



Your Town. Your Water.

2010

Water Quality REPORT

July 2010



*The Town of Castle Rock is pleased to present the 2010 water quality report. This report is designed to inform you about the quality of our water, as well as programs and services we deliver to you every day. The Town is committed to providing you a superior and reliable supply of high quality drinking water. While technical information may be overwhelming and difficult to understand, we have tried to provide a format that is clear and useful. This information applies only to water provided by the Town of Castle Rock **Public Water System ID #CO0118010**.*

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. 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**.



Rueter-Hess Reservoir

A key component in the Town's long term water facilities

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 Ray Olson, Operations Manager, at 720-733-6000 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 water 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.

The Colorado Department of Public Health and Environment (CDPHE) 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/swaphom.html or by contacting Ray Olson at 720-733-6000.

Esta es informacion importante. Si no la pueden leer, necesitan que alguien se la traduzca

Potential Sources of Contamination in our area could include: above ground and underground leaking storage tank sites, commercial/industrial/transportation, residential, urban recreational grasses, grains/pasture/hay, forest, septic systems, roads and accidental hazardous materials release.

What's in your water?

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: Includes 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: May come from a variety of sources, such as agriculture, urban stormwater runoff and residential uses.

Organic chemical contaminants: Sources include synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and also may come from gas stations, urban stormwater runoff, and septic systems.

Radioactive contaminants: Sources 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 (CDPHE) prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

Health Information About Water Quality

Infants and young children are typically more vulnerable to lead in drinking water than the general population. 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 elevated lead levels in your home's water, you may wish to have your water tested or flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the **Safe Drinking Water Hotline 1-800-426-4791**.

QUESTIONS OR COMMENTS

- For questions regarding this report, please contact Tim Lambert or the Town's Water Quality staff at 720-733-6000
- Customer Billing: 303-660-1373
- All issues concerning water quality: 720-733-6020
- Web site: www.CRgov.com/utilities
- **Report a Water Emergency: 720-733-6000**
- **EPA Hotline** - More information concerning contaminants and potential health effects can be obtained by calling the EPA's **Safe Drinking Water Hotline at 1-800-426-4791**.

Terms and Abbreviations

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

- ◆ **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.
- ◆ **Picocuries per liter (pCi/L):** picocuries per liter is a measure of the radioactivity in water.
- ◆ **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.
- ◆ **Below Detectable Level (BDL) or Non-Detect (ND):** Laboratory analysis indicates that the constituent is not present.
- ◆ **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 groundwater well.

Detected Contaminants

Detected Contaminants. The Town of Castle Rock 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 January 1 to December 31, 2009, 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. 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 table appears in this section, that means the Town of Castle did not detect any contaminants in the last round of monitoring.

Microbiological	Result	MCLG	MCL	Typical Source
Coliform, TCR*	In the month of October, 1 sample returned as positive	0	Systems that collect less than 40 samples per month - no more than 1 positive monthly sample	Naturally present in the environment

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

Organics and Inorganics (Unit)	Collection Date	Highest Value	Range	MCL	MCLG	Typical Source
Barium (ppm)	6/23/2009	0.13	0.056—0.13	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chromium (ppb)	10/15/2009	3.7	2.6—3.7	100	100	Discharge from steel and pulp mills; erosion of natural deposits
Fluoride (ppm)	6/2/2009	1.3	0.73 - 1.3	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate (ppm)	8/20/2009	0.072	0.046 - 0.072	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrate - Nitrite (ppm)	8/20/2009	0.072	0.046 - 0.072	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Arsenic (ppb)	6/23/2009	2.1	2.1	10		Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes.

Disinfection By-Products (Unit)	Date	Average	Range	Highest RAA	MCL	MCLG	Typical Source
Total Trihalomethanes (TTHM) (ppb)	2009	3.792	1.69 - 7.54	8	80	N/A	By-product of drinking water chlorination

Lead and Copper

No sites exceeded the action level of the 30 residential sites sampled. The reported detected level is the average at the 90th percentile. The 90th percentile is the 27th largest result of the 30 samples taken.

Substance (Unit)	Collection Date	90th Percentile	AL	Typical Source
Copper, Free (ppm)	2008 - 2010	0.35	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (ppb)	2008 - 2010	2	15	Corrosion of household plumbing systems; erosion of natural deposits

Radionuclides**	Collection Date	Highest Value	Range	MCL	MCLG	Typical Source
Gross Alpha, excluding Radon and U (pCi/L)	6/2/2009	3.8	1.5 - 3.8	15	0	Erosion of natural deposits
Combined Radium (-226 & -228) (pCi/L)	10/15/2009	2.6	0.7 - 2.6	5		Erosion of natural deposits
Gross Beta Particle Activity (pCi/L)	10/15/2009	6.0	1.4 - 6.0	4	0	Decay of natural and man-made deposits

**Certain minerals are radioactive and may emit forms of radiation known as photons and beta radiation. Some people who drink water containing beta particle and photon radioactivity in excess of the MCL over many years may have an increased risk of getting cancer.

Secondary Contaminants/Other Monitoring (Unit)	Collection Date	Highest Value	Range	Secondary Standard
Nickel (MG/L)	6/22/2009	0.017	0.017	
TDS (MG/L)	10/15/2009	170	138 - 170	500

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.

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Our Groundwater Sources

<u>Source</u>	<u>Source</u>	<u>Source</u>	<u>Source</u>
Well Cr73r Castle Oaks 6 Arapahoe	Well Cr14r Pc Miller East	Well 150 Meadows D2	Well Cr223
Well Cr15 Edi Den1	Well 31R	Well 28R Meadows A-2R	Well Cr224
Well Cr21 Mikelson Den1	Well 33R Enderud	Well Cr217	Well Cr225
Well 22 Mikelson Da1	Well 41 Weaver 1	Well Cr218	Well Cr118
Well Cr20 Mikelson A1	Well 82 A4	Well Cr83	Well Cr105
Well Cr7c South Glovers 2	Well 111	Well Cr86	Well Cr123
Well Cr27	Well 124	Well Cr51a Meadows D-7A	Well Cr110
Well 43 Weaver A2	Well 170 Meadows Da6	Well 219 A13	Well Cr67 Meadows A7 Arapahoe
Well 44 Weaver Lda2	Well 174 Meadows D6	Well 148 Den4	Well Cr72r Castle Oaks 6 Denver
Well 45 Weaver D2	Well 204	Well 168 Lda4	Well Cr84 Meadows A7 Denver
Well Cr47 Meadows D1	Well 50R	Well 149 Meadows D3	Well Cr152 Meadows A7 Dawson
Well 49 Meadows A8	Well Cr220	Well Cr222	Well Cr221
Well 39 Weaver 1			

Violations

Type	Category	Analyte	Compliance Period	Explanation of Violation
<i>No violations occurred in the calendar year of 2009</i>				

Information About the Above Violation - There are no additional required health effects violation notices. The Town of Castle Rock is required to include an explanation of violation(s) in the above table and the steps taken to resolve violation(s) with this report.

2010 Water Quality Report

**Postal Customer
Castle Rock, CO**

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Castle Rock, CO 80109**

