



2014 Annual

Water Quality Report

Delaware System

PWS ID: NJ0327001



NEW JERSEY
AMERICAN WATER



A Message from the New Jersey American Water President

To Our Valued Customer:

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.

This is an exceptional value when you consider the facilities and technology needed to draw water from the source and treat it, along with miles and miles of pipeline hidden below the ground to bring water to your tap. What's more, our plant operators, water quality experts, engineers and maintenance crews work around the clock to make sure that quality water is always there when you need it.

Delivering reliable, high-quality water service also requires significant investment to maintain and upgrade aging facilities. In 2014 alone, we invested approximately \$238 million in system improvements across the state.

Because water is essential for public health, fire protection, economic development and overall quality of life, New Jersey American Water's employees are committed to ensuring that quality water keeps flowing not only today but well into the future. We hope you agree that your water service is worth every penny.

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 2014.

Thanks for allowing us to serve you.

Sincerely

William M. Varley
President, New Jersey American Water



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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.

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.

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.

આ અહેવાલ મો તમારા પીવાના પાણી વિષે
અગત્ય ની જાણકારી આપવા માં આવી છે.
એનો અનુવાદ કરો અથવા જેને સમજાવી પડતી
ભાષા લેવી અર્થે બાત કરો

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 2.6 million people.

About American Water

Founded in 1886, American Water is the largest publicly traded U.S. water and wastewater utility company. With headquarters in Voorhees, N.J., the company employs approximately 6,400 dedicated professionals who provide drinking water, wastewater and other related services to an estimated 15 million people in more than 45 states and parts of Canada. More information can be found by visiting 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:** (973) 648-2350
Two Gateway Center, Newark, NJ 07102
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

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



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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, 2014. 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.

How to Contact Us

Thank you... for allowing us to continue to provide you 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

131 Woodcrest Road, P.O. Box 5079, Cherry Hill, NJ 08034

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 — Delaware System

The table below illustrates the susceptibility ratings for 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.

Delaware	Source	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 - 71		6	65	18	4	49			71	22		49	20	45	6	20	42	9		18	53	6	65	
	GUID - 0																								
	Surface water intakes - 1	1			1				1			1		1					1			1			

Contaminant Categories

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, NJDEP 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 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.



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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, those 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.

Where Your Water Comes From

New Jersey American Water - Delaware is a public community water system consisting of 57 wells and 1 surface water intake. This system's source water comes from the Potomac-Raritan-Magothy aquifer system (upper, middle and lower), the Delaware River, the Mount Laurel-Wenonah aquifer and the Englishtown aquifer system. In addition, groundwater is purchased from Maple Shade Township Water Department.

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. Industrial processes and petroleum production, and may also come from gas stations, urban storm water runoff and septic systems.

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: 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

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



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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.

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. Testing is conducted on water collected at the source, during treatment, from the distribution system after treatment and, for lead and copper monitoring, from customers' taps. 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 systems have received monitoring waivers for synthetic organic chemicals and asbestos.

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 **Highest Level Detected** shows the highest test results during the year. The column marked **Range Detected** shows the highest and lowest test results for the year. **Typical Source** shows where this substance usually originates. Compare the 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. The footnotes and the definitions below will help you interpret the data presented in the Table of Detected Contaminants.

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 at 1-800-426-4791.

Delaware System – PWSID NJ 0327001 – 2014 Table of Detected Contaminants

Towns Served Audubon, Audubon Park, Barrington, Bellmawr in part, Beverly, Burlington Twp. in part, Camden (11th & 12th wards, Cramer Hill) | Cherry Hill in part, Cinnaminson, Clementon, Delanco Delran, Edgewater Park, Gibbsboro, Gloucester Twp. in part, Haddonfield in part, Haddon Heights, Haddon Twp. in part, Hi-Nella, Laurel Springs, Lawnside, Lindenwold, Magnolia, Maple Shade in part, Mt. Ephraim, Mt. Laurel in part, Oaklyn, Palmyra, Pennsauken in part, Riverside, Riverton, Runnemede, Somerdale, Stratford, Voorhees



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Regulated Substances

Parameter	Units	Compliance Achieved	MCLG	MCL	Highest Level Detected	Range Detected	Typical Source
Inorganics							
Barium	ppm	Yes	2	2	0.1	ND to 0.1	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chromium*	ppb	Yes	100	100	1.3	ND to 1.8	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
Nickel	ppb	Yes	NA ¹	NA ¹	8	ND to 8	Erosion of natural deposits
Nitrate	ppm	Yes	10	10	2.23	ND to 2.23	Runoff from fertilizer use; industrial or domestic wastewater discharges; erosion of natural deposits

Turbidity

Turbidity ²	NTU	Yes	NA	TT = 1 NTU	0.13	ND to 0.13	Soil runoff
	%	Yes	NA	TT = % of samples <0.3 NTU	100%	NA	Soil runoff

Treatment Byproducts Precursor Removal

Total Organic Carbon (TOC)	%	Yes	NA	TT ≥35% Removal	44% ³	44% to 66%	Naturally present in the environment.
Ratio of Actual / Required TOC Removal	Ratio	Yes	NA	TT: Running Annual Average ≥ 1.0	1.6	1.25 to 2.01	Naturally present in the environment.

Disinfectants

Chlorine	ppm	Yes	MRDLG = 4	MRDL = 4	0.50 ⁴	ND to 1.8	Water additive used to control microbes
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Treatment Byproducts

Five Haloacetic Acids [HAA ₅]- (Stage 2)	ppb	Yes	NA	60	17 ⁵	ND to 23	By-product of drinking water disinfection
Total Trihalomethanes [TTHM]- (Stage 2)	ppb	Yes	NA	80	35 ⁵	3.9 to 40	By-product of drinking water disinfection
Bromate	ppb	Yes	0	10	7	ND to 7	By-product of drinking water disinfection

Radiologicals

Alpha Emitters	pCi/L	Yes	0	15	6.7	ND to 6.7	Erosion of natural deposits
Combined Radium (226/228)	pCi/L	Yes	0	5	2.19 ⁵	ND to 2.91	Erosion of natural deposits

Lead and Copper Monitoring Program - Tap water samples were collected from 50 homes in our service area

Contaminant	Units	Compliance Achieved	MCLG	Action Level	90th Percentile	Homes Above Action Level	Typical Source
Copper (2013) ⁶	ppm	Yes	1.3	1.3	0.3	0	Corrosion of household plumbing systems
Lead (2013) ⁶	ppb	Yes	0	15	2	2	Corrosion of household plumbing systems

Secondaries	Units	Typical Source	RUL	Highest Level Detected	Range Detected	
Iron	ppm	Naturally Occurring	0.3 / 0.6	0.7	ND to 0.7	The recommended upper limit for iron is based on unpleasant taste of the water and staining of laundry. Iron is an essential nutrient, but some people who drink water with iron levels well above the recommended upper limit could develop deposits of iron in a number of organs of the body

Footnotes

- ¹ Nickel monitoring is required. Currently there is no established MCL or MCLG.
- ² 100% of the turbidity readings were below the treatment technique requirement of 0.3 NTU. Turbidity is a measure of the cloudiness of the water and an indicator of water quality. High turbidity can hinder the effectiveness of disinfectants.
- ³ Data represents the lowest removal of Total Organic Carbon (TOC)
- ⁴ Data represents the highest quarterly running annual average
- ⁵ Data represents the highest locational quarterly running annual average
- ⁶ The State of New Jersey allows us to monitor for certain contaminants less than once a year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data, though representative, are more than one year old.



Unregulated Contaminants Monitoring Rule (UCMR3)

During 2013 - 2014, the Delaware System participated in the third phase of the Unregulated Contaminant Monitoring Rule (UCMR3). Unregulated contaminants are those for which the EPA has not established drinking water standards. Monitoring assists the EPA in determining the occurrence of these compounds and whether or not regulation is warranted. Our system conducted Assessment Monitoring (List 1) and Screening Surveys (List 2). Detections are summarized in the following table, along with typical sources. For general information on UCMR3, visit <http://water.epa.gov/lawsregs/rulesregs/sdwa/ucmr/ucmr3> or contact EPA's Safe Drinking Water Hotline at 800-426-4791.

Unregulated Contaminants Monitoring* (UCMR3) 2013 - 2014				
Parameter	Units	Highest Locational Average	Range Detected	Typical Source
1,1-Dichloroethane	ppb	0.085	ND to 0.09	Halogenated alkane; used as a solvent
1,2,3-Trichloropropane *	ppb	0.035 *	ND to 0.04 *	Halogenated alkane; used as an ingredient in paint, varnish remover, solvents and degreasing agents
* 1,2,3-Trichloropropane was detected in purchased water previously used to supply a limited number of customers. This purchased supply was discontinued in 2015. 1,2,3-Trichloropropane was not detected in any of New Jersey American Water's sources.				
1,4-Dioxane	ppb	0.34	ND to 0.39	Cyclic aliphatic ether; used as a solvent or solvent stabilizer in manufacture and processing of paper, cotton, textile products, automotive coolant, cosmetics and shampoos
Bromochloromethane	ppb	0.09	ND to 0.12	Used as a fire-extinguishing fluid, an explosive suppressant, and as a solvent in the manufacturing of pesticides
Chlorate	ppb	305	ND to 400	Agricultural defoliant or desiccant; disinfection byproduct; and used in production of chloride dioxide
Chromium (VI)	ppb	1.3	ND to 1.3	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	ppb	4.2	ND to 7.2	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	ppb	1.5	ND to 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
Strontium	ppb	1317	74 to 1390	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	2	ND to 3.5	Naturally-occurring elemental metal; used as vanadium pentoxide which is a chemical intermediate and a catalyst

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.

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

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

ND (Not 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

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



Lead in Drinking Water

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>.

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 EPA's Radon Hotline at 1-800-SOS-RADON.

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. The United States Environmental Protection Agency (USEPA) issued a rule in January 2006 that requires systems with higher *Cryptosporidium* levels in their source water to provide additional treatment. In anticipation of this upcoming rule, New Jersey American Water monitored for *Cryptosporidium* at its surface water intakes in 2005 - 2007. Sample results do not show a need to provide additional treatment.

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. Researchers with American Water have developed a new, more accurate test for *Cryptosporidium* in water. For additional information regarding cryptosporidiosis and how it may impact those with weakened immune systems, please speak with your personal health care provider.

Partnership for Safe Water

The Delaware River Regional Water Treatment Plant participates in the Partnership for Safe Water, receiving the Director's Award recognition in 2014, 2013, 2012 and 2011. In 2010, Delaware System facilities were awarded the prestigious "Ten-Year Director's Award" under the Partnership for Safe Water program administered by the U.S. EPA, New Jersey Department of Environmental Protection, and other water related organizations. The award honors water utilities for achieving operational excellence, by voluntarily optimizing their treatment facility operations and adopting more stringent performance goals than those required by federal and state drinking water standards. We are proud to report that we continue to maintain those quality standards.



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