



ANNUAL REPORT

Drinking-Water System Number:	260002551
Drinking-Water System Name:	Bothwell Distribution System
Drinking-Water System Owner:	Municipality of Chatham-Kent
Drinking-Water System Category:	Large Municipal Residential
Period being reported:	January 1 - December 31, 2019

Does your Drinking-Water System serve more than 10,000 people? Yes [] No [X]

Is your annual report available to the public at no charge on a web site on the Internet? Yes [X] No []

Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.

Chatham-Kent PUC Office 325 Grand Ave E Box 1191 Chatham, ON N7M 5L8
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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
None	

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 Bothwell Distribution System receives treated water from the West Lorne Water System. The source of the raw water is Lake Erie. The water supply system consists of the West Elgin Water Treatment Plant located south of the settlement of Eagle along the Lake Erie shoreline in the Municipality of West Elgin. Water is transported from the West Lorne to Newbury, Glencoe, Bothwell, Melbourne and rural areas by the Glencoe pipeline. A pumping station at Glencoe reservoir pumps directly to Mosa Township, Newbury and the Bothwell elevated tower. Water is stored in the Bothwell elevated tower to supply the Bothwell Distribution System.

List all water treatment chemicals used over this reporting period

1. Sodium Hypochlorite

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

Processor Upgrade	\$ 3,300
New UPS for Analyzers	3,000
New Chlorine Analyzer	3,000
New Inlet Water Pressure Gauge	1,500
New Pressure Gauge	1,500
New Water Tower Level Pressure Gauge	1,500



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
None					

Microbiological testing done under the Schedule 10 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 #)
Tower Inlet	54	0 – 0	0 – 0	54	<10 – 60
Distribution	267	0 – 0	0 – 0	267	<10 – 70

Operational testing done under Schedule 7 of Regulation 170/03 during the period covered by this Annual Report. Chlorine residuals are from weekly distribution samples (4 & 3) and from microbiological distribution sample chlorine residuals under Section 7-2.(4)1.&2.

	Number of Grab Samples	Range of Results (min #)-(max #)
Turbidity	Non-Applicable	
Chlorine <i>Distribution</i>	474	0.37 – 1.35 mg/L
Fluoride	Non-Applicable	

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

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 2019	Result	Unit of Measure
None				



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

The following parameters are sampled by the donor system.	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony				
Arsenic				
Barium				
Boron				
Cadmium				
Chromium				
*Lead	See Schedule 15.1 Summary			
Mercury				
Selenium				
Sodium				
Uranium				
Fluoride				
Nitrite				
Nitrate				
Nitrite + Nitrate				

Summary of lead testing under Schedule 15.1 during this reporting period

Location Type	Number of Samples	Range of Lead Results ug/L (min#) – (max #)	Number of Exceedances / Adverses
Residential	0		
Non-Residential	0		
Distribution	4	<0.50 – <0.50	0

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

The following parameters are sampled by the donor system with the exception of HAAs and THMs.	Sample Date	Result Value	MAC Limits	Unit of Measure	Exceedance
Alachlor			5	ug/L	
Atrazine + N-dealkylated metabolites			5	ug/L	
Azinphos-methyl			20	ug/L	
Benzene			1	ug/L	
Benzo(a)pyrene			0.01	ug/L	
Bromoxynil			5	ug/L	
Carbaryl			90	ug/L	
Carbofuran			90	ug/L	
Carbon Tetrachloride			2	ug/L	



Chlorpyrifos (Dursban)			90	ug/L	
Diazinon			20	ug/L	
Dicamba			120	ug/L	
1,2-Dichlorobenzene			200	ug/L	
1,4-Dichlorobenzene			5	ug/L	
1,2-Dichloroethane			5	ug/L	
1,1-Dichloroethylene (vinylidene chloride)			14	ug/L	
Dichloromethane			50	ug/L	
2-4 Dichlorophenol			900	ug/L	
2,4-Dichlorophenoxy acetic acid (2,4-D)			100	ug/L	
Diclofop-methyl			9	ug/L	
Dimethoate			20	ug/L	
Diquat			70	ug/L	
Diuron			150	ug/L	
Ethylbenzene			140	ug/L	
Glyphosate			280	ug/L	
Haloacetic Acids (HAA)	Jan 14	40			
	Apr 15	26			
	Jul 15	29	-	ug/L	No
	Oct 21	51			
Running Annual Average: 36.4					
Malathion			190	ug/L	
2 Methyl-4-chlorophenoxyacetic acid (MCPA)			100	ug/L	
Metolachlor			190	ug/L	
Metribuzin (Sencor)			80	ug/L	
Monochlorobenzene			80	ug/L	
Paraquat			10	ug/L	
Pentachlorophenol			60	ug/L	
Phorate			2	ug/L	
Picloram			190	ug/L	
Polychlorinated Biphenyls(PCB)			3	ug/L	
Prometryne			1	ug/L	
Simazine			10	ug/L	
Terbufos			1	ug/L	
Tetrachloroethylene			10	ug/L	
2,3,4,6-Tetrachlorophenol			100	ug/L	



Trihalomethanes (THM) Running Annual Average: 76.3	Jan 14	54.7	100	ug/L	No
	Apr 15	52.9			
	Jun 03	64.6			
	Jun 03 (lab dup)	64.2			
	Jul 15	72.6			
	Jul 15 (lab dup)	72.7			
	Aug 06	72.3			
	Sept 16	105			
	Oct 21	116			
	Oct 21 (lab dup)	118			
	Nov 04	105			
Nov 04(lab dup)	107				
Toluene			60	ug/L	
Triallate			230	ug/L	
Trichloroethylene			5	ug/L	
2,4,6-Trichlorophenol			5	ug/L	
Trifluralin			45	ug/L	
Vinyl Chloride			1	ug/L	
Xylenes			90	ug/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
THM	76.3	ug/L	Running Annual Average

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

Parameter	Sample Date	Result: Raw – Before Treatment	Result: Point of Entry	Result: Distribution	Unit of Measure
None					