Annual Drinking Water Quality Report for 2011

Phoenicia Water District
7209 Rt. 28, Shandaken, NY 12480
Public Water Supply Identification Number NY5503380

INTRODUCTION

To comply with State regulations, the Phoenicia Water District, 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 an overview 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. Richard Ricciardella, Water Commissioner, Phoenicia Water District, 7209 Rt. 28, PO Box 247, Phoenicia, 12464; NY; Telephone (845) 688-5172 or (845) 688-7233 ext. 21.* 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 1st Monday of each month, 7:00 PM at the Shandaken Town Hall, Route 28, Shandaken, NY 12480; *Telephone (845) 688-7165.* If you want to learn more, please call us.

WHERE DOES OUR WATER COME FROM?

The Phoenicia Water District (PWD) draws its water from surface water sources, and ground water under the direct influence of surface water. We have a water filtration plant to filter our water. Water from Apree, Rock and Simpson Springs and Smith Reservoir located on Mount Tremper feed our (reservoir) infiltration gallery. The water flows through packed sand and gravel into a collection pipe by gravity flow to a 20 foot deep well at Old Well 28, where we add chlorine to protect against contamination from harmful bacteria. After chlorination the water passes through a series of filters which remove particulate or suspended solids. The filters can remove particulate material as small as 1 micron. In addition to filtration, we adjust the pH of the finished water with soda ash and add polyphosphate for corrosion control. The treated water goes to a 10,000 gallon underground clearwell and is then pumped into the distribution system. A SCADA (Supervisory Control and Data Acquisition) system controls the operation of the treatment plant providing 24 hour operation. We are now in compliance with the EPA's Surface Water Treatment Rule with our new filtration plant.

The High Street Pump Station consists of 2 wells. Well #1 is an 18-foot drilled well with a 70-gpm yield. Well #2 is an 100-foot drilled well with a 100 gpm yield. Due to its high iron content and dissolved air, High Street is used for emergency purposes only. Chlorine is also added for disinfection.

The source water assessment performed by the New York State Health Department has rated our source water as having very high susceptibility to microbials and nitrates, a high susceptibility to industrial solvents, and a medium-high susceptibility to other industrial contaminants. The SWAP summary for our water supply is attached to this report.

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 Phoenicia Water District provides water through 300 service connections to a population of approximately 950 people. Our average daily demand is 90,000 gallons. Our single highest day was 134,000 gallons. The total water produced in 2011 was approximately 33,892,295 gallons.

ARE THERE CONTAMINANTS IN OUR DRINKING WATER?

In accordance with State regulations, the Phoenicia Water District 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 Ulster County Health Department at 845-340-3150.

WHAT DOES THIS INFORMATION MEAN?

As you can see by the table on page 4, 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. *The table revealed that the water level for lead exceeded the Action Level of 15 ppb at one of the ten sites tested in June. Although this is not a violation of the Lead & Copper Rule we are required to furnish the following educational information concerning lead. Infants and children who drink water containing lead in excess of the Action Level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure. Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline (800-426-4791).*

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 2011, our system was in compliance with applicable State drinking water operating, and reporting requirements. Our turbidimeter malfunctioned in October and no entry point turbidity measurements were recorded. The problem continued until the first half of November. We were issued 2 violations for the failure to monitor turbidity. In addition, we did not meet the turbidity requirement for our filtered water by having less than 95% of the samples comply with the turbidity standard.

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 Phoenicia Water District 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 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 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 is attached to this report. The SWAP summary for the spring fed reservoir will be in next year's report.

WATER CONSERVATION TIPS

The Phoenicia Water District 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, which are the heart of our community. Please call our office if you have questions.

PHOENICIA WATER DISTRICT TABLE OF DETECTED CONTAMINANTS
Public Water Supply Identification Number NY5503380

Contaminant	Violation Y/N	Date of Sample	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Inorganic Contaminants							
Chloride	N	10/24/11	7	ppm	N/A	250	Geology; Naturally occurring
Copper Range of copper concentration	N	6/20/11	0.78[1] 0.27-0.81	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead Range of lead concentration	N	6/20/11	1[2] ND-18	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
Iron	N	10/24/11	80	ppb	N/A	300	Geology, Naturally occurring
Nitrate (as Nitrogen)	N	10/24/11	0.2	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
Odor	N	10/24/11	1	units	N/A	3	Organic or inorganic pollutants originating from municipal and industrial waste discharges: natural sources
pH	N	10/24/11	7.0	units		6.5-8.5	
Sodium[3]	N	10/24/11	12.7	ppm	N/A	N/A	Geology; Road Salt
Sulfate	N	10/24/11	8	ppm	N/A	250	Geology
Disinfection Byproducts							
Haloacetic Acids (HAA5)[4] Range of Values for HAA5	N	3/1/11 5/16/11 8/29/11 11/14/11	10.4 4.2-15.2	ppb	N/A	60	By-product of drinking water disinfection needed to kill harmful organisms
TTHM[Total Trihalomethanes](Average)[4] Range of values for Total Trihalomethanes	N	3/1/11 5/16/11 8/29/11 11/14/11	10.5 3.8-22.3	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.
Chlorine (continuous monitoring) Range of chlorine residuals	N	daily	0.709 0.4-1.2	ppm	MRDLG N/A	MRDL 4	Used in the treatment and disinfection of drinking water
Microbiological Contaminants							
Turbidity (highest value) August 2012	N	8/31/12	2.82	NTU	N/A	TT=1.0 NTU	Soil Runoff
November 2012			<95 %			TT= 95% samples < 0.3	

NOTES-

1. The level presented represents the 90th percentile of 10 test sites. The action level for copper was not exceeded at any of the 10 sites tested in June.
2. The level presented represents the 90th percentile of 10 test sites. The Action Level was exceeded at 1 of the 10 sites tested in June .
3. Water containing more than 20 mg/l should not be consumed by persons on severely restricted sodium diets.
4. Average based on running annual average. The average shown is the highest RAA for 2011. The Highest TTHM was in the 3rd quarter and the Highest HAA5 was in the 1st quarter.
5. 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. The regulations also require that 95% of the turbidity samples collected have measurements below 0.3 NTU. Although November 2011 was the month when we had the fewest measurements meeting the treatment technique for turbidity, the levels recorded were within the acceptable range allowed and it did constitute a treatment technique violation.

PHOENICIA WATER DISTRICT TABLE OF DETECTED CONTAMINANTS FOR HIGH STREET PUMPHOUSE
Public Water Supply Identification Number NY 5503380

Contaminant	Violation Y/N	Date of Sample	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Inorganic Contaminants							
Barium	N	11/17/06	12	ppb	2000	2000	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chloride	N	11/17/06	16	ppm	N/A	250	Geology; Naturally occurring
Iron	N	11/17/06	170	ppb	N/A	300	Geology; Naturally occurring
Manganese	N	11/17/06	20	ppb	N/A	300	Geology; Naturally occurring
Nickel	N	11/17/06	ND-140	ppb	N/A	N/A	Discharge from steel/metal factories
pH	N	11/17/06	6.8	units		6.5-8.5	
Sodium[1]	N	11/17/06	21.7	ppm	N/A	N/A	Geology; Road Salt
Sulfate	N	11/17/06	8	ppm	N/A	250	Geology;
Zinc	N	11/17/06	40	ppb	N/A	5000	Galvanized pipe; **corrosion inhibitor**

NOTES-

Water containing more than 20 mg/l should not be consumed by persons on severely restricted sodium diets.

GLOSSORY 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.
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.
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

Phoenicia Water District
NY5503380
Source Water Assessment Summary

The NYS DOH has completed a source water assessment (for Well #1 and Well #2 of this system only), based on available information. Possible and actual threats to these drinking water sources were evaluated. The state source water assessment includes a susceptibility rating based on the risk posed by each potential source of contamination and how easily contaminants can move through the subsurface to the wells. 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. *The presence of contaminants does not necessarily indicate that the water poses a health risk.* See section "Are there contaminants in our drinking water?" for a list of the contaminants that have been detected. The source water assessments provide resource managers with additional information for protecting source waters into the future.

As mentioned before, the sources for our water system include 2 wells. The source water assessment has rated these wells as having a very high susceptibility to microbials and nitrates, a high susceptibility to industrial solvents, and a medium-high susceptibility to other industrial contaminants. These ratings are due primarily to the close proximity of a permitted discharge facility (industrial/commercial facilities that discharge wastewater into the environment and are regulated by the state and/or federal government), and low intensity residential activities in the assessment area. In addition, the wells draw from a shallow sand and gravel aquifer, and the overlying soils do not provide adequate protection from potential contamination. Please note that, while the source water assessment rates our well as being susceptible to microbials, our water is disinfected to ensure that that the finished water delivered into your home meets the New York State drinking water standards for microbial contamination.

A copy of this assessment, including a map of the assessment area, can be obtained by contacting us, at the number provided in the report.