

# Castle Pines Metropolitan District 2022 Drinking Water Consumer Confidence Report For Calendar Year 2021

Public Water System ID # CO0118005

*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.

## General Information About Drinking Water

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. Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised 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. It can also pick up substances resulting from the presence of animals or human activity. Contaminants that may be present in source water include:

- **Microbial contaminants**, such as viruses and bacteria may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- **Inorganic contaminants**, such as salts and metals, 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** 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, are byproducts of industrial processes and petroleum production, and also may come from gas stations, urban stormwater runoff, and septic

systems.

- **Radioactive contaminants** can be naturally occurring or be the result of oil and gas production and mining activities.

## 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 in 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 are available from the Safe Drinking Water Hotline (1-800-426-4791) or at <http://www.epa.gov/safewater/lead>.

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 protections for public health.

## Our Water Source(s)

Source	Water Type	Potential Sources of Contamination
Well A10	Ground Water	Urban recreational grasses, fallow, deciduous forest, evergreen forest, septic systems, and road miles.
Well De10R	Ground Water	
Well Lda10R	Ground Water	
Well A8	Ground Water	
Well De8	Ground Water	
Well A4R	Ground Water	
Well A12	Ground Water	
Well De2	Ground Water	
Well Lda12	Ground Water	

The Colorado Department of Public Health and Environment has provided us with a Source Water Assessment Report for our water supply. You may obtain a copy of the report by visiting: [wqdc.compliance.com/ccr](http://wqdc.compliance.com/ccr) the report is located under “Guidance: Source Water Assessment Reports”. Search the table using 118005, CASTLE PINES VILLAGE MD, or by contacting Matt Padgett at 303-688-8330.

Potential sources of contamination in our source water area could come from urban recreational grasses, fallow, deciduous forest, evergreen forest, septic systems, and road miles.

source water assessment results provide a starting point for developing a source water protection plan.

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

Please contact Matt Padgett at 303-688-8330 to learn more about what you can do to help protect your drinking water sources, any questions about the Drinking Water Consumer Confidence Report, and 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.

## General Water Characteristics

Castle Pines Metropolitan District frequently receives questions relating to the general characteristics of the water being provided. This table summarizes a few key characteristics of the water and offers a brief description. The range represented in this table is representative of the typical water conditions. For more information, please contact Matt Padgett at 303-688-8330.

Parameter	Range	Unit of Measure	Description
pH	7.0 – 7.9	pH	pH is a measure of the acidic or basic properties of a liquid. It uses a scale of 0-14 with a pH of 7 considered neutral. Values less than 7 are acidic and values greater than 7 are basic. Water at Castle Pines Metro District can fluctuate slightly but remains very close to neutral.
Hardness	120 – 171	mg/L	Hardness in water is a measure of the calcium and magnesium content of the water. Higher hardness requires more soap to cause suds and can also leave deposits on glassware, sinks, and anything that is regularly in contact with water. Hardness does not have any impact on health. The hardness at Castle Pines Metro District is considered to be moderate.
	7 – 10	grains/gallon	
Chlorine	0.20 – 0.80	mg/L	Chlorine is added to drinking water to keep the water safe. It provides a disinfection barrier but is not harmful to health at the levels maintained by Castle Pines Metro District. Distance from the water plants is the primary factor in determining the amount of chlorine at a given location.
Iron	0 – 0.10	mg/L	Iron is removed at the water plants at Castle Pines Metro District for aesthetic reasons and is therefore usually not detectable. Water can sometimes increase in iron content as it moves through the distribution system but remains low. There are no health impacts of iron at these levels.

## Detected Contaminants

Castle Pines Metropolitan District 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, 2021, 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, maybe more than one year old. The “Range” column in the table(s) below will show a single value for those contaminants that were sampled only once. Violations, if any, are reported in the next section of this report.

***Note: Only detected contaminants appear in this report. If no tables appear in this section, that means that Castle Pines Metropolitan District did not detect any contaminants in the last round of monitoring unless otherwise noted.***

## Terms and Abbreviations

<u>Term</u>	<u>Abbreviation</u>	<u>Definition</u>
Maximum Contaminant Level Goal	MCLG	The 'Goal' is the level of a contaminant in drinking water below which there is no known or expected health risk. MCLGs allow for a margin of safety.
Maximum Contaminant Level	MCL	The 'Maximum Allowed' is the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
Below Detection Level	BDL	Sample results were below minimum detectable amounts
Treatment Technique	TT	A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.
Action Level	AL	The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.
Maximum Residual Disinfectant Level Goal	MRDLG	The level of a drinking water disinfectant, below which there is no known or expected health risk. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
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.
Average of Individual Samples	No Abbreviation	The typical value. Mathematically it is the sum of values divided by the number of samples.
Range of Individual Samples	No Abbreviation	The lowest value to the highest value.
Number of Samples	No Abbreviation	The number or count of values.
Gross Alpha, Including RA, Excluding RN & U	No Abbreviation	This is the gross alpha particle activity compliance value. It includes radium-226 but excludes radon 222 and uranium.
Microscopic Particulate Analysis	MPA	An analysis of surface water organisms and indicators in water. This analysis can be used to determine performance of a surface water treatment plant or to determine the existence of surface water influence on a ground water well.
Variance and Exemptions	V/E	Department permission not to meet an MCL or a treatment technique under certain conditions.
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.
Parts per trillion = Nanograms per liter	ppt = nanograms/L	One part per trillion corresponds to one minute in 2,000,000 years or a single penny in \$10,000,000,000.
Parts per quadrillion = Picograms per liter	ppq = picograms/L	One part per quadrillion corresponds to one minute in 2,000,000,000 years or one penny in \$10,000,000,000,000.
Picocuries per liter	pCi/L	Picocuries per liter is a measure of the radioactivity in water.
Nephelometric Turbidity Unit	NTU	Nephelometric turbidity unit is a measure of the clarity of the water. Turbidity in excess of 5 NTU is just noticeable to the average person.
Not Applicable	N/A	Not Applicable
Violation	No Abbreviation	A failure to meet a Colorado Primary Drinking Water Regulation.
Formal Enforcement Action	No Abbreviation	An escalated action taken by the State (due to the number and/or severity of violations) to bring a non-compliant water system back into compliance by a certain time, with an enforceable consequence if the schedule is not met.

### Disinfectants Sampled in the Distribution System

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

Contaminant Name	Time Period	Results	Number of Samples Below-Level	Sample Size	TT Violation	MRDL
Chlorine	December 2021	Lowest period percentage of samples meeting TT requirement: 100%	0	6	No	4.0 ppm

### Lead and Copper Sampled in the Distribution System

Analyte Name	Monitoring Period	90th Percentile	Number of Samples	Unit of Measure	Action Level	Sample Sites Above Action Level	AL or TT Violation?	Typical Sources	Potential Health Effects from Long-Term Exposure Above the Action Level (unless specified as short-term)
COPPER	06-14-2021 to 08-28-2021	0.37	20	ppm	1.3	0	No	Corrosion of household plumbing systems; Erosion of natural deposits.	Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.
LEAD	06-14-2021 to 08-28-2021	1.3	20	ppb	15	0	No	Corrosion of household plumbing systems; Erosion of natural deposits.	Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.

### Disinfection By-Products Sampled in the Distribution System

Analyte Name	Year	Average of Individual Samples	Range of Individual Samples (Lowest - Highest)	Number of Samples	Unit of Measure	MCL	MCLG	MCL Violation?	Typical Sources	Potential Health Effects from Long-Term Exposure Above the MCL (unless specified as short-term)
Total Trihalomethanes (TTHM)	2021	2.8	2.8 – 2.8	1	ppb	80	N/A	No	Byproduct of drinking water disinfection.	Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

<b>Inorganic Contaminants Sampled at the Entry Point to the Distribution System</b>											
Analyte Name	Year	Average of Individual Samples	Range of Individual Samples (Lowest - Highest)	Number of Samples	Unit of Measure	MCL	MCLG	MCL Violation?	Typical Sources	Potential Health Effects from Long-Term Exposure Above the MCL (unless specified as short-term)	
BARIUM	2021	0.1	0.1 to 0.1	1	ppm	2	2	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.	Some people who drink water containing barium in excess of the MCL over many years could experience an increase in their blood pressure.	
FLUORIDE	2021	0.8	0.8 to 0.8	1	ppm	4	4	No	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories.	Some people who drink water containing fluoride in excess of the MCL over many years could get bone disease, including pain and tenderness of the bones. Fluoride in drinking water at half the MCL or more may cause mottling of children's teeth, usually in children less than nine years old. Mottling, also known as dental fluorosis, may include brown staining and/or pitting of the teeth, and occurs only in developing teeth before they erupt from the gums.	
NITRATE	2021	0.2	0.2 to 0.2	1	ppm	10	10	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.	Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome.	
SELENIUM	2017	2.5	0.9 – 4.1	2	ppb	50	50	No	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines	Hair or fingernail loss; numbness of fingers or toes; circulatory problems	

<b>Synthetic Organic Contaminants Sampled at the Entry Point to the Distribution System</b>											
Analyte Name	Year	Average of Individual Samples	Range of Individual Samples (Lowest - Highest)	Number of Samples	Unit of Measure	MCL	MCLG	MCL Violation?	Typical Sources	Potential Health Effects from Long-Term Exposure Above the MCL (unless specified as short-term)	
Di(2-ethylhexyl)phthalate	2017	0.18	0 – 0.71	4	ppb	6	0	No	Discharge from rubber and chemical factories	Possible increased risk of getting cancer	

### Radionuclides Sampled at the Entry Point to the Distribution System

Analyte Name	Year	Average of Individual Samples	Range of Individual Samples (Lowest – Highest)	Number of Samples	Unit of Measure	MCL	MCLG	MCL Violation?	Typical sources	Potential Health Effects from Long-Term Exposure Above the MCL (unless specified as short-term)
COMBINED RADIUM	2021	2.2	2.2 to 2.2	1	pCi/L	5	0	No	Erosion of natural deposits.	Some people who drink water containing radium -226 or -228 in excess of the MCL over many years may have an increased risk of getting cancer.
COMBINED URANIUM	2021	0.86	0.86 to 0.86	1	ppb	30	0	No	Erosion of natural deposits	Some people who drink water containing Uranium in excess of the MCL over many years may have an increased risk of cancer.
GROSS ALPHA	2021	3.2	3.2 to 3.2	1	pCi/L	15	0	No	Erosion of natural deposits.	Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha in excess of the MCL over many years may have an increased risk of cancer.

### 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 Third Unregulated Contaminant Monitoring Rule (UCMR3). Once EPA reviews the submitted results, the results are made available in the EPA's National Contaminant Occurrence Database (NCOD) (<http://www.epa.gov/dwucmr/national-contaminant-occurrence-database-ncod>) Consumers can review UCMR results by accessing the NCOD.

\*\*\*More information about the contaminants that were included in UCMR3 monitoring can be found at: <http://www.drinktap.org/water-info/whats-in-my-water/unregulated-contaminant-monitoring-rule.aspx>. 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>.

Secondary Contaminants(SC)/ Other Monitoring(OM)	Year	Average	Range	Sample Size	Unit	Secondary Standards/ MCL
SODIUM (SC)	2021	17.8	17.8 to 17.8	1	ppm	N/A

**Secondary Contaminants (SC)** 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. EPA recommends these standards but does not require water systems to comply. **Other Monitoring (OM)** standards are usually enforceable guidelines for contaminants, which were either voluntarily tested and met or fell within the acceptable range of EPA Standards. Or they were required by the State and were found to have no detectable contaminants.

### Violations

Type	Category	Analyte	Compliance Period
<b>No Violations Occurred in the Calendar Year of 2021</b>			