

# 2019 Annual Drinking Water System Quality Report for Newmarket DWS

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

**Drinking Water System Number:** 220002413

**Drinking Water System Name:** Newmarket DWS

**Drinking Water System Owner:** The Regional Municipality of York

**Drinking Water System Category:** Large Municipal Residential

**Drinking Water System Classification:** Water Distribution and Supply III

**Reporting period:** Jan 1, 2019 - Dec 31, 2019

## **The Newmarket DWS serves approximately 96,500 people**

(Population is a year-end forecasted estimate based on Statistics Canada census data, and building permits)

## **List all Drinking Water Systems which receive their drinking water from the Newmarket DWS:**

Holland Landing/Queensville/Sharon Distribution System (260001747); Newmarket Distribution System (260003188); Town Of Aurora Distribution System (260003227); Yonge-Green Lane Distribution System (260087685)

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

**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

**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

## **Description of the Newmarket DWS**

### **Introduction**

The Town of Newmarket is located centrally in York Region. Groundwater from the Newmarket wells is blended with water from Lake Ontario and groundwater from Aurora from the York DWS. York Region operates the water supply, and the Town of Newmarket 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**

Newmarket DWS includes six wells, six storage facilities, and two booster pumping stations. Chlorine provides disinfection, and chloramine provides a secondary residual. One of these facilities also re-chloraminates to boost the residual. Sodium silicate is added to sequester naturally occurring iron and manganese. Storage facilities hold treated water and help booster stations maintain pressure. Operators test the water and inspect the process. Online analyzers continuously monitor the facilities. When analyzers detect a significant process or water quality issue, the system automatically pauses operation until an operator takes action.

### **List of water treatment chemicals used in this system**

Chlorine (gas, sodium hypochlorite); Ammonia solution; Sodium Silicate

### **Brief description and breakdown of monetary expenses incurred**

\$405,698 for well rehabilitation and pump maintenance, elevated tank repairs and upgrades, water meter chamber upgrades, general maintenance and repairs.

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

Adverse Parameter	Incident Date	Adverse Test Result	Corrective Action	Corrective Action Date
Chlorine Residual	25-Jan-19	4.37 mg/L	Operator attended site, restored facility to normal operation. Compliant grab sample taken.	25-Jan-19
	22-Feb-19	4.03 mg/L	Operator attended site, restored facility to normal operation. Compliant grab sample taken.	22-Feb-19
	24-Feb-19	4.30 mg/L	Operator attended site, restored facility to normal operation. Compliant grab sample taken.	24-Feb-19
	09-Oct-19	4.14 mg/L	Operator attended site, restored facility to normal operation. Compliant grab sample taken.	09-Oct-19
	19-Nov-19	4.62 mg/L	Operator attended site, restored facility to normal operation. Compliant grab sample taken.	19-Nov-19
Primary Disinfection	24-Jan-19	0.03 mg/L	Operator attended site, restored facility to normal operation. Compliant grab sample taken.	24-Jan-19
	26-Jan-19	0.07 mg/L	Operator attended site, restored facility to normal operation. Compliant grab sample taken.	26-Jan-19
	28-Jan-19	0.03 mg/L	Operator attended site, restored facility to normal operation. Compliant grab sample taken.	28-Jan-19
System Pressure	19-Sep-19	< 20 PSI	Watermain break was repaired, disinfected, and flushed. Microbiological samples confirmed no contamination.	19-Sep-19

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

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

Test Parameter	Sample Source	Count Of Samples	Count Of Presence
E. coli	Raw	240	0
	Treated	104	0
Heterotrophic Plate Count	Treated	104	17
Total Coliforms	Raw	240	0
	Treated	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

Test Parameter (group)	Test Units	No. of Samples	Average	Minimum	Maximum
Combined Chlorine	mg/L	8,760	2.47	0.00	4.92
Turbidity (Treated)	NTU	8,760	0.05	0.00	5.00

**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 three decimals. For a complete set of results, see the open dataset available at [york.ca/drinkingwater](http://york.ca/drinkingwater)

Test Parameter	Test Units	No. of Samples	Average	Minimum	Maximum
Fluoride	mg/L	60	0.295	0.15	0.67
Haloacetic Acids	mg/L	16	0.009	<0.008	0.011
Nitrate	mg/L	60	0.501	<0.5	0.57
Nitrite	mg/L	60	0.050	<0.05	<0.05
Sodium	mg/L	6	18.963	16.3	23.5
Trihalomethanes	mg/L	18	0.012	0.0056	0.0289

\*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 Newmarket DWS during 2019

### Summary of inorganic parameters tested 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 five decimals. For a complete set of results, see the open dataset available at [york.ca/drinkingwater](http://york.ca/drinkingwater)

Test Parameter	No. of Samples	Test Units	Average	Minimum	Maximum	ODWS Limit
Antimony	6	mg/L	0.00072	0.0006	0.0009	0.006
Arsenic	6	mg/L	0.00060	<0.0005	0.0008	0.01
Barium	6	mg/L	0.09013	0.0242	0.174	1
Boron	6	mg/L	0.03513	0.0289	0.0419	5
Cadmium	6	mg/L	0.00050	<0.0005	<0.0005	0.005
Chromium	6	mg/L	0.00050	<0.0005	<0.0005	0.05
Mercury	6	mg/L	0.00005	<0.00005	<0.00005	0.001
Selenium	6	mg/L	0.00050	<0.0005	<0.0005	0.05
Uranium	6	mg/L	0.00050	<0.0005	<0.0005	0.02

### 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](http://york.ca/drinkingwater)

Test Parameter	No. of Samples	Test Units	Average	Minimum	Maximum
1,1-dichloroethylene (vinylidene chloride)	2	mg/L	0.0003	<0.0003	<0.0003
1,2-(o-dcb) Dichlorobenzene	2	mg/L	0.0001	<0.0001	<0.0001
1,2-Dichloroethane	2	mg/L	0.0001	<0.0001	<0.0001
1,4-(p-dcb) Dichlorobenzene	2	mg/L	0.0001	<0.0001	<0.0001
2-methyl-4-chlorophenoxyacetic acid	2	mg/L	0.0050	<0.005	<0.005
2,3,4,6-Tetrachlorophenol	2	mg/L	0.0005	<0.0005	<0.0005
2,4-Dichlorophenol	2	mg/L	0.0007	<0.0007	<0.0007
2,4-dichlorophenoxyacetic acid (2,4-D)	2	mg/L	0.0008	<0.0008	<0.0008
2,4,6-Trichlorophenol	2	mg/L	0.0005	<0.0005	<0.0005
Alachlor	2	mg/L	0.0004	<0.0004	<0.0004
Atrazine + N-dealkylated metabolites	2	mg/L	0.0002	<0.0002	<0.0002
Azinphos-methyl	2	mg/L	0.0003	<0.0003	<0.0003
Benzene	2	mg/L	0.0001	<0.0001	<0.0001
Benzo(a)pyrene	2	mg/L	0.0000	<0.00001	<0.00001
Bromoxynil	2	mg/L	0.0004	<0.0004	<0.0004
Carbaryl	2	mg/L	0.0030	<0.003	<0.003
Carbofuran	2	mg/L	0.0030	<0.003	<0.003
Carbon Tetrachloride	2	mg/L	0.0002	<0.0002	<0.0002
Chlorpyrifos	2	mg/L	0.0002	<0.0002	<0.0002
Diazinon	2	mg/L	0.0002	<0.0002	<0.0002
Dicamba	2	mg/L	0.0004	<0.0004	<0.0004
Dichloromethane	2	mg/L	0.0020	<0.002	<0.002
Diclofop-methyl	2	mg/L	0.0004	<0.0004	<0.0004
Dimethoate	2	mg/L	0.0003	<0.0003	<0.0003
Diquat	2	mg/L	0.0010	<0.001	<0.001
Diuron	2	mg/L	0.0030	<0.003	<0.003
Glyphosate	2	mg/L	0.0250	<0.025	<0.025
Malathion	2	mg/L	0.0002	<0.0002	<0.0002
Metolachlor	2	mg/L	0.0002	<0.0002	<0.0002
Metribuzin	2	mg/L	0.0003	<0.0003	<0.0003
Monochlorobenzene	2	mg/L	0.0001	<0.0001	<0.0001
Paraquat	2	mg/L	0.0010	<0.001	<0.001
Pentachlorophenol	2	mg/L	0.0004	<0.0004	<0.0004
Phorate	2	mg/L	0.0002	<0.0002	<0.0002
Picloram	2	mg/L	0.0007	<0.0007	<0.0007
Polychlorinated Biphenyls (PCBs)	2	mg/L	0.0000	<0.00002	<0.00002
Prometryne	2	mg/L	0.0002	<0.0002	<0.0002
Simazine	2	mg/L	0.0002	<0.0002	<0.0002
Terbufos	2	mg/L	0.0002	<0.0002	<0.0002
Tetrachloroethylene (perchloroethylene)	2	mg/L	0.0003	<0.0003	<0.0003
Triallate	2	mg/L	0.0040	<0.004	<0.004
Trichloroethylene	2	mg/L	0.0001	<0.0001	<0.0001
Trifluralin	2	mg/L	0.0000	<0.000006	<0.000006
Vinyl Chloride	2	mg/L	0.0002	<0.0002	<0.0002