



2018 ANNUAL REPORT FOR WATER SYSTEMS

Part 1 – ANNUAL REPORT (as required by O. Reg. 170/03, Section 11)

Drinking-Water System Number:	210000666
Drinking-Water System Name:	Chalk River Drinking Water System
Drinking-Water System Owner:	Town of Laurentian Hills
Drinking-Water System Category:	Large Municipal Residential
Period being reported:	January 1 – December 31, 2018

Complete if your Category is Large Municipal Residential or Small Municipal Residential	Complete for all other Categories
Does your Drinking-Water System serve more than 10,000 people? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Number of Designated Facilities served: n/a
Is your annual report available to the public at no charge on a web site on the Internet? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Did you provide a copy of your annual report to all Designated Facilities you serve? <input type="checkbox"/> Yes <input type="checkbox"/> No
Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection. MUNICIPAL OFFICE Town Office – Pt. Alexander #34465 Hwy 17	Number of Designated Facilities served: n/a Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? <input type="checkbox"/> Yes <input type="checkbox"/> No

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?
N/A

Indicate how you notified system users that your annual report is available, and is free of charge.		
<input checked="" type="checkbox"/> Public access/notice via the web	<input type="checkbox"/> Public access/notice via Municipal Office	<input type="checkbox"/> Public access/notice via a newspaper
<input checked="" type="checkbox"/> Public access/notice via Public Request	<input type="checkbox"/> Public access/notice via a Public Library	<input type="checkbox"/> Public access/notice via other method

Describe your Drinking Water System

The source of the Chalk River Drinking Water system is Corry Lake. Raw water is screened from the lake before being pumped to the water plant for treatment. The water treatment process includes chemically-assisted coagulation, flocculation and settling within a solids contact clarifier followed by filtration through sand and anthracite filters. Filtered water is then disinfected using liquid chlorine. Fluoride is then added to the treated water. Water is pumped into the elevated water storage tower for disinfection contact time and then flows out to the distribution system.

List all water treatment chemicals used over this reporting period

pH adjustment – Soda Ash
 Primary Coagulant – PAS-8 (Polyaluminum Sulfate) was used until June 12; replaced by PAX-XL for the remainder of the year
 Coagulant aid – Polymer
 Disinfection – Sodium Hypochlorite
 Fluoridation – Hydroflousilic acid

Please provide a brief description and a breakdown of monetary expenses incurred

Annual flowmeter, on-line analyzer calibrations \$4.5K
 Three water line breaks (including one major road repair) \$72,273
 Initial payment for Engineering study \$5.2K

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	Units	Corrective Action	Corrective Action Date
Jan. 25, 2018	sodium	22.0	mg/L	resample	Jan. 29, 2018

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 Results (min #) - (max #)	Range of Total Coliform Results (min #) - (max #)	Number of HPC Samples	Range of HPC Results (min #) - (max #)
Raw	52	0-9	<1 – 70	NA	NA
Treated	52	0	0	52	<2-2
Distribution	156	0	0	52	<2-2

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 #)	Units
Filter Effluent Turbidity-Filter #1	8760	0.02-0.58	NTU
Filter Effluent Turbidity-Filter #2	8760	0.01-0.46	NTU
Chlorine-POE (Tower)	8760	0.61-1.52	mg/L
Fluoride (If the DWS provides fluoridation)	8760	0.24-0.96	mg/L

Since the change in polymer in June 2018, the two trains can now be operated simultaneously

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	Range of Results	Unit of Measure
None				

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	Jan 24/18	ND	mg/L	No
Arsenic	Jan 24/18	0.001	mg/L	No
Barium	Jan 24/18	0.022	mg/L	No
Boron	Jan 24/18	0.006	mg/L	No
Cadmium	Jan 24/18	0.00013	mg/L	No
Chromium	Jan 24/18	0.004	mg/L	No
Lead-see results below				
Mercury	Jan 24/18	ND	µg/L	No
Selenium	Jan 24/18	ND	mg/L	No
Sodium	Jan 24/18	22.0	mg/L	Yes
Uranium	Jan 24/18	ND	mg/L	No
Fluoride	Jan 24/18	0.5	mg/L	No
Nitrite	Jan 24/18	<0.1	mg/L	No
Nitrate	Jan 24/18	<0.1	mg/L	No
Nitrite	Apr 25/18	<0.1	mg/L	No
Nitrate	Apr 25/18	0.4	mg/L	No
Nitrite	July 25/18	<0.1	mg/L	No
Nitrate	July 25/18	<0.1	mg/L	No
Nitrite	Oct. 24/18	<0.1	mg/L	No
Nitrate	Oct. 24/18	<0.1	mg/L	No

Summary of Lead Results during this reporting period (Winter: Dec. 15/17-April 15/18; Summer: June 15-Oct. 15/18)

Sampling Period	Range of Results (µg/L) from Residential Samples (# of Samples taken)	Non-residential locations	Distribution System	Any Adverse Water Quality Incidents?
Winter	n/a	n/a	0.12-0.13 (2)	NO
Summer	n/a	n/a	0.08-0.25 (2)	NO

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	Jan 24/18	ND	µg/L	No
Atrazine + N-dealkylated metabolites	Jan 24/18	ND	µg/L	No
Azinphos-methyl	Jan 24/18	ND	µg/L	No
Benzene	Jan 24/18	ND	µg/L	No

Benzo(a)pyrene	Jan 24/18	ND	µg/L	no
Bromoxynil	Jan 24/18	ND	µg/L	No
Carbaryl	Jan 24/18	ND	µg/L	No
Carbofuran	Jan 24/18	ND	µg/L	No
Carbon Tetrachloride	Jan 24/18	ND	µg/L	No
Chlorpyrifos	Jan 24/18	ND	µg/L	No
Diazinon	Jan 24/18	ND	µg/L	No
Dicamba	Jan 24/18	ND	µg/L	No
1,2-Dichlorobenzene	Jan 24/18	ND	µg/L	No
1,4-Dichlorobenzene	Jan 24/18	ND	µg/L	No
1,2-Dichloroethane	Jan 24/18	ND	µg/L	No
1,1-Dichloroethylene (vinylidene chloride)	Jan 24/18	ND	µg/L	No
Dichloromethane	Jan 24/18	ND	µg/L	No
2-4 Dichlorophenol	Jan 24/18	ND	µg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	Jan 24/18	ND	µg/L	No
Diclofop-methyl	Jan 24/18	ND	µg/L	No
Dimethoate	Jan 24/18	ND	µg/L	No
Diquat	Jan 24/18	ND	µg/L	No
Diuron	Jan 24/18	ND	µg/L	No
Glyphosate	Jan 24/18	ND	µg/L	No
HAA (will become a regulatory requirement in 2020)	Q1-Q4 2018	74.6	µg/L	N/A
Malathion	Jan 24/18	ND	µg/L	No
MCPA	Jan 24/18	ND	mg/L	N/A
Metolachlor	Jan 24/18	ND	µg/L	No
Metribuzin	Jan 24/18	ND	µg/L	No
Monochlorobenzene	Jan 24/18	ND	µg/L	No
Paraquat	Jan 24/18	ND	µg/L	
Pentachlorophenol	Jan 24/18	ND	µg/L	No
Phorate	Jan 24/18	ND	µg/L	
Picloram	Jan 24/18	ND	µg/L	No
Polychlorinated Biphenyls(PCB)	Jan 24/18	ND	µg/L	No
Prometryne	Jan 24/18	ND	µg/L	No
Simazine	Jan 24/18	ND	µg/L	No
THM (NOTE: show latest annual average)	Q1-Q4 2018	90.8	µg/L	No



Terbufos	Jan 24/18	ND	µg/L	No
Tetrachloroethylene	Jan 24/18	ND	µg/L	No
2,3,4,6-Tetrachlorophenol	Jan 24/18	ND	µg/L	No
Triallate	Jan 24/18	ND	µg/L	No
Trichloroethylene	Jan 24/18	ND	µg/L	No
2,4,6-Trichlorophenol	Jan 24/18	ND	µg/L	No
Trifluralin	Jan 24/18	ND	µg/L	No
Vinyl Chloride	Jan 24/18	ND	µg/L	No

ND = Non-Detect

List any Inorganic or Organic parameter(s) that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards.				
Parameter	Sample Date	Result Value	Unit of Measure	ODWS Criteria
Total THM	Q1-Q4 2018	90.8	µg/L	100 µg/L

Part 2 – SUMMARY REPORT (as required by O. Reg. 170/03, Schedule 22)

Non-Compliance with Legislations, Regulations, Approvals & Orders		
During this period, the Facility was operated in full compliance with the Act, the regulations and the Facility's approval, save and except for the following:		
Requirement	Actions Required	Actions Taken
None (from inspection conducted Nov. 27/18)	n/a	n/a

System Capability Assessment			
Comparison of Flow Rates (m ³ /d):			
Month	Average Flow	Maximum	Max. Instantaneous Flow (L/s)
January	330	395	19.4
February	326	453	12.6
March	349	474	12.0
April	342	434	12.4
May	458	707	12.7
June	446	697	11.4
July	460	825	12.1
August	363	503	11.2
September	317	370	11.2
October	316	424	11.3
November	284	373	11.5
December	318	404	10.0
AVERAGE	359	n/a	-
MAXIMUM	-	825	19.4
SYSTEM CAPACITY	1987	1987	23L/s
% CAPACITY	18.1%	41.5%	-