



**CITY OF ELLIOT LAKE WATER TREATMENT PLANT 2016 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, 2016 – December 31, 2016

<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 columns, impellers, and volutes on High lift pumps No. 1, 2, 3, & 4 and replacement of complete pump head and column on Backwash pump No. 1. Total Cost \$115,963.<sup>63</sup>*

*Installation of updated control systems for various SCADA controlled processes for a total cost of \$30,551.<sup>26</sup>*

**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
18-Jan-16	Watermain Repair	Pressure Loss	PSI	Drinking Water Advisory - flush - resample	22-Jan-16
14-Feb-16	Watermain Repair	Pressure Loss	PSI	Drinking Water Advisory flush - resample	19-Feb-16
19-Feb-16	Watermain Repair	Pressure Loss	PSI	Drinking Water Advisory - flush - resample	26-Feb-16
26-Feb-16	Watermain Repair	Pressure Loss	PSI	Boil Water Advisory - flush - resample	07-Mar-16
06-Apr-16	Microbiological	13 Total Coliforms	T.C. count in 100 ml Sample	Boil Water Advisory - flush - resample	14-April-16
28-April-16	Watermain Repair	Pressure Loss	PSI	Boil Water Advisory - flush - resample	03-May-16
16-June-16	Watermain Repair	Pressure Loss	PSI	Drinking Water Advisory - flush - resample	23-June-16
13-July-16	Microbiological	1 Total Coliform	T.C. count in 100ml sample	Boil Water Advisory - flush - resample	26-July-16
20-July-16	Watermain Repair	Pressure Loss	PSI	Boil Water Advisory - flush - resample	25-July-16
26-July-16	Watermain Repair	Pressure Loss	PSI	Boil Water Advisory - flush - resample	02-Aug-16
05-Oct-16	Watermain Repair	Pressure Loss	PSI	Boil Water Advisory - flush - resample	11-Oct-16

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 - 4	0-25	N/D	N/D
Treated	52	N/D	N/D	52	N/D - 6
Distribution	252	N/D	0-13	92	N/D - 2000

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	0.11 – 0.54	ntu
Chlorine	8760	.99 – 2.28	mg/l
Fluoride	8760	0.58 – 0.84	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	22-Jan-16	23	mg/L
		29-Feb-16	14	mg/L
		23-Mar-16	14	mg/L
		22-Apr-16	12	mg/L
		31-May-16	18	mg/L
		29-Jun-16	13	mg/L
		28-Jul-16	21	mg/L
		26-Aug-16	19	mg/L
		29-Sep-16	9	mg/L
		31-Oct-16	15	mg/L
		18-Nov-16	11	mg/L
22-Dec-16	19	mg/L		

The Annual Clarifier Overflow Suspended Solids Average for 2016 is 16 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	15 August 2016	0.09	µg/L	no
Arsenic	15 August 2016	0.2	µg/L	no
Barium	15 August 2016	11.2	µg/L	no
Boron	15 August 2016	5	µg/L	no
Cadmium	15 August 2016	0.012	µg/L	no
Lead	16 August 2016	.01	µg/L	no
Chromium	15 August 2016	0.46	µg/L	no
Mercury	15 August 2016	0.01 <MDL	µg/L	no
Selenium	15 August 2016	.05	µg/L	no
Sodium	18 March 2016	9.36	mg/L	no
Uranium	15 August 2016	0.124	µg/L	no
Fluoride	not applicable for this reporting period			
Nitrite	Quarterly Average	0.003 <MDL	mg/l	no
Nitrate	Quarterly Average	.077	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	15 Aug/16	0.02 < MDL	µg/L	no
Altrazine	15 Aug/16	0.01 < MDL	µg/L	no
Aldrin + Dieldrin	15 Aug/16	0.01 < MDL	µg/L	no
Atrazine + N-dealkylated metabolites	15 Aug/16	0.01 < MDL	µg/L	no
Azinphos-methyl	15 Aug/16	0.05 < MDL	µg/L	no
Bendiocarb	15 Aug/16	0.01 < MDL	µg/L	no
Benzene	15 Aug/16	0.32 < MDL	µg/L	no
Benzo(a)pyrene	15 Aug/16	0.004 < MDL	µg/L	no
Bromoxynil	15 Aug/16	0.33 < MDL	µg/L	no

Carbaryl	15 Aug/16	0.05 < MDL	µg/L	no
Carbofuran	15 Aug/16	0.01 < MDL	µg/L	no
Carbon Tetrachloride	15 Aug/16	0.16 < MDL	µg/L	no
Chlordane (Total)	15 Aug/16	0.01 < MDL	µg/L	no
Chlorpyrifos	15 Aug/16	0.02 < MDL	µg/L	no
Cyanazine	15 Aug/16	0.03 < MDL	µg/L	no
Diazinon	15 Aug/16	0.02 < MDL	µg/L	no
Dicamba	15 Aug/16	0.20 < MDL	µg/L	no
1,2-Dichlorobenzene	15 Aug/16	0.41 < MDL	µg/L	no
1,4-Dichlorobenzene	15 Aug/16	0.36 < MDL	µg/L	no
Dichlorodiphenyltrichloroethane (DDT) + metabolites	15 Aug/16	0.01 < MDL	µg/L	no
1,2-Dichloroethane	15 Aug/16	0.35 < MDL	µg/L	no
1,1-Dichloroethylene (vinylidene chloride)	15 Aug/16	0.33 < MDL	µg/L	no
Dichloromethane	15 Aug/16	0.35 < MDL	µg/L	no
2-4 Dichlorophenol	15 Aug/16	0.15 < MDL	µg/L	no
2,4-Dichlorophenoxy acetic acid (2,4-D)	15 Aug/16	0.19 < MDL	µg/L	no
Diclofop-methyl	15 Aug/16	0.40 < MDL	µg/L	no
Dimethoate	15 Aug/16	0.03 < MDL	µg/L	no
Desethyl atrzine	15 Aug/16	0.01 < MDL	µg/L	no
Diquat	15 Aug/16	1 < MDL	µg/L	no
Diuron	15 Aug/16	0.03 < MDL	µg/L	no
Glyphosate	15 Aug/16	1 < MDL	µg/L	no
Heptachlor + Heptachlor Epoxide	15 Aug/16	0.01 < MDL	µg/L	no
Lindane (Total)	15 Aug/16	0.01 < MDL	µg/L	no
Malathion	15 Aug/16	0.02 < MDL	µg/L	no
Methoxychlor	15 Aug/16	0.01 < MDL	µg/L	no
Metolachlor	15 Aug/16	0.01 < MDL	µg/L	no
Metribuzin	15 Aug/16	0.02 < MDL	µg/L	no
Monochlorobenzene	15 Aug/16	0.3 < MDL	µg/L	no
Paraquat	15 Aug/16	1 < MDL	µg/L	no
Parathion	15 Aug/16	0.02 < MDL	µg/L	no
Pentachlorophenol	15 Aug/16	0.15 < MDL	µg/L	no
Phorate	15 Aug/16	0.01 < MDL	µg/L	no
Picloram	15 Aug/16	1 < MDL	µg/L	no
Polychlorinated Biphenyls(PCB)	15 Aug/16	0.04 < MDL	µg/L	no
Prometryne	15 Aug/16	0.03 < MDL	µg/L	no
Simazine	15 Aug/16	0.01 < MDL	µg/L	no
THM (NOTE: show latest annual average)	(RAA)	54	µg/L	no
Temphos	15 Aug/16	0.01 < MDL	µg/L	no
Terbufos	15 Aug/16	0.01 < MDL	µg/L	no
Tetrachloroethylene	15 Aug/16	0.35 < MDL	µg/L	no



<b>2,3,4,6-Tetrachlorophenol</b>	15 Aug/16	0.20 < MDL	µg/L	no
<b>Triallate</b>	15 Aug/16	0.01 < MDL	µg/L	no
<b>Trichloroethylene</b>	15 Aug/16	0.44 < MDL	µg/L	no
<b>2,4,6-Trichlorophenol</b>	15 Aug/16	0.25 < MDL	µg/L	no
<b>2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)</b>	15 Aug/16	0.22 < MDL	µg/L	no
<b>Trifluralin</b>	15 Aug/16	0.02 < MDL	µg/L	no
<b>Vinyl Chloride</b>	15 Aug/16	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.**

<b>Parameter</b>	<b>Result Value</b>	<b>Unit of Measure</b>	<b>Date of Sample</b>
Trihalomethanes	57	µg/L	25 Feb/16
Trihalomethanes	54	µg/L	19 April/16
Trihalomethane	45	µg/L	17 April/16
Trihalomethanes	60	µg/L	9 Nov/16