



CITY OF ELLIOT LAKE WATER TREATMENT PLANT 2014 ANNUAL REPORT

Drinking-Water System Number:	220002789
Drinking-Water System Name:	Elliot Lake Water Treatment Plant
Drinking-Water System Owner:	Corporation of the City of Elliot Lake
Drinking-Water System Category:	Water Treatment Subsystem Class 2
Period being reported:	January 1 – December 31, 2014

<p><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></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: http://cityofelliottlake.com/en/cityhall/operationsreports.asp</p> </div>	<p><u>Complete for all other Categories.</u></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 Fluoride



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

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

- Upgrade of the facility automation system at a cost of approximately \$55,000.00
- Replacement of the lime feed system at a cost of \$34,477.59;
- Replacement of chlorination system including chlorinators and regulators at \$19,654.22;
- Installation of new Rotork valve actuators on High Lift pump system - \$34,637.89;
- Installation of new continuous monitor for fluoride – 6,700.00

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
02-Jan-14	Watermain Repair	Pressure Loss	PSI	Boil Water Advisory - flush - resample	15-Jan-14
06-Mar-14	Watermain Repair	Pressure Loss	PSI	Boil Water Advisory - flush - resample	14-Mar-14
05-May-14	Watermain Repair	Pressure Loss	PSI	Boil Water Advisory - flush - resample	12-May-14
20-Jun-14	Watermain Repair	Pressure Loss	PSI	Boil Water Advisory - flush - resample	27-Jun-14
07-Jul-14	Watermain Repair	Pressure Loss	PSI	Boil Water Advisory - flush - resample	18-Jul-14
08-Aug-14	Watermain Repair	Pressure Loss	PSI	Boil Water Advisory - flush - resample	14-Aug-14
13-Aug-14	Watermain Repair	Pressure Loss	PSI	Boil Water Advisory - flush - resample	18-Aug-14
16-Oct-14	Watermain Repair	Pressure Loss	PSI	Boil Water Advisory - flush - resample	27-Oct-14
13-Nov-14	Watermain Repair	Pressure Loss	PSI	Boil Water Advisory - flush - resample	24-Nov-14
24-Nov-14	Watermain Repair	Pressure Loss	PSI	Boil Water Advisory - flush - resample	01-Dec-14
28-Nov-14	Watermain Repair	Pressure Loss	PSI	Boil Water Advisory - flush - resample	08-Dec-14
28-Nov-14	Watermain Repair	Pressure Loss	PSI	Boil Water Advisory - flush - resample	08-Dec-14
05-Dec-14	Watermain Repair	Pressure Loss	PSI	Boil Water Advisory - flush - resample	12-Dec-14
12-Dec-14	Watermain Repair	Pressure Loss	PSI	Boil Water Advisory - flush - resample	18-Dec-14
15-Dec-14	Watermain Repair	Pressure Loss	PSI	Boil Water Advisory - flush - resample	22-Dec-14
29-Dec-14	Watermain Repair	Pressure Loss	PSI	Boil Water Advisory - flush - resample	02-Jan-15

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 - 10	0-100	N/D	N/D
Treated	52	N/D	N/D	52	N/D - 2
Distribution	256	N/D	N/D	93	N/D - 1400

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	0.07 – 0.35	ntu
Chlorine	8760	1.20 – 2.06	mg/l
Fluoride	8760	0.03 – 0.85	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 23 August 2011	Clarifier Overflow Suspended Solids	28-Jan-14	21	mg/L
		20-Feb-14	13	mg/L
		4-Mar-14	8	mg/L
		29-Apr-14	29	mg/L
		28-May-14	12	mg/L
		27-Jun-14	13	mg/L
		31-Jul-14	12	mg/L
		27-Aug-14	18	mg/L
		29-Sep-14	20	mg/L
		31-Oct-14	15	mg/L
		18-Nov-14	16	mg/L
22-Dec-14	14	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	31 January 2014	0.02 <MDL	µg/L	no
Arsenic	31 January 2014	0.3	µg/L	no
Barium	31 January 2014	12.4	µg/L	no
Boron	31 January 2014	6.2	µg/L	no
Cadmium	31 January 2014	0.004	µg/L	no
Chromium	31 January 2014	0.5	µg/L	no
*Lead	not applicable for this reporting period			
Mercury	31 January 2014	0.01 <MDL	µg/L	no
Selenium	31 January 2014	1.0 < MDL	µg/L	no
Sodium	not applicable for this reporting period			
Uranium	31 January 2014	0.172	µg/L	no
Fluoride	not applicable for this reporting period			
Nitrite	Quarterly Average	0.143	mg/l	no
Nitrate	Quarterly Average	.003	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	30 Jan/14	0.02 < MDL	µg/L	no
Aldicarb	30 Jan/14	0.01 < MDL	µg/L	no
Aldrin + Dieldrin	30 Jan/14	0.01 < MDL	µg/L	no
Atrazine + N-dealkylated metabolites	30 Jan/14	0.01 < MDL	µg/L	no
Azinphos-methyl	30 Jan/14	0.02 < MDL	µg/L	no
Bendiocarb	30 Jan/14	0.01 < MDL	µg/L	no
Benzene	30 Jan/14	0.32 < MDL	µg/L	no
Benzo(a)pyrene	30 Jan/14	0.004 < MDL	µg/L	no
Bromoxynil	30 Jan/14	0.33 < MDL	µg/L	no
Carbaryl	30 Jan/14	0.01 < MDL	µg/L	no
Carbofuran	30 Jan/14	0.01 < MDL	µg/L	no



Carbon Tetrachloride	28 Jan/14	0.16 < MDL	µg/L	no
Chlordane (Total)	30 Jan/14	0.01 < MDL	µg/L	no
Chlorpyrifos	30 Jan/14	0.02 < MDL	µg/L	no
Cyanazine	30 Jan/14	0.03 < MDL	µg/L	no
Diazinon	30 Jan/14	0.02 < MDL	µg/L	no
Dicamba	29 Jan/14	0.20 < MDL	µg/L	no
1,2-Dichlorobenzene	28 Jan/14	0.41 < MDL	µg/L	no
1,4-Dichlorobenzene	28 Jan/14	0.36 < MDL	µg/L	no
Dichlorodiphenyltrichloroethane (DDT) + metabolites	30 Jan/14	0.01 < MDL	µg/L	no
1,2-Dichloroethane	28 Jan/14	0.35 < MDL	µg/L	no
1,1-Dichloroethylene (vinylidene chloride)	28 Jan/14	0.33 < MDL	µg/L	no
Dichloromethane	28 Jan/14	0.35 < MDL	µg/L	no
2-4 Dichlorophenol	29 Jan/14	0.15 < MDL	µg/L	no
2,4-Dichlorophenoxy acetic acid (2,4-D)	29 Jan/14	0.19 < MDL	µg/L	no
Diclofop-methyl	29 Jan/14	0.40 < MDL	µg/L	no
Dimethoate	30 Jan/14	0.03 < MDL	µg/L	no
Dinoseb	29 Jan/14	0.36 < MDL	µg/L	no
Diquat	30 Jan/14	1 < MDL	µg/L	no
Diuron	30 Jan/14	0.03 < MDL	µg/L	no
Glyphosate	30 Jan/14	1 < MDL	µg/L	no
Heptachlor + Heptachlor Epoxide	30 Jan/14	0.01 < MDL	µg/L	no
Lindane (Total)	30 Jan/14	0.01 < MDL	µg/L	no
Malathion	30 Jan/14	0.02 < MDL	µg/L	no
Methoxychlor	30 Jan/14	0.01 < MDL	µg/L	no
Metolachlor	30 Jan/14	0.01 < MDL	µg/L	no
Metribuzin	30 Jan/14	0.02 < MDL	µg/L	no
Monochlorobenzene	28 Jan/14	0.3 < MDL	µg/L	no
Paraquat	30 Jan/14	1 < MDL	µg/L	no
Parathion	30 Jan/14	0.02 < MDL	µg/L	no
Pentachlorophenol	29 Jan/14	0.15 < MDL	µg/L	no
Phorate	30 Jan/14	0.01 < MDL	µg/L	no
Picloram	29 Jan/14	1 < MDL	µg/L	no
Polychlorinated Biphenyls(PCB)	29 Jan/14	0.04 < MDL	µg/L	no
Prometryne	30 Jan/14	0.03 < MDL	µg/L	no
Simazine	30 Jan/14	0.01 < MDL	µg/L	no
THM (NOTE: show latest annual average)	Quarterly Average	63	µg/L	no
Temephos	30 Jan/14	0.01 < MDL	µg/L	no
Terbufos	30 Jan/14	0.01 < MDL	µg/L	no
Tetrachloroethylene	28 Jan/14	0.35 < MDL	µg/L	no
2,3,4,6-Tetrachlorophenol	29 Jan/14	0.14 < MDL	µg/L	no
Triallate	30 Jan/14	0.01 < MDL	µg/L	no



Trichloroethylene	28 Jan/14	0.44 < MDL	µg/L	no
2,4,6-Trichlorophenol	29 Jan/14	0.25 < MDL	µg/L	no
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	29 Jan/14	0.22 < MDL	µg/L	no
Trifluralin	30 Jan/14	0.02 < MDL	µg/L	no
Vinyl Chloride	28 Jan/14	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	72	µg/L	24 May/14
Trihalomethanes	63	µg/L	18 Aug/14
Trihalomethanes	72	µg/L	17 Nov/14