

**CITY OF ELLIOT LAKE WATER TREATMENT PLANT 2022 ANNUAL REPORT**

<b>Drinking-Water System Number:</b>	<b>220002789</b>
<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, 2022 - December 31, 2022

<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 classified as a Class 2 direct filtration plant.

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 facility at 200 Spine Road.

The raw water then 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 then continues into the hydraulic spiral flow flocculation tanks and afterwards passes through three rectangular filters with dual media (anthracite/sand). The filtered water is collected in an underdrain system and enters a 2,300 m<sup>3</sup> Clearwell (storage reservoir) on site.

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

Fluoride is also 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.

High Lift pumps pump the now treated water from the Clearwell through a flow meter and into the distribution system. This treated water makes its way to consumers' homes, either directly or from the standpipe storage facilities.

Lime is added to the water as it leaves the plant to aid in the prevention of corrosion in the distribution system. The lime is also used for pH and alkalinity adjustment.

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

Chlorine, Polyaluminum Chloride (PAC), Lime

**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**

1 Rotork Actuator - \$8,000  
 Annual Diesel Load Test - \$3300  
 Fluoride Analyzer - \$5,900  
 Annual Calibrations of Analyzers and Flow Meters - \$6200  
 Backflow Preventers Inspection & Maintenance - \$4,800  
 Maintaining the Distribution System Infrastructure (ie: Flushing & Repairs) - \$67,000

**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
October 21 <sup>st</sup> 2019	Fluoride Analyzer Reading	Analyzer Reading 1.74	Mg/L	Handheld read 0.64 – Fluoride Shut Off	Ongoing
January 3 <sup>rd</sup> 2022	Watermain Repair	Pressure Loss	PSI	Boil Water Advisory – Flush and Two Sets of Samples	January 10 <sup>th</sup> 2022
January 7 <sup>th</sup> 2022	Watermain Repair	Pressure Loss	PSI	Boil Water Advisory – Flush and Two Sets of Samples	January 14 <sup>th</sup> 2022
February 3 <sup>rd</sup> 2022	Watermain Repair	Pressure Loss	PSI	Boil Water Advisory – Flush and Two Sets of Samples	February 10 <sup>th</sup> 2022
February 15 <sup>th</sup> 2022	Watermain Repair	Pressure Loss	PSI	Boil Water Advisory – Flush and Two Sets of Samples	February 22 <sup>nd</sup> 2022
February 16 <sup>th</sup> 2022	Watermain Repair	Pressure Loss	PSI	Boil Water Advisory – Flush and Two Sets of Samples	February 22 <sup>nd</sup> 2022

<b>February 21<sup>st</sup> 2022</b>	Watermain Repair	Pressure Loss	PSI	Boil Water Advisory – Flush and Two Sets of Samples	<b>March 1<sup>st</sup> 2022</b>
<b>March 23<sup>rd</sup> 2022</b>	Watermain Repair	Pressure Loss	PSI	Boil Water Advisory – Flush and Two Sets of Samples	<b>March 29<sup>th</sup> 2022</b>
<b>March 29<sup>th</sup> 2022</b>	Watermain Repair	Pressure Loss	PSI	Boil Water Advisory – Flush and Two Sets of Samples	<b>April 4<sup>th</sup> 2022</b>
<b>April 22<sup>nd</sup> 2022</b>	Watermain Repair	Pressure Loss	PSI	Boil Water Advisory – Flush and Two Sets of Samples	<b>April 28<sup>th</sup> 2022</b>
<b>May 10<sup>th</sup> 2022</b>	Watermain Repair	Pressure Loss	PSI	Boil Water Advisory – Flush and Two Sets of Samples	<b>May 16<sup>th</sup> 2022</b>
<b>May 24<sup>th</sup> 2022</b>	Watermain Repair	Pressure Loss	PSI	Boil Water Advisory – Flush and Two Sets of Samples	<b>June 3<sup>rd</sup> 2022</b>
<b>June 2<sup>nd</sup> 2022</b>	Service Line Repair	Pressure Loss	PSI	Boil Water Advisory – Flush and Two Sets of Samples	<b>June 10<sup>th</sup> 2022</b>
<b>August 8<sup>th</sup> 2022</b>	Auto Flusher Installation	Pressure Loss	PSI	Boil Water Advisory – Flush and Two Sets of Samples	<b>August 17<sup>th</sup> 2022</b>
<b>August 30<sup>th</sup> 2022</b>	Watermain Repair	Pressure Loss	PSI	Boil Water Advisory – Flush and Two Sets of Samples	<b>September 12<sup>th</sup> 2022</b>
<b>September 3<sup>rd</sup> 2022</b>	Sample Result - Microbiological	NDOGT Total Coliform / NDOGT E. Coli	CFU/100 mL	Boil Water Advisory – Two Sets of Samples	<b>September 12<sup>th</sup> 2022</b>
<b>November 7<sup>th</sup> 2022</b>	Water Service Shut Off – Internal Plumbing Replacement	Pressure Loss	PSI	Boil Water Advisory – Flush and Two Sets of Samples	<b>November 25<sup>th</sup> 2022</b>
<b>November 15<sup>th</sup> 2022</b>	Watermain Repair	Pressure Loss	PSI	Boil Water Advisory – Flush and Two Sets of Samples	<b>November 25<sup>th</sup> 2022</b>
<b>November 24<sup>th</sup> 2022</b>	Valve Replacement	Pressure Loss	PSI	Boil Water Advisory – Flush and Two Sets of Samples	<b>December 2<sup>nd</sup> 2022</b>
<b>November 26<sup>th</sup> 2022</b>	Watermain Repair	Pressure Loss	PSI	Boil Water Advisory – Flush and Two Sets of Samples	<b>December 2<sup>nd</sup> 2022</b>
<b>December 21<sup>st</sup> 2022</b>	Watermain Repair	Pressure Loss	PSI	Boil Water Advisory – Flush and Two Sets of Samples	<b>December 28<sup>th</sup> 2022</b>
<b>December 22<sup>nd</sup> 2022</b>	Watermain Repair	Pressure Loss	PSI	Boil Water Advisory – Flush and Two Sets of Samples	<b>January 3<sup>rd</sup> 2023</b>
<b>December 29<sup>th</sup> 2022</b>	Watermain Repair	Pressure Loss	PSI	Boil Water Advisory – Flush and Two Sets of Samples	<b>January 6<sup>th</sup> 2023</b>
<b>December 29<sup>th</sup> 2022</b>	Watermain Repair	Pressure Loss	PSI	Boil Water Advisory – Flush and Two Sets of Samples	<b>January 6<sup>th</sup> 2023</b>

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 #)
Raw	53	0 – 2	0 - 19	N/A	N/A
Treated	53	N/D	N/D	53	0 – 10
Distribution	301	N/D	N/D	102	0 – 10

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	0.05 – 3.00	NTU
Chlorine	8760	0.87 – 1.93	mg/L
Fluoride	8760	0.00 – 2.00	mg/L

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

**Note: The Fluoride has been offline since October 21<sup>st</sup> 2019.**

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 Discharge Suspended Solids	January 30 <sup>th</sup> , 2022	8	mg/L
		February 1 <sup>st</sup> , 2022	5	mg/L
		March 22 <sup>nd</sup> , 2022	1	mg/L
		April 4 <sup>th</sup> , 2022	2	mg/L
		May 2 <sup>nd</sup> , 2022	3	mg/L
		June 7 <sup>th</sup> , 2022	2	mg/L
		July 21 <sup>st</sup> , 2022	11	mg/L
		August 28 <sup>th</sup> , 2022	14	mg/L
		September 19 <sup>th</sup> , 2022	11	mg/L
		October 6 <sup>th</sup> , 2022	4	mg/L
		November 2 <sup>nd</sup> , 2022	5	mg/L
December 7 <sup>th</sup> , 2022	7	mg/L		

The Annual Clarifier Discharge Suspended Solids average for 2022 is 6.1 mg/L

Date of legal instrument issued	Parameter	Date Sampled	Result	Unit of Measure
Municipal Drinking Water License 208-101 March 25 <sup>th</sup> , 2022	Clarifier Discharge Total Chlorine Residual	March 22 <sup>nd</sup> , 2022	0.02	mg/L
		April 4 <sup>th</sup> , 2022	0.02	mg/L
		May 2 <sup>nd</sup> , 2022	0.03	mg/L
		June 7 <sup>th</sup> , 2022	0.03	mg/L
		July 21 <sup>st</sup> , 2022	0.05	mg/L
		August 28 <sup>th</sup> , 2022	0.03	mg/L
		September 19 <sup>th</sup> , 2022	0.01	mg/L
		October 6 <sup>th</sup> , 2022	0.02	mg/L
		November 2 <sup>nd</sup> , 2022	0.02	mg/L
		December 7 <sup>th</sup> , 2022	0.01	mg/L
				mg/L

The Annual Clarifier Discharge Total Chlorine Residual average for 2022 is 0.02 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	January 5 <sup>th</sup> 2022	0.06 <MDL	µg/L	no
Arsenic	January 5 <sup>th</sup> 2022	0.2 <MDL	µg/L	no
Barium	January 5 <sup>th</sup> 2022	11.5	µg/L	no
Boron	January 5 <sup>th</sup> 2022	10	µg/L	no
Cadmium	January 5 <sup>th</sup> 2022	0.006	µg/L	no
Chromium	January 5 <sup>th</sup> 2022	0.15	µg/L	no
*Lead	not applicable for this reporting period			
Mercury	January 5 <sup>th</sup> 2022	0.01 <MDL	µg/L	no
Selenium	January 5 <sup>th</sup> 2022	0.06	µg/L	no
Sodium	8 January 2020	9.91	mg/L	no
Uranium	January 5 <sup>th</sup> 2022	0.071	µg/L	no
Fluoride	8 January 2020	0.06 <MDL	mg/L	no
Nitrite	Annual Average	0.003 <MDL	mg/L	no
Nitrate	Annual Average	0.09	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	8	0.07 – 2.56	µg/L	None

**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	January 5 <sup>th</sup> 2022	0.02 <MDL	µg/L	no
Atrazine	January 5 <sup>th</sup> 2022	0.01 <MDL	µg/L	no
Aldrin + Dieldrin	27 June 2018	0.01 <MDL	µg/L	no
Atrazine + N-dealkylated metabolites	January 5 <sup>th</sup> 2022	0.01 <MDL	µg/L	no
Azinphos-methyl	January 5 <sup>th</sup> 2022	0.05 <MDL	µg/L	no
Bendiocarb	27 June 2018	0.01 <MDL	µg/L	no
Benzene	January 5 <sup>th</sup> 2022	0.32 <MDL	µg/L	no
Benzo(a)pyrene	January 5 <sup>th</sup> 2022	0.004 <MDL	µg/L	no
Bromoxynil	January 5 <sup>th</sup> 2022	0.33 <MDL	µg/L	no
Carbaryl	January 5 <sup>th</sup> 2022	0.05 <MDL	µg/L	no
Carbofuran	January 5 <sup>th</sup> 2022	0.01 <MDL	µg/L	no
Carbon Tetrachloride	January 5 <sup>th</sup> 2022	0.17 <MDL	µg/L	no
Chlordane (Total)	27 June 2018	0.01 <MDL	µg/L	no
Chlorpyrifos	January 5 <sup>th</sup> 2022	0.02 <MDL	µg/L	no
Cyanazine	27 June 2018	0.03 <MDL	µg/L	no
Diazinon	January 5 <sup>th</sup> 2022	0.02 <MDL	µg/L	no
Dicamba	January 5 <sup>th</sup> 2022	0.20 <MDL	µg/L	no
1,2-Dichlorobenzene	January 5 <sup>th</sup> 2022	0.41 <MDL	µg/L	no
1,4-Dichlorobenzene	January 5 <sup>th</sup> 2022	0.36 <MDL	µg/L	no
Dichlorodiphenyltrichloroethane (DDT) + metabolites	27 June 2018	0.01 < MDL	µg/L	no
1,2-Dichloroethane	January 5 <sup>th</sup> 2022	0.35 <MDL	µg/L	no
1,1-Dichloroethylene (vinylidene chloride)	January 5 <sup>th</sup> 2022	0.33 <MDL	µg/L	no
Dichloromethane	January 5 <sup>th</sup> 2022	0.35 <MDL	µg/L	no
2-4 Dichlorophenol	January 5 <sup>th</sup> 2022	0.15 <MDL	µg/L	no
2,4-Dichlorophenoxyacetic acid (2,4-D)	January 5 <sup>th</sup> 2022	0.19 <MDL	µg/L	no
Diclofop-methyl	January 5 <sup>th</sup> 2022	0.40 <MDL	µg/L	no
Dimethoate	January 5 <sup>th</sup> 2022	0.06 <MDL	µg/L	no

Desethyl atrazine	January 5 <sup>th</sup> 2022	0.01 <MDL	µg/L	no
Diquat	January 5 <sup>th</sup> 2022	1 <MDL	µg/L	no
Diuron	January 5 <sup>th</sup> 2022	0.03 <MDL	µg/L	no
Glyphosate	January 5 <sup>th</sup> 2022	1 <MDL	µg/L	no
Heptachlor + Heptachlor Epoxide	27 June 2018	0.01 < MDL	µg/L	no
Lindane (Total)	27 June 2018	0.01 < MDL	µg/L	no
Malathion	January 5 <sup>th</sup> 2022	0.02 <MDL	µg/L	no
Methoxychlor	27 June 2018	0.01 < MDL	µg/L	no
Metolachlor	January 5 <sup>th</sup> 2022	0.01 <MDL	µg/L	no
Metribuzin	January 5 <sup>th</sup> 2022	0.02 <MDL	µg/L	no
Monochlorobenzene	January 5 <sup>th</sup> 2022	0.3 <MDL	µg/L	no
Paraquat	January 5 <sup>th</sup> 2022	1 <MDL	µg/L	no
Parathion	27 June 2018	0.02 < MDL	µg/L	no
Pentachlorophenol	January 5 <sup>th</sup> 2022	0.15 <MDL	µg/L	no
Phorate	January 5 <sup>th</sup> 2022	0.01 <MDL	µg/L	no
Picloram	January 5 <sup>th</sup> 2022	1 <MDL	µg/L	no
Polychlorinated Biphenyls (PCB)	January 5 <sup>th</sup> 2022	0.04 <MDL	µg/L	no
Prometryne	January 5 <sup>th</sup> 2022	0.03 <MDL	µg/L	no
Simazine	January 5 <sup>th</sup> 2022	0.01 <MDL	µg/L	no
THM (Annual Average)	Annual Average	48	µg/L	no
Total Haloacetic Acids (HAA5)	Annual Average	35.3	µg/L	no
MCPA	January 5 <sup>th</sup> 2022	0.00012 <MDL	µg/L	no
Temephos	27 June 2018	0.01 < MDL	µg/L	no
Terbufos	January 5 <sup>th</sup> 2022	0.01 <MDL	µg/L	no
Tetrachloroethylene	January 5 <sup>th</sup> 2022	0.35 <MDL	µg/L	no
2,3,4,6-Tetrachlorophenol	January 5 <sup>th</sup> 2022	0.20 <MDL	µg/L	no
Triallate	January 5 <sup>th</sup> 2022	0.01 <MDL	µg/L	no
Trichloroethylene	January 5 <sup>th</sup> 2022	0.44 <MDL	µg/L	no
2,4,6-Trichlorophenol	January 5 <sup>th</sup> 2022	0.25 <MDL	µg/L	no
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	27 June 2018	0.22 < MDL	µg/L	no
Trifluralin	January 5 <sup>th</sup> 2022	0.02 <MDL	µg/L	no
Vinyl Chloride	January 5 <sup>th</sup> 2022	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
			N/A