



2016 Annual Water Quality Report

Montgomery Heights District
PWS ID: WV3301017



We encourage you to read and share this annual Water Quality Report that can be viewed electronically at www.amwater.com/ccr/montgomeryheights.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?

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. West Virginia 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>.

How much sodium is in my water?

The sodium level is approximately 5.28 ppm (or mg/L).

Is there fluoride in my water?

Armstrong/Deepwater PSD does not feed fluoride in their drinking water.

Where Does My Water Come From?

The Montgomery Heights District of West Virginia American Water purchases water for its customers from Armstrong/Deepwater Public Service District (PWSID # WV3301004.) The source of supply for Armstrong/Deepwater PSD is the Kanawha River, which is a surface water source.

To learn more about our watershed on the internet, go to the **U.S. EPA's Search Your Watershed at www.epa.gov/surf2**

Source Water Assessment Completed

A Source Water Assessment Program (SWAP) is a result of the 1996 amendments to the Federal Safe Drinking Water Act (SDWA). Those amendments require all states to establish a program to assess the vulnerability of public water systems to potential contamination. The intake that supplies drinking water to the Armstrong PSD Treatment Facility has a high susceptibility to contamination, due to the sensitive nature of surface water supplies and the potential contaminant sources identified within the area. This does not mean that this intake will become contaminated; only that conditions are such that the surface water could be impacted by a potential

contaminant source. Future contamination may be avoided by implementing protective measures.

Armstrong/Deepwater PSD completed their Source Water Protection Plan on September 2015. For more detailed information on this report contact our Water Quality Manager at 800-685-8660 or the West Virginia Bureau for Public Health at 304-558-2981.

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.

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

West Virginia Bureau for Public Health
www.wvdhhr.org/oehs

United States Environmental Protection Agency
www.epa.gov/safewater

Safe Drinking Water Hotline: (800) 426-4791

Centers for Disease Control and Prevention
www.cdc.gov



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Special Monitoring:

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>.

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 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 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, 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 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.

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.

Unregulated substances are measured, but maximum allowed contaminant levels have not been established by the government.



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About American Water

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.

Water Quality Statement

The Montgomery Heights District received a Notice of Violation (NOV) from the WV Bureau for Public Health in the third quarter of 2016 for exceeding the maximum contaminant level for Haloacetic Acids (HAA5s), a byproduct of the disinfection process. The running annual average for HAA5s in the third quarter was 62.0 ppb, slightly above the maximum contaminant level of 60.0 ppb. A public notification was provided to our customers shortly after the NOV was received; describing the issue and indicating that it did not pose an immediate health risk. With the assistance of the WV Bureau for Public Health, treatment changes were made at Armstrong/Deepwater PSD and the water they provide to the West Virginia American Water Montgomery Heights District returned to regulatory compliance.

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

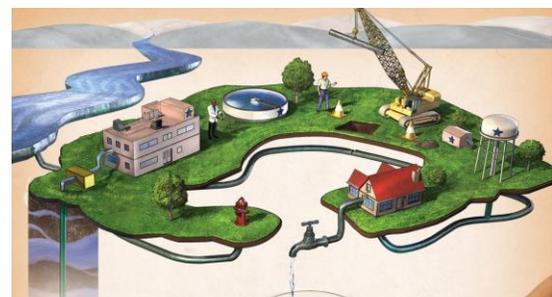
The state requires a water utility to monitor for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data is included, along with the year in which the sample was taken.

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.
- **µg/L:** Micrograms per liter or parts per billion.
- **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.



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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Water Quality Results

Regulated Substances (Measured on the Water Leaving the Armstrong/Deepwater Treatment Facility unless noted)

Substance (units)	Year Sampled	MCLG	MCL	Amount Detected	Range Low-High	Compliance Achieved	Typical Source
Alpha emitters (pCi/L)	2013	0	15	0.6 ± 0.5	NA	Yes	Radioactive decay of natural deposits
Barium (ppm)	2016	2	2	0.036	NA	Yes	Discharge of drilling waste; Discharge of from metal refineries; Erosion of natural deposits
Radium 228 (pCi/L)	2013	0	50	0.4 ± 0.8	NA	Yes	Radioactive decay of natural deposits and man-made sources
Nitrate (ppm)	2016	10	10	0.60	NA	Yes	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Total Organic Carbon (Removal Ratio) ¹	2016	NA	TT	1.0	0.68-1.24	Yes	Naturally decaying vegetation
Turbidity (NTU) ²	2016	NA	TT	0.2	< 0.30	No	Soil runoff

¹The 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.

²Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of filtration. A minimum of 100% of all samples taken to measure turbidity met the treatment technique requirement.

Regulated Substances for Montgomery Heights Distribution System (as monitored by West Virginia American Water)

Substance (units)	Year Sampled	MCLG	MCL	Amount Detected	Range Low - High	Compliance Achieved	Typical Source
Haloacetic Acids (HAAs) (ppb) ³	2016	0	60	47.2	28 - 54	Yes	By-product of drinking water chlorination
Total Trihalomethanes (TTHMs)(ppb) ⁴	2016	0	80	58.5	42.9 - 100	Yes	By-product of drinking water chlorination
Chlorine (ppm) ⁵	2016	4	4	1.5	0.4 - 3.7	Yes	Water additive to control microbes

³Based on a yearly running average. Some people who drink water containing Haloacetic Acids 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.

⁴Based on a yearly running average. 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.

⁵Data from samples collected in the Montgomery Heights System

Regulated Substances: Lead and Copper Results (water tap samples)

Substance (units)	Year Sampled	MCLG	Action Level	Amount Detected 90 th Percentile	Number of Samples	Homes Above Action Level	Compliance Achieved	Typical Source
Copper (ppm)	2014	1.3	1.3	0.21	11	0	Yes	Corrosion of household plumbing systems, erosion of natural deposits
Lead (ppb)	2014	0	15	2	11	0	Yes	Corrosion of household plumbing systems, erosion of natural deposits

Bacterial Results (from the Montgomery Heights Distribution System)

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

Unregulated Substances (Measured at the Water Leaving the Armstrong/Deepwater Treatment Facility)

Substance (units)	Year Sampled	Average Results	Secondary MCL	Range Low-High	Typical Source
Sodium (ppm)	2016	5.28	NA	NA	Element that occurs naturally in water and soil; road salt; water softeners
Sulfate (ppm)	2016	16.2	250	NA	Mineral that occurs naturally in the soil



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