PWSID # KY0240201

Hopkinsville Water Environment Authority

2016 Water Quality Report

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What's Inside?

In compliance with the federal Drinking Water Act Amendments, the Hopkinsville Water Environment Authority (HWEA) is providing its customers with our annual Water Quality Report. Some language in this report is mandated by the EPA and is included verbatim from federal regulations. This report explains where your water comes from, what it contains, and how it compares to Environmental Protection Agency (EPA) and State standards for the period of January 1, 2016 to December 31, 2016. We are pleased to supply you with this report that shows that HWEA produced drinking water in 2016 consistently in compliance with EPA's most stringent standards. For more information about your drinking water, please contact us at (270) 887-4147.

Our board meetings are open to the public and held at 7:30 AM the 4th Thursday of each month at 401 E. 9th Street in Hopkinsville. For more information about our board meetings, please call (270) 887-4237.

HWEA
Est. 1895

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Este inforeme contiene informacion importante sobre su agua potable. Pida que alguien traducer para uted, o hablar con alguien que lo entiende.

A Special Note

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, persons 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 /Center for Disease Control and Prevention (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** :

1 (800) 426-4791

Substances Expected to be in Drinking Water

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and may pick up substances resulting from the presence of animal and human activities.

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:

1 (800) 426-4791

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Contaminants that may be present in source water before it is treated include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
- Inorganic Contaminants, such as salts and metals, which can be naturally-occurring or 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, 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 can also come from gas stations, urban storm water runoff, and septic systems.
- Radioactive Contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

If the amount of a contaminant exceeds a safe level in your drinking water, the Hopkinsville Water Environment Authority will notify you via newspaper, radio, or television. With notification, you will be instructed on what appropriate actions you can take to protect your family's health.

Water Sources

Hopkinsville's raw water supply is composed of three surface water sources, namely, Lake Barkley, the North Quarry and the South Quarry.

Lake Barkley is a surface water impoundment located in Livingston, Lyon and Trigg counties. Created in 1966 by impounding the Cumberland River, Lake Barkley has a surface area of almost 58,000 acres at it's summer pool elevation of 359 feet mean sea level. The North and South Quarries have capacities of over 1.2 billion and 280 million gallons, respectively.

HWEA regulates how much water is withdrawn from these sources by operating raw water pumps located at each impoundment. HWEA typically withdraws raw water from Lake Barkley and pumps the water directly to the South Quarry. From the South Quarry, water is pumped into the Moss Water Treatment Plant for treatment.

On average HWEA produces 5.7 million gallons per day of drinking water for the City of Hopkinsville and Christian County. Peak demand for water has exceeded 7.5 million gallons per day.

Lead

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. HWEA 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://epa.gov/safewater/lead

Water Conservation Tips

- Water your lawn at night or very early in the morning to reduce evaporation.
- Direct your sprinklers so that they do not water the street or your driveway instead of your lawn.
- Sweep off sidewalks instead of relying on your water hose to clean them off.
- Check hoses and faucets, indoors and out for leaks. Toilets, too!
- Mulch your flower beds to help retain moisture.
- Install low-flow shower heads, and replace old toilets with low-flow models.
- Bathe your dog outside, so your lawn gets watered too!
- Only run your dishwasher or washing machine when you have a full load. This can save you up to 1000 gallons per *month*.

2016 Water Quality Data

The data presented in this report is from the most recent testing done in accordance with administrative regulations in 401 KAR Chapter 8. As authorized and approved by the 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 one year old.

	Allowable Levels	Highest Single Level	Lowest Monthly %	Violation	Likely Source
1. Turbidity (NTU) TT	Never more than 1 NTU Less than 0.3 NTU 95% of samples each month. (Population >10,000)	0.38	99%	No	Soil runoff
		Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration.			

Regulated Contaminant Test Results

Contaminant [code] (units)	MCL	MCLG	Highest Level	Range	Date of Sample	Violation Yes/No	Likely Source of Contamination
Microbial Contaminants							
2. Total Coliform Bacteria 13 positive samples	TT	N/A	11%	N/A	2016	No	Human and animal fecal waste

Revised Total Coliform Rule Definitions:

Level I Assessment: A Level I 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.

Level II Assessment: A Level II Assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system on multiple occasions.

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 the water treatment or distribution. When this occurs, we are required to conduct assessments to identify problems and to correct any problems that were found during these assessments.

During the past year we were required to conduct two (2) Level I Assessments. Two (2) Level I Assessments were completed. In addition, we were required to take two (2) corrective actions and two (2) corrective actions were taken.

During the past year one (1) Level II Assessment was required to be completed for our water system. One (1) Level II Assessment was completed. In addition, we were required to take six (6) corrective actions, and we completed six (6) of these.

During both the Level I and Level II Assessments, HWEA was in full compliance with all State and Federal drinking water regulations.

	Average	Range of Detection
Fluoride (added for dental health)	0.8	0.6 - 1.03
Sodium (EPA guidance level = 20 mg/l	5.2	4.44 - 6.03

Regulated Contaminant Test Results							
Contaminant [code] (units)	**MCL**	**MCLG**	**Highest Level**	**Range**	**Date of Sample**	**Violation Yes/No**	**Likely Source of Contamination**
Radioactive Contaminants							
3. Alpha emitters [4000] (pCi/1)	15	0	0.2	0.2 - 0.2	July 2008	No	Erosion of natural deposits
4. Uranium (ug/l)	30	0	0.1	0.1 - 0.1	July 2008	No	Erosion of natural deposits
Inorganic Contaminants							
5. Copper [1022] (ppm) (0 sites exceeded the AL)	AL= 1.3	1.3	0.452 (90th percentile)	0.0073 - 0.548	July - Sept 2015	No	Corrosions of household plumbing systems
6. Lead [1030] (ppb) (0 sites exceeded the AL)	AL= 15	0	2.0 (90th percentile)	ND - 14	July - Sept 2015	No	Corrosion of household plumbing systems
Lead and Copper monitoring is done together during the months of July, August and September.							
7. Nitrate [1040] (ppm)	10	10	2.9	0.6 - 2.9	Jan 2016	No	Fertilizer runoff; leaching from septic tanks; sewage; erosion of natural deposits
8. Barium {1010} (ppm)	2.0	2.0	0.041	0.041 - 0.041	January 2016	No	Drilling wastes; metal refineries; erosion of natural deposits
9. Fluoride {1025} (ppm)	4.0	4.0	0.2	0.2 - 0.2	January 2016	No	Water additive which promotes strong teeth
Disinfectants/Disinfection Byproducts and Precursors							
10. Total Organic Carbon (ppm) (measured as ppm, but reported as a ratio+)	TT	N/A	1.48 (lowest average)	0.83 - 2.44 (monthly ratios+)	2016	No	Naturally present in environment.
+Monthly ratio is the % TOC removal achieved to the % TOC removal required. Lowest annual average of the monthly ratios must be 1.00 or greater to meet the treatment technique.							
11. Chlorine (ppm)	MRDL = 4	MRDLG = 4	1.51 (highest average)	0.21 - 2.9	2016	No	Water additive used to control microbes.
12. Haloacetic acids or HAA (ppb) (Stage 2) Individual Sites	60	N/A	47 (annual average)	6 – 55	1 per quarter	No	By-product of drinking water disinfection
13. Total Trihalomethanes or TTHM (ppb) (Stage 2) Individual Sites	80	N/A	69 (annual average)	24 - 76	1 per quarter	No	By-product of drinking water disinfection

Cryptosporidium Monitoring

The Long Term 2 Enhanced Surface Water Treatment Rule addresses the health effects associated with *Cryptosporidium* in surface water used as a drinking water supply. Under this rule our water system monitors for Cryptosporidium, E. coli and turbidity at our raw water source monthly.

HWEA began this monitoring in October 2016 and has found zero (0) Cryptosporidium oocysts. This is good news for our water source as no additional water treatment techniques are required.

If detections are found in our source water, HWEA will detail that information in the Water Quality Data chart on the previous page of this report.

Source Water Assessment

The final source water assessment with a summary of our system's susceptibility to potential sources of contamination has been completed. A brief summary of this assessment for HWEA (PWSID #0240201) (WW0251) is as follows:

An analysis of HWEA's water supply indicates that there are fifty-three potential contaminant sites with the possibility of contaminating the water supply located within the watershed. Sources of high potential impact include underground and above ground storage tank facilities, hazardous materials transfer and storage, and landfills, all of which share the possibility of leakage, spill, or leaching of unwanted contaminants. Sources of moderate to low potential impact include those from agricultural operations, an inactive rock quarry, and failing septic systems. The complete Susceptibility Analysis Report is available at the HWEA's main office located at 401 E. 9th Street, Hopkinsville. For more information, please call (270) 887-4147.

Although these potential contaminant sources are within the HWEA watershed, the Moss Water Treatment Plant is able to treat the drinking water for its customers in accordance with all EPA Standards.

If you suspect anyone discharging a contaminant in an unsafe manner, please call HWEA at (270) 887-4147 or the Division of Water at (270) 824-7532.

Definitions

These definitions may help you better understand the information provided in the data table. If you would like more information regarding any contaminant or help understanding what the numbers mean for you, please call our main office at (270) 887-4147.

Non-Detects (ND) - Laboratory analysis indicates that the constituent is not present.

Parts per Million (ppm) or Milligrams per Liter (mg/l) - One part per million corresponds to one minute in two years or a single penny in $10,000.

Parts per Billion (ppb) or Micrograms per Liter (ug/l) - One part per billion corresponds to one minute in 2,000 years or a single penny in $10,000,000.

Picocuries per liter (pCi/L) - a measure of the radioactivity in water.

Action Level (AL) - The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

90th Percentile – 90 % of the collected samples had detectable levels at or below the indicated value.

Treatment Technique (TT) - a required process intended to reduce the level of a contaminant in drinking water.

Maximum Contaminant Level (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 (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 (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 (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.

Nephelometric Turbidity Unit (NTU) - a measure of the clarity of water. Turbidity has no health effects; however, turbidity can provide a medium for microbial growth. Turbidity is monitored because it is a good indicator of the effectiveness of the filtration system.

N/A - Not applicable.

401 KAR - Kentucky Administrative Regulations, Title 401

or

If you are interested in learning more about your water system and water quality, there are a number of opportunities available.

Check out our website:

www.hwea-ky.com

Call (270) 887-4246 to:

- Report a water main leak or suspected meter tampering
- Ask a billing question
- Get copies of this report
- Schedule a service call
- **Before** you call a plumber for sewer obstructions.

Call (270) 887-4232 to:

- Ask about water quality
- Report any after hours, weekend or holiday emergencies
- Contact the Moss Water Treatment Plant

MISSION STATEMENT

Our mission at the Hopkinsville Water Environment Authority is to produce safe, clean, high quality water, while pursuing **EXCELLENCE** in customer service.

We dedicate ourselves to this mission by producing outstanding drinking water and treating wastewater with **INTEGRITY**, professionalism and pride in order to enhance the quality of life for our customers and protect our environment for future generations.

We support the economic development and growth of our **COMMUNITY** by providing these services at fair, reasonable rates in our effort to be the leader and premier water and wastewater utility in the region.

HWEA

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