



2018 Annual

Water Quality Report

Eastern Rockcastle
Rockcastle and Jackson County
PWSID: KY1020288



Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.

A Message from the Kentucky American Water President

To Our Valued Customer:

Kentucky American Water is proud to be your local water service provider, and I am pleased to share with you good news about the quality of your drinking water. Each year, we provide you with our Annual Water Quality Report that provides information about where your water comes from, the results of water testing, and information about what was found during that testing.



Quite a lot goes into bringing 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. Our treatment plant operators, water quality experts, engineers, and maintenance crews working around the clock to make sure that water is always there when you need it. Delivering high-quality, reliable water service to your tap around the clock also requires significant investment in our water infrastructure to upgrade aging facilities. In fact, we invest more than \$20 million in capital improvements each year. We are proud that we continue to supply water for **about a penny per gallon—an exceptional value.**

We do this because we believe we're delivering more than just water service. We deliver a key resource for public health, fire protection, economic development and overall quality of life. Our job is to ensure that quality water keeps flowing not only today, but well into the future. It's part of our commitment to you and the communities we serve.

We hope you agree that it's worth every penny and worth learning more about. 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 water system from January through December 2018.

We appreciate the opportunity to serve you.

Sincerely,

Nick O. Rowe
President, Kentucky American Water

About Kentucky American Water

Kentucky 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 half a million 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 7,100 dedicated professionals who provide regulated and market-based drinking water, wastewater and other related services to more than 13 million people in 46 states and Ontario, Canada. American Water provides safe, clean, affordable and reliable water services to our customers to make sure we keep their lives flowing. For more information, visit amwater.com and follow American Water on [Twitter](#), [Facebook](#) and [LinkedIn](#).

Your Drinking Water Supply

The sources of water for both drinking and bottled water include rivers, lakes, streams, ponds, reservoirs, springs, and wells. When water travels over the surface of the land or through the ground it dissolves naturally occurring minerals (possibly radioactive material) and picks up organic material from the presence of animals or humans. The following contaminants may be present in source water because of this process:

- **Microbial Contaminants**, such as viruses and bacteria from sewage, agricultural livestock operations or wildlife.
- **Inorganic Contaminants**, such as salts and metals that occur naturally or may result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.
- **Pesticides and Herbicides**, which 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 come from gas stations, urban storm water runoff and septic systems.
- **Radioactive Contaminants**, which occur naturally or result from oil and gas production and mining activities.

The drinking water supply for Kentucky American Water - Eastern Rockcastle is purchased water from three sources: (1) Jackson County Water Association (PWSID KY0550209) which treats surface water drawn from Beulah Lake; (2) City of Mt. Vernon (PWSID KY1020299), whose source is surface water drawn from Lake Linville; and (3) City of Livingston (PWSID KY1020253), who purchases water from Wood Creek Water District (PWSID KY0630477). Wood Creek Water District treats surface water from Wood Creek Lake.

Protecting Your Drinking Water Supply

Protecting drinking water at its source is an important part of the process to treat and deliver high quality water. It takes a community effort to protect our shared water resources. This includes utilities, businesses, residents, government agencies and organizations. Everyone who lives, works, and plays in the area has a role and stake in clean water supplies.

What Can You Do?

- Quality drinking water starts upstream. Everyone can help maintain and improve drinking water supplies:
- Eliminate excess use of fertilizers and pesticides, they contain hazardous chemicals that can reach our source water.
- Dispose of medicine, household chemicals, oils and paints at proper waste collection sites. Materials can pollute water ways if poured down the drain, flushed down the toilet, or dumped on the ground. Contact your county waste authority to find out how to properly dispose of these materials.
- Pick up after your pets.
- Check for leaks from automobiles and heating fuel tanks. Clean up any spills using an absorbent material like cat litter. Sweep up the material and put it in a sealed bag in the trash.
- Volunteer with watershed groups in your area.
- Remember that storm drains dump directly into local water bodies.

What Are We Doing?

Our vision is Clean Water for Life. Our priority is to provide reliable, quality drinking water for our customers. Protecting the source of our supply is an important part of that mission. We also work to understand and reduce potential risks to your drinking water supply.

According to Jackson County Water Association as part of their multi-barrier approach to protect your drinking water a source water protection plan has been implemented. Through the planning process a susceptibility analysis was conducted. This analysis evaluates lakes vulnerability to contamination. The original analysis indicated that the susceptibility was high; however land use for agriculture and logging activities has been reduced, therefore the susceptibility has been downgraded to low. Jackson County Water Association continues to observe activities and land use within the watershed. The final source water protection plan is available for inspection at the Jackson County Water Association office and at the Cumberland Valley Area Development District.

Mt. Vernon Water Works also completed an analysis of the susceptibility of their water supply to contamination and states: the susceptibility is generally moderate. Areas of concern are agricultural activity, septic systems, and transportation corridors. The complete Source Water Assessment is available for review at Mt. Vernon City Hall during normal business hours or at the Cumberland Valley Area Development District office.

Wood Creek Water District's susceptibility analysis of Wood Creek Lake indicates that that the overall likelihood of contamination is moderate. The contaminants of highest concern include pesticide & fertilizer application, fuel and chemical transportation along roadways that transect the Wood Creek watershed and domestic wastewater discharges. The presence of excessive nutrients (nitrogen & phosphate) from fertilizer and wastewater discharge is of particular concern. These chemicals not only degrade water quality, but are a nutrient source for algae. The impact of algal growth on drinking water can range from taste & odor problems to forming harmful algal blooms that produce neurotoxins. The Wood Creek Water District created a Wastewater Division in 2000 to mitigate nutrient loading by installing sanitary sewer lines. Activities and land use within the watershed is monitored for changes that can pose potential risks to your drinking water. Under certain circumstances contaminants could be released that would pose challenges to water treatment or even get into your drinking water. These activities, and how they are conducted, are of interest to the entire community because they potentially affect your health and the cost of treating your water. The complete Source Water Assessment Summary for Laurel County is available for inspection at the Cumberland Valley Area Development District office.

Other efforts underway to protect our shared water resources include:

- **Community Involvement:** We have a proactive public outreach program to help spread the word and get people involved. This includes school education, contests, and other community activities.
- **Environmental Grant Program:** Each year, we offer funding for innovative, community-based environmental projects that improve, restore or protect watersheds supplies in our local communities.
- **Pharmaceutical Collection:** We sponsor the biannual Drug Take Back event as well as a drop box location at Lexington Police Department lobby for residents to safely dispose of unwanted drugs for free. This helps keep pharmaceutical products from entering water supplies.
- **Backflow Prevention Program:** Ensures the proper installation and maintenance of thousands of backflow prevention devices throughout our system. These devices ensure hazards originating on customers' properties and from temporary connections do not impair or alter the quality of water in our distribution system. For more information about Kentucky American Water's backflow prevention program, please visit our web site at www.kentuckyamwater.com, or contact the Cross Connection department at KAW.cc@amwater.com or (859)268-6310.

You Can Be Involved in Matters That Affect Your Water

Kentucky American Water welcomes your comments and questions regarding your water. To provide feedback on decisions that may affect the quality of your water, for questions about your water or this report, or to obtain additional

copies of this report, please call our Customer Service Center at 800-678-6301 or 859-269-2386 ext 6 for Dorothy Rader, Manager, Water Quality and Environmental Compliance.

As a customer of a utility regulated by the Kentucky Public Service Commission, you have the opportunity to participate in periodic public hearings regarding Kentucky American Water. For more information about this process, please refer to the Public Service Commission website at <http://psc.ky.gov/> or call 800-772-4636.



A Proud Master Member of the Kentucky EXCEL Program

The Kentucky Department for Environmental Protection administers a voluntary program that is open to anyone who wishes to improve and protect Kentucky's environment beyond regulatory requirements. The Master membership is the highest of the four membership levels, requiring members to demonstrate comprehensive environmental management planning; undergo an independent, third-party assessment of compliance; and commit to complete and report on at least four voluntary projects that will benefit Kentucky's environment. Kentucky American Water is proud to participate in this program at the Master level, and was the first utility in the state to do so.

Substances Expected to Be in Drinking Water

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 Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

To ensure tap water is safe to drink, the U.S. Environmental Protection Agency (EPA) prescribes regulations limiting the amount of certain substances in water provided by public water systems. The U.S. Food and Drug Administration establishes limits for contaminants in bottled water that must provide the same protection for public health.

Special Health Information

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 contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

Information on the Internet

The U.S. Environmental Protection Agency, Centers for Disease Control and the Kentucky Division of Water web sites provide a substantial amount of information relating to water sources, water conservation, and public health. You may visit these sites at the addresses below:

U.S. Environmental Protection Agency
www.epa.gov/ground-water-and-drinking-water

Centers for Disease Control and Prevention
www.cdc.gov

Kentucky Division of Water
www.water.ky.gov

What is Cryptosporidium?

Cryptosporidium is a microbial pathogen found in surface water throughout the United States. Although filtration removes Cryptosporidium, the most commonly used filtration methods cannot guarantee 100 percent removal. Ingestion of Cryptosporidium may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. People with severely weakened immune systems have a risk of developing life-threatening illness. We encourage such

individuals to consult their doctor regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water.

Special Information about 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. Kentucky 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>.

Water Quality Testing

Kentucky American Water conducts extensive monitoring to ensure that your water meets all water quality standards. The following tables contain results of our monitoring. While most monitoring occurred in 2018, certain substances are monitored less than once per year because the levels do not change frequently. We believe it is important that you know exactly what is in your water and how much of the substance is present in the water.

How to Read This Table

Start by finding a **Substance**, and then read across to find the information about that substance. The **Year Sampled** is usually in 2018 or the prior year. **MCL** shows the highest level of substance (contaminant) allowed. **MCLG** is the goal level for that substance (this may be lower than what is allowed). **Highest Value** (results) represents the measured amount (less is better). **Range** tells the highest and lowest amounts measured. **Typical Source** tells where the substance usually originates.

Definitions of Terms Used in This Report

- **Action Level:** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
- **Level 1 Assessment:** A Level 1 Assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.
- **Maximum Contaminant Level or MCL:** 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.
- **Maximum Contaminant Level Goal or MCLG:** 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.
- **Maximum residual disinfectant level or MRDL:** The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
- **Maximum residual disinfectant level goal or MRDLG:** The level of a 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 contaminants.
- **NA:** Not applicable
- **ND:** Not detected
- **NTU (Nephelometric Turbidity Units):** A measurement of the clarity, or turbidity, of the water.
- **ppb (parts per billion):** One part substance per billion parts water, or micrograms per liter.
- **ppm (parts per million):** One part substance per million parts water, or milligrams per liter.
- **TT (Treatment Technique):** A required process intended to reduce the level of a contaminant in drinking water.

Water Quality Results

The data presented in this report are from the most recent testing done in accordance with administrative regulations in 401 KAR Chapter 8. As authorized and approved by EPA, the State has reduced monitoring requirements for certain contaminants to less often than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data in this table, though representative, may be more than a year old.

Regulated Substances (Measured on the Water Leaving the Treatment Facility)

Substance (units)	Year Sampled	MCL	MCLG	Jackson County Water Association		Mt. Vernon Water Works		Livingston Municipal Water Works from Wood Creek Water District		Violation Yes/No	Typical Source
				Highest Value	Range Low-High	Highest Value	Range Low-High	Highest Value	Range Low-High		
Barium (ppm)	2018	2	2	0.012	NA	0.019	NA	0.011	NA	No	Drilling wastes; metal refineries; erosion of natural deposits
Chloro-benzene (ppb)	2018	100	100	NA	NA	0.4	0-0.8	NA	NA	No	Discharge from chemical and agricultural chemical factories
Cyanide (ppb)	2018	200	200	NA	NA	NA	NA	20	NA	No	Discharge from steel/metal factories; plastic and fertilizer factories
Fluoride (ppm)	2018	4	4	0.90	NA	0.50	NA	0.70	NA	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Nitrate (ppm)	2018	10	10	0.16	0.1-0.16	0.54	NA	0.21	NA	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Total Organic Carbon (ppm) ¹	2018	TT	NA	1.58	1.00-2.20	2.54	1.54-4.27	1.08	1.00-1.67	No	Naturally present in the environment
Turbidity (NTU) ²	2018	TT	NA	0.1	100% Lowest Monthly	0.34	99% Lowest Monthly	0.09	100% Lowest Monthly	No	Soil Runoff

Regulated Substances (Measured in the Distribution System)

Substance (units)	Year Sampled	MCL	MCLG	Highest Running Annual Average	Range Low-High	Violation Yes/No	Typical Source
Total Trihalomethanes (ppb) ³	2018	80	NA	53	21.7 - 82.9	No	By-product of drinking water disinfection
Haloacetic Acids (ppb) ³	2018	60	NA	40	15 - 53.2	No	By-product of drinking water disinfection
Chlorine (ppm) ⁴	2018	4	4	0.82	0.43 - 1.05	No	Water additive used to control microbes

Maximum Contaminant Level (MCL's) are set at very stringent levels. To understand the possible health effects described for many regulated contaminants, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

Regulated Substances (Measured at the Customer's Tap)

Substance (units)	Year Sampled	Action Level	MCLG	90 th Percentile	Range Low-High	Number of Samples	Number of Samples Above Action Level	Violation Yes/No	Typical Source
Copper (ppm) ⁵	2018	1.3	1.3	0.172	ND – 0.422	10	0	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb) ⁵	2018	15	0	2	ND - 0.003	10	0	No	Corrosion of household plumbing systems; Erosion of natural deposits

Microbiological Results (Measured in the Distribution System)

Level 1 Assessment: A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.

Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessment(s) to identify problems and to correct any problems that were found during these assessments.

During the past year we were required to conduct One (1) Level 1 assessment. One (1) Level 1 assessment was completed. In addition, we were required to take one (1) corrective action and we completed one (1) of these actions.

¹ **Total Organic Carbon:** Although the concentration listed is ppm, the values shown are ratios used to determine compliance. Compliance with the TOC Treatment Technique (TT) requirement is based on the lowest running annual average (RAA) of the monthly ratios of the % TOC treatment removal achieved compared to the required removal. A minimum annual average ratio of 1.00 is required.

² **Turbidity:** Turbidity is the clarity of water. It is measured as an indicator of water quality and the effectiveness of the filtration system. Compliance with the turbidity Treatment Technique (TT) is achieved when 95% of four-hour filtered water readings are 0.3 NTU or lower and no readings are greater than 1 NTU.

³ **Total Trihalomethanes (TTHMs) and Haloacetic Acids (HAAs):** Compliance based on the highest LRAA (locational running annual average) that is calculated quarterly. The highest quarterly LRAA is the measured value in the table. Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer. Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.

⁴ **Chlorine:** A public water system shall be in compliance with the MRDL if the RAA (running annual average) of monthly averages of samples taken in the distribution system computed quarterly is less than or equal to the MRDL.

⁵ **Lead and Copper:** Compliance is achieved when at least 90% of samples collected from water standing in contact with plumbing for at least 6 hours are below the Action Level. The 90th percentile for lead was below the detection limit.