

**Part III Form 2
Section 11. ANNUAL REPORT.**

Drinking-Water System Number:	220010681
Drinking-Water System Name:	South Ramara Water Treatment Plant
Drinking-Water System Owner:	The Corporation of the Township of Ramara
Drinking-Water System Category:	Small Municipal Residential
Period being reported:	January 1, 2016 to December 31, 2016

<p><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></p> <p>Does your Drinking-Water System serve more than 10,000 people? Yes [] No [X]</p> <p>Is your annual report available to the public at no charge on a web site on the Internet? Yes [X] No []</p> <p>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</p> <div style="border: 1px solid black; padding: 5px; min-height: 50px;"> Township of Ramara Municipal Office </div>	<p><u>Complete for all other Categories.</u></p> <p>Number of Designated Facilities served: <input style="width: 50px; height: 20px;" type="text"/></p> <p>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [] No []</p> <p>Number of Interested Authorities you report to: <input style="width: 50px; height: 20px;" type="text"/></p> <p>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [] No []</p>
--	--

Note: For the following tables below, additional rows or columns may be added or an appendix may be attached to the report

List all Drinking-Water Systems (if any), which receive all of their drinking water from your system:

Drinking Water System Name	Drinking Water System Number

Did you provide a copy of your annual report to all Drinking-Water System owners that are connected to you and to whom you provide all of its drinking water?

Yes [] No [X]

Indicate how you notified system users that your annual report is available, and is free of charge.

Public access/notice via the web

Public access/notice via Government Office

Public access/notice via a newspaper

Public access/notice via Public Request

Public access/notice via a Public Library

Public access/notice via other method _____

Describe your Drinking-Water System

South Ramara water supply is from Lake Simcoe via an intake pipe approximately 80 m from shore to an on-shore low-lift pumping station. The intake is equipped with a chlorine injection line and diffuser for zebra mussel control.

Two package water treatment units are utilized in parallel. Treatment consists of a flocculation tank, settling tank and mixed media filter. Raw water is injected with carbon dioxide, alum and sodium hypochlorite. Each filter consists of GAC, sand, and gravel.

Treated water is injected with sodium hypochlorite for primary disinfection and discharged to the two above ground clear wells that are operated in series, with a total volume of 170 m³. Treated water is pumped to the distribution system by two high lift pumps.

Continuous water quality on-line analyzers monitor the free chlorine residual, pH and turbidity of each filter's effluent and of the treated water before it enters the distribution system. The analyzers are logged continuously by the paperless chart recorder and have alarm set points to notify the operators of adverse water quality results.

The water works is equipped with a 47 kW propane emergency generator. The generator has sufficient capacity to run the entire Water Works. The generator can operate for 5 days at maximum capacity when its fuel tank is full.

List all water treatment chemicals used over this reporting period

Sodium Hypochlorite, Aluminum Sulphate, Carbon Dioxide

Were any significant expenses incurred to?

- Install required equipment
- Repair required equipment
- Replace required equipment

Please provide a brief description and a breakdown of monetary expenses incurred

▪ Replace fire hydrant (\$3,000)

Drinking-Water Systems Regulation O. Reg. 170/03

Provide details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date

Microbiological testing done under the Schedule 10, 11 or 12 of Regulation 170/03, during this reporting period.

	Number of Samples	Range of E.Coli Or Fecal Results (min #)-(max #)	Range of Total Coliform Results (min #)-(max #)	Number of HPC Samples	Range of HPC Results (min #)-(max #)
Raw	52	0 - 57	0 - 480	0	N/A
Treated	52	0	0	52	0 - 6
Distribution	156	0	0	104	3

Operational testing done under Schedule 7, 8 or 9 of Regulation 170/03 during the period covered by this Annual Report.

	Number of Grab Samples	Range of Results (min #)-(max #)
Turbidity	8760	0 - 10.20 NTU
Chlorine	8760	0 - 4.01 mg/L
Fluoride (If the DWS provides fluoridation)		

***NOTE:** For continuous monitors use 8760 as the number of samples.*

NOTE:

*When free chlorine residual was measured to be outside of the operating range of **0.4 mg/L to 4.0 mg/L**, the results were confirmed by operators as non-reportable events by use of a hand held analyzer. All results obtained outside the operating range were attributed to testing of alarm set-points, short term power failure, regular maintenance or cleaning.*

*When a turbidity value was recorded to exceed the limit of **1.0 NTU**, the results were checked by operators by use of a hand held analyzer. All results obtained outside the objective range were attributed to testing of alarm set-points, short term power failure, regular maintenance or cleaning.*

Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument.

Date of legal instrument issued	Parameter	Date Sampled	Result	Unit of Measure	Compliance Requirement	Exceedance
Aug 4, 2011 MDWL No. 147-103	Suspended Solids in Backwash Water	Monthly	5.9	mg/L (annual average)	25 mg/L	No
Aug 4, 2011 MDWL No. 147-103	pH of Backwash Water	Monthly	7.6	(annual average)	N/A	N/A
Aug 4, 2011 MDWL No. 147-103	Aluminum in Backwash Water	Monthly	1.0	mg/L (annual average)	N/A	N/A

Summary of Inorganic parameters tested during this reporting period or the most recent sample results

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	19-Aug-16	0.13	µg/L	
Arsenic	19-Aug-16	0.4	µg/L	
Barium	19-Aug-16	28	µg/L	
Boron	19-Aug-16	31	µg/L	
Cadmium	19-Aug-16	<0.003	µg/L	
Chromium	19-Aug-16	0.45	µg/L	
Lead (Distribution)	19-Aug-16	0.16	µg/L	
Mercury	19-Aug-16	<0.01	µg/L	
Selenium	19-Aug-16	0.10	µg/L	
Sodium	02-Sept-15	30.7	mg/L	
Uranium	19-Aug-16	0.114	µg/L	
Fluoride	22-Aug-12	0.07	µg/L	
Nitrite	24-Nov-16	<0.003	mg/L	
Nitrate	24-Nov-16	0.016	mg/L	

Summary of lead testing under Schedule 15.1 during this reporting period

(applicable to the following drinking water systems; large municipal residential systems, small municipal residential systems, and non-municipal year-round residential systems)

Location Type	Number of Samples	Range of Lead Results (min#) – (max #)	Unit of Measure	Number of Exceedances
Plumbing				
Distribution				

Summary of Organic parameters sampled during this reporting period or the most recent sample results

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	19-Aug-16	<0.02	µg/L	
Atrazine + N-dealkylated metabolites	19-Aug-16	<0.01	µg/L	
Azinphos-methyl	19-Aug-16	<0.02	µg/L	
Benzene	19-Aug-16	<0.32	µg/L	
Benzo(a)pyrene	19-Aug-16	<0.004	µg/L	
Bromoxynil	19-Aug-16	<0.33	µg/L	
Carbaryl	19-Aug-16	<0.01	µg/L	
Carbofuran	19-Aug-16	<0.01	µg/L	
Carbon Tetrachloride	19-Aug-16	<0.16	µg/L	
Chlorpyrifos	19-Aug-16	<0.02	µg/L	
Diazinon	19-Aug-16	<0.02	µg/L	
Dicamba	19-Aug-16	<0.20	µg/L	
1,2-Dichlorobenzene	19-Aug-16	<0.41	µg/L	
1,4-Dichlorobenzene	19-Aug-16	<0.36	µg/L	
1,2-Dichloroethane	19-Aug-16	<0.35	µg/L	
1,1-Dichloroethylene (vinylidene chloride)	19-Aug-16	<0.33	µg/L	
Dichloromethane	19-Aug-16	<0.35	µg/L	
2-4 Dichlorophenol	19-Aug-16	<0.15	µg/L	
2,4-Dichlorophenoxy acetic acid (2,4-D)	19-Aug-16	<0.19	µg/L	
Diclofop-methyl	19-Aug-16	<0.40	µg/L	
Dimethoate	19-Aug-16	<0.03	µg/L	
Diquat	19-Aug-16	<1	µg/L	
Diuron	19-Aug-16	<0.03	µg/L	
Glyphosate	19-Aug-16	<1	µg/L	
Malathion	19-Aug-16	<0.02	µg/L	
Methoxychlor	25-Aug-15	<0.01	µg/L	
Metolachlor	19-Aug-16	<0.01	µg/L	
Metribuzin	19-Aug-16	<0.02	µg/L	
Monochlorobenzene	19-Aug-16	<0.3	µg/L	
Paraquat	19-Aug-16	<1	µg/L	
Pentachlorophenol	19-Aug-16	<0.15	µg/L	
Phorate	19-Aug-16	<0.01	µg/L	
Picloram	19-Aug-16	<1	µg/L	
Polychlorinated Biphenyls(PCB)	19-Aug-16	<0.04	µg/L	
Prometryne	19-Aug-16	<0.03	µg/L	
Simazine	19-Aug-16	<0.01	µg/L	
THM - Quarterly Average (NOTE: Latest annual average)	26-Feb-16 to 25-Nov-16	59.7	µg/L	
Terbufos	19-Aug-16	<0.01	µg/L	
Tetrachloroethylene	19-Aug-16	<0.35	µg/L	
2,3,4,6-Tetrachlorophenol	19-Aug-16	<0.14	µg/L	
Triallate	19-Aug-16	<0.01	µg/L	

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Trichloroethylene	19-Aug-16	<0.44	µg/L	
2,4,6-Trichlorophenol	19-Aug-16	<0.25	µg/L	
2-Methyl-4-chlorophenoxy acetic acid	19-Aug-16	<0.00012	µg/L	
Trifluralin	19-Aug-16	<0.02	µg/L	
Vinyl Chloride	19-Aug-16	<0.17	µg/L	

List any Inorganic or Organic parameter(s) that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards.

Parameter	Result Value	Unit of Measure	Date of Sample
THM - Quarterly Average <i>(NOTE: Latest annual average)</i>	59.7	µg/L	26-Feb-16 to 25-Nov-16

(Only if DWS category is large municipal residential, small municipal residential, large municipal non residential, non municipal year round residential, large non municipal non residential)

Notes on Additional Sampling

None.