CITY OF NIAGARA FALLS
WATER DISTRIBUTION SYSTEM QUARTERLY REPORT
April - June, 2003

Prepared by: City of Niagara Falls Municipal Works

This report is prepared in compliance with Section 12, Ontario Regulation 459 - Drinking Water Protection Regulation as approved under the Ontario Water Resource Act (R.S.O. 2000)

Water Distribution System

The City of Niagara Falls purchases it's water from the Regional Municipality of Niagara through the Niagara Falls Water Treatment plant. The municipal water source is a surface water supply from the Niagara River via the Welland River. The water is distributed to Niagara Falls residents through approximately 422 kilometres of City water mains and 39 km of Region water mains. The size of City of Niagara Falls water mains range in size from 25 mm to 450mm.

Please refer to the Regional Municipality of Niagara quarterly report. Website www.regional.niagara.on.ca.

Operational Compliance

The City of Niagara Falls has reviewed its procedures and have taken measures to assure compliance with all new regulations. Protocol for reporting indicators of adverse water quality, and making data and reports publicly available have been established and are being followed. A independent Engineers Report, on the distribution system, has been prepared and submitted by Earth Tech Canada Ltd. The reports water sampling recommendations have been reviewed and implemented.

To meet the standards the City samples from a minimum of 85 sites each month. Sampling sites represent a cross section of the cities distribution system,. Samples are collected by staff members who have attained MOE certification as Water Distribution System Operator and /or Water Analyst.

Tests to comply to the Regulation are for Microbiological (Bacteria) indication of adverse water quality.

Drinking Water Microbiological Test.	**Standard**
Escherichia Coli (E. Coli)	0
Fecal Coliform	0
Total Coliforms	0
Background Colonies	200 or less

Additional Free Chlorine is required to be 0.05 mg./litre or higher.

When indicators of adverse water quality occur corrective measures and notification to the Ontario Ministry of Environment and the Medical Officer of Health are immediately undertaken. Resampling, including adjacent sites and/or fire hydrants is initiated, and where necessary flushing of water mains and increasing the chlorine dosages is carried out until water quality once again conforms to the Regulation.

Microbiological Test Results

April, 2003

Total Samples	162
Adverse Water Samples	0

May, 2003

Total Samples	143
Adverse samples	2

June, 2003

Total Samples	143
Total Adverse Samples	0

Notices Given

Oral and written notices of adverse water quality indicators are to be filed with the Ministry of Environment and the Medical Officer of Health. Through this quarter 1 notice was filed.

During 2nd quarter sampling, 2 notices of adverse water quality was filed for:

8240 McLeod Rd.., Persumptive positive for P/A for Total Coliforms for sample collected on May 12.

7447 Pine Oak Dr., Background >200 in sample collected on May 15.

Resampling and flushing at the above sites was carried out and acceptable lab tests were received.

Microbiological Test Result Summary This Quarter

	Total Samples	Total Coliform Detected	E. Coli/ Fecal Detected	Background (> 200)
APRIL	162	0	0	0
MAY	143	1	0	1
JUNE	143	0	0	0

Drinking Water Inorganic Parameter Test	**Standard**
Lead	**0.01 mg/L**

Metals, for the most part, are naturally present in source water, or are the result of industrial activity. Some, such as Lead, may enter the drinking water from pluming in the distribution system.

Lead can occur in the source water as a result of erosion of natural deposits. The most common source of lead is corrosion of the household plumbing. First flush water at the consumer's tap may contain higher concentrations of lead then water that has been flushed for several minutes.

Total Samples	Detected Concentration
1	<0.002

Arsenic **0.025 mg/L**

Arsenic is present at very low concentrations in most surface water and sometimes found in high levels in ground water in hard rock areas in Ontario. Its presents is the result natural dissolution of arsenic containing materials.

The maximum acceptable concentration in drinking water is 0.025 mg/L. Arsenic is a known carcinogen and must therefore be removed by treatment where present in concentrations over 0.025 mg/L.

Sampling and testing are carried out by the Region of Niagara, Public Works Department, quarterly.

Total Samples	Detected Concentration
1	<0.002

Trihalomethanes **0.10 mg/L**

The maximum acceptable concentration (MAC) for Trihalomethanes (THMs) in drinking water is 0.10 mg/L based on a four quarter moving annual average of test results. Trihalomethanes are the most widely occurring synthetic organics found in chlorinated drinking water. The four most commonly detected Trihalomethanes in drinking water are chloroform, bromodichloromethane, chlorodibromomethane and bromoform. The principal source of Trihalomethanes in drinking water is the action of chlorine with naturally occurring organics (precursors) left in the water after filtration.

Sampling and testing for 2001 was provided by the Region of Niagara, Public Works Department, quarterly. 2002 sampling and testing is carried out by City of Niagara Falls staff.

Total Samples	Detected Concentration
2003-2nd Quarter	0.026
2003-1st Quarter	0.025
2002-2nd Quarter	0.025
2002-3rd Quarter	0.028
Average	0.026

Water Quality Characteristics

Parameters that contribute to the characteristics of drinking water are categorized, by the Ministry of the Environment, as either health related or aesthetic. Health related parameters are a concern for acute and/or chronic exposure, whereas parameters that affect taste and odour, or which cause operational problems are aesthetic.

Quarterly sampling and testing for water quality characteristics of the water within the distribution system are contained within the table provided.

Sampling and testing has been carried out by Niagara Region, Public Works Department.

CHEMICAL / PHYSICAL OBJECTIVES
Non-health related

Parameter	Objective	Detected Concentrations	Type of Objective
Alkalinity	30-500 mg/L	83 to 92	OG
Aluminum	0.10 mg/L	<0.02 to 0.056	OG
Chloride	250 mg/L	19 to 20	AO
Conductivity	No MAC	282 to 288	OG
Hardness (as CaCO3)	80-100 mg/L	124 to 133	OG
Iron	0.30 mg/L	<0.090	AO
Manganese	0.05 mg/L	<0.002	AO
pH	6.5-8.5 (no units)	7.21 to 7.78	OG
Sodium	200 mg/L	9.0 to 10.3	AO
Sulphate	500 mg/L	33 to 36	AO

AO - Aesthetic Objective OG - Operational Guideline