Cherokee Metropolitan District

Calendar Year 2022 Water Quality Report
Public Water System ID: CO0121125

Esta es información importante. Si no la pueden leer, necesitan que alguien se la traduzca.

We are pleased to present to you this year's water quality report. Our constant goal is to provide you with a safe and dependable supply of drinking water. Please contact TYLER DUNICH at 719-597-5080 with any questions or for public participation opportunities that may affect water quality. Please see the water quality data from our wholesale system(s) (either attached or included in this report) for additional information about your drinking water.

Drinking Water and Health

The Colorado Department of Public Health and Environment establishes laws restricting the quantity of specific contaminants in water supplied by public water systems in order to ensure that tap water is safe to consume. Limits for pollutants in bottled water are set by Food and Drug Administration standards, and they must offer the same level of public health protection.

All 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 can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (1-800-426-4791) or by visiting epa.gov/ground-water-and-drinking-water.

Special Health Concerns

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 can be particularly at risk of infections. These people should seek advice about drinking water from their health care providers. For more information about contaminants and potential health effects, or to receive a copy of the U.S. Environmental Protection Agency (EPA) and the U.S. Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and microbiological contaminants call the EPA Safe Drinking Water Hotline at (1-800-426-4791).

Lead in Drinking Water

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 and removing lead pipes but cannot control the variety of materials used in plumbing components in your home. You share the responsibility for protecting yourself and your family from the lead in your home plumbing. You can take responsibility by identifying and removing lead materials within your home plumbing and taking steps to reduce your family's risk. Before drinking tap water, flush your pipes for several minutes by running your tap, taking a shower, doing laundry or a load of dishes. You can also use a filter certified by an American National Standards Institute accredited certifier to reduce lead in drinking water. If you are concerned about lead in your water and wish to have your water tested, contact TYLER DUNICH at 719-597-5080. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at epa.gov/safewater/lead.

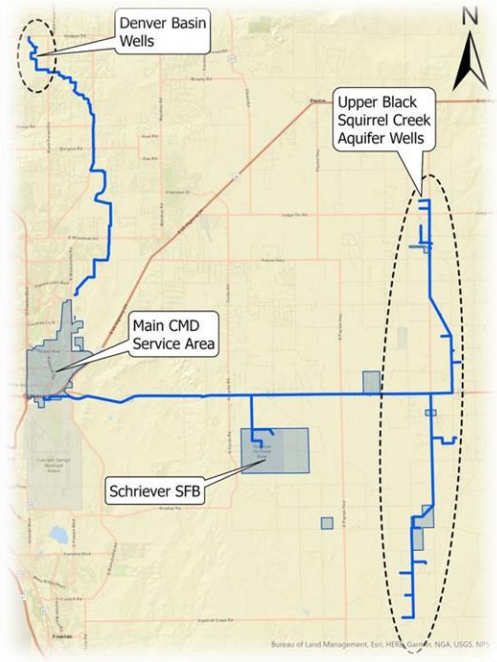
Source Water Assessment and Protection (SWAP)

The Colorado Department of Public Health and Environment may have provided us with a Source Water Assessment Report for our water supply. For general information or to obtain a copy of the report please visit wqcdcompliance.com/ccr. The report is located under "Guidance: Source Water Assessment Reports." Search the table using our system name or ID, or by contacting TYLER DUNICH at 719-597-5080. The Source Water Assessment Report provides a screening-level evaluation of potential contamination that ***could*** occur. It ***does not*** mean that the contamination ***has or will*** occur. We can use this information to evaluate the need to improve our current water treatment capabilities and prepare for future contamination threats. This can help us ensure that quality finished water is delivered to your homes. In addition, the source water assessment results provide a starting point for developing a source water protection plan. Potential sources of contamination in our source water area are listed on the next page.

Please contact us to learn more about what you can do to help protect your drinking water sources, any questions about the Drinking Water Quality Report, to learn more about our system, or to attend scheduled public meetings. We want you, our valued customers, to be informed about the services we provide and the quality water we deliver to you every day

Cherokee Metro Source Water

Cherokee's water supply is entirely sourced from 22 wells drilled to two groundwater sources. The first is the Upper Black Squirrel Creek Aquifer in east central El Paso County where Cherokee has 20 wells and supplies 90% of the District's water demand. This water is only about 50-100 feet below the ground and is recharged by rain and snowmelt across the plains and southeastern Black Forest and while high in hardness, has consistently good water quality. The second water source is the District's Denver Basin wellfield located in northern El Paso County near the intersection of Black Forest Road and Hodgen Road. The water here is between 1300 and 2000 feet below the surface and high extraction costs mean the District only uses this resource to meet 10% of demand.



Drinking Water Contaminant Sources

Drinking water contamination can be caused by human activity or by occurrences in nature. Contaminants can enter the water during treatment, be introduced during the process, or form once the water has left the treatment facility.

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. Contaminants that may be present in source water include:

- **Microbial contaminants:** viruses and bacteria that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- **Inorganic contaminants:** salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- **Pesticides and herbicides:** may come from a variety of sources, such as agriculture, urban storm water runoff, and residential uses.
- **Radioactive contaminants:** can be naturally occurring or be the result of oil and gas production and mining activities.
- **Organic chemical contaminants:** including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and also may come from gas stations, urban storm water runoff, and septic systems.

Drinking Water Treatment Process

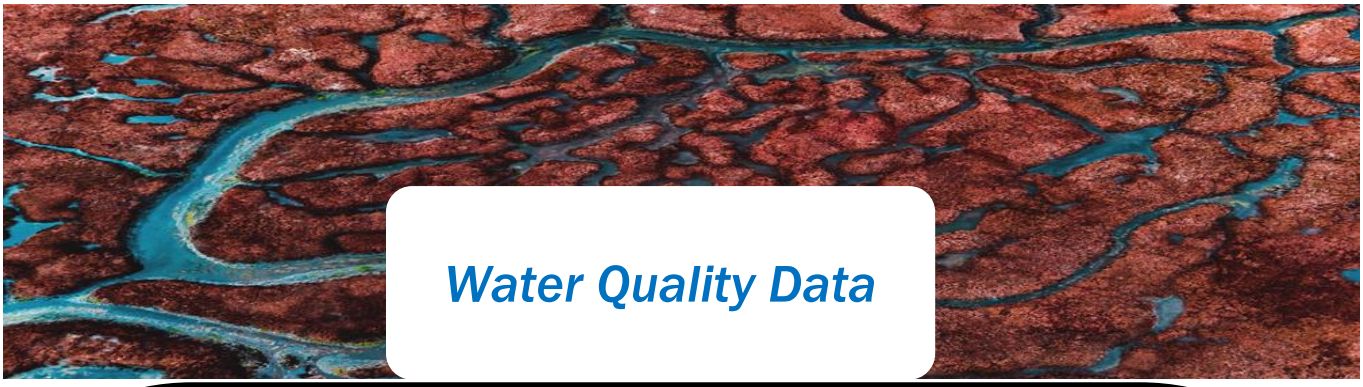
2022 saw the production of 3,093 acre-feet or 983,458,540 gallons by Cherokee Metro. During this process, Denver Basin water (~10% of all produced) is treated with SeaQuest®, which sequesters minerals like iron. All water is treated with chlorine, which kills bacteria, viruses, and other microbes, which also stops harmful organisms from forming in the distribution system. Certified Water Treatment Operators are responsible for continuously monitoring the treatment process to ensure that the water is of a safe and consistent quality.

Water Conservation

We can all make a bigger effort to use water more wisely in addition to protecting our source water. Cherokee Metro is urging its customers to strictly abide by the water conservation advice in order to reduce overall usage and save money while protecting this finite resource. On the Cherokee Metro website at https://cherokeemetro.org/, the guidelines can be found under the Go Green section. These recommendations present a practical method for using water as effectively as possible. If water storage reservoir levels drop, efforts to use water efficiently now may delay or even eliminate the need for watering restrictions.

The Bottom Line

Your tap water met or exceeded all EPA and Colorado health criteria for drinking water last year, as it has in years past. To our delight, our system has not exceeded any Maximum Contaminant Level. Even though certain regulated contaminants were found, the amounts were below the EPA's set health protection thresholds.



Water Quality Data

Terms and Abbreviations

•**Maximum Contaminant Level (MCL)** − The highest level of a contaminant allowed in drinking water.
•**Treatment Technique (TT)** − A required process intended to reduce the level of a contaminant in drinking water.
•**Health-Based** − A violation of either a MCL or TT.
•**Non-Health-Based** − A violation that is not a MCL or TT.
•**Action Level (AL)** − The concentration of a contaminant which, if exceeded, triggers treatment and other regulatory requirements.
•**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 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 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.
•**Violation (No Abbreviation)** − Failure to meet a Colorado Primary Drinking Water Regulation.
•**Formal Enforcement Action (No Abbreviation)** − Escalated action taken by the State (due to the risk to public health, or number or severity of violations) to bring a non-compliant water system back into compliance.
•**Variance and Exemptions (V/E)** − Department permission not to meet a MCL or treatment technique under certain conditions.
•**Gross Alpha (No Abbreviation)** − Gross alpha particle activity compliance value. It includes radium-226, but excludes radon 222, and uranium.
•**Picocuries per liter (pCi/L)** − Measure of the radioactivity in water.
•**Nephelometric Turbidity Unit (NTU)** − Measure of the clarity or cloudiness of water. Turbidity in excess of 5 NTU is just noticeable to the typical person.
•**Compliance Value (No Abbreviation)** – Single or calculated value used to determine if regulatory contaminant level (e.g., MCL) is met. Examples of calculated values are the 90th Percentile, Running Annual Average (RAA) and Locational Running Annual Average (LRAA).
•**Average (x-bar)** − Typical value.
•**Range (R)** − Lowest value to the highest value.
•**Sample Size (n)** − Number or count of values (i.e., number of water samples collected).
•**Parts per million = Milligrams per liter (ppm = mg/L)** − One part per million corresponds to one minute in two years or a single penny in $10,000.
•**Parts per billion = Micrograms per liter (ppb = ug/L)** − One part per billion corresponds to one minute in 2,000 years, or a single penny in $10,000,000.
•**Not Applicable (N/A)** – Does not apply or not available.
•**Level 1 Assessment** – 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.
•**Level 2 Assessment** – 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.

Cherokee Metro's Water Sources

Sources (Water Type – Source Type)	Potential Source(s) of Contamination
Well NO 1 (Groundwater-Well) Well NO 2 (Groundwater-Well) Well NO 3 (Groundwater-Well) Well NO 4 (Groundwater-Well) Well NO 5 (Groundwater-Well) Well NO 6 (Groundwater-Well) Well NO 7 (Groundwater-Well) Well NO 8 (Groundwater-Well) Well NO 9 (Groundwater-Well) Well NO 10 (Groundwater-Well) Well NO 11 (Groundwater-Well) Well NO 12 (Groundwater-Well) Well NO 13 (Groundwater-Well) Well NO 15 (Groundwater-Well) Well NO 16 (Groundwater-Well) Well NO 17 (Groundwater-Well) Well NO 18/ Tipton Well (Groundwater-Well) Well NO 19/ Duncan Well (Groundwater-Well) Well NO 20/ Goss Well (Groundwater-Well) Well NO 21/ Sweetwater 5 (Groundwater-Well) Well AR-1 (Groundwater-Well) Well DN-4 (Groundwater-Well) Purchased From CO0121150 (Surface Water-Consecutive Connection	Row Crops, Fallow, Small Grains, Pasture / Hay, Septic Systems, Road Miles

Detected Contaminants: What is in Cherokee Metro's Water?

CHEROKEE MD routinely monitors for contaminants in your drinking water according to Federal and State laws. The following table(s) show all detections found in the period of January 1 to December 31, 2022, unless otherwise noted. The State of Colorado requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year, or the system is not considered vulnerable to this type of contamination. Therefore, some of our data, though representative, may be more than one-year-old. Violations and Formal Enforcement Actions, if any, are reported in the next section of this report.

Note: Only detected contaminants sampled within the last 5 years appear in this report. If no tables appear in this section, then no contaminants were detected in the last round of monitoring.

Other Questions

The tables below summarize our monitoring findings for 2022 for additional water quality traits that may be of interest. These could alter the flavor, odor, or appearance of water. Call TYLER DUNICH at 719-597-5080 if you would like more information about the issues surrounding water quality or this report.

Disinfectants Sampled in the Distribution System

TT Requirement: At least 95% of samples per period (month or quarter) must be at least 0.2 ppm ***OR***
If sample size is less than 40 no more than 1 sample is below 0.2 ppm
Typical Sources: Water additive used to control microbes

Disinfectant Name	Time Period	Results	Number of Samples Below Level	Sample Size	TT Violation	MRDL
Chlorine	December, 2022	Lowest period percentage of samples meeting TT requirement: 100%	0	25	No	4.0 ppm

Lead and Copper Sampled in the Distribution System

Contaminant Name	Time Period	90th Percentile	Sample Size	Unit of Measure	90th Percentile AL	Sample Sites Above AL	90th Percentile AL Exceedance	Typical Sources
Copper	06/21/2021 to 07/28/2021	0.49	30	ppm	1.3	0	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead	06/21/2021 to 07/28/2021	2.0	30	ppb	15	0	No	Corrosion of household plumbing systems; Erosion of natural deposits

Disinfection Byproducts Sampled in the Distribution System

Name	Year	Average	Range Low – High	Sample Size	Unit of Measure	MCL	MCLG	MCL Violation	Typical Sources
Total Haloacetic Acids (HAA5)	2022	9.0	8.7 to 9.3	2	ppb	60	N/A	No	Byproduct of drinking water disinfection
Total Trihalomethanes (TTHM)	2022	23.95	23.8 to 24.1	2	ppb	80	N/A	No	Byproduct of drinking water disinfection

Secondary Contaminants**

**Secondary standards are non-enforceable guidelines for contaminants that may cause cosmetic effects (such as skin, or tooth discoloration) or aesthetic effects (such as taste, odor, or color) in drinking water.

Contaminant Name	Year	Average	Range Low – High	Sample Size	Unit of Measure	Secondary Standard
Sodium	2022	89.55	85.3 to 93.8	2	ppm	N/A

Radionuclides Sampled at the Entry Point to the Distribution System

Contaminant Name	Year	Average	Range Low – High	Sample Size	Unit of Measure	MCL	MCLG	MCL Violation	Typical Sources
Gross Alpha	2022	6.97	6.31 to 7.64	2	pCi/L	15	0	No	Erosion of natural deposits
Combined Radium	2022	2.25	2.1 to 2.4	2	pCi/L	5	0	No	Erosion of natural deposits
Combined Uranium	2022	7.5	7 to 8	2	ppb	30	0	No	Erosion of natural deposits
Gross Beta Particle Activity	2019	4.0	0 to 8	2	pCi/L*	50	0	No	Decay of natural and man-made deposits

*The MCL for Gross Beta Particle Activity is 4 mrem/year. Since there is no simple conversion between mrem/year and pCi/L EPA considers 50 pCi/L to be the level of concern for Gross Beta Particle Activity.

Inorganic Contaminants Sampled at the Entry Point to the Distribution System									
Contaminant Name	**Year**	**Average**	**Range Low – High**	**Sample Size**	**Unit of Measure**	**MCL**	**MCLG**	**MCL Violation**	**Typical Sources**
Arsenic	2022	2	2 to 2	2	ppb	10	0	No	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium	2022	0.07	0.07 to 0.08	2	ppm	2	2	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chromium	2022	4	4 to 4	2	ppb	100	100	No	Discharge from steel and pulp mills; erosion of natural deposits
Fluoride	2022	0.36	0.35 to 0.36	2	ppm	4	4	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate	2022	4.76	0 to 6.2	9	ppm	10	10	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrate-Nitrite	2022	5.1	5 to 5.2	2	ppm	10	10	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Selenium	2022	5	5 to 5	2	ppb	50	50	No	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines

Nitrate: *Nitrate in drinking water at levels above 10 ppm* is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask advice from your health care provider.

Unregulated Contaminants***

EPA has implemented the Unregulated Contaminant Monitoring Rule (UCMR) to collect data for contaminants that are suspected to be present in drinking water and do not have health-based standards set under the Safe Drinking Water Act. EPA uses the results of UCMR monitoring to learn about the occurrence of unregulated contaminants in drinking water and to decide whether or not these contaminants will be regulated in the future. We performed monitoring and reported the analytical results of the monitoring to EPA in accordance with its Unregulated Contaminant Monitoring Rule (UCMR). Once EPA reviews the submitted results, the results are made available in the EPA's National Contaminant Occurrence Database (NCOD) (epa.gov/dwucmr/national-contaminant-occurrence-database-ncod) Consumers can review UCMR results by accessing the NCOD. Contaminants that were detected during our UCMR sampling and the corresponding analytical results are provided below.

Contaminant Name	Year	Average	Range: Low – High	Sample Size	Unit of Measure

***More information about the contaminants that were included in UCMR monitoring can be found at: drinktap.org/Water-Info/Whats-in-My-Water/Unregulated-Contaminant-Monitoring-Rule-UCMR. Learn more about the EPA UCMR at: epa.gov/dwucmr/learn-about-unregulated-contaminant-monitoring-rule or contact the Safe Drinking Water Hotline at (800) 426-4791 or epa.gov/ground-water-and-drinking-water.

Violations, Significant Deficiencies, and Formal Enforcement Actions

No Violations or Formal Enforcement Actions