

## ***Annual Drinking Water Quality Report for 2018***

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. 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 1<sup>st</sup> 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 a 100-foot drilled well with a 100 gpm yield. The High Street Well was officially determined to be Ground Water Under the Direct Influence of Surface Water. 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 320 service connections to a population of approximately 950 people. Our average daily demand is 60,000 gallons. Our single highest day was 164,000 gallons. The total water produced in 2018 was approximately 22,183,786 gallons. The charge for water is \$5.00 per thousand 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, haloacetic acids, trihalomethanes 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.

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 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 2018, our system was in compliance with applicable State drinking water operating, monitoring and reporting requirements.

## **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	10/24/17	8.13	ppm	N/A	250	Geology; Naturally occurring
Copper	N	8/19/16	1.07 <sup>1</sup>	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Range of copper concentration			0.08-1.11				
Nitrate	N	11/14/18	0.507	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Odor	N	10/24/17	2	units	N/A	3	Natural sources
pH	N	10/24/17	7.27	units		6.5-8.5	
Sodium <sup>2</sup>	N	10/24/17	8.08	ppm	N/A	N/A	Geology; Road Salt
Zinc	N	10/24/17	13.3	ppb	N/A	5000	Galvanized pipe; corrosion inhibitor
Stage 2 Disinfection Byproducts							
Haloacetic Acids [HAA] Average <sup>3</sup> Range of Values for HAA5	N	2/19/18 5/21/18 8/20/18 11/14/18	27.4 11-18.3	ppb	N/A	60	By-product of drinking water disinfection
Total Trihalomethanes [TTHM]Average <sup>3</sup> Range of values for Total Trihalomethanes	N	2/19/18 5/21/18 8/20/18 11/14/18	19.8 2.5-24	ppb	0	80	By-product of drinking water chlorination
Chlorine (continuous monitoring) Range of chlorine residuals	N	daily	1.10 0.57-245	ppm	MRDLG N/A	MRDL 4	Used in the treatment and disinfection of drinking water
Microbiological Contaminants							
Turbidity ( highest value)	N	7/7/18	0.233	NTU	N/A	TT=1.0 NTU	Soil Runoff
Turbidity	N		100%			TT= 95% samples < 0.3	
NOTES- 1. The level presented represents the 90 <sup>th</sup> percentile of 10 test sites. The action level for copper was exceeded at one of the 10 sites tested. 2. Water containing more than 20 mg/l should not be consumed by persons on severely restricted sodium diets. 3. Average based on a Locational Running Annual Average (LRAA) of the four quarters of 2018. The highest TTHM LRAA was in the 2 <sup>nd</sup> quarter and the highest HAA5 LRAA was in the 1 <sup>st</sup> quarter of 2018. 4. 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.							

#### 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.

*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.

*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*

**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 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.



PUBLIC WATER SUPPLY	SAMPLE ID #	SAMPLE LOCATION	DATE COLLECTED	TOTAL TRIHALOMETHANE	THM LRAA	Total Haloacetic Acid	HAA5 LRAA
Phoenicia Water District	JH1703315	Stage 2: Ricciardella Real Estate faucet	05/15/2017	8.77		30.3	
Phoenicia Water District	JH1706378	Stage 2: Ricciardella Real Estate faucet	08/14/2017	26.1		11	
Phoenicia Water District	JH1709522	Stage 2: Ricciardella Real Estate faucet	11/27/2017	14.1		14	
Phoenicia Water District	JH1801204	Stage 2: Ricciardella Real Estate faucet	02/19/2018	10	14.7425	24	19.825
Phoenicia Water District	JH1803502	Stage 2: Ricciardella Real Estate faucet	05/21/2018	18.9	17.275	19	17
Phoenicia Water District	JH1806678	Stage 2: Ricciardella Real Estate faucet	08/20/2018	19.6	15.65	2.5	14.875
Phoenicia Water District	JH1809160	Stage 2: Ricciardella Real Estate faucet	11/14/2018	8.4	14.225	8.7	13.55



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## LABORATORY REPORT

<b>Sample ID</b>	JH1809158	<b>Customer Code</b>	1610
<b>Federal Water Supply Code</b>	NY5503380	<b>DOH</b>	Ulster DOH
<b>Water Supply</b>	Phoenicia Water District		
<b>Address</b>	60 Main Street, PO Box 247, Phoenicia, NY 12464		
<b>Sample Location</b>	Entry Point		
<b>Date Collected</b>	11/14/2018	<b>Time Collected</b>	8:40 AM
<b>Sample Collector</b>	RMR		
<b>Date Printed</b>	12/6/2018		
<b>Date Entered</b>	12/6/2018		

### Part V Table 8B Inorganic Chemicals & Physical Characteristics

ANALYTE	CONCENTRATION mg/L	MCL	METHOD	Date analyzed	NYS Lab
Arsenic	<0.0050	0.01	EPA 200.9 Rev2.2	12/3/2018	12006
Barium	<0.010	2.00	SM18-19 21 3113B	12/4/2018	12006
Cadmium	<0.0010	0.005	EPA 200.9 Rev2.2	12/3/2018	12006
Chromium	<0.0090	0.10	EPA 200.9 Rev2.2	12/3/2018	12006
Mercury	<0.00020	0.002	EPA 245.1 Rev 3.0	12/3/2018	12006
Selenium	<0.0050	0.05	SM18-19 21 3113B	12/3/2018	12006
Fluoride	<0.200	2.2	SM18-4500-F C	11/28/2018	11549

	mg/L	MCL	METHOD	Date analyzed	NYS Lab
Antimony	<0.0050	0.006	EPA 200.8	12/4/2018	12006
Beryllium	<0.0010	0.004	EPA 200.8	12/3/2018	12006
Nickel	<0.010	0.1	EPA 200.8	12/3/2018	12006
Thallium	<0.0010	0.002	EPA 200.8	12/3/2018	12006
Cyanide	<0.0100	0.2	EPA 335.4	12/5/2018	11549

Table 8C	mg/L	set up time	MCL	METHOD	Date analyzed	NYS Lab
Nitrate°	0.507	11:30	10 mg/l as N	SM18-4500-NO3 F	11/17/2018	11799
Nitrite	NT		1 mg/l as N	SM18-4500-NO2 B		

### Comments

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\*pH testing per ELAP requirements immediate analysis for potable water & 15 minutes for non-potable water samples.  
°Nitrate hold time per Elap requirements: 48 hours for potable, non-chlorinated; 14 days for potable chlorinated water samples  
The above test procedures meet all the requirements of NELAC and relate only to this sample. Where no temperature is given  
8°C is used to calculate corrosivity, as 8°C is the average temperature for shallow ground water in NYS referenced ww.epa.gov



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SAMPLE ID# JH1809159  
PUBLIC WATER SUPPLY Phoenicia Water District  
ADDRESS 60 Main Street, PO Box 247 Phoenicia NY 12464  
SAMPLE LOCATION Entry Point  
DATE COLLECTED 11/14/2018 TIME COLLECTED 8:45 AM SAMPLER RMR

SUPPLY CODE 1610  
FEDERAL ID# NY5503380  
DOH Ulster DOH  
E-mail Steve Britton  
Date Printed 11/26/2018

Volatile Organic Chemical Analysis EPA Method 524.2 Table 9B NYS Lab 10350 Date Analyzed 11/20/2018

PARAMETER	CONCENTRATION UG/L	MCL	PARAMETER	CONCENTRATION UG/L	MCL
BENZENE	<0.5	5	2,2-DICHLOROPROPANE	<0.5	5
BROMOBENZENE	<0.5	5	1,1-DICHLOROPROPENE	<0.5	5
BROMOCHLOROMETHANE	<0.5	5	1,3-DICHLOROPROPENE (TOTAL)	<0.5	5
BROMOMETHANE	<0.5	5	ETHYLBENZENE	<0.5	5
N-BUTYLBENZENE	<0.5	5	HEXACHLOROBUTADIENE	<0.5	5
SEC-BUTYLBENZENE	<0.5	5	ISOPROPYLBENZENE	<0.5	5
TERT-BUTYLBENZENE	<0.5	5	P-ISOPROPYLTOLUENE	<0.5	5
CARBON TETRACHLORIDE	<0.5	5	METHYLENE CHLORIDE	<0.5	5
CHLOROBENZENE	<0.5	5	N-PROPYLBENZENE	<0.5	5
CHLOROETHANE	<0.5	5	STYRENE	<0.5	5
CHLOROMETHANE	<0.5	5	1,1,1,2-TETRACHLOROETHANE	<0.5	5
2-CHLOROTOLUENE	<0.5	5	1,1,2,2-TETRACHLOROETHANE	<0.5	5
4-CHLOROTOLUENE	<0.5	5	TETRACHLOROETHENE	<0.5	5
DIBROMOMETHANE	<0.5	5	TOLUENE	<0.5	5
1,2-DIBROMOETHANE	<0.5	5	1,2,3-TRICHLOROBENZENE	<0.5	5
1,2-DICHLOROBENZENE	<0.5	5	1,2,4-TRICHLOROBENZENE	<0.5	5
1,3-DICHLOROBENZENE	<0.5	5	1,1,1-TRICHLOROETHANE	<0.5	5
1,4-DICHLOROBENZENE	<0.5	5	1,1,2-TRICHLOROETHANE	<0.5	5
DICHLORDIFLUOROMETHANE	<0.5 <sup>S+</sup>	5	TRICHLOROETHENE	<0.5	5
1,1-DICHLOROETHANE	<0.5	5	TRICHLOROFLUOROMETHANE	<0.5	5
1,2-DICHLOROETHANE	<0.5	5	1,2,3-TRICHLOROPROPANE	<0.5	5
1,1-DICHLOROETHENE	<0.5	5	1,2,4-TRIMETHYLBENZENE	<0.5	5
CIS-1,2-DICHLOROETHENE	<0.5	5	1,3,5-TRIMETHYLBENZENE	<0.5	5
TRANS-1,2-DICHLOROETHENE	<0.5	5	VINYL CHLORIDE	<0.5	2
1,2-DICHLOROPROPANE	<0.5	5	M-XYLENE	<0.5	5
1,3-DICHLOROPROPANE	<0.5	5	O-XYLENE	<0.5	5
Methyl Tert Butyl Ether	<0.5	10	P-XYLENE	<0.5	5

Notes S+ Lab control sample outside acceptance limits.

The surrogate recoveries of 4-Bromofluorobenzene and 1,2-Dichlorobenzene-d4 for this sample were within acceptance limits at 98 and 88% respectively. The acceptance limits are 80-120%. The lab fortified blank (QC) recovery for dichlorodifluoromethane was above acceptable limits. Result not affected by the high bias.

The accompanying trip blank was found to be less than the required detection limit for POC/VOC  
MCL = Maximum Contaminant Level referenced from New York State Subpart 5-1 of the Public Drinking Water Standards