

Annual Water Quality Report for 2013

Village of Salem

181 Main Street, Salem NY12865

Public Water Supply Identification Number NY5730106

INTRODUCTION

To comply with State regulations, the Village of Salem, 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. We are very pleased to provide you with this year's Annual Water Quality Report. 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. Kurt Jilek, Water System Operations Specialist, Village of Salem, 53 Stanton Hill Road, Salem, NY 12865; Telephone (518) 854-9712.* We want our valued customers to be informed about their drinking water. If you want to learn more, please attend any of our regularly scheduled Village Board meetings. They are held on the 1st Wednesday of each month, 7:00 PM at *Proudfit Hall in the Village Office 181 Main Street, Salem, NY 12865; Telephone (518) 854-3433.*

WHERE DOES OUR WATER COME FROM?

The Village of Salem draws its water from ground water 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. The Village is served by three drilled wells located behind our DPW office at 53 Stanton Hill Road. The pumping capacity of each well is as follows: Well #1 is 157 gallons per minute (gpm), Well #2 is 82 gpm and Well #3 is 120 gpm. Well #3 is now deemed an emergency/auxiliary well. The water is chlorinated using sodium hypochlorite as it leaves the well to protect against contamination from harmful bacteria or other organisms. We add an ortho-polyphosphate corrosion inhibitor (K-5) to alleviate problems caused by iron and manganese staining of plumbing fixtures. Water is then pumped into a 300,000 gallon storage tank. The storage tank helps maintain water pressure in the distribution system as well as adequate supply for 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

The Village of Salem provides water through 298 service connections to a population of approximately 980 people. Our average daily demand is 56,396 gallons. Our single highest day was 212,260 gallons. In 2013 the Village pumped 20,610,792 gallons of water from our 3 wells.

ARE THERE CONTAMINANTS IN OUR DRINKING WATER?

In accordance with State regulations, the Village of Salem 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 (1) sample for coliform bacteria each month. 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 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 on page 3, 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. 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.

The water department has been testing the raw water from the Wells quarterly in an effort to measure raw water iron and manganese concentrations. The average iron concentration has been determined to be 774 ppb with a range of non-detectable to 7980 ppb while the average manganese concentration has been determined to 254 ppb with a range of ND-700 ppb. More frequent determination of these concentrations will allow us to better regulate our ortho-phosphosphate corrosion inhibitor. Although the phosphate inhibitor reduces the effects of staining and discoloration from iron and manganese, these contaminants are still present in the water. When iron and manganese are both present in water the state has set an MCL of 500 ppb. At times the measured concentrations of iron and manganese may have exceeded the MCL. The health effects information for iron and manganese are presented below:

1. Iron has no health effects. At 1000 ug/l a substantial number of people will note the bitter astringent taste of iron. Also, at this concentration, it imparts a brownish color to laundered clothing and stains plumbing fixtures with a characteristic rust color. Staining can result at levels of 50 ug/l, lower than those detectable to taste buds. Therefore, the MCL of 300 ug/l represents a reasonable compromise as adverse aesthetic effects are minimized at this level. Many multivitamins may contain 3000 or 4000 ug/l of iron per capsule.
2. The Food and Nutrition Board of the National Research Council determined an estimated safe and adequate daily dietary intake of manganese to be 2000-5000 ug/l for adults. However, many people's diets lead them to consume even higher amounts of manganese, especially those who consume high amounts of vegetable or are vegetarian. The infant population is a greatest concern. It would be better if the drinking water were not used to make infant formula since it already contains iron and manganese. Excess manganese produces a brownish color in laundered goods and impairs the taste of tea, coffee, and other beverages. Concentrations may cause a dark brown or black stain on porcelain plumbing fixtures. As with iron, manganese may form a coating on distribution pipes. These may slough off, causing brown blotches on laundered clothing or black particles in 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 Village of Salem 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>

IS OUR WATER SYSTEM MEETING OTHER RULES THAT GOVERN OPERATIONS?

During 2013, 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 was not required for this system since it did not exist prior to 2003.

CAPITAL IMPROVEMENTS

- ◆ There were no major capital improvements in 2013.

WATER CONSERVATION TIPS

The Village of Salem 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
- ◆ Check faucets, pipes and toilets for leaks and repair all leaks promptly
- ◆ Take shorter showers

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. Please call our office if you have questions.

VILLAGE OF SALEM TABLE OF DETECTED CONTAMINANTS						
Public Water Supply Identification Number NY5730106						
Contaminant	Violation Y/N	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Inorganic Contaminants						
Barium (sample from 7/25/11)	N	120	ppb	2000	2000	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Copper (samples from 6/19/12) Range of copper concentrations	N	0.37 ¹ 0.11- 0.38	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Nitrate (as Nitrogen) samples from 7/15/13 Well # 1	N	1.2	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Well #3		2.2				
Radiological Contaminants (samples from 5/31/11)						
Radium 228	N	0.4	pCi/L	0	5	Erosion of natural deposits
Gross Beta	N	3.7	pCi/L	0	50 ²	Decay of natural deposits and man-made emissions
Disinfection Byproducts (sample from 7/15/13)						
TTHM[Total Trihalomethanes] ³	N	12.2	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.
Haloacetic Acids (HAA5) ³	N	7.9	ppb	N/A	60	By-product of drinking water chlorination needed to kill harmful organisms.
Chlorine Residual, Free (average) ⁴ Range	N	0.68 0.22 – 1.66	ppm	MRDLG	MRDL	Used in the treatment and disinfection of drinking water
				N/A	4	
NOTES-						
1. The level presented represents the 90th percentile of 10 test sites. 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 copper values detected at your water system. In this case, 10 samples were collected at your water system and the 90th percentile value was the 9th sample with the second highest value (level detected 0.20 mg/l). The action level for copper was not exceeded at any of the sites tested. Additionally, lead was also sampled and the 90 th percentile was less than 1 ppb (non detectable). Only 1 sample had a detectable lead concentration and that was at 1 ppb.						
2. The state considers 50 pCi/L to be the level of concern for beta particles.						
3. MCL is based on a running annual average. Due to low TTHM & HAA5 formation potential, monitoring is reduced to 1 sample every three years						
4. Results based on daily chlorine residual testing.						
<i>Non-Detects (ND)</i> - laboratory analysis indicates that the constituent is not present.						
<i>Parts per million (ppm) or Milligrams per liter (mg/l)</i> - one part per million corresponds to one minute in two years or a single penny in \$10,000.						
<i>Parts per billion (ppb) or Micrograms per liter</i> - one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.						
<i>Action Level</i> - the concentration of a contaminant, which, if exceeded, triggers treatment, or other requirements, which a water system must follow.						
<i>Maximum Contaminant Level</i> - 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.						
<i>Maximum Contaminant Level Goal</i> - 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.						
<i>Maximum Residual Disinfectant Level (MRDL)</i> : 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.						
<i>Maximum Residual Disinfectant Level Goal (MRDLG)</i> : 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.						
<i>Picocuries per liter (pCi/L)</i> - picocuries per liter is a measure of the radioactivity in water.						
<i>N/A-Not applicable</i>						