



**CITY OF ELLIOT LAKE WATER TREATMENT PLANT 2018 ANNUAL REPORT**

<b>Drinking-Water System Number:</b>	220002789
<b>Drinking-Water System Name:</b>	Elliot Lake Water Treatment Plant
<b>Drinking-Water System Owner:</b>	Corporation of the City of Elliot Lake
<b>Drinking-Water System Category:</b>	Water Treatment Subsystem Class 2
<b>Period being reported:</b>	January 01, 2018– December 31, 2018

<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 [<input checked="" type="checkbox"/>] No [ ]</p> <p>Is your annual report available to the public at no charge on a web site on the Internet? Yes [<input checked="" type="checkbox"/>] 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; margin-top: 10px;"> <p>The summary report is available at City Hall, the Water Treatment Plant, and is posted on the City’s website at:  <a href="http://cityofelliottlake.com/en/cityhall/operationsreports.asp">http://cityofelliottlake.com/en/cityhall/operationsreports.asp</a></p> </div>	<p><b><u>Complete for all other Categories.</u></b></p> <p>Number of Designated Facilities served:  <input style="width: 100px; 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: 100px; 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
Not applicable	

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 [ ] Not applicable [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**

The City of Elliot Lake water treatment plant is a direct filtration facility.

Water is drawn from the lake through an intake structure, located in approximately 12.2 m (40 ft) of water, and is gravity fed through a 295 m long marine pipeline to the low lift pumping station wet well. The water is then pumped to the main plant on Spine Road. At the plant, it passes through a raw water flow meter, and into reactor/mixing tanks. At this point, Poly-aluminum Chloride (PAC) is added to the process to aid in the production of floc (particulate matter of sufficient size to be removed by the filters). The water is then filtered through granular media, collected in an underdrain system, and stored in a clearwell (storage reservoir) on site.

Chlorine is added to the treated water as it leaves the filters to achieve required disinfection.

Fluoride is added at this point. Fluoride does not play a role in the treatment process, but rather, acts as an agent in the prevention of tooth decay in young children.

Lime is added to the water as it leaves the plant to aid in the prevention of corrosion in the distribution system. Water pumped from the plant enters the distribution system, where it makes its way to consumers' homes, either directly or from the standpipe storage facilities.

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

Chlorine, Poly-aluminum Chloride (PAC), Lime, and Fluoride



**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**

**Installing required equipment:**

Booster pumps were installed on Jowsey Place, Poutney Place, and Stollery Place. This project cost approximately **\$15,000**.

A new raw water flow meter was installed at a cost of **\$14,500**.

A backwash clarifier rotork was installed and cost **\$8,400**.

**Repairing required equipment:**

Approximately **\$4,000** was spent on maintaining existing infrastructure related to the drinking water system, such as fire hydrants.

**\$20,000** was spent on training, licensing and audits related to the DWQMS.

Approximately **\$8,000** was spent on calibrating analyzers and flow meters.

The autodialer was upgraded for a cost **\$6,500**.

**\$5,000** went into maintaining the City's flushing program.

Rotork boards were repaired and cost **\$3,500**.

**Replacing required equipment:**

The existing lime pumps were replaced with two new pumps at a cost of **\$3,582**.

**Total expenses incurred related to installing, repairing, and replacing equipment during the 2018 reporting period: \$88,482**

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	RESULTS	UNIT OF MEASURE	CORRECTIVE ACTION	CORRECTIVE ACTION DATE
Feb-12-18	Water Main Repair	Pressure Loss	PSI	Boil Water Advisory Flush and sample	Feb-16-18
May-30-18	Sample result – Microbiological	1 Total Coliform	CFU/100 ml	Re-sample Residence	June-04-18
Nov-29-18	Sample result – Microbiological	Pressure Loss	PSI	Boil Water Advisory Flush and Sample	Dec-03-18
Dec-06-18	Sample result – Microbiological	2 Total Coliform	CFU/100 ml	Re-sample Residence	Dec-10-18

**Microbiological testing done under Schedule 10, 11 or 12 of the 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 #)
<b>Raw</b>	52	0-9	0-39	N/A	N/A
<b>Treated</b>	52	N/D	N/D	52	N/D - 3
<b>Distribution</b>	310	N/D	0-2	119	N/D - 1440

**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 #)	Unit of Measure
<b>Turbidity</b>	<b>8760</b>	<b>0.16 – 0.59</b>	<b>ntu</b>
<b>Chlorine</b>	<b>8760</b>	<b>0.85 – 2.57</b>	<b>mg/l</b>
<b>Fluoride</b>	<b>8760</b>	<b>0.34 – 0.99</b>	<b>mg/l</b>

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

**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
Municipal Drinking Water License 208-101 23 August 2011	Clarifier Overflow Suspended Solids	16-Jan-18	6	mg/L
		22-Feb-18	12	mg/L
		09-Mar-18	10	mg/L
		13-Apr-18	14	mg/L
		15-May-18	23	mg/L
		13-Jun-18	21	mg/L
		12-Jul-18	18	mg/L
		10-Aug-18	17	mg/L
		26-Sep-18	9	mg/L
		26-Oct-18	25	mg/L
		15-Nov-18	9	mg/L
18-Dec-18	6	mg/L		

**The Annual Clarifier Overflow Suspended Solids Average For 2018 is 14.2 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	27 June 2018	0.03	µg/L	no
Arsenic	27 June 2018	0.2	µg/L	no
Barium	27 June 2018	13.9	µg/L	no
Boron	27 June 2018	9	µg/L	no
Cadmium	27 June 2018	0.038	µg/L	no
Chromium	27 June 2018	0.15	µg/L	no
*Lead	not applicable for this reporting period			
Mercury	27 June 2018	0.01 <MDL	µg/L	no
Selenium	27 June 2018	0.04	µg/L	no
Sodium	not applicable for this reporting period			
Uranium	27 June 2018	0.076	µg/L	no
Fluoride	not applicable for this reporting period			
Nitrite	Annual Average	0.003 <MDL	mg/l	no
Nitrate	Annual Average	0.15	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 #)	Unit of Measure	Number of Exceedances
Plumbing	4	0.58 – 1.91	µg/L	no
Distribution	4	N/D – 0.26	µg/L	no

**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	27 June 2018	0.02 < MDL	µg/L	no
Altrazine	27 June 2018	0.01 < MDL	µg/L	no
Atrazine + N-dealkylatedmetabolites	27 June 2018	0.01 < MDL	µg/L	no
Azinphos-methyl	27 June 2018	0.05 < MDL	µg/L	no
Benzene	27 June 2018	0.32 < MDL	µg/L	no
Benzo(a)pyrene	27 June 2018	0.004 < MDL	µg/L	no
Bromoxynil	27 June 2018	0.33 < MDL	µg/L	no
Carbaryl	27 June 2018	0.05 < MDL	µg/L	no
Carbofuran	27 June 2018	0.01 < MDL	µg/L	no
Carbon Tetrachloride	27 June 2018	0.16 < MDL	µg/L	no
Chlorpyrifos	27 June 2018	0.02 < MDL	µg/L	no
Diazinon	27 June 2018	0.02 < MDL	µg/L	no
Dicamba	27 June 2018	0.20 < MDL	µg/L	no
1,2-Dichlorobenzene	27 June 2018	0.41 < MDL	µg/L	no
1,4-Dichlorobenzene	27 June 2018	0.36 < MDL	µg/L	no
1,2-Dichloroethane	27 June 2018	0.35 < MDL	µg/L	no
1,1-Dichloroethylene (vinylidene chloride)	27 June 2018	0.33 < MDL	µg/L	no
Dichloromethane	27 June 2018	0.35 < MDL	µg/L	no
2-4 Dichlorophenol	27 June 2018	0.15 < MDL	µg/L	no
2,4-Dichlorophenoxy acetic acid (2,4-D)	27 June 2018	0.19 < MDL	µg/L	no
Diclofop-methyl	27 June 2018	0.40 < MDL	µg/L	no
Dimethoate	27 June 2018	0.03 < MDL	µg/L	no
Desethyl atrzine	27 June 2018	0.01 < MDL	µg/L	no
Diquat	27 June 2018	1 < MDL	µg/L	no
Diuron	27 June 2018	0.03 < MDL	µg/L	no
Glyphosate	27 June 2018	1 < MDL	µg/L	no
Malathion	27 June 2018	0.02 < MDL	µg/L	no
Metolachlor	27 June 2018	0.01 < MDL	µg/L	no

Metribuzin	27 June 2018	0.02 < MDL	µg/L	no
Monochlorobenzene	27 June 2018	0.3 < MDL	µg/L	no
Paraquat	27 June 2018	1 < MDL	µg/L	no
Pentachlorophenol	27 June 2018	0.15 < MDL	µg/L	no
Phorate	27 June 2018	0.01 < MDL	µg/L	no
Picloram	27 June 2018	1 < MDL	µg/L	no
Polychlorinated Biphenyls (PCB)	27 June 2018	0.04 < MDL	µg/L	no
Prometryne	27 June 2018	0.03 < MDL	µg/L	no
Simazine	27 June 2018	0.01 < MDL	µg/L	no
THM (Annual Average)	2018	47	µg/L	no
MCPA	27 June 2018	0.00012 < MDL	µg/L	no
Terbufos	27 June 2018	0.01 < MDL	µg/L	no
Tetrachloroethylene	27 June 2018	0.35 < MDL	µg/L	no
2,3,4,6-Tetrachlorophenol	27 June 2018	0.20 < MDL	µg/L	no
Triallate	27 June 2018	0.01 < MDL	µg/L	no
Trichloroethylene	27 June 2018	0.44 < MDL	µg/L	no
2,4,6-Trichlorophenol	27 June 2018	0.25 < MDL	µg/L	no
Trifluralin	27 June 2018	0.02 < MDL	µg/L	no
Vinyl Chloride	27 June 2018	0.17 < MDL	µg/L	no

**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
Trihalomethanes	59	µg/L	24 July 2018
Trihalomethanes	71	µg/L	09 October 2018