

# 2017 Section 11 Annual Report

## Longlac Drinking-Water System

February 2018

Prepared by the



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



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

## Section 11 ANNUAL REPORT

Drinking-Water System Number:  
 Drinking-Water System Name:  
 Drinking-Water System Owner:  
 Drinking-Water System Category:  
 Period being reported:

220000264
Longlac Water Treatment Plant
The Corporation of the Municipality of Greenstone
Large Municipal Residential Drinking Water-System
January 1 – December 31, 2017

**Complete if your Category is Large Municipal Residential or Small Municipal Residential**

Does your Drinking-Water System serve more than 10,000 people? Yes [ ] No [ X ]

Is your annual report available to the public at no charge on a web site on the Internet? Yes [X] No [ ]

Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.

Geraldton Ward Office (Administration)  
 1800 Main Street  
 Geraldton, ON POT 1M0  
 Longlac Ward Office  
 105 Hamel Avenue  
 Longlac, ON POT 2A0

**Complete for all other Categories.**

Number of Designated Facilities served:

N/A

Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [ ] No [ ]

Number of Interested Authorities you report to:

N/A

Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [ ] No [ ]

**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?



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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

The Longlac Water Treatment Plant (WTP), located on Park Street, draws raw water from Long Lake. The WTP is a package plant, consisting of two Graver Reactors/Filters. Treatment includes coagulation, flocculation, and sedimentation with the aid of tube settlers, filtration, corrosion control and disinfection. This plant has a design capacity of 6,050 m<sup>3</sup>/day. The WTP presently serves a population of approximately 1750 persons within the community and 500 persons within two reserves. The WTP was designed with the anticipation that the community would experience growth.

Long Lake is the sole source of supply for the Longlac water system. A surface water intake with 245 m of 450 mm diameter intake piping through two coarse screens convey water by gravity to the intake well, and the low lift pumping chamber. Alum is the coagulant and the flocculation aid is Nalclear 8181 (polymer), they are added to the raw water between the low lift pumps and the treatment unit. The water is then pumped to the Graver Reactors/Filters Treatment Unit. The Reactivators are solids contact clarifiers combining coagulation, flocculation, and sedimentation in one unit. The water is flocculated, and the floc settled out using tube settlers in the solids contact clarifier and by maintaining a sludge blanket. The water then passes through a two-compartment dual media (sand and anthrafil) filter.

Once through the filters the water is chlorinated with chlorine gas; and Carus 8500 orthophosphate is added for corrosion control. The water then enters a treated water reservoir. The reservoir, located beneath the process floor, is divided into three compartments with a total capacity of 705 m<sup>3</sup>. Three high lift pumps deliver the finished water to the distribution system. The elevated storage tank with a capacity of 2273 m<sup>3</sup> provides emergency storage and fire flow. Pressure is controlled by a pilot operated Pressure Relief Valve.

Wastewater from the filter backwash and clarifier blowdown is collected in a wastewater storage tank, and then pumped to the municipal sanitary sewer system.

A 393-kVa-diesel generator provides standby power to the entire WTP.



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List all water treatment chemicals used over this reporting period

- Aluminum Sulphate
- Chlorine Gas
- Carus 8500
- Nalclear 8181 Polymer

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	Water main replacement	\$200,000
		x	Flowmeter, med pipe transducer, clamps, grease	\$3,567
	x		Epoxy paint, GAL bar rust, cold cure/top coat	\$3,319
	x		Booster pump test and report	\$2,421

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
7-Jul-2017	Other Observation – loss of pressure due to tie in for installation of new water main.	-	-	Flush, collect two sets of microbiological samples 24 hours apart.	14-Jul-2017
2-Aug-2017	Other Observation – raw water flow meter not working (loss of power)	-	-	Ground fault. Fix meter and put back online.	2-Aug-2017
16-Aug-2017	Other Observation – loss of pressure due to hydrant repair. BWA on 50 houses and 4 businesses.	-	-	Flush, collect two sets of bacteriological samples 24 hours apart.	19-Aug-2017
2-Oct-2017	Physical/Chemical – Filter turbidity did not meet monthly compliance target of <0.03NTU 95% of the time for the month of September.	#1: 84.14 #2: 80.24	%	Filters cleaned; #1 on Sept 26 and #2 Sept 27. Filter turbidities back to normal.	2-Oct-2017



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23-Nov-2017	Other Observation – loss of pressure due to water line repair; BWA on 18 houses.	-	-	Flush, collect two sets of bacteriological samples 24 hours apart.	28-Nov-2017
1-Dec-2017	Physical/Chemical – Filter turbidity did not meet monthly compliance target of <0.03NTU 95% of the time for the month of November.	#1: 93.83	%	Filter #1 cleaned on Nov 2. Poor performance during inspection Nov 6. Isolated filter, work scheduled to replace media first week of Dec.	1-Dec-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	0 -20	0 - 2420	N/A	N/A
Treated	52	0 - 0	0 - 0	51	0 - 1
Distribution	116	0 - 0	0 - 0	50	0 - 31

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	220	0.15 – 6.0 NTU
Filter #1	8760	0.0 – 2.999 NTU
Filter #2	8760	0.0 – 2.999 NTU
<b>Chlorine*</b>		
Treated	8760	0 – 4.999
Distribution	364	0.20 – 1.81
<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.**



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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
N/A	N/A	N/A	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	11-Jan-2017	< 0.6	µg/L	No
Arsenic	11-Jan-2017	< 1.0	µg/L	No
Barium	11-Jan-2017	< 10.0	µg/L	No
Boron	11-Jan-2017	< 50.0	µg/L	No
Cadmium	11-Jan-2017	< 0.1	µg/L	No
Chromium	11-Jan-2017	< 1.0	µg/L	No
*Lead	Refer to Summary Table Below			
Mercury	11-Jan-2017	< 0.1	µg/L	No
Selenium	11-Jan-2017	< 1.0	µg/L	No
Sodium	11-Jan-2017	2.26	mg/L	No
Uranium	11-Jan-2017	<2.0	µg/L	No
Fluoride	11-Jan-2017	<0.02	mg/L	No
Nitrite	11-Jan-2017	< 0.01	mg/L	No
	10-Apr-2017	< 0.01	mg/L	No
	4-Jul-2017	< 0.01	mg/L	No
	4-Oct-2017	< 0.01	mg/L	No
Nitrate	11-Jan-2017	0.109	mg/L	No
	10-Apr-2017	0.063	mg/L	No
	4-Jul-2017	0.034	mg/L	No
	4-Oct-2017	0.023	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 – 1.2 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	11-Jan-2017	< 0.1	µg/L	No
Atrazine + N-dealkylated metabolites	11-Jan-2017	< 0.2	µg/L	No
Azinphos-methyl	11-Jan-2017	< 0.1	µg/L	No
Benzene	11-Jan-2017	< 0.5	µg/L	No
Benzo(a)pyrene	11-Jan-2017	< 0.01	µg/L	No
Bromoxynil	11-Jan-2017	< 0.2	µg/L	No
Carbaryl	11-Jan-2017	< 0.2	µg/L	No
Carbofuran	11-Jan-2017	< 0.2	µg/L	No
Carbon Tetrachloride	11-Jan-2017	< 0.2	µg/L	No
Chlorpyrifos	11-Jan-2017	< 0.1	µg/L	No
Diazinon	11-Jan-2017	< 0.1	µg/L	No
Dicamba	11-Jan-2017	< 0.2	µg/L	No
1,2-Dichlorobenzene	11-Jan-2017	< 0.5	µg/L	No
1,4-Dichlorobenzene	11-Jan-2017	< 0.5	µg/L	No
1,2-Dichloroethane	11-Jan-2017	< 0.5	µg/L	No
1,1-Dichloroethylene (vinylidene chloride)	11-Jan-2017	< 0.5	µg/L	No
Dichloromethane	11-Jan-2017	< 5.0	µg/L	No
2,4 Dichlorophenol	11-Jan-2017	< 0.3	µg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	11-Jan-2017	< 0.2	µg/L	No
Diclofop-methyl	11-Jan-2017	< 0.2	µg/L	No
Dimethoate	11-Jan-2017	< 0.1	µg/L	No
Diquat	11-Jan-2017	< 1.0	µg/L	No
Diuron	11-Jan-2017	< 1.0	µg/L	No
Glyphosate	11-Jan-2017	< 5.0	µg/L	No

Haloacetic acids (HAA)* (NOTE: show latest annual average)	4-Oct-2017 2017 Average	57.1 49.9	µg/L	Yes
Malathion	11-Jan-2017	< 0.1	µg/L	No
Metolachlor	11-Jan-2017	< 0.1	µg/L	No
Metribuzin	11-Jan-2017	< 0.1	µg/L	No
Monochlorobenzene	11-Jan-2017	< 0.5	µg/L	No
Paraquat	11-Jan-2017	< 1.0	µg/L	No
Pentachlorophenol	11-Jan-2017	< 0.5	µg/L	No
Phorate	11-Jan-2017	< 0.1	µg/L	No
Picloram	11-Jan-2017	< 0.2	µg/L	No
Polychlorinated Biphenyls(PCB)	11-Jan-2017	< 0.038	µg/L	No
Prometryne	11-Jan-2017	< 0.1	µg/L	No
Simazine	11-Jan-2017	< 0.1	µg/L	No
THM (NOTE: show latest annual average)	4-Oct-2017 2017 Average	49.6 36.6	µg/L µg/L	No No
Terbufos	11-Jan-2017	< 0.2	µg/L	No
Tetrachloroethylene	11-Jan-2017	< 0.5	µg/L	No
2,3,4,6-Tetrachlorophenol	11-Jan-2017	< 0.5	µg/L	No
Triallate	11-Jan-2017	< 0.1	µg/L	No
Trichloroethylene	11-Jan-2017	< 0.5	µg/L	No
2,4,6-Trichlorophenol	11-Jan-2017	< 0.5	µg/L	No
Trifluralin	11-Jan-2017	< 0.1	µg/L	No
Vinyl Chloride	11-Jan-2017	< 0.2	µg/L	No
MCPA	11-Jan-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 – HAA Annual Running Average (RAA) *	49.9	µg/L	N/A

\*Parameter exceedance not reportable until 2020