



CITY OF ELLIOT LAKE WATER TREATMENT PLANT 2017 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 1, 2017 – 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 [<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>
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**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 []



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, Polyaluminum 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, Polyaluminum Chloride (PAC), Lime, and Hydrofluosilicic Acid

**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**

*Replacement of complete pump head and column on Backwash pump No. 2. Total cost of \$54,522.50, which has now completed all high lift pumps  
Installation of updated control systems for various SCADA controlled processes is on-going*

**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
27-Jan-17	Watermain Repair	Pressure Loss	PSI	Boil Water Advisory - flush - resample	06-Feb-17
09-Mar-17	Microbiological	40 Total Coliforms	T.C. count in 100ml sample	Boil Water Advisory - flush - resample	14-March-17
26-April-17	Microbiological	40 Total Coliforms	T.C. count in 100ml sample	Boil Water Advisory - flush - resample	01-May-17
22-June-17	Microbiological	23 Total Coliforms	T.C. count in 100ml sample	Boil Water Advisory - flush - resample	27-June-17
27-Sept-17	Microbiological	15 Total Coliforms	T.C. count in 100 ml Sample	Boil Water Advisory - flush - resample	03-Oct-17
29-Sept-17	Microbiological	54 Total Coliforms	T.C. count in 100 ml Sample	Boil Water Advisory - flush - resample	05-Oct-17

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 - 5	0-56	N/D	N/D
Treated	52	N/D	N/D	52	N/D - 6
Distribution	281	N/D	0-56	95	N/D - 1100

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
Turbidity	8760	0.12 – 0.60	ntu
Chlorine	8760	.91 – 2.32	mg/L
Fluoride	8760	0.03 – 0.97	mg/L

*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 27 July 2016	Clarifier Overflow Suspended Solids	27-Jan-17	11	mg/L
		28-Feb-17	10	mg/L
		28-Mar-17	21	mg/L
		20-Apr-17	9	mg/L
		23-May-17	22	mg/L
		27-Jun-17	16	mg/L
		25-Jul-17	19	mg/L
		29-Aug-17	19	mg/L
		27-Sep-17	24	mg/L
		17-Oct-17	22	mg/L
		22-Nov-17	6	mg/L
20-Dec-17	9	mg/L		

**The Annual Clarifier Overflow Suspended Solids Average for 2017 is 16.4 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	25 Jan/17	0.04	µg/L	no
Arsenic	25 Jan/17	0.3	µg/L	no
Barium	25 Jan/17	11.3	µg/L	no
Boron	25 Jan/17	7	µg/L	no
Cadmium	25 Jan/17	0.003	µg/L	no
Lead	25 Jan/17	.14	µg/L	no
Chromium	25 Jan/17	0.40	µg/L	no
Mercury	26 Jan/17	0.01 <MDL	µg/L	no
Selenium	25 Jan/17	.05	µg/L	no
Sodium	N/A		mg/L	no
Uranium	25 Jan/17	0.095	µg/L	no
Fluoride	not applicable for this reporting period			
Nitrite	Annual Average	0.003 <MDL	mg/L	no
Nitrate	Annual Average	.081	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	not applicable for this reporting period			
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	25 Jan/17	0.02 < MDL	µg/L	no
Altrazine	25 Jan/17	0.01 < MDL	µg/L	no
Aldrin + Dieldrin	25 Jan/17	0.01 < MDL	µg/L	no
Atrazine + N-dealkylated metabolites	25 Jan/17	0.01 < MDL	µg/L	no
Azinphos-methyl	25 Jan/17	0.05 < MDL	µg/L	no
Bendiocarb	25 Jan/17	0.01 < MDL	µg/L	no
Benzene	25 Jan/17	0.32 < MDL	µg/L	no

<b>Benzo(a)pyrene</b>	<b>25 Jan/17</b>	0.004 < MDL	µg/L	no
<b>Bromoxynil</b>	<b>25 Jan/17</b>	0.33 < MDL	µg/L	no
<b>Carbaryl</b>	25 Jan/17	0.05 < MDL	µg/L	no
<b>Carbofuran</b>	25 Jan/17	0.01 < MDL	µg/L	no
<b>Carbon Tetrachloride</b>	25 Jan/17	0.16 < MDL	µg/L	no
<b>Chlordane (Total)</b>	25 Jan/17	0.01 < MDL	µg/L	no
<b>Chlorpyrifos</b>	25 Jan/17	0.02 < MDL	µg/L	no
<b>Cyanazine</b>	25 Jan/17	0.03 < MDL	µg/L	no
<b>Diazinon</b>	25 Jan/17	0.02 < MDL	µg/L	no
<b>Dicamba</b>	26 Jan/17	0.20 < MDL	µg/L	no
<b>1,2-Dichlorobenzene</b>	25 Jan/17	0.41 < MDL	µg/L	no
<b>1,4-Dichlorobenzene</b>	25 Jan/17	0.36 < MDL	µg/L	no
<b>Dichlorodiphenyltrichloroethane (DDT) + metabolites</b>	25 Jan/17	0.01 < MDL	µg/L	no
<b>1,2-Dichloroethane</b>	25 Jan/17	0.35 < MDL	µg/L	no
<b>1,1-Dichloroethylene (vinylidene chloride)</b>	25 Jan/17	0.33 < MDL	µg/L	no
<b>Dichloromethane</b>	25 Jan/17	0.35 < MDL	µg/L	no
<b>2-4 Dichlorophenol</b>	26 Jan/17	0.15 < MDL	µg/L	no
<b>2,4-Dichlorophenoxy acetic acid (2,4-D)</b>	25 Jan/17	0.19 < MDL	µg/L	no
<b>Diclofop-methyl</b>	26 Jan/17	0.40 < MDL	µg/L	no
<b>Dimethoate</b>	25 Jan/17	0.03 < MDL	µg/L	no
<b>Desethylatrzine</b>	25 Jan/17	0.01 < MDL	µg/L	no
<b>Diquat</b>	25 Jan/17	1 < MDL	µg/L	no
<b>Diuron</b>	25 Jan/17	0.03 < MDL	µg/L	no
<b>Glyphosate</b>	25 Jan/17	1 < MDL	µg/L	no
<b>Heptachlor + Heptachlor Epoxide</b>	25 Jan/17	0.01 < MDL	µg/L	no
<b>Lindane (Total)</b>	25 Jan/17	0.01 < MDL	µg/L	no
<b>Malathion</b>	25 Jan/17	0.02 < MDL	µg/L	no
<b>Methoxychlor</b>	25 Jan/17	0.01 < MDL	µg/L	no
<b>Metolachlor</b>	25 Jan/17	0.01 < MDL	µg/L	no
<b>Metribuzin</b>	25 Jan/17	0.02 < MDL	µg/L	no
<b>Monochlorobenzene</b>	25 Jan/17	0.3 < MDL	µg/L	no
<b>Paraquat</b>	25 Jan/17	1 < MDL	µg/L	no
<b>Parathion</b>	25 Jan/17	0.02 < MDL	µg/L	no
<b>Pentachlorophenol</b>	26 Jan/17	0.15 < MDL	µg/L	no
<b>Phorate</b>	25 Jan/17	0.01 < MDL	µg/L	no
<b>Picloram</b>	26 Jan/17	1 < MDL	µg/L	no
<b>Polychlorinated Biphenyls(PCB)</b>	25 Jan/17	0.04 < MDL	µg/L	no
<b>Prometryne</b>	25 Jan/17	0.03 < MDL	µg/L	no
<b>Simazine</b>	25 Jan/17	0.01 < MDL	µg/L	no
<b>THM (NOTE: show latest annual average)</b>	2017	57	µg/L	no
<b>MCPA</b>	26 Jan/17	.00012	mg/L	no

Temephos	25 Jan/17	0.01 < MDL	µg/L	no
Terbufos	25 Jan/17	0.01 < MDL	µg/L	no
Tetrachloroethylene	25 Jan/17	0.35 < MDL	µg/L	no
2,3,4,6-Tetrachlorophenol	26 Jan/17	0.20 < MDL	µg/L	no
Triallate	25 Jan/17	0.01 < MDL	µg/L	no
Trichloroethylene	25 Jan/17	0.44 < MDL	µg/L	no
2,4,6-Trichlorophenol	26 Jan/17	0.25 < MDL	µg/L	no
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	25 Jan/17	0.22 < MDL	µg/L	no
Trifluralin	25 Jan/17	0.02 < MDL	µg/L	no
Vinyl Chloride	25 Jan/17	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	64	µg/L	25 May/17
Trihalomethanes	64	µg/L	1 Sept/17
Trihalomethanes	57	µg/L	16 Nov/17