

COLUMBIA
WATER
SYSTEM

ANNUAL WATER QUALITY REPORT

REPORTING YEAR 2019

Presented By
**Columbia Power
& Water Systems**

CPWS

Columbia Power & Water Systems

Our Mission Continues

We are once again pleased to present our annual water quality report covering all testing performed between January 1 and December 31, 2019. Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal standards. We continually strive to adopt new methods for delivering the best-quality drinking water to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting the goals of source water protection, water conservation, and community education while continuing to serve the needs of all our water users.

Please remember that we are always available should you ever have any questions or concerns about your water.



“We remain vigilant in delivering the best-quality drinking water”

What is the source of my water?

Your water comes from a surface water source called Duck River. Our goal is to protect our water from contaminants, and we work with the State of Tennessee to determine the vulnerability of our water source to potential contamination.

The Tennessee Department of Environment and Conservation (TDEC) has prepared a Source Water Assessment Program (SWAP) Report for the water sources serving this water system. The SWAP Report assesses the susceptibility of public water supplies to potential contamination. Water sources have been rated as reasonably susceptible (high), moderately susceptible (moderate), or slightly susceptible (low) based on geological factors and human activities in the vicinity of the water source. The Columbia Water Systems water source rated as slightly susceptible to potential contamination.

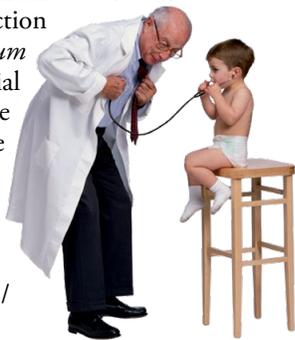
Columbia Power & Water Systems submitted a Source Water and Wellhead Protection Plan (SWPP) in November 2018, which was approved by TDEC in December 2018. The plan included a listing of potential discharge within the critical zone that encompasses an area beginning 0.5 mile downstream of the intake and extending 5.0 miles upstream of the intake based on a 1,000-foot corridor parallel to the designated stream banks. The list also included facilities in the protection zone that extends 15.0 miles upstream of the intake.

For an explanation of Tennessee’s SWAP, a copy of the source water protection plan, the source water summaries, susceptibility scorings, and TDEC’s overall report to the EPA, please visit www.tn.gov/environment or call (888) 891-TDEC or CPWS at (931) 388-4833 to obtain copies of specific assessments.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection

by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or <http://water.epa.gov/drink/hotline>.



QUESTIONS?

For more information about this report, or for questions related to your drinking water, please call Jonathan Hardin, Director of Water Operations, at (931) 375-7646.

Lead in Home Plumbing

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. We are responsible for providing high-quality drinking water, but we 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 at (800) 426-4791 or at www.epa.gov/safewater/lead.



Table Talk

Get the most out of the Testing Results data table with this simple suggestion. In less than a minute, you will know all there is to know about your water:

For each substance listed, compare the value in the Amount Detected column against the value in the MCL (or AL, SMCL) column. If the Amount Detected value is smaller, your water meets the health and safety standards set for the substance.

Other Table Information Worth Noting

Verify that there were no violations of the state and/or federal standards in the Violation column. If there was a violation, you will see a detailed description of the event in this report.

If there is an ND or a less-than symbol (<), that means that the substance was not detected (i.e., below the detectable limits of the testing equipment).

The Range column displays the lowest and highest sample readings. If there is an NA showing, that means only a single sample was taken to test for the substance (assuming there is a reported value in the Amount Detected column).

If there is sufficient evidence to indicate from where the substance originates, it will be listed under Typical Source.

Substances That Could Be in Water

In order to ensure that tap water is safe to drink, U.S. EPA and the Tennessee Department of Environment and Conservation prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must 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 these contaminants does not necessarily indicate that the water poses a health risk.

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, in some cases, radioactive material; and substances resulting from the presence of animals or from human activity. Substances that may be present in source water include:

Microbial Contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, or wildlife;

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;

Pesticides and Herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses;

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 stormwater runoff, and septic systems;

Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.



Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule, and the water we deliver must meet specific health standards. Here we only show those substances that were detected in our water (a complete list of all our analytical results is available upon request). Remember that detecting a substance does not mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels.

The state recommends monitoring for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

We participated in the fourth stage of the U.S. EPA's Unregulated Contaminant Monitoring Rule (UCMR4) program by performing additional tests on our drinking water. UCMR4 sampling benefits the environment and public health by providing the U.S. EPA with data on the occurrence of contaminants suspected to be in drinking water, in order to determine if U.S. EPA needs to introduce new regulatory standards to improve drinking water quality. Unregulated contaminant monitoring data are available to the public, so please feel free to contact us if you are interested in obtaining that information. If you would like more information on the U.S. EPA's Unregulated Contaminants Monitoring Rule, please call the Safe Drinking Water Hotline at (800) 426-4791.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Barium (ppm)	2017	2	2	0.0216	NA	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chlorine (ppm)	2019	[4]	[4]	1.7 Average	0.6–3.2	No	Water additive used to control microbes
Chlorite (ppm)	2019	1	0.8	0.041 Average	0.000–0.160	No	By-product of drinking water disinfection
Haloacetic Acids [HAAs]–Stage 1 (ppb)	2019	60	NA	39	11–55	No	By-product of drinking water disinfection
Nitrate (ppm)	2019	10	10	0.631	NA	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Total Organic Carbon (% average removal)	2019	TT	NA	52	NA	No	Naturally present in the environment
TTHMs [Total Trihalomethanes]–Stage 1 ¹ (ppb)	2019	80	NA	67	19–95	No	By-product of drinking water chlorination
Turbidity (NTU)	2019	TT	NA	0.130	0.020–0.130	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2019	TT	NA	100	NA	No	Soil runoff

Tap water samples were collected for lead and copper analyses from sample sites throughout the community

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH %ILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2019	1.3	1.3	0.0581	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Lead (ppb)	2019	15	0	ND	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits

OTHER REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Sodium (ppm)	2019	NA	NA	11.9	NA	No	Erosion of natural deposits; Used in water treatment
Total Coliform Bacteria	2019	NA	NA	ND	NA	No	Naturally present in the environment

OTHER UNREGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH
2-Methoxyethanol (ppb)	2018–2019	0.13	NA
2-Propen-1-ol (ppb)	2018–2019	0.17	NA
Anatoxin-a (ppb)	2019	0.01	NA
Bromide (ppb)	2019	12.6	6.5–18.7
Butylated Hydroxyl Anisole (ppb)	2018	0.0096	NA
Chlorpyrifos (ppb)	2019	0.00975	0.0096–0.0098
Cylindrospermopsin (ppb)	2019	0.03	NA
Dimethipin (ppb)	2019	0.065	0.064–0.066
Ethoprop (ppb)	2019	0.00975	0.0097–0.0098
Germanium (ppb)	2019	0.1	NA
Manganese (ppb)	2019	0.59	0.41–0.77
Merphos-Oxone (ppb)	2018–2019	0.0225	0.022–0.023
Microsystin-Total (ppb)	2019	0.01	NA
Oxyfluorfen (ppb)	2019	0.0165	0.016–0.017
Permethrins-Total (ppb)	2019	0.0125	0.012–0.013
Profenofos (ppm)	2018–2019	0.0975	0.096–0.098
Quinoline (ppb)	2018	0.0064	NA
Tebuconazole (ppb)	2019	0.0655	0.064–0.066
Total Organic Carbon [TOC] (ppb)	2019	4,075	2,060–6,090
alpha-Hexachlorocyclohexane (ppm)	2018–2019	0.0032	NA
n-Butanol (ppb)	2018–2019	0.067	NA
o-Toluidine (ppb)	2018	0.0022	NA

¹ Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems and may have an increased risk of getting cancer.

Definitions

90th %ile: The levels reported for lead and copper represent the 90th percentile of the total number of sites tested. The 90th percentile is equal to or greater than 90% of our lead and copper detections.

AL (Action Level): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

MCL (Maximum Contaminant Level): 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.

MCLG (Maximum Contaminant Level Goal): 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.

MRDL (Maximum Residual Disinfectant Level): 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.

MRDLG (Maximum Residual Disinfectant Level Goal): 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.

NA: Not applicable

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

TT (Treatment Technique): A required process intended to reduce the level of a contaminant in drinking water.