

**Annual Drinking Water Quality Report for 2010**  
Town of Halfmoon Consolidated Water District  
2 Halfmoon Town Plaza, Halfmoon, NY 12065  
Public Water Supply Identification Number NY4519111

**INTRODUCTION**

We are very pleased to provide you with this year's Annual Drinking Water Quality Report. 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. Frank Tironi Jr., Director of Water, Halfmoon Water Department, 2 Halfmoon Town Plaza, Halfmoon, NY 12065; Telephone (518) 233-7489; or e-mail us at [ftironi@Townofhalfmoon.org](mailto:ftironi@Townofhalfmoon.org) or visit us at our web site [www.TownofHalfmoon.org](http://www.TownofHalfmoon.org). The Town of Halfmoon is an Equal Opportunity Provider and Employer. Complaints of discrimination should be sent to USDA, Director, Office of Civil Rights, Washington, DC 20250-9410. TDD# 1-800-662-1220.*

We want our valued customers to be informed about their water service. If you want to learn more, please attend any of our regularly scheduled Town Board meetings. They are held on the 1<sup>st</sup> and 3<sup>rd</sup> Wednesday of each month, 7:00 PM at the Halfmoon Town Hall; 2 Halfmoon Town Plaza, Halfmoon, NY 12065; Telephone (518) 371-7410.

**WHERE DOES OUR WATER COME FROM?**

Prior to March 26, 2010, the Town of Halfmoon received its water from the Hudson River a "surface water" source. At the Halfmoon Treatment plant, raw water enters the coagulation tank where a chemical coagulant and efficient mixing are used to destabilize the suspended solids and colloidal matter present in the water. Powdered activated carbon is added for organics removal and taste & odor control. Polymer and microsand are then added at the injection tank with the microsand acting as a "seed" enhancing floc formation and settling. The water then goes to a settling tank where the floc quickly settles from the treated water. The clarified water is then filtered to remove any floc particles that were not removed in the settling process. Filtration acts as the final polishing step. Filtered water is then chlorinated to prevent bacterial contamination.

Because of the Environmental Protection Agency Dredging Project and concerns over the possibility of PCB's getting into the water supply the Town of Halfmoon purchased water from the City of Troy. Halfmoon has been buying water from the City of Troy since March 26, 2010. The City of Troy draws its water from a "surface water" supply, the spring fed Tomhannock Reservoir. It is located to the northeast of the City of Troy. Water flows from the Tomhannock Reservoir to the Troy Water Treatment Plant (TWTP), a complete treatment facility. In an effort to lower the formation of disinfection byproducts (DBPs), TWTP adds potassium permanganate at the Tomhannock Reservoir. Potassium permanganate is a strong oxidant that is used to oxidize iron and manganese, but does not produce the DBPs that chlorine does. Potassium permanganate is being fed seasonally from mid June to about September or October depending on the iron and manganese levels in the raw water. Additionally chlorine dioxide is added at Melrose Station to oxidize the organic material that leads to the formation of DBPs when it reacts with chlorine but unlike chlorine, chlorine dioxide does not form DBPs. Chlorine dioxide is fed year-round. The treatment process at Troy consists of; coagulation using aluminum sulfate (alum) 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; filtration removes smaller particles by trapping them in sand filters; pH adjustment for corrosion control; and final post chlorination to maintain a chlorine residual in the distribution system to prevent bacterial contamination and fluoridation at low levels to protect teeth. The water from Troy flows through a 24 inch pipe under the Hudson River and branches off to a 16 inch line in front of the Waterford WTP and the runs north to the Halfmoon Water Treatment Plant.

The Halfmoon Water District #1, which is comprised of about 7 streets, runs from the Mechanicville/Halmoon border to Columbus Street and from Pruyn Hill Road to Carver Street, receives its water from the City of Mechanicville. 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.

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**

We provide water through 5,338 service connections to a population of approximately 13,000-15,000 people. Of those 5,200 service connections 156 of those connections comprise the Halfmoon District #1. Our average daily demand is 1.97 million gallons. Our single highest day during 2010 was 4,032,000 gallons. The total water produced in 2010 was 755,322,416 gallons. The amount of water delivered to customers was 611,511,259 gallons. All services are metered. We determined that 19% of the water produced is non-revenue producing water. This is water lost due to leaks, main breaks, fire fighting, bi-annual hydrant flushing, under-registering meters and theft of service. The average Town of Halfmoon household is charged approximately \$234.50 per year for water. Residents in the Halfmoon Improvement District #1 are charged \$7.38 per thousand gallons.

#### **ARE THERE CONTAMINANTS IN OUR DRINKING WATER?**

In accordance with State regulations, the Town of Halfmoon routinely monitors your drinking water for numerous contaminants. Your water is tested for inorganic contaminants, lead and copper, nitrate, volatile organic contaminants, radiologicals, synthetic organic contaminants and disinfection byproducts. In addition, we analyze 15 samples a month for microbiological contaminants. 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.

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.

#### **WHAT DOES THIS INFORMATION MEAN?**

As you can see by the table, our system had no violations. We have learned through our monitoring and testing that some contaminants have been detected; however, these compounds were detected below New York State requirements. MCL's are set at very stringent levels. To understand the possible health effects

described for many regulated contaminants, 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 2010, the Halfmoon system was in compliance with applicable State drinking water operating, reporting and monitoring requirements.

**IS OUR WATER SAFE FOR EVERYONE?**

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 SWAP summary for our ground water supply is attached to this report. The SWAP summaries for the surface supplies (Mechanicville and Troy) are also attached.

**INFORMATION OF FLUORIDE ADDITION**

Fluoride is added to your water by the City of Troy water system before it is delivered to us. The City of Troy is one of the many drinking water systems in New York State that provides drinking water with a controlled, low level of fluoride for consumer dental health protection. According to the United States Centers for Disease Control, fluoride is very effective in preventing cavities when present in drinking water at an optimal range from 0.8 to 1.2 mg/l (parts per million). To ensure that the fluoride supplement in your water provides optimal dental protection, the State Department of Health requires that the City of Troy monitor fluoride levels on a daily basis. During 2010 monitoring showed fluoride levels in your water were in the optimal range 100% of the time. None of the monitoring results showed fluoride at levels that approach the 2.2 mg/l MCL for fluoride.

Customers of Halfmoon WD#1, receiving water from the City of Mechanicville do not receive fluoridated water.

**INFORMATION ON LEAD**

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The Town of Halfmoon is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>

**WATER CONSERVATION TIPS**

The Town of Halfmoon 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**

- ◆ No capital improvements are planned for 2011 due to the EPA dredging project on the Hudson River.

**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. 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 questions.

TOWN OF HALFMOON CONSOLIDATED WATER DISTRICT TABLE OF DETECTED CONTAMINANTS						
Public Water Supply Identification Number NY4519111						
Contaminant	Violation Y/N	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
<b>Microbiological Contaminants</b> (WTP is abbreviation for Hudson River Water Treatment Plant)						
Turbidity , (WTP) Highest value from 2/20/10	N	0..35 <sup>1</sup> 100 %	NTU	N/A	TT=1 NTU TT= % samples <0.3	Soil runoff
Total Coliform (Halfmoon WD#1)	N	1 positive sample on 7/20/10, All repeat samples were negative	N/A	0	Two or more positive samples <sup>2</sup>	Naturally present in the environment.
<b>Inorganic Contaminants</b> samples from 2/24/10 for Hudson River Water Treatment Plant unless otherwise noted)						
Barium	N	14.3	ppb	2000	2000	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chloride	N	35	ppm	N/A	250	Naturally occurring or indicative of road salt contamination.
Copper (data from 10/5/10-11/2/10) Range of copper concentrations	N	0.03 <sup>3</sup> ND-0.13	ppm	1.3	AL=1.3	Corrosion of household plumbing systems;
Copper (data from -7/1/08 WD#1) Range of copper concentrations	N	0.285 <sup>3</sup> 0.02-0.54				
Manganese	N	40	ppb	N/A	300	Geology; Naturally occurring
Nickel	N	0.7	ppb	N/A	100	Discharge from steel/metal factories
Nitrate	N	0.3	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Odor <sup>4</sup>	N	2	units	N/A	3	Natural sources
pH	N	7.0	units		6.5-8.5	
Sodium <sup>5</sup>	N	18.9	ppm	N/A	N/A	Geology; Road Salt
Sulfate	N	13	ppm	N/A	250	Geology;
<b>Disinfection Byproducts</b> (sample data from 3/2/10, 6/1/10, 9/7/10 & 12/7/10) 4 samples per quarter for Halfmoon Consolidated and 1 sample per quarter from Halfmoon WD#1						
Haloacetic Acids [HAA5](RAA) <sup>6</sup> Range of values for HAA5 (Halfmoon Consolidated)	N	27.6 8.8-37.9	ppb	N/A	60	By-product of drinking water disinfection needed to kill harmful organisms
Haloacetic Acids [HAA5](RAA) <sup>6</sup> Range of values for HAA5 (Halfmoon WD#1)	N	24.0 8.7-34.0				
TTHM[Total Trihalomethanes](RAA) <sup>6</sup> Range of values for Total Trihalomethanes (Halfmoon Consolidated)	N	64.7 29.3-94.4	ppb	0	80	By-product of drinking water chlorination needed to kill harmful organisms. TTHMs are formed when source water contains large amounts of organic matter.
TTHM[Total Trihalomethanes (RAA) <sup>6</sup> Range of values for TTHM for (Halfmoon WD#1)	N	66.4 29.5-79.8				
Chlorine (average) based on daily testing Range	N	1.04 0.55-1.50	ppm	MRDLG N/A	MRDL 4	Used in the treatment and disinfection of drinking water
<b>Stage 2 Disinfection Byproducts<sup>7</sup></b> (samples from 6/1/10,8/8/10, 10/5/10 & 12/7/10)						
Haloacetic Acids Range of 32 samples (from Halfmoon Consolidated WD)	N	3.0-36.2	ppb	N/A	60	By-product of drinking water disinfection needed to kill harmful organisms

Total Trihalomethanes Range of 32 samples (from Halfmoon Consolidated WD)	N	31.8-79.4	ppb	0	80	By-product of drinking water chlorination needed to kill harmful organisms. TTHMs are formed when source water contains large amounts of organic matter.
<b>Total Organic Carbon<sup>8</sup></b> (monthly samples from January – March 2010)						
Raw Water	N	3.7-4.4				
Treated Water		1.7-2.3	ppm	NA	TT	Organic material both natural and man made; decaying vegetation.
<b>Synthetic Organic Chemicals Polychlorinated Biphenyls (PCBs)<sup>9</sup></b>						
Aroclor 1221 (1/5/10)	N	13.7	ppt	0	500	Runoff from landfills; Discharge of waste chemicals.
Aroclor 1221 (2/2/10)		11.3				
Aroclor 1221 (4/7/09)		9.75				
Aroclor 1242 (1/5/10)	N	21.8				
Aroclor 1242 (2/2/10)		12.9				
<ol style="list-style-type: none"> <li>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</li> <li>A violation occurs when 2 or more total coliform samples are positive in one month.</li> <li>The level presented represents the 90<sup>th</sup> percentile of 60 test sites. The action level for copper was not exceeded at any of the 60 sites tested. For WD#1 the level represents the 90<sup>th</sup> percentile of the 5 sites tested. The action level for copper was not exceeded at any of the 5 sites tested. public health.</li> <li>The odor detected on this sample was from chlorine By placing the water in the refrigerator in an uncapped bottle, the odor can be improved.</li> <li>Water containing more than 20 mg/l should not be consumed by persons on severely restricted sodium diets</li> <li>The average is based on a Running Annual Average (RAA). The average shown is the highest RAA for 2010 Highest TTHM &amp; HAA5 RAA was in the 1<sup>st</sup> Qtr 2010. for WD#1. For Halfmoon Consolidated WD the highest TTHM was in the second quarter and the highest HAA5 was in the first quarter of 2010.</li> <li>During June, August October. and December 2010, we evaluated our distribution system for the presence of disinfection byproducts. The purpose of this evaluation is to determine future sample locations for routine disinfection byproduct sampling. The study consists of the collection of 8 disinfection byproduct samples once every 60 days. Monitoring was suspended during the EPA dredging project. In 2009. Monitoring resumed in June 2010 and be completed in December 2010. This allowed us to evaluate sample sites using Troy City water. Data from samples collected in 2010 is included in herein."</li> <li>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 35% of the raw water TOC thus reducing the amount of disinfection byproducts produced.</li> <li>Aroclor 1221 is being used to report an altered PCB pattern exhibited by the sample(s). Actual Aroclor 1221 is not present in the sample but is reported to more accurately quantify PCB present in the sample that has undergone environmental alteration. Aroclor 1242 is being reported as the best Aroclor match. The sample exhibits an altered PCB pattern and denotes an estimated concentration greater than the Method Detection Limit but less than the Practical Quantitation Limit.</li> </ol>						

As illustrated in the table above, Halfmoon's monitoring and testing detected some contaminants; all other contaminants were below the maximum levels permitted by the State, known as the maximum contaminant levels (MCL). Many of the test results were **NON DETECTABLE**. The type/group (number of contaminants in each group) tested for were as follows: volatile organic compounds (52) +MTBE, synthetic organic compounds (38), asbestos, color,. The inorganic contaminants tested for and non detectable were, arsenic, cadmium, chromium, iron, mercury, silver, zinc, selenium, antimony, beryllium, thallium, and cyanide. Microbiological Contaminants (1) *E. coli*.

HALFMOON WD #1 (WATER PURCHASED FROM CITY OF MECHANICVILLE TABLE OF DETECTED CONTAMINANTS) Public Water Supply Identification Number NY4500166						
Contaminant	Violation Y/N	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
<b>Microbiological Contaminants</b>						
Turbidity <sup>1</sup> (sample from 8/24/10)	N	0.10 100%	NTU	N/A	TT=1 NTU TT=95% samples < 0.3	Soil runoff
<b>Inorganic Contaminants</b> (samples from 2/18/10 unless otherwise noted)						
Barium	N	10.5	ppb	2000	2000	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chloride	N	24	ppm	N/A	250	Naturally occurring or indicative of road salt contamination.
Copper (data from 8/08)	N	0.24 <sup>2</sup>	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Range of copper concentrations		0.02-0.38				
Iron	N	50	ppb	N/A	300	Geology; Naturally occurring
Lead (data from 8/08)	N	2 <sup>2</sup> ND-5	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
Range of lead concentrations						
Manganese	N	10	ppb	N/A	30	Geology; Naturally occurring
Nickel	N	1.0	ppb	N/A	100	Discharge from steel/metal factories
Odor	N	2	units	N/A	3	Organic or inorganic pollutants originating from municipal and industrial waste discharges; natural sources
pH	N	7.0	units		6.5-8.5	
Sodium <sup>4</sup>	N	10.9	ppm	N/A	N/A	Geology; Road Salt
Sulfate	N	8	ppm	N/A	250	Geology
<b>Disinfection Byproducts</b> (Quarterly samples from 2/10/10, 5/20/10, 8/19/10 and 12/10/10)						
Haloacetic Acids (HAA5)(Average) <sup>5</sup>	N	43.2	ppb	N/A	60	By-product of drinking water disinfection needed to kill harmful organisms
Range of values for HAA5		21.5-63				

TTHM[Total Trihalomethanes](Average) <sup>5</sup> Range of values for TTHM	N	74.2 33.4-95.1	ppb	0	80	By-product of drinking water chlorination needed to kill harmful organisms.
<b>Stage 2 Disinfection Byproducts<sup>6</sup></b> (samples from 2/18/10)						
Haloacetic Acids (HAA5) Range of values for HAA5	N	18.1-20.7		N/A	60	By-product of drinking water disinfection needed to kill harmful organisms
TTHM[Total Trihalomethanes] Range of values	N	23.5-28.1	ppb	0	80	By-product of drinking water chlorination .needed to kill harmful organisms
Chlorine Residual (average) range	N	1.24 0.87-2.0	ppm	MRDLG	MRDL	Used in the treatment and disinfection of drinking water
				N/A	4	
<b>Total Organic Carbon<sup>7</sup></b> (monthly samples from 2010)						
Raw Water	N	2.7-6.7				Organic material both natural and man made; Organic pollutants, decaying vegetation.
Treated Water		1.4-3.1	ppm	NA	TT	
<b>FOOTNOTES-</b>						
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 0.98 NTU being highest level detected and 0.26 NTU being the average level detected.						
2. The level presented represents the 90 <sup>th</sup> 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 90 <sup>th</sup> 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.						
5. The average is based on a Running Annual Average (RAA). The average shown is the highest RAA for 2010						
6. The sample data is for the USEPA Stage 2 Monitoring Requirement for the determination of optimal sample sites for future DBBP sampling. Four sample were collected each quarter Sampling was completed in the first quarter of 2010. The levels presented herein are the range of detects from the samples collected in 2010						
7. 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						

As illustrated in the table above, Mechanicville's monitoring and testing detected some contaminants; all other contaminants were below the maximum levels permitted by the State, known as the maximum contaminant levels (MCL). Many of the test results were **NON DETECTABLE**. The type/group (number of contaminants in each group) tested for were as follows: volatile organic compounds (52) + MTBE, synthetic organic compounds (38), asbestos, color, The inorganic contaminants tested for and non detectable were, arsenic, cadmium, chromium, mercury, silver, zinc, selenium, antimony, beryllium, thallium, and cyanide. Microbiological Contaminants (2) Total Coliform & E. Coli.

HALFMOON CONSOLIDATED WATER DISTRICT (WATER PURCHASED FROM CITY OF TROY TABLE OF DETECTED CONTAMINANTS) Public Water Supply Identification Number NY4100050						
Contaminant	Violation Y/N	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
<b>Microbiological Contaminants</b>						
Turbidity (Highest turbidity sample from Troy WTP)	N	0.31 <sup>1</sup>	NTU	N/A	TT=1.0 NTU	Soil runoff
		100%			TT= 95% samples < 0.3	
<b>Inorganic Contaminants</b> (samples from 7/14/10 unless otherwise noted)						
Barium	N	29	ppb	2000	2000	Erosion of natural deposits
Chloride	N	21.0	ppm	N/A	250	Geology; Naturally occurring
Color (average) range	N	3 ND-7	units	N/A	15	Large quantities of organic chemicals, the presence of metals such as copper, iron and manganese; Natural color may be caused by decaying leaves, plants, and soil organic matter.
Fluoride( average of daily samples) Range	N	930 350-1040	ppb	N/A	2200	Water additive which promotes strong teeth
Iron (average of weekday samples) range	N	30 ND-140	ppb	N/A	300	Geology; Naturally occurring
Manganese( average of weekday samples) range	N	20 ND-70	ppb	N/A	300	Geology; Naturally occurring
Nitrate	N	0.054	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
pH (average of daily samples) range	N	8.73 7.01-9.08	units		6.5-8.5	
Sodium <sup>2</sup>	N	10.0	ppm	N/A	N/A	Geology; Road Salt
Sulfate	N	17.0	ppm	N/A	250	Geology
<b>Disinfection Byproducts</b>						
Chlorine Dioxide Residual (average daily testing) range	N	ND ND-0.07	ppm	0.8	0.8	Used in the treatment and disinfection of drinking water
Chlorite <sup>6</sup> (average based on daily testing) range	N	0.44 0.27-0.79	ppm	0.08	1.0	Byproduct of chlorine dioxide used in disinfection
Chlorine	N	0.76 0.09-1.00	ppm	MRDLG	MRDL	Used in the treatment and disinfection of drinking water
				N/A	4	
<b>Radioactive Contaminants</b>						
Combined Radium (226 & 228 from 2009)	N	0.59	pCi/L	0	5	Erosion of natural deposits
Gross Alpha Particles (sample from 2009)	N	0.38	pCi/L	0	15	Erosion of natural deposits
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.						
2. Water containing more than 20 mg/l should not be consumed by persons on severely restricted sodium diets.						

As illustrated in the table above, Troy's monitoring and testing detected some contaminants; all other contaminants were below the maximum levels permitted by the State, known as the maximum contaminant levels (MCL). Many of the test results were **NON DETECTABLE**. The type/group (number of contaminants in each group) tested for were as follows: volatile organic compounds (52) + MTBE, synthetic organic compounds (38), asbestos. The inorganic contaminants tested for and non detectable were, arsenic, cadmium, chromium, mercury, silver, zinc, selenium, antimony, beryllium, thallium, nickel and cyanide. Microbiological Contaminants (1) E. coli.

#### **Glossary of Terms**

*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.

*90<sup>th</sup> Percentile Value*- The values reported for lead and copper represent the 90<sup>th</sup> 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 90<sup>th</sup> 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.

*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.

*Running Annual Average (RAA)*: The RAA is calculated each quarter by taking the average of the four most recent samples collected.

*N/A-Not applicable*

### **Halfmoon Water District PWSID NY4519111 Source Water Assessment Summary**

The NYS DOH has completed a source water assessment for this system, based on available information. Possible and actual threats to this drinking water source were evaluated. The source water assessment includes a susceptibility rating based on the risk posed by each potential source of contamination and how rapidly contaminants can move through the subsurface to the wells. The susceptibility of a water supply well to contamination is dependent upon both the presence of potential sources of contamination within the well's contributing area and the likelihood that the contamination can travel through the environment to reach the well. The susceptibility rating is an estimate of the potential for contamination of the source water, it does not mean that the water delivered to consumers is, or will become contaminated. See section "Are there contaminants in our drinking water?" for a list of the contaminants that have been detected, if any. The source water assessments provide resource managers with additional information for protecting source waters into the future.

Our source of drinking water is derived from both ground water (drilled wells) and surface water (Hudson River) sources. The source water assessment for the surface water source is not yet complete. The results of the surface water assessment will be reported in next year's Annual Water Quality Report.

The source water assessment has rated our ground water source as having an elevated susceptibility to microbial contamination, nitrates, and industrial contaminants. These ratings are due primarily to the close

proximity of the wells to a permitted discharge facility (industrial/commercial facilities that discharge wastewater into the environment and are regulated by the state and/or federal government) and the associated industrial activity, as well as residential land use in the assessment area. In addition, the wells draw from fractured bedrock and the overlying soils may not provide adequate protection from potential contamination. While the source water assessment rates our wells as being susceptible to microbials, please note that our water is disinfected to ensure that the finished water delivered into your home meets New York State's drinking water standards for microbial contamination.

The county and state health departments will use this information to direct future source water protection activities. These may include water quality monitoring, resource management, planning and education programs. 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.

**City of Mechanicville  
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.

**City of Troy  
Tomhannock Reservoir  
Source Water Assessment Summary**

The NYS DOH has completed a Source Water Assessment for the Tomhannock Reservoir. The assessment is summarized below. The assessment includes a susceptibility rating based on the risk posed by each potential source of contamination and how likely contaminants could enter the reservoir(s). The susceptibility rating is an estimate of the potential for contamination. It does not mean that the water delivered to your home is or will become unsafe to drink. See section "Are there contaminants in our drinking water?" of this report, for information concerning low levels of contaminants in your water.

The assessment found the amount of pasture in the assessment area results in a potential for protozoa contamination. There is also possible contamination susceptibility associated with landfills in the assessment area. It should be noted that hydrologic characteristics (e.g. basin shape and flushing rates) generally make reservoirs 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