

US 60 Water District Water Quality Report 2018

Water System ID: KY1060436 Manager: David Hedges CCR Contact: David Hedges Phone: 502-747-8942
Mailing Address: PO Box 97, Bagdad, KY 40003
Meeting Location and Time: Third Tuesday monthly at 6:30pm at water office in Bagdad, KY

Source Information:

US 60 Water District purchases water from the Frankfort Plant Board, which treats surface water from Pool #4 of the Kentucky River, and Shelbyville Municipal Water and Sewer, which treats surface water from Guist Creek Lake. The overall susceptibility to contaminants for Frankfort Plant Board is considered moderate. There are, however, a few areas of high concern. Several highway bridges and major roads occur in the immediate vicinity of the intake. An accidental release of toxic materials from a nearby bridge or road could pose an immediate threat to Frankfort's intake. Other areas of concern in the immediate vicinity of the intake include land used for agricultural purposes, companies that use hazardous substances, a Superfund hazardous waste site, a hazardous waste generator and/or transporter, sewer lines, and a permitted wastewater discharger. Within the greater watershed area there are numerous permitted operations and activities that, cumulatively, pose a moderate concern for release of contaminants. These potential sources include everything from underground storage tanks to power line rights-of-way that may be treated with herbicides to active and inactive landfills. A full copy of the Source Water Assessment and Protection Plan can be obtained by calling the Frankfort Plant Board at 502-352-4372. A Source Water Assessment and Protection Plan has been completed for Shelbyville Municipal Water and Sewer and is available for review in their offices during normal business hours (call 502-633-2840 for more information). Some of the potential sources of contamination in the Guist Creek Lake watershed consist of: four underground petroleum sites and one above-ground storage tank; two bridges; one inactive landfill and one site that uses hazardous materials (Bell South). These sources are rated as high in susceptibility to contamination because of their contaminant type, proximity to Guist Creek Lake, and high chance of release. Sources that are considered a medium risk for contamination include major roads and commercial 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 (800-426-4791).

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 animals or from human activity. Contaminants that may be present in source water include: Microbial contaminants, such as viruses and bacteria, (sewage plants, septic systems, livestock operations, or wildlife). Inorganic contaminants, such as salts and metals, (naturally occurring or from stormwater runoff, wastewater discharges, oil and gas production, mining, or farming). Pesticides and herbicides, (stormwater runoff, agriculture or residential uses). Organic chemical contaminants, including synthetic and volatile organic chemicals, (by-products of industrial processes and petroleum production, or from gas stations, stormwater runoff, or septic systems). Radioactive contaminants, (naturally occurring or from oil and gas production or mining activities). In order to ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water to provide the same protection for public health.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

Information About 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. Your local public water system 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>.

Some or all of these definitions may be found in this report:

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.

Below Detection Levels (BDL) - laboratory analysis indicates that the contaminant is not present.

Not Applicable (N/A) - does not apply.

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, (µg/L). One part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

Parts per trillion (ppt) - one part per trillion corresponds to one minute in 2,000,000 years, or a single penny in \$10,000,000,000.

Parts per quadrillion (ppq) - one part per quadrillion corresponds to one minute in 2,000,000,000 years or one penny in \$10,000,000,000,000.

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

Millirems per year (mrem/yr) - measure of radiation absorbed by the body.

Million Fibers per Liter (MFL) - a measure of the presence of asbestos fibers that are longer than 10 micrometers.

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.

Variations & Exemptions (V&E) - State or EPA permission not to meet an MCL or a treatment technique under certain conditions.

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

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

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

To understand the possible health effects described for many regulated contaminants, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

	Allowable Levels	Highest Single Measurement	Lowest Monthly %	Violation	Likely Source of Turbidity
Turbidity (NTU) TT * Representative samples of filtered water	No more than 1 NTU* Less than 0.3 NTU in 95% of monthly samples	0.21	100	No	Soil runoff

Regulated Contaminant Test Results **Shelbyville Water & Sewer Commission**

Contaminant [code] (units)	MCL	MCLG	Report Level	Range of Detection	Date of Sample	Violation	Likely Source of Contamination
Barium [1010] (ppm)	2	2	0.005	0 to 0.01	Apr-19	No	Drilling wastes; metal refineries; erosion of natural deposits
Fluoride [1025] (ppm)	4	4	0.84	0.8 to 0.88	Oct-19	No	Water additive which promotes strong teeth
Nitrate [1040] (ppm)	10	10	1.4	0.1 to 1.4	Apr-19	No	Fertilizer runoff; leaching from septic tanks, sewage; erosion of natural deposits
Atrazine [2050] (ppb)	3	3	0.935	BDL to 1.9	Apr-19	No	Runoff from herbicide used on row crops

Disinfectants/Disinfection Byproducts and Precursors

Total Organic Carbon (ppm) (measured as ppm, but reported as a ratio)	TT*	N/A	2.12 (lowest average)	1.41 to 3.38 (monthly ratios)	2019	No	Naturally present in environment.
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*Monthly ratio is the % TOC removal achieved to the % TOC removal required. Annual average must be 1.00 or greater for compliance.

Unregulated Contaminants (UCMR 4)	average	range (ppb)	date
Manganese	2.400	2.2 to 2.6	Apr-19
HAA5	28.875	16 to 41	Jul-19
HAA6Br	3.713	3 to 6.3	Jul-19
HAA9	32.375	19 to 45	Jul-19

Your drinking water has been sampled for a series of unregulated contaminants. Unregulated contaminants are those that EPA has not established drinking water standards. There are no MCLs and therefore no violations if found. The purpose of monitoring for these contaminants is to help EPA determine where the contaminants occur and whether they should have a standard. As our customers, you have a right to know that these data are available. If you are interested in examining the results, please contact our office during normal business hours.



Regulated Contaminant Test Results			Frankfort Plant Board				
Contaminant [code] (units)	MCL	MCLG	Report Level	Range of Detection	Date of Sample	Violation	Likely Source of Contamination
Radiactive Contaminants							
Combined radium (pCi/L)	5	0	2.66	2.66 to 2.66	Oct-17	No	Erosion of natural deposits
Inorganic Contaminants							
Barium [1010] (ppm)	2	2	0.018	0.018 to 0.018	Feb-19	No	Drilling wastes; metal refineries; erosion of natural deposits
Fluoride [1025] (ppm)	4	4	0.3	0.3 to 0.3	Feb-19	No	Water additive which promotes strong teeth
Nitrate [1040] (ppm)	10	10	1	0.22 to 1	Nov-19	No	Fertilizer runoff; leaching from septic tanks, sewage; erosion of natural deposits
Disinfectants/Disinfection Byproducts and Precursors							
Total Organic Carbon (ppm) (measured as ppm, but reported as a ratio)	TT*	N/A	1.71 (lowest average)	1.24 to 3.56 (monthly ratios)	2019	No	Naturally present in environment.
*Monthly ratio is the % TOC removal achieved to the % TOC removal required. Annual average must be 1.00 or greater for compliance.							
Other Constituents							
Turbidity (NTU) TT * Representative samples	Allowable Levels		Highest Single Measurement	Lowest Monthly %	Violation	Likely Source of Turbidity	
Turbidity is a measure of the clarity of the water and not a contaminant.	No more than 1 NTU* Less than 0.3 NTU in 95% of monthly samples		0.26	100	No	Soil runoff	
Unregulated Contaminants (UCMR 4)							
			average	range (ppb)			date
Manganese			0.766	0.766 to 0.766			2019
HAA5			32.1	26.09 to 40.87			2019
HAA6Br			8.06	6.26 to 11.9			2019
HAA9			39.6	32.9 to 51.9			2019

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	Allowable Levels	Highest Single Measurement	Lowest Monthly %	Violation	Likely Source of Turbidity		
Regulated Contaminant Test Results US 60 Water District							
Contaminant [code] (units)	MCL	MCLG	Report Level	Range of Detection	Date of Sample	Violation	Likely Source of Contamination
Copper [1022] (ppm) sites exceeding action level 0	AL = 1.3	1.3	0.339 (90 th percentile)	0.005 to 0.452	Sep-17	No	Corrosion of household plumbing systems
Lead [1030] (ppb) sites exceeding action level 0	AL = 15	0	0 (90 th percentile)	0 to 2	Sep-17	No	Corrosion of household plumbing systems
Disinfectants/Disinfection Byproducts and Precursors							
Chloramines (ppm)	MRDL = 4	MRDLG = 4	1.17 (highest average)	0.89 to 1.41	2019	No	Water additive used to control microbes.
HAA (ppb) (Stage 2) [Haloacetic acids]	60	N/A	34 (high site average)	2 to 32.2 (range of individual sites)	2019	No	Byproduct of drinking water disinfection
TTHM (ppb) (Stage 2) [total trihalomethanes]	80	N/A	39 (high site average)	13.2 to 33.3 (range of individual sites)	2019	No	Byproduct of drinking water disinfection.