

Annual Drinking Water Quality Report for 2004
Michael C. O’Laughlin Water Plant
5815 Buffalo Avenue, Niagara Falls, NY 14304
(Public Water Supply ID# 3100568)

INTRODUCTION

To comply with State and Federal regulations, the Michael C. O’Laughlin Water Plant issues an annual report describing the quality of your drinking water. The purpose of this report is to increase your understanding of drinking water and awareness of the need to protect our drinking water sources. Last year, your tap water met all State drinking water health standards. We are proud to report that our system has never violated a state established maximum contaminant level. This report provides an overview of last year’s water quality. Included are details about where your water comes from, what it contains, and how it compares to State standards.

If you have any questions about this report or concerning your drinking water, please contact our Chief Operator Charles Gonzalez at 283-9770 ext. 203, or Microbiologist Larry Sklarski at ext. 205. We want you to be informed about your drinking water. If you want more information, please contact the, Executive Director Robert Game at 283-9770 ext. 232, or attend any of our regularly scheduled Niagara Falls Water Board meetings. The meetings are held every third Thursday of the month at 5:30pm at the Michael C. O’Laughlin Water Plant at 5815 Buffalo Avenue, Niagara Falls, New York.

WHERE DOES OUR WATER COME FROM?

In general, the sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and can pick up substances resulting from the presence of animals or from human activities. Contaminants that may be present in source water include: microbial contaminants; inorganic contaminants; pesticides and herbicides; organic chemical contaminants; and radioactive contaminants. In order to ensure that tap water is safe to drink, the State and the EPA prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. The State Health Department’s and the FDA’s regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Our water source is the Niagara River. During 2004, our system did not experience any restriction on our water source. The placement of the intake allows water to be drawn that is least affected by runoff. At the Low Lift pump station water passes through screens to remove excess debris. It is then pumped to the pre-treatment tanks where chlorine is added as a disinfectant. Powdered activated carbon may also be added during the summer months to aid in taste and odor abatement. In the rapid mix chamber polyaluminum chloride (PACl) is then added to enhance particulate removal. The water then travels to the flocculation basins. These basins gently mix the PACl and any particles allowing them to form a floc. The water then travels to sedimentation basins and the floc settles to the bottom of the basins. The water next flows into rapid sand filters. The filters remove any particles that remain. After filtration, the treated water is chlorinated again and stored in reservoirs before being pumped into the distribution system. As a service to the community fluoride is added to help prevent dental caries (cavities), and a Poly-Orthophosphate blend is also added to prevent household lead and copper contamination.

Source Water Assessment Program (SWAP) Summary

The New York State Department of Health recently completed a draft Source Water Assessment of the supplies raw water source under the States Source Water Assessment Program (SWAP). The purpose of this program is to compile, organize, and evaluate information regarding possible and actual threats to the quality of public water supply (PWS) sources. It is important to note that source water assessment reports estimate the potential for untreated drinking water sources to be impacted by contamination. These reports do not address the safety or quality of treated finished potable tap water. The Great Lakes’ watershed is exceptionally large and too big for a detailed evaluation in the SWAP. General drinking water concerns for public water supplies which use these sources include: storm generated turbidity, wastewater, toxic sediments, shipping related spills, and problems associated with exotic species (e.g. zebra mussels - intake clogging and taste and odor problems). The SWAP is based on the analysis of the contaminant inventory compiled for the drainage area deemed most likely to impact drinking water quality at this public water supply raw water intake. This assessment found an elevated susceptibility to contamination for this source of drinking water. The

amount of agricultural and residential lands in the assessment area results in elevated potential for microbial, disinfection byproduct precursors, and pesticides contamination. There is also a high density of sanitary wastewater discharges, which results in elevated susceptibility for numerous contaminant categories. Non-sanitary wastewater could also impact source water quality. There is also noteworthy contamination susceptibility associated with other discrete contaminant sources, and these facility types include: Chemical Bulk Storage facilities, Inactive Hazardous Waste Sites, Landfills, Toxic Release Inventory data, and Resources Conservation and Recovery Act (RCRA) facilities.

Anyone interested in obtaining a copy of our SWAP can do so by submitting a written request to the Niagara Falls Water Board or by visiting our web site at www.nfwb.org.

FACTS AND FIGURES

Our water system serves about 55,000 people through 20,000 service connections. The total water produced in 2004 was over 6.1 billion gallons. The daily average of water treated and pumped into the distribution system is 16.7 million gallons per day. Our highest single day was about 19 million gallons. The annual amount of water delivered to customers was about 3.4 billion gallons. This leaves about 2.7 billion gallons unaccounted for. Unaccounted for water includes such conditions as flushing of water mains, meter inaccuracies, illegal consumption, fire hydrant usage, authorized unmetered usage (street cleaning, etc.) and underground pipe leakage. In 2004 water customers were charged \$2.60 per 1,000 gallons of water through October and \$3.13 per 1000 gallons thereafter.

ARE THERE CONTAMINANTS IN OUR DRINKING WATER?

As the State regulations require, we routinely test your drinking water for numerous contaminants. These contaminants include: total coliform, turbidity, inorganic compounds, nitrate, nitrite, lead and copper, volatile organic compounds, total trihalomethanes, and synthetic organic compounds. During 2004 Water Department staff performed almost 15,547 individual water quality tests. The table presented below depicts which compounds were detected in your drinking water. The State allows us to test for some contaminants less than once per year because the concentrations of these contaminants are not found or do not change frequently. Some of our data, though representative, is more than one year old. A more detailed supplemental list of all monitored constituents is available by calling 283-9770 and requesting a copy or on the Internet at www.nfwb.org.

It should be noted that all drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (800-426-4791) or the Niagara County Health Department at 439-7444.

Table of Detected Contaminants							
Contaminant	Violation Yes/No	Date of Sample (mo./year)	Level Detected (Maximum) (Range)	Unit Measurement	MCLG	Regulatory Limit (MCL, TT or AL)	Likely Source of Contamination
Turbidity ¹	No	5/2004	0.111 .053 - .111	NTU	N/A	TT = 95% of samples <0.5 NTU	Soil Runoff
Fluoride	No	3/2004	1.30 0.66 - 1.30	mg/l	N/A	MCL = 2.2	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate	No	3/2004	1 0 - 1	mg/l	10	MCL = 10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Barium	No	6/2004	20	ug/l	2000	MCL = 2000	Erosion of natural deposits

Copper	No	6/2002	80 ² ND – 110	ug/l	1300	AL = 1300	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead	No	6/2002	11 ³ ND – 20	ug/l	0	AL = 15	Corrosion of household plumbing systems, erosion of natural deposits
Chloride	No	6/2004	28 20 – 28	mg/l	N/A	250	Naturally occurring or indicative of road salt contamination
Sodium	No	6/2004	14	mg/l	(see Health Effects)	N/A	Naturally occurring; Road salt; Water softeners; Animal waste.
Sulfate	No	2/2004	29 22 – 29	mg/l	N/A	250	Naturally occurring.
Odor	No	6/2002	2	TON	N/A	3	Natural sources, organic or inorganic pollutants originating from municipal and industrial waste discharges.
Chlorine	No	6/2004	1.37 1.04 – 1.34	mg/l	N/A	4	By-product of drinking water chlorination.
Gross alpha activity (including radium – 226 but excluding radon and uranium)	No	7/2000	1	pCi/L ⁴	N/A	15	Erosion of natural deposits
Total Trihalomethanes	No	2004	44 ⁵ 34 – 54	ug/l	N/A	MCL = 100	Byproduct of drinking water chlorination
Haloacetic Acids	No	2004	18 ⁵ 12 – 24	ug/l	N/A	MCL = 60	Byproduct of drinking water chlorination

Notes:

1 – Turbidity is a measure of the clarity of the water; the lower the turbidity, the clearer the water. Turbidity testing is a good indicator of the effectiveness of our filtration system. Our highest single turbidity measurement for the year occurred on 5/24 (0.111 NTU). The regulations require that 95% of the turbidity samples collected have measurements below 0.5 NTU.

2 – The level presented represents the 90th percentile of the 30 sites tested. A percentile is a value on a scale of 100 that indicates the percent of a distribution that is equal to or below it. The 90th percentile is equal to or greater than 90% of the copper values detected at your water system. In this case, thirty samples were collected the 90th percentile value was 80 ug/l. The action level for copper was not exceeded at any of the sites tested.

3 – The level presented represents the 90th percentile of the thirty samples collected. The action level for lead was exceeded at only two of the sites tested.

4 – Picocuries per liter (pCi/L) – Picocuries per liter is a measure of the radioactivity in water.

5 – This level represents the annual quarterly average calculated from data collected.

Definitions:

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.

Non-Detects (ND): Laboratory analysis indicates that the constituent is not present.

Not Applicable (N/A): means there is no current MCL or MCLG for that contaminant.

Nephelometric Turbidity Unit (NTU): A measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

Milligrams per liter (mg/l): Corresponds to one part of liquid in one million parts of liquid (parts per million - ppm).

Micrograms per liter (ug/l): Corresponds to one part of liquid in one billion parts of liquid (parts per billion - ppb).

Threshold Odor Number (TON): The measure of the intensity of an odor in water.

Health Effects for Sodium: Water containing more than 20 mg/l of sodium should not be used for drinking by people on severely restricted sodium diets. Water containing more than 270 mg/l of sodium should not be used for drinking by people on moderately restricted sodium diets.

Total Trihalomethanes: chloroform, bromodichloromethane, dibromochloromethane, and bromoform.

Haloacetic Acids: mono-, di-, and trichloroacetic acid, and mono- and di-bromoacetic acid.

WHAT DOES THIS INFORMATION MEAN?

As you can see by the table, our system had no violations. We have learned through our testing that some contaminants have been detected; however, these contaminants were detected below the level allowed by the State.

IS OUR WATER SYSTEM MEETING OTHER RULES THAT GOVERN OPERATIONS?

Monitoring Violations: We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not your drinking water meets health standards. During 2004, due to a scheduling error we did not monitor or test for SOC's, and therefore cannot be sure of the quality of your drinking water during that time. As soon as we discovered the error samples were taken and analyzed. The result of this sample showed that none of the chemicals tested for were detected in the drinking water. Since previous samples and this most recent sample, both showed no chemicals detected then in all likelihood the drinking water was never compromised due to the scheduling error.

WHAT ABOUT SECURITY?

Since the events of September 11, we have all become more aware of security issues in our daily lives, the staff of the Michael C. O'Laughlin Water Plant is certainly no exception. Over the last 3½ years the water department has undertaken several security improvements to safeguard your water supply, both at the plant and out in the distribution system. Additional security improvements are scheduled for this year. We encourage the community to call our facility (283-9770) or the police (911) if you happen to observe any unusual or suspicious activity around the water plant or at one of our storage tanks.

DO I NEED TO TAKE SPECIAL PRECAUTIONS?

Although our drinking water met or exceeded state and federal regulations, some people may be more vulnerable to disease causing microorganisms or pathogens in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice from their health care provider about their drinking water. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium, Giardia and other microbial pathogens are available from the Safe Drinking Water Hotline (800-426-4791).

WHY SAVE WATER AND HOW TO AVOID WASTING IT?

Although our system has an adequate amount of water to meet present and future demands, there are a number of reasons why it is important to conserve water:

- ♦ Saving water saves energy and some of the costs associated with both of these necessities of life;
- ♦ Saving water reduces the cost of energy required to pump water, pumping systems and water towers;
- ♦ Saving water lessens the strain on the water system during a dry spell or drought, helping to avoid severe water use restrictions so that essential fire fighting needs are met.

You can play a role in conserving water by becoming conscious of the amount of water your household is using, and by looking for ways to use less whenever you can. It is not hard to conserve water. Conservation tips include:

- ♦ Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.

- ◆ Turn off the tap when brushing your teeth.
- ◆ Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it up and you can save almost 6,000 gallons per year.
- ◆ Check your toilets for leaks by putting a few drops of food coloring in the tank, watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from one of these otherwise invisible toilet leaks. Fix it and you save more than 30,000 gallons a year.
- ◆ Use your water meter to detect hidden leaks. Simply turn off all taps and water using appliances, then check the small diamond on the meter, if it moves, you have a leak.

SYSTEM IMPROVEMENTS

In 2004, the Niagara Falls Water Board made several capital improvements to its distribution system. Included were the replacements of the water lines on Niagara Falls Boulevard from 88th Street to 98th Street and on Third Street from Niagara Street to Main Street. Also, new freeze/thaw drying beds were put into service to reduce the cost of disposal of water plant residuals. Planned for 2005 is the replacement of water lines on a section of the City Market, Hennepin Avenue and Lewiston Road. This ongoing capital improvement program is designed to reduce overall operating costs and improve the dependability of our water system.

CLOSING

Thank you for allowing us to continue to provide your family with quality drinking water this year. We ask that all our customers help us protect our water sources, which are the heart of our community and our way of life. Please call our office at 283-9770, if you have any questions.

For other information you can call the following Monday through Friday 8 AM to 4 PM:

Water Billing and Collection – 286-4360
Water Quality Laboratory – 283-9770 ext. 205
Water Related Emergencies 24 hours a day – 283-9770 ext. 202