



**VILLAGE OF SUFFERN
WATER DEPARTMENT
ANNUAL WATER
QUALITY REPORT FOR
2016**

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10595

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NY01305

POTABLE WATER SUPPLY ID # 4303675

The Village is pleased to present this year's Annual Water Quality Report. This report is designed to inform Village residents about the quality of water and services the Village delivers to you every day. We are proud that our drinking water meets or exceeds all Federal and State requirements. It is our responsibility to provide you with a safe and dependable supply of drinking water. This report will provide you with an understanding of the efforts we make to continually improve the water treatment process and protect our water resources and that we are committed to ensuring the highest quality of your drinking water.

*Edward Markunas
Mayor*

INTRODUCTION

To comply with State regulations, the Village of Suffern annually issues a report describing the quality of your drinking water. The purpose of this report is to raise your understanding of drinking water and your awareness of the need to protect our drinking water sources. Last year, as in years past, your tap water met all state drinking water health standards. We are proud to report that our system did not violate a maximum contaminant level or any other water quality standard. This report provides 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 State and Federal Drinking Water Standards.

ABOUT THE DEPARTMENT

The Village of Suffern Water Department has been in existence since 1884, serving approximately 12,000 people through 2400 service connections. The Department is non-profit, using all revenues for operating expenses and source and system improvements.

CONTACT PERSONS

Water Treatment Plant Operator
Stanley R. Dobrinski, Jr. • 845-357-0950
Rockland County Health Dept. • 845-364-2608

The water plant is open Monday through Friday from 7:00 a.m. to 3:30 p.m. After normal working hours and on weekends, one qualified employee is always on standby. If you should have an emergency, you can call the police at 357-2300 and they will contact a Water Department employee to help you.

The Village Board meets on the first Monday of the month at 7:30 p.m. in the Village Hall. Please feel free to attend these meetings.

WHERE DOES OUR WATER COME FROM?

In general, the sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, pond reservoirs, springs and wells. As the water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and can pick up substances resulting from the presence of animals or from human activities. Contaminants which may be in source water are: microbial contaminants, such as viruses and bacteria which may originate in sewage treatment plants, septic systems, agriculture livestock operations, or wildlife; inorganic contaminants, such as salts and metals either naturally occurring or transported by storm water runoff; industrial or domestic wastewater; residue from oil and gas production, mining, or farming; pesticides and herbicides originating from agriculture, storm water runoff, or residential or governmental use; organic chemicals, including synthetic and volatile organic chemicals from industrial processes, petroleum production, gas stations, storm water runoff, or septic systems; and radioactive contaminants, either naturally occurring or byproducts of oil and gas production or mining activities. In order to ensure that tap water is safe to drink, the State and the EPA (Environmental Protection Agency) prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. The State Health Department and the Food and Drug Administration's (FDA's) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

HOW IS OUR WATER TREATED?

We have 4 wells that pump water to the Water Operation Center. The water passes through greensand filters for removal of iron and manganese. These natural elements, if not removed, cause staining of laundry, dinnerware, dishwashers and washing machines. After filtration, sodium hydroxide, also known as caustic soda, is added for pH adjustment. Our untreated water has a pH of approximately 6.50. With the addition of sodium hydroxide, we reach our target pH of 7.30 to 7.60. Next is the addition of an orthophosphate.

Orthophosphate protects plumbing and inhibits leaching of lead and copper from soldered joints and plumbing fixtures. The final step taken in the treatment process is disinfection. The finished water is disinfected by adding the chlorine disinfectant sodium hypochlorite. After disinfection, the water is pumped from the operations center into the distribution system and storage tanks. We have three storage tanks that have a combined capacity of 3.7 million gallons. Granulated activated carbon filters are available before disinfection for removal of volatile organic compounds, if needed.

ARE THERE CONTAMINANTS IN OUR DRINKING WATER?

During 2016 your tap water met all State drinking water health standards. We are proud to report that our system hasn't violated a maximum contaminant level or any other water quality standard. Also,

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

As State and Federal regulations require, we routinely test your drinking water for numerous contaminants. These contaminants tested for include:

- total coliform
- inorganic compounds
- nitrate
- nitrite
- lead & copper
- volatile organic compounds
- total trihalomethanes
- synthetic organic compounds.

The State allows us to test for some contaminants less than once a year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, may be more than one year old.

The table presented below depicts which compounds were detected in your drinking water.

As you can see by the table, our system had no violations. We have learned through our testing that some contaminants have been detected; however, these contaminants were detected below New York State requirements. You would be pleased to know in 2016, along with the detected contaminants, over 100 other contaminants were tested for numerous times but not detected in your water supply.

All drinking water, including bottled drinking water, contains at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate the water poses 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 Rockland County Health Department at (845) 364-2608.

DEFINITIONS

MCL: Maximum Contaminant Level: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the maximum contaminant level goals (MCLGs), as feasible.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below where 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.

Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.

ND: Non-Detects: laboratory analysis indicates the constituent is not present.

Micromhos per Centimeter (ms/cm): the units of conductivity are often reported as micromhos per centimeter.

Milligrams per liter (mg/l): corresponds to one part of liquid in one million parts of liquid (parts per million - ppm).

Micrograms per liter (ug/l): corresponds to one part of liquid in one billion parts of liquid (parts per billion - ppb).

PPM: Parts per Million: the equivalent of 1 part per million is 1 second in 12 days or 1 penny in 10 thousand dollars.

PPB: Parts per Billion: the equivalent of 1 part per billion is 1 second in 32 years or 1 penny in 10 million dollars.

pCi/L: Picocuries per Liter, a measure of radioactivity in water: the equivalent of one second in 32 million years.

The parameters on the following page are measured to ensure compliance with corrosion control requirements associated with the lead and copper rule. The samples are collected at the entry point to the distribution system and sampling points that are representative of the distribution system.

2016 TABLE OF DETECTED CONTAMINANTS

CONTAMINANT	MCL	MCL/G	AVERAGE RESULT	RANGE OF RESULTS	VIOLATION YES / NO	LIKELY SOURCE	UNIT OF MEASURE
Disinfection By-Products* Total Trihalomethanes	80	N/A	8.25	4.1-12.4	NO	By-product of drinking water chlorination needed to kill harmful organisms. TTHMS are formed when source water contains large amounts of organic matter.	PPB
Total Haloacetic Acids	60	N/A	2.1	0.9-3.2	NO	By-product of drinking water disinfection needed to kill harmful organisms.	PPB
Inorganic Compounds Sulfate	250	N/A	22	20-25	NO	Naturally occurring	PPM
Nitrate	10	10	1.51	0.99-2.4	NO	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.	PPM
Zinc	5000	N/A	55	ND-220	NO	Naturally occurring; mining waste.	PPB
Chlorides**	250	N/A	293	190-420	NO	Naturally occurring or indicative of road contamination.	PPM
Sodium	N/A	N/A	121	85-160	NO	Naturally occurring; road salt; water softeners; animal waste.	PPM
Radioactive Contaminants Radium 226	5	0	0.23	ND-0.71	NO	Erosion of natural deposits.	pCi/L
Gross Beta	50****	0	0.38	ND-1.55	NO	Erosion of natural deposits.	pCi/L
Disinfectants Chlorine Residual	4	N/A	1.13	0.72-1.87	NO	Water additive used to control microbes.	PPM
CONTAMINANT	ACTION LEVEL	90TH PERCENTILE	SAMPLE ABOVE AL	RANGE DETECTED	VIOLATION YES / NO	LIKELY SOURCE	UNIT OF MEASURE
LEAD***	15	<1	0	0-4.5	NO	HOUSEHOLD PLUMBING	PPB
COPPER***	1300	160	0	24-220	NO		PPB

*This level represents the annual quarterly average calculated from data collected. **As you can see from the Table of Detected Contaminants, some of the samples that were analyzed for chlorides exceeded the maximum contaminant level. The water source that has exceeded the MCL is one well that has not been in service except for sample purposes. ***The level presented represents the 90th percentile of the 30 sites tested. The 90th percentile is equal to or greater than 90% of the lead and copper values detected in your water system. In this case, 30 samples were collected at your water system for lead and copper. The 90th percentile value for lead was <1 or less than 1 parts per billion. The 90th percentile for copper was 160 parts per billion. **** EPA screening tool for non-vulnerable systems.

Water Quality Parameter	Range Detected	Average Result	Unit
pH	7.10-7.65	7.30	-
Phosphate	1.00-1.62	1.28	mg/l
Temperature	12.5-16.5	13.93	°C
Alkalinity	73-120	97	mg/l
Total Dissolved Solids	430-880	600	mg/l
Calcium	34-76	49	mg/l
Magnesium	8.9-16	11	mg/l
Odor	1	1	TON

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 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. 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. Water suppliers and 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.

As mentioned before, our water is derived from 4 drilled wells. The source water assessment has rated these wells as having an elevated susceptibility to industrial solvents. These ratings are due primarily to the close proximity of permitted discharge facilities (industrial/commercial facilities that discharge wastewater into the environment and are regulated by the state and/or federal government) to the wells, and the associated industrial activity in the assessment area. In addition, the wells are high yielding wells that draw from an unconfined aquifer of unknown hydraulic conductivity. An unconfined aquifer is a shallow aquifer that occurs immediately below the ground surface and has no overlying protective layer for protection from potential sources of contamination. Continued vigilance in compliance with water quality protection and pollution prevention programs as well as continued monitoring and enforcement will help continue to protect groundwater quality.

A copy of this assessment, including a map of the assessment area, can be obtained by contacting us.

INFORMATION ON LEAD IN DRINKING WATER

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 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 or flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the safe drinking water help line (1-800-426-4791).

INFORMATION ON RADIOLOGICAL PARAMETERS

In 2015, we collected four representative water samples that were analyzed for radioactive contaminants. The results can be found in the Table of Detected Contaminants. For additional information, call your state radon program (1-800-458-1158) or call EPA's Radon Hotline (1-800-SOS-Radon).

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. These include immuno-compromised persons, such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, and people with HIV/AIDS or other immune

system disorders. Some elderly persons and infants may 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 microbial pathogens are available from the Safe Drinking Water Hotline (1-800-426-4791).

TESTING THAT IS DONE AT OUR WATER PLANT LABORATORY

Ten water distribution sites in the Village are tested once a month for bacteriological analysis. Each sample is tested for: total coliform; E-Coli; and Heteratrophic plate count. At the time of sample collection, the free chlorine residual is also checked along with a pH reading and phosphate readings. All 120 bacteriological tests were negative and all chlorine residuals were satisfactory.

Other tests performed by our operators at the water plant laboratory are: manganese; hardness; phosphate; alkalinity; iron; pH; and chlorides.

WATER USAGE

During 2016, the total amount of water drawn from the aquifer was 556,235,000 gallons. Approximately 341,826,000 gallons were billed directly to the customer. The balance of unaccounted for water, 38% or 214,409,000 gallons, includes water used for main flushing, hydrant flow testing, fire department training, firefighting, municipal pool use, water main breaks, service leaks, under registering water meters, illegal hydrant use, and theft of services. A major contributor to the unaccounted water total is several water main breaks that never surfaced. Realizing we were producing more water than usual, the Water Department searched, discovered and repaired the breaks as quickly as possible.

Our daily average was 1.523 million gallons during 2016. One day in the month of June, we recorded our maximum daily output of 2.242 million gallons. Our minimum flow was recorded in November at 1.105 million gallons a day.

WATER RATES EFFECTIVE 5/1/17

For consumers within the Village, for the first 10 units or fraction thereof: \$35 minimum charge; for that portion over 10 units and less than 71 units: \$3.51 per unit; for that portion over 70 units: \$4.58 per unit. 100 cubic feet equals one unit. One unit equals 750 gallons. There is a 10% penalty for payments made after 30 days.

UNDERSTANDING CROSS CONNECTION AND BACKFLOW PREVENTION

A cross connection is direct or indirect connection between drinking water system and any other liquid or substance. When certain conditions occur, such as water main breaks, hydrant flushing or fire fighting, water can flow backwards (backflow) into the drinking water system through the cross connection. Cross connections are common and happen in every type of property, both residential and non-residential.

Common examples of residential cross connections are lawn irrigation systems, boilers for heating, and residential fire systems. Common household hazards that are serious cross connections are: chemical spray applicators that connect directly to your garden hose and submerged garden hoses used to fill pools, hot tubs and buckets can act as a conduit for contaminants to enter the drinking water system under backflow conditions.

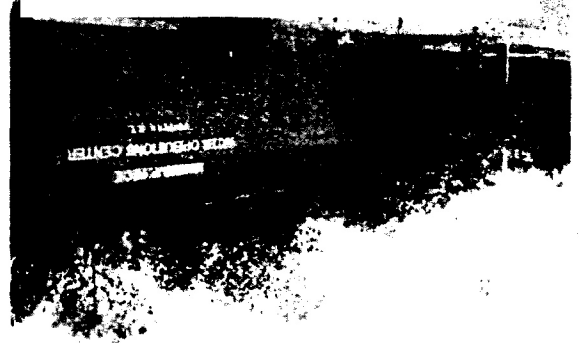
There are many things you can do to help prevent contamination of the public water system due to backflow. Ensure that water hoses to fill swimming pools, hot tubs and buckets are not submerged or are connected to a hose bib that has a vacuum breaker. All irrigation systems have an approved backflow device installed and are tested annually.

CLOSING

Thank you for allowing us to continue to provide your family with quality drinking water this year. In order to maintain a safe dependable water supply, we need to make improvements that will benefit all of our customers. Rate adjustment may be necessary in order to address these improvements. We ask that all of our customers help us protect our water sources. Please call our office if you have any questions.

- Your water meets or surpasses all state and federal regulations for safe drinking water.
- Este informe contiene información muy importante sobre su agua beber. Tradúzcalo o hable con alguien que lo entienda bien.

Important Information!



RESIDENT
Suffern, New York 10901

*Village of Suffern
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Suffern, New York 10901*

PRESRT STD
U.S. POSTAGE
PAID
MONSEY, NY 10952
PERMIT NO. 1197

WHY SAVE WATER AND HOW TO AVOID WASTING IT?

Although our system has an adequate amount of water to meet present and future demands, there are a number of reasons why it is important to conserve water:

- Saving water saves energy and some of the costs associated with both of these necessities of life;
- Saving water reduces the cost of energy required to pump water and the need to construct costly new wells, pumping systems and water towers; and
- Saving water lessens the strain on the water system during a dry spell or drought, helping to avoid severe water use restrictions so that essential firefighting needs are met.

You can play a role in conserving water by becoming conscious of the amount of water your household is using, and by looking for ways to use less whenever you can. It is not hard to conserve water. Conservation tips include:

- Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.
- Turn off the tap when brushing your teeth or shaving.
- Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year.
- One of the largest water wasters in the home is a leaking toilet tank. Check to make sure that the float in the tank is keeping the water 1 inch below the top of the overflow tube. Also check to see that the flapper valve at the bottom of the tank is seating correctly. A leak past the flapper valve is difficult to hear. The best way to test for a leak is to place food coloring in the tank and see if the color shows in the toilet bowl after waiting an hour or so.

PIPE LEAK SIZE	GALLONS LOST	
	PER DAY	PER MONTH
•	360	11,160
●	3,096	95,976
●	8,424	261,144
●	14,952	463,512

Besides reducing your water bill, in many cases we can delay or eliminate capital expenditures for expanding water supplies by stopping your losses.