

2014 Annual Water Quality Report

Central Division - Millersburg
PWS ID: KY0090287



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

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 24/7 also requires significant investment in our water infrastructure to upgrade aging facilities. In fact, we invest approximately \$20 million in capital improvements each year. We are proud that we continue to supply water for **less than 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 2014.

We appreciate the opportunity to serve you.

Sincerely,

Cheryl D. Norton
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.

Founded in 1886, American Water (NYSE: AWK) 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 <http://www.amwater.com>.

Source Water Information

When it rains, water travels over the surface of the land or through the ground, dissolving naturally occurring minerals (possibly radioactive material) and picking up organic material from animals or humans. The water ends up in rivers, lakes, streams, ponds, reservoirs, springs, and wells, where it may be used as a source of supply for both drinking and bottled water. The following contaminants may be present in source water as a result of this process:

- **Microbial Contaminants**, such as viruses and bacteria from sewage, agricultural livestock operations or wildlife.



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WE CARE ABOUT WATER. IT'S WHAT WE DO.®

- **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 also 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 source of supply for the Kentucky American Water's-Millersburg customers from January through July of 2014 was Hinkston Creek. Hinkston Creek is a surface water supply that joins Stoner Creek at Ruddell's Mill in Bourbon County to form the South Fork of the Licking River.

In August Kentucky American Water customers in Millersburg began receiving water from Paris Water Works. The City of Paris uses Stoner Creek, surface water, as its sole source of drinking water. Stoner Creek originates in Clark County as does Strodes Creek which is a major tributary of Stoner Creek. Both are part of the Licking River drainage basin. Our raw water supply is relatively good compared to some supplies as there is not a lot of industrial pollution. However, we are plagued by runoff from farm land. The fertilizers from the runoff can cause heavy algae bloom which in turn creates treatment problems. There are four dams on our raw water source with a total gross storage of 378 million gallons. Plant personnel maintain the dams that the City of Paris controls on Stoner Creek. There have not been any major problems with drought since two of our dams were raised in the 1950s.

Protecting Your Source Water

The Kentucky Division of Water approved a Source Water Assessment and Protection Plan for Millersburg Water and Paris Water Works in 2003.

The Kentucky Division of Water approved a Source Water Assessment and Protection Plan for the City of Millersburg in 2003. The plan focuses on potential sources of contamination for the water supplies used by Millersburg.

Hinkston Creek is most vulnerable to contamination from agricultural runoff, which may include pesticides, nutrients and silt from croplands, and substances resulting from the presence of animals on pasture lands. Susceptibility for these contaminants is considered high.

An analysis of the susceptibility of the Paris Water Supply to contamination indicates that this susceptibility is generally moderate. However there are a few areas of high concern. Several highway bridges in the immediate vicinity of the intake may pose a potential threat to the water supply. An accidental release of contaminants from any of these sites

could reach the intake. The same is true for railroads that occur between KY 627 and KY 1678 near Kennedy Creek. In addition, areas of row crops, municipal sewer lines, A KPDES permitted discharger and a waste generator and/or transporter are causes for concern. Finally, there are numerous permitted operations and activities and other potential contaminant sources of moderate concern within the greater watershed that cumulatively increase the potential for the release of contaminants within the area. These potential contaminant sources include everything from septic systems, to major roads, to hazardous chemical users.

A copy of the completed Source Water Assessment and Protection Plan may be viewed by calling the Watershed Management Branch of the Kentucky Division of Water at (502) 564-3410. Kentucky American Water encourages you to take an active part in protecting your water supply by participating in activities as they occur in your area.

Protection of drinking water is everyone's responsibility. You can help protect our water supplies by:

- Eliminating excess use of lawn and garden fertilizers and pesticides, since they contain hazardous chemicals that can reach our source water.
- Picking up after your pets.
- Disposing of chemicals properly and taking used motor oil to a recycling center.
- Disposing of used medicine properly (visit our Web site at www.kentuckyamwater.com for additional information).
- Volunteering in watershed groups in our area.
- Remembering that storm drains dump directly into local water bodies.

Kentucky American Water encourages you to take an active part in protecting your water supply by participating in activities as they occur in your area. For example, the company participates in annual riparian tree planting events to enhance our source water protection, and sponsors and participates in the annual River Sweep on the Kentucky River, coordinated by the Ohio River Valley Sanitation Commission (ORSANCO).

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 may be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at (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



(FDA) establish 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.

You Can Be Involved in Matters that Affect Your Water

Kentucky American Water welcomes your comments and questions regarding water quality issues. You can contact us with questions about your water, your water bill, service issues, or to obtain additional copies of this report by calling our Customer Service Center at (800) 678-6301.

Information on the Internet

The U.S. EPA and Centers for Disease Control websites provide a substantial amount of information relating to water sources, water conservation and public health. The Kentucky Division of Water Drinking Water Branch has a website that contains useful information as well. Visit these sites at the addresses below:

U.S. Environmental Protection Agency

<http://water.epa.gov/drink/index.cfm>

Centers for Disease Control and Prevention

<http://www.cdc.gov/>

Kentucky Division of Water

<http://water.ky.gov/pages/default.aspx>

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.



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>. Kentucky American Water remains in full compliance with all of the requirements pertinent to lead and copper in drinking water.

Commonly Asked Questions

Why do I have cloudy or milky water? Occasionally your water may look cloudy or milky. Cloudy or milky-looking water is usually the result of lots of tiny air bubbles suspended in the water. The bubbles are so small that they are almost invisible, but together they look like someone poured milk in your water. Our water has dissolved air in it all of the time, but it has more during the colder months. When the colder water warms in your hot water heater or in the pipes of your home, it can no longer hold all of the dissolved air, so air bubbles appear. There is nothing that Kentucky American Water can do to remove these air bubbles from the water, but be assured that these bubbles will clear on their own as the water warms up. If you allow a glass of water to stand for a few moments, the air bubbles will rise to the surface. This phenomenon is called entrained air, does not affect the quality of your water and is not harmful to consume. If the water does not clear from the bottom up, please contact our Customer Service Center at (800) 678-6301.

Why do I have brown or yellow water? The internal plumbing of your house may be the culprit if discolored water only appears for a minute or two after your tap is turned on. Since iron is an essential nutrient, this condition poses no health hazard. If the discoloration bothers you, however, flush the tap until the water becomes clear, saving the flushed water for iron-loving plants. If the discoloration is detected only in your hot water supply, it is likely an indication of an issue with your hot water heater. You should consult your owner's manual for instructions and warnings regarding flushing your hot water heater or contact a licensed plumber.

Sediments in water mains sometimes get stirred up when fire hydrants are used and when the flow of water in mains is changed. These sediments may cause your water to turn



brown or yellow. Wait 30 to 40 minutes after you notice the discolored water, and try turning on the cold water in your bathtub for a minute or two. You'll probably notice that it clears right away, since sediments settle quickly back to the bottom of water mains. Discolored water due to sediments poses no known health threat, but for aesthetic reasons you should avoid doing laundry until the water color clears. If the water does not clear after a few minutes, please contact our Customer Service Center at (800) 678-6301.

Tap vs. Bottled Water

The water provided by Kentucky American Water must meet more intensive EPA testing requirements than bottled water, which is regulated by the Food and Drug Administration (FDA). In addition, our award-winning quality water is produced at less than \$0.01 a gallon, compared to bottled water that typically costs well over \$1 a gallon.

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 2014 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. A **Yes** under **Compliance Achieved** means the amount of the substance met government requirements. **Typical Source** tells where the substance usually originates.

Definitions of Terms Used in This Report

- **AL (Action Level):** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which 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 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 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 contamination.
- **mrem/year (millirems per year):** A measure of radiation absorbed by the body.
- **NA:** Not applicable

- **ND:** Not detected
- **NTU (Nephelometric Turbidity Unit):** A measurement of the clarity, or turbidity, of the water.
- **pCi/L (picocuries per liter):** Measure of radioactivity in water.
- **pH:** A measurement of acidity, 7.0 being neutral
- **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.
- **ppt (parts per trillion):** One part substance per trillion parts water, or picograms per liter.
- **TT (Treatment Technique):** A required process intended to reduce the level of a contaminant in drinking water.

Water Quality Testing

Kentucky American Water and Paris Water Works conduct extensive monitoring during the year. The results of our monitoring are reported in the following table. While most monitoring was conducted in 2014, 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 was detected and how much of the substance was present in the water.

Unregulated Contaminant Monitoring Rule 3

Monitoring was performed during 2014 by Paris Water Works under the U.S. Environmental Protection Agency (EPA) Unregulated Contaminant Monitoring Rule 3 (UCMR 3). Unregulated contaminants are those that don't have a drinking water standard set by EPA. The purpose of monitoring for these contaminants is to help EPA decide whether the contaminants should have a standard. Millersburg Water system was not required to perform UCMR 3 sampling due to the population in Millersburg. Contaminants that were detected as part of the UCMR 3 monitoring are included in the Water Quality Results table. For a report containing all testing performed under the UCMR 3 rule, please contact our Customer Service Center at (800) 678-6301.

Notice of Violation

Please note that the City of Millersburg failed to meet disinfection byproduct regulatory requirements for Haloacetic Acids (HAAs) in first quarter of 2014. The maximum contaminant level (MCL) for HAAs is a running annual average of 0.060 mg/L and was exceeded in the first quarter at 0.084 mg/L as noted in the table below. This was a result of a chlorine feed issue at the plant in 2013 that impacted compliance in 2014. This issue has been corrected and the running annual average is now below the MCL of 60 mg/L for HAAs. Notices were sent to customers explaining these incidents in May of 2014.



Water Quality Results

Regulated Substances (Water Leaving the Treatment Facility)

| Substance (units) | Year Sampled | MCL | MCLG | City of Millersburg | | Paris Water Works | | Compliance Achieved | Typical Source |
|---|--------------|-----|------|---------------------|---------------------|-------------------|---------------------|---------------------|---|
| | | | | Highest Value | Range Low-High | Highest Value | Range Low-High | | |
| Gross Alpha emitters (pCi/L) ¹ | 2010 | 15 | 0 | 1.1 | NA | 1.8 | NA | Yes | Erosion of natural deposits |
| Combined Radium (pCi/L) ² | 2010 | 5 | 0 | 1 | NA | 0.79 | NA | Yes | Erosion of natural deposits |
| Barium (ppm) | 2014 | 2 | 2 | 0.01 | NA | 0.02 | NA | Yes | Discharge from petroleum refineries; Fire retardants; Ceramics; Electronics; Solder |
| Atrazine (ppb) | 2014 | 3 | 3 | 0.65 | NA | NA | NA | Yes | Runoff from herbicide used on row crops |
| Fluoride (ppm) | 2014 | 4 | 4 | 1.43 | 0.64-1.43 | 0.92 | NA | Yes | Water additive that promotes strong teeth |
| Total Organic Carbon (ppm) ³ | 2014 | TT | NA | 2.13 | 1.41-3.19 | 1.36 | 0.4-2.53 | Yes | Naturally present in the environment |
| Turbidity (NTU) ⁴ | 2014 | TT | NA | 0.28 | 100% monthly lowest | 0.27 | 100% monthly lowest | Yes | Soil runoff |
| Nitrate (ppm) | 2014 | 10 | 10 | 0.85 | NA | 2.27 | NA | Yes | Runoff from fertilizer use; Leaching from septic tanks; Sewage; Erosion of natural deposits |
| Uranium (ppb) ⁵ | 2008 | 20 | 3 | A | NA | 0.41 | NA | Yes | Naturally present in the environment |

Regulated Substances (Measured by Paris Water Works, KY0090343, on Water Leaving the Treatment Facility)

| Substance (units) | Year Sampled | MCL | MCLG | Highest RAA | Range Low-High | Compliance Achieved | Typical Source |
|-----------------------------|--------------|-----|------|-------------|----------------|---------------------|--|
| Chromium (ppb) ⁶ | 2014 | 100 | 100 | 0.24 | 0.23-0.24 | Yes | Discharge from steel and pulp mills; Erosion of natural deposits |

Unregulated Substances (Measured by Paris Water Works, KY0090343, on Water Leaving the Treatment Facility)

| Substance (units) | Year Sampled | MCL | MCLG | Highest Value | Range (Low-High) | Compliance Achieved | Typical Source |
|-------------------------------|--------------|-----|------|---------------|------------------|---------------------|---|
| Chromium-6 (ppb) ⁶ | 2014 | NA | NA | 0.095 | 0.031-0.095 | Yes | 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 |
| Strontium (ppb) ⁶ | 2014 | NA | NA | 160 | 100-160 | Yes | 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) ⁶ | 2014 | NA | NA | 0.98 | 0.29-0.98 | Yes | Naturally-occurring elemental metal; used as vanadium pentoxide which is a chemical intermediate and a catalyst |

Regulated Substances (Measured in the Distribution System by Kentucky American Water, KY0090287)

| Substance (units) | Year Sampled | MCL | MCLG | Highest RAA | Range Low-High | Compliance Achieved | Typical Source |
|--|--------------|----------|-----------|-------------|----------------|---------------------|---|
| Total Trihalomethanes (ppb) ⁷ | 2014 | 80 | NA | 75 | 30-79 | Yes | By-product of drinking water disinfection |
| Haloacetic Acids (ppb) ⁷ | 2014 | 60 | NA | 84 | 31-86 | No | By-product of drinking water disinfection |
| Total Trihalomethanes (ppb) ⁸ | 2014 | 80 | NA | 60 | 60-60 | Yes | By-product of drinking water disinfection |
| Haloacetic Acids (ppb) ⁸ | 2014 | 60 | NA | 39 | 33-39 | Yes | By-product of drinking water disinfection |
| Chlorine (ppm) | 2014 | MRDL = 4 | MRDLG = 4 | 1.42 | 0.01-2.2 | Yes | Water additive used to control microbes |

Regulated Substances (Measured at the Customer's Tap by Millersburg Water, KY0090287)

| Substance (units) | Year Sampled | Action Level | MCLG | 90th Percentile | Number of Samples | Number of Samples Above Action Level | Compliance Achieved | Typical Source |
|---------------------------|--------------|--------------|------|-----------------|-------------------|--------------------------------------|---------------------|---|
| Copper (ppm) ⁹ | 2011 | 1.3 | 1.3 | 0.135 | 10 | 0 | Yes | Corrosion of household plumbing systems |



Bacterial Results (Measured in the Distribution System Kentucky American Water, KY0090287)

| Substance (units) | Year Sampled | MCL | MCLG | Highest Percentage Detected | Compliance Achieved | Typical Source |
|-------------------|--------------|---------------------------|------|-----------------------------|---------------------|--------------------------------------|
| Total Coliform | 2014 | 1 positive monthly sample | NA | 1 | Yes | Naturally present in the environment |

- Alpha and Beta or Photon Emitters:** The MCL for beta or photon emitters is 4 mrem/year (millirems per year is a measure of radiation absorbed by the body). The results in the table are reported in picocuries/liter (pCi/L). EPA considers 50 pCi/L the level of concern for beta emitters. Millersburg analyzed during 2010. Paris Water Works analyzed during 2008.
- Combined Radium:** Radium-226 and Radium-228 concentrations added together. Millersburg Water analyzed during 2010. Paris Water Works analyzed during 2008.
- Total Organic Carbon:** Although the concentration is listed as ppm, the values shown are ratios that are 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. The number reported in the Highest Value column is actually the lowest RAA, calculated quarterly, for the year.
- 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.
- Uranium:** Uranium was detected in Paris Water Works in 2008.
- Unregulated Contaminant Monitoring Rule 3 (UCMR3):** Results in table are for 2014 monitoring by the Paris Water Works. Chromium is a regulated contaminant that was tested with the rest of the UCMR3 constituents.
- Total Trihalomethanes (TTHMs) and Haloacetic Acids (HAAs):** Total Trihalomethanes (TTHMs) and Haloacetic Acids (HAAs): Compliance is based on a RAA that is calculated quarterly. The highest quarterly RAA 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.
- Total Trihalomethanes (TTHMs) and Haloacetic Acids (HAAs):** A new disinfection rule took effect the fourth quarter of 2014 and the first compliance calculations will be available in 2015 after a full year of testing. The results in the table are based upon the last quarter of testing for each individual site.
- 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. Lead and copper results are from samples collected by Millersburg Water. The 90th percentile for lead was below the detection limit.

