

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 of this report contact our office at 270-351-3222.



## Water Quality Report 2020



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.

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1400 Rogersville Road

Last Tuesday each month at 11:30 AM

Hardin County Water District No. 1 and Ft. Knox Water updated the Wellhead Protection Plans (WHPPs) in 2016. Earlier WHPP efforts included identifying the area basins that drain into our raw water sources, to identify possible types and sources of contamination, and then to develop programs or additional measures to better protect this source waters. Pirtle Spring WTP found that its two separate sources do not share the same water. The Pirtle Spring, located at the plant site, collects water from a 27-square-mile area. The Head of Rough Spring, located about 1.5 miles from the water plant, receives water from a 17-square-mile area. Both of these watersheds are in largely agricultural areas and subject our treatment process to contaminants from agricultural runoff including fertilizers, pesticides, and herbicides.

Fort Knox personnel conducted a comprehensive inventory of existing wells for the West Point well field and surrounding 5.5-square-mile protection area, which serves Muldraugh WTP, as well as the 19.4-square-mile recharge area for McCracken Springs, which serves Central WTP. These inventories identify and monitor potential sources of contamination to the water supply. One of the primary management strategies included in the Ft. Knox WHPP is the use of control wells to protect the groundwater supply from chloride intrusion from nearby abandoned oil and gas wells. A copy of these reports is available by contacting us during regular business hours.

In 2018, we switched from chlorine disinfection to chloramine disinfection. We supplement our demand with Louisville Water Company, their source being the Ohio River, and Hardin County Water District No.2, their sources being the City Spring of Elizabethtown and White Mills Spring. Their water quality data has been added to the report.

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>.

**Regulated Contaminant Test Results - Hardin Co #1 (HCl), Fort Knox Central (FKA), Fort Knox Muldraugh (FKB)**

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	HCl	0.028	0.028 to 0.028	2020	No	Drilling wastes; metal refineries; erosion of natural deposits
Fluoride [1025] (ppm)	4	4	HCl FKA FKB	0.77 0.7 0.8	0.77 to 0.77 0.7 to 0.7 0.8 to 0.8	2020	No	Water additive which promotes strong teeth
Mercury [1035] (ppb)	2	2	HCl	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	HCl FKA	1 2.2	1 to 1 2.2 to 2.2	2020	No	Fertilizer runoff; leaching from septic tanks, sewage; erosion of natural deposits
Atrazine [2050] (ppb)	3	3	HCl	0.23	BDL to 0.46	2020	No	Runoff from herbicide used on row crops
Total Organic Carbon (ppm) (report level=lowest avg. range of monthly ratios)	TT*	N/A	HCl FKA	2.11 1.65	1 to 4.31 1 to 1.98	2020	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.

Chloramines (ppm)	MRDL = 4	MRDLG = 4	HCl FKB	2.41 2.57 (average)	1.1 to 3.2 1.90 to 2.80	2020	No	Water additive used to control microbes.
Chlorine (ppm)	MRDL = 4	MRDLG = 4	FKB	1.79 (average)	1.14 to 2.20	2020	No	Water additive used to control microbes.
HAA (ppb) (Stage 2) [Halobacetic acids]	60	N/A	HCl FKB	21 15 (average)	3 to 28 0 to 3.3 (range of individual sites)	2020	No	Byproduct of drinking water disinfection
TTHM (ppb) (Stage 2) [total trihalomethanes]	80	N/A	HCl FKB	20 26 (average)	8 to 35 1 to 20 (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	HCl FKB	0.169 0.0085	0.0279 to 0.653 0 to 0.0376	2019 2020	No	Corrosion of household plumbing systems
Lead [1030] (ppb) sites exceeding action level 0	AL = 15	0	HCl FKB	4 0	0 to 5 0 to 1.6	2019 2020	No	Corrosion of household plumbing systems

**Other Constituents**

Turbidity (NTU) TT	Allowable Levels	Source	Highest Single Measurement	Lowest Monthly %	Violation	Likely Source of Turbidity
* Representative samples	No more than 1 NTU* Less than 0.3 NTU in 95% monthly samples	HCl FKA FKB	0.09 0.246 0.12	100	No	Soil runoff

**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 - White Mills (HCA), City Springs (HCB), Louisville Water Co. (LWC)**

Contaminant [code] (units)	MCL	MCLG	Source	Report Level	Range of Detection	Date of Sample	Violation	Likely Source of Contamination
Barium [1010] (ppm)	2	2	HCA HCB	0.031 0.036	0.031 to 0.031 0.036 to 0.036	2020	No	Drilling wastes; metal refineries; erosion of natural deposits
Fluoride [1025] (ppm)	4	4	HCA HCB LWC	0.78 0.5 0.6	0.78 to 0.78 0.5 to 0.5 0.6 to 0.6	2020	No	Water additive which promotes strong teeth
Nitrate [1040] (ppm)	10	10	HCA HCB LWC	1.86 1.3 1	1.86 to 1.86 1.3 to 1.3 0.8 to 1	2020	No	Fertilizer runoff; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite [1041] (ppm)	1	1	HCA HCB	0.2 0.2	0.2 to 0.2 0.2 to 0.2	2020	No	Fertilizer runoff; leaching from septic tanks, sewage; erosion of natural deposits
Atrazine [2050] (ppb)	3	3	HCA	0.33	BDL to 0.33	2020	No	Runoff from herbicide used on row crops
Total Organic Carbon (ppm) (report level=lowest avg. range of monthly ratios)	TT*	N/A	HCA HCB LWC	2.20 1.26 1.34	1 to 4.32 1 to 1.67 0.92 to 1.97	2020	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	Allowable Levels	Source	Highest Single Measurement	Lowest Monthly %	Violation	Likely Source of Turbidity
* Representative samples	No more than 1 NTU* Less than 0.3 NTU in 95% monthly samples	HCA HCB LWC	0.022 0.042 0.07	100	No	Soil runoff

**Unregulated Contaminants (UCMR 4)**

		average	range (ppb)	date
HAA5	HCl	18.361	4.33 to 37.4	2020
HAA6Br	HCl	3.772	2.49 to 8.33	2020
HAA9	HCl	21.991	7.15 to 40.8	2020
HAA5	HC2	16.088	10.4 to 19.9	2020
HAA6Br	HC2	3.4175	2.65 to 5.65	2020
HAA9	HC2	19.5	15.9 to 23.7	2020

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.