



2017 Annual

Water Quality Report

Liberty System
PWS ID: NJ2004001



A Message About your Drinking Water

The Liberty Water Company 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

Once again 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 1-855-722-7066.

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 1-855-722-7066.

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. અને અગત્ય કસોટી કરવા વેને સમજાવી પડતી ક્ષેપ લેવા સારું બાત કરો

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。

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

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 1-855-722-7066 if you have questions:

Liberty Water Company
Served by New Jersey American Water
131 Woodcrest Road
Cherry Hill, NJ 08034
www.amwater.com/njw

Water Information Sources

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



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New Jersey Board of Public Utilities:
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

About Your Water Company

Liberty Water Company is served by New Jersey American Water under a long term contract. New Jersey American Water, a wholly owned 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.

About American Water

American Water is the largest and most geographically diverse publicly traded U.S. water and wastewater utility company. Marking its 130th 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 Liberty System is purchased from Raritan Water System and Newark Water Dept.

Source water for the Raritan System is surface water that comes from the Millstone River, Raritan River and the Delaware & Raritan Canal. The Newark Water Company's surface water sources are from reservoirs located in the Pequannock and Wanaque watersheds.

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.

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 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

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.



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- 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 also 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.

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. 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.

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>.

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?

Starting with the **Contaminant**, read across from left to right. A **"No"** under **Violation** means the amount of the substance met government requirements. **Major Sources in Drinking Water** shows where this substance usually originates. Compare the Range values with the MCL column. The shaded column marked **Range** shows the highest and lowest test results for the year. To be in compliance, the Maximum Detected Level must be lower than the MCL standard. The column marked **Maximum Detected Level** shows the highest test results during the year. 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 allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology. 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.

N/A: 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.



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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)

Liberty Water Company System – Table of Detected Contaminants – 2017

Contaminants	Unit	MCL	MCLG	Maximum Detected Level	Range	Major Sources in Drinking Water	Violation
Disinfectants							
Chloramines ¹	ppm	MRDL = 4.0	MRDLG = 4	0.9	0.5 – 1.1	Water additive used to control microbes	No
Inorganic Contaminants							
Nitrate ²	ppm	10	10	2.0	0.5 – 2.0	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits	No
Turbidity							
Turbidity ³	NTU	TT = 1 NTU	NA	0.3	NA	Soil runoff	No
		TT = percent of samples < 0.3 NTU	NA	99.9%			No
Treatment By-Products Precursor Removal							
Total Organic Carbon	ppm	TT	NA	3.4	1.1 – 3.4	Naturally present in the environment	No
Disinfectant Byproducts							
Bromate	ppb	10	0	1.1	0 – 1.1	By-product of drinking water disinfection	No



Disinfectant Byproducts - Stage 2

Contaminant	Unit	MCL	MCLG	LRAA ⁴	Range	Major Sources in Drinking Water	Violation
Total Trihalomethanes (TTHM)							
A	ppb	80	NA	43	28 - 61	By-product of drinking water disinfection	No
B	ppb	80	NA	66	42 - 87	By-product of drinking water disinfection	No
SMS-1	ppb	80	NA	29	21 - 57	By-product of drinking water disinfection	No
SMS-2	ppb	80	NA	66	50 - 85	By-product of drinking water disinfection	No
SMS-4	ppb	80	NA	41	31 - 50	By-product of drinking water disinfection	No
SMS-5	ppb	80	NA	69	41 - 95	By-product of drinking water disinfection	No
SMS-13	ppb	80	NA	37	20 - 48	By-product of drinking water disinfection	No
SMS-16	ppb	80	NA	57	42 - 77	By-product of drinking water disinfection	No
Total Haloacetic Acids (HAA5)							
A	ppb	60	NA	28	10 - 49	By-product of drinking water disinfection	No
B	ppb	60	NA	40	26 - 49	By-product of drinking water disinfection	No
SMS-1	ppb	60	NA	40	17 - 68	By-product of drinking water disinfection	No
SMS-2	ppb	60	NA	37	27 - 43	By-product of drinking water disinfection	No
SMS-4	ppb	60	NA	31	23 - 47	By-product of drinking water disinfection	No
SMS-5	ppb	60	NA	26	2 - 38	By-product of drinking water disinfection	No
SMS-13	ppb	60	NA	32	18 - 46	By-product of drinking water disinfection	No
SMS-16	ppb	60	NA	35	25 - 44	By-product of drinking water disinfection	No

Tap water samples were collected for lead and copper analysis from homes within the service area Round 1 – January 1, 2017 to June 30, 2017

Lead and Copper	Unit	Action Level ⁵	MCLG	Number of Samples	Amount Detected (90th Percentile) ⁶	Compliance Achieved	Number of Samples Above Action Level	Typical Source
Lead	ppb	15	0	104	2	YES	0	Corrosion of household plumbing systems; Erosion of natural deposits
Copper	ppm	1.3	1.3	104	0.251	YES	0	Corrosion of household plumbing systems; Erosion of natural deposits

Tap water samples were collected for lead and copper analysis from homes within the service area Round 2 – July 1, 2017 to December 31, 2017

Lead and Copper	Unit	Action Level ⁵	MCLG	Number of Samples	Amount Detected (90th Percentile) ⁶	Compliance Achieved	Number of Samples Above Action Level	Typical Source
Lead	ppb	15	0	103	3	YES	0	Corrosion of household plumbing systems; Erosion of natural deposits
Copper	ppm	1.3	1.3	103	0.304	YES	0	Corrosion of household plumbing systems; Erosion of natural deposits



¹ Highest level detected is the maximum quarterly average. Range indicates the monthly averages detected.

² 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.

³ Turbidity is a measure of the cloudiness of the water. Over 95% 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.

⁴ Compliance is based on Locational Running Annual Averages (LRAA) of quarterly samples of individual sites.

⁵ Action Level: The concentration of a contaminant which, if exceeded, triggers a treatment technique or other requirement, which a water system must follow.

⁶ Ninety percent of the samples tested below the indicated value. Data represents the highest 90th percentile of samples collected in a two six-month monitoring period.

Secondary Contaminants

Contaminant	Unit	Recommended Upper Limit	Range Detected	Highest Detected Level	Typical Source
Aluminum	ppm	0.2	ND - 0.02	0.02	Erosion of natural deposits
Sodium ¹	ppm	50	31 -36	36	Erosion of natural deposits

¹For 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 of concern to individuals on a sodium restricted diet.

Unregulated Contaminant Monitoring Rule					
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 in determining the occurrence of unregulated contaminants in drinking water and whether regulation is warranted. For testing conducted in the Raritan System, the following substances were found.					
Contaminant	Unit	NJDEP Guidance Level	Highest Level Detected	Range Detected	Use or Environmental Source
Chlorate	ppb	N/A	270	46 - 270	Agricultural defoliant or desiccant; disinfection byproduct; and used in production of chlorine dioxide.
Hexavalent Chromium	ppb	NA	0.05	0.05 - 0.23	Major sources of Hexavalent Chromium (Chromium-6) in drinking water are discharges from steel and pulp mills, and erosion of natural deposits of chromium-3. Hexavalent Chromium is not currently regulated as an individual substance. NJ American Water voluntarily performed this monitoring based on recommendations from USEPA. For more information on Hexavalent Chromium (Chromium-6), please visit our web site.
Chromium (total)	ppb	100	3	ND - 3	See Hexavalent Chromium (chromium-6) for use or source information; though the amount measured when analyzing for "total chromium" is the sum of chromium in all of its valence states, the MCL for EPA's current total chromium regulation was determined based up the health effects of Hexavalent Chromium.
Vanadium	ppb	N/A	0.4	ND - 0.4	Naturally occurring elemental metal; used as vanadium pentoxide which is a chemical intermediate and a catalyst.
Strontium	ppb	N/A	159.2	77 - 159.2	Naturally occurring element; commercial use of strontium has been in the faceplate glass of cathode-ray tube televisions to block x-ray emissions.

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. 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

The U.S. EPA issued a rule in January 2006 that requires systems with higher *Cryptosporidium* levels in their source water to provide additional treatment. To comply with this rule, New Jersey American Water once again began conducting 24 consecutive months of monitoring for *Cryptosporidium* in our raw water sources beginning 2015 through 2017. We detected the organism in



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the raw source water during this testing. **These samples were collected from the source before the water was processed through our treatment plant.** In accordance with the requirements of EPA's Long Term 2 Enhanced Surface Water Treatment Rule, an additional treatment upgrade is in process at the Raritan- Millstone Plant for removal/inactivation of Cryptosporidium. Results from the same monitoring period for our Canal Rd Plant raw water source and Newark Water Co. indicate that no additional treatment is necessary. For additional information regarding cryptosporidiosis and how it may impact those with weakened immune systems, please contact your personal health care provider. The data collected is presented in the Source Water Monitoring table below.

Contaminant	RM Plant Source	CR Plant Source	Typical Source
Cryptosporidium, Oocysts/L	ND - 0.90	ND - 0.455	Microbial pathogens found in surface waters throughout the United States.
Giardia, Cysts/L	ND - 0.783	ND - 0.727	

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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NJDEP Water Conservation Message...Because Remember, Every Drop Counts



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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.



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