2019 Annual Drinking Water Quality Report

The City Utilities Commission (CUC) of Corbin (PWS ID # KY-1180085) is pleased to present to you our Annual Water Quality Report. This report is designed to inform you about the quality water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water and provide a safe supply of water to more than 19,000 people. We would like the public to be assured that we will continue to monitor, improve, and protect the water system and deliver high quality water direct from the tap. We know that water is the most indispensable product in every home, and we ask everyone to be conservative and help us in our efforts to protect the water source and the water system. Please report any activity that might jeopardize the water supply.

We believe the water supply for this community is safe. This report shows our water quality and what it means. If you have any questions about this report or concerning your water utility, please contact Kemmy Lawson at the Water Treatment Plant at (606)528-5975. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled board meetings. Please contact the City Utilities Commission main office at (606)528-4026 for meeting dates and times.

City Utilities Commission, Water Treatment Plant, routinely monitors for constituents in your drinking water according to Federal and State laws. The table in this report shows the results of our monitoring for the period of January 1, 2019 to December 31, 2019. The Water Treatment Plant has 10 million gallons per day capacity. It uses conventional treatment processes consisting of aeration, coagulation, sedimentation, filtration and disinfection (Chlorine) to remove potentially harmful chemical and microbiological agents. The treatment processes also include corrosion control and fluoridation. Our system has 6.2 million gallons of storage capacity. The source of your drinking water is Corbin City Lake, a surface water intake above Laurel River Lake within the impoundment of the city's dam, in Laurel County on Laurel River.

a. 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 can pick up substances resulting from the presence of animals or from human activity.
b. Contaminants that may be present in source water include:
    (i) Microbial contaminants, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
    (ii) Inorganic contaminants, such as salts and metals, that can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
    (iii) Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
    (iv) Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and may also come from gas stations, urban storm water runoff, and septic systems.
    (v) Radioactive contaminants, which may be naturally-occurring or be the results of oil and gas production and mining activities.
c. (i)To ensure that tap water is safe to drink, U.S. EPA prescribes regulations that limit the number of certain contaminants in water provided by public water systems.
(ii) U.S. FDA regulations establish limits for contaminants in bottled water that shall provide the same protection for public health.

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 the 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).

NOTICE: Important Information - Special Precautions
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 microbiological contaminants are available from the Safe Drinking Water Hotline (800) 426-4791.
Another source for information on water quality is the KY Division of Water's website: http://water.ky.gov/DrinkingWater/

Contaminants in the Water Supply
Following is a summary of the system's susceptibility to contamination, which is a part of the completed Source Water Plan (SWAP). The completed plan is available for inspection at (Cumberland Valley Area District Development office in London, Kentucky (606) 864-7391). Activities and land use upstream of Corbin Utilities Commission's source of water can pose potential risks to your drinking water. An analysis of the susceptibility of the Corbin water supply to contamination indicates that this susceptibility is generally moderate. The predominant land cover is forest; this land cover could be subject to logging which may result in soil erosion if Best Management Practices (BMPs) are not carefully applied. There are water quality impairments in all three zones around Corbin City Utility Commission's intake. These impairments are created by excess nutrients. A majority of the nutrients that enter area waterways are created by human and animal sources such as commercial fertilizers, livestock manure, industrial discharges, and human sewage. Other potential contaminants of concern are highway maintenance and runoff, railroads, permitted wastewater dischargers, landfills, dumps, land farms, underground storage tanks, agriculture, onsite wastewater treatment, and straight pipes.

City Utilities Commission is always at work seeking the best way to provide top quality water to every tap. We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life and our children's future. The City Utilities Commission treats water at its plant in a way that reduces the potential of contamination. We believe the water supply for this community is safe. Should any water quality standard be added or changed, the City Utilities Commission will respond appropriately. We continue to be committed to providing a quality, dependable safe water supply to our customers.

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 contaminates 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.

Only those contaminants that were detected are included in the test results tables. Additional tests of more than 100 contaminants are conducted daily during the treatment process to ensure the water quality remains high. Water systems in Kentucky must test for more than 100 other contaminants not listed here. For a complete list please contact the Water Treatment Plant.

Spanish - Este informe contiene información muy importante sobre la calidad de su agua beber. Tradúzcalo o hable con alguien que lo entienda bien.

Definitions

In the tables you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we have provided the following definitions:

- *Parts per million (ppm) –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)* - one part per billion corresponds to one minute in 2,000 years, or a single penny in $10,000,000.
- *Nephelometric Turbidity Unit (NTU)* - nephelometric turbidity unit is a measure of the clarity of water. T*urbidity has no health effects. However, turbidity can provide a medium for microbial growth.*
- *Picocuries per liter (pCi/L)* - picocuries per liter is a measure of the radioactivity in water.
- *Treatment Technique (TT)* - A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.
- *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. MCL's are set at very stringent levels. To understand the possible health effects described for many regulated contaminants, a person would have to drink 2 liters of water daily at the **MCL level** for a lifetime to have a one-in-a-million chance of having the described health effect.
- *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 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 health risk. A MRDLG does not reflect the benefits of disinfectants to control microbial contaminants.
- *Action Level* (AL): the concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system shall follow.
- ***Below Detection Levels (BDL)*** - laboratory analysis indicates that the contaminant is not present. ***<:*** Less than.

Substance	EPA's Allowable Level's MCL	Ideal Goal (MCLG)	Highest Single Level Detected	Lowest Monthly Average %	Violation Yes/No	Sources of Contaminant
Turbidity (NTU) (1422 samples taken) 2019	Less than 0.30 NTU in 95% of samples each month (TT)	N/A	0.21 (NTU)	100.0%	NO	Soil runoff. Natural river sediment. Turbidity is a measurement of water clarity, which aids in determining the effectiveness of our filters.

Contaminant	**EPA's Allowable Level's MCL**	**Ideal Goal (MCLG)**	**Report Level**	**Range of Detection**	**Violation Yes/ NO**	**Sources of Contaminant**
Inorganic Contaminants						
Barium [1010] (ppm) 02/6/2019	2	0	0.019	Range -one sample	NO	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Nitrate [1040] (ppm) (5/01/2019)	10	0	0.492	Range -one sample	NO	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Fluoride [1025] (ppm) (02/6/2019)	4	4	0.60	Range -one sample	NO	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Copper (ppm) (09/2018)	AL=1.30	0	0.317= (90^{th} percentile)	0.042 to 0.45	NO	Corrosion of household plumbing
Lead (ppb) (09/2018)	AL=15	0	5= (90^{th} percentile)	0 to 130	NO	Corrosion of household plumbing

- *Turbidity* is a measure of the cloudiness of the water. It is a good indicator of the effectiveness of the treatment and filtration system. Turbidity in excess of 5 NTU is just noticeable to the average person.
- *Lead* and *Copper* testing- 30 samples were taken at the customer's water tap during the year of 2018; CUC is required to retest in year 2021.
- *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. City Utilities Commission PWSID KY1180085 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**

- IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER: CUC has sampled for a series of unregulated contaminants. Unregulated Contaminants are those substances for which EPA requires monitoring to determine where certain substances occur and whether it needs to regulate those substances. The EPA has not established drinking water standards for unregulated contaminants. There are no MCL's and therefore, no violations if found, that do not yet have a drinking water standard set by EPA. The purpose of monitoring for these contaminants is to help EPA decide whether the contaminants should have a standard. As our customers, you have the right to know that this data is available. If you are interested in examining the results, please contact our office during normal business hours.

Unregulated Substances- UCMR4 -Treatment Plant 2019					
Substance (units)	Minimum Reporting Level	Average	Highest level Detected	Range of Detection	
Manganese 55 (mg/L)	0.4	3.85	4.6	3.1 - 4.6	
Unregulated Substances- Distribution System – 2019					
HAA5 (ppb)	0.20	33.8	49.6	18.2 - 49.2	
HAA6 (ppb)	0.30	6.5	11.5	2.06 – 11.5	
HAA9 (ppb)	0.20	40.3	61.0	20.2 – 61.0	

Unregulated Substances – UCMR4 – Untreated Source Water - 2019					
Total Organic Carbon (PPM)	0.5	3.85	4.6	3.1 - 4.6	

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER:

Availability of Monitoring Data for Unregulated Contaminants for CITY UTILITIES COMMISSION (PWSID: KY1180085). Our water system has sampled for a series of unregulated contaminants, commonly known as UCMR4. Unregulated contaminants are those that

don't yet have a drinking water standard set by USEPA. The purpose of monitoring for these contaminants is to help EPA decide whether the contaminants should have a standard. CITY UTILITIES COMMISSION will complete testing for cyanotoxins in 2020 which includes, microcystins, anatoxin-a, and cylindrospermopsin.
As our customers, you have a right to know that this data is available. If you are interested in examining the results, please contact Kemmy Lawson, Chief WTP Operator at (606)528-5975 or 1515 Cumberland Falls Highway, Corbin, Kentucky, 40701.

This notice is being sent to you by CITY UTILITIES COMMISSION, State Water System ID#: KY1180085 Date distributed 02/13/2020:

Each month 20 samples are collected from various sampling points throughout City Utilities Commission water distribution system and analyzed for *Total Coliforms* and *Escherichia coli* without any positive samples results. Presence of these bacteria indicates that the water may be contaminated with human or animal wastes.

Contaminant	**EPA's Allowable Level's MCL**	**Ideal Goal (MCLG)**	**Report Level**	**Range of Detection**	**Violation Yes/ NO**	**Sources of Contaminant**
Disinfectants/Disinfection By Products and Precursors						
Total Organic Carbon, (ppm) Removal ratio* 2019	Equal to or more than 1.00 annual average (TT)	Ideal Goal (MCLG) N/A	Lowest Running Annual Average 1.53	Monthly Range 1.00 to 2.06	Violation - NO	Runoff from herbicide used on row crops
Chlorine (ppm) 2019	MRDL=4	MRDL=4	Highest Average 1.36	Monthly Range 0.21 to 2.13	Violation - NO	Water additive to control microbes
Haloacetic acids, or HAA (ppb) 2019	60 Annual average	0	High Site average 42	14 to 76 for single sites	Violation - NO	By-product of drinking water chlorination
TTHM [total trihalomethanes] (ppb) 2019	80 Annual average	0	High Site average 55	17 to 90 for single sites	Violation - NO	By-product of drinking water chlorination

- We are required to monitor the source of your drinking water for Cryptosporidium. Results of the monitoring are to be used to determine whether water treatment at our water treatment plant is sufficient to adequately remove Cryptosporidium from your drinking water
- *Cryptosporidium*. Cryptosporidium is a microbial pathogen found in surface water throughout the U.S. Although filtration removes cryptosporidium, the most commonly used filtration methods cannot guarantee 100 percent removal. Our monitoring indicates the presence of low levels of these organisms in our source water. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of cryptosporidium may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people are at greater risk of developing life-threatening illness. We encourage immuno-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water. We are required to monitor the source of your drinking water for Cryptosporidium in order to determine whether treatment at the Water Treatment Plant is sufficient to adequately remove Cryptosporidium from your drinking water and to determine if treatment modifications need to be made. CUC conducted testing for Cryptosporidium in our source water September 2015 thru August 2016, at two samples each month. In September 2015 there was 1 detection in one sample and in December 2015 there was 1 detection in one sample. At present time, there is no Maximum Contaminant Level (MCL) established for Cryptosporidium. Although filtration removes Cryptosporidium, the most commonly used filtration methods cannot guarantee 100 percent removal. Based on the results of our monitoring, no additional treatment will be required by the U.S. EPA regulations.

Cryptosporidium [oocysts/L] (08/17/2016)	**MCLG -**0	TT (99% removal)	2 (positive samples)	24 (number of samples)	Human and animal fecal waste

- To understand the possible health effects described for many regulated contaminants, a person would have to drink 2 liters of water daily at the **MCL level** for a lifetime to have a one-in-a-million chance of having the described health effect.
- Other-Secondary contaminants do not have a direct impact on the health of consumers and are not required in the Consumer Confidence Report. They are being included to provide addition information about the quality of the water sampled in 2019.

Sodium 7.14 mg/L (EPA guidance level = 20 mg/L	pH = 7.50	Total Dissolved Solids = 89 mg/L	Nitrate = 0.492 mg/L

Dental Health Fluoride

- *Fluoride* has been added to the drinking water for dental health purposes. CUC monitors the fluoride levels on a daily basis and
- sends samples twice monthly to an independent lab for analysis.

Substance (units)	Minimum Reporting Level	Average	Highest level Detected	Range of Detection	

Fluoride [1025] (ppm) 2019	4	0.79-1.00	0.91 Average	0.79 – 1.00 Range	NO	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories

This notice is being presented to you by: City Utilities Commission	**Public Water System ID #: KY1180085**
http://www.corbinutilities.com/	

CUC
CITY UTILITIES COMMISSION
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