

Town of Rotterdam -- Annual Water Quality Report for 2008

Water District #3 & 4 (Public Water Supply Identification Number NY4600067) Water District #5 (Public Water Supply Identification Number NY4600069)

INTRODUCTION The purpose of this report is to raise your understanding of drinking water and awareness of the need to protect our drinking water sources. Last year, your drinking water met all State drinking water health standards. Our constant goal is and always has been, to provide to you a safe and dependable supply of drinking water. If you have any questions concerning this report or your drinking water please contact: **Clark Collins, Senior Water Operator, or Mike Griesemer, Public Works Coordinator, 1100 Sunrise Blvd. Rotterdam, NY 12306; Telephone (518) 393-1131 or (518) 355-7575 Ext.354, respectively.**

WHERE DOES OUR WATER COME FROM? The Town of Rotterdam draws its water from "groundwater" sources. Groundwater or well water is stored below the surface of the earth in deep, porous rocks called "aquifers." Groundwater is purified naturally as it filters through layers of soil, clay, rock and sand. This process, known as "percolation" takes years to complete. As a result, groundwater requires less treatment than surface water. Water District #3 and #4 serving Rotterdam Junction and the western portion of Rotterdam, and Water District #5 serving Rotterdam, obtain water from the Great Flats Aquifer located adjacent to the Mohawk River. This aquifer is excellent in both quality and quantity, as a groundwater source serving the Town of Rotterdam, as well as the City of Schenectady. A regional watershed board has rules and regulations in place to protect this source of water supply. The two water districts in Rotterdam operate independently with their own wells, pumps, storage tanks and distribution piping systems. Treatment of the raw water produced by the wells consists of gas chlorination, which is used for disinfection to protect against contamination from harmful bacteria and other organisms. We also add sodium hexametaphosphate for iron and manganese sequestration and corrosion control. The Town of Rotterdam does **not** add fluoride to the water. In general, our water is not considered excessively "hard" as compared to other sources. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and in some cases, radioactive material, 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 EPA prescribe regulations, which limit the amount of certain contaminants in water, provided by public water systems.

FACTS AND FIGURES Water District #3 is served by two drilled wells located off Route 5S in Rotterdam Junction. The permitted pumping capacity is 1,000,000 gallons per day (gpd). Pumping capacity is approximately 1000 gallons per minute. We have a 200,000-gallon storage tank to meet consumer demand and provide adequate fire protection. We provide water through 550 service connections to a population of approximately 2,000 people. Our average daily demand is 235,845 gallons. Our single highest day was 556,100 gallons. The total water produced in 2008 was 86,083,429 gallons. Since residential customers are not metered, the amount of water consumed by various customers utilized for fire protection, or lost from the system due to flushing or leaks is not known. Based on the daily amounts recorded, it is reasonable to say that at least 75% of the water supplied was consumed by households. Fire protection and flushing programs would account for the majority of the remaining 25 % of water supplied.

Water District #5 is served by four drilled wells located off Rice Road. The permitted pumping capacity is 10,000,000 gpd; the maximum peak day averages 9,100,000-gallons. Pumping capacity is capable of providing up to 7,000 gallons per minute with elevated storage tanks and standpipe combine to provide 5.2 million gallons of storage capacity. Transmission mains are 24" in diameter. We provide water through 11,000 service connections to a population of approximately 29,000 people. In 2008 Water District #5 delivered 1.379 billion gallons of water. Our average daily demand was 3.78 million gallons. Our single highest day was 7.68 million gallons. With over 90% of the accounts being residential and unmetered, the amount consumed can only be estimated. In addition to water usage for fire protection, flushing and leaks in the system, there were also a number of water main breaks throughout the year. There are a small number of customers in the City of Schenectady, Town of Guilderland and Town of Princetown who also receive water from Rotterdam. There are also a small number of customers in Rotterdam who receive water from the City of Schenectady under agreements with the two public entities. Water District #5 has an emergency interconnect with the City of Schenectady.

The annual water consumption charge for residences is \$25.00 per household. For metered commercial customers, the minimum charge is \$35.00 for up to 75,000 gallons per year of water consumed. For water use above 75,000 gallons, the rate is \$25.00 per 100,000 gallons. For unmetered commercial customers, the charge is \$35.00 per unit. In addition, each water district establishes a rate for debt service and operation and maintenance each year. This amount is assessed on the property tax bill and is based on the property's assessment amount.

ARE THERE CONTAMINANTS IN OUR DRINKING WATER? In accordance with State regulations, the Town of Rotterdam routinely monitors your drinking water for numerous contaminants. Your drinking water is tested for inorganic contaminants, radiological contaminants, lead and copper, nitrate, volatile organic contaminants, and synthetic organic contaminants. In addition, we test 30 samples for coliform bacteria in Water District #5 and 3 samples in Water District #3 monthly. The tables

presented depict which contaminants were detected in your drinking water. The state allows us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data, though representative of the water quality, is more than one year old and is noted. 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 pose 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 Schenectady County Public Health Services at (518) 386-2818.**

WHAT DOES THIS INFORMATION MEAN? The tables presented depict which compounds were detected in your drinking water. As you can see by the tables, our system had no violations. We have learned through our monitoring and testing that some constituents have been detected; however, these compounds were detected below New York State requirements. Although nitrate was detected below the MCL for Water District #3, it was detected at 6.6 ppm which is greater than one-half of the MCL. Therefore, we are required to present the following information on nitrate in drinking water: **Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask for advice from your health care provider.**

MCL's are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

As the State regulations require, we routinely test your drinking water for numerous contaminants. These groups of contaminants followed by the number of contaminants in each group exist at levels that were **NOT DETECTABLE (Water District #5)** in your drinking water volatile organic compounds (52) + MTBE, synthetic organic compounds (38), asbestos, color, odor, radiological chemicals (2). Inorganic contaminants that were **NOT DETECTABLE** are: arsenic, barium, cadmium, chromium, mercury, manganese, selenium, silver, fluoride, antimony, beryllium, thallium and cyanide.

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 about drinking water 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 microbiological pathogens are available from the Safe Drinking Water Hotline (800-426-4791).

WHAT IS THE SOURCE WATER ASSESSMENT PROGRAM (SWAP)?

To emphasize the protection of surface and ground water sources used for public drinking water, Congress amended the Safe Drinking Water Act (SDWA) in 1996. The amendments require that New York State Department of Health's Bureau of Public Water Supply Protection is responsible for ensuring that source water assessments are completed for all of New York's public water systems.

A source water assessment provides information on the potential contaminant threats to public drinking water sources:

- ◆ each source water assessment will: determine where water used for public drinking water comes from (delineate the source areas)
- ◆ Inventory potential sources of contamination that may impact public drinking water sources
- ◆ Assess the likelihood of a source water area becoming potential contaminated

A copy of the full Source Water Assessment, including a map of the assessment area, is available for review by contacting us at the number provided in this report.

CAPITAL IMPROVEMENTS

The following projects were completed in 2008:

- Rebuilt Well #3- Motor rewound and pump rebuilt.
- Updated Ross Valves to be operated by SCADA System.
- Replaced approx. 100' of the water main on Altamont Avenue.

Future projects for 2009 include:

- New water tank to service Water District #3 & #4 (Rotterdam Junction).

Conservation Tips

Use water saving showerheads, Repair leaks in plumbing, Do full loads of laundry, Wash car w/bucket and hose with nozzle, Longer grass saves water, DO NOT throw or wash materials down Stormwater Catch Basins. This will flow to our streams.

Closing Thank you for allowing us to continue providing your family with clean, quality water this year. In order to maintain a safe and dependable water supply we sometimes need to make improvements that will benefit our customers. During 2008, no significant changes were made to the water system. However, new mains, hydrants and valves are planned for the future. You will be informed of system improvements in future Annual Water Quality Reports. We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life and our children's future. Please call our office if you have questions.

ROTTERDAM WATER DISTRICT #3 & #4 TEST RESULTS (Public Water Supply Identification Number NY4600067)

Contaminant	Violation Y/N	Level Detected	Unit	MCLG	MCL	Likely Source of Contamination
Inorganic Contaminants (sample data from 1/31/05 unless otherwise noted)						
Cyanide Range of 2 samples	N	18 ND-18	ppb	200	200	Discharge from steel/metal factories; Discharge from plastic and fertilizer factories
Chloride	N	102	ppm	N/A	250	Geology; Naturally occurring
Copper (data from July & August 2006) Range of copper concentrations	N	0.14 ¹ 30-200	ppb	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (data from July & August 2006) Range of lead concentrations	N	2 ² NB-3	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
Manganese	N	10	ppb	N/A	300	Geology; Naturally occurring
Nickel (range of 2 samples)	N	ND-4.5	Ppb	N/A	100	Discharge from steel/metal factories
Nitrate (as Nitrogen) ³ Range of values on quarterly samples from 1/29/08, 5/27/08, 8/12/08 & 11/25/08	N	5.5 5.0-5.8	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
pH	N	7.4	units		6.5-8.5	
Sodium ⁴	N	65.4	ppm	N/A	N/A	Geology; Road Salt
Sulfate	N	35	ppm	N/A	250	Geology;
Disinfection Byproducts (sample data from 8/9/05 for THM & HAA5)						
Chlorine Residual (average (range))	N	0.85 0.6-1.0	ppm	MRDLG N/A	MRDL 4	Used in the disinfection and treatment of drinking water
Haloacetic Acids (HAA5) Range of values for HAA5	N	3.4	ppb	N/A	60	By-product of drinking water chlorination.
TTHM[Total Trihalomethanes](Average) Range of values for TTHM	N	10.9	ppb	0	8	By-product of drinking water chlorination
NOTES-						
1. The level presented represents the 90 th percentile of 10 test sites. The action level for copper was not exceeded at any of the 10 sites tested						
2. The level presented represents the 90 th percentile of 10 test sites. The action level for lead was not exceeded at any of the 10 sites tested						
3. Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant you should ask advice from your health care provider. As you can see our values have been below the MCL.						
4. Water containing more than 20 mg/l should not be consumed by persons on severely restricted sodium diets; Water containing more than 270 mg/l should not be consumed by persons on moderately restricted sodium diets.						

**ROTTERDAM WATER DISTRICT #5 TEST RESULTS
Public Water Supply Identification Number NY4600069**

Contaminant	Violat ion Y/N	Level Detected	Unit Measurement	MCL G	MCL	Likely Source of Contamination
Inorganic Contaminants (sample data from 2/28/06 unless otherwise noted)						
Chloride	N	46	ppm	N/A	250	Geology; Naturally occurring
Copper (data from July 2008) Range of copper concentrates	N	0.45 ¹ ND-0.42	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Iron	N	440	ppb	N/A	300	Geology; Naturally occurring
Lead (data from July 2008) Range of lead concentrates	N	3 ² ND-6	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
Manganese	N	10	ppb	N/A	300	Geology; Naturally occurring
Nitrate (as Nitrogen)	N	.7	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
pH	N	7.5	units		6.5-8.5	
Sodium ³	N	24.1	ppm	N/A	N/A	Geology; Road Salt
Sulfate	N	33	ppm	N/A	250	Geology;
Disinfection Byproducts (sample data from 8/4/07 for THM)						
Chlorine Residual (average) based on daily testing (range)	N	0.75 0.6-1.2	ppm	MRD LG N/A	MRDL 4	Used in the disinfection and treatment of drinking water
Haloacetic Acids (HAA5)	N	2.8	ppb	N/A	60	By-product of drinking water chlorination
Radiological Contaminants						
Radium 228 (average)	N	.62	pCi/L	0	5	Erosion of Natural Deposits

- NOTES-**
- The level presented represents the 90th percentile of 30 test sites. The action level for copper was not exceeded at any of the 30 sites tested
 - The level presented represents the 90th percentile of 30 test sites. The action level for lead was not exceeded at any of the 30 sites tested
 - Water containing more than 20 mg/l should not be consumed by persons on severely restricted sodium diets; Water containing more than 270 mg/l should not be consumed by persons on moderately restricted sodium diets.

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

Parts per million (ppm) or Milligrams per liter (mg/l) - one part per million corresponds to one minute in two years or a single penny in \$10,000.

Parts per billion (ppb) or Micrograms per liter - one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

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

90th Percentile Value- The values reported for lead and copper represent the 90th percentile. 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 lead and copper values detected at your water system

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

Maximum Contaminant Level - The "Maximum Allowed" (MCL) is the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Contaminant Level Goal - The "Goal"(MCLG) is 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.

Maximum Residual Disinfectant Level (MRDL): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contamination

N/A-Not applicable