



<b>Drinking-Water System Number:</b>	210000791
<b>Drinking-Water System Name:</b>	<b>Lake Huron Primary Water Supply System</b>
<b>Drinking-Water System Owner:</b>	Lake Huron Primary Water Supply System Joint Board of Management c/o the City of London
<b>Drinking-Water System Category:</b>	Large Municipal Residential
<b>Period being reported:</b>	January 1, 2009 through December 31, 2009

<p><b><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></b></p> <p><b>Does your Drinking-Water System serve more than 10,000 people? Yes [X] No [ ]</b></p> <p><b>Is your annual report available to the public at no charge on a web site on the Internet? Yes [X] No [ ]</b></p> <p><b>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</b></p> <div style="border: 1px solid black; padding: 5px;"> <p>Lake Huron and Elgin Area Water Supply Systems c/o Regional Water Supply Division 29 Kilworth Park Dr., RR 5, Komoka, ON <a href="http://www.watersupply.london.ca">http://www.watersupply.london.ca</a></p> <p>Lake Huron Water Treatment Plant 71155 Bluewater Hwy., Grand Bend, ON</p> </div>	<p><b><u>Complete for all other Categories.</u></b></p> <p><b>Number of Designated Facilities served:</b>  <div style="border: 1px solid black; padding: 2px; width: 100px; text-align: center;">N/A</div> </p> <p><b>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [ ] No [ ]</b></p> <p><b>Number of Interested Authorities you report to:</b>  <div style="border: 1px solid black; padding: 2px; width: 100px; text-align: center;">N/A</div> </p> <p><b>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [ ] No [ ]</b></p>
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**List all Drinking-Water Systems (if any), which receive all of their drinking water from your system:**

**Systems that receive their drinking water from the LHPWSS:**

<b>Drinking Water System Name</b>	<b>Drinking Water System Number</b>
City of London	260004917
Municipality of Bluewater	260006542
Municipality of Lambton Shores (East Lambton Shores Water Distribution System)	260006568
Township of Lucan-Biddulph	260003071
Municipality of Middlesex Centre	260004202
Municipality of North Middlesex	260006529
Municipality of Strathroy-Caradoc	260080106



South Huron Water Distribution System	220001520
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**Systems that may receive their drinking water from the LHPWSS:**

<b>Drinking Water System Name</b>	<b>Drinking Water System Number</b>
Municipality of Lambton Shores (West Lambton Shores Distribution System) <small>*Normally supplied by the Lambton Area Water Supply System (LAWSS) but a connection to the LHPWSS exists</small>	260006581

**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 Lake Huron Water Treatment Plant (WTP) employs pre-chlorination, screening, powder activated carbon addition (seasonally on an as-required basis), coagulation, flocculation, sedimentation, dual-media filtration, post-chlorination, and sodium hydroxide addition to treat raw water obtained from Lake Huron. The WTP intake crib and raw water intake pipe have an estimated gross capacity of 454.6 Megalitres/day (MLD). The WTP rated capacity is 340.0 MLD. Water is pumped from the plant through 1200 mm diameter water main, sections of which are twinned, to various communities en route to a terminal reservoir located to the north of the City of London. In addition, a 600 mm concrete pressure pipe that is 17,700 m from the B-Line connection near the LHPWSS water treatment plant to the Exeter-Hensall Pump station supplies water to the Exeter-Hensall Pump Station and re-chlorination facility. 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**

Filter aid polymer (on an as-required basis)  
 Acidified alum  
 Powder activated carbon  
 Dewatering polymer  
 Chlorine gas  
 50% 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**

Lake Huron Water Treatment Plant:

- Replaced selector switch on alum dosing pump #1
- Installed safety equipment for caustic system
- Repairs to elevator
- Repairs to boiler system
- Repaired electrical starter on backwash pump #8
- Repairs to travelling water screens
- Installed new SCADA PLC and MCC panels
- Replaced bearings in High Lift Pump #2
- Replaced fuse on Low Lift Pump #1
- Installed hatches over clearwell
- Replaced check valve on sewage injector
- Repairs to filter #1 surface wash
- Repairs to Low Lift Pump #2
- Replaced valve on scrubber system
- Installed chlorine analyzer for purpose of caustic soda addition
- Repairs to lifting devices
- Repair to Low Lift Pump #2 air vent
- Installed new raw water sample point
- Four (4) garage doors replaced
- Repairs to filter No. 7 circuit board
- Door replacement at low lift building
- Repairs to centrifuges
- Repairs to service water pump No. 14
- Installed new filter rate, influent and discharge valves on filters No. 1, 3, 5, 7, 9, and 11
- Replaced header in chlorine room
- Removed PCB containing lighting ballasts and replaced with Non-PCB ballasts
- Repaired major flood alarm sensor
- Replaced check valve in sump pump at Monitoring Station 1
- Replaced pressure transducer at Monitoring Station 1
- Repaired actuator motor on GB-7B

McGillivray Booster Pumping Station:

- Repaired valve actuators
- Repaired check valves

Exeter-Hensall Pumping Station

- Replaced chlorine delivery header to pumps

Arva Reservoir  
- Replaced bird screening on vents

**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
February 13 and 14, 2009	Filter Effluent Turbidity	>1	NTU	All filters removed from service and flow from plant stopped. Filters backwashed and returned to service once effluent was < 1NTU. In-depth root cause analysis initiated and action items assigned.	February 14, 2009

**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 (CFU/100mL) (min #)-(max #)	Range of Total Coliform Results (CFU/100mL) (min #)-(max #)	Number Of Heterotrophic Plate Count (HPC) Samples	Range of HPC Results (CFU/1mL) (min #)-(max #)
<b>Raw</b>	105	(0)-(40)	(0) – (11200)	105	(<10) – (>2000)
<b>Treated</b>	256	0 – 0	0 – 0	256	(<10) – (240)
<b>Distribution</b>	452	0 – 0	0 – 0	452	(<10) – (>2000)

**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 #)
<b>Treated Water Free Chlorine (mg/L)</b>	438000	0.49-2.00
<b>Treated Water Turbidity (NTU)</b>	438000	0.01-2.00
<b>Filtered Water Turbidity - Filter #1 (NTU)</b>	438000	0.02-2.00
<b>Filtered Water Turbidity - Filter #2 (NTU)</b>	438000	0.01-2.00
<b>Filtered Water Turbidity - Filter #3 (NTU)</b>	438000	0.01-2.09
<b>Filtered Water Turbidity - Filter #4 (NTU)</b>	438000	0.01-2.00
<b>Filtered Water Turbidity - Filter #5 (NTU)</b>	438000	0.01-2.00
<b>Filtered Water Turbidity - Filter #6 (NTU)</b>	438000	0.01-2.00
<b>Filtered Water Turbidity - Filter #7 (NTU)</b>	438000	0.01-2.07
<b>Filtered Water Turbidity - Filter #8 (NTU)</b>	438000	0.01-2.01
<b>Filtered Water Turbidity - Filter #9 (NTU)</b>	438000	0.01-2.00
<b>Filtered Water Turbidity - Filter #10 (NTU)</b>	438000	0.01-2.01
<b>Filtered Water Turbidity - Filter #11 (NTU)</b>	438000	0.01- 2.00
<b>Filtered Water Turbidity - Filter #12 (NTU)</b>	438000	0.01-2.00

***NOTE:** There were a few instances in 2009 when the treated water turbidity exceeded 1.00 NTU. Each of these events coincided with a pump start-up. Treated water turbidity spikes*

*did not exceed more than fifteen minutes.*

**NOTE:** *Filter effluent turbidity spikes did not exceed fifteen minutes on any of the filters. The only exception to this is the high filter effluent turbidity reported on February 13 and 14, 2009.*

### Summary of Inorganic parameters tested during this reporting period

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
<b>Antimony</b>	January 14, 2009	Not Detected	mg/L	NO
<b>Arsenic</b>	January 14, 2009	Not Detected	mg/L	NO
<b>Barium</b>	January 14, 2009	0.014	mg/L	NO
<b>Boron</b>	January 14, 2009	Not Detected	mg/L	NO
<b>Cadmium</b>	January 14, 2009	Not Detected	mg/L	NO
<b>Chromium</b>	January 14, 2009	Not Detected	mg/L	NO
<b>Lead</b>	January 14, 2009 July 14, 2009	Not Detected Not Detected	mg/L	NO
<b>Mercury</b>	January 14, 2009	Not Detected	mg/L	NO
<b>Selenium</b>	January 14, 2009	Not Detected	mg/L	NO
<b>Sodium</b>	January 14, 2009	11	mg/L	NO
<b>Uranium</b>	January 14, 2009	Not Detected	mg/L	NO
<b>Fluoride</b>	January 14, 2009	Not Detected	mg/L	NO
<b>Nitrite</b>	January 14, 2009 April 7, 2009 July 14, 2009 October 7, 2009	Not Detected Not Detected Not Detected Not Detected	mg/L	NO
<b>Nitrate</b>	January 14, 2009 April 7, 2009 July 14, 2009 October 7, 2009	0.5 1.0 0.4 0.3	mg/L	NO

### Summary of Organic parameters sampled during this reporting period or the most recent sample results

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
<b>Alachlor</b>	January 23, 2009 June 2, 2009	Not Detected Not Detected	µg/L	NO
<b>Aldicarb</b>	January 23, 2009 June 2, 2009	Not Detected Not Detected	µg/L	NO
<b>Aldrin + Dieldrin</b>	January 23, 2009	Not Detected	µg/L	NO
<b>Atrazine + N-dealkylated metabolites</b>	January 23, 2009 June 2, 2009	Not Detected Not Detected	µg/L	NO
<b>Azinphos-methyl</b>	January 14, 2009	Not Detected	µg/L	NO
<b>Bendiocarb</b>	January 23, 2009 June 2, 2009	Not Detected Not Detected	µg/L	NO
<b>Benzene</b>	January 14, 2009	Not Detected	µg/L	NO
<b>Benzo(a)pyrene</b>	January 23, 2009 June 2, 2009	Not Detected Not Detected	µg/L	NO
<b>Bromoxynil</b>	January 23, 2009 June 2, 2009	Not Detected Not Detected	µg/L	NO
<b>Carbaryl</b>	January 23, 2009 June 2, 2009	Not Detected Not Detected	µg/L	NO
<b>Carbofuran</b>	January 23, 2009 June 2, 2009	Not Detected Not Detected	µg/L	NO
<b>Carbon Tetrachloride</b>	January 14, 2009	Not Detected	µg/L	NO



<b>Chlordane (Total)</b>	January 23, 2009	Not Detected	µg/L	NO
<b>Chlorpyrifos</b>	January 23, 2009 June 2, 2009	Not Detected Not Detected	µg/L	NO
<b>Cyanazine</b>	January 23, 2009 June 2, 2009	Not Detected Not Detected	µg/L	NO
<b>Diazinon</b>	January 23, 2009 June 2, 2009	Not Detected Not Detected	µg/L	NO
<b>Dicamba</b>	January 23, 2009 June 2, 2009	Not Detected Not Detected	µg/L	NO
<b>1,2-Dichlorobenzene</b>	January 14, 2009	Not Detected	µg/L	NO
<b>1,4-Dichlorobenzene</b>	January 14, 2009	Not Detected	µg/L	NO
<b>Dichlorodiphenyltrichloroethane (DDT) + metabolites</b>	January 23, 2009	Not Detected	µg/L	NO
<b>1,2-Dichloroethane</b>	January 14, 2009	Not Detected	µg/L	NO
<b>1,1-Dichloroethylene (vinylidene chloride)</b>	January 14, 2009	Not Detected	µg/L	NO
<b>Dichloromethane</b>	January 14, 2009	Not Detected	µg/L	NO
<b>2-4 Dichlorophenol</b>	January 23, 2009 June 2, 2009	Not Detected Not Detected	µg/L	NO
<b>2,4-Dichlorophenoxy acetic acid (2,4-D)</b>	January 23, 2009 June 2, 2009	Not Detected Not Detected	µg/L	NO
<b>Diclofop-methyl</b>	January 23, 2009 June 2, 2009	Not Detected Not Detected	µg/L	NO
<b>Dimethoate</b>	January 23, 2009 June 2, 2009	Not Detected Not Detected	µg/L	NO
<b>Dinoseb</b>	January 23, 2009 June 2, 2009	Not Detected Not Detected	µg/L	NO
<b>Diquat</b>	January 14, 2009	Not Detected	µg/L	NO
<b>Diuron</b>	January 14, 2009	Not Detected	µg/L	NO
<b>Glyphosate</b>	January 23, 2009 June 2, 2009	Not Detected Not Detected	µg/L	NO
<b>Heptachlor + Heptachlor Epoxide</b>	January 23, 2009	Not Detected	µg/L	NO
<b>Lindane (Total)</b>	January 23, 2009	Not Detected	µg/L	NO
<b>Malathion</b>	January 23, 2009 June 2, 2009	Not Detected Not Detected	µg/L	NO
<b>Methoxychlor</b>	January 23, 2009	Not Detected	µg/L	NO
<b>Metolachlor</b>	January 23, 2009 June 2, 2009	Not Detected Not Detected	µg/L	NO
<b>Metribuzin</b>	January 23, 2009 June 2, 2009	Not Detected Not Detected	µg/L	NO
<b>Monochlorobenzene</b>	January 14, 2009	Not Detected	µg/L	NO
<b>Paraquat</b>	January 14, 2009	Not Detected	µg/L	NO
<b>Parathion</b>	January 23, 2009 June 2, 2009	Not Detected Not Detected	µg/L	NO
<b>Pentachlorophenol</b>	January 23, 2009 June 2, 2009	Not Detected Not Detected	µg/L	NO
<b>Phorate</b>	January 23, 2009 June 2, 2009	Not Detected Not Detected	µg/L	NO
<b>Picloram</b>	January 23, 2009 June 2, 2009	Not Detected Not Detected	µg/L	NO
<b>Polychlorinated Biphenyls(PCB)</b>	January 23, 2009	Not Detected	µg/L	NO
<b>Prometryne</b>	January 23, 2009 June 2, 2009	Not Detected Not Detected	µg/L	NO
<b>Simazine</b>	January 23, 2009 June 2, 2009	Not Detected Not Detected	µg/L	NO
<b>THM (ARVA)</b>	January 14, 2009 April 7, 2009 July 14, 2009 October 7, 2009	0.0149 0.0191 0.0278 0.0216	mg/L	NO
<b>THM (Exeter-Hensall Pumping Station)</b>	October 7, 2009	0.0392	mg/L	NO
<b>Temephos</b>	January 14, 2009	Not Detected	µg/L	NO



<b>Terbufos</b>	January 23, 2009 June 2, 2009	Not Detected Not Detected	µg/L	NO
<b>Tetrachloroethylene</b>	January 14, 2009	Not Detected	µg/L	NO
<b>2,3,4,6-Tetrachlorophenol</b>	January 23, 2009 June 2, 2009	Not Detected Not Detected	µg/L	NO
<b>Triallate</b>	January 23, 2009 June 2, 2009	Not Detected Not Detected	µg/L	NO
<b>Trichloroethylene</b>	January 14, 2009	Not Detected	µg/L	NO
<b>2,4,6-Trichlorophenol</b>	January 23, 2009 June 2, 2009	Not Detected Not Detected	µg/L	NO
<b>2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)</b>	January 23, 2009 June 2, 2009	Not Detected Not Detected	µg/L	NO
<b>Trifluralin</b>	January 23, 2009 June 2, 2009	Not Detected Not Detected	µg/L	NO
<b>Vinyl Chloride</b>	January 14, 2009	Not Detected	µg/L	NO

*NOTE: During 2009, no Inorganic or Organic parameter(s) exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards.*