



OPTIONAL ANNUAL REPORT TEMPLATE

Drinking-Water System Number:	210000906
Drinking-Water System Name:	Lambton Area Water Supply System
Drinking-Water System Owner:	Lambton Area Water Supply System Joint Board of Management
Drinking-Water System Category:	Large Municipal Residential System
Period being reported:	January 1, 2014 to 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.

www.lawss.org

Lambton Area Water Supply System
1215 Fort St. Sarnia, ON N7V 1M1
519-344-7429

Sarnia City Hall
255 N Christina St. Sarnia, ON N7T 7N2
519-332-0330

Village of Point Edward Municipal Office
135 Kendall St. Pt. Edward, ON N7M 4G6
519-337-3021

St. Clair Civic Centre
1155 Emily St. Mooretown, ON N0N 1M0
519-867-2021

Town Of Plympton-Wyoming Municipal Office
546 Niagara St. Wyoming, ON N0N 1T0
519-845-3939

Township of Warwick Municipal Office
6332 Nauvoo Rd. Watford, ON N0M 2S0
519-849-3926

Lambton Shores Municipal Office
19 Ann St. Forest, ON N0N 1J0
519-786-2335

Township of Brooke-Alvinston Municipal Office
3234 River St. P.O. Box 28 Alvinston, ON N0N 1A0
519-898-2173

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 [X]

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 [X]



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:

Table with 2 columns: Drinking Water System Name, Drinking Water System Number. Rows include City of Sarnia, Village of Point Edward, Township of St. Clair, etc.

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
[] 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 Lambton Area Water Supply System (LAWSS) is a direct filtration facility with a maximum rated capacity of 181,844 m3/day. The Water Treatment Plant (WTP) uses chemically assisted filtration with disinfection. The facility consists of an intake system, a low lift pumping system, a treatment system and distribution pumping system that supplies water to seven different drinking water systems.



at this location when needed to control taste and odor problems. The water is then flocculated with polymer being added to the flocculation trains when needed. Water from the flocculators is then sent to be filtered by dual media filters (10 filters in total). The filter effluents combine into two clearwells via gravity where sodium hypochlorite is added. To increase the chlorine contact time, the treated water is diverted to two baffled reservoirs (in series). The water is fluoridated upon exiting the reservoirs. Six vertical turbine pumps are available for supplying water to the distribution system. The water treatment process and distribution components are controlled by a dedicated supervisory control and data acquisition (SCADA) computer system and are monitored by a certified operator 24 hours a day. Emergency generators powered by diesel are available at the WTP to keep the plant in operation should a power failure occur. The utility serves a large part of Lambton County and has over 200 km of pipeline of various size and materials. The LAWSS distribution system has three standpipes and one elevated tower. The East Lambton Booster Station has a water storage capacity of 9,000 m³ and the West Lambton Pumping Station has 90,000 m³ of water storage capacity. The booster stations are controlled and monitored from the WTP via the SCADA system. Backwash from the dual media filters is treated using a high rate clarification process (ACTIFLOW). The clarified water is dechlorinated and then discharged to the St. Clair River and the settled material is sent to the Sarnia Water Pollution Control Plant for final treatment and disposal. This system is referred to as the Residual Management System.

Emergency Water Line connections exist between the LAWSS system and the following drinking water systems to provide water to either system in case of emergencies:

Chatham-Kent: A connection exists at Whitebread Line and Highway #40

Petrolia: A connection exists at Confederation Line and Ploughing Match Rd.

Grand Bend: A connection exists at Lakeshore Rd. and the Northwest corner of Ipperwash Rd.

List all water treatment chemicals used over this reporting period

Sodium Hypochlorite: Pre and post disinfection

Hydrofluosilicic Acid: Fluoridation

Clar+Ion A7: Coagulation

Powdered Activated Carbon: Taste and Odor (when required)

Polymer 8103+: Filter/Coagulant aid (when required)

Polymer Zetag 4120: Residual Management System coagulant

Sodium Bisulfite: Residual Management System dechlorination system

Note: All water treatment chemicals are NSF/ANSI approved and certified.

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

New Fluoride System	\$442,404.75
VFD at WLPS	\$445,239.06
Alum System Rebuild	\$56,601.97
PAC Pump Replacement	\$6,036.46
Security Fence Upgrades	\$34,363.33
Watford Tower Building Upgrade	\$4,324.80
Level Transmitters for Port Lambton and Forest Standpipes	\$2,839.78
Flow Transmitters at WLPS	\$4158.93
Filter Inlet Valve Rebuilds (Part 2)	\$21,786.82
Circuit Breaker replacement	\$14,848.82
Lake Huron Intake crib inspection	\$8140.80
Highlift Pumps Surge Valve Rebuilds	\$38,573.49
Highlift Pumps Pressure Release Valve Rebuilds	\$7,393.88
New Inlet Valve for ELPS	\$15,494.24
Dual Media Filters (all 10) Level Controllers and Switches	\$7,097.76
ROV inspection of WTP treated water reservoir	\$5,739.26
Clean out of raw water reservoir	\$17,447.77
Freight Elevator Upgrades	\$10,756.03

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	Result	Unit of Measure	Corrective Action	Corrective Action Date
Oct 29	Alum pump failure	0 flow	L/sec	Started backup pump and set up no flow alarm	Oct 29

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 #) Units: cfu /100 mL	Range of Total Coliform Results (min #)-(max #) Units: cfu /100 mL	Range of Background Results (min #)-(max #) Units: cfu /100 mL	Range of HPC Results (min #)-(max #) Units: cfu /100 mL
Raw	52	0-5	0-40	0-6200	N/A
Treated	52	0-0	0-0	0-22	<10-<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	.001-5.0	NTU
Chlorine	8760	1.07-1.9	mg/L
Fluoride	8760	0-1.2	mg/L

Notes: Turbidity is measured on each filter effluent line at a frequency greater than is required under O. Reg 170/03 Schedule 6-5.

Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument. The three parameters on this list are a requirement for the Residual Management System.

Date of legal instrument issued	Parameter	Result Range	Unit of Measure
November 13, 2006	Total Suspended Solids	2-8	mg/L
November 13, 2006	Aluminum	.017-0.156	mg/L
November 13, 2006	Total Chlorine Residual	0-0	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	Feb 25, 2014	0.1	ppb	No
Arsenic	Feb 25, 2014	0.4	ppb	No
Barium	Feb 25, 2014	13.6	ppb	No
Boron	Feb 25, 2014	14.0	ppb	No
Cadmium	Feb 25, 2014	<0.003	ppb	No
Chromium	Feb 25, 2014	<0.5	ppb	No
Mercury	Feb 25, 2014	<0.01	ppb	No
Selenium	Feb 25, 2014	<1.0	ppb	No
Sodium	Nov. 21, 2011	5.73	mg/L	No
Uranium	Feb 25, 2014	0.157	ppb	No
Nitrite	Nov. 3, 2014	<.003	mg/L	No
Nitrate	Nov. 3, 2014	0.265	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				
Distribution	44	0.01-2.28	ppb	0

Note: The above results are for the total system that OCWA/LAWSS provide water to with the exception of Lambton Shores (samples done by OMI). Local results can be obtained by contacting the local municipal office.

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	Feb 25, 2014	<0.02	ppb	No
Aldicarb	Feb 25, 2014	<0.01	ppb	No
Aldrin + Dieldrin	Feb 25, 2014	<0.01	ppb	No
Atrazine + N-dealkylated metabolites	Feb 25, 2014	0.03	ppb	No
Azinphos-methyl	Feb 25, 2014	<0.02	ppb	No
Bendiocarb	Feb 25, 2014	<0.01	ppb	No
Benzene	Feb 25, 2014	<0.32	ppb	No
Benzo(a)pyrene	Feb 25, 2014	<0.004	ppb	No
Bromoxynil	Feb 25, 2014	<0.33	ppb	No
Carbaryl	Feb 25, 2014	<0.01	ppb	No
Carbofuran	Feb 25, 2014	<0.01	ppb	No
Carbon Tetrachloride	Feb 25, 2014	<0.16	ppb	No
Chlordane (Total)	Feb 25, 2014	<0.01	ppb	No
Chlorpyrifos	Feb 25, 2014	<0.02	ppb	No
Cyanazine	Feb 25, 2014	<0.03	ppb	No
Diazinon	Feb 25, 2014	<0.02	ppb	No
Dicamba	Feb 25, 2014	<0.2	ppb	No
1,2-Dichlorobenzene	Feb 25, 2014	<0.41	ppb	No
1,4-Dichlorobenzene	Feb 25, 2014	<0.36	ppb	No
Dichlorodiphenyltrichloroethane (DDT) + metabolites	Feb 25, 2014	<0.01	ppb	No
1,2-Dichloroethane	Feb 25, 2014	<0.35	ppb	No
1,1-Dichloroethylene (vinylidene chloride)	Feb 25, 2014	<0.33	ppb	No
Dichloromethane	Feb 25, 2014	<0.35	ppb	No
2-4 Dichlorophenol	Feb 25, 2014	<0.15	ppb	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	Feb 25, 2014	<0.19	ppb	No
Diclofop-methyl	Feb 25, 2014	<0.4	ppb	No
Dimethoate	Feb 25, 2014	<0.03	ppb	No



Dinoseb	Feb 25, 2014	<0.36	ppb	No
Diquat	Feb 25, 2014	<1.0	ppb	No
Diuron	Feb 25, 2014	<0.03	ppb	No
Glyphosate	Feb 25, 2014	<1.0	ppb	No
Heptachlor + Heptachlor Epoxide	Feb 25, 2014	<0.01	ppb	No
Lindane (Total)	Feb 25, 2014	<0.01	ppb	No
Malathion	Feb 25, 2014	<0.02	ppb	No
Methoxychlor	Feb 25, 2014	<0.01	ppb	No
Metolachlor	Feb 25, 2014	<0.01	ppb	No
Metribuzin	Feb 25, 2014	<0.02	ppb	No
Monochlorobenzene	Feb 25, 2014	<0.3	ppb	No
Paraquat	Feb 25, 2014	<1.0	ppb	No
Parathion	Feb 25, 2014	<0.02	ppb	No
Pentachlorophenol	Feb 25, 2014	<0.15	ppb	No
Phorate	Feb 25, 2014	<0.01	ppb	No
Picloram	Feb 25, 2014	<1.0	ppb	No
Polychlorinated Biphenyls(PCB)	Feb 25, 2014	<0.04	ppb	No
Prometryne	Feb 25, 2014	<0.03	ppb	No
Simazine	Feb 25, 2014	<0.01	ppb	No
THM (NOTE: show latest annual average)		34	ppb	No
Temephos	Feb 25, 2014	<0.01	ppb	No
Terbufos	Feb 25, 2014	<0.01	ppb	No
Tetrachloroethylene	Feb 25, 2014	<0.35	ppb	No
2,3,4,6-Tetrachlorophenol	Feb 25, 2014	<0.14	ppb	No
Triallate	Feb 25, 2014	<0.01	ppb	No
Trichloroethylene	Feb 25, 2014	<0.44	ppb	No
2,4,6-Trichlorophenol	Feb 25, 2014	<0.25	ppb	No
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	Feb 25, 2014	<0.22	ppb	No
Trifluralin	Feb 25, 2014	<0.02	ppb	No
Vinyl Chloride	Feb 25, 2014	<0.17	ppb	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