The 2017 Annual Drinking Water Quality Report:

South Halton Drinking Water System - Milton

February 2018

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.

Milton Well Supply

Drinking Water System Number: 220001646

The groundwater system consists of two well fields: Kelso and Walker's Line. The raw water source is a sand and gravel aquifer system. Four wells in the Kelso well field pump raw water into the Kelso Water Purification Plant (WPP). The treatment includes greensand filters for manganese removal and disinfection using chlorine. The treated water is pumped from the WPP to the Milton Reservoir and then flows by gravity into the Milton distribution system. The Walkers Line well field consists of one production well. Water from the well is disinfected with chlorine and pumped into the Milton Surge Tank which is located just off 12th Side Road. From the surge tank the water is fed by gravity into the distribution system. The Milton 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 and control of iron and manganese)

What Improvements Are We Making?

In 2017, approximately $3,434,000 was spent on upgrading the Milton distribution system including watermains and services connected to the Milton groundwater system. Halton continued to support the production of quality drinking water through increased sampling for groundwater monitoring, the implementation of the aquifer management plan (including capture zone and groundwater vulnerability assessments), upgrades to the SCADA monitoring and infrastructure management systems, water efficiency programs and optimization of water treatment processes. 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	501	0 - 0	0 – 0	N/A	N/A
Treated	206	0 – Absent	0 – Absent	104	0 - 151
Distribution	465	0 – Absent	0 – Absent	377	0 - 55

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 Milton water system, continuous analyzers measure and record the results of free chlorine residual and turbidity 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) or if a free chlorine residual in the distribution system is <0.05 mg/L. In 2017, all of the validated readings and test results 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	<0.001	mg/L	0.006	No
Arsenic	04/24/17	<0.001	mg/L	0.01	No
Barium	04/24/17	0.137	mg/L	1.0	No
Boron	04/24/17	0.030	mg/L	5.0	No
Cadmium	04/24/17	<0.0005	mg/L	0.005	No
Chromium	04/24/17	<0.001	mg/L	0.05	No
Mercury	04/24/17	<0.00005	mg/L	0.001	No
Selenium	04/24/17	<0.001	mg/L	0.05	No
Sodium	11/13/17	43.6	mg/L	20	Yes – Reported May 2017
Uranium	04/24/17	0.001	mg/L	0.02	No
Fluoride	11/13/17	0.08	mg/L	1.5	No
Nitrite	11/27/17	<0.02	mg/L	1.0	No
Nitrate	11/27/17	1.21	mg/L	10.0	No

Organic Parameters

Parameter	Sample Date	Result Value	Unit of Measure	Standard	Exceedance of Standard
Alachlor	04/24/17	<0.5	µg/L	5	No
Atrazine + N-dealkylated metobolites	04/24/17	<1	µg/L	5	No

Parameter	Sample Date	Result Value	Unit of Measure	Standard	Exceedance of Standard
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	<0.1	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 average)	11/27/17	28.7	µg/L	100 (running annual average)	No
Terbufos	04/24/17	<0.5	µg/L	1	No
Tetrachloroethylene	04/24/17	<0.1	µg/L	10	No

Parameter	Sample Date	Result Value	Unit of Measure	Standard	Exceedance of Standard
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	Location	Adverse Condition	Corrective Action	Notice of Issue Resolution
March 20, 2017	Distribution	Lead (Pb) = 0.0231 mg/L	Resamples taken and results within acceptable limits	March 30, 2017
May 8, 2017	Treatment Distribution	Sodium = 51.1 mg/L Sodium = 50.4 mg/L and 51.5 mg/L	Reportable every 57 months	May 9, 2017
December 8, 2017	Distribution	Other Observation – Watermain break and non-disinfected water may have entered the pipe.	Isolated system and *Do Not Drink* Advisory issued. Watermain repaired, flushed and sampled. All results within acceptable limits.	December 12, 2017

Community-Wide Lead Sampling Program Results

Under the Community-Wide Lead Sampling Program, eight sets of samples were collected from locations throughout the Milton groundwater system in 2017. One of the samples contained lead concentrations 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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