



February 19, 2019

Mayor Renald Beaulieu and Council
The Corporation of the Municipality of Greenstone
P.O. Box 70
Geraldton, Ontario
P0T 1M0

Re: 2018 Annual Summary Report for the Beardmore Drinking-Water System
2018 Annual Summary Report for the Caramat Drinking-Water System
2018 Annual Summary Report for the Geraldton Drinking-Water System
2018 Annual Summary Report for the Longlac Drinking-Water System
2018 Annual Summary Report for the Nakina Drinking-Water System

Ontario's Drinking-Water Systems Regulation (O.Reg.170/03), made under the *Safe Drinking Water Act, 2002*, requires that the owner of a drinking water system prepare an annual summary for municipalities on the operation of the system and the quality of its water.

The annual summary must cover the period of January 1st to December 31st in a year and must *be prepared not later than March 31st* of the following year. Pursuant to the legislative requirements, enclosed for your records is the 2018 Annual Summary for the Greenstone Drinking-Water Systems.

Pursuant to the legislative requirements, *Schedule 22 Summary Reports for Municipalities*, the annual summary must:

- (a) list the requirements of the Act, the regulations, the system's approval, drinking water works permit, municipal drinking water licence, and any orders applicable to the system that were not met at any time during the period covered by the report; and,
- (b) for each requirement referred to in clause (a) that was not met, specify the duration of the failure and the measures that were taken to correct the failure."

- O. Reg. 170/03 s. 22 (2)

"The report must also include the following information for the purpose of enabling the owner of the system to assess the rated capability of their system to meet existing and planned uses of the system:

1. A summary of the quantities and flow rates of the water supplied during the period covered by the report, including monthly average and maximum daily flows.
2. A comparison of the summary referred to in paragraph 1 to the rated capacity and flow rates approved in the system's approval, drinking water works permit or municipal drinking water licence, or if the system is receiving all of its water from another system under an

agreement pursuant to subsection 5 (4), to the flow rates specified in the written agreement.”

-O. Reg. 170/03 s. 22 (3)

In addition, Section 12 (1) - 4 - gives the direction that a copy of the annual summary for the system is given, without charge, to every person who requests a copy and be made available for inspection by any member of the public during normal business hours. The reports should be made available at the office of the municipality, or at a location that is accessible to the users of the water system.

These reports were prepared by the Ontario Clean Water Agency on behalf of the Corporation of the Municipality of Greenstone and are based on information kept on record by OCWA at each specific water treatment plant. The report covers the period January 1st through to December 31st 2018.

Yours truly,



Bradley McMahon
Senior Operations Manager
Northwestern Ontario Regional Hub

Copy to: Mark Wright - CAO
Brian Aaltonen – Director of Public Services
Operations Staff – Beardmore WTP
Operations Staff – Caramat WTP
Operations Staff – Geraldton WTP
Operations Staff – Longlac WTP
Operations Staff – Nakina WS

2018 Schedule 22 Annual Summary Report

Longlac Drinking-Water System

February 2019

Prepared by the



Ontario Clean Water Agency
Agence Ontarienne Des Eaux

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Section 1: Introduction

This report is a summary of water quality information for the Longlac Drinking-Water System, published in accordance with Schedule 22 of Ontario's Drinking-Water Systems Regulation for the reporting period of January 1st to December 31st 2018. The Longlac Drinking-Water System is categorized as a Large Municipal Residential Drinking Water System.

This report is prepared by The Ontario Clean Water Agency on behalf of the Corporation of the Municipality of Greenstone – Longlac Ward. A copy of the Summary Report is to be provided to the members of the municipal council by March 31st 2019.

Section 2: What Does This Report Contain?

"The report must,

- (a) list the requirements of the Act, the regulations, the system's approval, drinking water works permit, municipal drinking water licence, and any orders applicable to the system that were not met at any time during the period covered by the report; and,
- (b) for each requirement referred to in clause (a) that was not met, specify the duration of the failure and the measures that were taken to correct the failure."

- O. Reg. 170/03 s. 22 (2)

"The report must also include the following information for the purpose of enabling the owner of the system to assess the rated capability of their system to meet existing and planned uses of the system:

1. A summary of the quantities and flow rates of the water supplied during the period covered by the report, including monthly average and maximum daily flows.
2. A comparison of the summary referred to in paragraph 1 to the rated capacity and flow rates approved in the system's approval, drinking water works permit or municipal drinking water licence, or if the system is receiving all of its water from another system under an agreement pursuant to subsection 5 (4), to the flow rates specified in the written agreement."

-O. Reg. 170/03 s. 22 (3)

Section 3: Daily Flow Rates

In accordance with the **Municipal Drinking Water Licence 225-105 Schedule C: System – Specific Conditions 1.0 Performance Limits**, the Longlac drinking water system shall not be operated to exceed the rated capacity for maximum flow rate from the treatment subsystem to the distribution system of **4540 m³ / day**.

The drinking water system may be operated temporarily at a rate above the rated capacity where necessary for:

- (i) the purposes of fighting a large fire or,
- (ii) the maintenance of the drinking-water system

In 2018, the average monthly raw flow rate was 31535.42 m³; the average raw daily flow rate was 1036.08 m³, with a maximum raw daily flow rate of 1639.00 m³.

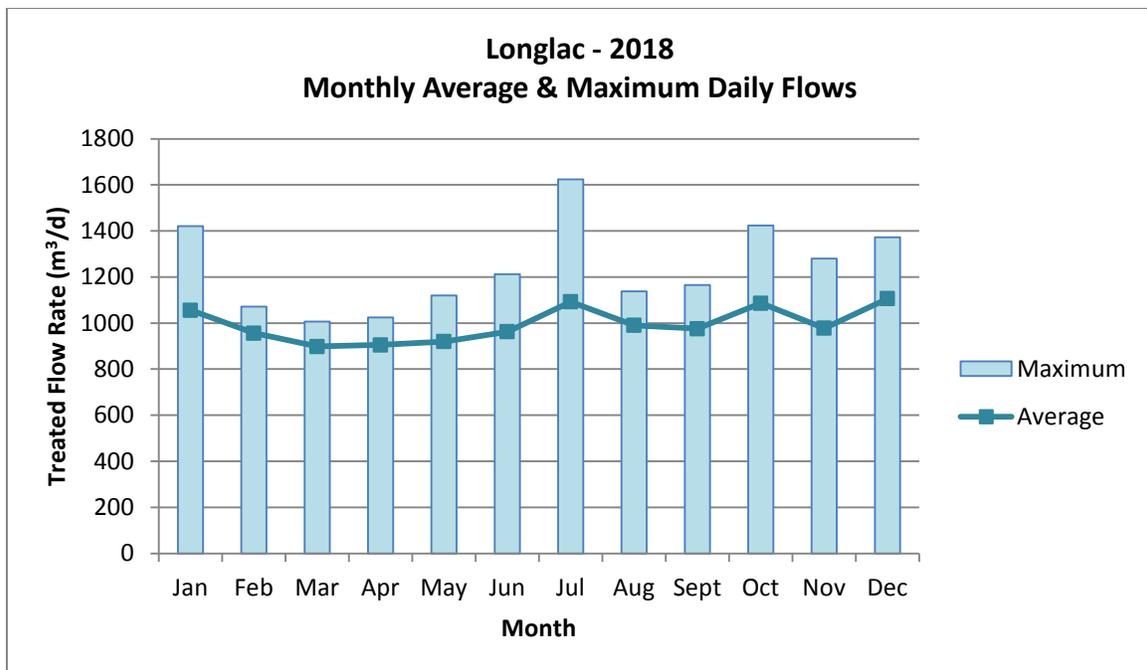
In 2018, the average monthly treated flow rate was 30255.53 m³; the average daily treated flow was 993.97 m³ and the maximum daily treated flow for the year was 1624.00 m³; this represents 35.78% of the allowable daily volume.

A summary of raw and treated flows, including maximum raw flow into the treatment system as well as treated average, maximum and total flow rates are included in the tables below.

The quantity of raw water supplied during the reporting period did not exceed the terms and conditions of the *Permit to Take Water* nor did the treated flows directed to the distribution system exceed the rated capacity for this system.

Monthly Raw & Treated Flow Rates for 2018

| Month | Average Daily Raw Flow Rate (m ³ /d) | Maximum Daily Raw Flow Rate (m ³ /d) | Average Daily Treated Flow Rate (m ³ /d) | Maximum Daily Treated Flow Rate (m ³ /d) | Total Monthly Treated Flow Rate (m ³ /month) |
|--|---|---|---|---|---|
| January | 1126.55 | 1461.00 | 1055.71 | 1421.00 | 32727.00 |
| February | 1011.46 | 1088.00 | 956.39 | 1072.00 | 26779.00 |
| March | 961.32 | 1019.00 | 898.48 | 1007.00 | 27853.00 |
| April | 963.40 | 1081.00 | 905.27 | 1025.00 | 27158.00 |
| May | 960.45 | 1079.00 | 920.17 | 1120.00 | 28525.33 |
| June | 1024.10 | 1254.00 | 962.90 | 1212.00 | 28887.00 |
| July | 1179.39 | 1639.00 | 1092.29 | 1624.00 | 33861.00 |
| August | 1013.55 | 1215.00 | 990.03 | 1138.00 | 30691.00 |
| September | 997.00 | 1262.00 | 976.10 | 1165.00 | 29283.00 |
| October | 1115.00 | 1511.00 | 1086.29 | 1424.00 | 33675.00 |
| November | 976.63 | 1242.00 | 978.00 | 1280.00 | 29340.00 |
| December | 1104.06 | 1317.00 | 1106.03 | 1373.00 | 34287.00 |
| 2018 Total Treated Flows (m ³) | | | | 363066.33 | |



Section 4: System Failures and Correction

The Ministry of Environment conducted an *announced* inspection of the Longlac Drinking-Water System on October 10, 2018. There were four non-compliance items identified in the inspection report.

The final inspection rating record for the Longlac Drinking Water System was 86.91%.

| Item | Non-Compliance Identified | Compliance Date | Action Being Taken to Address item | Status |
|------|--|-----------------|---|----------|
| 1 | <p>The owner/operating authority was not in compliance with the requirement to prepare Form 3 and associated documents as required by their Drinking Water Works Permit during the inspection period.</p> <p>During the summer of 2018, a new outdoor generator was installed at the Longlac WTP. At the time of inspection, the "Form 3 - Record of Addition, Modification or Replacement of Equipment Discharging a Contaminant of Concern to the Atmosphere" had not been completed.</p> <p>Action(s) Required: Effective immediately, the owner shall ensure that any required Form 1, Form 2 or Form 3 document, for minor modifications to the drinking water system, is completed prior to the modified or replaced components being put into service. Effective immediately, a copy of the completed Form 3 for the generator must be provided to the undersigned Inspector at Maria.Lesschaeve@Ontario.ca In accordance with the Safe Drinking Water Act, Section 31 (1) no person shall, (a) establish a new municipal drinking water system or replace or carry out an alteration to a municipal drinking water system except under the authority of and in accordance with an approval under this Part or a drinking waterworks permit.</p> | 04-Dec-2018 | <p>New generator was installed at the plant. The Form 3 was not completed for the replacement. The Form 3 was completed and submitted to the inspector on December 12 2018.</p> | Complete |
| 2a | <p>Records did not indicate that the treatment equipment was operated in a manner that achieved the design capabilities required under Ontario Regulation 170/03 or a Drinking Water Works Permit and/or Municipal Drinking Water Licence issued under Part V of the SDWA at all times that water was being supplied to consumers.</p> <p>The performance requirements were not met for filter effluent turbidity for the following months: September 2017 – Filter 1 – 84.14%; Filter 2 – 80.24%</p> | 7-Dec-2018 | <p>Set alarm level for filters to 0.3 NTU and perform manual back washes when plant exceeds. If that does not correct the issue, isolate problem filter and manually clean the filter. Alarms set to shut down filter when over 0.3 NTU</p> | Complete |

November 2017 – Filter 1 – 93.83%

Action(s) Required: By no later than December 7, 2018, the owner/operating authority shall provide to the undersigned Inspector an action plan as to what measures will be immediately implemented in order to ensure the plant is operated to meet the performance criterion for filtered water turbidity of less than or equal to 0.3 NTU in 95% of the measurements each month for each filter.

| | | | | |
|----|--|------------|---|------------|
| 2b | <p>Action(s) Required: By no later than December 31, 2018, the owner and operating authority must provide to the undersigned Inspector, an action plan and timeframe with respect to what measures will be taken to implement recommendations provided in the EXP Services Inc. August 2018 filter replacement feasibility study. In accordance with the Safe Drinking Water Act, Section 11 (1), every owner of a municipal drinking water system or a regulated non-municipal drinking water system and, if an operating authority is responsible for the operation of the system, the operating authority for the system shall ensure the following:</p> <p>2. That, at all times in which it is in service, the drinking water system,</p> <p>i. is operated in accordance with the requirements under this Act, ii. is maintained in a fit state of repair, and</p> <p>iii. satisfies the requirements of the standards prescribed for the system or the class of systems to which the system belongs. In accordance with Ontario Regulation 170, Schedule 1-2. (2) The owner of a drinking water system and the operating authority for the system shall ensure the following:</p> <p>1. The water treatment equipment is in operation whenever water is being supplied.</p> <p>2. The water treatment equipment is operated in accordance with the Ministry's Procedure for Disinfection of Drinking Water in Ontario.</p> <p>3. The water treatment equipment required by section 1-3 or 1-4 is operated in a manner that achieves the design capabilities it is required to have under that section.</p> | In Process | <p>The application for funding the filter replacement to OCIF has been completed and submitted. Awaiting status of the funding application. Municipality to include filter to waste in the project.</p> | In Process |
| 3 | <p>Continuous monitoring of each filter effluent line was not being performed for turbidity. Filter no. 2 effluent was not being measured or recorded from 01:50 to 05:10 on September 7, 2018.</p> | - | <p>The controller for the turbidity meter failed and did not alarm operator. The meter did not record the turbidity data. The controller was replaced. The</p> | Complete |

| | |
|---|---|
| <p>Action(s) Required: In accordance with the Table in Ontario Regulation 170/03, Schedule 6, section 6-5, the time, date, sampling location and test result must be recorded every 15 minutes for turbidity. Corrective actions completed. The faulty HACH SC200 controller was replaced.</p> | <p>plant PLC has been programmed to alarm and lock-out when the turbidity is below 0.01 NTU for more than 5 minutes.</p> |
| <p>4 Continuous monitoring equipment that was being utilized to fulfill O. Reg. 170/03 requirements was not performing tests for the parameters with at least the minimum frequency specified in the Table in Schedule 6 of O. Reg. 170/03 and/or was not recording data with the prescribed format. Filter effluent turbidity for filter no. 2 was not measured while water was being treated from 01:50 a.m. to 05:10 a.m. on September 7, 2018. This was caused by the HACH SC200 controller faulting.</p> <p>Action(s) Required: Corrective actions completed. The faulty controller was replaced and the plant was back on-line at 18:36 the same day.</p> | <p>-</p> <p>The controller for the turbidity meter failed and did not alarm operator. The meter did not record the turbidity data. The controller was replaced. The plant PLC has been programmed to alarm and lock-out when the turbidity is below 0.01 NTU for more than 5 minutes.</p> <p>Complete</p> |

Section 5: Conclusion

In the reporting year of 2018, there were six adverse water quality incident (AWQI) reports filed as summarized below.

| Incident Date | Parameter | Result | Unit of Measure | Corrective Action | Corrective Action Date |
|---------------|--|--------|-----------------|--|------------------------|
| 7-Sep-2018 | Physical – Filter #2 turbidity analyzer failed, not recording turbidity. | - | - | Replaced defective controller September 7 at 18:36. Add low turbidity alarm to catch meter failures. | 10-Sep-2018 |
| 01-Nov-2018 | Physical – Filter #1 monthly turbidity <0.3 NTU 95% of the time for October. | 90.35 | % | Performed biannual maintenance of clarifier #2. Drained and cleaned filters after clarifier maintenance. | 01-Nov-2018 |

The inspection found the plant to be producing good quality water. The treated water samples at the plant and in the distribution system were shown to be free of bacteriological contaminants and met the Ontario Drinking Water Quality Standards.

For the operating year of 2018, the Longlac Drinking Water System was able to meet the demand of water use within the town without exceeding the Municipal Drinking Water License and Permit to Take Water.