



Colorado Springs Utilities (PWSID # CO0121150) 2017 Water Quality Report Information for:

Cascade Metro Politian District No. 1 (PWSID # CO0121100)

Water Sources

With no major source of water nearby, Colorado Springs Utilities relies on a raw water collection system that delivers water to Colorado Springs from nearly 200 miles away. The headwaters, or sources, that supply these systems originate in wilderness areas near Aspen, Leadville, and Breckenridge. Nearly 75% of our water originates from many mountain streams (surface water). Water from these streams is collected and stored in various reservoirs along the Continental Divide. The collection systems in this area consist of the Homestake, Fryingpan-Arkansas, Twin Lakes, and Blue River systems. The majority of this water is transferred to Colorado Springs through pipelines that help to protect the water from contamination, such as, herbicides, pesticides, heavy metals, and other chemicals. Water delivered to Colorado Springs is stored at Rampart Reservoir and at the Catamount reservoirs on Pikes Peak which then supply the Ute Pass water treatment plant. We also use local surface water sources which originate from the North and South slopes of Pikes Peak.

All water sources are treated at one of our treatment plants (or in the case of FVA water at FVA's treatment plant) prior to entering our drinking water distribution system; an intricate system of tanks, pumps and pipes that ultimately deliver water to your home or business. Want more source water information click www.csu.org/residential/water/Pages/watersystem.aspx

Colorado Source Water Assessment and Protection

The Colorado Department of Public Health and Environment has 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 <http://wqcdcompliance.com/ccr>. The report is located under "Source Water Assessment Reports", and then "Assessment Report by County". Select EL PASO County and find 121150; COLORADO SPRINGS UTILITIES or by contacting Laboratory Services at 719-668-4560. 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 below.

Potential sources of contamination to our source water areas may come from:

- EPA Superfund Sites
- EPA Abandoned Contaminated Sites
- 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
- Concentrated Animal Feeding Operations
- Other Facilities
- Commercial/Industrial Transportation
- High-and-Low-Intensity Residential
- Urban Recreational Grasses
- Quarries/Strip Mines/Gravel Pits
- Agricultural Land (row crops, small grain, pasture/hay, orchards/vineyards, fallow and other)
- Forest
- Septic Systems
- Oil/Gas Wells

- Road Miles

The results of the source water assessment are not a reflection of our treated water quality or the water you receive, but rather a rating of the susceptibility of source water contamination under the guidelines of the Colorado SWAP program.

Drinking Water Contaminants

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:

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- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operation and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.
- Pesticides and herbicides that 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 also may come from gas stations, urban stormwater runoff, and septic systems.
- Radioactive contaminants that can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the 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.

Immunocompromised Persons Advisory

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 <http://water.epa.gov/drink/contaminants>.

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).

Information About Lead in Drinking Water

If present, elevated levels of lead can cause serious health problems (especially for pregnant women and young children). It is possible that lead levels at your home may be higher than other homes in the community as a result of materials used in your home's plumbing. If you are concerned about lead in your water, you may wish to have your water tested. 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. Additional information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (1-800-426-4791) or at <http://www.epa.gov/safewater/lead>.

Drinking Water Fluoride

Fluoride is a compound found naturally in many places, including soil, food, plants, animals and the human body. It is also found naturally at varying levels in all Colorado Springs' water sources. Colorado Springs Utilities does not add additional fluoride to your drinking water. Any fluoride in the drinking water comes naturally from our source waters. For more fluoride information click <https://www.csu.org/pages/water-quality-r.aspx>

Microbiological Information

Colorado Springs Utilities performs a Microscopic Particulate Analysis (MPA) at each of its treatment plants that use surface water as a source. The MPA determines particulate removal, expressed as a log reduction, between the source water entering the filters and the treated water exiting the filters. For 2016, the range of log reduction for Ute Pass Treatment Plant was 1.4, which can be equivalently expressed as 96.2% removal.

Cryptosporidium is a microbial pathogen found in surface water throughout the United States. Although filtration removes cryptosporidium, the most commonly used filtration methods cannot guarantee 100 percent removal. No cryptosporidia were detected in the treated water distributed from our water treatment plants however our monitoring did indicate the presence of these organisms in our source water. Current test methods do not allow us to determine if the organisms found in the source water 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, immunocompromised people are at greater risk of developing the life-threatening illness. We encourage immunocompromised 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.

Unregulated Contaminant Monitoring Regulation (UCMR)

The 1996 amendments to the Safe Drinking Water Act required that EPA establish criteria for a program to monitor unregulated contaminants and to identify no more than 30 unregulated contaminants to be monitored every five years.

Unregulated contaminants are those contaminants that do not have a drinking water standard (maximum contaminate level) established by EPA. The purpose of the UCMR is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

The third round of the UCMR required monitoring for 28 contaminants. Colorado Springs Utilities was required to monitoring for these contaminants for 4 quarters, starting in July 2013. The results for any contaminants detected, to date, are listed below.

Contaminant	Average Level Detected (Range)	Units	Sample Dates	Potential Sources of Contamination
Chlorate	3.7 (ND – 63)	ppb	Jul, Oct 2013 & Jan, Apr, May 2014	Powerful oxidizer once used in pyrotechnics. Can be chemically bound to make metal salts.
Chromium - 6	0.001 (ND – 0.041)	ppb	Jul, Oct 2013 & Jan, Apr, May 2014	Used for chrome plating, dyes and pigments, leather tanning, and wood preserving.
Molybdenum	0.42 (ND – 1.4)	ppb	Jul, Oct 2013 & Jan, Apr, May 2014	Used to make steel alloys, and in high-pressure and high-temperature applications, as pigments and catalysts.
Strontium	79.4 (46 – 110)	ppb	Jul, Oct 2013 & Jan, Apr, May 2014	Used in making ceramics and glass products, pyrotechnics, paint pigments, fluorescent lights, and medicines.
Vanadium	0.02 (ND – 0.31)	ppb	Jul, Oct 2013 & Jan, Apr, May 2014	Used to make metal alloys. Used in making rubber, plastics, ceramics, and other chemicals.

Definitions:

- Maximum Contaminant Level (MCL) – The level of a contaminant that is allowed in drinking water.
- Non-detect (ND) – Analytical result is below the reportable level for the analysis.
- Parts per billion (ppb) – One part per billion corresponds to one minute in 2,000 years or one penny in \$10,000,000. One ppb can also be referred to as one microgram per liter (µg/L).

Terms, Abbreviations & Symbols

- **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.

Data Presented in the Water Quality Report

Colorado Springs Utilities is required to monitor for certain contaminants less than once a year because the concentration of the contaminants is not expected to vary significantly from year to year, or the drinking water system is not considered vulnerable to this type of contamination. Some of the data, though representative, may be more than one year old.

We monitor for contaminants at a variety of locations. These locations are determined by the regulations concerning specific contaminants. Why are different locations specified? The different locations address water chemistry considerations, water system quality and integrity considerations, and special circumstances that impact a contaminant's level in drinking water.

Colorado Springs Utilities and our purchased water system (FVA) have been issued waivers for asbestos, cyanide, dioxin, glyphosate, nitrite and all unregulated inorganic contaminants. The table on the following pages shows the combined results of our monitoring for six water treatment plants for the period of January 1 through December 31, 2016, unless otherwise noted.

Detected Contaminants Tables

Colorado Springs Utilities (PWSID CO0121150)

Monitored at Ute Pass Treatment Plant (entry point to the distribution system)

Contaminant	MCL	MCLG	Units	Highest Level	MCL Violation	Sample Dates	Possible Source(s) of Contamination
Barium	2	2	ppm	0.0163	No	April 2016	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chlorine ¹	TT	N/A	ppm	N/A	No	Jan – Dec 2016	Water additive used to control microbes
Fluoride	4	4	ppm	0.62	No	April 2016	Erosion of natural deposits; discharge from fertilizer and aluminum factories
Nitrate (as Nitrogen)	10	10	ppm	0.08	No	April 2016	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Selenium	50	50	ppb	1.63	No	April 2016	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
Sodium	N/A	N/A	ppm	9.00	No	April 2016	Erosion of natural deposits
Total Organic Carbon (TOC) ²	TT	N/A	N/A	N/A	No	Running Annual Average	Naturally present in the environment
Turbidity ³	TT ≤0.3 in 95% of monthly samples	N/A	NTU	0.27 (May 2016) 100% samples ≤0.3	No	Jan – Dec 2016	Soil Runoff

¹Chlorine is monitored continuously at the water treatment plant. TT = no more than 4 hours with a sample below 0.2ppm

²The Disinfectants and Disinfection Byproducts Rule provides several alternative compliance criteria besides the TOC removal ratios. We did not report TOC removal ratios because we demonstrated compliance with alternative criteria. The alternative compliance criteria that we use is 40CFR §141.135(a)(2)(ii); our treated water TOC levels are <2.0ppm calculated quarterly as a running annual average.

³Turbidity is a measure of the cloudiness of the water and has no known health effects. We monitor turbidity because it is a good indicator of the effectiveness of our filtration system. Compliance with the TT of 95% of samples ≤0.3NTU is calculated using combined filter effluent turbidity results taken 6 times per day at 1:00, 5:00 and 9:00 a.m. and p.m.

The following tables contain data sampled from representative sites throughout Colorado Springs Utilities distribution system. The listed average level detected or 90th percentile may not correspond directly to the treatment plant represented in this report.

Monitored in the Distribution System

Contaminant	MCL	MCLG	Units	Average Level Detected (Range)	Highest LRAA	MCL Violation	Sample Dates	Possible Source(s) of Contamination
Chlorine ¹	MRDL = 4	MRDLG=4	ppm	0.52 (0.03-0.95)	N/A	No	Jan – Dec 2016	Drinking water disinfectant used to control microbes
Haloacetic Acids 5 (HAAs)	60	N/A	ppb	41.1 (20.1-57.3)	53.9	No	Jan, Apr, Jul, Oct 2016	By-product of drinking water disinfection
Total Trihalomethanes (TTHM)	80	N/A	ppb	42.5 (27.7-63.6)	57.2	No	Jan, Apr, Jul, Oct 2016	By-product of drinking water disinfection
Total Coliform	5% of monthly samples are positive	0	Absent/ Present	1.44% highest level detected (Nov 2016) (0 – 1.44%)	N/A	No	Jan – Dec 2016	Naturally present in the environment

¹Compliance with the MRDL is based on the running annual average.

Monitored at Consumer's Tap

Contaminant	AL at the 90 th Percentile	MCLG	Units	90 th Percentile	MCL Violation	Sample Dates	Possible Source(s) of Contamination
Copper ¹	1.3	1.3	ppm	0.11	No	Jun – Dec 2016	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead ¹	15	0	ppb	4.2	No	Jun – Dec 2016	Corrosion of household plumbing systems; erosion of natural deposits

¹Two sites exceeded the Action Level for Lead and zero for Copper out of 105 sites sampled.

Long Term 2 Enhanced Surface Water Treatment Rule Monitoring

Monitored raw source water before it enters the Treatment Plants. Data represents all of Colorado Springs Utilities treatment plants

Contaminant	Units	Range	MCL Violation	Sample Dates	Possible Source(s) of Contamination
Cryptosporidium	Oocysts/L	0 – 3	N/A	Jan – Dec 2016	Naturally occur in the environment
E. coli	MPN	0 - 15	N/A	Jan – Dec 2016	Naturally occur in the environment
Turbidity	NTU	0.25 – 9.6	N/A	Jan – Dec 2016	Soil Runoff