

2016 Annual Water Quality Report

Central Division
Ford Hampton Area
PWS ID: KY0340250



Este informe contiene información muy importante sobre su agua beber. Tradúzcalo ó 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 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 2016.

We appreciate the opportunity to serve you.

Sincerely,

Nick O. Rowe
President, Kentucky American Water

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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 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.

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 become a source of supply for both drinking and bottled water. 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.

Winchester Municipal Utilities (WMU), Public Water System Identification Number - KY0250473, provides all of the water for our customers in the Ford Hampton service area. WMU's raw (untreated) water sources are the Kentucky River Pool 10 and the Carroll E. Ecton Reservoir, which are surface water sources. Pool 10 of the Kentucky River is approximately 25 miles in length extending upriver between Clark and Madison counties from a lock and dam located at Fort Boonesboro. The Kentucky River supplied the majority of the water treated in 2016 with the remainder coming from the Carroll E. Ecton Reservoir located near the WMU water treatment facilities on Water Works Road in southern Clark County.

Protecting Your Water Source

The Kentucky Division of Water approved a Source Water Assessment and Protection Plan for WMU in 2003. An analysis of the susceptibility of the Winchester water supply to contamination indicates that this susceptibility is generally moderate, but there are a few areas of high concern. Several highway bridges, a segment of railroad, areas of row crops, three active Superfund Sites, three solid waste generators and/or transporters, and impaired streams occur in the immediate area of Winchester's Kentucky River intake. An accidental release of toxic materials from a bridge or railroad could pose an immediate threat to Winchester's Kentucky River intake. There are numerous permitted activities and other potential contaminant sources of moderate concern within the watershed. These potential contaminant sources include everything from large capacity septic systems, to major roads, to underground storage tanks, to Tier II 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.

Protecting 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 website at www.kentuckyamwater.com for additional information).

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- 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 Reforest the Bluegrass in Fayette County annually, planting trees near water bodies to enhance our source water protection, and supports the annual River Sweep on the Kentucky River, coordinated by the Ohio River Valley Sanitation Commission (ORSANCO).

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.

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.

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 (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) establishes limits for contaminants in bottled water that must provide the same protection for public health.

Winchester Municipal Utilities has a single water treatment plant located on Water Works Road in Clark County. Its treatment processes are designed to reduce contaminant concentrations and to provide maximum protection against microbial and viral pathogens that can be naturally present in surface waters.

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/>

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.

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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 five voluntary projects that will benefit Kentucky's environment. Kentucky American Water is proud to participate in this program at the Master level.



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 are at 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.

Winchester Municipal Utilities conducts monthly monitoring for *Cryptosporidium* in their raw water sources as required by the rule. They did not detect the organism in the Kentucky River in 2016.

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.

Unregulated Contaminant Monitoring Rule 3

Monitoring was performed during 2013, 2014 and 2015 under the U.S. Environmental Protection Agency (EPA) Unregulated Contaminant Monitoring Rule 3 (UCMR 3). Unregulated contaminants 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. Contaminants 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.

Important Information About Your Drinking Water – Monitoring Requirements Not Met by Winchester Municipal Utilities

Winchester Municipal Utilities (WMU) received a Notice of Violation (NOV) for failure to correctly report a monitoring plan schedule for Long Term 2 Enhanced Surface Water Treatment (LT2ESWTR), which includes Cryptosporidium, E.Coli and Turbidity. There is nothing you need to do regarding this violation. You do not need to seek an alternative water supply.

Please note that this violation was issued to a system from whom we purchase water (i.e. WMU), but we want you to be aware of this information. The "we" listed in the mandatory paragraph below refers to WMU.

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During 2016 we did not complete all monitoring by failing to report or correctly report a monitoring plan schedule for Long Term 2 Enhanced

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Surface Water Treatment (LT2ESWTR) which includes Cryptosporidium, E.Coli and Turbidity. Therefore, we could not verify the quality of your drinking water to the primacy agency during that time.

The table below lists the contaminant(s) WMU did not submit a monitoring plan schedule for, how many samples WMU is required to take, when samples should be taken, and the date on which samples were (or will be) taken.

Contaminant	Required Sampling Frequency	Number of Samples Taken (Required)	When samples were and will be taken	When samples were taken
Long Term 2 Enhanced Surface Water Treatment (LT2ESWTR)	1 sample every month	24	Beginning October 18, 2016 through September 18, 2018 (3rd Tuesday of every month)	Per sampling schedule

To correct this issue, on August 17, 2016, WMU submitted a monitoring plan schedule for Long Term 2 Enhanced Surface Water Treatment (LT2ESWTR), which includes Cryptosporidium, E.Coli and Turbidity. The Kentucky Division of Water approved the monitoring plan schedule on August 18, 2016. Monitoring according to this schedule began October 18, 2016, and will extend through September 18, 2018.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

This notice is being provided to you by Kentucky American Water (Public Water System ID# KY0340250). If you have any questions about these violations, please contact our Customer Service Center at (800) 678-6301.

Water Quality Testing

Kentucky American Water and Winchester Municipal Utilities conduct extensive monitoring during the year. The results of our monitoring are reported in the following table. While most monitoring was conducted in 2016, 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. For help with interpreting this table, see “How to Read This Table.”

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 2016 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

- **AL (Action Level):** The concentration of a contaminant which, 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 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 contaminants.

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

Water Quality Results

Regulated Substances (Measured by Winchester Municipal Utilities, KY0250473, on Water Leaving the Treatment Facility)

Substance (units)	Year Sampled	MCL	MCLG	Winchester Municipal Utilities		Typical Source
				Highest Value	Range Low-High	
Combined Radium (pCi/L) ¹	2014	5	0	1.53	1.53 - 1.53	Erosion of natural deposits
Barium (ppm)	2016	2	2	0.015	0.015 - 0.015	Discharge of drilling wastes; discharge from metal refineries; Erosion of natural deposits
Nitrate (ppm)	2016	10	10	0.56	0.56 - 0.56	Runoff from Fertilizer use; Leaching from septic tanks; Sewage; Erosion of natural deposits
Fluoride (ppm)	2016	4	4	0.88	0.88 - 0.88	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Total Organic Carbon (ppm) ²	2016	TT	NA	1.81	1.20 to 2.81	Naturally present in the environment
Turbidity (NTU) ³	2016	TT	NA	0.28	100% monthly lowest	Soil runoff
Alpha emitters (pCi/L) ⁴	2014	15	0	2.6	2.6 - 2.6	Erosion of natural deposits
Beta or photon emitters (pCi/L) ⁴	2014	50	0	3.9	3.9 - 3.9	Decay of natural and man-made deposits

Regulated Substances (Measured in the Distribution System by Kentucky American Water, KY0340250)

Substance (units)	Year Sampled	MCL	MCLG	Highest RAA	Range Low-High	Typical Source
Total Trihalomethanes (ppb) ⁵	2016	80	NA	71	11 - 92	By-product of drinking water disinfection
Haloacetic Acids (ppb) ⁵	2016	60	NA	52	3 - 54	By-product of drinking water disinfection
Chlorine (ppm)	2016	MRDL = 4	MRDLG = 4	0.72	0.3 - 1.1	Water additive used to control microbes

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Microbiological Results (Measured in the Distribution System by Kentucky American Water, KY0340250)

Substance (units)	Year Sampled	MCL	MCLG	Highest Percentage Detected	Typical Source
Total Coliform ⁶	2016	5% Positive	0	0.53%	Naturally present in the environment
Total Coliform ⁶	2016	TT	NA	2.03%	Naturally present in the environment

Regulated Substances (Measured at the Customer's Tap by Kentucky American Water, KY0340250)

Substance (units)	Year Sampled	Action Level	MCLG	90th Percentile	Number of Samples	Number of Samples Above Action Level	Typical Source
Copper (ppm) ⁷	2015	1.3	1.3	0.147	51	0	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb) ⁷	2015	15	0	ND	51	0	Corrosion of household plumbing systems; Erosion of natural deposits

Unregulated Contaminant Monitoring Rule 3 (Measured by Winchester Municipal Utilities, KY0250473, on Water Leaving the Treatment Facility)

Substance (units)	Year Sampled	MCL	MCLG	Average	Range (Low-High)	Typical Source
Chromium (ppb) ⁸	2015	NA	NA	0.060	ND to 0.24	Discharge from steel and pulp mills; Erosion of natural deposits
Chromium-6 (ppb) ⁸	2015	NA	NA	0.034	ND to 0.068	Naturally-occurring element
Strontium (ppb) ⁸	2015	NA	NA	112.50	ND to 250	Naturally-occurring element
Vanadium (ppb) ⁸	2015	NA	NA	0.088	ND to 0.35	Naturally-occurring elemental metal

Unregulated Contaminant Monitoring Rule 3 (Measured in the Distribution System by Kentucky American Water, KY0340250)

Substance (units)	Year Sampled	MCL	MCLG	Average	Range (Low-High)	Typical Source
Chromium (ppb) ⁸	2013	NA	NA	0.11	ND - 0.3	Discharge from steel and pulp mills; Erosion of natural deposits
Chromium-6 (ppb) ⁸	2013	NA	NA	0.05	ND - 0.11	Naturally-occurring element
Strontium (ppb) ⁸	2013	NA	NA	269	117 - 515	Naturally-occurring element
Vanadium (ppb) ⁸	2013	NA	NA	0.26	ND - 1.0	Naturally-occurring elemental metal

1. Combined Radium: Radium-226 and Radium-228 concentrations added together.

2. 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. Total organic carbon data are from Winchester Municipal Utilities. The number reported in the Highest Value column is actually the lowest RAA, calculated quarterly, for the year.

3. 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. Turbidity data are from samples collected by Winchester Municipal Utilities.

4. 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. Winchester Municipal Utilities sampled for Alpha and Beta or Photon Emitters in 2014.

5. Total Trihalomethanes (TTHMs) and Haloacetic Acids (HAAs): Compliance is 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.

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- 6. Total Coliform:** From January 1, 2016 – March 31, 2016, the MCL for total coliforms in large systems was detections in 5% of samples collected. A federal rule change that went into effect April 1, 2016, replaced the MCL for total coliforms with a treatment technique that requires systems to perform system assessments if coliforms are detected in 5% of samples.
- 7. 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 Kentucky American Water. The 90th percentile for lead was below the detection limit.
- 8. Unregulated Contaminant Monitoring Rule 3 (UCMR3):** Winchester Municipal Utilities monitored water leaving their water treatment plant in 2015. Kentucky American Water monitored water in the Ford Hampton area distribution system in 2013. Chromium is a regulated contaminant tested with the rest of the UCMR 3 constituents.

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