

**COBOURG DRINKING WATER SYSTEM ANNUAL REPORT**

<b>Drinking-Water System Number:</b>	220000825
<b>Drinking-Water System Name:</b>	Cobourg Drinking Water System
<b>Drinking-Water System Owner:</b>	Corporation of the Town of Cobourg
<b>Drinking-Water System Category:</b>	Large Municipal Residential
<b>Period being reported:</b>	January 1, 2018 to December 31, 2018

<p><b><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></b></p> <p><b>Does your Drinking-Water System serve more than 10,000 people? Yes [X] No [ ]</b></p> <p><b>Is your annual report available to the public at no charge on a web site on the Internet? Yes [X] No [ ]</b></p> <p><b>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</b></p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Lakefront Utility Services Inc. Office 207 Division Street, Cobourg Ontario</p> <p><a href="https://www.lakefrontutilities.on.ca/regulatory/water/">https://www.lakefrontutilities.on.ca/regulatory/water/</a></p> </div>	<p><b><u>Complete for all other Categories.</u></b></p> <p><b>Number of Designated Facilities served:</b> <input type="text"/></p> <p><b>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [ ] No [ ]</b></p> <p><b>Number of Interested Authorities you report to:</b> <input type="text"/></p> <p><b>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [ ] No [ ]</b></p>
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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
Hamilton Township Distribution System	260039208

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**

Water is drawn from Lake Ontario via an 860m intake pipe to the WTP. The water is pre-chlorinated and travels through a full treatment process including coagulation, flocculation, sedimentation and granular activated carbon filtration. The water is then disinfected with chlorine and after an appropriate detention time, it enters an in-ground reservoir. From there, water is pumped to the distribution system as needed.

The distribution system contains two pressure zones, each with their own elevated water storage tower. The WTP supplies water to the lower Zone 1, while a booster pumping station located between the two zones, supplies water to the higher Zone 2. The booster station also has re-chlorination facilities, as does the Zone 1 and Zone 2 storage towers.

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

Aluminum Sulphate  
 Polymer – Flopam AN 934 PWG  
 Chlorine  
 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**

<b>PROJECT</b>	<b>ESTIMATED COST</b>
Henry St Watermain Replacement	\$1,152,000
Cobourg Water Model	\$42,000
Polymer System at Cobourg WTP	\$157,000
Water Tower #1 – Level Transmitter	\$5,000
High Lift Pump with VFD at Cobourg WTP	\$105,000
Low lift pump VFD replacement (pump 2 and 3) at Cobourg WTP	\$25,000
Supernatant actuator and valve replacement at Cobourg WTP	\$78,500
Cobourg Commercial Water Meter Replacement Program to RF Meters	\$90,000
Cobourg Residential Water Meter Replacement Program to RF Meters	\$508,000
Valve Turning Truck	\$165,000
IT Hardware & Software	\$40,000
Reservoir 1 & 2 Inspection and Cleaning at Cobourg WTP	\$17,000
Leak Detection Program	\$25,000

**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 #1 – May 17, 2018**

Mud/clay material was found inside a watermain during repair. The Public Health Unit issued a boil water advisory on May 17, 2018 and the watermain was left isolated (with only one feed) to prevent any water from that section of main from entering the distribution system. Two consecutive bacti samples, including HPC, were taken and the results came back clear. The Public Health Unit rescinded the boil water advisory on May 22, 2018 and the remaining water distribution valves were opened.

**Incident # 2 – May 25, 2018**

During routine watermain flushing a chlorine residual of 0.00 mg/L free chlorine was recorded on from a fire hydrant on May 25, 2018. Flushing of the hydrant continued and after approximately 15 minutes the free chlorine residual had increased to 0.83 mg/L. No further corrective action was required to remediate the incident.

**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>	52	0 – 6	0 – 980	N/A	N/A
<b>Treated</b>	52	0 – 0	0 – 0	52	0 – 2
<b>Distribution</b>	365	0 – 0	0 – 0	208	0 – 33

*Note: Distribution Samples are representative of samples taken within the Cobourg DWS and Hamilton Township DWS*

**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>Filter Turbidity (NTU)</b>	8760	0.00 – 1.00
<b>Chlorine (mg/l)</b>	8760	1.00 – 1.92
<b>Fluoride</b> (If the DWS provides fluoridation)	N/A	

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

**Note:** System is programmed to shut down when chlorine residual reaches 0160 mg/l or when turbidity reaches 0.30 NTU. The numbers shown in the range represent instantaneous events in the system caused by power flickers, calibrations, and other operational anomalies. These numbers are not representative of normal operating conditions.

**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	# of samples	Result	Unit of Measure
June 23, 2016 MDWL	Suspended Solids	Yearly Avg.	12	2.25 (no monthly exceedances)	mg/L

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

Parameter	Result Value	Standard	Unit of Measure	Exceedance	Sample Date
Antimony	0.07	6	ug/L	No	15-Jan-2018
Arsenic	0.2	25	ug/L	No	15-Jan-2018
Barium	19.4	1000	ug/L	No	15-Jan-2018
Boron	33	5000	ug/L	No	15-Jan-2018
Cadmium	0.005	5	ug/L	No	15-Jan-2018
Chromium	0.16	50	ug/L	No	15-Jan-2018
Mercury	0.01 <MDL	1	ug/L	No	15-Jan-2018
Selenium	0.17	10	ug/L	No	15-Jan-2018
Uranium	0.106	20	ug/L	No	15-Jan-2018
Nitrite	0.003 <MDL	1	mg/L	No	19-Nov-2018
Nitrate	0.349	10	mg/L	No	19-Nov-2018
Fluoride	0.09	1.5	mg/L	No	12-Jan-2015
Sodium	17.7	20	mg/L	No	12-Jan-2015

**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
<b>Plumbing</b>	66	<0.01 – 1.46	0
<b>Distribution</b>	8	0.04-2.01	0

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

Parameter	Sample Date	Result Value	Standard	Unit of Measure	Exceedance
Benzene	15-Jan-2018	0.32 <MDL	1	ug/L	NO
Carbon tetrachloride	15-Jan-2018	0.16 <MDL	2	ug/L	NO
1,2-Dichlorobenzene	15-Jan-2018	0.41 <MDL	200	ug/L	NO
1,4-Dichlorobenzene	15-Jan-2018	0.36 <MDL	5	ug/L	NO
1,1-Dichloroethylene (vinylidene chloride)	15-Jan-2018	0.33 <MDL	14	ug/L	NO
1,2-Dichloroethane	15-Jan-2018	0.35 <MDL	5	ug/L	NO
Dichloromethane	15-Jan-2018	0.35 <MDL	50	ug/L	NO
Monochlorobenzene	15-Jan-2018	0.30 <MDL	80	ug/L	NO
Tetrachloroethylene (perchloroethylene)	15-Jan-2018	0.35 <MDL	30	ug/L	NO
Trichloroethylene	15-Jan-2018	0.44 <MDL	5	ug/L	NO
Vinyl Chloride	15-Jan-2018	0.17 <MDL	1	ug/L	NO
Diquat	15-Jan-2018	1 <MDL	70	ug/L	NO
Paraquat	15-Jan-2018	1 <MDL	10	ug/L	NO
Glyphosate	15-Jan-2018	1 <MDL	280	ug/L	NO
Polychlorinated Biphenyls (PCBs) - Total	15-Jan-2018	0.04 <MDL	3	ug/L	NO
Benzo(a)pyrene	15-Jan-2018	0.004 <MDL	0.01	ug/L	NO
Alachlor	15-Jan-2018	0.02 <MDL	1	ug/L	NO
Atrazine + N-dealkylated metabolites	15-Jan-2018	0.04	5	ug/L	NO
Atrazine	15-Jan-2018	0.03	--	ug/L	NO
Desethyl atrazine	15-Jan-2018	0.01	--	ug/L	NO
Azinphos-methyl	15-Jan-2018	0.05 <MDL	20	ug/L	NO
Carbaryl	15-Jan-2018	0.05 <MDL	90	ug/L	NO
Carbofuran	15-Jan-2018	0.01 <MDL	90	ug/L	NO
Chlorpyrifos	15-Jan-2018	0.02 <MDL	90	ug/L	NO
Diazinon	15-Jan-2018	0.02 <MDL	20	ug/L	NO
Dimethoate	15-Jan-2018	0.03 <MDL	20	ug/L	NO
Diuron	15-Jan-2018	0.03 <MDL	150	ug/L	NO
Malathion	15-Jan-2018	0.02 <MDL	190	ug/L	NO
Metolachlor	15-Jan-2018	0.01 <MDL	50	ug/L	NO
Metribuzin	15-Jan-2018	0.02 <MDL	80	ug/L	NO
Phorate	15-Jan-2018	0.01 <MDL	2	ug/L	NO
Prometryne	15-Jan-2018	0.03 <MDL	1	ug/L	NO
Simazine	15-Jan-2018	0.01 <MDL	10	ug/L	NO
Terbufos	15-Jan-2018	0.01 <MDL	1	ug/L	NO
Triallate	15-Jan-2018	0.01 <MDL	230	ug/L	NO
Trifluralin	15-Jan-2018	0.02 <MDL	45	ug/L	NO
2,4-dichlorophenoxyacetic acid (2,4-D)	15-Jan-2018	0.19 <MDL	100	ug/L	NO
Bromoxynil	15-Jan-2018	0.33 <MDL	5	ug/L	NO
Dicamba	15-Jan-2018	0.20 <MDL	120	ug/L	NO
Diclofop-methyl	15-Jan-2018	0.40 <MDL	9	ug/L	NO
MCPA	15-Jan-2018	0.00012 <MDL	0.1	mg/L	NO
Picloram	15-Jan-2018	1 <MDL	190	ug/L	NO
2,4-dichlorophenol	15-Jan-2018	0.15 <MDL	900	ug/L	NO
2,4,6-trichlorophenol	15-Jan-2018	0.25 <MDL	5	ug/L	NO
2,3,4,6-tetrachlorophenol	15-Jan-2018	0.20 <MDL	100	ug/L	NO
Pentachlorophenol	15-Jan-2018	0.15 <MDL	60	ug/L	NO
THM: Annual Average	19-Nov-2018	19.75	100	ug/l	NO
HAA: Annual Average	19-Nov-2018	6.70	80	ug/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
Sodium	17.7	mg/L	January 12, 2015