



ANNUAL REPORT

Drinking-Water System Number:	260091117
Drinking-Water System Name:	West Elgin Water Treatment Plant
Drinking-Water System Owner:	Corporation of the Municipality of West Elgin
Drinking-Water System Category:	Large Municipal Residential
Period being reported:	May 7-December 31, 2009

<p><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></p> <p>Does your Drinking-Water System serve more than 10,000 people? Yes [] No [X]</p> <p>Is your annual report available to the public at no charge on a web site on the Internet? Yes [] No [X]</p> <p>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</p> <table border="1" style="width: 100%;"> <tr> <td>West Elgin Water Treatment Plant 9210 Graham Road RR#2 West Lorne, ON N0L 2P0</td> </tr> </table>	West Elgin Water Treatment Plant 9210 Graham Road RR#2 West Lorne, ON N0L 2P0	<p><u>Complete for all other Categories.</u></p> <p>Number of Designated Facilities served:</p> <table border="1" style="width: 100%;"> <tr> <td style="height: 20px;"></td> </tr> </table> <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:</p> <table border="1" style="width: 100%;"> <tr> <td style="width: 100px; height: 20px;"></td> </tr> </table> <p>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [] No []</p>		
West Elgin Water Treatment Plant 9210 Graham Road RR#2 West Lorne, ON N0L 2P0				

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:

Drinking Water System Name	Drinking Water System Number
Southwest Middlesex Distribution System	260005502

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 _____

Describe your Drinking-Water System

This water treatment plant replaces the old WTP under waterworks number 220002949. The old WTP was taken out of commission on May 6, 2009, when the new WTP under waterworks number 260091117 became the sole supplier of treated water.

This Water Treatment Plant is a membrane filtration surface water treatment facility with a total design capacity of 12,160m³/day, located at 9210 Graham Road in the Municipality of West Elgin. The low lift pumping station is located south of the Water Treatment Plant at 8662 Graham Road, on the shores of Lake Erie.

The water treatment facility consists of an intake system, a low lift pumping station, a treatment system and distribution pumping system that supplies water to the following secondary distribution systems: West Elgin, Dutton-Dunwich, Southwest Middlesex, Newbury, and Bothwell.

Intake

The intake consists of one 700mm diameter polyethylene pipe extending approximately 610m into Lake Erie at a depth of 5.7m. A zebra mussels chemical control system is used seasonally. The raw water is screened by two coarse screens.

Low Lift Pumping Station

Raw water is pumped from the low lift wet wells by four low lift pumps to the Water Treatment Plant.



Treatment Plant

Filtration

At the water treatment plant the water is pre-filtered by four automatic strainers to protect the filter membranes from coarser particles and algae in the raw water.

After the water has been strained it enters the membrane filtration system which removes fine particles, sediment, algae, protozoa and bacteria. Filtered water can be directed through the UV advanced oxidation process (AOP) unit to the treated water storage tanks.

Disinfection

Disinfection is achieved by the use of sodium hypochlorite for primary disinfection. Note that UV is intended for use with hydrogen peroxide (AOP) for taste and odour control. The treated water is stored in treated water storage tanks where it is pumped into the distribution network by the High Lift pumps. Post chlorination of the treated water is done at two points. The first dosing point is upstream of the Treated Water Storage Tanks and the second dosing point is downstream of the four High Lift Pumps before the distribution header.

Process Drain Water

Waste water from the floor drains and online analyzers are directed to the process water handling facilities that include a settling basin and constructed wetlands. Flush water that cleans the pre-strainers and the membranes is also sent to the process water handling facilities.

Monitor and Control

The water treatment process and distribution components are controlled by a dedicated Supervisory control and Data Acquisition (SCADA) computer system and monitored by certified operations.

Standby Power

Two diesel generators are available to permit the treatment plant to remain in operation should a power failure occur.

Distribution

The West Elgin WTP serves several communities. The primary transmission line from the WTP ends at the West Lorne Standpipe. Included in the distribution system is the Iona Re-Chlorination Station. The West Lorne Standpipe and Iona Re-chlorination Station are controlled and monitored from the WTP via SCADA.



List all water treatment chemicals used over this reporting period

Chlorine Gas
 Sodium Hypochlorite 12%
 Citric Acid 50%*
 Caustic Soda 50%*
 Sodium Bisulphite 38%*
 *used in the cleaning process of the membranes

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

Chemical Metering Pump for Iona Re-chlorination \$1800
 Backflow Preventor Inspection \$600
 Iona Flow Control Valve Repairs \$600
 Air Filter Maintenance \$700

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
n/a					

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 #)	Range of Total Coliform Results (min #)-(max #)	Number of HPC Samples	Range of HPC Results (min #)-(max #)
Raw	35	0 - 24	0 - 8100	n/a	n/a
Treated	35	0 - 0	0 - 0	35	<10 - 110
Distribution	140	0 - 0	0 - 0	35	<10 - 20

Operational testing done under Schedule 7 of Regulation 170/03 during the period covered by this Annual Report.

	Number of Grab Samples	Range of Results (min #)-(max #)

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



Turbidity (Raw)	8760	0.41-439.8
Turbidity (Rack 1)	8760	0.01-0.57
Turbidity (Rack 2)	8760	0.01-0.51
Turbidity (Rack 3)	8760	0.01-0.56
Turbidity (Rack 4)	8760	0.01-0.43
Chlorine (Primary Disinfection)	8760	1.25-2.02
Chlorine (Distribution)	238	0.59-2.13

NOTE: Record the unit of measure if it is **not** milligrams per litre.

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
19-Oct-07	Suspended Solids	21-Jul-09 13-Oct-09	10 142 Avg = 76	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	19-May-09	0.17	µg/L	No
Arsenic	19-May-09	0.9	µg/L	No
Barium	19-May-09	22.0	µg/L	No
Boron	19-May-09	22.1	µg/L	No
Cadmium	19-May-09	0.003	µg/L	No
Chromium	19-May-09	<0.5	µg/L	No
Mercury	19-May-09	<0.02	µg/L	No
Selenium	19-May-09	<1	µg/L	No
Sodium	19-May-09	12.1	mg/L	No
Uranium	19-May-09	0.390	µg/L	No
Fluoride	19-May-09	0.12	mg/L	No
Nitrite	19-May-09	<0.005	mg/L	No
	13-Jul-09	<0.005		
	13-Oct-09	<0.005		
Nitrate	19-May-09	0.116	mg/L	No
	13-Jul-09	0.114		
	13-Oct-09	0.183		

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
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Alachlor	19-May-09	<0.11	µg/L	No
Aldicarb	19-May-09	<0.30	µg/L	No
Aldrin + Dieldrin	19-May-09	<0.067	µg/L	No
Atrazine + N-dealkylated metabolites	19-May-09	<0.12	µg/L	No
Azinphos-methyl	19-May-09	<0.21	µg/L	No
Bendiocarb	19-May-09	<0.13	µg/L	No
Benzene	20-May-09	<0.37	µg/L	No
Benzo(a)pyrene	19-May-09	<0.004	µg/L	No
Bromoxynil	19-May-09	<0.33	µg/L	No
Carbaryl	19-May-09	<0.16	µg/L	No
Carbofuran	19-May-09	<0.37	µg/L	No
Carbon Tetrachloride	20-May-09	<0.41	µg/L	No
Chlordane (Total)	19-May-09	<0.11	µg/L	No
Chlorpyrifos	19-May-09	<0.18	µg/L	No
Cyanazine	19-May-09	<0.18	µg/L	No
Diazinon	19-May-09	<0.081	µg/L	No
Dicamba	19-May-09	<0.20	µg/L	No
1,2-Dichlorobenzene	20-May-09	<0.50	µg/L	No
1,4-Dichlorobenzene	20-May-09	<0.21	µg/L	No
Dichlorodiphenyltrichloroethane (DDT) + metabolites	19-May-09	<0.14	µg/L	No
1,2-Dichloroethane	20-May-09	<0.43	µg/L	No
1,1-Dichloroethylene (vinylidene chloride)	20-May-09	<0.41	µg/L	No
Dichloromethane	19-May-09	<0.34	µg/L	No
2-4 Dichlorophenol	19-May-09	<0.15	µg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	19-May-09	<0.19	µg/L	No
Diclofop-methyl	19-May-09	<0.40	µg/L	No
Dimethoate	19-May-09	<0.12	µg/L	No
Dinoseb	19-May-09	<0.36	µg/L	No
Diquat	19-May-09	<1	µg/L	No
Diuron	19-May-09	<0.087	µg/L	No
Glyphosate	19-May-09	<6	µg/L	No
Heptachlor + Heptachlor Epoxide	19-May-09	<0.11	µg/L	No
Lindane (Total)	19-May-09	<0.056	µg/L	No
Malathion	19-May-09	<0.091	µg/L	No
Methoxychlor	19-May-09	<0.14	µg/L	No
Metolachlor	19-May-09	<0.092	µg/L	No
Metribuzin	19-May-09	<0.12	µg/L	No
Monochlorobenzene	20-May-09	<0.58	µg/L	No
Paraquat	19-May-09	<1	µg/L	No
Parathion	19-May-09	<0.18	µg/L	No



Pentachlorophenol	19-May-09	<0.15	µg/L	No
Phorate	19-May-09	<0.11	µg/L	No
Picloram	19-May-09	<0.25	µg/L	No
Polychlorinated Biphenyls(PCB)	19-May-09	<0.04	µg/L	No
Prometryne	19-May-09	<0.23	µg/L	No
Simazine	19-May-09	<0.15	µg/L	No
THM (NOTE: show latest annual average)	19-May-09 13-Jul-09 13-Oct-09	33 46 39 Avg=39.3	µg/L	No
Temephos	19-May-09	<0.31	µg/L	No
Terbufos	19-May-09	<0.12	µg/L	No
Tetrachloroethylene	20-May-09	<0.45	µg/L	No
2,3,4,6-Tetrachlorophenol	19-May-09	<0.14	µg/L	No
Triallate	19-May-09	<0.10	µg/L	No
Trichloroethylene	20-May-09	>0.38	µg/L	No
2,4,6-Trichlorophenol	19-May-09	<0.25	µg/L	No
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	19-May-09	<0.22	µg/L	No
Trifluralin	19-May-09	<0.12	µg/L	No
Vinyl Chloride	20-May-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
n/a			