The 2017 Annual Drinking Water Quality Report:

Georgetown Drinking Water System

February 2018

Halton REGION

Introduction

Halton is committed to providing safe drinking water to all of our customers. As mandated by the *Safe Drinking Water Act, 2002*, this annual Water Quality Report includes:

- a description of the water treatment process and chemicals used;
- any major expenses to install, repair or upgrade equipment in the system; and,
- the results of our water tests and how they compare to provincial regulatory standards.

All provincial regulatory monitoring requirements were met or surpassed in 2017.

Georgetown Well Supply

Drinking Water System Number: 220001655

The Georgetown groundwater system consists of three well fields: Cedarvale, Princess Anne and Lindsay Court. The water source is a sand and gravel aquifer that underlies the town.

Four wells in the Cedarvale well field pump raw water into the Georgetown Water Purification Plant (WPP) located at 241 Maple Avenue, Georgetown. The treatment includes greensand filters for manganese and iron removal, fluoridation and disinfection using ultraviolet (UV) light and chlorine.

The Princess Anne and Lindsay Court well fields each contain two production wells. Water from the wells is disinfected with chlorine and fluoride is added.

The treated water from the three well fields is pumped into the distribution system. The system includes 22nd Side Road Reservoir, Moore Park Booster Station, Todd Road Tower and Norval Standpipe.

The Georgetown Well Supply is controlled through a computerized Supervisory and Data Acquisition (SCADA) system that is monitored twenty-four hours per day, seven days per week.

The following chemicals are used in the drinking water treatment process:

- chlorine (disinfection)
- hydrofluosilicic acid (fluoridation)

What Improvements Are We Making?

In 2017, approximately $2,605,000 was spent on capital upgrades to the Georgetown water treatment facilities. Projects included upgrades to the Cedarvale and Princess Anne well fields and the replacement of Princess Anne Well 5 and the raw water mains that run from the Cedarvale wells to the Georgetown Water Treatment Plant.

In addition, approximately $4,779,000 was spent on water main replacement and distribution system upgrades. Halton continued to support the production of quality drinking water through increased sampling for groundwater monitoring, the implementation of the Source Protection Plans and the Aquifer Management Plan (e.g. establishing Risk Management Plans, threat activity verification, and screening both planning and building permit applications in vulnerable areas), upgrades to the SCADA monitoring and infrastructure management systems. Work also continued on the Drinking Water Quality Management System, a provincial requirement to support the licensing of municipal drinking water systems which came into effect for Halton in January 2009.

Water Quality Testing

A large number of water quality tests are performed each and every day, in accordance with the *Safe Drinking Water Act, 2002* and regulations. The following sections provide a summary of the test results.

Terms

CFU/100 mL	Colony-forming units per 100 millilitres of water
µg/L	micrograms per litre
mg/L	milligrams per litre
Standard	Ontario Drinking Water Quality Standard, O.Reg. 169/03

Microbiological Testing

	Number of Samples	*E. coli* Results (min - max)	Total Coliform Results (min - max)	Number of HPC Samples	HPC Results (min -max)
Raw	735	0 – 1	0 - 7	N/A	N/A
Treated	307	0 – Absent	0 - Absent	156	0 – 76
Distribution	737	0 – Present	0 - 45	587	0 – 264

Microbiological standards for treated and distributed water:

E.coli not detected
Total Coliforms not detected
HPC Heterotrophic Plate Counts are conducted on some treated and distribution system samples. The HPC test is used as a tool to monitor overall quality, but the results are not indicators of water safety. There is not a Drinking Water Quality Standard for HPC.

Operational Testing

In the Georgetown water system, continuous analyzers measure and record the results of chlorine residual, turbidity and fluoride residual in treated water several times per minute, twenty-four hours per day, seven days per week. All of the readings are validated by an operator and are also reviewed by the Ministry of Environment and Climate Change (MOECC) Inspector. As well, Halton operators measure the chlorine in the distributed water. 'Adverse' test results must be reported if the free chlorine residual at the end of the treatment process is not sufficient to achieve primary inactivation (disinfection), if a free chlorine residual in the distribution system is <0.05 mg/L or if the fluoride residual is >1.5 mg/L. In 2017, all of the validated readings and test results for these parameters were within the ranges required by regulation.

Chemical Testing

Inorganic Parameters

Parameter	Sample Date	Result Value	Unit of Measure	Standard	Exceedance of Standard
Antimony	04/24/17	<0.0001	mg/L	0.006	mg/L
Arsenic	04/24/17	<0.001	mg/L	0.01	mg/L
Barium	04/24/17	0.210	mg/L	1.0	mg/L
Boron	04/24/17	0.039	mg/L	5.0	mg/L
Cadmium	04/24/17	<0.0005	mg/L	0.005	mg/L
Chromium	04/24/17	<0.001	mg/L	0.05	mg/L
Mercury	04/24/17	0.00024	mg/L	0.001	mg/L
Selenium	04/24/17	<0.001	mg/L	0.05	mg/L
Sodium	11/06/17	69.0	mg/L	20	Yes – Reported May 2017
Uranium	04/24/17	0.002	mg/L	0.02	mg/L
Fluoride	12/18/17	0.75	mg/L	1.5	mg/L
Nitrite	11/27/17	<0.02	mg/L	1.0	mg/L
Nitrate	11/27/17	2.60	mg/L	10.0	mg/L

Organic Parameters

Parameter	Sample Date	Result Value	Unit of Measure	Standard	Exceedance of Standard
Alachlor	04/24/17	<0.5	µg/L	5	No

Parameter	Sample Date	Result Value	Unit of Measure	Standard	Exceedance of Standard
Atrazine + N-dealkylated metobolites	04/24/17	<1	µg/L	5	No
Azinphos-methyl	04/24/17	<2	µg/L	20	No
Benzene	04/24/17	<0.1	µg/L	1	No
Benzo(a)pyrene	04/24/17	<0.009	µg/L	0.01	No
Bromoxynil	04/24/17	<0.5	µg/L	5	No
Carbaryl	04/24/17	<5	µg/L	90	No
Carbofuran	04/24/17	<5	µg/L	90	No
Carbon Tetrachloride	04/24/17	<0.10	µg/L	2	No
Chlorpyrifos	04/24/17	<1	µg/L	90	No
Diazinon	04/24/17	<1	µg/L	20	No
Dicamba	04/24/17	<1	µg/L	120	No
1,2-Dichlorobenzene	04/24/17	<0.2	µg/L	200	No
1,4-Dichlorobenzene	04/24/17	<0.2	µg/L	5	No
1,2-Dichloroethane	04/24/17	<0.2	µg/L	5	No
1,1-Dichloroethylene (vinylidene chloride)	04/24/17	<0.1	µg/L	14	No
Dichloromethane	04/24/17	<0.5	µg/L	50	No
2-4 Dichlorophenol	04/24/17	<0.25	µg/L	900	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	04/24/17	<1	µg/L	100	No
Diclofop-methyl	04/24/17	<0.9	µg/L	9	No
Dimethoate	04/24/17	<2.5	µg/L	20	No
Diquat	04/24/17	<7	µg/L	70	No
Diuron	04/24/17	<10	µg/L	150	No
Glyphosate	04/24/17	<10	µg/L	280	No
HAA (latest running annual average)	11/27/17	<5	µg/L	N/A	N/A
2-Methyl-4-chlorophenoxyacetic acid	04/24/17	<10	µg/L	100	No
Malathion	04/24/17	<5	µg/L	190	No
Metolachlor	04/24/17	<0.5	µg/L	50	No
Metribuzin	04/24/17	<5	µg/L	80	No
Monochlorobenzene	04/24/17	<0.1	µg/L	80	No
Paraquat	04/24/17	<1	µg/L	10	No
Pentachlorophenol	04/24/17	<0.5	µg/L	60	No
Phorate	04/24/17	<0.5	µg/L	2	No
Picloram	04/24/17	<5	µg/L	190	No
Polychlorinated Biphenyls(PCB)	04/24/17	<0.05	µg/L	3	No
Prometryne	04/24/17	<0.25	µg/L	1	No
Simazine	04/24/17	<1	µg/L	10	No
THM (latest running annual	11/27/17	20.6	µg/L	100 (running	No

Parameter	Sample Date	Result Value	Unit of Measure	Standard	Exceedance of Standard
average)				annual average)	
Terbufos	04/24/17	<0.5	µg/L	1	No
Tetrachloroethylene	04/24/17	<0.1	µg/L	10	No
2,3,4,6-Tetrachlorophenol	04/24/17	<0.5	µg/L	100	No
Triallate	04/24/17	<1	µg/L	230	No
Trichloroethylene	04/24/17	<0.1	µg/L	5	No
2,4,6-Trichlorophenol	04/24/17	<0.5	µg/L	5	No
Trifluralin	04/24/17	<1	µg/L	45	No
Vinyl Chloride	04/24/17	<0.2	µg/L	1	No

No additional testing was required by a Municipal Drinking Water License, order or other legal instrument.

'Adverse' Results Notifications

The following table shows the notices of 'adverse' water quality results submitted in accordance with the *Safe Drinking Water Act, 2002* to the MOECC and the Medical Officer of Health.

Date Sampled	Location	Adverse Condition	Corrective Action	Notice of Issue Resolution
May 1, 2017	Treatment Distribution	Sodium = 69.5 mg/L, 58.9 mg/L, 56.1 mg/L and 26.0 mg/L Sodium = 26.6 mg/L, 62.8 mg/L, 67.7mg/L - 67.9 mg/L (Duplicate) and 47.6 mg/L	Reportable every 57 months	May 2, 2017
May 29, 2017	Distribution	Other Observation - Watermain leak and non-disinfected water may have entered the pipe.	Boil Water Advisory Issued, watermain repaired and flushed and samples collected. All results within acceptable limits.	June 1, 2017
June 29, 2017	Distribution	Total Coliform = 45 CFU/100mL	Resamples collected and results within acceptable limits	July 1, 2017
August 10, 2017	Distribution	Presence/Absence confirmed Total Coliform	Resamples collected and results within acceptable limits	August 14, 2017
September 27, 2017	Distribution	Presence/Absence confirmed Total Coliform	Resamples collected and results within acceptable limits	September 30, 2017

Community-Wide Lead Sampling Program Results

Under the Community-Wide Lead Sampling Program, eight sets of samples were collected in 2017. None of the samples contained concentrations of lead above the standard of 10 µg/L.

More Water Information

More information is available on our website: www.halton.ca/water. The annual Flow Summary Report 2017 will be available for inspection after March 31, 2018 at:

Halton Region Citizens' Reference Library
1151 Bronte Road
Oakville, ON L6M 3L1

Questions or Comments Welcome

We welcome your comments or questions. Please call us at the telephone numbers below.

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