



**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-2008 to 31-December-2008

<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><b>Union Water Treatment Plant 1615 Union Ave., Ruthven, Ont. N0P 2G0</b></p> </div>	<p><b><u>Complete for all other Categories.</u></b></p> <p><b>Number of Designated Facilities served:</b></p> <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 5px auto;">N/A</div> <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></p> <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 5px auto;">N/A</div> <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>
--	---

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

<b>Drinking Water System Name</b>	<b>Drinking Water System Number</b>
<b>Municipality of Leamington</b>	<b>220004992</b>
<b>Town of Kingsville</b>	<b>220003403</b>
<b>Town of Essex</b>	<b>220003680</b>
<b>Town of Lakeshore</b>	<b>260004995</b>

**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 drinking water to the Town of Kingsville, the Municipality of Leamington, a portion of the Town of Essex and a portion of the Town of Lakeshore with an estimated total 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  
Powdered Activated Carbon – Taste and Odour 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

**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
August 02/08	Alum feed system	N/A	N/A	Free check valves from debris	August 02/08
April 29/08	Ecoli, Total Coliform	2 TC 1 EC	cfu/100 ml	Resample, Boil Water Advisory in effect	May 01/08

**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 #)	Range of Total Coliform Results (min #)-(max #)	Number of HPC Samples	Range of HPC Results (min #)-(max #)
<b>Raw</b>	53	1-670	2-520	0	N/A
<b>Treated</b>	54	0-1	0-2	54	0-10
<b>Distribution</b>					
<b>Essex</b>	311	0-0	0-0	144	0-10
<b>Kingsville</b>	469	0-0	0-0	206	0-10
<b>Lakeshore</b>	258	0-0	0-0	104	0-10
<b>Leamington</b>	515	0-0	0-0	258	0-10

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 #)
Turbidity	8760	0.08-1.16 NTU
Chlorine	8760	1.6-2.29
Fluoride	N/A	

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	Date Sampled	Result	Unit of Measure
5-Nov-2007 C of A 4854-77PHL7	Settling Pond Discharge Suspended Solids <25 mg/l Annual Average	Once per month	Annual avg. 380.43	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 8, 2008	0.13	ug/L	No
Arsenic	January 8, 2008	0.3	ug/L	No
Barium	January 8, 2008	16.1	ug/L	No
Boron	January 8, 2008	19	ug/L	No
Cadmium	January 8, 2008	0.012	ug/L	No
Chromium	January 8, 2008	0.9	ug/L	No
*Lead	N/A			
Mercury	January 8, 2008	<0.02	ug/L	No
Selenium	January 8, 2008	<1	ug/L	No
Sodium	April 04, 2006	9.04	mg/L	No
Uranium	January 8, 2008	0.059	ug/L	No
Fluoride	April 04, 2006	0.06	mg/L	No
Nitrite	December 29,2008	<0.005	mg/L	No
Nitrate	December 29,2008	0.747	mg/L	No

**Summary of lead testing under Schedule 15.1 during this reporting period**

Location Type	Number of Samples	Range of Lead Results (min#) – (max #)	Number of Exceedances
<b>Plumbing</b>			
Essex	86	0.02-25.70	2
Kingsville	127	0.05-7.39	0
Lakeshore	62	0.12-3.36	0
Leamington	125	0.11-19.2	1
<b>Distribution</b>			
Essex	44	0.09-21.10	1
Kingsville	49	0.12-16.7	1
Lakeshore	34	0.23-1.59	0
Leamington	63	0.02-7.75	0

**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 8, 2008	<0.11	ug/L	No
Aldicarb	January 8, 2008	<0.3	ug/L	No
Aldrin + Dieldrin	January 8, 2008	<0.067	ug/L	No
Atrazine + N-dealkylated metabolites	January 8, 2008	<0.12	ug/L	No
Azinphos-methyl	January 8, 2008	<0.21	ug/L	No
Bendiocarb	January 8, 2008	<0.13	ug/L	No
Benzene	January 8, 2008	<0.37	ug/L	No
Benzo(a)pyrene	January 8, 2008	<0.004	ug/L	No
Bromoxynil	January 8, 2008	<0.33	ug/L	No
Carbaryl	January 8, 2008	<0.16	ug/L	No
Carbofuran	January 8, 2008	<0.37	ug/L	No
Carbon Tetrachloride	January 8, 2008	<0.41	ug/L	No
Chlordane (Total)	January 8, 2008	<0.11	ug/L	No
Chlorpyrifos	January 8, 2008	<0.18	ug/L	No
Cyanazine	January 8, 2008	<0.18	ug/L	No
Diazinon	January 8, 2008	<0.20081	ug/L	No
Dicamba	January 8, 2008	<0.2	ug/L	No
1,2-Dichlorobenzene	January 8, 2008	<0.5	ug/L	No
1,4-Dichlorobenzene	January 8, 2008	<0.21	ug/L	No
Dichlorodiphenyltrichloroethane (DDT) + metabolites	January 8, 2008	<0.14	ug/L	No
1,2-Dichloroethane	January 8, 2008	<0.43	ug/L	No



<b>1,1-Dichloroethylene (vinylidene chloride)</b>	January 8, 2008	<0.41	ug/L	No
<b>Dichloromethane</b>	January 8, 2008	<0.34	ug/L	No
<b>2-4 Dichlorophenol</b>	January 8, 2008	<0.15	ug/L	No
<b>2,4-Dichlorophenoxy acetic acid (2,4-D)</b>	January 8, 2008	<0.19	ug/L	No
<b>Diclofop-methyl</b>	January 8, 2008	<0.4	ug/L	No
<b>Dimethoate</b>	January 8, 2008	<0.12	ug/L	No
<b>Dinoseb</b>	January 8, 2008	<0.36	ug/L	No
<b>Diquat</b>	January 8, 2008	<1.0	ug/L	No
<b>Diuron</b>	January 8, 2008	<0.20087	ug/L	No
<b>Glyphosate</b>	January 8, 2008	<6.0	ug/L	No
<b>Heptachlor + Heptachlor Epoxide</b>	January 8, 2008	<0.11	ug/L	No
<b>Lindane (Total)</b>	January 8, 2008	<0.056	ug/L	No
<b>Malathion</b>	January 8, 2008	<0.091	ug/L	No
<b>Methoxychlor</b>	January 8, 2008	<0.14	ug/L	No
<b>Metolachlor</b>	January 8, 2008	<0.092	ug/L	No
<b>Metribuzin</b>	January 8, 2008	<0.12	ug/L	No
<b>Monochlorobenzene</b>	January 8, 2008	<0.58	ug/L	No
<b>Paraquat</b>	January 8, 2008	<1.0	ug/L	No
<b>Parathion</b>	January 8, 2008	<0.18	ug/L	No
<b>Pentachlorophenol</b>	January 8, 2008	<0.15	ug/L	No
<b>Phorate</b>	January 8, 2008	<0.11	ug/L	No
<b>Picloram</b>	January 8, 2008	<0.25	ug/L	No
<b>Polychlorinated Biphenyls(PCB)</b>	January 8, 2008	<0.04	ug/L	No
<b>Prometryne</b>	January 8, 2008	<0.23	ug/L	No
<b>Simazine</b>	January 8, 2008	<0.15	ug/L	No
<b>THM</b>	<b>Essex</b> Annual Average	14.2	ug/L	No
	<b>Kingsville</b> Annual Average	13.9	ug/L	No
	<b>Lakeshore</b> Annual Average	15.5	ug/L	No
	<b>Leamington</b> Annual Average	12.7	ug/L	No
<b>Temephos</b>	January 8, 2008	<0.31	ug/L	No
<b>Terbufos</b>	January 8, 2008	<0.12	ug/L	No
<b>Tetrachloroethylene</b>	January 8, 2008	<0.45	ug/L	No
<b>2,3,4,6-Tetrachlorophenol</b>	January 8, 2008	<0.14	ug/L	No
<b>Triallate</b>	January 8, 2008	<0.10	ug/L	No
<b>Trichloroethylene</b>	January 8, 2008	<0.38	ug/L	No
<b>2,4,6-Trichlorophenol</b>	January 8, 2008	<0.25	ug/L	No
<b>2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)</b>	January 8, 2008	<0.22	ug/L	No
<b>Trifluralin</b>	January 8, 2008	<0.12	ug/L	No
<b>Vinyl Chloride</b>	January 8, 2008	<0.17	ug/L	No



**List any Inorganic or Organic parameter(s) that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards.**

<b>Parameter</b>	<b>Result Value</b>	<b>Unit of Measure</b>	<b>Date of Sample</b>
<b>None</b>			