



ANNUAL REPORT

Drinking-Water System Number:	220003421
Drinking-Water System Name:	Windsor Utilities Commission
Drinking-Water System Owner:	City of Windsor
Drinking-Water System Category:	Large Municipal Residential
Period being reported:	Calendar Year 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 [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;"> <p>City of Windsor – City Hall 350 City Hall Square Windsor ON N9A 6S1</p> </div>	<p><u>Complete for all other Categories.</u></p> <p>Number of Designated Facilities served: <input type="text"/></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: <input type="text"/></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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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
Town of LaSalle, Ontario	220004402
Town of Tecumseh, Ontario	260004969

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

The Windsor Utilities Commission water treatment facilities employs screening, pre-chlorination (on an as needed basis), pH adjustment (utilizing CO₂), primary disinfection (utilizing ozone), coagulation, flocculation, sedimentation, dual-media filtration with post chlorination and fluoridation to treat raw water obtained from the Detroit River. The water treatment plant also treats sedimentation sludge and backwash water utilizing coagulation, flocculation and sedimentation followed by centrifugal dewatering with the cake being shipped to landfill for disposal.

Treated water from the plant is routed to an on-site reservoir and subsequently pumped into the distribution system from two pumping stations that are co-located nearby the water treatment facilities. Water from the pumping stations satisfies demand for the greater Windsor area including the communities of Tecumseh and LaSalle. A remote reservoir and pumping station provides a re-chlorination facility (using sodium hypochlorite) to provide system pressure and flow to the south-west portion of the city, while a centrally located water tower, provides pressure and flow control to the downtown core.

The drinking water system is monitored at various locations, both at the water treatment and pumping stations as well as throughout the transmission system via a Supervisory Control and Data Acquisition (SCADA) system.

List all water treatment chemicals used over this reporting period

Chlorine gas
Carbon dioxide (CO₂)
Ozone
Polyaluminum chloride (PaCl)
Hydrofluosilicic acid
Filter aid cationic polymer



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

Installation of 3 soft starts on the backwash system.

Replacement of 700hp motor at George Avenue pump station.

Complete rebuild of North Centrifuge in the wastewater treatment area.

#3 high lift pump motor repair at the A.J. Brian pump station.

Installation of security gate and associated surveillance camera's.

Hanna Tower SCADA hardware and software upgrades.

Design and purchase of Medium/Low Voltage equipment components for J.F. Cook and A.J. Brian pump stations.

Replacement and upgrade of four natural gas generator catalyst components.

Plant wide telephone system upgrade.

Phase one of SCADA system hardware and software upgrade.

Installation of 37 fire hydrants and associated appurtenances.

Installation of approximately 18.38 km of watermains <300mm and 0.21 km of watermains >300 mm.

Replaced 4,045 water meter units of various sizes.

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
Jan 06	None - AWQI 86039 damaged 12 inch watermain affecting two customers			Health Unit issued BWA, repaired, flushed, resampled	Jan 15
Jan 06	None – AWQI 86042 damaged 10 inch watermain affecting one customer			Health Unit issued BWA, repaired, flushed, resampled	Jan 12
Jan 22	None – AWQI 86205 damaged water service between main & customer shut off			Health Unit issued BWA, repaired, flushed, resampled	Jan 29
Jan 28	Lead – AWQI 86266 – hydrant	11.4	ug/L	Flushed, resampled with additional sample downstream	Feb 03
Feb 3	Lead – AWQI 86384 – hydrant	10.5	ug/L	Flushed, resampled with additional samples up and downstream	Feb 17
Feb 06	None - AWQI 86474 damaged water service between main & curb stop			Health Unit issued BWA, repaired, flushed, resampled	Feb 23
Feb 19	Lead – AWQI 86694 – hydrant	40.9	ug/L	Flushed, resampled with additional samples up and downstream	Feb 26
Mar 02	Free Chlorine – AWQI 86866	0.04	mg/L	Flushed & resampled	Mar 02
Mar 12	Free chlorine – AWQI 87059	0.01	mg/L	Flushed & resampled	Mar 12
Mar 23	None – AWQI 87240 water service line contaminated between curb stop and property line			Health Unit issued BWA, repaired, flushed, resampled	Mar 27
Mar 24	None – AWQI 87253 broken water service between main & customer property line			Health Unit issued BWA, repaired, flushed, resampled	Mar 30
Mar 31	None – AWQI 87392 damaged water service between main & customer property line			Health Unit issued BWA, repaired, flushed, resampled	Apr 03
Mar 31	None – AWQI 87397 damaged water service between main & customer property line			Health Unit issued BWA, repaired, flushed, resampled	Apr 06
Apr 24	None – AWQI 87776 damaged water service between main & property line			Health Unit issued BWA, repaired, flushed, resampled	Apr 30
May 19	None – AWQI 88123 water service break between main & property line			Health Unit issued BWA, repaired, flushed, resampled	May 25
May 22	None – AWQI 88183 damaged water service between main & curb stop			Health Unit issued BWA, repaired, flushed, resampled	May 28
May 22	None – AWQI 88184 damaged watermain			Health Unit issued BWA, repaired, flushed, resampled	May 28
May 25	Free chlorine – AWQI 88216	0.00	mg/L	Flushed & resampled	May 25
May 26	None – AWQI 88244 damaged water service between main & property line			Health Unit issued BWA, repaired, flushed, resampled	Jun 01
Jun 17	Free chlorine – AWQI 88573	0.00	mg/L	Flushed & resampled	Jun 17
Jun 19	None – AWQI 88626 water service break between main & property line			Health Unit issued BWA, repaired, flushed, resampled	Jun 25



Jun 23	None – AWQI 88693 damaged water service between main & property line			Health Unit issued BWA, repaired, flushed, resampled	Jun 29
Jul 06	None – AWQI 89075 damaged water service between main & property line			Health Unit issued BWA, repaired, flushed, resampled	Jul 10
Jul 09	Free chlorine – AWQI 89211	0.02	mg/L	Flushed & resampled	Jul 09
Jul 09	None – AWQI 89217 damaged water service between main & property line			Health Unit issued BWA, repaired, flushed, resampled	Jul 16
Jul 31	Free chlorine – AWQI 90153	0.03	mg/L	Flushed & resampled	Jul 31
Aug 11	None – AWQI 90371 broken water service between main & property line			Health Unit issued BWA, repaired, flushed, resampled	Aug 17
Aug 12	None – AWQI 90415 damaged water service between main & property line			Health Unit issued BWA, repaired, flushed, resampled	Aug 17
Aug 18	None – AWQI 90558 damaged water service between main and property line			Health Unit issued BWA, repaired, flushed, resampled	Aug 27
Aug 20	None – AWQI 90626 damaged water service between main & property line			Health Unit issued BWA, repaired, flushed, resampled	Aug 27
Aug 20	None – AWQI 90662 water service break between main & property line			Health Unit issued BWA, repaired, flushed, resampled	Aug 27
Aug 21	Free chlorine – AWQI 90680	0.00	mg/L	Flushed & resampled	Aug 21
Aug 28	None – AWQI 90856 damaged water service between main & property line			Health Unit issued BWA, repaired, flushed, resampled	Sep 03
Sep 04	Free chlorine – AWQI 91049	0.00	mg/L	Flushed & resampled	Sep 04
Sep 04	None – AWQI 91059 Water service break between main & property line			Health Unit issued BWA, repaired, flushed, resampled	Sep 11
Sept 04	None – AWQI 91067 broken water feeder main			No customers on this main, therefore no BWA	On going
Sep 04	None – AWQI 91068 Broken watermain			Health Unit issued BWA, repaired, flushed, resampled	Sep 11
Sep 17	Free chlorine – AWQI 91284	0.03	mg/L	Flushed & resampled	Sep 17
Sep 17	Free chlorine – AWQI 91290	0.02	mg/L	Flushed & resampled	Sep 17
Sep 25	None – AWQI 91470 broken water service between main & property line			Health Unit issued BWA, repaired, flushed, resampled	Sep 28
Sep 28	None – AWQI 91497 watermain break			No customers on this main, therefore no BWA but repairs completed, flushed, resampled	Oct 02
Oct 06	None – AWQI 91696 watermain break			Health Unit issued BWA, repaired, flushed, resampled	Oct 09
Oct 15	None – AWQI 91850 damaged water service between main & curb stop			Health Unit issued BWA, repaired, flushed, resampled	Oct 22
Oct 16	None – AWQI 91880 damaged water service between main & lot line			Health Unit issued BWA, repaired, flushed, resampled	Oct 22
Oct 19	None – AWQI 91905 damaged water service between main & lot line			Health Unit issued BWA, repaired, flushed, resampled	Oct 23
Oct 21	None – AWQI 91970 damaged water service between main & lot line			Health Unit issued BWA, repaired, flushed, resampled	Oct 26
Oct 26	None – AWQI 92062 broken watermain			Health Unit issued BWA, repaired, flushed, resampled	Oct 30
Oct 26	None – AWQI 92064 damaged water service between main & curb stop			Health Unit issued BWA, repaired, flushed, resampled	Nov 02
Oct 26	None – AWQI 92066 damaged water service between main & curb stop			Health Unit issued BWA, repaired, flushed, resampled	Nov 02

Nov 02	None – AWQI 92175 broken water service between main & curb stop			Health Unit issued BWA, repaired, flushed, resampled	Nov 06
Nov 18	None – AWQI 92373 damaged water service between main & lot line			Health Unit issued BWA, repaired, flushed, resampled	Nov 23
Dec 10	None – AWQI 92731 damaged water service between main & lot line			Health Unit issued BWA, repaired, flushed, resampled	Dec 12
Dec 15	None – AWQI 92792 damaged water service between main & lot line			Health Unit issued BWA, repaired, flushed, resampled	Dec 21

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	244	0 - 800	0 – 5400	244	30 – 1330
Treated	2101	0 – 0	0 - 0	1097	0 – 760
Distribution	2429	0 - 0	0 - 0	1617	0 – 450

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	0.03 – 0.15
Chlorine	8760	1.11 – 2.54
Fluoride (If the DWS provides fluoridation)	8760	0.55 – 0.75

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

*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
5129-64CP7J	Bromate – Treated	Jan – Dec	< 3 – 5	ppb
5129-64CP7J	Bromate – Distribution	Jan – Dec	< 3 – 5	ppb
5129-64CP7J	Suspended Solids – (composite)	Jan – Dec	2.9 – 32.8	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	Oct 2 2009	0.00008	mg/L	
Arsenic	Oct 2 2009	0.0006	mg/L	
Barium	Oct 2 2009	0.0168	mg/L	
Boron	Oct 2 2009	0.0175	mg/L	
Cadmium	Oct 2 2009	<0.000003	mg/L	
Chromium	Oct 2 2009	<0.0005	mg/L	
Lead	Oct 2 2009	<0.00002	mg/L	
Mercury	Oct 2 2009	0.00014	mg/L	
Selenium	Oct 2 2009	<0.001	mg/L	
Sodium	Jan 07 2009	7.87	mg/L	
Uranium	Oct 2 2009	0.000079	mg/L	
Fluoride	Dec 2009	0.64	mg/L	
Nitrite	Oct 2 2009	<0.005	mg/L	
Nitrate	Oct 2 2009	0.261	mg/L	

*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 #)	Number of Exceedances
Plumbing	268	0.05 – 61.8	60
Distribution	87	0.02 – 40.9	3

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	Oct 2 2009	<0.00011	mg/L	
Aldicarb	Oct 2 2009	<0.0003	mg/L	
Aldrin + Dieldrin	Oct 2 2009	<0.000067	mg/L	
Atrazine + N-dealkylated metabolites	Oct 2 2009	<0.00012	mg/L	
Azinphos-methyl	Oct 2 2009	<0.00021	mg/L	



Bendiocarb	Oct 2 2009	<0.00013	mg/L	
Benzene	Oct 2 2009	<0.00032	mg/L	
Benzo(a)pyrene	Oct 2 2009	<0.000004	mg/L	
Bromoxynil	Oct 2 2009	<0.00033	mg/L	
Carbaryl	Oct 2 2009	<0.00016	mg/L	
Carbofuran	Oct 2 2009	<0.00037	mg/L	
Carbon Tetrachloride	Oct 2 2009	<0.00016	mg/L	
Chlordane (Total)	Oct 2 2009	<0.00011	mg/L	
Chlorpyrifos	Oct 2 2009	<0.00018	mg/L	
Cyanazine	Oct 2 2009	<0.00018	mg/L	
Diazinon	Oct 2 2009	<0.000081	mg/L	
Dicamba	Oct 2 2009	<0.0002	mg/L	
1,2-Dichlorobenzene	Oct 2 2009	<0.00041	mg/L	
1,4-Dichlorobenzene	Oct 2 2009	<0.00036	mg/L	
Dichlorodiphenyltrichloroethane (DDT) + metabolites	Oct 2 2009	<0.00014	mg/L	
1,2-Dichloroethane	Oct 2 2009	<0.00035	mg/L	
1,1-Dichloroethylene (vinylidene chloride)	Oct 2 2009	<0.00033	mg/L	
Dichloromethane	Oct 2 2009	<0.00035	mg/L	
2,4 Dichlorophenol	Oct 2 2009	<0.00015	mg/L	
2,4-Dichlorophenoxy acetic acid (2,4-D)	Oct 2 2009	<0.00019	mg/L	
Diclofop-methyl	Oct 2 2009	<0.0004	mg/L	
Dimethoate	Oct 2 2009	<0.00012	mg/L	
Dinoseb	Oct 2 2009	<0.00036	mg/L	
Diquat	Oct 2 2009	<0.001	mg/L	
Diuron	Oct 2 2009	<0.000087	mg/L	
Glyphosate	Oct 2 2009	<0.006	mg/L	
Heptachlor + Heptachlor Epoxide	Oct 2 2009	<0.00011	mg/L	
Lindane (Total)	Oct 2 2009	<0.000056	mg/L	
Malathion	Oct 2 2009	<0.000091	mg/L	
Methoxychlor	Oct 2 2009	<0.00014	mg/L	
Metolachlor	Oct 2 2009	<0.000092	mg/L	
Metribuzin	Oct 2 2009	<0.00012	mg/L	
Monochlorobenzene	Oct 2 2009	<0.0003	mg/L	
Paraquat	Oct 2 2009	<0.001	mg/L	
Parathion	Oct 2 2009	<0.00018	mg/L	
Pentachlorophenol	Oct 2 2009	<0.00015	mg/L	
Phorate	Oct 2 2009	<0.00011	mg/L	
Picloram	Oct 2 2009	<0.00025	mg/L	
Polychlorinated Biphenyls(PCB)	Oct 2 2009	<0.00004	mg/L	
Prometryne	Oct 2 2009	<0.00023	mg/L	
Simazine	Oct 2 2009	<0.00015	mg/L	



THM (NOTE: show latest annual average) Q1 09 0.0065 Q2 09 0.0084 Q3 09 0.011 Q4 09 0.0099		0.0090	mg/L	
Temephos	Oct 2 2009	<0.00031	mg/L	
Terbufos	Oct 2 2009	<0.00012	mg/L	
Tetrachloroethylene	Oct 2 2009	<0.00035	mg/L	
2,3,4,6-Tetrachlorophenol	Oct 2 2009	<0.00014	mg/L	
Triallate	Oct 2 2009	<0.0001	mg/L	
Trichloroethylene	Oct 2 2009	<0.00043	mg/L	
2,4,6-Trichlorophenol	Oct 2 2009	<0.00025	mg/L	
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	Oct 2 2009	<0.00022	mg/L	
Trifluralin	Oct 2 2009	<0.00012	mg/L	
Vinyl Chloride	Oct 2 2009	<0.00017	mg/L	

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
Bromate (Distribution)	N/A	N/A	N/A
Bromate (Treated)	N/A	N/A	N/A