



**Garden
Spot of
Colorado**

BERTHOUD TOWN OF 2024 Drinking Water Quality Report

Covering Data for Calendar Year 2023 for *Public Water System ID: CO0135138*



Esta es información importante. Si no puede leer en inglés, pídale a alguien que traduzca esta información.

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. Contact Ken Matthews, Water Utilities Director at 970-532-2643 PO Box 1229 Berthoud CO 80513 with questions or for public participation opportunities that may affect water quality. **Please view the water quality data from our wholesale system(s) (attached or included in this report) for additional information. Or visit <https://www.berthoud.org/1406/Water-Management> under Water Quality Reports.**

General Information: 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 (EPA) Safe Drinking Water Hotline at 1-800-426-4791 or by visiting epa.gov/ground-water-and-drinking-water.

Some people may be more vulnerable to contaminants in drinking water than the general population and should seek advice from their health care provider. 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.

For more information about contaminants and potential health effects, or to receive a copy of the U.S. 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. 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.

To ensure tap water is safe to drink, Colorado Department of Public Health and Environment prescribes regulations limiting the amount of certain contaminants in water provided by public water systems.

The Food and Drug Administration regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

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 Ken Matthews at 970-532-3754. 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):

Colorado Department of Public Health and Environment may have provided us with a SWAP Report for our water supply. Visit wqcdcompliance.com/ccr for general information or to obtain a copy of the report. The report is located under "Guidance: Source Water Assessment Reports". Search the table using our system name or ID, or by contacting 970-532-3754. The SWAP 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 helps 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 at 970-532-2643 with any questions about this report, about what you can do to help protect your drinking water sources, to learn about our water and wastewater system, and/or 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.

Our Water Sources

Sources (Water Type - Source Type)	Potential Source(s) of Contamination
PURCHASE WATER FROM LITTLE THOMPSON (Surface Water-Consecutive Connection) CARTER LAKE (Surface Water-Intake) BERTHOUD RESERVOIR (Surface Water-Intake)	EPA Hazardous Waste Generators, EPA Chemical Inventory/Storage Sites, EPA Toxic Release Inventory Sites, Permitted Wastewater Discharge Sites, Aboveground, Underground and Leaking Storage Tank Sites, Solid Waste Sites, Existing/Abandoned Mine Sites, Other Facilities, Commercial/Industrial/Transportation, Low Intensity Residential, Urban Recreational Grasses, Row Crops, Fallow, Small Grains, Pasture / Hay, Deciduous Forest, Evergreen Forest, Mixed Forest, Septic Systems, Oil / Gas Wells, Road Miles

Terms and Abbreviations

Maximum Contaminant Level (MCL): The highest level of a contaminant allowed in drinking water.

Treatment Technique (TT): Required process intended to reduce the contaminant level 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.

Detected Contaminants: BERTHOUD TOWN OF 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, 2023 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.

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 <u>OR</u> 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, 2023	<u>Lowest period</u> percentage of samples meeting TT requirement: 100%	0	8	No	4.0 ppm

Lead and Copper Sampled in the Distribution System								
Contaminant Name	Time Period	90 th Percentile	Sample Size	Unit of Measure	90 th Percentile AL	Sample Sites Above AL	90 th Percentile AL Exceedance	Typical Sources
Copper	04/17/2023 to 05/01/2023	0.02	40	ppm	1.3	0	No	Corrosion of household plumbing systems; Erosion of natural deposits

Lead and Copper Sampled in the Distribution System								
Contaminant Name	Time Period	90 th Percentile	Sample Size	Unit of Measure	90 th Percentile AL	Sample Sites Above AL	90 th Percentile AL Exceedance	Typical Sources
Lead	11/08/2023 to 11/17/2023	5	40	ppb	15	1	No	Corrosion of household plumbing systems; Erosion of natural deposits
Copper	11/08/2023 to 11/17/2023	0.01	40	ppm	1.3	0	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead	04/17/2023 to 05/01/2023	4	40	ppb	15	1	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)	2023	29.45	24.6 to 36.3	8	ppb	60	N/A	No	Byproduct of drinking water disinfection
Total Trihalomethanes (TTHM)	2023	46.76	33.4 to 55.9	8	ppb	80	N/A	No	Byproduct of drinking water disinfection

Total Organic Carbon (Disinfection Byproducts Precursor) Removal Ratio of Raw and Finished Water									
*If minimum ratio not met and no violation identified then the system achieved compliance using alternative criteria.									
Contaminant Name	Year	Average	Range Low – High	Sample Size	Unit of Measure	TT Minimum Ratio	TT Violation	Typical Sources	
Total Organic Carbon Ratio	2023	1.15	0.65 to 1.43	12	Ratio	1.00	No	Naturally present in the environment	

Summary of Turbidity Sampled at the Entry Point to the Distribution System									
Contaminant Name	Sample Date	Level Found			TT Requirement			TT Violation	Typical Sources
Turbidity	Month: May	Highest single measurement: 0.195 NTU			Maximum 1 NTU for any single measurement			No	Soil Runoff
Turbidity	Month: Dec	Lowest monthly percentage of samples meeting TT requirement for our technology: 100 %			In any month, at least 95% of samples must be less than 0.3 NTU			No	Soil Runoff

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	2023	0.05	0 to 0.1	2	pCi/L	15	0	No	Erosion of natural deposits

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	2023	1	1 to 1	1	ppb	10	0	No	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium	2023	0.03	0.03 to 0.03	1	ppm	2	2	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride	2023	0.24	0.24 to 0.24	1	ppm	4	4	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Selenium	2023	1	1 to 1	1	ppb	50	50	No	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines

Secondary Contaminants**						
**Secondary standards are <u>non-enforceable</u> 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	2023	13.5	13.5 to 13.5	1	ppm	N/A

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
Lithium	2023	3.08	0 – 12.3	4	Ug/L

***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.

• Lithium tested four times during 2023. The following test results are: February 13, 2023 <MRL (Minimum reportable level is 9 ug/L), May 1, 2023, <MRL, August 7, 2023 12.3 ug/L & November 6, 2023, <MRL. Lithium is not believed to pose a health risk when consumed appropriately. There are some who believe lithium offers mental health benefits. Adverse human health effects based on exposure at therapeutic doses have been observed in several organs and body systems of treated patients. The types of health effects are consistent with the limited number of available toxicology studies.

- Renal (kidney-related) effects: Lithium pharmaceutical treatment can interfere with the kidney's ability to concentrate urine, resulting in excessively dilute urine and feelings of thirst. Severe kidney disease may result from long-term treatment at higher doses.
- Neurologic (nervous system) and other effects: Lithium pharmaceutical treatment can cause lethargy, fatigue, weakness, tremor, and cognitive impairment, as well as impairment of endocrine gland function such as the thyroid and parathyroid. Other severe but rarer effects, including developmental effects, have also been associated with lithium therapy.

The U.S. Environmental Protection Agency (EPA) cites side effects from therapeutic doses, including gastrointestinal, neurological, psychiatric, renal and cardiovascular effects; decreased thyroid function; acneiform skin eruptions; benign leukocytosis. This CCR serves as notice of the Lithium discovered on the UCMR5 sample results.

Violations, Significant Deficiencies, and Formal Enforcement Actions

Non-Health-Based Violations: These violations do not usually mean that there was a problem with the water quality. If there had been, we would have notified you immediately. We missed collecting a sample (water quality is unknown), we reported the sample result after the due date, or we did not complete a report/notice by the required date.

Name	Description	Time Period
CROSS CONNECTION RULE	FAILURE TO MEET CROSS CONNECTION CONTROL AND/OR BACKFLOW PREVENTION REQUIREMENTS - M617	12/28/2021 - Open

Additional Violation Information

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.

Describe the steps taken to resolve the violation(s), and the anticipated resolution date: The M612 Backflow Prevention violation is a result of an inadequate backflow prevention and cross-connection control program. Uncontrolled cross connections can lead to inadvertent contamination of the drinking water. The inadequate survey ratio of non-single family residential connections. Surveys of non-single family residential connections are used to identify potential cross connection hazards. Surveys were previously completed, however during transitions in staffing many records were lost. The Town is completing and verifying survey information of all non-single family residential connections and is in the process of resolving this violation. Since the issuance of the initial violation the Town as identified and verified over 380 service connections that were previously missing or contained inadequate records. During this process the Town has also updated the records of over 250 backflow protection assemblies that were previously unknown or lost. Once all non-single family residential connection survey information is completed and reviewed by CDPHE this violation will be resolved.



“When the Well Runs Dry, We Know the Worth of Our Water”

Ben Franklin

The Annual Water Quality Report is being delivered to you annually in June with your Utility Bill. While water quality impacts your local drinking water, water conservation, no matter the season, sustains our water supply – both equally important to maintain by the Water District and by the water customers.

To help you save on water utility costs, conserve water, and enjoy green spaces, please visit our website on water saving tips and watering green spaces efficiently
<https://www.berthoud.org/248/Water-Saving-Tips>