



# 2016 Annual Water Quality Report

New River District  
PWS ID: WV3301046



This report contains important information about your drinking water. We encourage you to read and share this annual Water Quality Report that can be viewed electronically at [www.amwater.com/ccr/newriver.pdf](http://www.amwater.com/ccr/newriver.pdf)

## A Message from the West Virginia American Water President

To Our Valued Customer:

On behalf of all West Virginia American Water employees, 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 state and federal water quality standards. And did you know that the price you pay for this high-quality water service is less than two cents per gallon? This is an exceptional value when you consider the science, expertise, equipment and technology that go into bringing water from the source, treating it, and delivering clean water to your tap.



The important public service we provide also requires significant investment to maintain and upgrade aging infrastructure. **In 2016 alone, we invested \$62 million in the following system improvements across the Mountain State:**

- **Treatment and Water Quality:** Our treatment plants received upgrades to control systems, online instruments and chemical feed systems. We continued multi-year projects to fully automate our Weston and New River water treatment plants and installed an air stripper in our Huntington system to reduce the potential for harmful disinfection byproducts.
- **Pipes:** We invested \$12 million to replace more than 23 miles of aging pipe installed primarily between the early 1900s and the 1940s. Pipeline improvement projects help improve water quality, pressure, fire protection and service reliability.
- **Pump Stations:** We replaced, rebuilt and updated numerous booster stations to improve reliability and safety.
- **Fire Hydrants:** Reliable fire protection is incredibly important to the safety of the communities we serve,

and we replaced 68 fire hydrants to continue this public service.

- **Storage Tanks:** We constructed new tanks at Drawdy Mountain in Boone County and Mount Olive in Kanawha County to reinforce these areas of our system. We also invested \$1.5 million to rehabilitate and paint five water storage tanks in Bluefield, Clendenin, Huntington, Pratt and Sharples to extend the life of the tanks and bring them up to current industry standards.
- **Source Water Protection:** We installed new laboratory equipment at our Kanawha Valley treatment plant to analyze source water for fuels and installed a new online sensor at our Huntington treatment plant for the early detection of algae. We also continued to develop the WaterSuite platform for managing source water monitoring data and information about potential sources of contamination in the areas upstream of our intakes.

Water is essential for public health, fire protection, economic development and our overall quality of life. This is a responsibility that West Virginia American Water employees take very seriously to ensure that quality water keeps flowing not only today but well into the future. Please take the time to review this report with its details about the source and quality of your drinking water. **We hope you agree that your water service is worth every penny.**

Proud to be your local water service provider,

Brian Bruce  
President, West Virginia American Water



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## Commonly Asked Questions

### Is there lead in my water?

Although we regularly test lead levels in your drinking water, it is possible that lead and/or copper levels at your home are higher because of materials used in your plumbing. If present, elevated levels of lead can potentially cause health problems, especially for pregnant women and young children. If you are concerned about possible elevated levels, run your faucet for 30 seconds to 2 minutes before using your water; use cold water for cooking, drinking, or making baby formula; use low lead containing faucets; and when replacing or working on pipes, use lead-free solder. West Virginia American Water remains in full compliance with all of the requirements dealing with lead in drinking water. More information is available from the National Lead Information Center (800) 424-5323, Safe Drinking Water Hotline (800) 426-4791 or at <http://www.epa.gov/safewater/lead>.

### How hard is my water?

Hardness is a measure of the concentration of two minerals, calcium and magnesium, naturally present in water. Hardness levels range from 50 to 108 ppm, or 3 to 6 grains per gallon of water.

### How much sodium is in my water?

The sodium level is approximately 5.8 ppm (or mg/L).

### What is the pH (acidity) range of my water?

Water in the distribution system averages 7.0 pH units. A pH of 7.0 is considered neutral, neither acidic nor alkaline.

### Is there fluoride in my water?

West Virginia American Water adds fluoride to a level of near 0.6 ppm to assist in the prevention of dental cavities.

### Where Does My Water Come From?

West Virginia American Water and its customers in the New River Regional system are fortunate because we enjoy an abundant water supply from the New River which is a surface water source. The current treatment plant provided roughly 947 million gallons of clean drinking water in 2016. To learn more about our watershed on the internet, go to the U.S. EPA's Search Your Watershed at [www.epa.gov/owow/](http://www.epa.gov/owow/).

### How Is My Water Treated And Purified?

Current treatment processes include coagulation and settling followed by filtration and disinfection. An inhibitor is added for corrosion control and fluoridation is provided for reduction of dental cavities. Throughout the process, dedicated plant operations and water quality staff continuously monitor and control these plant processes to assure you, our customers, a superior quality water.

## Partnership for Safe Drinking Water Program



West Virginia American Water is a member of the national Partnership for Safe Water (an association of water utilities and government) which is committed to providing drinking water quality that is far better than what is required by federal regulation. This facility has completed its self-assessment and, in 2012, received the prestigious "5 Year Director's Award", presented by the administrator of the US Environmental Protection Agency. Partnership goals have been maintained each year since the award was granted.

## Information on the Internet

The U.S. EPA Office of Water and the Centers for Disease Control and Prevention websites provide a substantial amount of information on many issues relating to water resources, water conservation and public health. You may visit these sites or West Virginia American Water's website at the web addresses below:

**West Virginia American Water**  
[www.westvirginiaamwater.com](http://www.westvirginiaamwater.com)

**West Virginia Bureau for Public Health**  
[www.wvdhhr.org/oehs](http://www.wvdhhr.org/oehs)

**United States Environmental Protection Agency**  
[www.epa.gov/safewater](http://www.epa.gov/safewater)

**Safe Drinking Water Hotline:** (800) 426-4791

**Centers for Disease Control and Prevention**  
[www.cdc.gov](http://www.cdc.gov)

## Additional Regulatory Requirements

*Cryptosporidium* is a microbial pathogen found in surface water throughout the US. Although *Cryptosporidium* can be removed through commonly-used filtration methods, US EPA issued a new rule in January 2006 that requires systems with higher *Cryptosporidium* levels in their source water to provide additional treatment. In compliance with this rule, WVAW's New River Treatment Plant monitored for *Cryptosporidium* in its raw water in 2005-2007. A second two-year study began in September 2016. No *Cryptosporidium* was detected in the samples collected in 2016. Based on these preliminary results of our *Cryptosporidium* monitoring, no additional treatment will be required under the new US EPA regulation.

## Share This Report

Landlords, businesses, schools, hospitals and other groups are encouraged to share this important information with water users at their location who are not billed customers of West Virginia American Water and therefore do not receive this report directly.



## Source Water Protection Plan

A Source Water Assessment describes the source of drinking water supply for a public water system and potential contaminant sources that could affect that source. The West Virginia Bureau for Public Health developed a Source Water Assessment for the New River System under the 1996 amendments to the Federal Safe Drinking Water Act (SDWA). West Virginia American Water has since updated the Source Water Assessment as part of our source water protection planning efforts in accordance with State regulatory requirements established in 2014 under Senate Bill 373. Information about the New River System and Source Water Assessment is included in the approved Source Water Protection Plan, which is available online at [www.westvirginiaamwater.com](http://www.westvirginiaamwater.com) under the Water Quality Source Water Protection menu. A copy can also be obtained by contacting our Source Water Protection Manager at (800) 685-8660.

## Special Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (800) 426-4791 or by calling our Customer Service Center at (800) 685-8660.

## Substances Expected to be in Drinking Water

To ensure that tap water is of high quality, U.S. Environmental Protection Agency prescribes regulations limiting the amount of certain substances 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. West Virginia American Water's advanced water treatment processes are designed to reduce any such substances to levels well below any health concern.

The source of drinking water (both tap water and bottled water) includes 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, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

## Contaminants that may be present in source water include:

**Microbial 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 U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

## Special Monitoring

In addition to the regulated contaminants normally monitored by our facility, in 2014 the New River system also sampled for a series of unregulated contaminants in accordance with the Unregulated Contaminant Monitoring Rule (UCMR3). Unregulated contaminants are those that don't yet have a drinking water standard set by USEPA. The purpose of monitoring for these contaminants is to help the EPA decide whether the contaminants should have a standard. Specific UCMR3 results are available at West Virginia American Water, 300 Bachman Road, Fayetteville, WV 25840 or may be requested by calling (800) 685-8660.

Chromium, a metallic element, is found in rocks, soil, plants, and animals. Chromium is also used in steel making, metal plating, leather tanning, paints, dyes and wood preservatives. The most common forms of chromium in the environment are trivalent (chromium-3), hexavalent (chromium-6) and the metal form, chromium-0. EPA currently regulates chromium-6 as part of the total chromium drinking water standard. New health effects information has become available since the original standard was set, and EPA is reviewing this information to determine whether there are new health risks that need to be addressed. While this review is underway, the EPA suggested that systems begin voluntary monitoring for chromium-6. Additional information can be found at <http://water.epa.gov/drink/info/chromium/index.cfm>. We began voluntary monitoring in your system in 2011. Detects of this element are listed in the data tables.



## Water Quality Statement

West Virginia 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 services to approximately 540,000 people.

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 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](http://www.amwater.com).

The staff and management of West Virginia American Water are pleased to report that the water provided to our New River customers during the past year met all the state and federal standards set for drinking water.



**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 about a penny a gallon.



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FIND OUT WHY YOU SHOULD, TOO, at [amwater.com](http://amwater.com).**

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## How to Read the Data Tables

For your information, we have compiled a list in the adjacent table showing what substances were detected in our drinking water during 2016. Although all of the substances listed are under the Maximum Contaminant Level (MCL) set by the U.S. EPA, we feel it is important that you know exactly what was detected and how much of the substance was present in the water. Please carefully review this report as it provides important information about drinking water and your health. The company remains committed to providing the highest quality water to our customers. For help with interpreting this table, see the "Table Definitions" section.

## Table Definitions and Abbreviations

- **Action Level:** The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow.
- **MCL (Maximum Contaminant Level):** 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.
- **MCLG (Maximum Contaminant Level Goal):** 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.
- **MRDL (Maximum Residual Disinfectant Level):** The highest level of disinfectant routinely allowed in drinking water. 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 water.
- **pCi/L (picocuries per liter):** Measurement of the natural rate of disintegration of radioactive contaminants in water (also beta particles).
- **ppm (parts per million):** One part substance per million parts water, or milligrams per liter.
- **ppb (parts per billion):** One part substance per billion parts water, or micrograms per liter.
- **ng/L (parts per trillion):** One part substance per trillion parts water, or nanograms per liter.
- **pH:** A measurement of acidity, 7.0 being neutral.
- **Secondary MCL (Secondary Maximum Contaminant Level):** Contaminants levels that may result in cosmetic or aesthetic effects in drinking water.
- **TT (Treatment Technique):** A required process intended to reduce the level of a contaminant in drinking water.



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## Water Quality Results

The state requires a water utility to monitor for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

### Regulated Substances (Measured on the Water Leaving the Treatment Facility Unless Noted)

Substance (units)	Year Sampled	MCL	MCLG	Amount Detected	Range Low-High	Compliance Achieved	Typical Source
Alpha emitters (pCi/L)	2011	15	0	0.5	NA	Yes	Radioactive decay of natural deposits
Chlorine (ppm) <sup>1</sup>	2016	MRDL=4	MRDLG=4	2.4	0.5 - 3.5	Yes	Water additive used to control microbes.
Combined radium (pCi/L)	2011	5	0	0.1	NA	Yes	Radioactive decay of natural deposits
Fluoride (ppm)	2016	4	4	0.6	0.5 - 0.9	Yes	Water additive which promotes strong teeth
Haloacetic Acids (HAA5s) (ppb) <sup>2</sup>	2016	60	0	26	14 - 53	Yes	By-product of drinking water chlorination
Nitrate (ppm)	2016	10	10	0.80	NA	Yes	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Total Trihalomethanes (TTHMs)(ppb) <sup>3</sup>	2016	80	0	44	22 - 113	Yes	By-product of drinking water chlorination
Total Organic Carbon (Removal Ratio) <sup>4</sup>	2016	TT	NA	1.5	1.2 - 1.9	Yes	Naturally decaying vegetation
Turbidity (NTU) <sup>5</sup>	2016	TT	NA	0.09	0.02 - 0.09	Yes	Soil runoff

### Unregulated Substances (Measured on the Water Leaving the Treatment Facility)

Substance (units)	Year Sampled	Secondary MCL	Average Results	Range Low-High	Typical Source
Aluminum (ppm)	2016	0.2	0.01	NA	Mineral that occurs naturally in the soil, constituent of coagulant used in treatment
Calcium (ppm)	2016	NA	16	NA	Mineral that occurs naturally in the soil
Chloride (ppm)	2016	250	13.8	NA	Mineral that occurs naturally in the soil, road salt, and water softeners
Magnesium (ppm)	2016	NA	6	NA	Mineral that occurs naturally in the soil
Sodium (ppm)	2016	NA	5.8	NA	Element that occurs naturally in water and soil; road salt; water softeners
Sulfate (ppm)	2016	250	10.1	NA	Mineral that occurs naturally in the soil
Zinc (ppm)	2016	5	0.12	0.02 - 0.35	Element that occurs naturally in the water; constituent of corrosion control additive

### Unregulated Substances (Measured on the Water Leaving the Treatment Facility and in the Distribution System) UCMR3

Substance (units)	Year Sampled	MCL/MCLG	SAMPLE LOCATION	Average Results	Range Low-High	Typical Source
Strontium(ppb)	2014	Not Regulated	Treatment Facility	74	NA	Naturally-occurring element ; historically, commercial use of strontium has been in the faceplate glass of cathode-ray tube televisions to block x-ray emissions.
			Distribution System	75	73.7 - 76.1	
Chromium 6 or Hexavalent Chromium (ppb) <sup>6</sup>	2014	Not Regulated	Treatment Facility	0.06	NA	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
			Distribution System	0.16	NA	
Vanadium (ppb)	2014	Not Regulated	Treatment Facility	ND	NA	Synthetic industrial chemical that is completely miscible in water
			Distribution System	0.3	NA	

<sup>1</sup> Amount detected based on a yearly running average of all chlorine results determined during bacteriological sample collection in the distribution system.

<sup>2</sup> Based on a yearly running average of 4 compliance sites in the distribution system.

<sup>3</sup> Based on a yearly running average of 4 compliance sites in the distribution system. 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 system, and may have an increased risk of getting cancer.

<sup>4</sup> The Treatment Technique (TT) is met if the TOC Removal Ratio (based on a four-quarter running annual average) is greater than or equal to 1.0.

<sup>5</sup> Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration. A minimum of **100%** of all samples taken to measure turbidity met the treatment technique requirement.

<sup>6</sup> The current federal drinking water standard for total chromium is 100 parts per billion (ppb) and includes all forms of chromium (e.g. chromium-3 and chromium-6). Chromium-6 is not currently regulated as an individual compound.



## Bacterial Results (from the Distribution System)

Substance (units)	Year Sampled	MCL	MCLG	Highest Percentage Detected	Compliance Achieved	Typical Source
Total coliform (% Positive samples)	2016	5 % Positive samples	0	0	Yes	Bacteria naturally present in the environment

## Tap Water Samples: Lead and Copper Results (Customer Tap Samples)

Substance (units)	Year Sampled	Action Level	MCLG	Amount Detected 90 <sup>th</sup> Percentile	Number of Samples	Homes Above Action Level	Compliance Achieved	Typical Source
Copper (ppm)	2015	1.3	1.3	0.039	30	0	Yes	Corrosion of household plumbing
Lead (ppb)	2015	15	0	3	30	0	Yes	Corrosion of household plumbing

## Additional Water Quality Parameters of Interest

This table shows average levels of additional water quality parameters which are often of interest to consumers. Values shown here are averages of operating data for 2016. Values may vary from day to day. There are no health-based limits for these substances in drinking water.

### Additional Constituents

Substance (Units)	Year Sampled	Average Amount Detected	Range Low-High
Alkalinity, Total (ppm)	2016	46	24 - 76
Hardness, Total (ppm)	2016	71	50 - 108
pH (standard units)	2016	7.0	6.6 - 7.5

