

# 2017 Section 11 Annual Report

## Geraldton Drinking-Water System

February 2018

Prepared by the



**Ontario Clean Water Agency**  
**Agence Ontarienne Des Eaux**



Section 11 ANNUAL REPORT

Drinking-Water System Number:	210000292
Drinking-Water System Name:	Geraldton Water Treatment Plant
Drinking-Water System Owner:	The Corporation of the Municipality of Greenstone
Drinking-Water System Category:	Large Municipal Residential Drinking Water-System
Period being reported:	January 1 – December 31, 2017

<p><b><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></b></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;"> <p>Geraldton Ward Office (Administration) 1800 Main Street Geraldton, ON POT 1M0</p> </div>	<p><b><u>Complete for all other Categories.</u></b></p> <p>Number of Designated Facilities served:  <div style="border: 1px solid black; padding: 2px; display: inline-block;">N/A</div> </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:  <div style="border: 1px solid black; padding: 2px; display: inline-block;">N/A</div> </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
N/A	N/A

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?



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

Yes [ ] No [ ]

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 (Municipal)
- 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

Cecile Lake is the sole source of supply for the Geraldton water system. The surface water is conveyed by gravity through two (2) coarse screens to the intake well and low lift pumping chamber.

Prior to entering the treatment plant, Alum (aluminum sulphate) and polymer are added for coagulation. Potassium permanganate is added to the raw water for manganese removal as required.

The raw water passes through stages of mixing, flocculation, sedimentation with the aid of tube settlers and passes through a filter of mixed media consisting of anthracite, sand and gravel.

Disinfection is provided by injecting chlorine gas into the filtered water before it enters the storage reservoirs.

Three high lift pumps deliver water to the distribution system.

### List all water treatment chemicals used over this reporting period

- Aluminum Sulphate A-10
- Magnafloc LT-20 polymer
- Potassium Permanganate
- Chlorine Gas



**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**

Install	Repair	Replace	Description	Expense
		x	Seat valves, Mac PM kits, Micro 2000 Analyzer PM kit tubing, connectors	\$2,898
	x		#1 filter repairs	\$2,534

**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
28-Jul-2017	Other Observation – Water leak at valve/main. Water shut off for repairs.	-	-	Repair main and take two sets of microbiological samples.	3-Aug-2017
10-Aug-2017	Other Observation – Water leak at corporation stop at main line between Wardope Ave and Barton Ave. 15 homes, 1 business affected.	-	-	Disinfection restored, main flushed and 2 sets of microbiological samples taken more than 24 hours apart.	1-Aug-2017



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	< 1 - 28	<1 - 135	N/A	N/A
Treated	52	0	0	51	0 - 2
Distribution	157	0	0	51	0 - 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 #)
<b>Turbidity*</b>		
Raw	248	0.803 - 3.81 NTU
Filter #1	8760	0 - 1.25 NTU
Filter #2	8760	0 - 3.00 NTU
<b>Chlorine*</b>		
Treated	8760	0 - 4.999
Distribution	407	0.27 - 2.20
<b>Fluoride (If the DWS provides fluoridation)</b>	N/A	N/A

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

*\* Turbidity & chlorine Min/Max (lows/highs) are due to planned maintenance and not plant upset.*

**NOTE: Record the unit of measure if it is not milligrams per litre.**

**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
July 4, 2011  Municipal Drinking Water Licence 225-104	Suspended Solids (Composite)	18-Apr-2017	<2.0*	mg/L
		8-May-2017	<2.0*	mg/L
	Frequency: Monthly	12-Jun-2017	9.3	mg/L
		5-Jul-2017	6.4	mg/L
		16-Aug-2017	4.8	mg/L
		12-Sep-2017	12.5	mg/L
Location: Point of Discharge to Yvonne Lake				
Note: Samples can only be collected when conditions permit. Winter conditions prevent sampling as the discharge location is frozen.		Average Annual Concentration for 2017	6.17 (*2.0 used for average calculation)	mg/L

**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	16-Jan-2017	<0.6	µg/L	No
Arsenic	16-Jan-2017	<1.0	µg/L	No
Barium	16-Jan-2017	<10.0	µg/L	No
Boron	16-Jan-2017	<50.0	µg/L	No
Cadmium	16-Jan-2017	<0.1	µg/L	No
Chromium	16-Jan-2017	<1.0	µg/L	No
*Lead	Refer to Summary Table Below			
Mercury	16-Jan-2017	<0.1	µg/L	No
Selenium	16-Jan-2017	<1.0	µg/L	No
Sodium	13-Jan-2014	17.8	mg/L	No
Uranium	16-Jan-2017	<2.0	µg/L	No
Fluoride	13-Jan-2014	<0.03	mg/L	No
Nitrite	16-Jan-2017	<0.010	mg/L	No
	10-Apr-2017	<0.010	mg/L	No
	10-Jul-2017	<0.010	mg/L	No
	10-Oct-2017	<0.010	mg/L	No
Nitrate	16-Jan-2017	0.041	mg/L	No
	10-Apr-2017	0.182	mg/L	No
	10-Jul-2017	<0.02	mg/L	No
	10-Oct-2017	<0.02	mg/L	No

\*only for drinking water systems testing under Schedule 15.2; this includes large municipal non-residential systems, small municipal non-residential systems, non-municipal seasonal residential systems, large non-municipal non-residential systems, and small non-municipal non-residential systems

**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 #)	Number of Exceedances
Plumbing	Sampling not required as per Ont. Regulation 170	-	-
Distribution	4	1 – 1.7 µg/L	0

**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	16-Jan-2017	<0.1	µg/L	No
Atrazine + N-dealkylated metabolites	16-Jan-2017	<0.2	µg/L	No
Azinphos-methyl	16-Jan-2017	<0.1	µg/L	No
Benzene	16-Jan-2017	<0.5	µg/L	No
Benzo(a)pyrene	16-Jan-2017	<0.01	µg/L	No
Bromoxynil	16-Jan-2017	<0.2	µg/L	No
Carbaryl	16-Jan-2017	<0.2	µg/L	No
Carbofuran	16-Jan-2017	<0.2	µg/L	No
Carbon Tetrachloride	16-Jan-2017	<0.2	µg/L	No
Chlorpyrifos	16-Jan-2017	<0.1	µg/L	No
Diazinon	16-Jan-2017	<0.1	µg/L	No
Dicamba	6-Feb-2017	<0.2	µg/L	No
1,2-Dichlorobenzene	16-Jan-2017	<0.5	µg/L	No
1,4-Dichlorobenzene	16-Jan-2017	<0.5	µg/L	No
1,2-Dichloroethane	16-Jan-2017	<0.5	µg/L	No
1,1-Dichloroethylene (vinylidene chloride)	16-Jan-2017	<0.5	µg/L	No
Dichloromethane	16-Jan-2017	<5.0	µg/L	No
2,4 Dichlorophenol	16-Jan-2017	<0.3	µg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	6-Feb-2017	<0.2	µg/L	No
Diclofop-methyl	16-Jan-2017	<0.2	µg/L	No



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

Dimethoate	16-Jan-2017	<0.1	µg/L	No
Diquat	16-Jan-2017	<1.0	µg/L	No
Diuron	16-Jan-2017	<1.0	µg/L	No
Glyphosate	16-Jan-2017	<5.0	µg/L	No
Haloacetic acids (HAA)* (NOTE: show latest annual average)	10-Oct-2017 2017 Average	52.1 57.2	µg/L	Yes
Malathion	16-Jan-2017	<0.1	µg/L	No
Metolachlor	16-Jan-2017	<0.1	µg/L	No
Metribuzin	16-Jan-2017	<0.1	µg/L	No
Monochlorobenzene	16-Jan-2017	<0.5	µg/L	No
Paraquat	16-Jan-2017	<1.0	µg/L	No
Pentachlorophenol	16-Jan-2017	<0.5	µg/L	No
Phorate	16-Jan-2017	<0.1	µg/L	No
Picloram	6-Feb-2017	<0.2	µg/L	No
Polychlorinated Biphenyls(PCB)	16-Jan-2017	<0.035	µg/L	No
Prometryne	16-Jan-2017	<0.1	µg/L	No
Simazine	16-Jan-2017	<0.1	µg/L	No
THM (NOTE: show latest annual average)	10-Oct-2017 2017 Average	52.8 50.9	µg/L µg/L	No No
Terbufos	16-Jan-2017	<0.2	µg/L	No
Tetrachloroethylene	16-Jan-2017	<0.5	µg/L	No
2,3,4,6-Tetrachlorophenol	16-Jan-2017	<0.5	µg/L	No
Triallate	16-Jan-2017	<0.1	µg/L	No
Trichloroethylene	16-Jan-2017	<0.5	µg/L	No
2,4,6-Trichlorophenol	16-Jan-2017	<0.5	µg/L	No
Trifluralin	16-Jan-2017	<0.1	µg/L	No
Vinyl Chloride	16-Jan-2017	<0.2	µg/L	No
MCPA	6-Feb-2017	<0.2	µg/L	No

\*Parameter exceedance not reportable until 2020

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
2017 THM – Running Annual Average (RAA)	50.9	µg/L	N/A
2017 HAA – Running Annual Average (RAA)*	57.2	µg/L	N/A

\*Parameter exceedance not reportable until 2020