



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

**Fort Carson Army Base (PWSID # CO0221445)  
Peterson Air Force Base (PWSID # CO0121605)  
Tierra Vista Communities (PWSID # CO0121743)  
Cheyenne Mountain Air Force Station (PWSID # CO0221205)  
Cherokee MD (PWSID # CO0121125)  
Security Water and Sanitation District (PWSID # CO0121775)  
Stratmoor Hills Water District (PWSID # CO0121800)**

### **Water Sources**

Your water is blended from multiple sources, including surface water, ground water and purchased water. Your water source may vary throughout the year.

#### **Mountain Water Sources**

With no major water source nearby, much of Colorado Springs Utilities raw water collection system originates from nearly 200 miles away, near Aspen, Leadville, and Breckenridge. Almost 75 percent of our water originates from mountain streams. Water from these streams is collected and stored in numerous reservoirs along the Continental Divide. Collection systems in this area consist of the Homestake, Fryingpan-Arkansas, Twin Lakes, and Blue River systems.

#### **Local Surface Sources**

To supplement the water received from the mountain sources, Colorado Springs Utilities is able to divert water from local surface water collection systems including:

- North and South Slopes of Pikes Peak – Catamount Reservoirs, Crystal Reservoir, South Slope Reservoirs and tributaries
- North and South Cheyenne Creeks
- Fountain Creek
- Monument Creek – Pikeview Reservoir
- Northfield Watershed – Rampart and Northfield Reservoirs
- Pueblo Reservoir

#### **Local Ground Water Sources**

We used to pump water from wells drilled into two different aquifers. We have two wells on the Denver aquifer (500-700 feet deep) and two wells on the Arapahoe aquifer (900-1,000 feet deep). These wells were deactivated in July 2015.

#### **Purchased Water Source**

Fountain Valley Authority or FVA (PWSID#CO0121300) receives water from the Fryingpan-Arkansas Project – a system of pipes and tunnels that collects water in the Hunter- Fryingpan Wilderness Area near Aspen. Waters collected from this system are diverted to the Arkansas River, near Buena Vista, and then flow about 150 miles downstream to Pueblo Reservoir. From there, the water travels through a pipeline to a water treatment plant before being delivered to Colorado Springs.

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](http://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:

Contaminants 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 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 reductions was 1.4 – 4.5, which can be equivalently expressed as 96.2% - 100% 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 90<sup>th</sup> 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 the Treatment Plant (entry point to the distribution system)

Contaminant	MCL	MCLG	Units	Average	Range Low - High	MCL Violation	Sample Dates	Possible Source(s) of Contamination
Barium	2	2	ppm	0.03	0.01-0.06	No	April 2016	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chlorine <sup>1</sup>	TT	N/A	ppm	N/A	0 samples above or below the level	No	Jan – Dec 2016	Water additive used to control microbes
Chromium	100	100	ppb	0.29	ND – 1	No	April 2016	Discharge from steel and pulp mills; erosion of natural deposits
Di-(2-Ethylhexyl) phthalate	6	0	ppb	0.41	ND – 3.65	No	May, July, Oct 2016	Discharge from rubber and chemical factories
Fluoride	4	4	ppm	0.54	0.16-1.23	No	April 2016	Erosion of natural deposits; discharge from fertilizer and aluminum factories
Hexachlorocyclopentadiene <sup>3</sup>	50	50	ppb	0.01	ND – 0.07	No	May, July, Oct 2016	Discharge from chemical factories
Nitrate (as Nitrogen)	10	10	ppm	0.22	ND-0.52	No	April 2016	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Picloram	500	500	ppb	0.01	ND – 0.1	No	May, July, Oct 2016	Herbicide runoff
Radium, Combined 226, 228	5	0	pCi/L	0.13	ND-0.2	No	May, July, Oct 2016	Erosion of natural deposits
Selenium	50	50	ppb	1.63	ND-4.5	No	April 2016	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
Sodium	N/A	N/A	ppm	17.82	6.69 – 39.5	No	April 2016	Erosion of natural deposits
Total Organic Carbon (TOC) <sup>2</sup>	TT	N/A	N/A	N/A	N/A	No	Running Annual Average	Naturally present in the environment
Turbidity <sup>3</sup>	TT ≤0.3 in 95% of monthly samples	N/A	NTU	N/A	Highest turbidity 0.56 (Aug 2016) 99% of samples ≤0.3	No	Jan – Dec 2016	Soil Runoff
Uranium	30	0	ppb	1.03	ND-1.7	No	May, July, Oct 2016	Erosion of natural deposits

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

<sup>2</sup>The 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. <sup>3</sup>Turbidity 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.

### Monitored in the Distribution System

Contaminant	MCL	MCLG	Units	Average Level Detected (Range)	Highest LRAA	MCL Violation	Sample Dates	Possible Source(s) of Contamination
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<b>Chlorine<sup>1</sup></b>	MRDL = 4	MRDLG=4	ppm	0.52 (0.03-0.95)	N/A	No	Jan – Dec 2016	Drinking water disinfectant used to control microbes
<b>Haloacetic Acids 5 (HAA5)</b>	60	N/A	ppb	41.1 (20.1-57.3)	53.9	No	Jan, Apr, Jul, Oct 2016	By-product of drinking water disinfection
<b>Total Trihalomethanes (TTHM)</b>	80	N/A	ppb	42.5 (27.7-63.6)	57.2	No	Jan, Apr, Jul, Oct 2016	By-product of drinking water disinfection
<b>Total Coliform</b>	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

<sup>1</sup>Compliance with the MRDL is based on the running annual average.

**Monitored at Consumer's Tap**

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

<sup>1</sup>Two 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

Contaminant	Units	Range	MCL Violation	Sample Dates	Possible Source(s) of Contamination
<b>Cryptosporidium</b>	Oocysts/L	0 – 3	N/A	Jan – Dec 2016	Naturally occur in the environment

<b>E. coli</b>	MPN	0 - 15	N/A	Jan – Dec 2016	Naturally occur in the environment
<b>Turbidity</b>	NTU	0.25 – 9.6	N/A	Jan – Dec 2016	Soil Runoff

Contaminants with Secondary MCL requirements<sup>1</sup>. Monitored at the Treatment Plant (entry point to the distribution system)

Contaminant	SMCL	Units	Average Level Detected (Range)	Sample Dates	Possible Source(s) of Contamination
<b>Aluminum</b>	50-200	ppb	53.85 (ND - 470)	Jan – Dec 2016	Erosion of natural deposits, water treatment chemical
<b>Sulfate</b>	250	ppm	0.25 (ND – 1.0)	Jan, Apr, Jul, Oct 2016	Naturally present in the environment
<b>Zinc</b>	5000	ppb	2.1 (0.57 – 5.0)	April 2016	Leaching from plumbing materials

<sup>1</sup>Secondary MCL (SMCL) is not enforceable but intended as guidelines. These contaminants in drinking water may affect the aesthetic qualities.

**Violations, Significant Deficiencies, Backflow/Cross Connection, and Formal Enforcement Actions**

Colorado Springs Utilities was not issued any violations in 2016, however, one of our wholesale suppliers were. That information is provide in the table below.

Contaminant	Category	Time Period	Health Effects	Compliance Value	TT Level or MCL
<b>Turbidity<sup>1</sup></b>	Monitoring, Source (LT2), Major Non-health-based	05/04/2016 – 5/04/2016	N/A	N/A	N/A

<b>E. coli</b>	Monitoring, Source (LT2), Major Non-health-based	05/04/2016 – 5/04/2016	N/A	N/A	N/A
<b>Cryptosporidium</b>	Monitoring, Source (LT2), Major Non-health-based	05/04/2016 – 5/04/2016	N/A	N/A	N/A
<b>Carbon, Total<sup>2</sup></b>	Inadequate DBP Precursor Removal – health-based	01/01/2016 – 03/31/2016	Total Organic Carbon (TOC) has no health effects. However, total organic carbon provides a medium for the formation of disinfection byproducts. These byproducts include trihalomethanes (THMs) and haloacetic acids (HAAs). Drinking water containing these byproducts in excess of the Maximum Containment Level (MCL) may lead to adverse health effects, liver or kidney problems, or nervous system effects, and may lead to an increased risk of getting cancer.	2.05 mg/L Treated water	2.0 mg/L Treated water

<sup>1</sup>Turbidity, E. coli and Cryptosporidium as part of the LT2 requirement were not collected on the specified date in the month of May, therefore, our supplier was issued a Failure to Monitor Violation. Turbidity, E. coli, and Cryptosporidium were sampled later in the month on May 10<sup>th</sup>.

<sup>2</sup> Total Organic Carbon (TOC) increases in source water during periods of heavy rain fall and snow melt due to runoff entering our reservoirs and creeks. During 2015 and into 2016 we saw higher precipitation than average leading to increased levels of TOC. The Fountain Valley Authority Treatment Plant will be installing a ferric chloride system in July 2017. This system will aid in reducing the levels of TOC.

**WANT MORE INFORMATION**

The Utilities Board (Colorado Springs Utilities governing body) meets monthly usually on the third Wednesday of the month. Call (719) 668-4800 or visit [www.csu.org](http://www.csu.org) for a full schedule and more information.

For questions concerning this report, please call (719) 668-4560.