

Annual Drinking Water Quality Report for 2014

Town of Schaghticoke

290 Northline Road, Schaghticoke, NY 12121

(Public Water Supply Identification Number WD#1 NY4100046, WD#2 NY4100048 and WD#3 NY4100062)

INTRODUCTION

To comply with State regulations, the Town of Schaghticoke, 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. Shawn M. Cross, Operator/ Superintendent, 290 Northline Drive, Melrose, NY 12121, Telephone (518) 753-9982 or (518) 461-3350.* 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 2nd Wednesday of each month, 7:30 PM at the *Town Hall, 290 Northline Road; Telephone (518) 753-6915.* If you want to learn more, please call us.

WHERE DOES OUR WATER COME FROM?

The Town of Schaghticoke purchases all of its water. Water District (WD) #2 purchases 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, which is the primary source and a small downstream terminal reservoir. 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 250,000 gallons each. The baffling in the tank provides increased detention time and adequate time for the water to be disinfected by the chlorine.

Consolidated Water District #1 (formerly Water Districts 1, 4, 4B, 5 and 6) and Water District #3 purchase water from the City of Troy. We receive water that has been treated at the Troy Water Treatment Plant (TWTP). 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 TWTP, a complete treatment facility. In an effort to lower the formation of disinfection byproducts (DBBPs), TWTP has started to add 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 DBBPs 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 disinfection byproducts when it reacts with chlorine but unlike chlorine, chlorine dioxide does not form DBBPs like THM's or HAA5's. Chlorine dioxide is fed year-round. Like Mechanicville, Troy has the same water treatment processes and additionally they add fluoride at low levels to protect teeth against dental cavities.

Additionally, liquid sodium hypochlorite is injected at the Melrose Pump Station, before being pumped to the Storage Facility. Sodium hypochlorite solution used to prevent the possibility of bacterial contamination. This is added so that an adequate chlorine residual is maintained throughout the distribution system north of Grants Hollow. This is fed year-round and monitored daily.

In WD#1 we have two storage tanks. The Speigletown Tank is a 180,000 gallon reinforced concrete structure consisting of 2 separate storage compartments of 90,000 gallons each. At present daily usage, this capacity would support 2.5 to 3 days of usage, pending no emergency usage. The tank is located off Fogarty Road on the hilltop overlooking Speigletown. A chain-link fence at the site plus gates at the highway leading to the tank site secure the tank itself. The Melrose Tank is a steel cylindrical 140,000 gallon tank located on a hill, east of the intersection of Valley Falls Road and Route 40. It provides a 3 day supply barring any emergency use, based on present usage.

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

Consolidated Water District #1 provides water through 1,128 service connections to a population of approximately 3,400 persons. The total amount of water purchased for WD#1 was 84,693,383 gallons and the amount delivered was 67,071,607 gallons with a loss of 17,621,776 gallons 20.8 % or unaccounted water in 2014. Unaccounted or non-revenue producing water can be attributed to water usage for fire protection, flushing water main breaks and leaks. Our water system's average daily demand is approximately 235,988 gallons our single highest day was 294,985 gallons. The annual charge per one thousand gallons of water delivered is \$4.41 or \$3.30 per 100 cubic feet for Consolidated WD #1. Water District #2 provides water through 188 service connections to a population of approximately 564 persons. The annual charge for water is \$6.39 per 1000 gallons or \$4.78 per 100 cubic feet. Water District #3 provides water through 366 service connections to a population of approximately 1,098 persons. The annual charge per one thousand gallons of water delivered is \$4.41 per 1000 gallons or \$3.30 per 100 cubic feet.

ARE THERE CONTAMINANTS IN OUR DRINKING WATER?

In accordance with State regulations, the Town of Schaghticoke routinely monitors your drinking water for numerous contaminants. We test your drinking water for inorganic contaminants, radiological contaminants, lead and copper, nitrate, volatile organic contaminants, and synthetic organic contaminants. In addition, we test 3 samples for coliform bacteria every month from the Consolidated Water District. 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.

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 Rensselaer County Department of Health (518) 270-2626.

WHAT DOES THIS INFORMATION MEAN?

We have learned through our monitoring and testing that some constituents 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 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 2014, our system was in compliance with applicable State drinking water reporting, monitoring and operating 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).

INFORMATION ON FLUORIDE ADDITION

Our system is one of many drinking water systems in New York State that provides drinking water with a controlled, low level of fluoride for consumer dental health protection. Fluoride is added to your water if you are in Consolidated Water District #1. Fluoride is added to the water we purchase, by the City of Troy before it is delivered to us. According to the United States Centers for Disease Control, fluoride is very effective in preventing cavities when present in drinking water at a controlled level. To ensure that the fluoride supplement in your water provides optimal dental protection, the City of Troy monitors fluoride levels on a daily basis to make sure fluoride is maintained at a target level of 1.0 mg/l. During 2014 monitoring showed that fluoride levels in your water were within 0.2 mg/l of the

target level 100 % of the time. None of the monitoring showed fluoride at levels that approach the 2.2 mg/l MCL for fluoride.

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 Schaghticoke 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>

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

The SWAP summaries for the City of Troy and City of Mechanicville are attached to the end of this report.

WATER CONSERVATION TIPS

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

- Only run the dishwasher and clothes washer when there is a full load
- Use water saving showerheads
- Install faucet aerators in the kitchen and the bathroom to reduce the flow from 4 to 2.5 gallons per minute
- Water gardens and lawn for only a couple of hours after sunset

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.

SCHAGHTICOKE CONSOLIDATED WATER DISTRICT #1 TABLE OF DETECTED CONTAMINANTS						
Public Water Supply Identification Number NY4100046 and NY4100062						
Contaminant	Violation Y/N	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Microbiological Contaminants						
Turbidity (Highest turbidity sample from Troy WTP)	N	1.80 100%	NTU	N/A	TT=1.0 NTU TT= 95% samples < 0.3	Soil runoff
Inorganic Contaminants						
Barium (sample from 7/17/14)	N	29	ppb	2000	2000	Erosion of natural deposits
Chloride (sample from 7/17/14)	N	20.0	ppm	N/A	250	Geology; Naturally occurring
Chromium	N	1.1	ppb	N/A	100	Erosion of natural deposits
Color (average of daily samples) range	N	3 0-10	units	N/A	15	Natural color may be caused by decaying leaves, plants, and soil organic matter.
Fluoride(average of daily samples) Range	N	960 230-1100	ppb	N/A	2200	Water additive which promotes strong teeth
Iron (average of weekday samples) range	N	10 ND-70	ppb	N/A	300	Geology; Naturally occurring
Lead	N	ND ND-2 ³				Corrosion of household plumbing systems, erosion of natural deposits
Manganese(average of weekday samples) range	N	10 ND-80	ppb	N/A	300	Geology; Naturally occurring
pH (average of daily samples) range	N	8.63 6.78-9.02	units		6.5-8.5	
Sodium ³ (sample from 7/24/14)	N	11.0	ppm	N/A	N/A	Geology; Road Salt
Sulfate (sample from 7/17/14)	N	17.0	ppm	N/A	250	Geology
Zinc (sample from 7/24/14)	N	28	ppb	N/A	5000	Naturally occurring
Disinfection Byproducts						
Chlorine Dioxide Residual (average daily testing) range	N	ND ND-0.08	ppm	N/A	0.8	Used in the treatment and disinfection of drinking water
Chlorate (average daily testing) range	N	0.11 ND-0.20	ppm	N/A	N/A	Byproduct of chlorine dioxide used in disinfection
Chlorite (average based on monthly testing) range	N	0.67 0.51-0.99	ppm	N/A	1.0	Byproduct of chlorine dioxide used in disinfection
Chlorine	N	0.72 018-2.04	ppm	MRDLG N/A	MRDL 4	Used in the treatment and disinfection of drinking water
Radioactive Contaminants						
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. The level presented represents the 90th percentile of the 30 samples collected. The action level for copper was not exceeded at any of the 30 sites tested 3. Water containing more than 20 ppm should not be consumed by persons on severely restricted sodium diets.						

SCHAGHTICOKE WATER DISTRICT #2 TABLE OF DETECTED CONTAMINANTS						
Public Water Supply Identification Number NY4100048						
Contaminant	Violation Y/N	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Microbiological Contaminants						
Turbidity (sample from 10/16/14)	N	0.10 ¹ 100%	NTU	N/A	TT=1 NTU TT=95% samples < 0.3	Soil runoff
Inorganic Contaminants (samples from 5/15/14 unless otherwise noted)						
Barium	N	9.7	ppb	2000	2000	Naturally occurring
Chloride	N	23.9	ppm	N/A	250	Naturally occurring or indicative of road salt contamination.
Copper (samples from 8/5/14-8/6/14)	N	0.30 ³	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Range of copper concentrations		0.02-0.41				
Lead (samples from 8/5/14-8/6/14)	N	3 ³ ND-12	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
Range of lead concentrations						
Manganese	N	18	ppb	N/A	300	Geology; Naturally occurring
Nickel	N	1	ppb	N/A	100	Discharge from steel/metal factories
pH	N	7.0	units		6.5-8.5	
Sodium ⁴	N	13.2	ppm	N/A	N/A	Geology; Road Salt
Sulfate	N	8.3	ppm	N/A	250	Geology
Disinfection Byproducts (Quarterly samples from 2/11/14, 3/3/14 5/13/14, 8/20/14 & 11/12/14)						
Stage 2 Haloacetic Acids (HAA5)(Average) ⁵	N	35.7	ppb	N/A	60	By-product of drinking water disinfection
Range of values for HAA5		ND-61.3				

Stage 2 TTHM[Total Trihalomethanes](Average) ³	N	61.9 30.1-119	ppb	0	80	By-product of drinking water chlorination
Range of values for TTHM						
Chlorine Residual (average)	N	1.35 0.91-2.54	ppm	MRDLG	MRDL	Used in the treatment and disinfection of drinking water
range				N/A	4	
Total Organic Carbon⁷ (monthly samples from 2014)						
Raw Water	N	2.4-6.5				
Treated Water		1.4-3.3	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 0.42 NTU being highest level detected and 0.20 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.
5. The average is based on a Locational Running Annual Average (LRAA). The average shown is the highest LRAA for the 2 sites monitored in of 2014. The highest LRAA for the HAA5s and the TTHMs was in the 4th quarter.
6. 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.

Glossary

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.

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.

Locational Running Annual Average (LRAA): The LRAA is calculated by taking the average of the four most recent samples collected at each individual site

N/A-Not applicable

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.

Troy's water treatment plant performs multi level treatment to insure that Troy and Schaghticoke residents receive safe drinking water. Additionally, as this annual report shows your water is routinely monitored for a great number of potential contaminants.

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