



2007 annual water quality report



Kentucky Central Division

Fayette and
Surrounding
Counties

PWS ID: KY0340250



Quality Water for Quality Life



You are our top priority. Delivering reliable, high-quality water to you all day, every day is our mission. We deliver a total of approximately 43 million gallons of water a day to our communities for less than a penny per gallon.

Each year, Kentucky American Water publishes reports on the quality of your drinking water. We are pleased to report that investment in our water treatment plants and equipment as well as the expertise and dedication of our employees allows us to deliver drinking water that meets state and federal drinking water requirements. In addition to ensuring we are following current standards, we work closely with federal agencies to anticipate future water quality treatment requirements and regulations.

Your community is our community. We work with your local and state governments to make sure your water service needs are being met. From upgrading existing systems to developing new ones, from pitching in at local events like Reforest the Bluegrass and the Kentucky River Clean Sweep to sponsoring school programs, we are your neighbors and take your water quality personally.

We encourage you to review this report either in this printed form or on our Web site at www.kawc.com. If you ever have any questions, please reach out to our customer service representatives at (800) 678-6301 — 24 hours a day, seven days a week. After all, you are our first priority.

Nick O. Rowe
President, Kentucky American Water

Our Customer Charter

We Are...

- dedicated to service excellence
 - focused on personalized solutions
 - committed to our customers' health and welfare
- therefore...**

We Will...

- partner with our customers
- treat them with dignity and respect
- enhance their quality of life
- earn their loyalty
- exceed their expectations

About Kentucky American Water

Kentucky American Water is one of the state's largest water utilities, providing over 15 billion gallons of water to our communities each year. We help provide drinking water, wastewater, and fire services to approximately 496,000 people in communities across the state.

Kentucky American Water is a subsidiary of American Water. Founded in 1886, American Water is the largest investor-owned U.S. water and wastewater utility company. With headquarters in Voorhees, N.J., the company employs nearly 6,900 dedicated professionals who provide drinking water, wastewater and other related services to approximately 16.2 million people in 32 states and Ontario, Canada.

At Kentucky American Water, and throughout all of American Water, we work hard every day to provide our customers with water they can enjoy and use with confidence.

What is a Water Quality Report?

To comply with state and U.S. Environmental Protection Agency (EPA) regulations, Kentucky American Water issues an annual report describing the quality of your drinking water. The purpose of this report is to raise your understanding of drinking water and your awareness of the need to protect drinking water sources. In 2007, we conducted tests for hundreds of contaminants. Each of the tests showed that contaminant levels were below the levels allowed by both state and federal regulations. This report provides an overview of your water quality in 2007. It includes details about where your water comes from and what it contains.

If you have any health concerns relating to the information in this report, we encourage you to contact your health care provider. For more information about this report, or for any questions relating to your drinking water, please feel free to contact our Customer Service Center at (800) 678-6301, 24 hours a day, seven days a week.

What are the Sources of Contamination?

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.
- **Inorganic Contaminants**, such as salts and metals that may 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 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 may occur naturally or result from oil and gas production and mining activities.

The Kentucky River (as it runs south of Lexington) and Jacobson Reservoir (located in Fayette County) are surface water sources that supply the Lexington area. A third surface water source in Fayette County, Lake Ellerslie, may supplement these sources if necessary.

Protecting Your Water

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

The Kentucky River is most vulnerable to contamination from agricultural runoff, which may include pesticides, nutrients and silt from croplands, and potential pathogens from pasture lands. Jacobson Reservoir is most vulnerable

to urban storm water runoff, which may include heavy metals from paved areas, nutrients, pesticides and organics (e.g., yard waste) from lawn care. Industrial and construction runoff in urban areas may include silts, synthetic chemicals and metals.

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.

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 and obtain additional copies of this report by calling our Customer Service Center at (800) 678-6301. Electronic copies of this document may be obtained by visiting our Web site at www.kawc.com.

A Proud Member of the Partnership for Safe Drinking Water Program

In 2003 Kentucky American Water treatment facilities were awarded the prestigious "Five-Year Directors Award" under the Partnership for Safe Water program administered by the U.S. Environmental Protection Agency (EPA), American Water Works Association and other water-related organizations. The award honors water utilities for achieving operational excellence by voluntarily optimizing their treatment facility operations and adopting more stringent performance goals than those required by federal and state drinking water regulations. We are proud to report that we maintained those standards throughout 2007.



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. There are four membership levels available to program participants, including Advocate, Partner, Leader and Master. 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. We also encourage individuals and organizations to participate in this environmental program.



Water Quality Data

We are pleased to report that during the past year, the water delivered to your home or business complied with, or exceeded, all state and federal drinking water standards. For additional information concerning our results, please contact our Customer Service Center at (800) 678-6301. Although all of the substances listed below are under the Maximum Contaminant Level (MCL) set by the U.S. Environmental Protection Agency, we believe it is important that you know exactly what was detected and how much of the substance was present in the water.

Monitoring was also performed during 2002 under the U.S. Environmental Protection Agency (EPA) Unregulated Contaminant Monitoring Rule (UCMR). No compounds were detected. Data is available on the EPA's Web site, www.epa.gov/safewater/data/ucmrgetdata.html.

Water Quality Results

Regulated Substances (Measured on the Water Leaving the Treatment Facility)									
Substance (units)	Year Sampled	MCL	MCLG	Kentucky River Station (KRS)		Richmond Road Station (RRS)		Compliance Achieved	Typical Source
				Highest Value	Range Low - High	Highest Value	Range Low - High		
Arsenic (ppb)	2007	10	0	ND	NA	1	NA	Yes	Erosion of natural deposits; runoff from orchards; runoff from glass & electronics production wastes.
Barium (ppm)	2007	2	2	0.04	NA	0.02	NA	Yes	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
Fluoride (ppm)	2007	4	4	1.2	1.0 - 1.2	1.1	0.9 - 1.1	Yes	Water additive that promotes strong teeth;
Nitrate (ppm)	2007	10	10	0.11	NA	0.12	NA	Yes	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits.
Nitrite (ppm)	2007	1	1	0.01	NA	0.01	NA	Yes	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits.
Total Organic Carbon ¹ (ppm)	2007	TT	NA	1.27	0.84 - 1.98	1.68	1.40 - 2.58	Yes	Naturally present in the environment.
Turbidity ² (NTU)	2007	TT	NA	0.08	100% Lowest Monthly	0.17	100% Lowest Monthly	Yes	Soil runoff.
Regulated Substances (Measured in the Distribution System)									
Substance (units)	Year Sampled	MCL	MCLG	Highest RAA	Range Low - High	Compliance Achieved	Typical Source		
Total Trihalomethanes ³ (ppb)	2007	80	0	52	30 - 66	Yes	By-product of drinking water disinfection.		
Haloacetic Acids ³ (ppb)	2007	60	0	32	9 - 51	Yes	By-product of drinking water disinfection.		
Chloramines ⁴ (ppm)	2007	MRDL = 4	MRDLG = 4	3.0	0.5 - 4.4	Yes	Water additive used to control microbes.		
Regulated Substances (Measured at the Customer's Tap)									
Substance (units)	Year Sampled	Action Level	MCLG	90th Percentile	Number of Samples	Number of Samples Above Action Level	Compliance Achieved	Typical Source	
Lead ⁵ (ppb)	2006	15	0	ND	50	0	Yes	Corrosion of household plumbing systems;	
Copper ⁵ (ppm)	2006	1.3	1.3	0.16	50	0	Yes	Corrosion of household plumbing systems;	
Bacterial Results (Measured in the Distribution System)									
Substance (units)	Year Sampled	MCL	MCLG	Highest Percentage Detected		Compliance Achieved	Typical Source		
Total Coliform	2007	5% Positive	NA	2%		Yes	Naturally present in the environment.		
¹ 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. 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. All of our readings met the TT for 2007. ³ Total Trihalomethanes (TTHMs) and Haloacetic Acids (HAA5): Compliance is based on a Running Annual Average (RAA) that is calculated quarterly. The highest quarterly RAA is the measured value in the table. ⁴ Chloramines: A public water system shall be in compliance with the MRDL if the 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.									

How to Read This Table

Kentucky American Water conducts extensive monitoring to ensure that your water meets all water quality standards. The results of our monitoring are reported in the following tables. While most monitoring was conducted in 2007, certain substances are monitored less than once per year because the levels do not change frequently. For help with interpreting this table, see the "Definitions of Terms Used in This Report."

Start by finding a **Substance**, and then read across to find the information about that substance. The **Year Sampled** is usually in 2007 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 that a water system shall 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.
- **NA:** Not applicable
- **ND:** Not detected
- **NTU (Nephelometric Turbidity Unit):** A measurement of the clarity, or turbidity, of the 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.
- **TT (Treatment Technique):** A required process intended to reduce the level of a contaminant in drinking water.
- **%:** means percent
- **<:** means less than

Commonly Asked Questions

Why does my water look cloudy or milky sometimes?

Occasionally your water may look cloudy or milky. Cloudy or milky-looking water is usually the result of lots of tiny air bubbles 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. Water that has air in it 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.

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. 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.

How hard is my water?

Hardness is a measure of the concentration of two minerals (calcium and magnesium) naturally present in water. Hardness levels of water leaving our water treatment plants range from 110 (hard) to 326 parts per million (very hard) or 6.4 to 19.0 grains per gallon.

How much sodium is in my water?

The sodium level is approximately 19 ppm.

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

Water within our distribution system averages 7.2 pH units. A pH of 7.0 is considered neutral – neither acidic nor basic.

What is the alkalinity of my water?

Alkalinity is the capacity of water to neutralize acids. Water within our distribution system averages 84 mg/L.

Is there fluoride in my water?

Yes. Kentucky American Water is required by law to add fluoride to a level of near 1 ppm to assist in the prevention of dental cavities. The average fluoride level in our distribution system is 0.98 mg/L.



2300 Richmond Road
Lexington, KY 40502

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

Information on the Internet

The U.S. EPA, 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/safewater

Centers for Disease Control and Prevention
www.cdc.gov

Kentucky Division of Water
www.water.ky.gov

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. 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.

Kentucky American Water's Central Division maintains two water treatment plants, the Kentucky River Station and the Richmond Road Station, capable of reliably producing up to 65 million gallons of water per day (MGD). Our treatment processes are designed to reduce contaminant concentrations to levels well below any that might cause health concerns, and the processes are controlled to provide maximum protection against microbial and viral pathogens that can be naturally present in surface waters.

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).

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.

The U.S. EPA issued a new rule in January 2006 that requires systems with higher Cryptosporidium levels in their source water to provide additional treatment. In anticipation of this upcoming rule, Kentucky American Water conducted 24 consecutive months of monitoring for Cryptosporidium in our raw water sources. We did not detect the organism in our source water during this testing. Based on the results of our Cryptosporidium monitoring, no additional treatment will be required by the new U.S. EPA regulation.