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.

To request a paper copy call (859) 624-1735.

Madison County Utilities District

Water Quality Report for 2019

Water System ID: KY0760224
Manager: John C. Clark
(859)624-1735
CCR Contact: Barbara Moberly
(859)624-1735
http://madisoncountyutilities.com/

Mailing address:
P.O. Box 670
Richmond, KY 40476-0670

Board meeting location and time:
297 Michelle Drive, Richmond, KY
Last Thursday each month at 1:00 PM

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.

Madison County Utilities District purchases water from Richmond Utilities to serve our customers. The source of water for Richmond Utilities is surface water withdrawn from the Kentucky River. The Safe Drinking Water Act of 1996 requires every water system treating water to prepare a source water assessment that addresses the system's susceptibility to contamination. This study indicates that our susceptibility is moderate. Potential sources of contamination within the watershed include transportation routes (road/rail), sewer lines, oil and gas wells, logging, pesticide and fertilizer application and an active Superfund site. Activities and land uses within the watershed can pose potential risks to your drinking water. These activities, and how they are conducted, are of interest to our customers because they potentially affect your health and the cost of treating your water. The complete Source Water Assessment is available for review during regular business hours at the Richmond Utilities at 300 Hallie Irvine Street.

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.

Quality On Tap!
Our Commitment Our Profession

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	0.14	100	No	Soil runoff

Regulated Contaminant Test Results-Richmond Utilities

Contaminant [code] (units)	MCL	MCLG	Report Level	Range of Detection	Date of Sample	Violation	Likely Source of Contamination
Alpha emitters [4000] (pCi/L)	15	0	0.406	0.406 to 0.406	Oct-18	No	Erosion of natural deposits
Combined radium (pCi/L)	5	0	0.1	0.1 to 0.1	Oct-18	No	Erosion of natural deposits
Barium [1010] (ppm)	2	2	0.032	0.032 to 0.032	Apr-19	No	Drilling wastes; metal refineries; erosion of natural deposits
Fluoride [1025] (ppm)	4	4	0.8	0.8 to 0.8	Jan-19	No	Water additive which promotes strong teeth
Total Organic Carbon (ppm) (measured as ppm, but reported as a ratio)	TT*	N/A	1.48 (lowest average)	1 to 3.53 (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.

Unregulated Contaminants (UCMR 4)	average	range (ppb)	date
Manganese	1.25	0.405 to 2.35	2019
HAA6Br	7.5	0 to 16.8	2019
HAA9	40.6	0 to 119	2019

Your drinking water from Richmond Utilities has been sampled for a series of unregulated contaminants. Unregulated contaminants are those for which 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 Richmond Utilities' office during normal business hours.

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 assessment(s) to identify problems and to correct any problems that were found during these assessments.

E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Human pathogens in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a greater health risk for infants, young children, the elderly, and people with severely compromised immune systems. We found E. coli bacteria, indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessment(s) to identify problems and to correct any problems that were found during these assessments.

We had a total coliform-positive repeat sample following an E. coli-positive routine sample.

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.

Level 2 Assessment: A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an E. coli MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

Regulated Contaminant Test Results **Madison County Utilities District**

Contaminant [code] (units)	MCL	MCLG	Report Level	Range of Detection	Date of Sample	Violation	Likely Source of Contamination
Microbiological Contaminants							
E.coli Bacteria % positive samples	0%	0	1	N/A	2019	Yes	Human and animal fecal waste
Inorganic Contaminants							
Copper [1022] (ppm) sites exceeding action level 0	AL = 1.3	1.3	0.123 (90^{th} percentile)	0.0022 to 0.32	Jul-18	No	Corrosion of household plumbing systems
Lead [1030] (ppb) sites exceeding action level 0	AL = 15	0	0 (90^{th} percentile)	0 to 2	Jul-18	No	Corrosion of household plumbing systems
Disinfectants/Disinfection Byproducts and Precursors							
Chlorine (ppm)	MRDL = 4	MRDLG = 4	1.45 (highest average)	0.71 to 2.4	2019	No	Water additive used to control microbes.
HAA (ppb) (Stage 2) [Haloacetic acids]	60	N/A	32 (high site average)	12 to 43 (range of individual sites)	2019	No	Byproduct of drinking water disinfection
TTHM (ppb) (Stage 2) [total trihalomethanes]	80	N/A	56 (high site average)	11 to 101 (range of individual sites)	2019	No	Byproduct of drinking water disinfection.

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 four corrective actions and we completed four of these actions.

We were required to complete a Level 2 assessment because we found E. coli in our water system. In addition, we were required to take one corrective action and we completed one of these actions.

Violation 2019-9908618: We received a violation for exceeding the E. coli maximum contaminant level in June 2019. A routine sample was positive for E. coli and a follow-up repeat sample was positive for Total Coliform. A full Public Notice was issued. We have returned to compliance.

Violation 2019-9908619 and 2020-9908621: We received a violation for failing to complete the Public Notice to our customers regarding Violation 2019-9908618 within 24hours. The notice was completed and submitted to Division of Water; however, that submittal was late. We have taken measures to ensure we are in full compliance in the future.

Violation 2020-9908620

Our system failed to notify the state drinking water program that we detected *E. coli* bacteria in a water sample. We are required to notify the state of this information within 24 hours of when we learned of the situation but we failed to do so.

Although this situation does not create a risk to public health, as our customers you have a right to know what happened and what we did to correct the situation.

What should I do?

There is nothing you need to do at this time. If a situation arises where the water is no longer safe to drink, you will be notified within 24 hours. We will announce any emergencies via broadcast media.

What is being done?

Our contract laboratory informed the Kentucky Division of Water that we detected *E. coli* bacteria in a water sample within 24 hours of learning of the results. We were mistaken in believing that this communication was sufficient, so we did not contact the state at that time. We have since changed our procedures to include a call to the Division of Water.

For more information, please contact Jared Webb at 859-624-1735 or PO Box 670, Richmond, KY 40476.

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.