

North Shelby Water Company

Water Quality Report 2019

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Mailing Address: PO Box 97, Bagdad, KY 40003
Meeting Location and Time: Third Monday monthly at 6:30pm at water office in Bagdad, KY

Source Information:

North Shelby Water Company purchases water from one of three sources. Customers in the western one-third of Shelby County receive their water from the Louisville Water Company (LWC). LWC treats surface water from the Ohio River drawn near Louisville. Customers in the eastern two-thirds of Shelby County receive their water from the Frankfort Plant Board that treats surface water taken from Pool #4 of the Kentucky River. Exceptions to this are customers on Harrington Pike from Scotts Station to State Route 53 and then south to US 60 as well as customers on a 2 mile section of Benson Pike (State Route 1779) from Shelbyville to the east. These customers receive their water from the Shelbyville Water and Sewer Commission that treats surface water from Guist Creek Lake. If you are unsure of which area you are located in, contact the water office by calling 502-747-8942.

Contaminant Sources and Susceptibility Summaries

Shelbyville Water and Sewer Commission Source Water

Potential contaminant sources within the Guist Creek Lake watershed include four underground petroleum tank sites and one above ground petroleum storage tank. In addition there are two bridges, one inactive landfill that is closed to the public and no longer accepts waste, and one site (BellSouth) that uses hazardous materials. Each contaminant source is rated "high" in the susceptibility analysis because of the contaminant type, proximity to Guist Creek Lake, and the high chance of release. Other potential contaminant sites are major roads and commercial activities all of which are rated "medium" in the susceptibility analysis. A full copy of the Source Water Assessment and Protection Plan can be obtained by calling the Kentuckiana Regional Planning and Development Agency at 502-266-6084.

Louisville Water Company Source Water

Spills of hazardous materials on the Ohio River and permitted discharges of sanitary sewers are the highest contamination risks. In Jefferson County, land use in the source water protection area is primarily zoned for residential and commercial use with only a few industrial sites. In Oldham and Trimble Counties (areas bordering the Ohio River to the north of the intakes) land use is primarily zoned for residential and agricultural use making source water contaminant risks relatively low. A full copy of the Source Water Assessment and Protection Plan can be obtained by calling Keith Coombs of the Louisville Water Company at 502-569-3682.

Frankfort Plant Board Source Water

The overall susceptibility to contaminants 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.

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.

Spanish (Español) Este informe contiene información muy importante sobre la calidad de su agua beber. Tradúzcalo o hable con alguien que lo entienda bien.

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 use 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.

	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	0.08	100	No	Soil runoff		
Regulated Contaminant Test Results Louisville Water Company							
Contaminant [code] (units)	MCL	MCLG	Report Level	Range of Detection	Date of Sample	Violation	Likely Source of Contamination
Fluoride [1025] (ppm)	4	4	0.6	0.6 to 0.6	2019	No	Water additive which promotes strong teeth
Nitrate [1040] (ppm)	10	10	1.1	0.2 to 1.1	2019	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	1.47 (lowest average)	1 to 2.23 (monthly ratios)	2019		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.							

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
Radioactive 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							
	Allowable Levels	Highest Single Measurement	Lowest Monthly %	Violation	Likely Source of Turbidity		
Turbidity (NTU) TT * Representative samples	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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Regulated Contaminant Test Results		North Shelby 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	0.135 (90 th percentile)	0.008 to 0.292	Sep-19	No	Corrosion of household plumbing systems
Lead [1030] (ppb) sites exceeding action level 0	AL = 15	0	1 (90 th percentile)	0 to 6	Sep-19	No	Corrosion of household plumbing systems
Disinfectants/Disinfection Byproducts and Precursors							
Chloramines (ppm)	MRDL = 4	MRDLG = 4	1.17 (highest average)	0.91 to 1.44	2019	No	Water additive used to control microbes.
HAA (ppb) (Stage 2) [Haloacetic acids]	60	N/A	35 (high site average)	5.7 to 39.6 (range of individual sites)	2019	No	Byproduct of drinking water disinfection
TTHM (ppb) (Stage 2) [total trihalomethanes]	80	N/A	43 (high site average)	14.2 to 43.4 (range of individual sites)	2019	No	Byproduct of drinking water disinfection.
Unregulated Contaminants (UCMR 4)		average	range (ppb)		date		
Manganese		2.140	1.68 to 2.37		Dec-19		
HAA5		11.429	2.82 to 33.37		Dec-19		
HAA6Br		2.945	0.35 to 3.97		Dec-19		
HAA9		15.659	3.17 to 36.91		Dec-19		

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