

## Hickman Water Department 2022 Water Quality Report

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Meetings: City Hall / 2nd Monday of each month at 5:00 PM

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The source of our drinking water is groundwater. The city withdraws water from three wells drilled into the Claiborne Group aquifer where it is processed at our water treatment plant. During the treatment process oxidation is used to remove contaminants after which the water is filtered and disinfected with chlorine to further protect public health. As part of a multi- barrier approach to safeguard the public, land uses within the wellhead protection area have been assessed to better understand their potential impact to water quality and to assign a susceptibility rating. A susceptibility analysis uses a weighted rating system which evaluates the toxicity, distance, and likelihood of release of contaminants to adversely affect water quality. The rating for our source is moderate. Potential sources of contamination include fuel storage tanks, agrichemical application, railway and a solid waste landfill. Activities and land use within the watershed can pose potential risk to your drinking water. Under certain circumstances contaminants could be released that would pose challenges to water treatment or even get into your drinking water. These activities, and how they are conducted, are of interest to the entire community because they potentially affect your health and the cost of treating your water. The completed source water assessment / wellhead protection plan is available for review at Hickman City Hall.

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, ( $\mu\text{g/L}$ ). 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.

Variations & 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 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**

Contaminant [code] (units)	MCL	MCLG	Report Level	Range of Detection	Date of Sample	Violation	Likely Source of Contamination
<b>Inorganic Contaminants</b>							
Barium [1010] (ppm)	2	2	0.203	0.203 to 0.203	Apr-20	No	Drilling wastes; metal refineries; erosion of natural deposits
Fluoride [1025] (ppm)	4	4	0.26	0.26 to 0.26	Apr-20	No	Water additive which promotes strong teeth
<b>Disinfectants/Disinfection Byproducts</b>							
Chlorine (ppm)	MRDL = 4	MRDLG = 4	1.56 (highest average)	0.57 to 2.2	2022	No	Water additive used to control microbes.
HAA (ppb) (Stage 2) [Haloacetic acids] (Annual Sample)	60	N/A	3 (high site)	2 to 3 (range of individual sites)	2022	No	Byproduct of drinking water disinfection
TTHM (ppb) (Stage 2) [total trihalomethanes] (Annual Sample)	80	N/A	9 (high site)	6 to 9 (range of individual sites)	2022	No	Byproduct of drinking water disinfection.
<b>Household Plumbing Contaminants</b>							
Copper [1022] (ppm) sites exceeding action level 0	AL = 1.3	1.3	0.254 (90 <sup>th</sup> percentile)	0.01 to 0.271	Jul-21	No	Corrosion of household plumbing systems

**Violation: Public Notification Rule (2023-9935463)**

We received a violation for failing to perform public notification in accordance with 401 KAR 8:070. This violation is linked to a Groundwater Rule violation from 2021 in which the city had one year to notify our customers. The violation was discussed in the 2021 annual water quality report however it did not meet the regulatory requirements for a formal public notice. We have included the public notice in this report.

**PUBLIC NOTICE**

Our water system violated one or more drinking water standards over the past year. Even though these were not emergencies, as our customers, you have a right to know what happened and what we did to correct these situations.

*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 the 10/1/2021 - 10/31/2021 and the 12/1/2022 - 12/31/2022 monitoring periods we did not complete all monitoring or testing for chlorine residual at the entry point to the distribution system and during the 9/1/2022 - 9/30/2022 monitoring period we did not complete all monitoring or testing for total coliform and therefore cannot be sure of the quality of your drinking water during that time.*

There is nothing you need to do at this time. You do not need to use an alternative (e.g., bottled) water supply.

The table below lists the contaminant(s) we did not properly test for during the last year, how often we are supposed to sample for this contaminant and how many samples we are supposed to take, how many samples we took, when samples should have been taken, and the date on which follow-up samples were taken.

Analyte / Contaminant	Required sampling frequency	Number of samples taken	Number of samples that should have been taken	When samples were (will be) taken
Chlorine	Daily	29	31	Nov-21
Chlorine	Daily	30	31	Jan-23
Total Coliform	Monthly	2	3	Oct-22

What happened? Who is at risk? What is being done?

Chlorine concentration measured at the entry point to the distribution system occurs at the water treatment plant. Following the water treatment process the "finished" drinking water is stored in the clearwell where it is immediately available to be pumped to the distribution system. The disinfectant residual (Chlorine) is continuously measured with the lowest measured concentration reported daily on the operations report. The unreported measurements occurred while the city had a private operations company contracted to oversee the treatment plant. The contract was dissolved as of January 1, 2023 therefore, we cannot provide a reason for the reporting error.

Microbiological monitoring is conducted in the water distribution system where samples are routinely collected and analyzed for the presence of Coliform bacteria. During September 2022 we actually collected four bacteriological samples however two of those samples were not from unapproved locations. When this occurs, the sample results are rejected for compliance because the location codes do not match our approved monitoring plan. We have since reviewed the monitoring plan to confirm all of compliance sample locations. These violations not constitute a risk to

*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.*