4	mg/L
July 26, 2016	Suspended Solids (Composite)	August 2019	5	mg/L
July 26, 2016	Suspended Solids (Composite)	September 2019	3	mg/L
July 26, 2016	Suspended Solids (Composite)	October 2019	3	mg/L
July 26, 2016	Suspended Solids (Composite)	November 2019	3	mg/L
July 26, 2016	Suspended Solids (Composite)	December 2019	4	mg/L
July 26, 2016	Suspended Solids Annual Average Concentration	2019	3.083	mg/L


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

WO #	Description
823950	Well #1 Replacement
1104059	Power Generation, Backup Power, Remove low temp alarm wire
1259326	Replacement Desiccant Cartridge

Appendix A

WTRS Submission Confirmation





Ministry of the Environment,
Conservation and Parks

| WT DATA | REPORTS | SEARCH WT DATA | ADMINISTRATION | 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: 1452-AWDLEX
Permit Holder: THE CORPORATION OF THE CITY OF KAWARTHA LAKES.
Received on: Feb 10, 2020 9:08 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.