2017 Annual Water Quality Report

PWSID
NJ0719001

A Message About your Drinking Water

The South Orange Village Water Utility places a strong emphasis on educating customers on the quality of our drinking water.

The test results in this report contain detailed information about the source and quality of your drinking water. We have prepared this report using the data from water quality testing conducted January through December 2017.

Our customers are our top priority, and we are committed to providing you with the highest quality drinking water and service possible now and in the years to come.

Our Commitment to Quality

We proudly present our annual water quality report which details the results of water quality testing completed from January to December 2017. The purpose of this report is to raise your understanding of drinking water and awareness of the need to protect our drinking water sources. Included in this report are details about where your water comes from, what it contains, and how our water quality results compare to federal and state standards.

We are committed to delivering the best quality drinking water. To that end, we remain vigilant in meeting the challenges of source water protection, water conservation, and community education while continuing to serve the needs of all our water users.

We want you to be informed about your drinking water. For more information about this report, or for any questions relating to your drinking water, please contact our Customer Call Center toll-free at 1-855-722-7072.

Share This Report:

Landlords, businesses, schools, hospitals and other groups are encouraged to share this important water quality information with water users at their location who are not customers. Additional copies of this report are available by contacting customer service at 1-855-722-7072.

This report contains important information about your drinking water. If you do not understand it, please have someone translate it for you.

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.

આ અહેવાલ માં તમારા પીવાના પાણી વિષે
અગત્ય ની જાણકારી આપવા માં આવી છે.
એનો અનુવાદ કરો અથવા જેને સમજવા પડતી
હોય તેની સાથે વાત કરો

이 보고서에는 귀하께서 사용하고 계시는 식수에 관한 정보가 들어있습니다.
만약에 이해를 못하시면 누군가에게 번역을 의뢰하십시오.

本报告与您的饮用水有关。
如果您不了解其内容，应请别人为您翻译解说。

How to Contact Us

Thank you… for allowing us to provide your family with quality drinking water this year. We ask that all our customers protect our water sources. Please call our Customer Call Center toll-free at 1-855-722-7072 if you have questions:

South Orange Village Water Utility
Box 371852
Pittsburgh, PA
15250-7852
http://www.southorange.org/572/Water

Water Information Sources

New Jersey Department of Environmental Protection Bureau of Safe Drinking Water:
(609) 292-5550 • www.state.nj.us/dep

US Environmental Protection Agency: www.epa.gov/safewater

Safe Drinking Water Hotline: 1-800-426-4791

American Water Works Association: www.awwa.org

Centers for Disease Control and Prevention: www.cdc.gov

About Your Municipally Owned Water Utility

South Orange Village Water Utility is a municipally owned water utility who owns all mains, tanks, reservoir and ground water source that comprise the system. The municipality has contracted the operation and maintenance of the water system to American Water under a 10-year operations and maintenance contract. Separately, the municipality has contracted with New Jersey American Water for supply of bulk water, under a 30-year sales agreement. Both agreements commenced January 1, 2017. Your local municipal government establishes billing rates, system policy, executes capital improvement projects, guides the strategic direction of the water system and is the beneficiary of all customer revenue collected.

About Your Contracted System Operator and Bulk Water Supplier, American Water

American Water is the largest and most geographically diverse publicly traded U.S. water and wastewater utility company. Marking its 131th anniversary this year, the company employs 6,700 dedicated professionals who provide regulated and market-based drinking water, wastewater and other related services to an estimated 15 million people in 47 states and Ontario, Canada. More information can be found by visiting www.amwater.com.

Where Your Water Comes From

Water for the South Orange Village System is purchased from New Jersey American Water – Short Hills System with one ground water source, municipally owned Well 17, located within South Orange Village.

Short Hills System - PWSID # NJ0712001

New Jersey American Water - Short Hills System is a public community water system consisting of 25 wells, 4 surface water intakes, 12 purchased ground water sources, and 3 purchased surface water sources.
Source water comes from the following aquifers and/or surface water bodies: Passaic River, Brunswick aquifer.

The NJ American Water – Short Hills System purchases water from the following water systems: ORANGE, VERONA, SE MORRIS COUNTY UTILITIES AUTHORITY, PVWC/MORRIS COUNTY CONNECTION, NEWARK, MONTCLAIR, MADISON, LIVINGSTON WATER, NEW JERSEY AMERICAN RARITAN SYSTEM, CHATHAM W.D., and PASSAIC VALLEY WATER COMM.

Protecting Your Water Source

What is S.W.A.P.

SWAP (Source Water Assessment Program) is a program of the New Jersey Department of Environmental Protection (NJDEP) to study existing and potential threats to the quality of public drinking water sources throughout the state. Sources are rated depending upon their contaminant susceptibility. For susceptibility ratings of purchased water, refer to the specific water system's source water assessment report. Source Water Assessment Reports and Summaries are available for public water systems at www.state.nj.us/dep/swap/ or by contacting the NJDEP's Bureau of Safe Drinking Water at (609) 292-5550.

Susceptibility Ratings for New Jersey American Water — Short Hills System

The table below illustrates the susceptibility ratings for the seven contaminant categories (and radon) for each source in the system. The table provides the number of wells and intakes that rated high (H), medium (M), or low (L) for each contaminant category. For susceptibility ratings of purchased water, refer to the specific water system's source water assessment report. Source Water Assessment Reports and Summaries are available for public water systems at www.state.nj.us/dep/swap/ or by contacting the NJDEP's Bureau of Safe Drinking Water at (609) 292-5550.

Short Hills System	Pathogens			Nutrients			Pesticides			Volatile Organic Compounds			Inorganics			Radionuclides			Radon			Disinfection By-Product Precursors		
Sources	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L
Wells – 25	1	21	3	13	12			6	19	17		8	10	11	4		25		25			3	22	
GUDI – 0																								
Surface Water Intakes - 4	4			2	2			2	2		4		4					4			4	4		

Susceptibility Ratings for New Jersey American Water — South Orange Village System

The table below illustrates the susceptibility ratings for the seven contaminant categories (and radon) for each source in the system. The table provides the number of wells and intakes that rated high (H), medium (M), or low (L) for each contaminant category. For susceptibility ratings of purchased water, refer to the specific water system's source water assessment report. Source Water Assessment Reports and Summaries are available for public water systems at www.state.nj.us/dep/swap/ or by contacting the NJDEP's Bureau of Safe Drinking Water at (609) 292-5550.

South Orange Village	Pathogens			Nutrients			Pesticides			Volatile Organic Compounds			Inorganics			Radionuclides			Radon			Disinfection By-Product Precursors		
Sources	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L
Wells – 1			1		1				1	1			1			1			1				1	
GUDI – 0																								
Surface Water Intakes																								

Source water protection is a long-term dedication to clean and safe drinking water. It is more cost effective to prevent contamination than to address contamination after the fact. Every member of the community has an important role in source water protection. NJDEP recommends controlling activities and development around drinking water sources whether it is through land acquisition, conservation easements or hazardous waste collection programs. We will continue to keep you informed of SWAP's progress and developments.

Public Participation – How You Can Get Involved

Customers can participate in decisions that may affect the quality of water by:

- Reading the information provided in bill inserts and special mailings
- Contacting your municipality directly with policy questions or to discuss issues
- Participating in municipal governing body and working group meetings
- Responding to survey requests

Remember to be Water Smart

Wise water use is an important first step in protecting our water supply. Such measures not only save the supply of our source water, but can also save you money by reducing your water bill.

Wise water tips you can use inside your home include:
- Fix leaking faucets, pipes, toilets, etc.
- Replace old fixtures; install water-saving devices in faucets, toilets and appliances.
- Wash only full loads of laundry.
- Do not use the toilet for trash disposal.
- Take shorter showers.
- Do not let the water run while shaving or brushing teeth.
- Soak dishes before washing.
- Run the dishwasher only when full.

You can be water smart outdoors as well:
- Use mulch around plants and shrubs.
- Repair leaks in faucets and hoses.
- Use water-saving nozzles.

What's in the Source Water before We Treat It?

In general, the sources of drinking water (both tap 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 can pick up substances resulting from the presence of animals or from human activities.

Substances that may be present in source water include:
Microbiological Contaminants: such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations or wildlife.

Inorganic Contaminants: such as salts and metals which can be naturally occurring or may result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.

Pesticides and Herbicides: This may come from a variety of sources such as agriculture, urban storm water runoff and residential uses.

Organic Chemical Contaminants: including synthetic and volatile organic chemicals which are by-products of industrial processes and petroleum production, and may come from gas stations, urban storm water runoff and septic systems.

Radioactive Contaminants: this can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the EPA's Safe Drinking Water Hotline at 1-800-426-4791.

Do I Need to Take Special Precautions?

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that 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 at 1-800-426-4791.

Special Informational Statement for 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. South Orange Village Water Utility 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.

How Do I Read the Table of Detected Contaminants?

Starting with the **Contaminant**, read across from left to right. A **"No"** under **Violation** means the amount of the substance met government requirements. The column marked **MCLG, Maximum Contaminant Level Goal**, 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. The shaded column marked **MCL, Maximum Contaminant Level**, 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. The shaded column marked **Range** shows the highest and lowest test results for the year. The column marked **Maximum Detected Level** shows the highest test

results during the year. **Major Sources in Drinking Water** shows where this substance usually originates. Compare the Range values with the MCL column. To be in compliance, the Maximum Detected Level must be lower than the MCL standard.

Footnotes and the definitions below will help you interpret the data presented in the Table of Detected Contaminants.

90th Percentile Value: Of the samples taken, 90 percent of the values of the results were below the level indicated in the table.

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

Disinfection By-product: Disinfection by-products are formed when the disinfectants (usually chlorine) used to kill pathogens reacts with dissolved organic material (for example leaves) present in surface water

LRAA (Locational Running Annual Average): The average is calculated for each monitoring location.

MRDL (Maximum Residual Disinfectant Level): The highest level of disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG (Maximum Residual Disinfectant Level Goal): The level of 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.

NA: not applicable

Nephelometric Turbidity Units (NTU): Measurement of the clarity, or turbidity, of the water.

None Detected (ND): Laboratory analysis indicates that the constituent is not present.

Parts per Billion (ppb): Corresponds to one part substance in one billion parts of water.

Parts per Million (ppm): Corresponds to one part substance in one million parts of water.

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

Water Quality Facts

The data presented in the Table of Detected Contaminants is the same data collected to comply with U.S. Environmental Protection Agency and New Jersey state monitoring and testing requirements. To assure high quality water, individual water samples are taken each year for chemical, physical and microbiological tests. Tests are completed on water taken at the source, from the distribution system after treatment and, for lead and copper monitoring, from the customer's tap. Testing can pinpoint a potential problem so that preventive action may be taken. The Safe Drinking Water Act regulations allow monitoring waivers to reduce or eliminate the monitoring requirements for asbestos, volatile organic chemicals, and synthetic organic chemicals.

Vulnerable Populations Statement

Some people may be more vulnerable to contaminants 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 about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial pathogens are available from the Safe Drinking Water Hotline (1-800-426-4791).

South Orange Village Water System – Table of Detected Contaminants – 2017

Regulated Substances

Contaminant	Unit	MCL	MCLG	Range Detected	Highest Detected Level	Compliance Achieved	Typical Source
Disinfectant By-Products – Stage 2 Data							
Total Trihalomethanes (TTHM)	ppb	80	NA	16.2 – 58.6	24.0 [1,2]	YES	By-product of drinking water disinfection
Five Haloacetic Acids (HAA5)	ppb	60	NA	6.2 – 19.3	9.5 [1]	YES	By-product of drinking water disinfection
Disinfectants							
Chlorine	ppm	MRDL = 4	MRDLG = 4	0.60 – 1.00	1.7 [3]	YES	Water additive used to control microbes
Inorganic Contaminants							
Nitrate [4]	ppm	10	10	0.31 – 0.53	0.53	YES	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Turbidity and Treatment By-Products Precursor Removal							
Total Organic Carbon	%	TT = % Removal or removal ratio	NA	Percent (%) Removal 46.2 – 59.2 (35 – 45 required)	Removal Ratio 1.27 (RAA) 1.09 – 1.64	YES	Naturally present in the environment
Turbidity	NTU	TT = 1 NTU	NA	0.02 – 0.26	0.26	YES	Soil runoff
	%	TT = % of samples <0.3 NTU	NA	NA	100%	YES	Soil runoff
Radiological Contaminants							
Alpha emitters [6]	pCi/L	15	0	ND – 8.32	8.32	YES	Erosion of natural deposits
Combined Radium [6]	pCi/L	5	0	ND – 1.15	1.15	YES	Erosion of natural deposits

Tap water samples were collected for lead and copper analysis from homes within South Orange Village Round 1 – January 1, 2017 to June 30, 2017							
Lead and Copper	Unit	Action Level	MCLG	Amount Detected (90th Percentile)	Compliance Achieved	Number of Samples Above Action Level	Typical Source
Lead	ppb	15	0	3	YES	0	Corrosion of household plumbing systems; Erosion of natural deposits
Copper	ppm	1.3	1.3	0.313	YES	0	Corrosion of household plumbing systems; Erosion of natural deposits

Tap water samples were collected for lead and copper analysis from homes within South Orange Village Round 2 – July 1, 2017 to December 31, 2017							
Lead and Copper	Unit	Action Level	MCLG	Amount Detected (90th Percentile)	Compliance Achieved	Number of Samples Above Action Level	Typical Source
Lead	ppb	15	0	3	YES	2	Corrosion of household plumbing systems; Erosion of natural deposits
Copper	ppm	1.3	1.3	0.340	YES	0	Corrosion of household plumbing systems; Erosion of natural deposits

[1] This level represents the highest locational running annual average calculated from the data collected.
[2] Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.
[3] Highest Detected Level is the maximum monthly average detected at the point of entry. Range indicates the average values detected in the distribution system.
[4] Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask for advice from your health care provider.

Secondary Contaminants - Short Hills System

Contaminant	Unit	RUL	Range Detected	Highest Detected Level	Typical Source
Sodium [2]	ppm	50	41.1 – 59.8	60	Erosion of natural deposits

[1] For healthy individuals, the Sodium intake from water is not important, because a much greater intake of Sodium takes place from salt in the diet. However, Sodium levels above the recommended upper limit may be a concern to individuals on a Sodium-restricted diet.

Cryptosporidium

Cryptosporidium is a protozoan found in surface water throughout the U.S. Although filtration removes *Cryptosporidium*, the most commonly used filtration methods cannot guarantee 100 percent removal. The monitoring indicates the presence of these organisms in the source water. The samples were collected from the source before the water was processed through water treatment plants. Ingestion of *Cryptosporidium* may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal-cramps. Most healthy individuals can overcome the disease within a few weeks. However, people with severely weakened immune systems have a risk of developing a life-threatening illness. We encourage such people to consult their doctors regarding appropriate precautions to take to avoid infection. *Cryptosporidium* must be ingested to cause disease. It can also be spread through means other than drinking water. For additional information regarding cryptosporidiosis and how it may impact those with weakened immune systems, please contact your personal health care provider.

The South Orange Village Water Utility's bulk water provider, NJ American Water, began a second round of source water monitoring in accordance with the requirements of EPA's Long Term 2 Enhanced Surface Water Treatment Rule. The data collected in 2017 is presented in the Source Water Monitoring table below. At this time based on the results of our *Cryptosporidium* monitoring in 2016 and 2017, there is no indication that additional treatment will be required by the U.S. EPA regulation.

Source Water Monitoring

Contaminant	Canoe Brook TP source water	Typical Source
Cryptosporidium, Oocysts/L	0 – 0.182	Microbial pathogens found in surface waters throughout the United States.
Giardia, Cysts/L	ND	

Unregulated Contaminant Monitoring Rule (UCMR)

The South Orange Village Water Utility participated in the Unregulated Contaminant Monitoring Rule. Unregulated contaminants are those for which the EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist the EPA and DEP in determining the occurrence of unregulated contaminants in drinking water and whether regulation is warranted. While South Orange Village did not receive water from NJ American Water in 2015, the results are included below for your reference.

Unregulated Substances – NJ American Water - Canoe Brook Water Treatment Plant Effluent

Unregulated Contaminants Monitoring (2015) NJ [1] NJ American Water – Canoe Brook Plant Effluent				
Parameter	**Units**	**Highest Level Detected**	**Range Detected**	**Typical Source**
Chlorate	ppb	180	99 - 180	Agricultural defoliant or desiccant; disinfection byproduct; and used in production of chlorine dioxide
Hexavalent Chromium (Chromium-6)	ppb	0.33	0.24 – 0.33	Naturally-occurring element; used in making steel and other alloys; chromium -3 or -6 forms are used for chrome plating, dyes and pigments, leather tanning, and wood preservation
Perfluorooctanoic Acid (PFOA)	ppb	ND	ND	Perfluorinated aliphatic carboxylic acid; used for its emulsifier and surfactant properties in or as fluoropolymers (such as Teflon), fire - fighting foams, cleaners, cosmetics, greases and
Strontium	ppb	239	76 - 239	Naturally-occurring element; historically commercial use of strontium has been in the faceplate glass of cathode-ray tube televisions to block x-ray emissions
Vanadium	ppb	1.9	1.4 – 1.9	Naturally-occurring elemental metal; used as vanadium pentoxide which is a chemical intermediate and a catalyst
1,4-Dioxane	ppb	ND	ND	Cyclic aliphatic ether; used as a solvent or solvent stabilizer in manufacture and processing of paper, cotton, textile products, automotive coolant, cosmetics and shampoos

[1] The state of New Jersey allows us to monitor for some substances less than once per year because the concentrations of these substances do not change frequently. Some of our data, though representative, is more than one year old.

Unregulated Substances – South Orange Village Water Utility ground water source

Unregulated Contaminants Monitoring (2015) NJ [1, 2] South Orange Village Ground Water Effluent				
Parameter	**Units**	**Highest Level Detecte**	**Range Detected**	**Typical Source**
Chlorate	ppb	96	88 - 96	Agricultural defoliant or desiccant; disinfection byproduct; and used in production of chlorine dioxide
Hexavalent Chromium (Chromium-6)	ppb	0.12	0.10 – 0.12	Naturally-occurring element; used in making steel and other alloys; chromium -3 or -6 forms are used for chrome plating, dyes and pigments, leather tanning, and wood preservation
Perfluorooctanoic Acid (PFOA)	ppb	0.058	0.011 – 0.058	Perfluorinated aliphatic carboxylic acid; used for its emulsifier and surfactant properties in or as fluoropolymers (such as Teflon), fire - fighting foams, cleaners, cosmetics, greases
Strontium	ppb	3000	2400 - 3000	Naturally-occurring element; historically commercial use of strontium has been in the faceplate glass of cathode-ray tube televisions to block x-ray emissions
Vanadium	ppb	3.1	2.6 – 3.1	Naturally-occurring elemental metal; used as vanadium pentoxide which is a chemical intermediate and a catalyst
1,4-Dioxane	ppb	ND	ND	Cyclic aliphatic ether; used as a solvent or solvent stabilizer in manufacture and processing of paper, cotton, textile products, automotive coolant, cosmetics and shampoos

[1] The state of New Jersey allows us to monitor for some substances less than once per year because the concentrations of these substances do not change frequently. Some of our data, though representative, is more than one year old.
[2] The above results were collected from a well water source within the South Orange Village water system, sampled by the East Orange Water Commission (EOWC) in 2015.

NJDEP Water Conservation Message…Because Remember, Every Drop Counts