Drinking-Water System Number:	210000871
Drinking-Water System Name:	**Elgin Area Primary Water Supply System**
Drinking-Water System Owner:	Elgin Area Primary Water Supply System Joint Board of Management
Drinking-Water System Operating Authority:	Ontario Clean Water Agency (OCWA)
Drinking-Water System Category:	Large Municipal Residential
Period being reported:	January 1, 2015 through December 31, 2015

Complete if your Category is Large Municipal Residential or Small Municipal Residential

Does your Drinking-Water System serve more than 10,000 people? Yes [X] No [ ]

Is your annual report available to the public at no charge on a web site on the Internet? Yes [X] No [ ]

Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.

Lake Huron and Elgin Area Water Supply Systems
c/o Regional Water Supply Division
235 North Centre Road, Suite 200
London, ON N5X 4E7
http://www.watersupply.london.ca

Elgin Area Water Treatment Plant
43665 Dexter Line, Union, ON

Complete for all other Categories.

Number of Designated Facilities served:

N/A

Did you provide a copy of your annual report to all Designated Facilities you serve?
Yes [ ] No [ ]

Number of Interested Authorities you report to: N/A

Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility?
Yes [ ] No [ ]

List all Drinking-Water Systems (if any), which receive all of their drinking water from your system:
Systems that receive their drinking water directly from the EAPWSS:

Drinking Water System Name	Drinking Water System Number
City of London Distribution System	260004917
St. Thomas Area Secondary Water Supply System	260078897
Aylmer Area Secondary Water Supply System	260004722
Port Burwell Secondary Water Supply System	260004735
Municipality of Central Elgin	260004761
St. Thomas Distribution System	260002187

Systems that receive their drinking water indirectly from the EAPWSS:

Drinking Water System Name	Drinking Water System Number
Aylmer Distribution System	260002136
Malahide Distribution System	260004774
Dutton/Dunwich Distribution System	220002967
Municipality of Bayham	260004748
Southwold Distribution System	210001362
Ontario Police College Distribution System	260002161
St. Thomas Psychiatric Hospital Distribution Supply	260005255

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 [X] No [ ]

Indicate how you notified system users that your annual report is available, and is free of charge.

[X] Public access/notice via the web
[X] Public access/notice via Government Office
[ ] Public access/notice via a newspaper
[X] Public access/notice via Public Request
[ ] Public access/notice via a Public Library
[X] Public access/notice via other method ____News Release

Describe your Drinking-Water System

The Elgin Area Primary Water Supply System employs pre-chlorination, screening, process pH adjustment (utilizing carbon dioxide), powder activated carbon addition (seasonally on an as-required basis), coagulation, flocculation, sedimentation, dual-media filtration, UV disinfection, post-chlorination, final pH adjustment (utilizing sodium hydroxide) and fluoridation to treat raw water obtained from Lake Erie. The WTP has a rated capacity of 91 ML/day (MLD). Water is pumped from the plant through two 750 mm and 900mm diameter water mains to various communities en route to the Elgin-Middlesex terminal reservoir located northeast of St. Thomas in the Municipality of Central Elgin. The drinking water system is monitored at various locations throughout the system via a Supervisory Control and Data Acquisition (SCADA) system.

List all water treatment chemicals used over this reporting period

Carbon Dioxide
Aluminum Sulphate
Cationic Polymer
Powder Activated Carbon
Chlorine Gas
Hydrofluosilicic Acid
Sodium Hydroxide

Were any significant expenses incurred to?

[X] Install required equipment
[X] Repair required equipment
[X] Replace required equipment

Please provide a brief description and a breakdown of monetary expenses incurred

Capital Projects:

- Replaced low lift cooling coil valves and new building automation system to control the cooling system
- Replaced drain piping in lower filter gallery
- Replaced on-line analytical equipment particle counters filters and settled water
- Replaced two flash mixers
- Replaced travelling screens #1 and #2
- Replaced Motor and VFD for grit pump
- Various SCADA modifications and improvements
- Replace 5 kv UPS switchgear chargers
- Roof replacement filter building
- Install air conditioner unit electrical room
- Connect server room Air conditioner power to emergency power source
- Retrofit chlorine Zebra control system to chorine gas system
- SCADA virtual server replacement

Maintenance Projects:

- Implemented flood alarms on various B Pipeline chambers
- Extended sidewalk at surge building
- Replace chlorine building louver actuators
- Repaired and replaced filter actuator starters
- Replaced air relief valve and repaired pipe stub at valve house
- Removed various old control cabling, air systems and non-current equipment
- Replaced service water pipe support brackets in settling tanks
- Rebuilt grit pump
- Inspected and determined condition of backup 5 kv feeder to low lift
- Replace security camera at low lift and filter building
- Replacement actuators on B Pipeline
- Cleaning of filter conduit and future pipe connection repair
- Repair low lift road catch basins
- CCTV inspections of B Pipeline valves
- Low Lift well cleaning
- Major preventive maintenance on various pumps and valves
- Annual calibrations
- Major preventive maintenance on UV reactors
- Rebuild air control valves surge tanks
- Major preventive maintenance on chlorine feed systems
- Annual filter preventive maintenance
- Replace air relief valves High Lift and Low Lift pumps

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 Report Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
April 14, 2015	Fluoride	>1.50	mg/L	Fluoride system was turned off and WTP was offline for 3 hrs and 15 minutes. Fluoride was at 1.17mg/L upon WTP start-up.	April 14, 2015
June 25, 2015	*Turbidity	*0.3	NTU	Shut down plant. Inspected blind flange. Repaired seal around blind flange. Flushed the filtered water conduit. Bacti samples collected	June 25, 2015

PLEASE NOTE:
**No Adverse result. During construction work related to the new Residuals Management Facility (RMF), a problem was encountered in which a blind flange located in the filtered water conduit was leaking and required an emergency repair. The incident caused the plant treated water turbidity to exceed the normal range. The adverse water quality incident report was considered "precautionary" as technically the regulatory requirements were met. However the system was in an abnormal operating scenario and undergoing an emergency repair so the operating authority felt it was prudent to report as a precaution in case the situation escalated or a later detailed review determined that there had been any adverse results.*

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 Results (counts/100 mL) (min #)-(max #)	Range of Total Coliform Results (counts/100 mL) (min #)-(max #)	Range of HPC Results (counts/1 mL) (min #)-(max #)
Raw Water	104	(0)-(350)	(0)-(20,200)	(<10)-(>2,000)
Treated Water (WTP)	265	(0)-(0)	(0)-(0)	(<10)-(>2,000)
Distribution (EMPS Valve House & Fruitridge Surge Facility)	160	(0)-(0)	(0)-(0)	(<10)-(340)

Operational testing done under Schedule 7, 8 or 9 of Regulation 170/03 during the period covered by this Annual Report.

Parameter	Number of Grab Samples	Range of Results (min #)-(max #)
Treated Water Free Chlorine (mg/L)	Continuous Monitoring	(0.43)-(1.93)
	2070	(0.75)-(1.52)
Treated Water Turbidity (NTU)	Continuous Monitoring	(0.003)-(2.00)
	2068	(0.007)-(0.441)
Treated Water Fluoride (mg/L)	Continuous Monitoring	(0.00)-(1.58)
	637	(0.00)-(0.92)
Filter #1 - Filtered Water Turbidity (NTU)	Continuous Monitoring	(0.003)-(2.00)
Filter #2 - Filtered Water Turbidity (NTU)	Continuous Monitoring	(0.004)-(2.00)
Filter #3 - Filtered Water Turbidity (NTU)	Continuous Monitoring	(0.015)-(2.00)
Filter #4 - Filtered Water Turbidity (NTU)	Continuous Monitoring	(0.019)-(1.84)
Combined Filtered Water Turbidity (NTU)	2085	(0.036)-(0.099)

NOTE:
Turbidity spikes above 1.00 NTU on filtered and treated water coincide with instrument calibrations, instrument flushing, pump start-ups, or maintenance. Filter effluent turbidity spikes did not exceed fifteen minutes on any of the filters.

Summary of Inorganic parameters tested during this reporting period
*(*All tests were conducted on treated water leaving the WTP unless otherwise noted)*

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	January 13, 2015 August 4, 2015	0.04 0.13	µg/L µg/L	NO
Arsenic	January 13, 2015 August 4, 2015	0.4 0.3	µg/L µg/L	NO
Barium	January 13, 2015 August 4, 2015	17.9 21.1	µg/L µg/L	NO
Boron	January 13, 2015 August 4, 2015	20.7 26.4	µg/L µg/L	NO
Cadmium	January 13, 2015 August 4, 2015	0.009 0.037	µg/L µg/L	NO
Chromium	January 13, 2015 August 4, 2015	0.06 0.05	µg/L µg/L	NO
Lead *(EMPS Valve House)*	January 13, 2015 July 7, 2015	Not Detected 0.03	µg/L µg/L	NO
Mercury	January 13, 2015 August 4, 2015	Not Detected Not Detected	µg/L µg/L	NO
Selenium	January 13, 2015 August 4, 2015	Not Detected 0.13	µg/L µg/L	NO
Sodium	January 13, 2015 April 9, 2015 July 7, 2015 October 6, 2015	16.0 16.9 18.1 19.0	mg/L mg/L mg/L mg/L	NO

Uranium	January 13, 2015 August 4, 2015	0.041 0.046	µg/L µg/L	NO
Nitrite	January 2015 April 7, 2015 July 7, 2015 October 6, 2015	Not Tested Not Detected Not Detected Not Detected	mg/L mg/L mg/L mg/L	NO
Nitrate	January 2015 April 7, 2015 July 7, 2015 October 6, 2015	Not Tested 0.278 0.749 0.112	mg/L mg/L mg/L mg/L	NO

Summary of Organic parameters sampled during this reporting period

*(*All tests were conducted on treated water leaving the WTP unless otherwise noted)*

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	January 13, 2015 August 4, 2015	Not Detected Not Detected	µg/L µg/L	NO
Aldicarb	January 13, 2015 August 4, 2015	Not Detected Not Detected	µg/L µg/L	NO
Aldrin + Dieldrin	January 13, 2015 August 4, 2015	Not Detected Not Detected	µg/L µg/L	NO
Atrazine + N-dealkylated metobolites	January 13, 2015 August 4, 2015	0.07 0.06	µg/L µg/L	NO
Azinphos-methyl	January 13, 2015 August 4, 2015	Not Detected Not Detected	µg/L µg/L	NO
Bendiocarb	January 13, 2015 August 4, 2015	Not Detected Not Detected	µg/L µg/L	NO
Benzene	January 13, 2015 August 4, 2015	Not Detected Not Detected	µg/L µg/L	NO
Benzo(a)pyrene	January 13, 2015 August 4, 2015	Not Detected Not Detected	µg/L µg/L	NO
Bromoxynil	January 13, 2015 August 4, 2015	Not Detected Not Detected	µg/L µg/L	NO
Carbaryl	January 13, 2015 August 4, 2015	Not Detected Not Detected	µg/L µg/L	NO
Carbofuran	January 13, 2015 August 4, 2015	Not Detected Not Detected	µg/L µg/L	NO
Carbon Tetrachloride	January 13, 2015 August 4, 2015	Not Detected Not Detected	µg/L µg/L	NO
Chlordane (Total)	January 13, 2015 August 4, 2015	Not Detected Not Detected	µg/L µg/L	NO
Chlorpyrifos	January 13, 2015 August 4, 2015	Not Detected Not Detected	µg/L µg/L	NO
Cyanazine	January 13, 2015 August 4, 2015	Not Detected Not Detected	µg/L µg/L	NO

Diazinon	January 13, 2015 August 4, 2015	Not Detected Not Detected	µg/L µg/L	NO
Dicamba	January 13, 2015 August 4, 2015	Not Detected Not Detected	µg/L µg/L	NO
1,2-Dichlorobenzene	January 13, 2015 August 4, 2015	Not Detected Not Detected	µg/L µg/L	NO
1,4-Dichlorobenzene	January 13, 2015 August 4, 2015	Not Detected Not Detected	µg/L µg/L	NO
Dichlorodiphenyltrichloroethane (DDT) + metabolites	January 13, 2015 August 4, 2015	Not Detected Not Detected	µg/L µg/L	NO
1,2-Dichloroethane	January 13, 2015 August 4, 2015	Not Detected Not Detected	µg/L µg/L	NO
1,1-Dichloroethylene (vinylidene chloride)	January 13, 2015 August 4, 2015	Not Detected Not Detected	µg/L µg/L	NO
Dichloromethane	January 13, 2015 August 4, 2015	Not Detected Not Detected	µg/L µg/L	NO
2-4 Dichlorophenol	January 13, 2015 August 4, 2015	Not Detected Not Detected	µg/L µg/L	NO
2,4-Dichlorophenoxy acetic acid (2,4-D)	January 13, 2015 August 4, 2015	Not Detected Not Detected	µg/L µg/L	NO
Diclofop-methyl	January 13, 2015 August 4, 2015	Not Detected Not Detected	µg/L µg/L	NO
Dimethoate	January 13, 2015 August 4, 2015	Not Detected Not Detected	µg/L µg/L	NO
Dinoseb	January 13, 2015 August 4, 2015	Not Detected Not Detected	µg/L µg/L	NO
Diquat	January 13, 2015 August 4, 2015	Not Detected Not Detected	µg/L µg/L	NO
Diuron	January 13, 2015 August 4, 2015	Not Detected Not Detected	µg/L µg/L	NO
Glyphosate	January 13, 2015 August 4, 2015	Not Detected Not Detected	µg/L µg/L	NO
Heptachlor + Heptachlor Epoxide	January 13, 2015 August 4, 2015	Not Detected Not Detected	µg/L µg/L	NO
Lindane (Total)	January 13, 2015 August 4, 2015	Not Detected Not Detected	µg/L µg/L	NO
Malathion	January 13, 2015 August 4, 2015	Not Detected Not Detected	µg/L µg/L	NO
Methoxychlor	January 13, 2015 August 4, 2015	Not Detected Not Detected	µg/L µg/L	NO
Metolachlor	January 13, 2015 August 4, 2015	0.01 Not Detected	µg/L µg/L	NO
Metribuzin	January 13, 2015 August 4, 2015	Not Detected Not Detected	µg/L µg/L	NO
Monochlorobenzene	January 13, 2015 August 4, 2015	Not Detected Not Detected	µg/L µg/L	NO

Paraquat	January 13, 2015 August 4, 2015	Not Detected Not Detected	µg/L µg/L	NO
Parathion	January 13, 2015 August 4, 2015	Not Detected Not Detected	µg/L µg/L	NO
Pentachlorophenol	January 13, 2015 August 4, 2015	Not Detected Not Detected	µg/L µg/L	NO
Phorate	January 13, 2015 August 4, 2015	Not Detected Not Detected	µg/L µg/L	NO
Picloram	January 13, 2015 August 4, 2015	Not Detected Not Detected	µg/L µg/L	NO
Polychlorinated Biphenyls(PCB)	January 13, 2015 August 4, 2015	Not Detected Not Detected	µg/L µg/L	NO
Prometryne	January 13, 2015 August 4, 2015	Not Detected Not Detected	µg/L µg/L	NO
Simazine	January 13, 2015 August 4, 2015	Not Detected Not Detected	µg/L µg/L	NO
Total Trihalomethanes *(EMPS Valve House)*	January 13, 2015 April 7, 2015 July 7, 2015 October 6, 2015	9.2 14 19 14	µg/L µg/L µg/L µg/L	NO
Temephos	January 13, 2015 August 4, 2015	Not Detected Not Detected	µg/L µg/L	NO
Terbufos	January 13, 2015 August 4, 2015	Not Detected Not Detected	µg/L µg/L	NO
Tetrachloroethylene	January 13, 2015 August 4, 2015	Not Detected Not Detected	µg/L µg/L	NO
2,3,4,6-Tetrachlorophenol	January 13, 2015 August 4, 2015	Not Detected Not Detected	µg/L µg/L	NO
Triallate	January 13, 2015 August 4, 2015	Not Detected Not Detected	µg/L µg/L	NO
Trichloroethylene	January 13, 2015 August 4, 2015	Not Detected Not Detected	µg/L µg/L	NO
2,4,6-Trichlorophenol	January 13, 2015 August 4, 2015	Not Detected Not Detected	µg/L µg/L	NO
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	January 13, 2015 August 4, 2015	Not Detected Not Detected	µg/L µg/L	NO
Trifluralin	January 13, 2015 August 4, 2015	Not Detected Not Detected	µg/L µg/L	NO
Vinyl Chloride	January 13, 2015 August 4, 2015	Not Detected Not Detected	µg/L µg/L	NO

NOTE: *During 2015, no Inorganic or Organic parameter(s) exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards.*