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.

Meade County WATER DISTRICT

Water Quality Report 2019

To request a paper copy call (270) 422-5006.

Water System ID: KY0820369
Manager: Tim Gossett
270-422-5006
CCR Contact: Tim Gossett
270-422-5006

Mailing address:
1003 Armory Place
Brandenburg, KY 40108

Meeting location and time:
Water District Office – 1003 Armory Place
Fourth Tuesday each month at 6:00 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.

Meade County Water District purchases all of its water from Hardin County Water District #1. Most water is provided by Hardin County Water District #1 which owns and operates three treatment plants. The Pirtle Springs Plant treats water from Pirtle Spring and Head of Rough Spring, both classified as groundwater under the influence of surface water. There are two treatment plants at Fort Knox. The Muldraugh Plant treats groundwater from wells in the West Point aquifer. The Central Plant treats surface water from McCracken Spring and is operated periodically to provide supplemental water during high demand or when the Muldraugh Plant is receiving maintenance. Hardin County #1 purchases a small percentage of supplemental water from Hardin County #2 and Louisville Water Company. Hardin County #2 sources are City Spring of Elizabethtown and White Mills Spring and Louisville is the Ohio River. The overall susceptibility to contamination for these sources can be considered moderate but there are a few areas of concern. Potential contaminant sources include transportation corridors, urban areas, and agricultural activities. Potential contaminant sources for the wells include underground storage tanks, permitted outfalls, abandoned oil and gas wells, illegal dump sites, solvents, degreasing agents, and petroleum-based products. Source Water Assessment Plans have been developed for each of these sources and are available for review at the respective water systems. Contact information for each water system may be obtained by calling our office.

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.

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 report, though representative, may be more than one year old. Copies of this report are available upon request by contacting our office during business hours.

Source identification - Hardin Co. #1 (HC1), Fort Knox Central Plant (FKA), Fort Knox Muldraugh Plant (FKB), Hardin Co. #2 White Mills (HCA), Hardin Co. #2 City Springs (HCB), Louisville Water Co. (LWC), Meade Co. (MC)

Regulated Contaminant Test Results

Contaminant [code] (units)	MCL	MCLG	Source	Report Level	Range of Detection	Date of Sample	Violation	Likely Source of Contamination
Beta photon emitters (pCi/L)	50	0	FKB	6.5	6.5 to 6.5	2017	No	Decay of natural and man-made deposits
Alpha emitters [4000] (pCi/L)	15	0	FKB	3.4	3.4 to 3.4	2017	No	Erosion of natural deposits
Barium [1010] (ppm)	2	2	HC1 HCA HCB	0.031 0.035 0.042	N/A	2019	No	Drilling wastes; metal refineries; erosion of natural deposits
Fluoride [1025] (ppm)	4	4	HC1 FKA FKB HCB LWC	0.4 0.6 0.8 0.5 0.6	N/A	2019	No	Water additive which promotes strong teeth
Mercury [1035] (ppb)	2	2	HCA HCB	0.3 0.3	N/A	2019	No	Erosion of natural deposits; refineries and factories; landfills; runoff from cropland
Nitrate [1040] (ppm)	10	10	HC1 FKA HCA HCB LWC	2.33 1.6 2.97 1.44 1.1	2.33 to 2.33 1.6 to 1.6 2.97 to 2.97 1.44 to 1.44 0.9 to 1.1	2019	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	HC1 FKA FNB HCA HCB LWC	1.72 2.39 1.35 1.87 1.29 1.47	1.00 to 2.86 1.00 to 4.92 1.00 to 4.83 1.00 to 3.16 1.00 to 2.05 1.00 to 2.23	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	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* Less than 0.3 NTU in 95% monthly samples	HC1 FKA FKB HCA HCB LWC	0.088 0.246 0.12 0.039 0.04 0.07	100	No	Soil runoff

Regulated Contaminant Test Results

Contaminant [code] (units)	MCL	MCLG	Source	Report Level	Range of Detection	Date of Sample	Violation	Likely Source of Contamination
Chloramines (ppm)	MRDL = 4	MRDLG = 4	MC	2.25 (highest average)	0.50 to 3.90	2019	No	Water additive used to control microbes.
HAA (ppb) (Stage 2) [Haloacetic acids]	60	N/A	MC	25 (average)	4 to 35 (range of individual sites)	2019	No	Byproduct of drinking water disinfection
TTHM (ppb) (Stage 2) [total trihalomethanes]	80	N/A	MC	23 (average)	10 to 34 (range of individual sites)	2019	No	Byproduct of drinking water disinfection.
Household Plumbing Contaminants								
Copper [1022] (ppm) sites exceeding action level 0	AL = 1.3	1.3	MC	0.481 (90^{th} percentile)	0.0065 to 2.05	2019	No	Corrosion of household plumbing systems
Lead [1030] (ppb) sites exceeding action level 0	AL = 15	0	MC	5 (90^{th} percentile)	0 to 13	2019	No	Corrosion of household plumbing systems

Unregulated Contaminants (UCMR 4)		average	range (ppb)	date
Manganese	MC	1.01	1.01 to 1.01	2019
HAA5	MC	11	8.32 to 15.1	2019
HAA6Br	MC	1.415	0.63 to 1.86	2019
HAA9	MC	12.413	8.95 to 16.9	2019

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.

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. During the past year we were required to conduct one Level 1 assessment. One Level 1 assessments was completed. In addition, we were required to take no corrective actions and we completed no actions.

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. During the past year two Level 2 assessments were required to be completed for our water system. Two Level 2 assessments were completed. In addition, we were required to take four corrective actions and we completed four of these actions.

2019-9668719 - During the December 2018 compliance period, we did not complete all monitoring requirements by failing to correctly report our Level 1 Assessment on time. The Level 1 Assessment was submitted to Division of Water but not until after the 30-day time period that was required. No further actions are required at this time. A public notice was distributed for this violation.

Chlorine Residual Violations

2020-9668720 – We failed to report in our Monthly Operating Report (MOR) daily chlorine residuals for September 1-2, 2019.

2020-9668721 – We failed to maintain the required chlorine residual throughout the distribution system during 1-12, 15-19, and 21-30 of November 2019.

During 2019 we had changes in disinfectant types, suppliers, and flow patterns within our distribution system. Some of these factors may have contributed to lower than normal chlorine residuals in some portions of the distribution system. We have discussed operational and monitoring protocols with regulatory personnel and other consultants and have made modifications to our operation and sampling procedures to prevent similar violations in the future.