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City of Rochester, New York
Hemlock Filtration Plant
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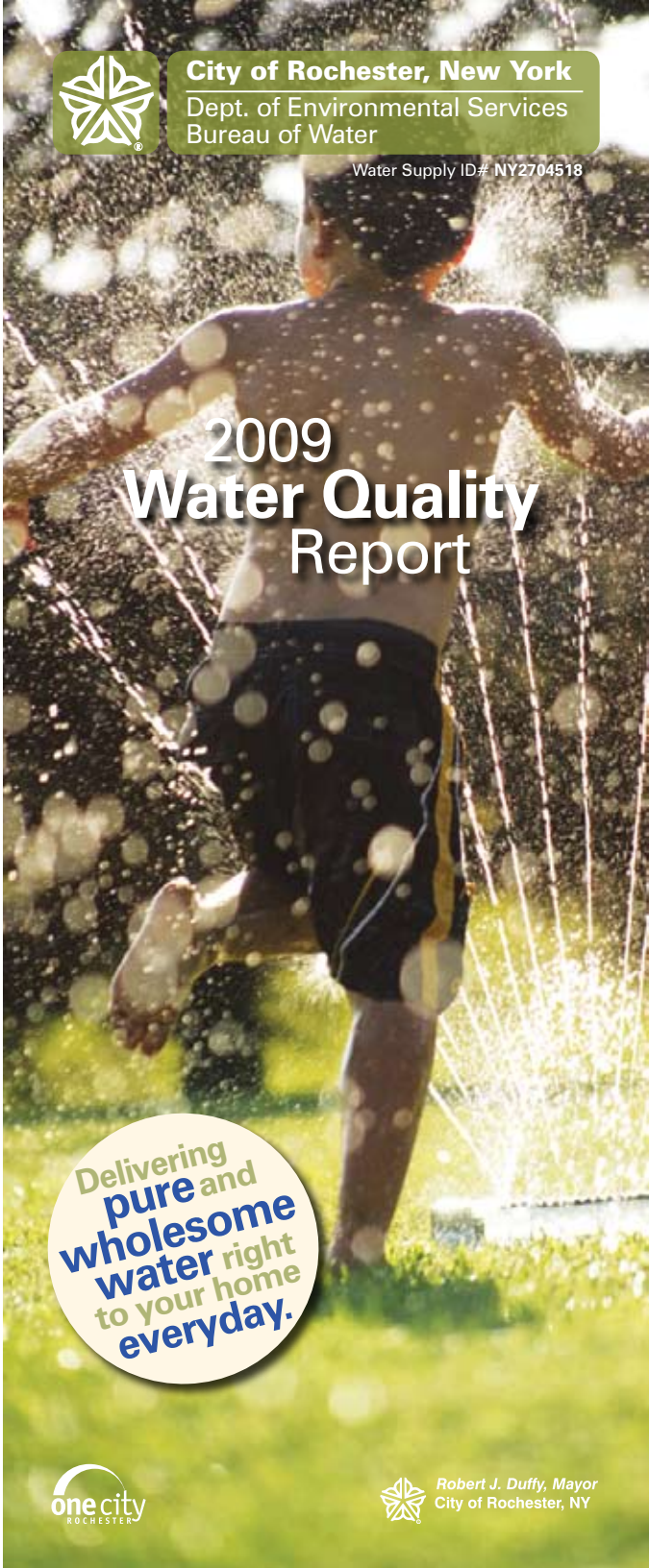
Hemlock, NY 14466



City of Rochester, New York
Dept. of Environmental Services
Bureau of Water

Water Supply ID# **NY2704518**

2009 Water Quality Report

Delivering **pure** and **wholesome water** right to your home **everyday.**

one city ROCHESTER

Robert J. Duffy, Mayor
City of Rochester, NY

***The Rochester Water Bureau** is pleased to provide you with this report on the quality of your drinking water. The report provides news on your water system, and describes the source of your drinking water, its treatment and test results.*

MAJOR DECISIONS IN 2009.

In 2009, the City entered into a Bilateral Compliance Agreement with the Monroe County Department of Health regarding the City's plan for compliance with an Environmental Protection Agency (EPA) regulation that impacts the City's three drinking water storage reservoirs. Key features of the plan include the installation of multiple ultraviolet light reactors at Cobbs Hill and Highland reservoirs for additional disinfection of the water and the installation of a cover on Rush Reservoir to prevent airborne contamination of the water. Phase 1 of the City's plan involves the installation of a water-tight liner on the bottom of Highland reservoir. Work will start this spring and should be completed by the fall of this year. A schedule of all work, as well as updates will continue to be made available on the City's website **http://www.cityofrochester.gov/reservoirs/**

WHERE DOES MY WATER COME FROM?

Since 1876, Rochester residents have relied upon Hemlock and Canadice Lakes for their drinking water supply. The City supplements its water supply with Lake Ontario water purchased from Monroe County Water Authority (MCWA). This water is treated at MCWA's Shoremont Treatment Plant located on Dewey Avenue **www.MCWA.com.** During 2009, both systems were in compliance with applicable State drinking water requirements.

The New York State Department of Health has evaluated the susceptibility of water supplies statewide for potential contamination under the Source Water Assessment Program. Though their assessment of the Hemlock/Canadice Lake watershed identified several potential sources of contamination, none were particularly noteworthy. The City's extensive testing of these pristine lakes confirms that contamination from human activity is negligible.

HOW IS MY WATER TREATED AND DELIVERED?

The Hemlock and Shoremont treatment plants both employ similar treatment processes involving coagulation, filtration and disinfection. During coagulation, chemicals are added to untreated water, causing the natural particulates to clump together into larger particles called floc. The floc is removed by filtration and the water is then disinfected through addition of chlorine. Like many other cities in the U.S., your water is also fluoridated. According to the U.S. Centers for Disease Control (CDC), fluoride is very effective in preventing cavities when present in drinking water at an optimal range from 0.8 to 1.2 mg/l. During 2009, 1,078 fluoride tests were run and 99% of the results fell within the CDC's optimum range.

Water treated at the Hemlock Filtration Plant flows to the city by gravity through three large 100-year old pipelines. Along the way, water is sold wholesale to water districts in the towns/villages of Livonia, Lima, North Bloomfield, Richmond and also to the MCWA, who in turn supplies it to several communities. A large volume of treated water is stored in the City's three open reservoirs. It is re-disinfected as it exits each reservoir and enters a complex grid (over 500 miles) of water mains that distribute the water to city homes and businesses.

Lake Ontario water is pumped into the city distribution system primarily in the area of Mt. Read Blvd. and West Ridge Rd. The volume of purchase varies from 0 to 30 million gallons per day (MGD), depending on the season. Some areas of the City may receive either Hemlock Lake or Lake Ontario water, or a mixture of both, depending on the season and the prevailing pattern of demand.

WHAT TYPES OF WATER SYSTEM IMPROVEMENTS WERE COMPLETED OR INITIATED IN 2009?

We reinvested roughly $4.9 million into our water system last year. Projects included cleaning and cement lining over 31,700 feet of aging cast-iron pipes as well as the complete replacement of 9,000 feet of mains. Ten large buried valves in the city were also replaced.

HOW CAN I SAVE MONEY ON WATER?

Simple changes in your daily routine can save you money on your water bill and also reduce stress on the environment. Always fix dripping and leaking faucets, toilets and garden hoses. Log on to **http://www.dec.ny.gov/lands/5009.html** for more conservation tips.

2009 STATISTICS

The average production at the Hemlock Filtration Plant was 37.0 MGD. Consumption in the city averaged 21.3 MGD for its population of 219,000, which represents 60,043 retail accounts. Wholesale sales to upland communities, including MCWA, averaged 17.2 MGD. Lost water, the portion of water put into the system that cannot be accounted for by metered sales or other permitted uses, was 6.4 MGD. The Base Charge for water was $2.91/1000 gals.

SHOULD I BE CONCERNED ABOUT CHEMICAL CONTAMINANTS IN MY WATER?

We have found no chemical contaminants in our water at levels that raise concern. Please understand that all drinking water, including bottled water, contains at least small amounts of impurities. The mere presence of a chemical does not mean there is a health risk, and in fact, some substances such as chlorine and fluoride are added to the water supply for health reasons. More information about contaminants and potential health effects can be obtained by calling the EPA Safe Drinking Water Hotline at **1-800-426-4791**.

HOW DO CONTAMINANTS GET INTO THE WATER?

The sources of drinking water (both tap and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and underground aquifers. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals, and in some cases, radioactive material. It can also pick up contaminants that result from the presence of animals and from human activities. These may include: microbial and inorganic contaminants; pesticides and herbicides; organic chemical contaminants; and radioactive substances.

HOW CAN I FIND OUT MORE ABOUT FEES AND WATER SERVICE RELATED ISSUES?

You may contact a 24-hr. customer service representative at **311**. Learn more about bureau services, fees, and contacts at: **www.cityofrochester.gov/waterbureau/**

WHAT KINDS OF TESTING WERE PERFORMED ON OUR DRINKING WATER?

Your water was tested for more than 80 types of regulated microrganisms and chemical compounds in 2009. Samples were collected from all stages of the system, including the source (streams and lakes), various steps in the treatment process, the storage reservoirs and from the customers' taps. All of our test results were in compliance with State drinking water requirements.

WERE THE PROTOZOANS *CRYPTOSPORIDIUM* OR *GIARDIA* FOUND IN OUR WATER?

No. All 4 City and 2 MCWA tests for these organisms in source waters were again negative in 2009. However, some people may be more vulnerable to contaminants 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 about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen their risk of infection by *Cryptosporidium, Giardia* and other microbial contaminants are available from the Safe Drinking Water Hotline, **1-800-426-4791**.

IS THERE LEAD IN MY DRINKING WATER?

At-the-tap lead levels in the majority of Rochester households remain below allowable limits. However, the amount of lead present does vary by the age and types of plumbing materials found in your home and by how long the water sits in your pipes before it is used. You can minimize your lead intake from water by simply allowing the tap to run for one or two minutes before use. Infants and young children are typically more vulnerable to the effects of lead than the general population. If you are concerned about elevated lead levels in water, call us at 428-6477. For more information about lead in drinking water, call the Safe Drinking Water hotline at 1-800-426-4791, or log onto: **www.epa.gov/safewater/lead/index.html.**

A complete list of results for all substances tested in 2009 is available at **www.cityofrochester.gov/waterquality/** or by calling **428-6477**.

Substance	units	MCLG	MCL	Hemlock Average (range)	Ontario Average (range)	Likely Source	Meets EPA Standards
Barium	mg/L	2	2	0.017	0.022 (0.021-0.023)	Erosion of natural deposits	Yes
Fluoride	mg/L	NA	2.2	0.83 (0.58-1.01)	0.8 (0.1-1.1)	Water treatment additive to promote dental health	Yes
Nitrate	mg/L	10	10	0.18 (0.06-0.29)	0.34 (0.28-0.4)	Fertilizers; erosion of natural deposits; septic tank leachate	Yes
Chloride	mg/L	NA	250	34 (33-36)	25 (24-27)	Natural deposits; road salt	Yes
Sodium	mg/L	NA	NA	19	14 (13-15)	Natural deposits, road salt, water treatment chemicals	NA
Sulfate	mg/L	NA	250	15 (14-17)	25	Natural deposits	Yes
Treatment Requirements (TT)–95% of samples each month must be less than 0.3 NTU. Range and lowest monthly percentage are listed below. Turbidity is a measure of water clarity and is used to gauge filtration process.							
Turbidity Entry Point	NTU	NA	TT	100% (0.04-0.23)	100% (0.04-0.12)	Soil Runoff	Yes
Bacteria–The maximum and average % positive are listed below. Total Coliform is a group of bacteria used to indicate the general sanitary conditions in a water system. Most species of this group do not present a health concern, but one species, *E. coli* can be pathogenic. In 1993, the State Health Department granted the City a "biofilm variance," or exception to the Total Coliform MCL. Biofilm is a layer of bacteria that can be found on almost all surfaces, including the inside wall of water pipes. The variance does not apply to *E. coli*.							
Total coliform	% Positive	0	5%	2.1% 0.2%	NA	Naturally occurring	Yes
Disinfectant and Disinfectant By-products (DBPs)–Average and Range are listed below. *Chlorine has a MDRL (Maximum Disinfectant Residual Level) and MDRLG (MDRL Goal) rather than an MCL and MCLG.							
Chlorine (entry point)	mg/L	4*	4*	0.82 (0.4-1.1)		Required treatment chemical	Yes
Total THMs	ug/L	NA	80	42 (15-52)	NA	By-product of chlorination	Yes
Haloacetic Acids	ug/L	NA	60	32 (13-54)	NA	By-product of chlorination	Yes
Lead and Copper–Test results for 90% of the samples must be less than the Action Level (AL) instead of an MCL. The 90th percentile and the range of results are listed below. 6 of 55 samples tested exceeded the lead AL.							
Lead	ug/L	0	15	15 (ND-42)	NA	Corrosion of plumbing	Yes
Copper	ug/L	1300	1300	88 (ND-200)	NA	Corrosion of plumbing	Yes

Definition of Terms

ug/L **Micrograms per liter**– same as parts per billion (ppb); corresponds to one ounce in 7,812,500 gallons of water.

AL **Action Level**– the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

MCL **Maximum Contaminant Level**– the highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLGs as feasible.

MCLG **Maximum Contaminant Level Goal**– the level of a contaminant in drinking water below which there is no known or expected health risk, with allowance for a margin of safety.

mg/L **Milligrams per liter**– same as parts per million (ppm); corresponds to one ounce in 7812.5 gallons of water.

ND **Not Detected**– laboratory analysis indicates that the constituent is either absent or present below current limits of testing.

NA **Not Applicable**

NTU **Nephelometric Turbidity Unit**– a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.