



OPTIONAL ANNUAL REPORT TEMPLATE

Drinking-Water System Number:	220003341
Drinking-Water System Name:	Wallaceburg Water Treatment Plant
Drinking-Water System Owner:	Municipality of Chatham-Kent
Drinking-Water System Category:	Large Municipal Residential
Period being reported:	January 1 – December 31, 2008

<p><b><u>Complete if your Category 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;"> <p>Chatham-Kent P.U.C. Office 325 Grand Ave., East P.O. Box 1191 Chatham, Ontario N7M 5L8</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; display: inline-block;">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; display: inline-block;">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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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
N/A	

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

**Describe your Drinking-Water System**

Raw Water is drawn from the Chenal Ecarte, which is fed by the St. Clair River. The Ministry of Environment monitors the St. Clair River for various contaminants. In the event that the Wallaceburg WTP is alerted to a spill that has occurred upstream, the raw water intake is shut down and monitoring of the raw water occurs until all traces of the chemical has passed by the raw water intake.

Items that are pulled into the intake pipe are screened out while the raw water continues to the filtration plant for treatment. Chlorine is injected into the raw water intake during the summer months to control the growth of zebra mussels. In the summer months a chemical called Clarion A-7 is also added to the raw water before it flows into the sedimentation tanks. In the winter months, a chemical called Poly Aluminum Chloride (PAC) is used in place of the Clarion A-7 due to the fact that PAC works better in colder water temperatures. The addition of the Clarion A-7 or PAC along with mixing, causes the light suspended particles to join together and form larger heavy particles (floc) that will settle out of the water. The water plant also utilizes a coagulant aid in elevated turbidity water processing called Magnafloc LT27AG Polymer. This polymer works with the Clarion A-7 or the PAC in coagulation process. Once the water leaves the pretreatment tanks, it is chlorinated. The water moves on top of the filters and is moved through the different layers of material that make up the filter. The filters in the Wallaceburg plant are made up of a layer of anthracite, sand and gravel. The filtration process traps any floc and particles of dirt that did not settle out in the previous process. The filtered water is then stored in reservoirs until it is needed to supply the distribution system with water. As the treated water leaves the filtration plant chlorine is added to keep the water from developing bacteria as it travels to the customer. Fluoride is also added to the treated water to help prevent tooth decay. The treated water in the distribution system supplies the Wallaceburg area and the elevated water tower located on the north end of Wallaceburg. The elevated water tower has a holding capacity of 4.5 million litres of water.

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

Clarion A-7, Poly Aluminum Chloride, Magnafloc LT27AG polymer, Chlorine Gas, Sodium Hypochlorite, Hydrofluosilicic Acid

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**

Replacement of Reservoir Hatches \$2,500  
 Spare Chemical Feed Pump \$3,500  
 Electronic Scale \$5,200  
 SCADA System Upgrade \$122,000

**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
May 5/08	Possible watermain contamination during a water service upgrade.	Boil Water Advisory Issued		Resampled 2 sets of microbiological tests with no bacteria present.	May 8/08
June 17/08	Lab reports Total Coliform Count in weekly sampling	1	CFU	Resampled 2 sets of microbiological test with no bacteria present.	June 20/08
August 12/08	Possible watermain contamination during a watermain repair.	Boil Water Advisory Issued		Resampled 2 sets of microbiological tests with no bacteria present.	August 14/08
August 25/08	Possible watermain contamination during a water service upgrade.	Boil Water Advisory Issued		Resampled 2 sets of microbiological tests with no bacteria present	August 28/08
October 02/08	Distribution chlorine residual <0.05 mg/L	0.02	mg/L	Flushed watermain until chlorine residual of 0.50 mg/L was achieved.	October 02/08
October 02/08	Distribution chlorine residual <0.05 mg/L	0.02	mg/L	Flushed watermain until chlorine residual of 0.50 mg/L was achieved.	October 02/08

October 23/08	Possible watermain contamination during a watermain repair.	Boil Water Advisory Issued		Resampled 2 sets of microbiological tests with no bacteria present.	October 25/08
October 30/08	Lab reports an exceedance mercury level in water sample.	0.0011	mg/L	Lab resampled original sample again and resubmitted additional water sample to be tested. All samples retested tested non-detect for mercury.	November 07/08
November 01/08	Possible watermain contamination during a watermain repair.	Boil Water Advisory Issued		Resampled 2 sets of microbiological tests with no bacteria present.	November 03/08
November 08/08	Possible watermain contamination during a watermain repair.	Boil Water Advisory Issued		Resampled 2 sets of microbiological tests with no bacteria present.	November 10/08
December 04/08	Possible watermain contamination during a tie in of new watermain.	Boil Water Advisory Issued		Resampled 2 sets of microbiological tests with no bacteria present.	December 07/08

**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 #)
<b>Raw</b>	53	0 – 660	1 - 3001	N/A	N/A
<b>Treated</b>	53	0 – 0	0 - 0	53	9 – 50
<b>Distribution</b>	371	0 - 0	0 - 1	371	9 - 470

**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 #)
<b>Turbidity</b>	8760	0.012 - 0.985 NTU
<b>Chlorine</b>	8760	0.560 - 1.924 mg/L
<b>Fluoride</b> (If the DWS provides fluoridation)	8760	0.290 - 0.950 mg/L

***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
N/A				
N/A				

**Summary of Inorganic parameters tested during this reporting period or the most recent sample results**

Parameter	Sample Date Jan. 22/08	Sample Date Apr. 03/08	Sample Date July 10/08	Sample Date Oct. 08/08
<b>Antimony – ug/L</b>	<0.5	<0.5	<0.5	0.6
<b>Arsenic - ug/L</b>	<1	<1	<1	<1
<b>Barium - ug/L</b>	14	25	14	14
<b>Boron - ug/L</b>	16	<10	16	20
<b>Cadmium ug/L</b>	<0.1	<0.1	<0.1	<0.1
<b>Chromium - ug/L</b>	<5	<5	<5	<5
<b>*Lead – ug/L</b>	N/A	N/A	N/A	N/A
<b>Mercury - ug/L</b>	<0.0001	<0.0001	<0.0001	<0.0001
<b>Selenium - ug/L</b>	<2	<2	<2	<2
<b>Sodium - ug/L</b>	4700	N/A	N/A	N/A
<b>Sodium Dist. System - ug/L</b>	5300	N/A	N/A	N/A
<b>Uranium - ug/L</b>	<0.1	<0.1	<0.1	<0.1
<b>Fluoride - mg/L</b>	0.5	N/A	N/A	N/A
<b>Nitrite - mg/L</b>	<0.01	<0.01	<0.01	<0.01
<b>Nitrate - mg/L</b>	0.4	4.5	0.3	0.2

\*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 ug/L (min#) – (max #)	Number of Exceedances / Adverses
Residential	242	<0.50 - 17.00	4
Non-Residential	24	<0.50 - 6.70	0
Distribution	78	<0.50 - 1.10	0

**Summary of Organic parameters sampled during this reporting period or the most recent sample results. (Results measured in ug/L)**

Parameter	Sample Date Jan. 22/08	Sample Date Apr. 03/08	Sample Date July 10/08	Sample Date Oct. 08/08
Alachlor	<0.5	<0.5	<0.5	<0.5
Aldicarb	<5	<5	<5	<5
Aldrin + Dieldrin	<0.01	<0.01	<0.01	<0.01
Atrazine + N-dealkylated metabolites	<1	<1	<1	<1
Azinphos-methyl	<2	<2	<2	<2
Bendiocarb	<2	<2	<2	<2
Benzene	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	<0.009	<0.009	<0.009	<0.009
Bromoxynil	<0.5	<0.5	<0.5	<0.5
Carbaryl	<5	<5	<5	<5
Carbofuran	<5	<5	<5	<5
Carbon Tetrachloride	<0.1	<0.1	<0.1	<0.1
Chlordane (Total)	<0.01	<0.01	<0.01	<0.01
Chlorpyrifos	<1	<1	<1	<1
Cyanazine	<1	<1	<1	<1
Diazinon	<1	<1	<1	<1
Dicamba	<1	<1	<1	<1
1,2-Dichlorobenzene	<0.2	<0.2	<0.2	<0.2
1,4-Dichlorobenzene	<0.2	<0.2	<0.2	<0.2
Dichlorodiphenyltrichloroethane (DDT) + metabolites	<0.02	<0.02	<0.02	<0.02
1,2-Dichloroethane	<0.1	<0.2	<0.2	<0.2
1,1-Dichloroethylene (vinylidene chloride)	<0.1	<0.1	<0.1	<0.1
Dichloromethane	<0.5	<0.5	<0.5	<0.5
2-4 Dichlorophenol	<0.5	<0.5	<0.5	<0.5
2,4-Dichlorophenoxy acetic acid (2,4-D)	<1	<1	<1	<1
Diclofop-methyl	<0.9	<0.9	<0.9	<0.9
Dimethoate	<3	<3	<3	<3
Dinoseb	<1	<1	<1	<1

Diquat	<7	<7	<7	<7
Diuron	<10	<10	<10	<10
Glyphosate	<10	<10	<10	<10
Heptachlor + Heptachlor Epoxide	<0.01	<0.01	<0.01	<0.01
Lindane (Total)	<0.006	<0.006	<0.006	<0.006
Malathion	<5	<5	<5	<5
Methoxychlor	<0.02	<0.02	<0.02	<0.02
Metolachlor	<0.5	<0.5	<0.5	<0.5
Metribuzin	<5	<5	<5	<5
Monochlorobenzene	<0.1	<0.1	<0.1	<0.5
Paraquat	<1	<1	<1	<1
Parathion	<1	<1	<1	<1
Pentachlorophenol	<0.5	<0.5	<0.5	<0.5
Phorate	<0.5	<0.5	<0.5	<0.5
Picloram	<5	<5	<5	<5
Polychlorinated Biphenyls(PCB)	<0.05	<0.05	<0.05	<0.5
Prometryne	<0.3	<0.3	<0.3	<0.3
Simazine	<1	<1	<1	<1
THM – Jan., April, July, Oct. THM Annual Average	8.9	28.5	24.1	23.3 21.2
THM Dist. System - Jan., Apr., July, Oct. THM Annual Average	27.7	42.4	46.8	52.1 42.3
Temphos	<10	<10	<10	<10
Terbufos	<0.5	<0.5	<0.5	<0.5
Tetrachloroethylene	<0.1	<0.1	<0.1	<0.1
2,3,4,6-Tetrachlorophenol	<0.5	<0.5	<0.5	<0.5
Triallate	<1	<1	<1	<1
Trichloroethylene	<0.1	<0.1	<0.1	<0.1
2,4,6-Trichlorophenol	<0.5	<0.5	<0.5	<0.5
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	<1	<1	<1	<1
Trifluralin	<1	<1	<1	<1
Vinyl Chloride	<0.2	<0.2	<0.2	<0.2

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
Nitrate	6.9	mg/L	Jan. 14/08
THM	52.1	ug/L	Oct. 08/08

**Summary of additional voluntary testing and sampling on treated water.**

Sample Date	Parameter		Nitrite + Nitrate	Unit of Measure
	Nitrite	Nitrate		
Jan. 2/08	<0.01	0.4	0.4	mg/L
Jan. 7/08	<0.01	0.3	0.3	mg/L
Jan. 14/08	<0.01	6.9	6.9	mg/L
Jan. 21/08	<0.01	0.4	0.4	mg/L
Jan. 28/08	<0.01	0.3	0.3	mg/L
Feb. 4/08	<0.01	0.3	0.3	mg/L
Feb. 11/08	<0.01	3.1	3.1	mg/L
Feb. 19/08	<0.01	1.4	1.4	mg/L
Feb. 25/08	<0.01	1.0	1.0	mg/L
March 3/08	<0.01	0.3	0.3	mg/L
March 10/08	<0.01	0.8	0.8	mg/L
March 17/08	<0.01	0.6	0.6	mg/L
March 25/08	<0.01	1.6	1.6	mg/L
March 31/08	<0.01	1.9	1.9	mg/L
April 7/08	<0.01	2.9	2.9	mg/L
April 14/08	<0.01	0.3	0.3	mg/L
April 21/08	<0.01	0.3	0.3	mg/L
April 28/08	<0.01	0.3	0.3	mg/L
May 5/08	<0.01	0.3	0.3	mg/L
May 12/08	<0.01	0.3	0.3	mg/L
May 20/08	<0.01	0.3	0.3	mg/L
May 26/08	<0.01	0.3	0.3	mg/L
June 2/08	<0.01	0.3	0.3	mg/L
June 9/08	<0.01	0.3	0.3	mg/L
June 16/08	<0.01	0.3	0.3	mg/L
June 23/08	0.05	<0.1	<0.1	mg/L
July 2/08	<0.01	0.3	0.3	mg/L
July 7/08	<0.01	0.3	0.3	mg/L
July 14/08	<0.01	0.3	0.3	mg/L
July 21/08	<0.01	0.3	0.3	mg/L
July 27/08	<0.01	0.3	0.3	mg/L
Aug. 5/08	<0.1	0.3	0.3	mg/L
Aug. 11/08	<0.01	0.3	0.3	mg/L
Aug. 18/08	<0.01	0.3	0.3	mg/L
Aug. 25/08	<0.01	0.2	0.2	mg/L



<b>Sept. 03/08</b>	<0.01	0.2	0.2	<b>mg/L</b>
<b>Sept. 08/08</b>	<0.01	0.2	0.2	<b>mg/L</b>
<b>Sept. 15/08</b>	<0.01	0.2	0.2	<b>mg/L</b>
<b>Sept. 22/08</b>	<0.01	0.4	0.4	<b>mg/L</b>
<b>Sept. 29/08</b>	<0.01	0.3	0.3	<b>mg/L</b>
<b>Oct. 06/08</b>	<0.01	0.3	0.3	<b>mg/L</b>
<b>Oct. 14/08</b>	<0.01	0.3	0.3	<b>mg/L</b>
<b>Oct. 20/08</b>	<0.01	0.3	0.3	<b>mg/L</b>
<b>Oct. 27/08</b>	<0.01	0.3	0.3	<b>mg/L</b>
<b>Nov. 03/08</b>	<0.01	0.3	0.3	<b>mg/L</b>
<b>Nov. 10/08</b>	<0.01	0.3	0.3	<b>mg/L</b>
<b>Nov. 17/08</b>	<0.01	1.9	1.9	<b>mg/L</b>
<b>Nov. 24/08</b>	<0.01	0.5	0.5	<b>mg/L</b>
<b>Dec. 01/08</b>	<0.01	0.8	0.8	<b>mg/L</b>
<b>Dec. 08/08</b>	<0.01	0.5	0.5	<b>mg/L</b>
<b>Dec. 15/08</b>	<0.01	1.3	1.3	<b>mg/L</b>
<b>Dec. 22/08</b>	<0.01	0.4	0.4	<b>mg/L</b>
<b>Dec. 29/08</b>	<0.01	2.3	2.3	<b>mg/L</b>