

Woodville Drinking Water System

Waterworks # 210001077
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 20, 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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WTRS Data and Submission ConfirmationA

Report Availability

This system does not serve more than 10,000 residents. The annual reports are available to residents free of charge at the City of Kawartha Lakes – Public Works Administration Office located at 12 Peel Street in Lindsay, Ontario. The reports are also available online at [the City's website](http://www.kawarthalakes.ca) (www.kawarthalakes.ca)

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, 2019 - December 31, 2019

	# of Events	Date	Details
Health & Safety			
Number of Incidents	0		
Drinking Water			
MECP Inspections	1	April 16, 2019	Unannounced - 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 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 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

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

Non-Compliance

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

Non-Compliance Identified in a Ministry Inspection

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

Flows

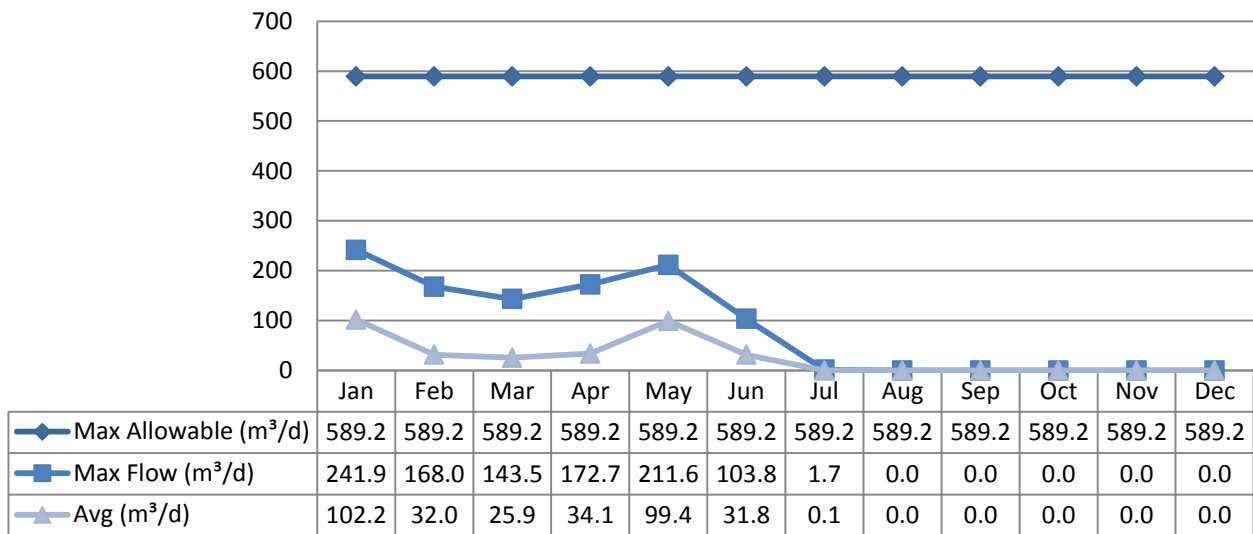
The Woodville Drinking Water System is operating on average under half the rated capacity.

Raw Water Flows

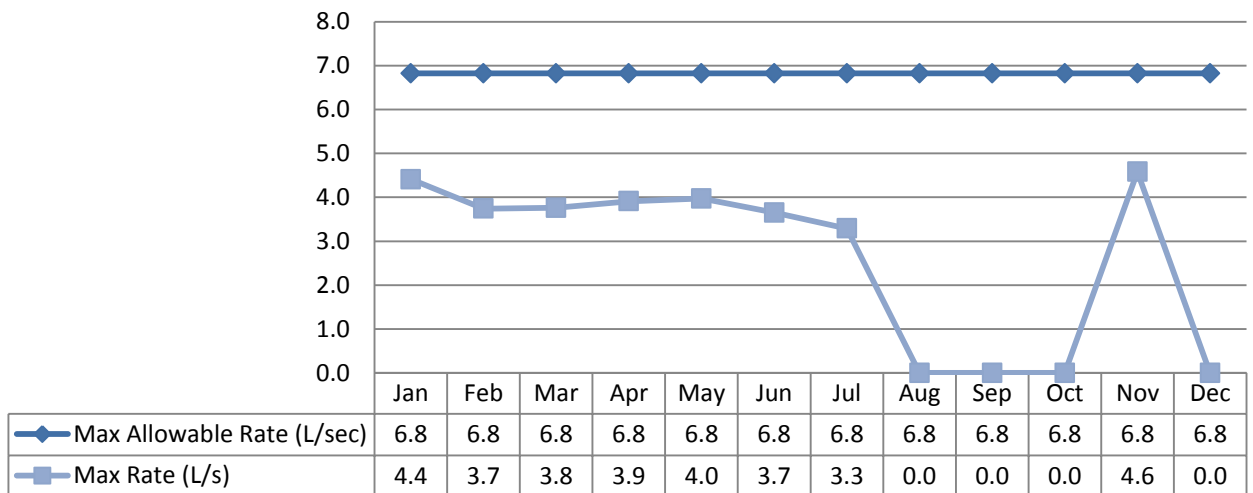
The Raw Water flows are regulated under the Permit to Take Water. 2019 Raw Flow Data was submitted to the Ministry electronically under permit #1207-AHKRXV. The confirmation and a copy of the data that was submitted are attached in Appendix A.

Total Monthly Flows (m³/d)

Max Allowable PTTW- Well #1

Monthly Rated Flows (L/s)

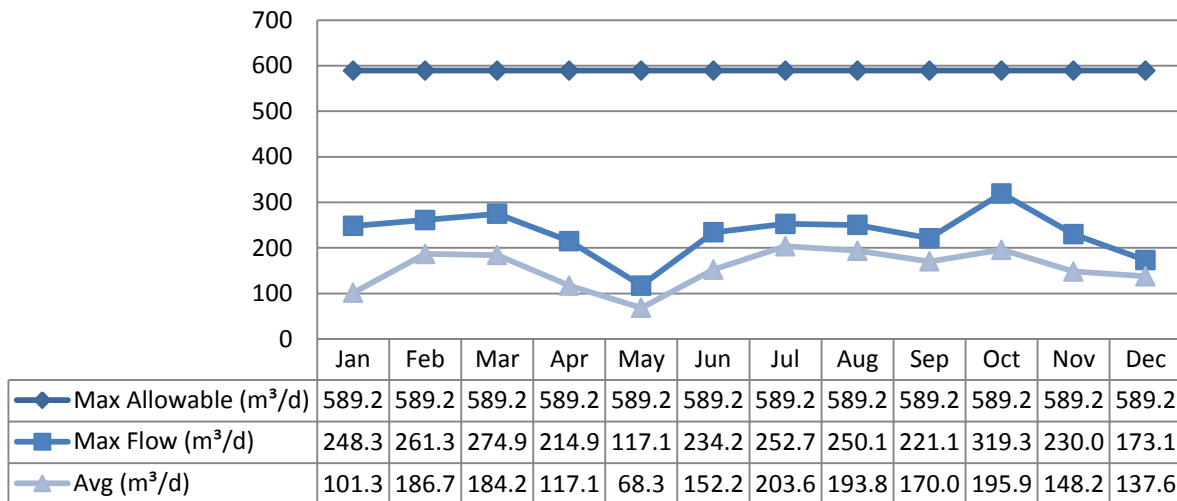
Max allowable rate – PTTW- Well #1



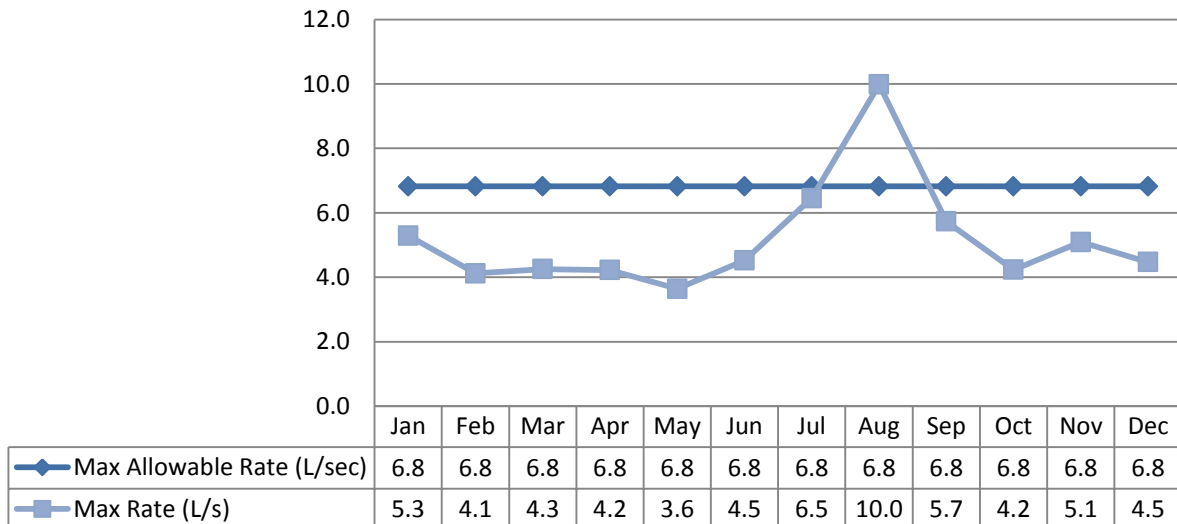
Note: Scheduled Flow Meter calibration occurred in August 2019.

Total Monthly Flows (m³/d)

Max Allowable PTTW- Well #2

Monthly Rated Flows (L/s)

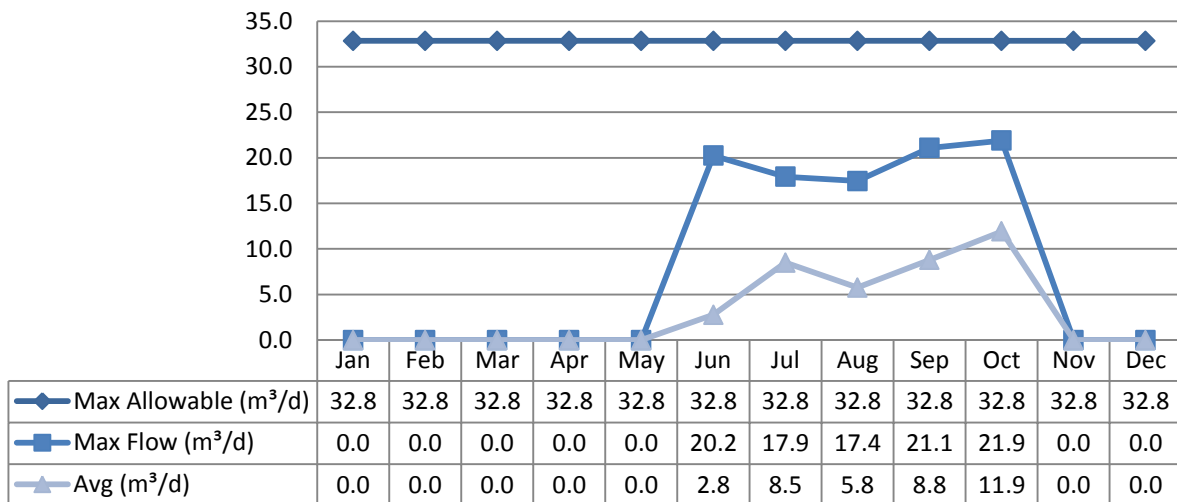
Max allowable rate – PTTW- Well #2



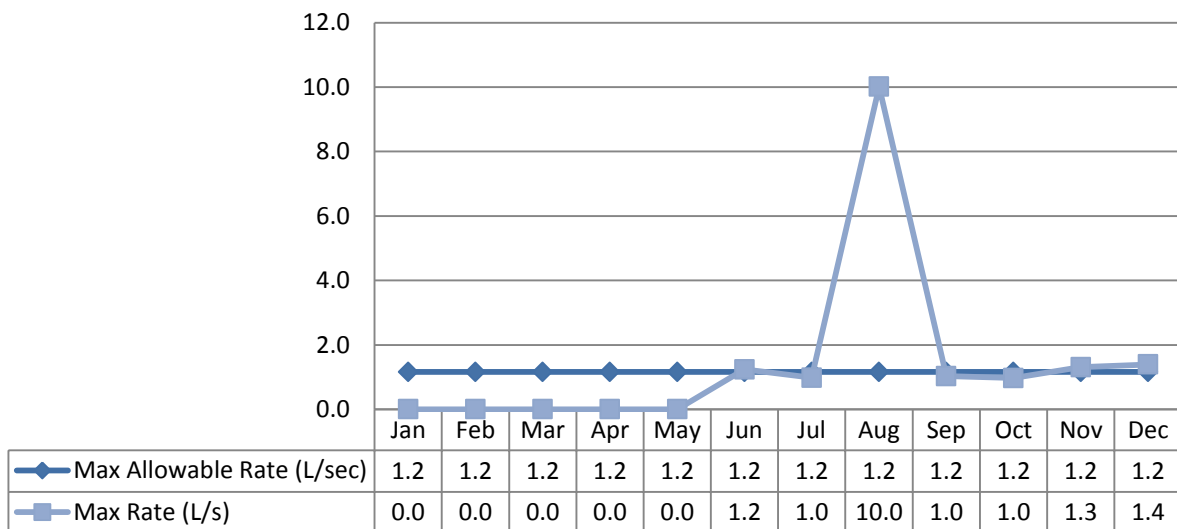
Note: The significant spike in August was due to scheduled Flow Meter calibration.

Total Monthly Flows (m³/d)

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

Monthly Rated Flows (L/s)

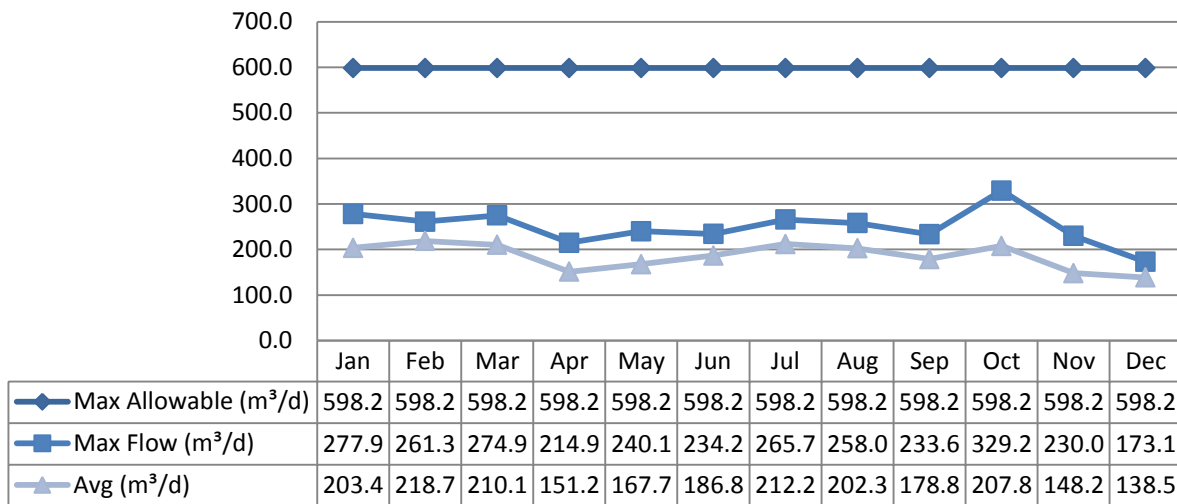
Max allowable rate – PTTW- Well #3



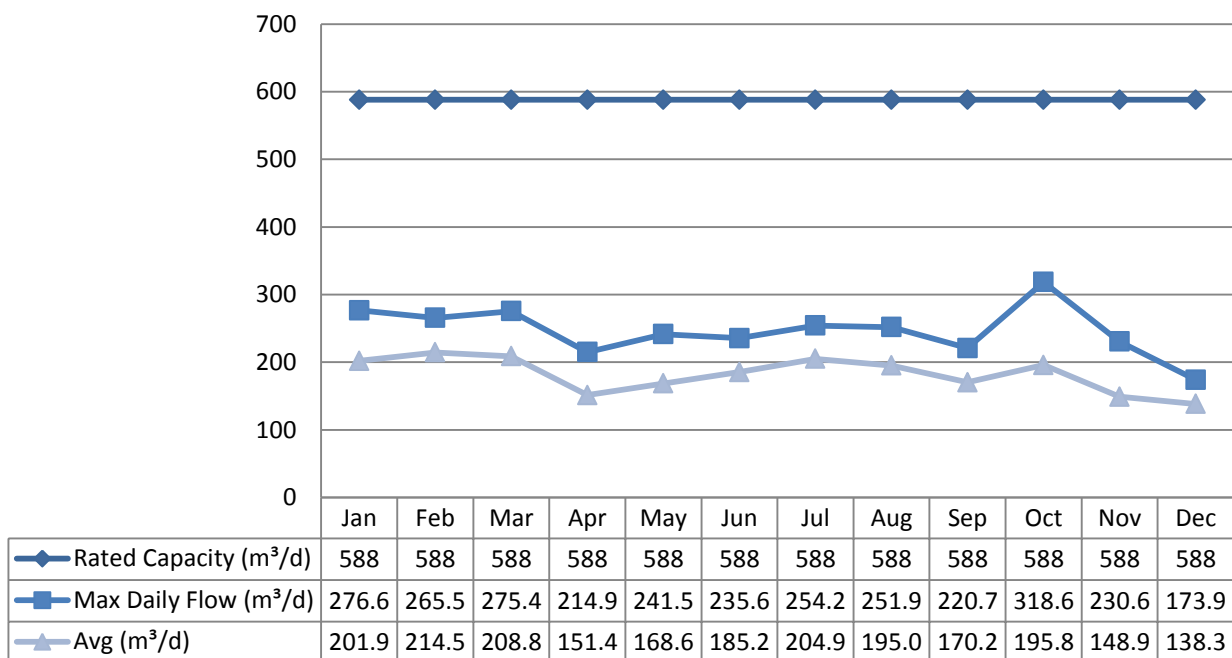
Note: The significant spike in August was due to scheduled Flow Meter calibration.

Total Monthly Flows (m³/d)

Max Allowable PTTW- Total Raw

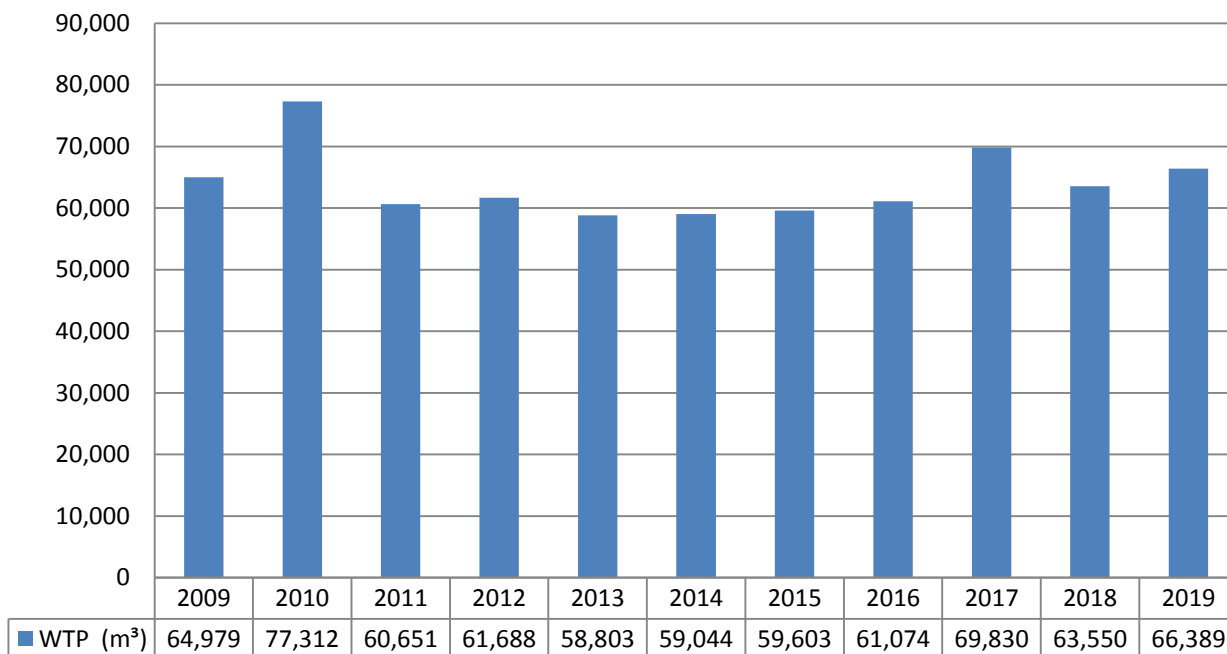
Treated Water Flows

The Treated Water flows are regulated under the Municipal Licence.

Monthly Rated FlowsRated 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 Total Coliform Results (MIN)	Range of Total Coliform Results (MAX)	Range of HPC Results (MIN)	Range of HPC Results (MAX)
Raw Well 1	52	0	0	0	12		
Raw Well 2	52	0	1	0	4		
Treated	52	0	0	0	0	0	1
Distribution	159	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)	56	0.11	9.99
Turbidity Well 2 (NTU)	56	0.08	1.5
Chlorine	8760	0	5.0
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 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

Parameter	Sample Date (yyyy/mm/dd)	Sample Result	MAC	No. of Exceedances (MAC)	No. of Exceedances (1/2 MAC)
Treated Water					
Antimony: Sb (ug/L)	2019/01/08	0.07	6.0	No	No
Arsenic: As (ug/L)	2019/01/08	<MDL 0.2	10.0	No	No
Barium: Ba (ug/L)	2019/01/08	37.4	1000.0	No	No
Boron: B (ug/L)	2019/01/08	12.0	5000.0	No	No
Cadmium: Cd (ug/L)	2019/01/08	0.004	5.0	No	No
Chromium: Cr (ug/L)	2019/01/08	0.18	50.0	No	No
Mercury: Hg (ug/L)	2019/01/08	<MDL 0.01	1.0	No	No
Selenium: Se (ug/L)	2019/01/08	0.16	50.0	No	No
Uranium: U (ug/L)	2019/01/08	0.567	20.0	No	No
Additional Inorganics					
Fluoride (mg/L)	2018/01/15	<MDL 0.06	1.5	No	No
Nitrite (mg/L)	2019/01/08	<MDL 0.003	1.0	No	No
Nitrite (mg/L)	2019/04/03	<MDL 0.003	1.0	No	No
Nitrite (mg/L)	2019/07/08	<MDL 0.003	1.0	No	No
Nitrite (mg/L)	2019/10/07	<MDL 0.003	1.0	No	No
Nitrate (mg/L)	2019/01/08	1.95	10.0	No	No
Nitrate (mg/L)	2019/04/03	1.59	10.0	No	No
Nitrate (mg/L)	2019/07/08	1.87	10.0	No	No
Nitrate (mg/L)	2019/10/07	2.03	10.0	No	No
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	No. of Sampling Points	No. of Samples	Range of Results (MIN)	Range of Results (MAX)	MAC (ug/L)	No. of Exceedances
Alkalinity (mg/L)	4	4	243	250	N/A	N/A
pH	4	4	7.16	7.53	N/A	N/A
Lead (ug/l)	N/A	N/A				

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.

Parameter	Sample Date (yyyy/mm/dd)	Sample Result	MAC	No. of Exceedances	No. of Exceedances
Treated Water					
Alachlor (ug/L)	2019/01/09	<MDL 0.02	5.0	No	No
Atrazine + N-dealkylated metabolites (ug/L)	2019/01/09	<MDL 0.01	5.0	No	No
Azinphos-methyl (ug/L)	2019/01/09	<MDL 0.05	20.0	No	No
Benzene (ug/L)	2019/01/08	<MDL 0.32	1.0	No	No
Benzo(a)pyrene (ug/L)	2019/01/09	<MDL 0.004	0.01	No	No
Bromoxynil (ug/L)	2019/01/09	<MDL 0.33	5.0	No	No
Carbaryl (ug/L)	2019/01/09	<MDL 0.05	90.0	No	No
Carbofuran (ug/L)	2019/01/09	<MDL 0.01	90.0	No	No
Carbon Tetrachloride (ug/L)	2019/01/08	<MDL 0.16	2.0	No	No
Chlorpyrifos (ug/L)	2019/01/09	<MDL 0.02	90.0	No	No
Diazinon (ug/L)	2019/01/09	<MDL 0.02	20.0	No	No
Dicamba (ug/L)	2019/01/09	<MDL 0.2	120.0	No	No
1,2-Dichlorobenzene	2019/01/08	<MDL	200.0	No	No

Parameter	Sample Date (yyyy/mm/dd)	Sample Result	MAC	No. of Exceedances	No. of Exceedances
(ug/L)		0.41			
1,4-Dichlorobenzene (ug/L)	2019/01/08	<MDL 0.36	5.0	No	No
1,2-Dichloroethane (ug/L)	2019/01/08	<MDL 0.35	5.0	No	No
1,1-Dichloroethylene (ug/L)	2019/01/08	<MDL 0.33	14.0	No	No
Dichloromethane (Methylene Chloride) (ug/L)	2019/01/08	<MDL 0.35	50.0	No	No
2,4-Dichlorophenol (ug/L)	2019/01/09	<MDL 0.15	900.0	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L)	2019/01/09	<MDL 0.19	100.0	No	No
Diclofop-methyl (ug/L)	2019/01/09	<MDL 0.4	9.0	No	No
Dimethoate (ug/L)	2019/01/09	<MDL 0.03	20.0	No	No
Diquat (ug/L)	2019/01/08	<MDL 1.0	70.0	No	No
Diuron (ug/L)	2019/01/09	<MDL 0.03	150.0	No	No
Glyphosate (ug/L)	2019/01/08	<MDL 1.0	280.0	No	No
Malathion (ug/L)	2019/01/09	<MDL 0.02	190.0	No	No
Metolachlor (ug/L)	2019/01/09	<MDL 0.01	50.0	No	No
Metribuzin (ug/L)	2019/01/09	<MDL 0.02	80.0	No	No
Monochlorobenzene (Chlorobenzene) (ug/L)	2019/01/08	<MDL 0.3	80.0	No	No
Paraquat (ug/L)	2019/01/08	<MDL 1.0	10.0	No	No
PCB (ug/L)	2019/01/09	<MDL 0.04	3.0	No	No
Pentachlorophenol (ug/L)	2019/01/09	<MDL 0.15	60.0	No	No
Phorate (ug/L)	2019/01/09	<MDL 0.01	2.0	No	No
Picloram (ug/L)	2019/01/09	<MDL 1.0	190.0	No	No
Prometryne (ug/L)	2019/01/09	<MDL 0.03	1.0	No	No
Simazine (ug/L)	2019/01/09	<MDL	10.0	No	No

Parameter	Sample Date (yyyy/mm/dd)	Sample Result	MAC	No. of Exceedances	No. of Exceedances
		0.01			
Terbufos (ug/L) -	2019/01/09	<MDL 0.01	1.0	No	No
Tetrachloroethylene (ug/L)	2019/01/08	<MDL 0.35	10.0	No	No
2,3,4,6- Tetrachlorophenol (ug/L)	2019/01/09	<MDL 0.2	100.0	No	No
Triallate (ug/L)	2019/01/09	<MDL 0.01	230.0	No	No
Trichloroethylene (ug/L)	2019/01/08	<MDL 0.44	5.0	No	No
2,4,6-Trichlorophenol (ug/L)	2019/01/09	<MDL 0.25	5.0	No	No
2-methyl-4- chlorophenoxyacetic acid (MCPA) (ug/L)	2019/01/09	<MDL 0.12	100.0	No	No
Trifluralin (ug/L)	2019/01/09	<MDL 0.02	45.0	No	No
Vinyl Chloride (ug/L)	2019/01/08	<MDL 0.17	1.0	No	No
Distribution Water					
Trihalomethane: Total (ug/L) Annual Average	2019	22.0	100.00	No	No
HAA Total (ug/L) Annual Average	2019	16.7	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 (MIN)	Range of Results (MAX)
Nitrite (mg/L)	Well 1	15	<MDL 0.003	0.003
Nitrite (mg/L)	Well 2	15	<MDL 0.003	<MDL 0.003
Nitrate (mg/L)	Well 1	15	1.54	2.57
Nitrate (mg/L)	Well 2	15	1.51	2.29
Nitrites + Nitrates (mg/L)	Well 1	13	1.54	2.57
Nitrites + Nitrates (mg/L)	Well 2	13	1.51	2.29
Calcium (mg/L)	Well 1	2	78.70	93.60
Calcium (mg/L)	Well 2	2	79.90	97.40
Magnesium (mg/L)	Well 1	2	8.96	10.30
Magnesium (mg/L)	Well 2	2	9.18	11.3
Sodium (mg/L)	Well 1	2	4.72	5.49
Sodium (mg/L)	Well 2	2	5.11	6.54
Potassium (mg/L)	Well 1	2	1.22	1.67
Potassium (mg/L)	Well 2	2	1.37	1.83
Chloride (mg/L)	Well 1	2	9.10	14.0
Chloride (mg/L)	Well 2	2	13.0	18.0
Sulphate (mg/L)	Well 1	2	15	21
Sulphate (mg/L)	Well 2	2	18	25
Alkalinity (mg/L as CaCO ₃)	Well 1	4	220	250
Alkalinity (mg/L as CaCO ₃)	Well 2	4	216	250
pH	Well 1	2	8.01	8.16
pH	Well 2	2	7.90	8.23
Ammonia+Ammonium (N) (mg/L)	Well 1	13	<MDL 0.04	0.11
Ammonia+Ammonium (N) (mg/L)	Well 2	13	<MDL 0.04	0.17
Total Kjeldahl Nitrogen (mg/L)	Well 1	13	0.05	0.31
Total Kjeldahl Nitrogen (mg/L)	Well 2	13	<MDL 0.05	0.60
Conductivity (uS/cm)	Well 1	2	496	563
Conductivity (uS/cm)	Well 2	2	509	543
Total Dissolved Solids (mg/L)	Well 1	2	294	334
Total Dissolved Solids (mg/L)	Well 2	2	289	337

Parameter	Location	No. of Samples Collected	Range of Results (MIN)	Range of Results (MAX)
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	0.43	5.63
Ion Ratio	Well 2	2	1.18	1.20



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

W.O #: 627976

Description: Well Pump Variable Frequency Drive Installation

Appendix A

WTRS Data and 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 / Edit Submitted WT Records		WTRS-WT-008
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 5, 2020 1:39 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.		