

City of Mechanicville Annual Drinking Water Quality Report for 2006

36 North Main Street, Mechanicville, NY 12118
(Public Water Supply Identification Number NY4500166)

INTRODUCTION

To comply with State regulations, the City of Mechanicville, will be annually issuing a report describing the quality of your drinking water. 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. This report is a snapshot of last year's water quality. Included are details about where your water comes from, what it contains, and how it compares to New York State standards. Our constant goal is and always has been, to provide to you a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and to protect our water resources. If you have any questions concerning this report or concerning your drinking water please contact: *Mr. John Zullo; Water Treatment Plan Supervisor, City of Mechanicville Water Department, 33 George Thompson Road, Mechanicville, NY 12118; Telephone (518) 664-3751, Monday – Friday between the hours of 6:00 AM and 2:00 PM.* We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled meetings. They are held on the 1st and 3rd Wednesday of each month, 7:00 PM at the Mechanicville Senior Citizen Center, 180 North Main Street, Mechanicville, NY 12118; telephone number (518) 664-9884.

WHERE DOES OUR WATER COME FROM?

The City of Mechanicville operates a surface water filtration plant. Two reservoirs feed this system: The Mechanicville Reservoir, located in Luther Woods has a storage capacity of 65 million gallons and is the primary source of water; The Terminal Reservoir, located approximately one mile downstream at George Thompson Road and the Treatment Plant has a 2.5 million gallon storage capacity. The Mechanicville Water Treatment Plant is a conventional treatment facility. The treatment process at Mechanicville consists of coagulation using polyaluminum chloride to cause small particles to stick together when the water is mixed, making larger heavier particles; sedimentation allows the newly formed larger particles to settle out naturally; rapid sand filtration removes smaller particles by trapping them in sand filters; and post chlorination to protect against contamination from harmful bacteria and other organisms.

On March 15, 2006 the City of Mechanicville commissioned its new water treatment plant. The Mechanicville Water Treatment Plant is a U.S. Filter Modular Aquarius (AQ-300B) which consists of flocculation, clarification and filtration for water treatment. The plant is automatically controlled and packaged in (3) steel tanks producing 2,100 gallons/minute. The treatment process consists of coagulation using polyaluminum chloride to cause small particles to stick together when the water is mixed forming larger heavier particles. Sedimentation allows the newly formed larger particles to settle out naturally in inclined tube settlers. The mixed media filter bed consists of anthracite coal, silica sand and garnet sand which removes smaller particles by trapping them in the spaces between the sand grains. Also used in the treatment process is sodium permanganate which is used for taste and odor control, color reduction and iron and manganese oxidation. The filtered water from the treatment unit is fed into the clearwell. The water is then pumped out of the clearwell and chlorinated with liquid sodium hypochlorite. At this point the water flows into two (2) chlorine contact tanks. They are circular; epoxy coated steel bolted steel and concrete tanks with interior baffling and a storage capacity of 188,220 gallons each. The baffling in the tank provides increased detention time and adequate time for the water to be disinfected by the chlorine. Three (3) distribution water pumps operating in lead lag will draw the water from the two chlorine contact tanks into the distribution system and into two (2) steel storage tanks with a combined capacity of 2.5 million gallons to provide adequate fire protection

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 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. 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.

FACTS AND FIGURES

Water is served through approximately 1,350 residential services to a population of approximately 5,200 persons. Water is also supplied to people in the Towns of Stillwater, Schaghticoke and Halfmoon. Our average daily demand is 0.97 million gallons. Our single highest day was 1.38 million gallons. The total water produced in 2006 was 354,301,000 gallons. The amount of water delivered to customers was 246,159,467,392 gallons. The amount of water lost was 194,833,608 gallons or 55%. All services are metered. The ratio of water produced to the water billed averages 50%. Filter backwashing (cleaning) at the water treatment plant accounts for 25 % of the lost water. Water used to flush mains, fight fires and leakage accounts for the remaining 20%. The City of Mechanicville bills its

customers semi-annually for the periods April through September and October through March. The residential water rate for those in the district is \$2.55 per 100 cubic feet (cf) or \$3.41 per 1000 gallons outside districts (Towns of Schaghticoke, Halfmoon and Stillwater) are billed at \$4.58 per 100 cubic feet or \$6.13 per 1000 gallons.

ARE THERE CONTAMINANTS IN OUR DRINKING WATER?

In accordance with State regulations, the City of Mechanicville routinely monitors your drinking water for numerous contaminants. We test your drinking water for inorganic contaminants, lead and copper, nitrate, volatile organic contaminants, and synthetic organic contaminants and disinfection byproducts. We also sample for microbiological contaminants monthly. The table presented below depicts 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. For a listing of the parameters we analyzed that were not detected along with the frequency of testing for compliance with the NYS Sanitary Code, see Appendix A.

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 New York State Department of Health Glens Falls District Office at (518) 793-3893.

CITY OF MECHANICVILLE TEST RESULTS Public Water Supply Identification Number NY4500166						
Contaminant	Violation Y/N	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Microbiological Contaminants						
Turbidity ¹ (sample from 6/25/2006)	N	0.25 100%	NTU	N/A	TT=1 NTU TT=95% samples < 0.3	Soil runoff
Inorganic Contaminants (samples from 3/29/06 unless otherwise noted)						
Barium	N	12	ppb	2000	2000	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chloride	N	18	ppm	N/A	250	Geology; Naturally occurring
Copper (data from 8/05)	N	0.61 ²	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Range of copper concentrations		0.04-1.24				
Lead (data from 8/05)	N	6 ²	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
Range of lead concentrations		ND-14				
Manganese	N	30	ppb	N/A	300	Geology; Naturally occurring
Odor	N	1	units	N/A	3	Organic or inorganic pollutants originating from municipal and industrial waste discharges; natural sources
pH	N	7.3	units		6.5-8.5	
Sodium ⁴	N	8.3	ppm	N/A	N/A	Geology; Road Salt
Sulfate	N	11	ppm	N/A	250	Geology
Zinc	N	20	ppb	N/A	5000	Galvanized pipe; corrosion inhibitor
Disinfection Byproducts (Quarterly samples from 2/8/06, 5/18/06, 8/17/06 and 11/16/06)						
Haloacetic Acids (HAA5) ³	N	54.7	ppb	N/A	60	By-product of drinking water chlorination.
Range of values for HAA5		22.3-81.7				
TTHM [Total Trihalomethanes] (Average) ³	N	67	ppb	0	80	By-product of drinking water chlorination
Range of values for Total Trihalomethanes		20.1—133				
Chlorine Residual (average) range	N	1.68 1.12-2.33	ppm	MRDLG N/A	MRDL 4	Used in the treatment and disinfection of drinking water
Volatile Organic Compounds (15 samples collected between 3/29/06 -8/28/06)						
ortho-xylene (range)	N	ND1.4	ppb	N/A	5	Leaching of lining from potable water tanks
Meta and para xylene	N	3.6	ppb	N/A	5	
Range of values		ND-6.6 ⁶				
Ethylbenzene	N	ND-1.7	ppb	N/A	5	Discharge from petroleum refineries; Leaks from gasoline tanks.
N-Propylbenzene	N	ND-1.2	ppb	N/A	5	Occurs naturally in petroleum and bituminous coal. It is also released into the atmosphere in emissions from combustible sources such as incineration, gasoline engines and diesel engines. Solvent evaporation, landfill leaching and general use of asphalt also releases this compound to the environment.
1,2,4 Trimethylbenzene	N	4.8	ppb	N/A	5	Naturally occurring in coal tar and crude oil; by-product of oil refinery process and added to gasoline.
Range of values		ND-9.6 ⁷				

1,3,5-Trimethylbenzene	N	ND-2.7	ppb	N/A	5	Dye stuff intermediate; solvent and paint thinner chemical intermediate
Radiological Contaminants (sample from 2/22/05)						
Radium 228	N	0.63	pCi/L	0	5	Erosion of natural deposits
Total Organic Carbon⁸ (monthly samples from 2006)						
Raw Water		3.0-10.0				
Treated Water	N	1.6-3.7	ppm	NA	TT	Organic material both natural and man made; Organic pollutants, decaying vegetation.

FOOTNOTES-

1. Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. Level detected represents the highest level detected. Distribution system turbidity performed 5 times a week with 0.97 NTU being highest level detected and 0.28 NTU being the average level detected.
2. The level presented represents the 90th percentile of 20 test sites. The action level for copper was not exceeded at any of the 20 sites tested
3. The level presented represents the 90th percentile of 20 test sites. The action level for lead was not exceeded at any of the 20 sites tested
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.
5. The average is based on a running annual average
6. A sample collected on 3/29/06 contained 6.6 ppb for meta and para xylene which is greater than the MCL. State regulations require a second (confirmation) sample to be collected from the same sample point as soon as practical but within 30 days. The average of the initial sample and confirming sample was 3.6 ppb and less than the MCL of 5 ppb and not a violation.
7. A sample collected on 3/29/06 contained 9.6 ppb for 1,2,4 Trimethylbenzene which is greater than the MCL. State regulations require a second (confirmation) sample to be collected from the same sample point as soon as practical but within 30 days. The average of the initial sample and confirming sample was 4.8 ppb and less than the MCL of 5 ppb and not a violation.
8. The Interim Enhanced Surface Water Treatment Rule (IESWTR) requires monitoring of raw and finished water Total Organic Carbon (TOC). Depending on the raw water alkalinity value, proper water treatment should remove between 15% to 50% of the raw water TOC thus reducing the amount of disinfection byproducts produced

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.

Parts per trillion (ppt) or Nanograms per liter (nanograms/l) - one part per trillion corresponds to one minute in 2,000,000 years, or a single penny in \$10,000,000,000.

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

Nephelometric Turbidity Unit (NTU) - nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

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.

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

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.

N/A-Not applicable

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. 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.

IS OUR WATER SYSTEM MEETING OTHER RULES THAT GOVERN OPERATIONS?

During 2006, our system was in compliance with applicable State drinking water operating, monitoring and reporting requirements.

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 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 SWAP summary for our water supply has been completed by NYSDOH and attached to this report.

WATER CONSERVATION TIPS

The City of Mechanicville encourages water conservation. There are a lot of things you can do to conserve water in your own home. Conservation tips include:

- *Use water saving showerheads*
- *Repair all leaks in your plumbing system*
- *Water your lawn sparingly early morning or late evening*
- *Do only full loads of wash and dishes*
- *Wash your car with a bucket and hose with a nozzle*
- *Don't cut the lawn too short; longer grass saves water*

CAPITAL IMPROVEMENTS

The following improvements were made to the water system in 2006:

- Completed construction of a new water filtration plant in March 2006.

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. 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. Please call our office if you have question

Mechanicville City
PWSID NY4500166
AWQR SWAP Summary

The NYS DOH has evaluated this Public Water System's (PWS) susceptibility to contamination under the Source Water Assessment Program (SWAP), and their findings are summarized in the paragraph below. It is important to stress that these assessments were created using available information and only estimate the potential for source water contamination. Elevated susceptibility ratings do not mean that source water contamination has or will occur for this PWS. This PWS provides treatment and regular monitoring to ensure the water delivered to consumers meets all applicable standards.

This assessment found an elevated susceptibility to contamination for this source of drinking water. The amount of agricultural lands in the assessment area results in elevated potential for protozoa and pesticides contamination. However, there is reason to believe that land cover data may over estimate the percentage of pasture in the assessment area. No permitted discharges are found in the assessment area.

There are no noteworthy contamination threats associated with other discrete contaminant sources. Finally, it should be noted that hydrologic characteristics (e.g. basin shape and flushing rates) generally make reservoirs highly sensitive to existing and new sources of phosphorus and microbial contamination.

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.