

# Kinmount Drinking Water System

Waterworks # 260075231  
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>, 2018

Issued: February 15, 2018

Revision: 0

Operating Authorities:



This report has been prepared to satisfy the annual reporting requirement 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 on the City's website at: [www.kawarthalakes.ca](http://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:** 260075231  
**Drinking Water System Name:** Kinmount DWS  
**Drinking Water System Owner:** City of Kawartha Lakes  
**Drinking Water System Category:** Small Municipal Residential  
**Period Being Reported:** January 1, 2018 - December 31, 2018

	# of Events	Date	Details
<b>Health &amp; Safety</b>			
Number of Incidents	0		
<b>Drinking Water</b>			
MECP Inspections	1	August 21, 2018	Announced-Detailed Drinking Water Inspection - Final Inspection Rating of 100%
<b>AWQI's</b>	2	January 13, 2018	Low pressure due to chlorine analyzer error causing high lift pumps to lockout.
<b>Number of Non-Compliances</b>	0		
<b>Number of Boil Water Advisories</b>	0		

## System Process Description

### Raw Source

The Kinmount Water Treatment Plant is supplied with surface water from the Burnt River.

### Treatment

The treatment system is a dual train conventional filtration package plant consisting of the following:

- In-line static mixer
- Coagulant feed system with SternPac addition upstream of static mixer

- Two stage variable speed flocculators located in flocculation tanks
- Coagulant aid feed system with polymer added to flocculation tanks
- Two upflow clarifier units equipped with tube settlers
- Two dual media rapid gravity filters
- Sodium hypochlorite feed system for primary disinfection
- Dual celled chlorine contact tanks located beneath the plant
- Two highlift pump chambers housing four highlift pumps
- Sodium hypochlorite feed system for post chlorination
- Online analyzers to monitor both free treated chlorine and filter effluent turbidity
- Wastewater treatment system that consists of two backwash pumps and a settling tank that receives backwash wastewater and clarifier sludge
- SCADA computer control system
- Standby power generator

### Treatment Chemicals used during the reporting year

Chemical Name	Use	Supplier
Sodium Hypochlorite	Disinfection	Brenntag
Polyalumunium Chloride	Flocculation	FloChem
Polymer	Flocculation	Basf
Sodium Hydroxide	pH adjustment	Not required in 2018

### Summary of Non-Compliance

#### Adverse Water Quality Incidents

Date	AWQI #	Location	Problem	Details	Legislation	Corrective Action Taken
January 13, 2018	138561	Distribution	Low pressure	Pressure loss in distribution due to high lift lockouts caused by chlorine analyzer error.	O. Reg. 170/03	Confirmed chlorine residual, restored pressure, flushed system and sampled.
January 18, 2018	138602	Distribution	Low pressure	Pressure loss in distribution due to high lift lockouts caused by chlorine	O.Reg. 170/03	Repaired chlorine analyzer, restored pressure, flushed system and sampled.

Date	AWQI #	Location	Problem	Details	Legislation	Corrective Action Taken
				analyzer error		

**Non-Compliance**

Legislation requirement(s) system failed to meet	Duration of the failure	(i.e. date(s))	Corrective Action	Status
There were no non-compliances reported during the reporting period.				

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

Legislation	Requirement(s) system failed to meet	Duration of the failure (i.e. date(s))	Corrective Action	Status
There were no non-compliances identified in a Ministry Inspection during this period.				

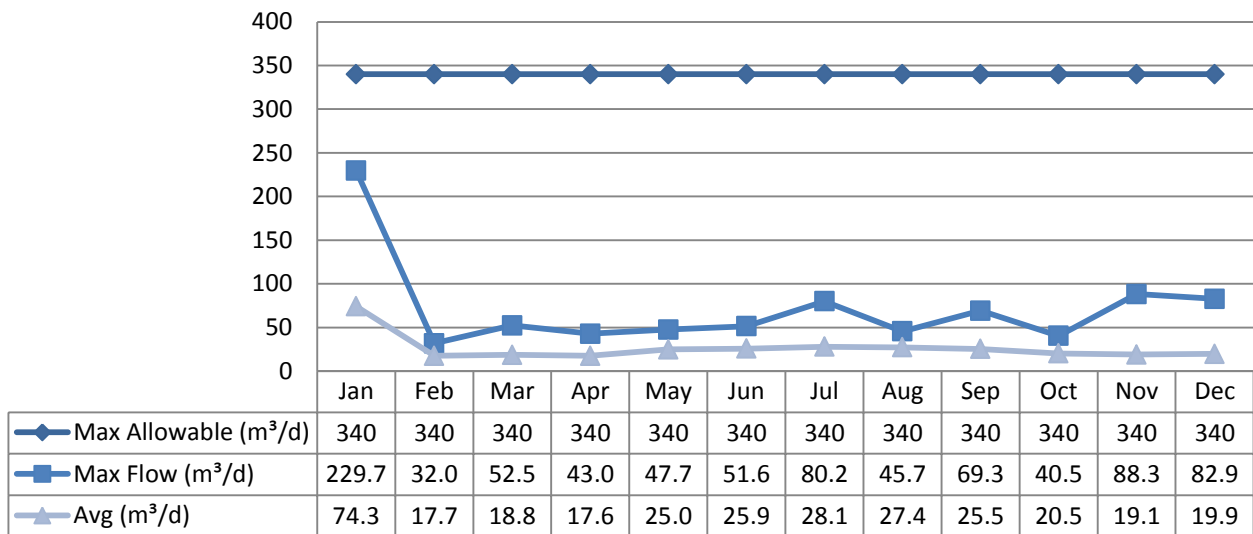
**Flows**

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

**Raw Water Flows**

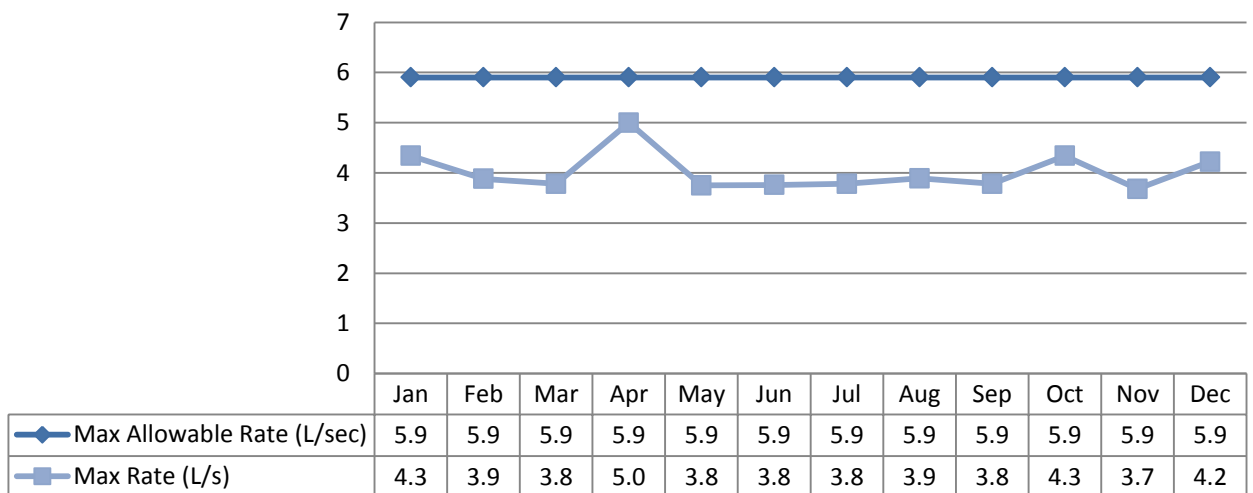
The Raw Water takings are regulated by the Permit to Take Water (PTTW). 2018 Raw Flow Data was submitted to the Ministry electronically under permit #7728-7JEHET for January 1 to March 4, and under permit #2447-AWDJEA for March 5 to December 31. The confirmation for the data that was submitted is attached in Appendix A.

### Total Monthly Flows (m<sup>3</sup>/d) Max Allowable PTTW- Raw



### Monthly Rated Flows (L/s)

#### Max allowable rate – PTTW- Raw

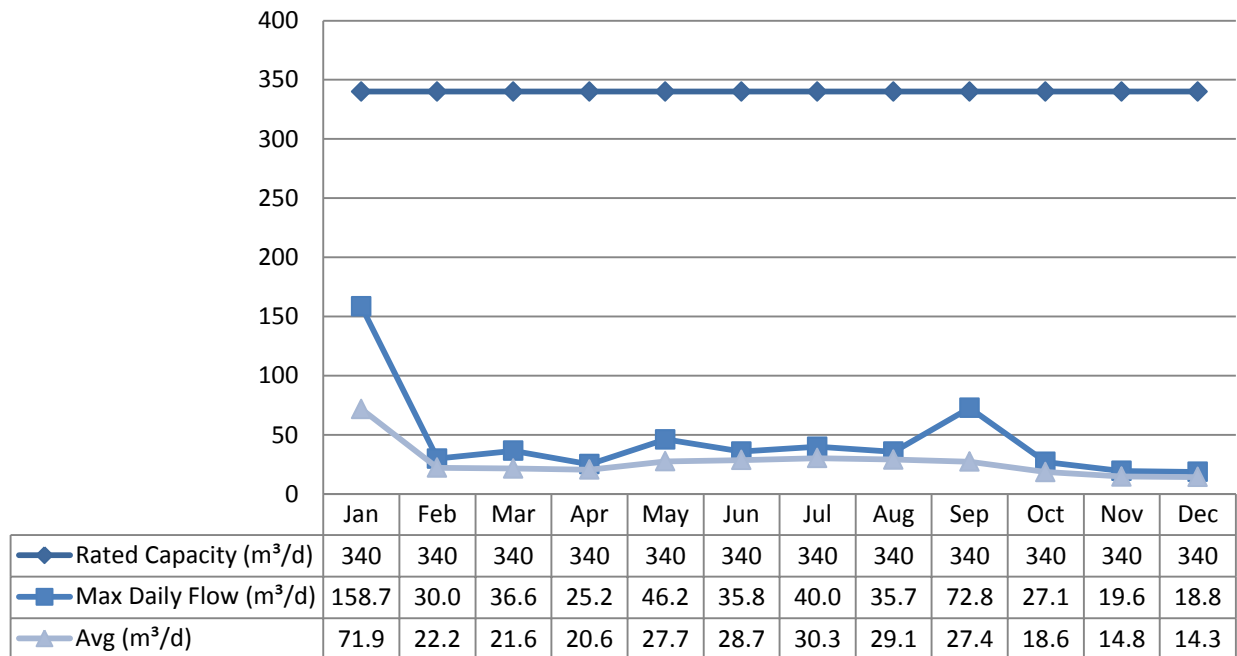


**Treated Water Flows**

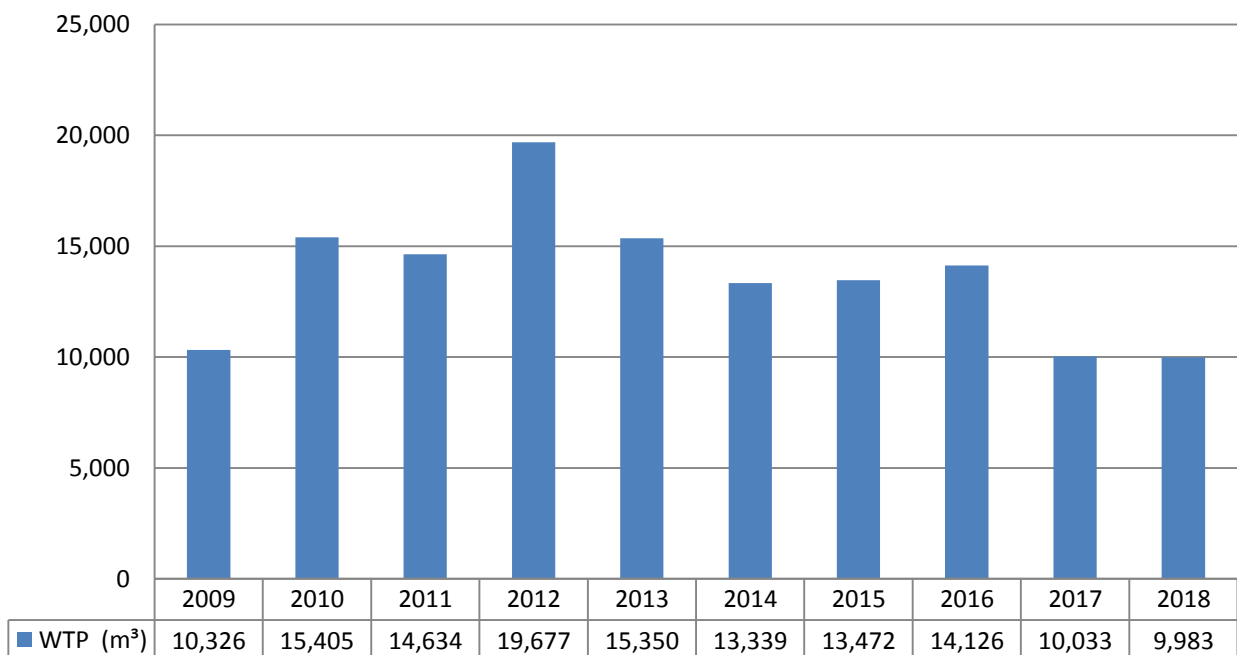
The Treated Water flows are regulated under the Municipal Licence.

**Monthly Rated Flows**

Rated Capacity - MDWL

**Annual Total Flow Comparison**

Total Annual m³



## Regulatory Sample Results Summary

### Microbiological Testing

	No. of Samples Collected	Range of E.Coli Results		Range of Total Coliform Results		Range of HPC Results	
		Min	Max	Min	Max	Min	Max
<b>Raw</b>	30	0	40	18	500		
<b>Distribution</b>	54	0	0	0	0	0	2

### Operational Testing

	No. of Samples Collected	Range of Results	
		Minimum	Maximum
<b>Turbidity Filter 1 (NTU)</b>	8760	0.00	2.06
<b>Turbidity Filter 2 (NTU) offline in 2018</b>			
<b>Chlorine</b>	8760	0.00	5.00
<b>Fluoride</b> (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 the metals are required to be tested every 5 years while Nitrate and Nitrite are tested quarterly. 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 (TW)	Sample Date (yyyy/mm/dd)	Sample Result	MAC	No. of Exceedances	
				MAC	1/2 MAC
Antimony: Sb (ug/L) - TW	2015/01/15	0.05	6.0	No	No
Arsenic: As (ug/L) - TW	2015/01/15	< 0.2	10.0	No	No
Barium: Ba (ug/L) - TW	2015/01/15	17.3	1000.0	No	No
Boron: B (ug/L) - TW	2015/01/15	16.3	5000.0	No	No
Cadmium: Cd (ug/L) - TW	2015/01/15	< 0.003	5.0	No	No
Chromium: Cr (ug/L) - TW	2015/01/15	0.38	50.0	No	No
Mercury: Hg (ug/L) - TW	2015/01/15	< 0.01	1.0	No	No



Treated Water (TW)	Sample Date (yyyy/mm/dd)	Sample Result	MAC	No. of Exceedances	
				MAC	1/2 MAC
Selenium: Se (ug/L) - TW	2015/01/15	< 1.0	50.0	No	No
Uranium: U (ug/L) - TW	2015/01/15	0.018	20.0	No	No
<b>Additional Inorganics</b>					
Fluoride (mg/L) - TW	2015/01/15	< 0.06	1.5	No	No
Nitrite (mg/L) - TW	2018/01/03	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2018/04/04	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2018/07/03	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2018/10/02	<MDL 0.003	1.0	No	No
Nitrate (mg/L) - TW	2018/01/03	0.092	10.0	No	No
Nitrate (mg/L) - TW	2018/04/04	0.148	10.0	No	No
Nitrate (mg/L) - TW	2018/07/03	0.072	10.0	No	No
Nitrate (mg/L) - TW	2018/10/02	0.032	10.0	No	No
Sodium: Na (mg/L) - TW	2015/01/15	9.29	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	Number of Sampling Points	Number of Samples	Range of Results		MAC (ug/L)	Number of Exceedances
			Minimum	Maximum		
Alkalinity (mg/L)	2	2	26	29	N/A	N/A
pH	2	2	7.08	7.25	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.

Treated Water (TW)	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Number of Exceedances	
				MAC	1/2 MAC
Alachlor (ug/L) - TW	2015/01/15	<MDL 0.02	5.00	No	No
Atrazine + N-dealkylated metabolites (ug/L) - TW	2015/01/15	<MDL 0.01	5.00	No	No
Azinphos-methyl (ug/L) - TW	2015/01/15	<MDL 0.02	20.00	No	No
Benzene (ug/L) - TW	2015/01/15	<MDL 0.32	1.00	No	No

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Treated Water (TW)	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Number of Exceedances	
				MAC	1/2 MAC
Benzo(a)pyrene (ug/L) - TW	2015/01/15	<MDL 0.004	0.01	No	No
Bromoxynil (ug/L) - TW	2015/01/15	<MDL 0.33	5.00	No	No
Carbaryl (ug/L) - TW	2015/01/15	<MDL 0.01	90.00	No	No
Carbofuran (ug/L) - TW	2015/01/15	<MDL 0.01	90.00	No	No
Carbon Tetrachloride (ug/L) - TW	2015/01/15	<MDL 0.16	2.00	No	No
Chlorpyrifos (ug/L) - TW	2015/01/15	<MDL 0.02	90.00	No	No
Diazinon (ug/L) - TW	2015/01/15	<MDL 0.02	20.00	No	No
Dicamba (ug/L) - TW	2015/01/15	<MDL 0.2	120.00	No	No
1,2-Dichlorobenzene (ug/L) - TW	2015/01/15	<MDL 0.41	200.00	No	No
1,4-Dichlorobenzene (ug/L) - TW	2015/01/15	<MDL 0.36	5.00	No	No
1,2-Dichloroethane (ug/L) - TW	2015/01/15	<MDL 0.35	5.00	No	No
1,1-Dichloroethylene (ug/L) - TW	2015/01/15	<MDL 0.33	14.00	No	No
Dichloromethane (Methylene Chloride) (ug/L) – TW	2015/01/15	<MDL 0.35	50.00	No	No
2,4-Dichlorophenol (ug/L) - TW	2015/01/15	<MDL 0.15	900.00	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L) – TW	2015/01/15	<MDL 0.19	100.00	No	No
Diclofop-methyl (ug/L) - TW	2015/01/15	<MDL 0.4	9.00	No	No
Dimethoate (ug/L) - TW	2015/01/15	<MDL 0.03	20.00	No	No
Diquat (ug/L) - TW	2015/01/15	<MDL 1.0	70.00	No	No
Diuron (ug/L) - TW	2015/01/15	<MDL 0.03	150.00	No	No
Glyphosate (ug/L) - TW	2015/01/15	<MDL 1.0	280.00	No	No
Malathion (ug/L) - TW	2015/01/15	<MDL 0.02	190.00	No	No
Metolachlor (ug/L) - TW	2015/01/15	<MDL 0.01	80.00	No	No
Metribuzin (ug/L) - TW	2015/01/15	<MDL 0.02	80.00	No	No
Monochlorobenzene (Chlorobenzene) (ug/L) – TW	2015/01/15	<MDL 0.3	10.00	No	No
Paraquat (ug/L) - TW	2015/01/15	<MDL 1.0	3.00	No	No
PCB (ug/L) - TW	2015/01/15	<MDL 0.04	60.00	No	No
Pentachlorophenol (ug/L) - TW	2015/01/15	<MDL 0.15	2.00	No	No
Phorate (ug/L) - TW	2015/01/15	<MDL 0.01	190.00	No	No
Picloram (ug/L) - TW	2015/01/15	<MDL 1.0	1.00	No	No
Prometryne (ug/L) - TW	2015/01/15	<MDL 0.03	10.00	No	No
Simazine (ug/L) - TW	2015/01/15	<MDL 0.01	1.00	No	No
Terbufos (ug/L) - TW	2015/01/15	<MDL 0.01	10.00	No	No
Tetrachloroethylene (ug/L) - TW	2015/01/15	<MDL 0.35	100.00	No	No
2,3,4,6-Tetrachlorophenol (ug/L) - TW	2015/01/15	<MDL 0.2	230.00	No	No
Triallate (ug/L) - TW	2015/01/15	<MDL 0.01	5.00	No	No
Trichloroethylene (ug/L) - TW	2015/01/15	<MDL 0.44	5.00	No	No
2,4,6-Trichlorophenol (ug/L) - TW	2015/01/15	<MDL 0.25	100.00	No	No
Trifluralin (ug/L) - TW	2015/01/15	<MDL 0.02	45.00	No	No
Vinyl Chloride (ug/L) - TW	2015/01/15	<MDL 0.17	1.00	No	No

Treated Water (TW)	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Number of Exceedances	
				MAC	1/2 MAC
<b>Distribution Water</b>					
Trihalomethane: Total (ug/L) Annual Average - DW	2018	69	100	No	Yes
HAA Total (ug/L) Annual Average - DW	2018	56	N/A	N/A	N/A

MAC = Maximum Allowable Concentration as per O. Reg. 169/03  
 MDL = Method Detection Limit

### Additional Legislated Samples

Municipal Drinking Water Licence	Date Collected	Suspended Solids (mg/L)	Free Chlorine Residual (mg/L)
Settling Tank Discharge Point	January	7	0.02
	February	2	0.05
	March	4	0.02
	April	8	0.01
	May	22	0.02
	June	<2	0.02
	July	5	0.02
	August	2	0.01
	September	5	0.04
	October	8	0.02
	November	2	0.02
	December	56	0.01
	Annual Average	10.25	



Note: The Suspended Solids annual average limit is 25 mg/L.

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

WO #	Description
627611	Replacement of primary disinfection duty chlorine chemical pump (first of 2 pumps).
627612	Replacement of primary disinfection chlorine chemical pumps (second of 2 pumps).
407900	Replacement of filtration valving initiated.
1018275	Replacement of filter PLC panel.
1054598	Replacement of clear well cell 1 level meter.

# Appendix A

## WTRS Data Submission Confirmation



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Conservation and Parks

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Water Taking Data submitted successfully.

**Confirmation:**

Thank you for submitting your water taking data online.

Permit Number: 7728-7JEHET  
Permit Holder: THE CORPORATION OF THE CITY OF KAWARTHA LAKES.  
Received on: Feb 5, 2019 9:01 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.



Ministry of the Environment,  
Conservation and Parks

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Water Taking Data submitted successfully.

**Confirmation:**

Thank you for submitting your water taking data online.

Permit Number: 2447-AWDJEA  
Permit Holder: THE CORPORATION OF THE CITY OF KAWARTHA LAKES.  
Received on: Feb 6, 2019 11:26 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.