



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, 2014 through December 31, 2014

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 ☒ No ☐

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

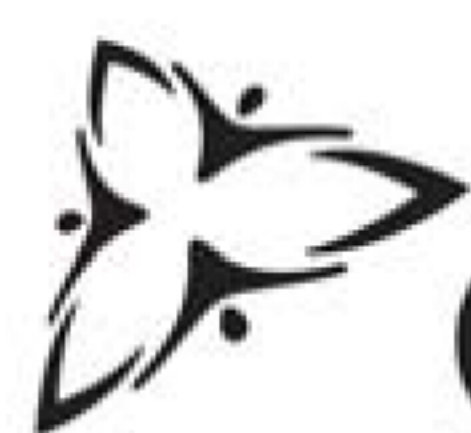
☒ Public access/notice via Public Request

☐ Public access/notice via a Public Library

☒ Public access/notice via other method 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

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

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

Capital Projects:

- Residuals Management Facility (RMF) - under construction
- Low lift service water line replacement
- Raw water line check valve replacement
- Replacement of 150m of asbestos cement pipe with PVC pipe
- Phone system upgrade
- Chlorine system upgrade for zebra mussel control - under construction
- Server replacement upgrade - in process
- Field Control Devices Study
- Energy Audit and Pump Optimization Study
- Roof replacement – low lift, surge building and valve house building
- Uninterruptible Power Supply (UPS) replacement
- 2014 instrumentation replacement plan

Maintenance Projects:

- Building Automation System (BAS) control system upgrade for remote buildings and plant areas
- Cement sidewalk replacement
- Generator cooling system repair
- Installation of additional heating capacity for generator building
- UV System major preventive maintenance
- Filter annual preventive maintenance
- Low Lift Well cleaning and intake inspections
- Update alarm coding structure within SCADA
- Chamber maintenance
- Connection removal in chamber P035A
- Cathodic protection survey on B Pipeline
- Replace shaft on gate valve P039B



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
NA	NA	NA	NA	NA.	NA

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)-(300)	(0)-(44,000)	(<10)-(>2000)
Treated Water (WTP)	259	(0)-(0)	(0)-(0)	(0)-(400)
Distribution (EMPS Valve House & Fruitridge Surge Facility)	160	(0)-(0)	(0)-(0)	(1)-(20)

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	(0.23)-(2.24)
	2123	(0.80)-(1.64)
Treated Water Turbidity (NTU)	Continuous Monitoring	(0.002)-(2.00)
	2124	(0.006)-(0.123)
Treated Water Fluoride (mg/L)	Continuous Monitoring	(0.13)-(1.19)
	709	(0.09)-(0.84)
Filter #1 - Filtered Water Turbidity (NTU)	Continuous Monitoring	(0.005)-(2.00)
Filter #2 - Filtered Water Turbidity (NTU)	Continuous Monitoring	(0.006)-(2.00)
Filter #3 - Filtered Water Turbidity (NTU)	Continuous Monitoring	(0.021)-(2.00)
Filter #4 - Filtered Water Turbidity (NTU)	Continuous Monitoring	(0.010)-(2.00)
Combined Filtered Water Turbidity (NTU)	2124	(0.034)-(0.163)

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 7, 2014 August 5, 2014	Not Detected 0.04	µg/L µg/L	NO
Arsenic	January 7, 2014 August 5, 2014	0.5 0.6	µg/L µg/L	NO
Barium	January 7, 2014 August 5, 2014	20.4 19.0	µg/L µg/L	NO
Boron	January 7, 2014 August 5, 2014	21.0 19.4	µg/L µg/L	NO
Cadmium	January 7, 2014 August 5, 2014	Not Detected 0.003	µg/L µg/L	NO
Chromium	January 7, 2014 August 5, 2014	Not Detected 0.30	µg/L µg/L	NO
Lead (EMPS Valve House)	January 7, 2014 August 5, 2014	Not Detected 0.04	µg/L µg/L	NO
Mercury	January 7, 2014 August 5, 2014	Not Detected Not Detected	µg/L µg/L	NO
Selenium	January 7, 2014 August 5, 2014	Not Detected Not Detected	µg/L µg/L	NO
Sodium	January 7, 2014 April 11, 2014 July 11, 2014 October 10, 2014	*24.2 *27.1 16.2 16.4	mg/L mg/L mg/L mg/L	YES
Uranium	January 7, 2014 August 5, 2014	0.017 0.043	µg/L µg/L	NO
Nitrite	January 7, 2014 April 8, 2014 July 8, 2014 October 10, 2014	Not Detected Not Detected Not Detected Not Detected	mg/L mg/L mg/L mg/L	NO
Nitrate	January 7, 2014 April 8, 2014 July 8, 2014 October 10, 2014	1.52 0.359 0.084 0.132	mg/L mg/L mg/L mg/L	NO

NOTE:

* Sodium was reported to the Spills Action Centre as an AWQI on June 19, 2013. Sodium is required to be sampled a minimum of once every 60 months, and an AWQI report is only required if a report has not been made in the preceding 57 months.



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 7, 2014 August 5, 2014	Not Detected Not Detected	µg/L µg/L	NO
Aldicarb	January 7, 2014 August 5, 2014	Not Detected Not Detected	µg/L µg/L	NO
Aldrin + Dieldrin	January 7, 2014 August 5, 2014	Not Detected Not Detected	µg/L µg/L	NO
Atrazine + N-dealkylated metabolites	January 7, 2014 August 5, 2014	0.09 0.05	µg/L µg/L	NO
Azinphos-methyl	January 7, 2014 August 5, 2014	Not Detected Not Detected	µg/L µg/L	NO
Bendiocarb	January 7, 2014 August 5, 2014	Not Detected Not Detected	µg/L µg/L	NO
Benzene	January 7, 2014 August 5, 2014	Not Detected Not Detected	µg/L µg/L	NO
Benzo(a)pyrene	January 7, 2014 August 5, 2014	Not Detected Not Detected	µg/L µg/L	NO
Bromoxynil	January 7, 2014 August 5, 2014	Not Detected Not Detected	µg/L µg/L	NO
Carbaryl	January 7, 2014 August 5, 2014	Not Detected Not Detected	µg/L µg/L	NO
Carbofuran	January 7, 2014 August 5, 2014	Not Detected Not Detected	µg/L µg/L	NO
Carbon Tetrachloride	January 7, 2014 August 5, 2014	Not Detected Not Detected	µg/L µg/L	NO
Chlordane (Total)	January 7, 2014 August 5, 2014	Not Detected Not Detected	µg/L µg/L	NO
Chlorpyrifos	January 7, 2014 August 5, 2014	Not Detected Not Detected	µg/L µg/L	NO
Cyanazine	January 7, 2014 August 5, 2014	Not Detected Not Detected	µg/L µg/L	NO
Diazinon	January 7, 2014 August 5, 2014	Not Detected Not Detected	µg/L µg/L	NO
Dicamba	January 7, 2014 August 5, 2014	Not Detected Not Detected	µg/L µg/L	NO
1,2-Dichlorobenzene	January 7, 2014 August 5, 2014	Not Detected Not Detected	µg/L µg/L	NO
1,4-Dichlorobenzene	January 7, 2014 August 5, 2014	Not Detected Not Detected	µg/L µg/L	NO
Dichlorodiphenyltrichloroethane (DDT) + metabolites	January 7, 2014 August 5, 2014	Not Detected Not Detected	µg/L µg/L	NO
1,2-Dichloroethane	January 7, 2014 August 5, 2014	Not Detected Not Detected	µg/L µg/L	NO
1,1-Dichloroethylene (vinylidene chloride)	January 7, 2014 August 5, 2014	Not Detected Not Detected	µg/L µg/L	NO
Dichloromethane	January 7, 2014 August 5, 2014	Not Detected Not Detected	µg/L µg/L	NO
2-4 Dichlorophenol	January 7, 2014 August 5, 2014	Not Detected Not Detected	µg/L µg/L	NO



2,4-Dichlorophenoxy acetic acid (2,4-D)	January 7, 2014 August 5, 2014	Not Detected Not Detected	µg/L µg/L	NO
Diclofop-methyl	January 7, 2014 August 5, 2014	Not Detected Not Detected	µg/L µg/L	NO
Dimethoate	January 7, 2014 August 5, 2014	Not Detected Not Detected	µg/L µg/L	NO
Dinoseb	January 7, 2014 August 5, 2014	Not Detected Not Detected	µg/L µg/L	NO
Diquat	January 7, 2014 August 5, 2014	Not Detected Not Detected	µg/L µg/L	NO
Diuron	January 7, 2014 August 5, 2014	Not Detected Not Detected	µg/L µg/L	NO
Glyphosate	January 7, 2014 August 5, 2014	Not Detected Not Detected	µg/L µg/L	NO
Heptachlor + Heptachlor Epoxide	January 7, 2014 August 5, 2014	Not Detected Not Detected	µg/L µg/L	NO
Lindane (Total)	January 7, 2014 August 5, 2014	Not Detected Not Detected	µg/L µg/L	NO
Malathion	January 7, 2014 August 5, 2014	Not Detected Not Detected	µg/L µg/L	NO
Methoxychlor	January 7, 2014 August 5, 2014	Not Detected Not Detected	µg/L µg/L	NO
Metolachlor	January 7, 2014 August 5, 2014	0.01 Not Detected	µg/L µg/L	NO
Metribuzin	January 7, 2014 August 5, 2014	Not Detected Not Detected	µg/L µg/L	NO
Monochlorobenzene	January 7, 2014 August 5, 2014	Not Detected Not Detected	µg/L µg/L	NO
Paraquat	January 7, 2014 August 5, 2014	Not Detected Not Detected	µg/L µg/L	NO
Parathion	January 7, 2014 August 5, 2014	Not Detected Not Detected	µg/L µg/L	NO
Pentachlorophenol	January 7, 2014 August 5, 2014	Not Detected Not Detected	µg/L µg/L	NO
Phorate	January 7, 2014 August 5, 2014	Not Detected Not Detected	µg/L µg/L	NO
Picloram	January 7, 2014 August 5, 2014	Not Detected Not Detected	µg/L µg/L	NO
Polychlorinated Biphenyls(PCB)	January 7, 2014 August 5, 2014	Not Detected Not Detected	µg/L µg/L	NO
Prometryne	January 7, 2014 August 5, 2014	Not Detected Not Detected	µg/L µg/L	NO
Simazine	January 7, 2014 August 5, 2014	Not Detected Not Detected	µg/L µg/L	NO
Total Trihalomethanes (EMPS Valve House)	January 7, 2014 April 8, 2014 July 8, 2014 October 7, 2014	9.6 17 25 17	µg/L µg/L µg/L µg/L	NO
Temephos	January 7, 2014 August 5, 2014	Not Detected Not Detected	µg/L µg/L	NO
Terbufos	January 7, 2014 August 5, 2014	Not Detected Not Detected	µg/L µg/L	NO



Tetrachloroethylene	January 7, 2014 August 5, 2014	Not Detected Not Detected	µg/L µg/L	NO
2,3,4,6-Tetrachlorophenol	January 7, 2014 August 5, 2014	Not Detected Not Detected	µg/L µg/L	NO
Triallate	January 7, 2014 August 5, 2014	Not Detected Not Detected	µg/L µg/L	NO
Trichloroethylene	January 7, 2014 August 5, 2014	Not Detected Not Detected	µg/L µg/L	NO
2,4,6-Trichlorophenol	January 7, 2014 August 5, 2014	Not Detected Not Detected	µg/L µg/L	NO
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	January 7, 2014 August 5, 2014	Not Detected Not Detected	µg/L µg/L	NO
Trifluralin	January 7, 2014 August 5, 2014	Not Detected Not Detected	µg/L µg/L	NO
Vinyl Chloride	January 7, 2014 August 5, 2014	Not Detected Not Detected	µg/L µg/L	NO

NOTE: During 2014, no Inorganic or Organic parameter(s) exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards.