



For Calendar Year 2018

Public Water System ID: CO0149122

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 Charlie Bailey at 970-920-5110 with any questions or for public participation opportunities that may affect water quality. This report is available online at:

<https://www.cityofaspen.com/Archive.aspx?ADID=543>

General Information

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 <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).

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.

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.

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>, or alternatively contact CJ Oliver, Environmental Health Director at 970-920-5008 <https://www.cityofaspen.com/1196/Lead-in-Water>

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 www.colorado.gov/cdphe/csr. The report is located under "Guidance: Source Water Assessment Reports". Search the table using 149122, ASPEN CITY OF, or by contacting Charlie Bailey at 970-920-5110. 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

Our Water Sources

<u>Source</u>	<u>Source Type</u>	<u>Water Type</u>	<u>Potential Source(s) of Contamination</u>
Castle Creek	Intake	Surface Water	Existing/Abandoned Mine Sites, Aboveground, Underground and Leaking Storage Tank Sites
Maroon Creek	Intake	Surface Water	
Rio Grande Well	Well	Ground Water	

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.

Detected Contaminants

The City of Aspen 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, 2018 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 <i>OR</i> 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								
30 Samples are taken per month (>356 samples in 2018) at representative sites in our distribution system with 100% of samples being at least 0.2ppm								

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	07/24/2018 to 08/07/2018	0.12	30	ppm	1.3	0	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead	07/24/2018 to 08/07/2018	1.1	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)	2018	6.38	3.48 to 9.77	8	ppb	60	N/A	No	Byproduct of drinking water disinfection
Total Trihalomethanes (TTHM)	2018	9.45	4.26 to 12.6	8	ppb	80	N/A	No	Byproduct of drinking water disinfection

Total Organic Carbon (Disinfection Byproducts Precursor) Removal Ratio of Raw and Finished Water								
Contaminant Name	Year	Average	Range Low – High	Sample Size	Unit of Measure	TT Minimum Ratio	TT Violation	Typical Sources
Total Organic Carbon Ratio	2018	1	1 to 1	4	Ratio	1.00	No	Naturally present in the environment
*If minimum ratio not met and no violation identified then the system achieved compliance using alternative criteria.								

Disinfectants Sampled at the Entry Point to the Distribution System <i>(Chlorine/Chloramine Row is Optional, Chlorine Dioxide Row is Required)</i>						
Disinfectant Name	Year	Number of Samples Above or Below Level	Sample Size	TT/MRDL Requirement	TT/MRDL Violation	Typical Sources
Chlorine	2018	0	2187	TT = No more than 4 hours with a sample below 0.2 MG/L	No	Water additive used to control microbes

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	Date/Month: May	Highest single measurement: 0.109 NTU	Maximum 1 NTU for any single measurement	No	Soil Runoff	

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
Barium	2015	0.04	0.04 to 0.04	1	ppm	2	2	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride	2018	0.7	0.66 to 0.66	1	ppm	4	4	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate	2018	0.1	0.1 to 0.1	1	ppm	10	10	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

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	2014	1.0	1.0	1	pCi/L	15	0	No	Erosion of natural deposits
Combined Uranium	2014	2.1	2.1	1	ppb	30	0	No	Erosion of natural deposits

RAW SOURCE WATER -Cryptosporidium and Raw Source Water E. coli (NOT DRINKING WATER)				
Contaminant Name	Year	Number of Positives	Sample Size	
E. Coli	2018	4	9	
Cryptosporidium	2018	0	9	

Unregulated Contaminants***				
Contaminant Name	Year	Result	Sample Size	Unit of Measure
Microcystins	2018	Not Detected	8	ug/L
Cyanotoxins	2018	Not Detected	8	ug/L
Total Microcystins	2018	Not Detected	8	ug/L

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



Violations			
Type	Category	Health Effects	Time Period
TOTAL COLIFORM	FAILURE TO MONITOR NON-HEALTH BASED	N/A	03/01/2018 - 03/31/2018
CHLORINE	FAILURE TO MONITOR NON-HEALTH BASED	N/A	03/01/2018 - 03/31/2018
<u>Violation Notes:</u>			
Each month operators sample 30 representative sites in the distribution system for chlorine residual and coliform bacteria. During March, 2018 operators collected 26 samples throughout the water system, unfortunately the remaining 4 samples were missed in error. Moving forward all operators are required to sign off on a checklist stating that they have sampled the required number of sites each month.			

Violations			
Type	Category	Health Effects	Time Period
TURBIDITY	FAILURE TO MONITOR NON-HEALTH BASED	N/A	11/26/18 (20:00) – 11/27/18 (07:30)
CHLORINE	FAILURE TO MONITOR NON-HEALTH BASED	N/A	11/26/18 (20:00) – 11/27/18 (07:30)
<u>Violation Notes:</u>			
On 11/26/18 at 20:00 thru 11/27/18 07:30 a data collection error occurred within the computer system monitoring operations. Alarming notification for exceedance of Drinking water standards for both turbidity and chlorine continued to operate, however data collection during the above time failed.			

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.