

2007 Annual Water Quality Report

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Ontario's Drinking Water Systems Regulation (O.Reg. 170/03), made under the Safe Drinking Water Act, 2002 requires that the owner of a municipal drinking water system prepare an annual report on the operation of the system and the quality of its water. The annual report replaces the quarterly reports as directed in the previous regulation (O.Reg. 459/00).

Regulation (O.Reg. 170/30) requires that for the year 2007 the annual report will consist of quality reports dated from January 1, 2007 to December 31, 2007.

Reports are available for viewing on the Town's website, www.newmarket.ca, at the counter of the Town of Newmarket Operations Centre, 623 Timothy Street, and at the Community Services Commission, Public Works/Environmental Services Department in the Municipal Offices at 395 Mulock Drive, Newmarket, Ontario. Annual water quality reports are also published by the Region of York on their website, which can be found at www.york.ca.

Any questions related to the Town's water system, this Report, or any water quality issue may be directed to the Overall Responsible Operator, Bill Wilson, Water/Wastewater Supervisor, Public Works/Environmental Services Department at 905-953-5300 ext. 2553, or by email at bwilson@newmarket.ca or by mail to:

Town of Newmarket Operations Centre
623 Timothy Street
Newmarket, ON
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The Town of Newmarket owns and maintains the Town's distribution network, which is comprised of approximately 282 kilometers of watermain, 2394 mainline valves, 2376 fire hydrants, and 25,876 metered water services. Our source of water is ground water supplied from wells owned and operated by the Region of York. Regional storage reservoirs located throughout the Town provide additional storage and fire protection. Certified operators licensed by the Province of Ontario through the Ministry of Environment maintain the water distribution system of the Town of Newmarket.

Water treatment for the Town of Newmarket is through the process of chloramination (adding chlorine and ammonia). In the near future, York Region will supplement the ground water supply in Newmarket with small amounts of water from Peel Region. This will decrease the demand on the underground aquifer and provide additional security by having a second supply source to supplement the needs of our rapidly growing community.

The York-Durham Regional Environmental Laboratory in Pickering, an accredited laboratory registered with the Canadian Association of Environmental Analytical Laboratories (CAEAL), is under contract with the Town of Newmarket for water quality analysis of all water samples sent to them. This accredited laboratory meets or exceeds the stringent microbiology parameters that are in place for all drinking water systems in today's society.

Water samples are collected at various locations in town through the use of sample stations. This practice assures that samples are being drawn at points which represent the entire distribution system.

Newmarket's sampling numbers fall within the Provincial guidelines servicing populations of 100,000 or fewer. These guidelines require that a minimum of 8 samples per month plus one sample per 1,000 people be taken. At a population of 76,420 as determined from Statistics Canada the Town was required to take a minimum of 84 monthly samples in 2007. Newmarket is currently ranging between 86 – 109 samples monthly, resulting in approximately 21 – 23 samples being taken per week.

The Town's tests are for any adverse conditions that may be in the water taken from faucets at the test sites. Newmarket's water sample results have historically been excellent. On rare occasion where a presence of bacteria or other adverse condition is reported, re-testing is carried out to determine if the presence of bacteria was a result of the testing procedure or the water quality. Regardless of the result, town staff will immediately employ corrective actions. This would include flushing of the system and additional samples both upstream and downstream of the suspected area. Any other measures would be at the direction of the Ministry of Environment and/or the Medical Officer of Health as stated in **0.Reg. 170/03** under the Ontario's Drinking Water Protection Regulation.

Microbiological parameters

Microbiological	Regulated Limit	Number of Samples	Sampling Dates	Number of Detectable Results	Samples Exceeding Limit	Explanation
*Total coliforms MPN / 100 mL	0 MAC	1166	Jan. 1 – Dec. 31, 2007	1	1	See notes below
**E. Coli and/or Fecal MPN / 100 mL	0 MAC	1166	Jan. 1 – Dec. 31, 2007	0	0	

Volatile organics

	Regulated Limit	Number of	Sampling Dates	Number of Detectable	Samples Exceeding	Explanation

		Samples		Results	Limit	
Trihalomethanes mg/L	.01 mg/L	4	Jan. 1 – Dec. 31, 2007	4	0	Quarterly

Inorganics

	Regulated Limit	Number of Samples	Sampling Dates	Number of Detectable Results	Samples Exceeding Limit	Explanation
Lead mg/L	0.010 mg/L	50	Apr. 10, 2007	50	1	Lead Washer in Hydrant. Removed & Re-sampled

Microbiological indicators (For Weekly Bacteria Samples)

	Minimum Regulated Limit	Number of Samples	Number of Detectable Results	Range	Exceedances
Combined Chlorine	0.25 mg/L	1941	1941	0.61 – 2.20 mg/L	0

Microbiological characteristics

*Total Coliforms

Coliform indicator organisms are generally harmless bacteria that live naturally in the intestines of humans. They are also found in plants, soil, air, water and warm-blooded animals. Their presence indicates the possibility of germ contamination.

**E. Coli and/or Fecal Coliform

Escherichia Coli (E. Coli) or other fecal coliform is a bacterium present in fecal matter and prevalent in sewage. These bacteria forms, called intestinal pathogens, have caused several food-borne and water-borne outbreaks of disease, and must not be present in the water supply.

Trihalomethanes (THM)

The maximum acceptable concentration (MAC) for trihalomethanes (THMS) in drinking water is 0.1 mg/L based on a four quarter moving annual average of test results.

Trihalomethanes are the most widely occurring synthetic organisms found in chlorinated drinking water. The principal source of trihalomethanes in drinking water is the action of chlorine with naturally occurring organics (precursors) left in the water after filtration.

Lead

The maximum acceptable concentration (MAC) for lead in drinking water is 0.010 mg/l. Lead is sampled annually in the distribution system at a point representing the maximum residence time.

The Region of York provides the water delivered to our customers in Newmarket. It is ground water source. The Region of York carries out extensive source water quality testing.

Please refer to the York Region Water Quality Report for more detailed information on treated water quality in Newmarket.

Exceedances

On September 5, 2007, an adverse sample indicating the presence of total coliforms was recorded at our designated sampling station located at 531 Davis Drive. As required by O.Reg.170/03, the Ministry of Environment, Medical Officer of Health and the York-Durham Laboratory were all notified. Immediate steps were put in place including the flushing of the systems and resample taken at the same location as well as both up and down steam of the affected area. The additional samples came back within the criteria set out in O.Reg.170/03. It was suspected that the original sample taken was likely contaminated during the sampling process and not a result of the water quality.

On June 27, 2007, notification from the York-Durham Laboratory indicating an elevated level of lead was identified from a sample taken at a hydrant fronting 742 Queen Street. A resample was immediately taken and notification made to the Ministry of Environment and Medical Officer of Health. The second sample also return with an elevated level of lead, so municipal staff isolated the hydrant from the distribution system. The hydrant was then dismantled and a lead washer was removed from the lower unit. A third sample was taken and sent to the lab for analysis. Results received on July 11, 2007 indicated that no lead was detected. The hydrant was then returned to service.