



OPTIONAL ANNUAL REPORT TEMPLATE

Drinking-Water System Number:	220003332
Drinking-Water System Name:	Wheatley Drinking Water System
Drinking-Water System Owner:	Municipality of Chatham-Kent
Drinking-Water System Category:	Large Municipal
Period being reported:	January 1 – December 31, 2017

<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>Chatham-Kent P.U.C. 325 Grand Ave. East P.O. Box 1191 Chatham, ON N7M 5L8</p> </div>	<p><u>Complete for all other Categories.</u></p> <p>Number of Designated Facilities served:</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin-left: 20px;">N/A</div> <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> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin-left: 20px;">N/A</div> <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
3 rd &4 th Concession Waterline Association	260086203
Richardson Sideroad Waterline Association	260086190
Cedar Inn Waterline Association	768003593
Tecumseh Road Waterline Association	260086151
Tilbury Townline Waterline Association	260086164
3 rd Concession Waterline Association	260086125
KOA Waterline Association	260086138
Leamington (Wheatley) Distribution System	260087048
D & O Waterline Association	260091793
Mint Waterline Distribution System	260091767



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

The Wheatley Water Treatment Plant draws raw water from Lake Erie. Large debris is screened out of the raw water as it is drawn into the treatment plant. Chlorine is added at the raw intake to control the growth of zebra mussels within the intake pipe. The raw water then passes through a 35 micron microstrainer to remove algae and other fine particles. Aluminum Sulphate and Polymer are added to achieve more effective settling in the clarifier. Activated carbon is added in the clarifier and is primarily used to remove dissolved organic matter that causes taste, odor and color in drinking water. The water then passes through the gravity filters into the clearwell, where it is disinfected with chlorine before being pumped into the distribution system. The distribution system pressure is regulated by an elevated storage tower in Wheatley, with a capacity of 1454 m3. The elevated storage tower in the community of Tilbury has a capacity of 6181 m3.

List all water treatment chemicals used over this reporting period

1. Chlorine Gas
2. Sodium Hypochlorite
3. Aluminum Sulphate
4. Activated Carbon
5. Betz Dearborn Klar-Aid IC1179 (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

Chlorine analyzers for the Tilbury Booster Station	\$6,000
Valve Replacement (Filter 2)	\$6,763
pH and Chlorine Probes for On-Line Analyzers	\$8,862
Air Compressor Replacement (2)	\$13,616
Emulsion Polymer Pumps and Stands (2)	\$30,640

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
Oct 3	Leamington (Wheatley) DS SS1- 2136 Mersea Rd Total coliforms in a distribution sample	13	cfu/100	Flushing Resample/re-test	Oct 4

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	52	<10 - NDOGT	0 - NDOGT	0	0
Treated	52	0 - 0	0 - 0	52	<10 - <10
Distribution	439	0 - 0	0 - 0	439	<10 - 670

*NDOGT – No Data Overgrown with Non Targeted Organisms



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

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	0.015 - 0.099
Chlorine	8760	1.18 – 1.75
Fluoride (If the DWS provides fluoridation)	None	None

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
MDWL 027-102: Pg. 12 Residue Management Table 3 Avg. Annual Limit: 25 mg/L	Total	January 9/17	36	
	Suspended Solids	February 6/17	8	
		March 6/17	11	
		April 3/17	6	
		May 1/17	3	
		June 5/17	1	
		July 4/17	16	
		August 8/17	45	
		September 9/17	21	
		October 10/17	4	
		November 6/17	3	
		December 4/17	<u>17</u>	
		Annual Avg. Concentration	14	



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

*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

	Sample Date Feb 21/17	Sample Date May 8/17	Sample Date Aug 21/17	Sample Date Nov 20/17	Exceedance
Antimony – ug/L			ND		No
Arsenic – ug/L			ND		No
Barium – ug/L			18		No
Boron – ug/L			18		No
Cadmium – ug/L			ND		No
Chromium – ug/L			ND		No
Lead – ug/L	See Schedule 15.1 Summary				
Mercury – mg/L			ND		No
Selenium- ug/L			ND		No
Sodium – mg/L	9.0	9.3	8.2	6.3	No
Uranium – ug/L			ND		No
Fluoride – mg/L	ND	ND	0.12	0.10	No
Nitrate – mg/L	ND	ND	ND	ND	No
Nitrite – mg/L	ND	ND	0.20	ND	No

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
Residential	0	0	0
Non Residential	0	0	0
Distribution	28	0.50 - 2.2	0



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

Parameter	Sample Date	Results Value	Unit of Measure	Exceedance
Alachlor	Aug 21/17	ND	ug/L	NO
Atrazine + N-dealkylated metabolites	Aug 21/17	ND	ug/L	NO
Azinphos - methyl	Aug 21/17	ND	ug/L	NO
Benzene	Aug 21/17	ND	ug/L	NO
Benzo(a)pyrene	Aug 21/17	ND	ug/L	NO
Bromoxynil	Aug 21/17	ND	ug/L	NO
Carbaryl	Aug 21/17	ND	ug/L	NO
Carbofuran	Aug 21/17	ND	ug/L	NO
Carbon Tetrachloride	Aug 21/17	ND	ug/L	NO
Chloropyrifos	Aug 21/17	ND	ug/L	NO
Diazinon	Aug 21/17	ND	ug/L	NO
Dicamba	Aug 21/17	ND	ug/L	NO
1,2 - Dichlorobenzene	Aug 21/17	ND	ug/L	NO
1,4 - Dichlorobenzene	Aug 21/17	ND	ug/L	NO
1,2 - Dichloroethane	Aug 21/17	ND	ug/L	NO
1,1- Dichloroethylene (vinylidenechloride)	Aug 21/17	ND	ug/L	NO
Dichloromethane	Aug 21/17	ND	ug/L	NO
2,4 - Dichlorophenol	Aug 21/17	ND	ug/L	NO
2,4 - Dichlorophenoxy acetic acid (2,4 - D)	Aug 21/17	ND	ug/L	NO
Diclofop - methyl	Aug 21/17	ND	ug/L	NO
Dimethoate	Aug 21/17	ND	ug/L	NO
Diquat	Aug 21/17	ND	ug/L	NO
Diuran	Aug 21/17	ND	ug/L	NO
Glyphosate	Aug 21/17	ND	ug/L	NO
Malathion	Aug 21/17	ND	ug/L	NO
Haloacetic Acids – sampled quarterly				
4488 Mint Line	Feb 21/17	19	ug/L	NO
4488 Mint Line	May 8/17	14		
Tilbury Reservoir	Aug 21/17	35		
Tilbury Elevated Tank	Nov 20/17	26		
Running Annual Average		23.5		
Metolachlor	Aug 21/17	ND	ug/L	NO
Metribuzin	Aug 21/17	ND	ug/L	NO
Monochlorobenzene (chlorobenzene)	Aug 21/17	ND	ug/L	NO
MPCA	Aug 21/17	ND	ug/L	NO
Paraquat	Aug 21/17	ND	ug/L	NO
Pentachlorophenol	Aug 21/17	ND	ug/L	NO
Phorate	Aug 21/17	ND	ug/L	NO
Picloram	Aug 21/17	ND	ug/L	NO
Polychlorinated Byphenyls (PCB)	Aug 21/17	ND	ug/L	NO



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

Prometryne	Aug 21/17	ND	ug/L	NO
Simazine	Aug 21/17	ND	ug/L	NO
Trihalomethanes – sampled quarterly	Feb 21/17 May 8/17 Aug 21/17 Nov 20/17	24.1 31.3 54.2 <u>38.5</u> 37.0	ug/L	NO
Running Annual Average				
Terbufos	Aug 21/17	ND	ug/L	NO
Tetrachloroethylene (perchloroethylene)	Aug 21/17	ND	ug/L	NO
2,3,4,6 - Tetrachlorophenol	Aug 21/17	ND	ug/L	NO
Triallate	Aug 21/17	ND	ug/L	NO
Trichloroethylene	Aug 21/17	ND	ug/L	NO
2,4,6 - Trichlorophenol	Aug 21/17	ND	ug/L	NO
Trifluralin	Aug 21/17	ND	ug/L	NO
Vinyl Chloride	Aug 21/17	ND	ug/L	NO

ADDITIONAL

Parameter- POINT OF ENTRY	Sample Date Feb 21/17	Sample Date May 8/17	Sample Date Aug 21/17	Sample Date Nov 20/17
pH	7.47	7.54	7.50	7.39
HARDNESS – mg/L	110	120	120	110
ALKALINITY – mg/L	77	77	83	73
COLOUR - TCU	2	2	2	2
FLUORIDE – mg/L	0.10	0.10	0.12	0.10
ALUMINUM –mg/L	0.011	0.014	0.042	0.015

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			

Summary of additional voluntary sampling and testing during this reporting period.

Parameter	Date Sampled	Results Value Raw	Results Value Point of Entry	Results Value Distribution	Units
Microcystin	May 29/17	<0.150	<0.150	<0.150	ug/L
Microcystin	June 5/17	<0.150	<0.150	<0.150	ug/L
Microcystin	June 12/17	<0.150	<0.150	<0.150	ug/L
Microcystin	June 17/17	<0.150	<0.150	<0.150	ug/L
Microcystin	June 26/17	<0.150	<0.150	<0.150	ug/L
Microcystin	July 4/17	<0.150	<0.150	<0.150	ug/L
Microcystin	July 10/17	<0.150	<0.150	<0.150	ug/L
Microcystin	July 17/17	<0.150	<0.150	<0.150	ug/L
Microcystin	July 24/17	<0.150	<0.150	0.172	ug/L
Microcystin	July 31/17	<0.150	<0.150	<0.150	ug/L
Microcystin	August 8/17	<0.150	<0.150	<0.150	ug/L
Microcystin	August 14/17	<0.150	<0.150	<0.150	ug/L
Microcystin	August 21/17	<0.150	<0.150	<0.150	ug/L
Microcystin	August 28/17	<0.150	<0.150	<0.150	ug/L
Microcystin	September 5/17	<0.150	<0.150	<0.150	ug/L
Microcystin	September 11/17	0.206	<0.150	<0.150	ug/L
Microcystin	September 18/17	<0.150	<0.150	<0.150	ug/L
Microcystin	September 25/17	<0.150	<0.150	<0.150	ug/L
Microcystin	October 2/17	<0.150	<0.150	<0.150	ug/L
Microcystin	October 10/17	<0.150	<0.150	<0.150	ug/L
Microcystin	October 16/17	<0.150	<0.150	<0.150	ug/L
Microcystin	October 23/17	<0.150	<0.150	<0.150	ug/L
Microcystin	October 30/17	<0.150	<0.150	<0.150	ug/L
Microcystin	November 6/17	<0.150	<0.150	<0.150	ug/L
Microcystin	November 14/17	<0.150	<0.150	<0.150	ug/L
Microcystin	November 20/17	<0.150	<0.150	<0.150	ug/L
Microcystin	November 27/17	<0.150	<0.150	<0.150	ug/L