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.

Lyon County Water District Water Quality Report 2018

To request a paper copy call (270) 388-0271.

Water System ID: KY0720933

Manager: Dixie Cayce
CCR Contact: Dixie Cayce
270-388-0271

Mailing address:
P.O. Box 489
Kuttawa, KY 42055

Meeting location and time:
Water District Office – 5464 U.S. Hwy 62 West
2nd Tuesday each month at 8:00 AM

This report is designed to inform the public about the quality of water and services provided on a daily basis. Our commitment is to provide a safe, clean, and reliable supply of drinking water. We want to assure that we will continue to monitor, improve, and protect the water system and deliver a high quality product.

Lyon County Water District purchases water from five different suppliers. Princeton, Eddyville, Kuttawa, and Barkley Lake Water District treat surface water from Lake Barkley. Crittenden-Livingston Water District treats surface water from the Cumberland River. Each of these suppliers has conducted an analysis of susceptibility to contamination and the overall susceptibility is generally moderate. Areas of high concern include highway and marine transportation corridors, underground storage tanks, agricultural land use, and waste generators. 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 270-388-0271.

For specific service areas contact the Lyon County Water District. General service areas of the county for each supplier:

Princeton – serves east central
Kuttawa – serves area near Kuttawa and northwest
Eddyville – serves area near Eddyville and northeast
Barkley Lake Water District – serves southeast
Crittenden-Livingston Water District – serves north

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.

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.

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	Source	Highest Single Measurement	Lowest Monthly %	Violation	Likely Source of Turbidity
Turbidity (NTU) TT	No more than 1 NTU*	BL	0.28			
* Representative samples	Less than 0.3 NTU in	CL	0.2	100	No	Soil runoff
of filtered water	95% monthly samples					

Regulated Contaminant Test Results - Barkley Lake W.D. (BL) Crittenden-Livingston W.D. (CL)

Contaminant [code] (units)	MCL	MCLG	Source	Report Level	Range of Detection	Date of Sample	Violation	Likely Source of Contamination
Alpha emitters [4000] (pCi/L)	15	0	BL	4.7	4.7 to 4.7	2014	No	Erosion of natural deposits
Combined radium (pCi/L)	5	0	CL	0.42	0.42 to 0.42	2017	No	Erosion of natural deposits
Barium [1010] (ppm)	2	2	BL CL	0.16 0.025	0.16 to 0.16 0.025 to 0.025	2018	No	Drilling wastes; metal refineries; erosion of natural deposits
Fluoride [1025] (ppm)	4	4	BL CL	0.9 0.72	0.9 to 0.9 0.72 to 0.72	2018	No	Water additive which promotes strong teeth
Nitrate [1040] (ppm)	10	10	BL CL	0.56 0.17	0.359 to 0.56 0.17 to 0.17	2018	No	Fertilizer runoff; leaching from septic tanks, sewage; erosion of natural deposits
Total Organic Carbon (ppm) (report level=lowest avg. range of monthly ratios)	TT*	N/A	BL CL	1.45 1.27	0.17 to 2.39 1 to 2.54	2018	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.								

Source Water Contaminants (untreated water)

Cryptosporidium [oocysts/L]	0	TT (99% removal)	P CL	2 2 (positive samples)	9 12 (no. of samples)	2018	See Note Below	Human and animal fecal waste

Cryptosporidium is a microbial pathogen found in surface water. Cryptosporidium was detected in 2 samples of 9 collected from the raw water source for Princeton and 2 samples of 12 collected for Crittenden-Livingston water system. It was not detected in the finished water. Current test methods do not enable us to determine if the organisms are dead or if they are capable of causing disease. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Cryptosporidium must be ingested to cause disease and it may be spread through means other than drinking water.

Unregulated Contaminants (UCMR 4)		average	range (ppb)			date
total microcystin	BL	0.257	BDL	to	1.6	Aug-18
Manganese	BL	0.623	0.461	to	0.784	Nov-18
HAA5	BL	39.2	23.3	to	59.6	Aug-18
HAA6Br	BL	8.427	4.56	to	14.4	Aug-18
HAA9	BL	47.433	27.9	to	73.3	Aug-18
Manganese	E	2.2	1	to	3.6	Jul-18
HAA5	E	20.743	8.2	to	39.474	Oct-18
HAA6Br	E	16.818	8.8	to	24.6	Oct-18
HAA9	E	34.75	15.9	to	55.617	Oct-18

Eddyville and Barkley Lake UCMR4 Public Notice - 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	Source	Highest Single Measurement	Lowest Monthly %	Violation	Likely Source of Turbidity
Turbidity (NTU) TT	No more than 1 NTU*	P=	0.1			
* Representative samples	Less than 0.3 NTU in	K=	0.268	100	No	Soil runoff
of filtered water	95% monthly samples	E=	0.29			

Regulated Contaminant Test Results - Princeton (P) Kuttawa (K) Eddyville (E) Lyon County (L)

Contaminant [code] (units)	MCL	MCLG	Source	Report Level	Range of Detection	Date of Sample	Violation	Likely Source of Contamination
Barium [1010] (ppm)	2	2	P= K= E=	0.023 0.027 0.017	0.023 to 0.023 0.02 to 0.027 0.017 to 0.017	2018	No	Drilling wastes; metal refineries; erosion of natural deposits
Copper [1022] (ppm) sites exceeding action level 0	AL= 1.3	1.3	L=	0.0364 (90th percentile)	0 to 0.0584	2018	No	Corrosion of household plumbing systems
Fluoride [1025] (ppm)	4	4	P= K= E=	0.7 0.5 0.5	0.7 to 0.7 0.5 to 0.5 0.5 to 0.5	2018	No	Water additive which promotes strong teeth
Nitrate [1040] (ppm)	10	10	P= K= E=	0.8 0.43 0.618	0.8 to 0.8 0.43 to 0.43 0.618 to 0.618	2018	No	Fertilizer runoff; leaching from septic tanks, sewage; erosion of natural deposits
Trichloroethylene [2984] (ppb)	5	0	A= E= C=	0.225	to 0 to 0.9 to	2018	No	Discharge from metal degreasing sites; factories
Total Organic Carbon (ppm) (report level=lowest avg. range of monthly ratios)	TT*	N/A	P= K= E=	1.30 1.77 2.13	1 to 1.74 -0.17 to 2.22 1 to 5.07	2018	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.								
Chlorine (ppm)	MRDL = 4	MRDLG = 4	L=	1.40 (highest average)	0.40 to 2.19	2018	No	Water additive used to control microbes.
HAA (ppb) (Stage 2) [Haloacetic acids]	60	N/A	L=	55 (average)	29 to 53 (range of individual sites)	2018	No	Byproduct of drinking water disinfection
TTHM (ppb) (Stage 2) [total trihalomethanes]	80	N/A	L=	78 (average)	30 to 98 (range of individual sites)	2018	No	Byproduct of drinking water disinfection.

Violation 2018-9517332

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During May 2018, we did not complete all monitoring or testing for total coliform bacteria, and therefore cannot be sure of the quality of your drinking water during that time.

Routine bacteriological samples were collected on May 16 and analyzed by our contract lab on May 17. One tested positive and a set of repeat samples should have been collected within 24 hours from the time we were notified. Instead of collecting the repeat samples on a Friday afternoon the repeat samples were not collected until early Monday morning on May 21. This was outside of the required time period. To avoid future violations samples will be taken at the proper time. There is nothing you need to do at this time. You may continue to drink the water. For more information, please contact Dixie Cayce at 270-388-0271 or P.O. Box 489 Kuttawa, KY 42055.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.