



**ANNUAL REPORT**

<b>Drinking-Water System Number:</b>	<b>210000853</b>
<b>Drinking-Water System Name:</b>	Union Water Supply System
<b>Drinking-Water System Owner:</b>	Union Water Supply System Joint Board of Management (Municipality of Leamington, Town of Kingsville, Town of Essex, Town of Lakeshore)
<b>Drinking-Water System Category:</b>	Large Municipal Residential
<b>Period being reported:</b>	01-January-2009 to 31-December-2009

<p><b><u>Complete if system is Large Municipal Residential or Small Municipal Residential</u></b></p> <p>Does your Drinking-Water System serve more than 10,000 people? Yes [ X ] No [ ]</p> <p>Is your annual report available to the public at no charge on a web site on the Internet? Yes [ X ] 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><i>Union Water Treatment Plant P.O. Box 340, 1615 Union Ave., Ruthven, Ont. N0P 2G0</i></p> </div>	<p><b><u>Complete for all other Categories.</u></b></p> <p>Number of Designated Facilities served:  <div style="border: 1px solid black; padding: 2px; width: 100px; margin: 5px auto;">N/A</div> </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:  <div style="border: 1px solid black; padding: 2px; width: 100px; margin: 5px auto;">N/A</div> </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>
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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
Municipality of Leamington	220004992
Town of Kingsville	220003403
Town of Essex	220003680
Town of Lakeshore	260004995

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.

- 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: **Municipal Offices**

**Describe your Drinking-Water System**

The Union Water Treatment Plant (UWTP) is a chemically assisted conventional filtration plant, which draws water from Lake Erie.

The UWTP supplies potable water to the Town of Kingsville, Municipality of Leamington, a portion of the Town of Essex and a portion of the Town of Lakeshore with an estimated service population of 56,000.

The treatment process includes chemically assisted up-flow clarification, filtration with dual media filters, primary disinfection using chlorine gas and secondary disinfection using chloramination.

Seasonally, the UWTP uses sodium hypochlorite at its intakes to control Zebra Mussel formation.

There are also three water towers and a booster/storage station located on the Union Water Supply System.

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

Zebra Mussel Control:  
Sodium Hypochlorite – (Seasonal),

Clarification Chemicals:  
Aluminum Sulfate – Coagulant  
Nalclear 8181 (polymer) – Coagulant Aid  
Magnafloc LT22 (polymer)-Coagulant Aid  
Powdered Activated Carbon – Taste and Odor Control

Filtration:  
Cat-Floc 8103 Plus (polymer) – Filter Aid (Seasonal)

Disinfection:  
Primary: Chlorine Gas  
Secondary: Aqua Ammonia & Chlorine (to form chloramines)

**Were any significant expenses incurred to?**

- Install required equipment
- Repair required equipment
- Replace required equipment



# Ontario Drinking-Water Systems Regulation O. Reg. 170/03

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

None

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

Note: Corrective action Date is Date of resolution.

Microbiological testing done under the Schedule 10, 11 or 12 of Regulation 170/03, during this reporting period.

	Number of Samples	Range of Ecoli Or Fecal Results (min #)-(max #) (ct/100 mL)	Range of Total Coliform Results (min #)-(max #) (ct/100 mL)	Number of HPC Samples	Range of HPC Results (min #)-(max #) (ct/mL)
Raw	52	1 - 50	1 - 3250	N/A	N/A
Treated	52	0 - 0	0 - 0	52	0-14
Distribution	Please See Individual Annual Reports for Distribution System Information: Leamington (220004992), Kingsville (220003403), Essex (220003680), and Lakeshore (260004995).				

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 #)
Turbidity	8760	.08-1.48 NTU
Chlorine	8760	1.41-2.48
Fluoride (If the DWS provides fluoridation)	N/A	

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

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: (Suspended Solids)	Date Sampled	Result	Unit of Measure
To 11/1/2009 5-Nov-2007 C of A 4854-77PHL7 From 11/2/2009	North Settling Pond	Jan 20/09	< 2.0	mg/L
	North Settling Pond	Feb 17/09	2.0	mg/L
	North Settling Pond	Mar 15/09	2.0	mg/L
	North Settling Pond	Apr 14/09	2.0	mg/L
	North Settling Pond	May 11/09	< 2.0	mg/L
	North Settling Pond	Jun 15/09	< 2.0	mg/L



<b>2-Nov-2009 Municipal Drinking Water Licence Licence Number: 041- 101, Issue Number: 1</b>	North Settling Pond	Jul 13/09	< 2.0	mg/L
	North Settling Pond	Aug 19/09	< 2.0	mg/L
	North Settling Pond	Sep 14/09	< 2.0	mg/L
	North Settling Pond	Oct 19/09	7.0	mg/L
	North Settling Pond	Nov 17/09	< 2.0	mg/L
	South Settling Pond	Nov 17/09	2.0	mg/L
	South Settling Pond	Dec 16/09	2.0	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	January 7, 2009	0.14	µg/L	No
Arsenic	January 7, 2009	0.30	µg/L	No
Barium	January 7, 2009	15.1	µg/L	No
Boron	January 7, 2009	18.8	µg/L	No
Cadmium	January 7, 2009	0.009	µg/L	No
Chromium	January 7, 2009	0.5	µg/L	No
*Lead	N/A			
Mercury	January 7, 2009	0.02	µg/L	No
Selenium	January 7, 2009	1.0	µg/L	No
Sodium	January 7, 2009	0.047	mg/L	No
Uranium	January 7, 2009	0.37	µg/L	No
Fluoride	N/A	N/A	mg/L	No
Nitrite	December 29, 09	< 0.005	mg/L	No
Nitrate	December 29, 09	0.376	mg/L	No

\*See below for details of lead sampling and testing results.

**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 #)	Number of Exceedances
Plumbing	Please See Individual Annual Reports for Distribution System Information: Leamington (220004992), Kingsville (220003403), Essex (220003680), and Lakeshore (260004995).		
Distribution	Please See Individual Annual Reports for Distribution System Information: Leamington (220004992), Kingsville (220003403), Essex (220003680), and Lakeshore (260004995).		



**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 7, 09	0.11	µg/L	No
Aldicarb	January 7, 09	0.30	µg/L	No
Aldrin + Dieldrin	January 7, 09	0.067	µg/L	No
Atrazine + N-dealkylated metabolites	January 7, 09	0.12	µg/L	No
Azinphos-methyl	January 7, 09	0.21	µg/L	No
Bendiocarb	January 7, 09	0.13	µg/L	No
Benzene	January 7, 09	0.37	µg/L	No
Benzo(a)pyrene	January 7, 09	0.004	µg/L	No
Bromoxynil	January 7, 09	0.33	µg/L	No
Carbaryl	January 7, 09	0.16	µg/L	No
Carbofuran	January 7, 09	0.37	µg/L	No
Carbon Tetrachloride	January 7, 09	0.41	µg/L	No
Chlordane (Total)	January 7, 09	0.11	µg/L	No
Chlorpyrifos	January 7, 09	0.18	µg/L	No
Cyanazine	January 7, 09	0.18	µg/L	No
Diazinon	January 7, 09	0.081	µg/L	No
Dicamba	January 7, 09	0.20	µg/L	No
1,2-Dichlorobenzene	January 7, 09	0.50	µg/L	No
1,4-Dichlorobenzene	January 7, 09	0.21	µg/L	No
Dichlorodiphenyltrichloroethane (DDT) + metabolites	January 7, 09	0.14	µg/L	No
1,2-Dichloroethane	January 7, 09	0.43	µg/L	No
1,1-Dichloroethylene (vinylidene chloride)	January 7, 09	0.41	µg/L	No
Dichloromethane	January 7, 09	0.34	µg/L	No
2,4 Dichlorophenol	January 7, 09	0.15	µg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	January 7, 09	0.19	µg/L	No
Diclofop-methyl	January 7, 09	0.40	µg/L	No
Dimethoate	January 7, 09	0.12	µg/L	No
Dinoseb	January 7, 09	0.36	µg/L	No
Diquat	January 7, 09	1.0	µg/L	No
Diuron	January 7, 09	0.087	µg/L	No
Glyphosate	January 7, 09	6.0	µg/L	No
Heptachlor + Heptachlor Epoxide	January 7, 09	0.11	µg/L	No
Lindane (Total)	January 7, 09	0.056	µg/L	No
Malathion	January 7, 09	0.091	µg/L	No
Methoxychlor	January 7, 09	0.14	µg/L	No
Metolachlor	January 7, 09	0.092	µg/L	No
Metribuzin	January 7, 09	0.12	µg/L	No
Monochlorobenzene	January 7, 09	0.58	µg/L	No
Paraquat	January 7, 09	1.0	µg/L	No



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Parathion	January 7, 09	0.18	µg/L	No
Pentachlorophenol	January 7, 09	0.15	µg/L	No
Phorate	January 7, 09	0.11	µg/L	No
Picloram	January 7, 09	0.25	µg/L	No
Polychlorinated Biphenyls(PCB)	January 7, 09	0.04	µg/L	No
Prometryne	January 7, 09	0.23	µg/L	No
Simazine	January 7, 09	0.15	µg/L	No
THM	Please See Individual Annual Reports for Distribution System Information : Leamington (220004992), Kingsville (220003403), Essex (220003680), Lakeshore (260004995).			
Temephos	January 7, 09	0.31	µg/L	No
Terbufos	January 7, 09	0.12	µg/L	No
Tetrachloroethylene	January 7, 09	0.45	µg/L	No
2,3,4,6-Tetrachlorophenol	January 7, 09	0.14	µg/L	No
Triallate	January 7, 09	0.10	µg/L	No
Trichloroethylene	January 7, 09	0.38	µg/L	No
2,4,6-Trichlorophenol	January 7, 09	0.25	µg/L	No
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	January 7, 09	0.22	µg/L	No
Trifluralin	January 7, 09	0.12	µg/L	No
Vinyl Chloride	January 7, 09	0.17	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
None			