North Shelby Water Company
Water Quality Report 2020

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Meeting Location and Time: Third Monday monthly at 6:30 PM at water office in Bagdad, KY

North Shelby Water Company provides purchased water from three suppliers, all of which treat surface water. The suppliers and their sources include: Louisville Water Company withdraws from the Ohio River; Frankfort Plant Board withdraws from the Kentucky River: Shelbyville Water and Sewer Commission withdraws from Guist Creek Lake. Each of these suppliers has conducted an analysis of susceptibility to contamination and the overall susceptibility is generally moderate. Areas of high concern include transportation corridors, underground storage tanks, agricultural land use, waste generators, and waste disposal sites. The respective Source Water Assessment Plans are available for review at each of the water producers. Contact information for our suppliers can be obtained by calling our office at 502-747-8942. For specific service areas contact the North Shelby Water Company. General service areas for each supplier: Louisville Water Company – serves the western one-third of Shelby County; Frankfort Plant Board – serves the eastern two-thirds of Shelby County with the following exceptions; Shelbyville Water and Sewer Commission serves Harrington Pike from Scotts Station to State Route 53 and then south to US 60 and a two-mile section of Benson Pike east of Shelbyville.

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).

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.
Variances & 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

Regulated Contaminant Test Results Louisville (L) Shelbyville (S) Frankfort (F)									
Contaminant [code] (units)	**MCL**	**MCLG**	**Source**	**Report Level**	**Range of Detection**			**Date of Sample**	**Violation**	**Likely Source of Contamination**
Inorganic Contaminants										
Arsenic [1005] (ppb)	10	N/A	F=	0.7	0.7	to	0.7	2020	No	Natural erosion; runoff from orchards or glass and electronics production wastes
Barium [1010] (ppm)	2	2	S=	0.01	0.01	to	0.01	2020	No	Drilling wastes; metal refineries; erosion of natural deposits
			F=	0.02	0.02	to	0.02	2020	No	
Beryllium [1075] (ppb)	4	4	S=	0.2	0.2	to	0.2	2020	No	Coal-burning factories; metal refineries; electrical, defense, and aerospace industries
Fluoride [1025] (ppm)	4	4	L=	0.6	0.6	to	0.6	2020	No	Water additive which promotes strong teeth
			S=	0.68	0.68	to	0.68	2020	No	
			F=	0.68	0.68		0.68	2020	No	
Mercury [1035] (ppb)	2	2	F=	0.2	0.2	to	0.2	2020	No	Erosion of natural deposits; refineries and factories; landfills; runoff from cropland
Nitrate [1040] (ppm)	10	10	L=	1	0.8	to	1	2020	No	Fertilizer runoff; leaching from septic tanks, sewage; erosion of natural deposits
			S=	3	3	to	3	2020	No	
			F=	0.7	0.7	to	0.7	2020	No	
Synthetic Organic Contaminants including Pesticides and Herbicides										
Atrazine [2050] (ppb)	3	3	S=	0.73	BDL	to	1.72	2020	No	Runoff from herbicide used on row crops
Disinfectants/Disinfection Byproducts and Precursors										
Total Organic Carbon (ppm) (report level=lowest avg. range of monthly ratios)	TT*	N/A	L=	1.34	0.92	to	1.97	2020	No	Naturally present in environment.
			S=	1.98	1.82	to	2.75	2020	No	
			F=	1.54	1.24	to	3	2020	No	
*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**	**Source**	**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*	L=	0.07	100	No	Soil runoff
	Less than 0.3 NTU in	S=	0.22	100	No	
	95% monthly samples	F=	0.15	100	No	

Unregulated Contaminants (UCMR 4)		**average**	**range (ppb)**			**date**
Manganese	F	0.731	0.698	to	0.766	2020
HAA5	F	27.7	11.4	to	40.9	2020
HAA6Br	F	7.5	2.2	to	16.6	2020
HAA9	F	34.7	13.8	to	52.7	2020

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.

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.**

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
Chloramines (ppm)	MRDL = 4	MRDLG = 4	1.20 (highest average)	0.97 to 1.62	2020	No	Water additive used to control microbes.
HAA (ppb) (Stage 2) [Haloacetic acids]	60	N/A	25 (high site average)	2.9 to 38.3 (range of individual sites)	2020	No	Byproduct of drinking water disinfection
TTHM (ppb) (Stage 2) [total trihalomethanes]	80	N/A	30 (high site average)	9.3 to 39.8 (range of individual sites)	2020	No	Byproduct of drinking water disinfection.
Household Plumbing Contaminants							
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

Level 1 Assessment: A Level 1 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.

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

During the past year we were required to conduct one Level 1 Assessment. One Level 1 assessment was completed. In addition, we were required to take one corrective action and we completed one of these actions.