



American Water Canada Corp.
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February 21, 2018

Corporation of the Town of Laurentian Hills
34465 Highway #17, R.R.#1
Deep River, Ontario
K0J 1P0

Attention: Sherry Batten, Chief Administrative Officer

**RE: Chalk River Drinking Water System
2017 Annual Report**

Dear Sherry,

Please find attached the 2017 Annual Operations Report for the Chalk River drinking water system, in accordance with Section 11(1) of O. Reg. 170/03. This report covers the period from January 1 to December 31 and meets the requirement of being prepared by February 28 of this year.

Please ensure that a copy of this report is given, without charge, to every person who requests a copy. In addition, please make certain that effective steps are taken to advise residents that copies of the report are available, and of how a copy can be obtained.

Finally, as per Schedule 22 of O. Reg. 170/03, please ensure that a copy of the report is given to the members of municipal council no later than March 31, 2018.

If you have any questions regarding the report, we would be pleased to address them and you should contact the undersigned accordingly.

Sincerely,

AMERICAN WATER CANADA CORP.

Greg Prangley
Project Manager, Ontario Regional Projects

c. AW Canada Chalk River operations

2017 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, 2017

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?

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
<p>pH adjustment – Soda Ash Primary Coagulant – PAS-8 (Polyaluminum Sulfate) Coagulant aid – Polymer Disinfection – Sodium Hypochlorite Fluoridation – Hydrofluosilic acid</p>

Please provide a brief description and a breakdown of monetary expenses incurred
Annual flowmeter, on-line analyzer calibrations \$4.42K

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 Skills Action Centre					
Incident Date	Parameter	Result	Units	Corrective Action	Corrective Action Date
None in 2017					

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	0-46	<2 – 80	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	Unit not used in 2017	NTU
Filter Effluent Turbidity-Filter #2	8760	0.00-1.00*	NTU
Chlorine-POE (Tower)	8760	0.57-1.56	mg/L
Fluoride (If the DWS provides fluoridation)	8760	0.40-0.71	mg/L

Note that under the current system setup, the two filter trains are NOT run simultaneously
 *Filter #2 effluent turbidity briefly spiked on July 21. Duration of spike not long enough to be reportable

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 25/17	ND	mg/L	No
Arsenic	Jan 25/17	0.0003	mg/L	No
Barium	Jan 25/17	0.009	mg/L	No
Boron	Jan 25/17	ND	mg/L	No
Cadmium	Jan 25/17	ND	mg/L	No
Chromium	Jan 25/17	ND	mg/L	No
Lead-see results below				
Mercury	Jan 25/17	ND	µg/L	No
Selenium	Jan 25/17	ND	mg/L	No
Sodium	Jan 28/15	20.3	mg/L	Yes
Uranium	Jan 25/17	ND	mg/L	No
Fluoride	Jan 28/15	0.5	mg/L	No
Nitrite	Jan 25/17	<0.1	mg/L	No
Nitrate	Jan 25/17	0.1	mg/L	No
Nitrite	Apr 26/17	<0.1	mg/L	No
Nitrate	Apr 26/17	<0.1	mg/L	No
Nitrite	July 26/17	<0.1	mg/L	No
Nitrate	July 26/17	<0.1	mg/L	No
Nitrite	Oct. 25/17	<0.1	mg/L	No
Nitrate	Oct. 25/17	0.1	mg/L	No

Summary of Lead Results during this reporting period (Winter: Dec. 15/16-April 15/17; Summer: June 15-Oct. 15/17)

Sampling Period	Range of Results (µg/L) from Residential Samples (# of Samples taken)	Non-residential locations	Distribution System	Any Adverse Water Quality Incidents?
Winter	Non-Detect-7.34 (7)	0.84-4.67 (1)	0.10-0.13 (2)	NO
Summer	0.07-1.78 (5)	1.81-5.33 (1)	0.23-0.44 (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 25/17	ND	µg/L	No
Atrazine + N-dealkylated metabolites	Jan 25/17	ND	µg/L	No
Azinphos-methyl	Jan 25/17	ND	µg/L	No
Benzene	Jan 25/17	ND	µg/L	No
Benzo(a)pyrene	Jan 25/17	ND	µg/L	No
Bromoxynil	Jan 25/17	ND	µg/L	No
Carbaryl	Jan 25/17	ND	µg/L	No

Carbofuran	Jan 25/17	ND	µg/L	No
Carbon Tetrachloride	Jan 25/17	ND	µg/L	No
Chlorpyrifos	Jan 25/17	ND	µg/L	No
Diazinon	Jan 25/17	ND	µg/L	No
Dicamba	Jan 25/17	ND	µg/L	No
1,2-Dichlorobenzene	Jan 25/17	ND	µg/L	No
1,4-Dichlorobenzene	Jan 25/17	ND	µg/L	No
1,2-Dichloroethane	Jan 25/17	ND	µg/L	No
1,1-Dichloroethylene (vinylidene chloride)	Jan 25/17	ND	µg/L	No
Dichloromethane	Jan 25/17	ND	µg/L	No
2,4 Dichlorophenol	Jan 25/17	ND	µg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	Jan 25/17	ND	µg/L	No
Diclofop-methyl	Jan 25/17	ND	µg/L	No
Dimethoate	Jan 25/17	ND	µg/L	No
Diquat	Jan 25/17	ND	µg/L	No
Diuron	Jan 25/17	ND	µg/L	No
Glyphosate	Jan 25/17	ND	µg/L	No
Malathion	Jan 25/17	ND	µg/L	No
MCPA	April 5/17	ND	mg/L	N/A
Metolachlor	Jan 25/17	ND	µg/L	No
Metribuzin	Jan 25/17	ND	µg/L	No
Monochlorobenzene	Jan 25/17	ND	µg/L	No
Paraquat	Jan 25/17	ND	µg/L	
Pentachlorophenol	Jan 25/17	ND	µg/L	No
Phorate	Jan 25/17	ND	µg/L	
Picloram	Jan 25/17	ND	µg/L	No
Polychlorinated Biphenyls(PCB)	Jan 25/17	ND	µg/L	No
Prometryne	Jan 25/17	ND	µg/L	No
Simazine	Jan 25/17	ND	µg/L	No
THM (NOTE: show latest annual average)	Q1-Q4 2017	74.7	µg/L	No
Terbufos	Jan 25/17	ND	µg/L	No
Tetrachloroethylene	Jan 25/17	ND	µg/L	No
2,3,4,6-Tetrachlorophenol	Jan 25/17	ND	µg/L	No
Triallate	Jan 25/17	ND	µg/L	No

Trichloroethylene	Jan 25/17	ND	µg/L	No
2,4,6-Trichlorophenol	Jan 25/17	ND	µg/L	No
Trifluralin	Jan 25/17	ND	µg/L	No
Vinyl Chloride	Jan 25/17	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 2017	74.7	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 Jan. 16/18 and Jan. 19/17)	n/a	n/a

System Capability Assessment			
Comparison of Flow Rates (m ³ /d):			
Month	Average Flow	Maximum	Max. Instantaneous Flow (L/s)
January	385	481	11.3
February	376	471	10.3
March	372	432	11.2
April	357	533	12.2
May	291	390	12.3
June	332	521	11.4
July	385	535	11.2
August	361	514	10.8
September	346	531	10.7
October	343	532	9.3
November	329	451	10.1
December	323	470	13.2
AVERAGE	350	n/a	-
MAXIMUM	-	535	13.2
SYSTEM CAPACITY	1987	1987	23L/s
% CAPACITY	17.6%	26.9%	-