

2017 Annual Drinking Water System (DWS) Quality Report for King City DWS

Prepared by The Regional Municipality of York pursuant to Section 11 of O.Reg. 170/03

Drinking Water System Number: 220002299

Drinking Water System Name: King City DWS

Drinking Water System Owner: The Regional Municipality of York

DWS Category: Large Municipal Residential

Drinking Water System Classification: Water Distribution and Supply II

Reporting period: Jan 1, 2017 - Dec 31, 2017

The King City DWS serves approximately 7690 people

This annual report is available to the public at no charge on the Region's website (york.ca/drinkingwater) and upon request. Accessible formats or communication supports are also available upon request. Please contact AccessYork@york.ca or call 1-877-464-9675.

Summary report required under O.Reg. 170/03 Schedule 22 will be available for inspection at:

The Regional Municipality of York
Administrative Centre
Environmental Services Department
17250 Yonge Street, Newmarket ON
and online, at york.ca/drinkingwater

List all Drinking Water Systems which receive their drinking water from the King City DWS:

King City Distribution System (260005138)

A copy of York Region's annual report was provided to all Drinking Water System owners that are connected to and receive drinking water from York Region.

System users were notified that York Region's annual report is available free of charge by public access and notice through:

- Media (internet, social media)
- Public Requests at any time

Description of the King City DWS

Introduction

King City is a community in south-eastern King Township. King City DWS provides water from Lake Ontario through the York DWS. Two wells are maintained as an emergency backup water source. York Region operates the water supply, and King Township maintains and distributes water to users. The Province governs the Region's operations with Acts and Regulations, a Permit to Take Water, a Municipal Drinking Water License and an operating Permit. Lake Ontario water is purchased with supply agreements.

Raw water source

Groundwater

Profile of water in distribution system

Blended - Lake and Groundwater

Water treatment description

King City DWS includes two wells and two storage facilities. If the wells are used for supply, water is disinfected with chloramine. Sodium silicate manages iron and manganese. Storage facilities hold water and maintain pressure. The backup wells and treatment are tested often to ensure safety and performance. Operators test the water and inspect the process. Online analyzers continuously monitor the facilities. When analyzers detect an issue, the system pauses operation until an operator takes action.

List of water treatment chemicals used in this system

In 2017, water in King City was 100% pre-treated and York Region did not apply any treatment chemicals to the King City DWS. Well facilities were not run for supply, but have capability to apply chlorine (gas), ammonia solution for chloramination, and sodium silicate if ever needed for backup capacity.

Brief description and breakdown of monetary expenses incurred

\$20,668 for general maintenance and repair.

Notices submitted under Section 18(1) of the Safe Drinking Water Act or Section 16-4 of O.Reg. 170/03 and reported to MOECC Spills Action Centre

Test Parameter	Incident Date	Units	Result	Corrective Action	Corrective Action Date
E. coli + Total Coliform	17-Apr-17	Unitless	presence	Operator attended site. Resample taken. Resample result non-detectable for total coliform and E. coli	21-Apr-17

2017 King City DWS - O. Reg. 170/03 Section 11 Report

Microbiological testing completed under Schedule 10 of O.Reg. 170/03

*For distribution samples collected under Schedule 10, refer to the local municipality

Parameter	Sample Source	No. of Samples	No. of Detections
E. coli	Raw	104	0
Total Coliforms	Raw	104	0

Operational testing completed under Schedule 7 of Regulation 170/03 during this reporting period

*8,760 is used as the number of samples for continuous analyzers

Parameter	Units	No. of Samples	Average	Minimum	Maximum
Chlorine	mg/L	8,760	1.76	0.00	2.56
Turbidity (Raw)	NTU	8,760	1.19	0.00	5.00
Turbidity (Treated)	NTU	8,760	0.05	0.02	0.13

Summary of testing pursuant to Schedule 13 of O. Reg. 170/03 and sampling carried out in accordance with the requirement of an approval, order or other legal instrument

Values with a less than sign (" $<$ ") indicate that the test result is below the method detection limit from the accredited laboratory (i.e. non-detect). Average results include values which were returned as non-detect and are rounded to four decimals. For a complete set of results, see the open dataset available at york.ca/drinkingwater

Parameter	Units	No. of Samples	Average	Minimum	Maximum
Fluoride	mg/L	6	0.596	0.496	0.67
Haloacetic Acids	mg/L	8	0.020	<0.02	<0.02
Nitrate	mg/L	2	1.000	<1	<1
Nitrate + Nitrite	mg/L	2	1.000	<1	<1
Nitrite	mg/L	2	0.100	<0.1	<0.1
Sodium	mg/L	2	23.700	23.5	23.9
Trihalomethanes	mg/L	9	0.023	0.0162	0.0404

*Lead testing under Schedule 15.1 is conducted by the Local Municipality - refer to Local Municipality reports for results. York Region occasionally collects samples tested for lead for non-regulatory research purposes

Organic and inorganic parameter(s) that exceeded half the standard prescribed in Schedule 2 of O.Reg. 169/03 Ontario Drinking Water Quality Standards

Not Applicable
 There were no parameters that exceeded half the standard indicated above for the King City DWS during 2017

Summary of inorganic parameters teste pursuant to Schedule 23 of O.Reg. 170/03

Values with a less than sign (" $<$ ") indicate that the test result is below the method detection limit from the accredited laboratory (i.e. non-detect). Average results include values which were returned as non-detect and are rounded to four decimals. For a complete set of results, see the open dataset available at york.ca/drinkingwater

Test Parameter	Units	No. of Samples	Average	Minimum	Maximum	ODWS Limit
Antimony	mg/L	2	0.0009	0.0008	0.0009	0.006
Arsenic	mg/L	2	0.0008	0.0008	0.0008	0.025
Barium	mg/L	2	0.0243	0.0238	0.0247	1
Boron	mg/L	2	0.0061	0.0058	0.0064	5
Cadmium	mg/L	2	0.0005	<0.0005	<0.0005	0.005
Chromium	mg/L	2	0.0005	<0.0005	<0.0005	0.05
Mercury	mg/L	2	0.0001	<0.00005	<0.00005	0.001
Selenium	mg/L	2	0.0005	<0.0005	<0.0005	0.01
Uranium	mg/L	2	0.0005	<0.0005	<0.0005	0.02

2017 King City DWS - O. Reg. 170/03 Section 11 Report

Summary of organic parameters tested pursuant to Schedule 24 of O.Reg. 170/03

Values with a less than sign (" $<$ ") indicate that the test result is below the method detection limit from the accredited laboratory (i.e. non-detect). Average results include values which were returned as non-detect and are rounded to four decimals. For a complete set of results, see the open dataset available at york.ca/drinkingwater

Test Parameter	Units	No. of Samples	Average	Minimum	Maximum	ODWS Limit
1,1-dichloroethylene (vinylidene chloride)	mg/L	1	0.0003	<0.0003	<0.0003	0.014
1,2-(o-dcb) Dichlorobenzene	mg/L	1	0.0001	<0.0001	<0.0001	0.2
1,2-Dichloroethane	mg/L	1	0.0001	<0.0001	<0.0001	0.005
1,4-(p-dcb) Dichlorobenzene	mg/L	1	0.0001	<0.0001	<0.0001	0.005
Benzene	mg/L	1	0.0001	<0.0001	<0.0001	0.005
Carbon Tetrachloride	mg/L	1	0.0002	<0.0002	<0.0002	0.005
Dichloromethane	mg/L	1	0.0010	<0.001	<0.001	0.05
Monochlorobenzene	mg/L	1	0.0001	<0.0001	<0.0001	0.08
Tetrachloroethylene (perchloroethylene)	mg/L	1	0.0003	<0.0003	<0.0003	0.03
Trichloroethylene	mg/L	1	0.0001	<0.0001	<0.0001	0.005
Vinyl Chloride	mg/L	1	0.0002	<0.0002	<0.0002	0.002