



2018 Annual

Water Quality Report

Short Hills System
PWSID NJ 0712001



A Message from the New Jersey American Water President

To Our Valued Customers:

New Jersey American Water is proud to be your local water service provider, and I am pleased to share some very good news about the quality of your drinking water. As you read through our Annual Water Quality Report, you will see that we continue to supply water that meets or surpasses all state and federal water quality standards. Additionally, the price you pay for this high-quality water service remains a great value as one of the lowest household utility bills.

New Jersey American Water has the expertise of more than 800 experienced professionals, the right technologies in use, and a demonstrated commitment to replacing and upgrading our infrastructure so that you can be assured that your drinking water is of the highest standards.

Our team of experts continuously monitors, maintains and upgrades our facilities to ensure that they operate efficiently and meet all regulatory standards. This requires investing millions of dollars each year in our infrastructure, including treatment plants, tanks, pump stations, pipes, fire hydrants and metering equipment. We do this because we care about our customers as much as we care about water. Statewide, we invested more than \$330 million in 2018 alone to improve our water treatment and pipeline systems.

We have an exceptional track record when it comes to water quality and drinking water regulatory compliance. In fact, we take water quality so seriously that five of our surface water treatment plants have been nationally recognized with Directors Awards from the U.S. EPA's Partnership for Safe Water program for surpassing federal and state drinking water standards.

Please take the time to review this report. It provides details about the source and quality of your drinking water, using the data from water quality testing conducted for your local system between January and December 2018. If you have any questions, I encourage you to visit the Water Quality page of our website at www.newjerseyamwater.com, or call our Customer Service Center at 800-272-1325.

Sincerely,

Cheryl Norton
President, New Jersey American Water

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 મારી પીવાની પાણી વિષે
અગત્ય ની જાણકારી આપવા માં આવી છે.
અને અનુભવ કરો અથવા જેને સમજાવવા પડતી
ભાષા 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。

Our Commitment to Quality

Once again, we proudly present our annual water quality report, which details the results of water quality testing completed from January to December 2018. 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 pleased to tell you that we had no Safe Drinking Water Act violations again in 2018. 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 24-hour Customer Call Center toll-free at 1-800-272-1325.

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 1-800-272-1325.

About New Jersey American Water

New Jersey American Water, a subsidiary of American Water (NYSE: AWK), is the largest investor-owned water utility in the state, providing high-quality and reliable water and/or wastewater services to approximately 2.7 million people. For more information, visit www.newjerseyamwater.com and follow New Jersey American Water on [Twitter](#) and [Facebook](#).

About American Water

With a history dating back to 1886, American Water is the largest and most geographically diverse U.S. publicly traded water and wastewater utility company. The company employs more than 7,100 dedicated professionals who provide regulated and market-based drinking water, wastewater and other related services to more than 14 million people in 46 states and Ontario, Canada. American Water provides safe, clean, affordable and reliable water services to our customers to make sure we keep their lives flowing. For more information, visit amwater.com and follow American Water on [Twitter](#), [Facebook](#) and [LinkedIn](#).

How to Contact Us

Thank you... for allowing us to continue 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 1-800-272-1325 if you have questions:

New Jersey American Water

1 Water Street

Camden, NJ 08102

www.amwater.com

Water Information Sources

New Jersey Department of Environmental Protection,

Bureau of Safe Drinking Water:

(609) 292-5550 • www.state.nj.us/dep

New Jersey Board of Public Utilities:

(800) 624-0241 • 44 S. Clinton Ave, Trenton, NJ 08625

Division of Customer Relations:

1-800-624-0241 • www.state.nj.us/bpu

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

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 the company directly with questions or to discuss issues
- Responding to company requests for participation in focus groups and roundtables
- Attending open houses conducted by the company
- Responding to survey requests

Where Your Water Comes From

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.

This 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., 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.

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.

Contaminant Categories

The DEP considered all surface water highly susceptible to pathogens, therefore all intakes received a high rating for the pathogen category. For the purpose of the Source Water Assessment Program, radionuclides are more of a concern for ground water than surface water. As a result, surface water intakes' susceptibility to radionuclides was not determined and a low rating was assigned.

If a system is rated highly susceptible for a contaminant category, it does not mean a customer is or will be consuming contaminated drinking water. The rating reflects the potential for contamination of source water, not the existence of contamination. Public water systems are required to monitor for regulated contaminants and to install treatment if any contaminants are detected at frequencies and concentrations above allowable levels.

As a result of the assessments, the DEP may customize (change existing) monitoring schedules based on the susceptibility ratings.

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 plays an important role in source water protection. The 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.

Susceptibility Chart Definitions

- **Pathogens:** Disease-causing organisms such as bacteria and viruses. Common sources are animal and human fecal wastes.
- **Nutrients:** Compounds, minerals and elements that aid growth, that are both naturally occurring and man-made. Examples include nitrogen and phosphorus.
- **Volatile Organic Compounds:** Man-made chemicals used as solvents, degreasers, and gasoline components. Examples include benzene, methyl tertiary butyl ether (MTBE), and vinyl chloride.
- **Pesticides:** Man-made chemicals used to control pests, weeds and fungus. Common sources include land application and manufacturing centers of pesticides. Examples include herbicides such as atrazine, and insecticides such as chlordane.
- **Inorganics:** Mineral-based compounds that are both naturally occurring and man-made. Examples include arsenic, asbestos, copper, lead, and nitrate.
- **Radionuclides:** Radioactive substances that are both naturally occurring and man-made. Examples include radium and uranium.
- **Radon:** Colorless, odorless, cancer-causing gas that occurs naturally in the environment. For more information go to <http://www.nj.gov/dep/rpp/radon/index.htm> or call (800) 648-0394.
- **Disinfection By-product Precursors:** A common source is naturally occurring organic matter in surface water. Disinfection by-products are formed when the disinfectants (usually chlorine) used to kill pathogens react with dissolved organic material (for example leaves) present in surface water.

Short Hills System	Sources	Pathogens			Nutrients			Pesticides			Volatile Organic Compounds			Inorganics			Radionuclides			Radon			Disinfection By-Product Precursors		
		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		

Cryptosporidium

Cryptosporidium is a protozoan found in surface water throughout the United States. Although filtration removes *Cryptosporidium*, the most commonly used filtration methods cannot guarantee 100 percent removal. 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 our customer service center at 1-800-272-1325 or speak with your personal health care provider.

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. New Jersey American Water 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>. We take steps to reduce the potential for lead to leach from your pipes into the water. This is accomplished by adding a corrosion inhibitor to the water leaving our treatment facilities. There are steps that you can take to reduce your household's exposure to lead in drinking water. For more information, please review our Lead and Drinking Water Fact Sheet at <https://amwater.com/njaw/water-quality/lead-and-drinking-water>.

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 stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.

Pesticides and Herbicides: which may come from a variety of sources such as agriculture, urban stormwater 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 also come from gas stations, urban stormwater runoff and septic systems.

Radioactive Contaminants: which 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.

What is Radon?

Radon is a radioactive gas that occurs naturally in some groundwater. It may pose a health risk when the gas is released from water into air, as occurs while showering, washing dishes and performing other household activities. Radon can move up through the ground and into a home through cracks in the foundation. Compared to radon entering the home through soil, radon entering through tap water is, in most cases, a small source of radon in indoor air. Inhalation of radon gas has been linked to lung cancer, however the effects of radon ingested in drinking water are not yet clear. If you are concerned about radon in your home, tests are available to determine the total exposure level.

During 2015 testing, our water showed radon levels between ND to 2090 pCi/L in the Short Hills System. The EPA is developing regulations to reduce radon in drinking water. Radon in the air is inexpensive to test and easy to correct. For additional information, call the EPA's Radon Hotline at 1-800-SOS-RADON.

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.

How Do I Read the Table of Detected Contaminants?

First, determine which table you should read by finding your town in the "Towns Served by this System". Starting with the **Contaminant**, read across from left to right. A "**Yes**" under **Compliance Achieved** 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 column marked **Range Detected** shows the highest and lowest test results for the year. The column marked **Highest Level Detected** shows the highest test results during the year. **Typical Source** shows where this substance usually originates. Compare the Range Detected values with the MCL column. To be in compliance, the Highest Level Detected must be lower than the MCL standard. Those substances not listed in the table were not found in the treated water supply.

As you can see from the table, our system had no MCL violations again this year. The footnotes and the definitions below will help you interpret the data presented in the Table of Detected Contaminants.

Table Definitions

90th Percentile Value: Of the samples taken, 90% 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.

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

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

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

pCi/L (Picocuries per Liter): A measure of the radioactivity in water.

RUL: Recommended upper limit.

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

Water Quality Statement

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. We have learned through our testing that some contaminants have been detected, however, these contaminants were detected well below the levels set by the EPA to protect public health. To assure high quality water, individual water samples are taken each year for chemical, physical and microbiological tests. Tests are done 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 preventative 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. Our system has received monitoring waivers for synthetic organic chemicals and asbestos.



**There's a lot more
to your water bill
than just water.**

When you turn on the tap, it's easy to see what your water bill buys. What's not as easy to see is what it takes to bring that water to your home. The miles of pipeline hidden below the ground. The facilities that draw water from the source. The plant where it's treated and tested. The scientists, engineers, and maintenance crews working around the clock to make sure that water is always there when you need it. Your water payments are helping to build a better tomorrow by supporting needed improvements that will keep water flowing for all of us—today and well into the future. All for less than a penny a gallon.

 **AT LESS THAN
A PENNY
PER GALLON
WATER IS A
GREAT VALUE.**

**WE CARE ABOUT WATER. IT'S WHAT WE DO.
FIND OUT WHY YOU SHOULD, TOO, at amwater.com.**

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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).

Short Hills System – PWS ID# NJ0712001

Table of Detected Contaminants - 2018

Towns Served By This System: Bedminster | Berkeley Heights | Bernards (Basking Ridge) | Bernardsville | Chatham Borough | Chatham Township | Chester Borough | East Hanover | Far Hills | Florham Park | Harding | Hillside | Irvington | Livingston | Long Hill Township (Gillette, Millington, Stirling) | Madison | Maplewood | Mendham Borough | Mendham Township | Millburn (Short Hills) | Morris | New Providence | Roseland | South Orange | Springfield | Summit | Union | Verona | Warren | Watchung | West Orange

Those substances not listed in this table were not found in the treated water supply.

Regulated Substances

Contaminant	Unit	MCL	MCLG	Range Detected	Highest Level Detected	Compliance Achieved	Typical Source
Disinfectant By-Products – Stage 2 Data							
Total Trihalomethanes (TTHM) ^{1,2}							
A1-2	ppb	80	NA	9 – 25	19	YES	By-product of drinking water disinfection
A2-5	ppb	80	NA	19 – 38	30	YES	By-product of drinking water disinfection
CWC34	ppb	80	NA	9 – 26	16	YES	By-product of drinking water disinfection
CWC71	ppb	80	NA	33 – 70	54	YES	By-product of drinking water disinfection
SHDBP2-A	ppb	80	NA	21 – 40	30	YES	By-product of drinking water disinfection
SHDBP2-G	ppb	80	NA	39 – 92	62	YES	By-product of drinking water disinfection
SHDBP2-M	ppb	80	NA	19 – 44	33	YES	By-product of drinking water disinfection
SHDBP2-N	ppb	80	NA	20 – 47	33	YES	By-product of drinking water disinfection
Five Haloacetic Acids (HAA5) ¹							
A1-2	ppb	60	NA	4 – 12	12	YES	By-product of drinking water disinfection
A2-5	ppb	60	NA	5 - 17	11	YES	By-product of drinking water disinfection
CWC34	ppb	60	NA	6 – 13	8	YES	By-product of drinking water disinfection
CWC71	ppb	60	NA	24 – 37	29	YES	By-product of drinking water disinfection
SHDBP2-A	ppb	60	NA	8 – 23	15	YES	By-product of drinking water disinfection
SHDBP2-G	ppb	60	NA	10 - 34	23	YES	By-product of drinking water disinfection
SHDBP2-M	ppb	60	NA	10 - 24	16	YES	By-product of drinking water disinfection
SHDBP2-N	ppb	60	NA	9 - 20	15	YES	By-product of drinking water disinfection
Disinfectants							
Chlorine	ppm	MRDL = 4	MRDLG = 4	ND – 2.9	1.7 ³	YES	Water additive used to control microbes
Chloramine	ppm	MRDL = 4	MRDLG = 4	0.9 – 1.1	1.1 ³	YES	Water additive used to control microbes
Inorganic Contaminants							
Arsenic	ppb	5	0	ND - 1	1	YES	Erosion of natural deposits/ Runoff from orchards; Runoff from glass and electronics
Barium	ppm	2	2	ND - 0.2	0.2	YES	Discharge of drilling wastes; discharge from metal refineries; Erosion of natural deposits

Fluoride ⁴	ppm	4	4	ND - 0.7	0.7	YES	Erosion of natural deposits; Water additive which promotes strong teeth
Nickel	ppb	NA	NA	ND - 2	2	NA	Erosion of natural deposits
Nitrate ⁵	ppm	10	10	ND - 7.2	7.2	YES	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Radiological Contaminants							
Alpha emitters ⁶	pCi/L	15	0	ND - 13	13	YES	Erosion of natural deposits
Combined Radium (226/228)	pCi/L	5	0	ND - 3	3	YES	Erosion of natural deposits

Turbidity and Treatment By-Products Precursor Removal – Water Treatment Plant Results

Contaminant	MCLG	NJAW Canoe Brook- WTP NJ0712001	NJAW Raritan Millstone- WTP NJ002004	PVWC Little Falls WTP NJ1605001	SMCMUA WTP NJ1424001	NJDWSC Wanaque WTP NJ1613001	Compliance Achieved	Typical Source
		Highest Result (Range of results)	Highest Result (Range of results)	Highest Result (Range of results)	Highest Result (Range of results)	Highest Result (Range of results)		
Turbidity, NTU ⁷	TT = 1 NTU	0.29 (0.03 - 0.29)	0.23 (0.01 - 0.23)	0.36 (0.021 - 0.36)	0.30 (0.01 - 0.30)	0.41 (0.06 average)	YES	Soil runoff
	TT = % of samples <0.3 NTU	100%	100%	99.97%	100%	99.9%	YES	Soil runoff
Total Organic Carbon, %	TT = % Removal or removal ratio	Percent (%) Removal	Percent (%) Removal	Percent (%) Removal	Percent (%) Removal	Removal Ratio	YES	Naturally present in the environment
		41 - 64 (35 - 45 required)	29 - 83 (35 - 45 required)	49 - 80 (35 - 50 required)	NA	1.1 (RAA) 1.0 - 1.3		

Tap water samples were collected for lead and copper analysis from homes within the service area June 1, 2018 to September 30, 2018

Lead and Copper	Unit	Action Level ⁸	MCLG	Number of Samples	Amount Detected (90th Percentile) ⁹	Compliance Achieved	Number of Samples Above Action Level	Typical Source
Lead	ppb	15	0	58	3	YES	2	Corrosion of household plumbing systems; Erosion of natural deposits
Copper	ppm	1.3	1.3	58	0.345	YES	0	Corrosion of household plumbing systems; Erosion of natural deposits

¹ The highest level detected result represents the highest locational running annual average (LRAA) calculated quarterly from individual sites.

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 quarterly average detected in the distribution system. Range indicates the average values detected in the distribution system.

⁴ Fluoride is added to the water at therapeutic levels (0.6-1.0 ppm) in certain areas. Please call us for more information about fluoride levels in your area.

⁵ 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.

⁶ Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer.

⁷ Turbidity is a measure of the cloudiness of the water. Over 99 percent of the turbidity readings were below the treatment technique requirement of 0.3 ntu. We monitor it because it is a good indicator of the effectiveness of our filtration system.

⁸ Action Level: The concentration of a contaminant which, if exceeded, triggers a treatment technique or other requirement, which a water system must follow.

⁹ 90 percent of the samples tested below the indicated value.

Secondary Contaminants – Short Hills System

Contaminant	Unit	RUL	Range Detected	Highest Level Detected	Typical Source
Aluminum	ppm	0.20	ND – 0.06	0.06	Erosion of natural deposits
Chloride	ppm	250	49 - 295	295	Erosion of natural deposits
Iron	ppm	0.3	ND – 0.22	0.22	Naturally present in the environment
Manganese	ppm	0.05	ND – 0.04	0.04	Erosion of natural deposits
Sodium ¹	ppm	50	38 – 162	162	Erosion of natural deposits; Roadway salt runoff

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.

Unregulated Contaminant Monitoring Rule (UCMR4)

New Jersey American Water 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. Our results are available upon request. For testing conducted within our service area, the following substances were found.

Unregulated Contaminant Monitoring Rule 4 (UCMR4 2018)					
Metals – Assessment Monitoring 1					
Contaminant	Unit	NJDEP Guidance Level	Highest Level Detected	Range	Typical Source
Manganese	ppb	NA	4	ND – 4	Naturally present in the environment; used in steel production, fertilizer, batteries, and fireworks; drinking water and wastewater treatment chemical
Quinoline	ppb	NA	0.06	ND – 0.06	Used as a pharmaceutical (anti-malarial) and flavoring agent; produced as a chemical intermediate; component of coal
Brominated Haloacetic Acid (HAA) Group – Assessment Monitoring 2					
Contaminant	Unit	NJDEP Guidance Level	Highest Level Detected	Range	Typical Source
Bromide	ppb	NA	24	20 - 24	By-product of drinking water disinfection
Bromochloroacetic acid	ppb	NA	6.4	ND – 6.4	By-product of drinking water disinfection
Bromodichloroacetic acid	ppb	NA	6.8	ND – 6.8	By-product of drinking water disinfection
Chlorodibromoacetic acid	ppb	NA	2.9	ND – 2.9	By-product of drinking water disinfection
Dibromoacetic acid	ppb	NA	2.5	ND – 2.5	By-product of drinking water disinfection
Dichloroacetic acid	ppb	NA	20	ND – 20	By-product of drinking water disinfection
Monobromoacetic acid	ppb	NA	0.4	ND – 0.4	By-product of drinking water disinfection
Monochloroacetic acid	ppb	NA	NA	ND	By-product of drinking water disinfection
Tribromoacetic acid	ppb	NA	NA	ND	By-product of drinking water disinfection
Trichloroacetic acid	ppb	NA	38	ND - 38	By-product of drinking water disinfection

Additional Unregulated Substances

Parameter	Years Sampled	Units	Highest Level	Range Detected	Typical Source
Chlorate	2013, 2015, 2018	ppb	475	ND - 475	Agricultural defoliant or desiccant; disinfection byproduct; and used in production of chlorine dioxide
Hexavalent Chromium (Chromium-6)	2013, 2014	ppb	1.71	ND – 1.71	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
Cobalt	2013, 2014	ppb	2.3	ND – 2.3	Use or Environmental Source for Cobalt: Naturally-occurring element found in the earth's crust and at low concentrations in seawater, and in some surface and ground water; cobaltous chloride was formerly used in medicine as a germicide
Molybdenum	2013, 2014	ppb	1.8	ND – 1.8	Naturally-occurring elemental found in ores and present in plants, animals and bacteria; commonly used form molybdenum trioxide used as a chemical reagent
Perfluorobutanesulfonic acid (PFBS)	2017, 2018	ppb	0.007	ND - 0.007	Manmade chemical; used in products to make them stain, grease, heat and water resistant
Perfluoroheptanoic acid (PFHpA)	2017, 2018	ppb	0.011	0.002 – 0.011	Manmade chemical; used in products to make them stain, grease, heat and water resistant

Perfluorohexanesulfonic acid (PFHxS)	2017, 2018	ppb	0.006	0.002 - 0.006	Manmade chemical; used in products to make them stain, grease, heat and water resistant
Perfluoronanoic acid (PFNA)	2017, 2018	ppb	0.002	ND - 0.002	Manmade chemical; used in products to make them stain, grease, heat and water resistant
Perfluorooctanesulfonic acid (PFOS)	2017, 2018	ppb	0.014	0.005 - 0.014	Manmade chemical; used in products to make them stain, grease, heat and water resistant
Perfluorooctanoic Acid (PFOA)	2013, 2015, 2017, 2018	ppb	0.021	ND - 0.021	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 lubricants, paints, polishes, adhesives and photographic films
Strontium	2013, 2015	ppb	690	76 - 690	Naturally-occurring element; historically commercial use of strontium has been in the faceplate glass of cathode-ray tube televisions to block x-ray emissions
1,4-Dioxane	2013-2018	ppb	0.7	ND - 0.7	Cyclic aliphatic ether; used as a solvent or solvent stabilizer in manufacture and processing of paper, cotton, textile products, automotive coolant, cosmetics and shampoos
Vanadium	2013, 2015	ppb	22	ND - 22	Naturally-occurring elemental metal; used as vanadium pentoxide which is a chemical intermediate and a catalyst

6 SIMPLE STEPS TO SAVE WATER...BECAUSE REMEMBER, EVERY DROP COUNTS

Due to much lower than normal rainfall, New Jersey's water supply is dwindling. You can do your part to help avoid a drought emergency by taking these six simple steps to save water.



Don't let faucets run when brushing your teeth, shaving, or washing the dishes. Just turning off the water while you brush can save 200 gallons a month.

1



Run washing machines and dishwashers only when they are full, or select the properly sized wash cycle for the current laundry load.

2



Install water-saving showerheads and faucet aerators in the bathroom and kitchen (available at most home improvement stores and some supermarkets.)

3



Fix any leaking faucets –one drop every 2 seconds from a leaky faucet wastes 2 gallons of water every day – that's water – and money – down the drain.

4



Don't wash your car at home – a car wash uses much less water and recycles it, too.

5



With the end of the growing season, be sure to turn off automatic lawn and garden sprinkler systems.

6



For more detailed information on how you can conserve water in and outside your home, visit njdrought.org.

Remember...every drop counts.