

# City of Cañon City 2011 Drinking Water Consumer Confidence Report For Calendar Year 2010

Public Water System ID # CO0122100

*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 **Robert W. Hartzman at 719-269-9019** with any questions about the Drinking Water Consumer Confidence Report or for public participation opportunities that may affect the water quality.

### 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. 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).

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, 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**, such as viruses and bacteria that may come from sewage treatment plants, septic systems, agricultural livestock operations, 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 byproducts of industrial processes and petroleum production, and also may come from gas stations, urban storm water 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.

### 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>.

### Our Water Source

<b>Source</b>	<b>Water Type</b>
Arkansas River	Surface Water
<b>Source Type</b>	<b>Location</b>
Intake	Tunnel Drive

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: [www.cdphe.state.co.us/wq/sw/swapreports/swapreports.html](http://www.cdphe.state.co.us/wq/sw/swapreports/swapreports.html), clicking on Fremont County and selecting 122100; Cañon City City of or by contacting Robert W. Hartzman at 719-269-9019. For general information about Source Water Assessment please visit: <http://www.cdphe.state.co.us/wq/sw/swapom.html>.

Potential sources of contamination in our source water area come from: EPA Superfund Sites, EPA Abandoned Contaminated Sites, EPA Hazardous Waste Generators, EPA Chemical Inventory/Storage Sites, and EPA Toxic Release Inventory Sites; Permitted Wastewater Discharge Sites; Aboveground, Underground and Leaking Storage Tank Sites; Solid Waste Sites; Existing/Abandoned Mine Sites; and Concentrated Animal Feeding Sites. In addition, several Land Use/Land Cover Types include: Commercial/Industrial Transportation; High & Low Intensity Residential; Urban Recreation Grasses; Quarries/Strip Mines/Gravel Pits; Row Crops; Small Grains; Pasture/Hay; Deciduous Forest; Evergreen Forest; Mixed Forest; Septic Systems; and Road Miles.

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. Please contact **Robert W. Hartzman at 719-269-9019** to learn more about what you can do to help protect your drinking water sources, any questions about the Drinking Water Consumer Confidence Report, 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.

### **Terms and Abbreviations**

The following definitions will help you understand the terms and abbreviations used in this report:

- **Average of Individual Samples** - The typical value. Mathematically it is the sum of values divided by the number of samples.
  - **Range of Individual Samples** - The lowest value to the highest value.
  - **Number of Samples** - The number or count of values.
  - **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 water. Turbidity in excess of 5 NTU is just noticeable to the average person.
  - **Action Level (AL)** - The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
  - **Treatment Technique (TT)** - A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.
  - **Maximum Contaminant Level Goal (MCLG)** - The "Goal" is 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 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.
  - **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.
  - **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.
  - **Running Annual Average (RAA)** - An average of monitoring results for the previous 12 calendar months.
  - **Gross Alpha, Including RA, Excluding RN & U** - 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 (VE)** - Department permission not to meet an MCL or a treatment technique under certain conditions.
  - **Violation** - A failure to meet Colorado Primary Drinking Water Regulations.
  - **Formal Enforcement Action** - 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.
- **Parts per million (ppm) or Milligrams per liter (mg/L)** - one part per million corresponds to one minute in two years or a single penny in \$10,000.
  - **Parts per billion (ppb) or Micrograms per liter (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 (ppt) or Nanograms per liter (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 or Picograms per liter (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.

## Detected Contaminants

The City of Cañon City routinely monitors for contaminants in your drinking water according to Federal and State laws. The following tables show all detections found in the period of January 1 to December 31, 2010 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. Any additional information may be found in the final 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 that means that the City of Cañon City did not detect any contaminants in the last round of monitoring.

<b>Lead and Copper Sampled in the Distribution System</b>									
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	01/01/2008 to 12/31/2010	0.35	30	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	01/01/2008 to 12/31/2010	4.8	30	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.

<b>Turbidity Sampled at the Entry Point to the Distribution System</b>						
Analyte Name	Sample Date	Level Found	TT Requirement	TT Violation?	Typical Sources	Potential Health Effects from Long-Term Exposure Above the TT Level (unless specified as short-term)
TURBIDITY	Date: April 15, 2010	Highest single measurement: 0.11 NTU	Maximum 1 NTU for any single measurement	No	Soil Runoff	Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea and associated headaches.
TURBIDITY	Month: January - December 2010	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	See Above

Disinfection By Products (TTHMs, HAA5, and Chlorite) 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)
CHLORITE	2010	0.205	0.094 - 0.351	12	ppm	1	0.8	No	By-product of drinking water disinfection.	Some infants and young children who drink water containing chlorite in excess of the MCL could experience nervous system effects. Similar effects may occur in fetuses of pregnant women who drink water containing chlorite in excess of the MCL. Some people may experience anemia.
TOTAL HALOACETIC ACIDS (HAA5)	2010	23.73	14.4 - 32.7	16	ppb	60	N/A	No	By-product of drinking water disinfection.	Some people who drink water containing Haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.
TTHM	2010	25.11	13.25 - 33.5	16	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.

Total Organic Carbon (Disinfection By Products Precursor) Percentage Removal Ratio of Raw & Finished Water										
Analyte Name	Year	Average of Individual Ratio Samples	Range of Individual Ratio Samples (Lowest - Highest)	Number of Ratio Samples	Unit of Measure	TT Minimum Ratio	TT Violation?	Typical Sources	Potential Health Effects from Long-Term Exposure Below the TT Level (unless specified as short-term)	
CARBON, TOTAL	2010	1.25	1 - 1.45	12	Ratio	The TT Minimum Level is a Ratio of 1	No	Naturally present in the environment.	Total organic carbon (TOC) has no health effects. However, total organic carbon provides a medium for the formation of disinfection by products. These byproducts include Trihalomethanes (THMs) and Haloacetic acids (HAAs). Drinking water containing these byproducts in excess of the 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.	

**Regulated Contaminants 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)
BARIUM	2010	0.046	0.046 - 0.046	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	2010	0.82	0.82 - 0.82	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	2010	0.22	0.22 - 0.22	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.
THALLIUM, TOTAL	2010	1.1	1.1 - 1.1	1	ppb	2	0.5	No	Leaching from ore-processing sites; Discharge from electronics, glass, and drug factories.	Some people who drink water containing thallium in excess of the MCL over many years could experience hair loss, changes in their blood, or problems with their kidneys, intestines, or liver.

**Long Term 2 Surface Water Treatment Rule**

Analyte Name	Year	Average of Individual Samples	Range of Individual Samples (Lowest - Highest)	Number of Samples	Typical Sources	Potential Health Effects from Long-Term Exposure Above the TT Level (unless specified as short-term)
CRYPTOSPORIDIUM	2010	1 oocyst/10.5 Liters	0 - 2	3	Microbial pathogen found in surface water supplies.	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, Immuno-compromised people are at greater risk of developing life-threatening illness.

Secondary Contaminants**						
Analyte Name	Year	Average of Individual Samples	Range of Individual Samples (Lowest - Highest)	Number of Samples	Unit of Measure	Secondary Standard
MPA WTP RAW AND FINISHED	2010	N/A	4.2 - 4.2	1	Units	N/A
SODIUM	2010	10	10 - 10	1	ppm	N/A

\*\*Secondary 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.

### **Violation and Formal Enforcement Action**

#### **Violations**

No Violations to Report

#### **Formal Enforcement Actions**

No Formal Enforcement Actions to Report

### **Additional Information**

#### **Health Information About Water Quality**

Coliform are bacteria that are naturally present in the environment and are used as an indicator that other potentially-harmful, bacteria may be present. Coliform were found in more samples than allowed and this was a warning of potential problems.

Cryptosporidium is a microbial pathogen found in surface water throughout the United States. The Cañon City Water Treatment Plant uses enhanced coagulation, flocculation, sedimentation, filtration and disinfection processes to provide a multiple barrier method to inactivate the organisms. Although filtration removes cryptosporidium, the most commonly used filtration methods cannot guarantee 100% removal.

Our monitoring done in 2010 for the Long Term 2 Surface Water Monitoring Rule indicated the presence of these organisms in our **source** water only. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. We encourage Immuno-compromised 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.