Omemee Drinking Water System

Waterworks # 210002227
System Category – Small 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:

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 (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: 210002227
Drinking Water System Name: Omemee 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
Health & Safety			
Number of Incidents	0		
Drinking Water			
MECP Inspections	1	Sep. 18, 2019	Announced - Focused Drinking Water Inspection - Final Inspection Rating of 100%
AWQI's	0		
Number of Non-Compliances	1	Nov. 27, 2019	Raw water turbidity sampling not occurring monthly as per the regulation.
Number of Boil Water Advisories	0		

System Process Description

Raw Source

The water supply for the DWS comes from two (2) groundwater wells that are designated as non-GUDI (groundwater under direct influence).

Treatment

The treatment system consists of the following:

- An underground clearwell
- Sodium hypochlorite disinfection system
- Iron sequestering system
- High lift pumps
- Hydropneumatic tanks
- Stand-by diesel generator on-site

Treatment Chemicals used during the reporting year:

Chemical Name	Use	Supplier
Sodium Hypochlorite	Disinfection	Brenntag
Sodium Silicate	Iron sequestering	Brenntag

Summary of Non-Compliance

Adverse Water Quality Incidents

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

Non-Compliance(s)

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

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

Legislation	Requirement(s) system failed to meet	Duration of the failure (i.e. dates)	Corrective Action	Status
O. Reg. 170/03 Schedule 6-1.1(3)	It was identified that raw water turbidity sampling from a groundwater source was not occurring monthly. The following are the sampling dates that were noted for Well No. 2 raw water turbidity samples and the number of days between the samples: Feb. 4 – Mar. 29 (53 days between samples), Mar. 29 – Apr. 1 (2 days between samples), Apr. 1 – May 16 (45 days between samples).	For the period of February 2019 to June 2019.	Additional training on O. Reg.170/03, Schedule 6. Update of facility sampling calendar to include specific checkbox for monthly raw turbidity sampling.	Complete

Flows

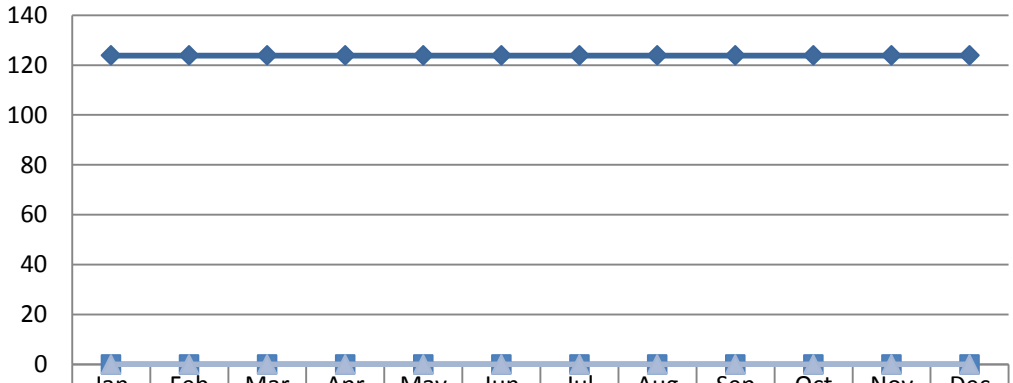
The Omemee Drinking Water System is operating on average under half the rated capacity.

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 #6634-B23PER. The confirmation of the data that was submitted is attached in Appendix A.

Total Monthly Flows (m^3/d)

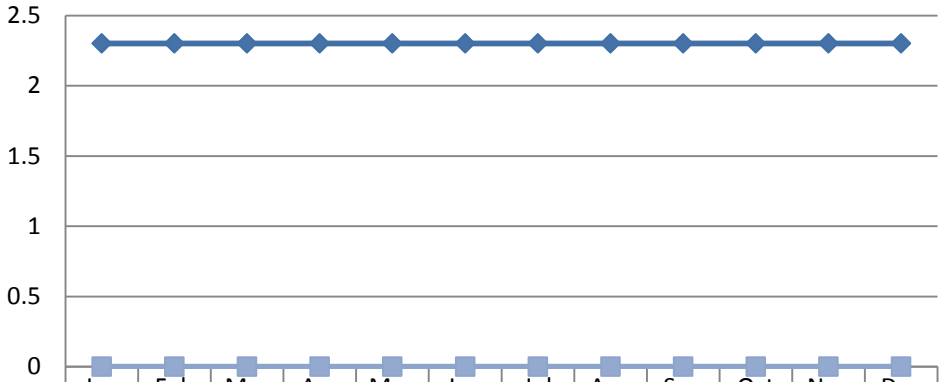
Max Allowable PTTW – Well #1



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable (m³/d)	123.84	123.84	123.84	123.84	123.84	123.84	123.84	123.84	123.84	123.84	123.84	123.84
Max Flow (m³/d)	0	0	0	0	0	0	0	0	0	0	0	0
Avg (m³/d)	0	0	0	0	0	0	0	0	0	0	0	0

Monthly Rated Flows (L/s)

Max allowable rate – PTTW – Well #1

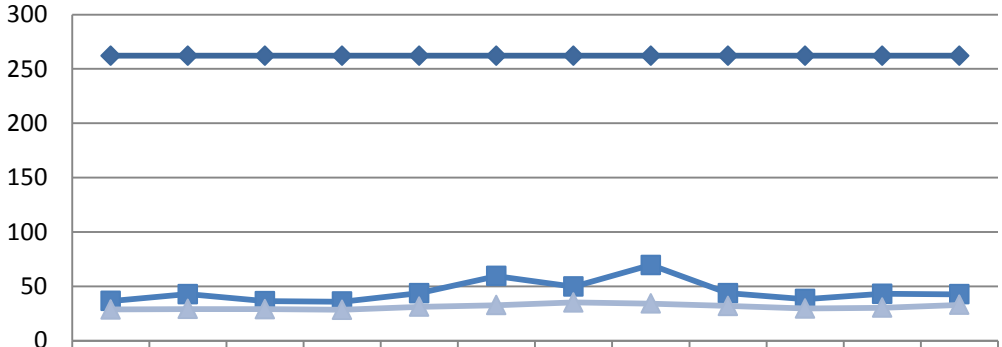


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable Rate (L/sec)	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
Max Rate (L/s)	0	0	0	0	0	0	0	0	0	0	0	0

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

Total Monthly Flows (m^3/d)

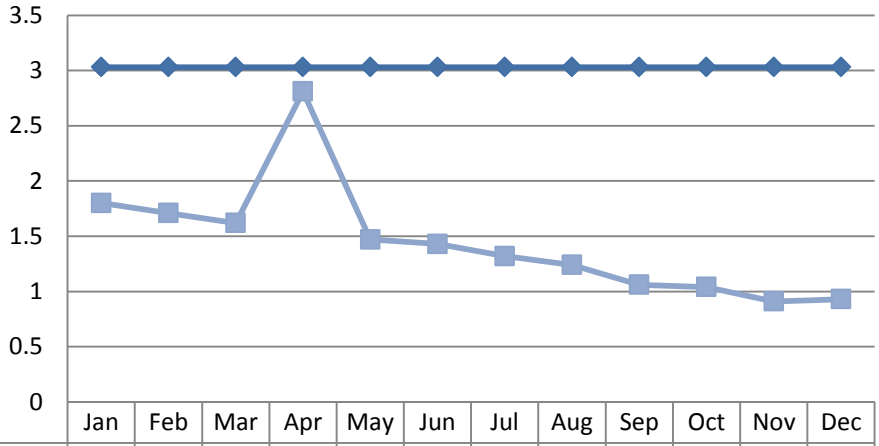
Max Allowable PTTW – Well #2



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable (m^3/d)	262.08	262.08	262.08	262.08	262.08	262.08	262.08	262.08	262.08	262.08	262.08	262.08
Max Flow (m^3/d)	36.38	42.71	36.23	35.82	43.71	59.44	49.74	69.56	43.72	38.15	43.01	42.55
Avg (m^3/d)	28.62	29.14	28.86	28.28	31.09	32.68	35.18	34.03	31.85	29.46	30.3	32.93

Monthly Rated Flows (L/s)

Max allowable rate – PTTW – Well #2



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable Rate (L/sec)	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03
Max Rate (L/s)	1.80	1.71	1.62	2.81	1.47	1.43	1.32	1.24	1.06	1.04	0.91	0.93

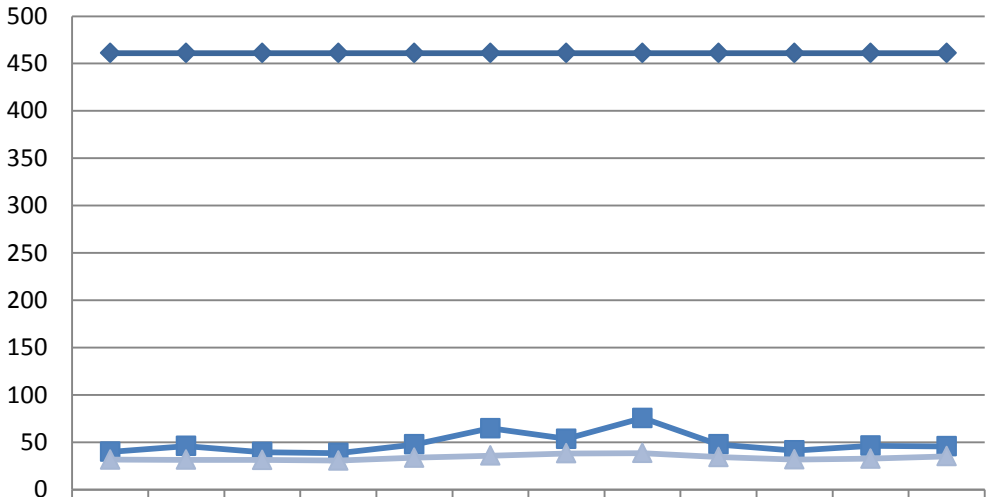
Note: The above table shows there were exceedances in instantaneous peak flow rate (L/s). The significant spike in April was due to scheduled Flow meter calibration.

Treated Water Flows

The Treated Water flows are regulated under the Municipal Licence.

Monthly Rated Flows

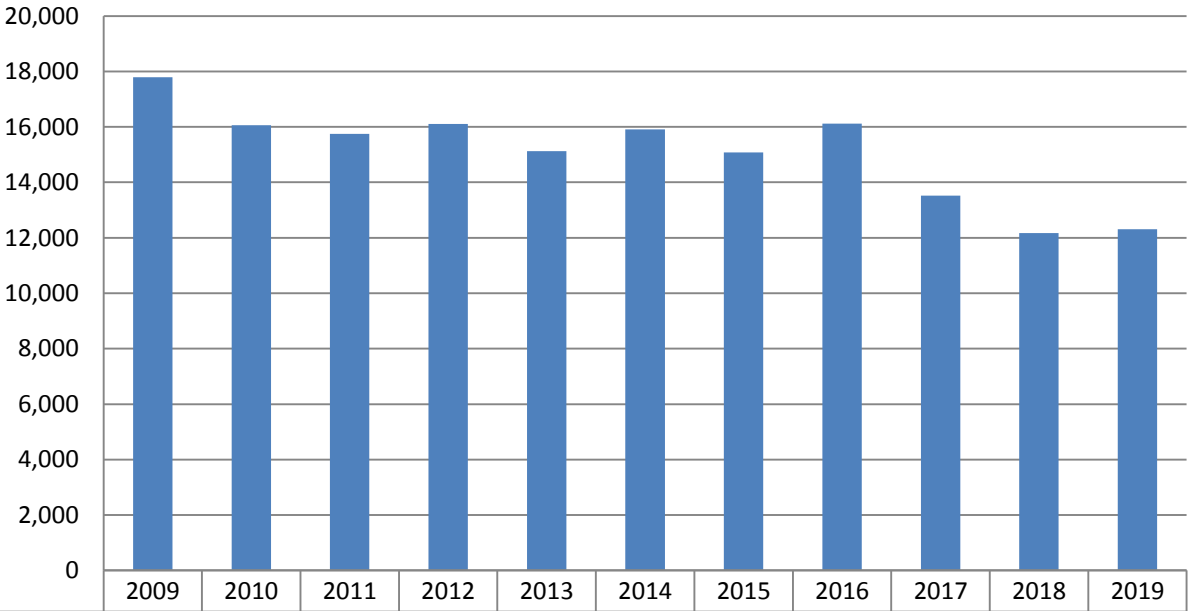
Rated Capacity − MDWL



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rated Capacity (m³/d)	461	461	461	461	461	461	461	461	461	461	461	461
Max Daily Flow (m³/d)	40	46	40	39	48	65	54	76	48	41	46	46
Avg (m³/d)	32	32	31	31	34	36	38	39	34	32	33	35

Annual Total Flow Comparison

Total Annual m^3



	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
WTP (m³)	17,793	16,064	15,752	16,105	15,121	15,909	15,074	16,119	13,525	12,171	12,313

Regulatory Sample Results Summary

Microbiological Testing

Source	No. of Samples	Range of E.coli Results	Range of E.coli Results	Range of Total Coliform Results	Range of Total Coliform Results	Range of HPC Results	Range of HPC Results
		Min	**Max**	**Min**	**Max**	**Min**	**Max**
Raw Well 1	N/A						
Raw Well 2	28	0	0	0	0		
Treated	N/A						
Distribution	52	0	0	0	0	0	2

Operational Testing

Parameter	Number of Samples Collected	Range of Results Minimum	Range of Results Maximum
Turbidity Well 1 (NTU)	N/A		
Turbidity Well 2 (NTU)	12	0.01	0.39
Turbidity – TW (NTU)	8760	0.05	0.15
Chlorine	8760	0	3.25
Fluoride (If the DWS provides fluoridation)	N/A	N/A	N/A

Note: Well 1 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

Parameter	Sample Date	Sample Result	MAC	Exceedances MAC	Exceedances ½ MAC
Treated Water					
Antimony: Sb (ug/L) - TW	2015/01/12	<0.02	6.0	No	No
Arsenic: As (ug/L) - TW	2015/01/12	<0.2	10.0	No	No
Barium: Ba (ug/L) - TW	2015/01/12	220.0	1000.0	No	No
Boron: B (ug/L) - TW	2015/01/12	22.9	5000.0	No	No
Cadmium: Cd (ug/L) - TW	2015/01/12	<MDL 0.003	5.0	No	No
Chromium: Cr (ug/L) - TW	2015/01/12	<0.03	50.0	No	No
Mercury: Hg (ug/L) - TW	2015/01/12	0.02	1.0	No	No
Selenium: Se (ug/L) - TW	2015/01/12	<1.0	50.0	No	No
Uranium: U (ug/L) - TW	2015/01/12	0.014	20.0	No	No
Additional Inorganics					
Fluoride (mg/L) - TW	2015/01/12	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	0.007	10.0	No	No
Nitrate (mg/L) - TW	2019/04/01	<MDL 0.006	10.0	No	No
Nitrate (mg/L) - TW	2019/07/02	0.006	10.0	No	No
Nitrate (mg/L) - TW	2019/10/07	<MDL 0.006	10.0	No	No
Sodium: Na (mg/L) - TW	2020/01/07	23.0	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 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	196	200	N/A	N/A
pH	2	2	7.45	7.81	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	Sample Date	Sample Result	MAC	No. of Exceedances MAC	No. of Exceedances ½ MAC
Treated Water					
Alachlor (ug/L) - TW	2015/01/12	<MDL 0.02	5.00	No	No
Atrazine + N-dealkylated metabolites (ug/L) - TW	2015/01/12	<MDL 0.01	5.00	No	No
Azinphos-methyl (ug/L) - TW	2015/01/12	<MDL 0.02	20.00	No	No
Benzene (ug/L) - TW	2015/01/12	<MDL 0.32	1.00	No	No
Benzo(a)pyrene (ug/L) - TW	2015/01/12	<MDL 0.004	0.01	No	No
Bromoxynil (ug/L) - TW	2015/01/12	<MDL 0.33	5.00	No	No
Carbaryl (ug/L) - TW	2015/01/12	<MDL 0.05	90.00	No	No
Carbofuran (ug/L) - TW	2015/01/12	<MDL 0.01	90.00	No	No
Carbon Tetrachloride (ug/L) - TW	2015/01/12	<MDL 0.16	2.00	No	No
Chlorpyrifos (ug/L) - TW	2015/01/12	<MDL 0.02	90.00	No	No
Diazinon (ug/L) - TW	2015/01/12	<MDL 0.02	20.00	No	No
Dicamba (ug/L) - TW	2015/01/12	<MDL 0.2	120.00	No	No
1,2-Dichlorobenzene (ug/L) - TW	2015/01/12	<MDL 0.41	200.00	No	No
1,4-Dichlorobenzene (ug/L) - TW	2015/01/12	<MDL 0.36	5.00	No	No
1,2-Dichloroethane (ug/L) - TW	2015/01/12	<MDL 0.35	5.00	No	No
1,1-Dichloroethylene (ug/L) - TW	2015/01/12	<MDL 0.33	14.00	No	No
Dichloromethane (Methylene Chloride) (ug/L) - TW	2015/01/12	<MDL 0.35	50.00	No	No
2,4-Dichlorophenol (ug/L) - TW	2015/01/12	<MDL 0.15	900.00	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L) - TW	2015/01/12	<MDL 0.19	100.00	No	No
Diclofop-methyl (ug/L) - TW	2015/01/12	<MDL 0.4	9.00	No	No

Parameter	Sample Date	Sample Result	MAC	No. of Exceedances MAC	No. of Exceedances ½ MAC
Dimethoate (ug/L) - TW	2015/01/12	<MDL 0.03	20.00	No	No
Diquat (ug/L) - TW	2015/01/12	<MDL 1.0	70.00	No	No
Diuron (ug/L) - TW	2015/01/12	<MDL 0.03	150.00	No	No
Glyphosate (ug/L) - TW	2015/01/12	<MDL 1.0	280.00	No	No
Malathion (ug/L) - TW	2015/01/12	<MDL 0.02	190.00	No	No
2-Methyl-4chlorophenoxyacetic Acid (MCPA)	N/A				
Metolachlor (ug/L) - TW	2015/01/12	<MDL 0.01	50.00	No	No
Metribuzin (ug/L) - TW	2015/01/12	<MDL 0.02	80.00	No	No
Monochlorobenzene (Chlorobenzene) (ug/L) - TW	2015/01/12	<MDL 0.3	80.00	No	No
Paraquat (ug/L) - TW	2015/01/12	<MDL 1.0	10.00	No	No
PCB (ug/L) - TW	2015/01/12	<MDL 0.04	3.00	No	No
Pentachlorophenol (ug/L) - TW	2015/01/12	<MDL 0.15	60.00	No	No
Phorate (ug/L) - TW	2015/01/12	<MDL 0.01	2.00	No	No
Picloram (ug/L) - TW	2015/01/12	<MDL 1.0	190.00	No	No
Prometryne (ug/L) - TW	2015/01/12	<MDL 0.03	1.00	No	No
Simazine (ug/L) - TW	2015/01/12	<MDL 0.01	10.00	No	No
Terbufos (ug/L) - TW	2015/01/12	<MDL 0.01	1.00	No	No
Tetrachloroethylene (ug/L) - TW	2015/01/12	<MDL 0.35	10.00	No	No
2,3,4,6-Tetrachlorophenol (ug/L) - TW	2015/01/12	<MDL 0.2	100.00	No	No
Triallate (ug/L) - TW	2015/01/12	<MDL 0.01	230.00	No	No
Trichloroethylene (ug/L) - TW	2015/01/12	<MDL 0.44	5.00	No	No
2,4,6-Trichlorophenol (ug/L) - TW	2015/01/12	<MDL 0.25	5.00	No	No
Trifluralin (ug/L) - TW	2015/01/12	<MDL 0.02	45.00	No	No
Vinyl Chloride (ug/L) - TW	2015/01/12	<MDL 0.17	1.00	No	No
Distribution Water					
Trihalomethane: Total (ug/L) Annual Average – DW	2019	11.425	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

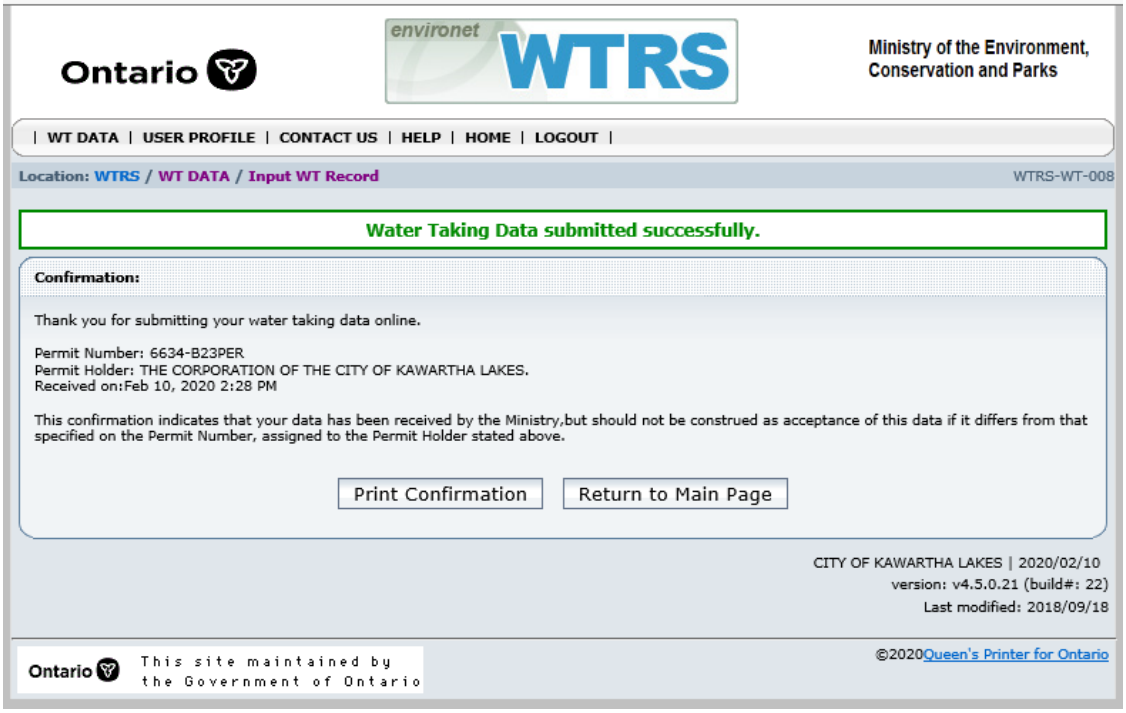
There were no additional legislated samples required to report during this reporting period.

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

WO #	Description
699892	Highlift Pump Upgrades and VFD Installation

Appendix A

WTRS Submission Confirmation



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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: 6634-B23PER
Permit Holder: THE CORPORATION OF THE CITY OF KAWARTHA LAKES.
Received on:Feb 10, 2020 2:28 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 | Return to Main Page

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