

## What's in our water?

To ensure that tap water is safe to drink, the U.S. Environmental Protection Agency prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food & Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

## How is our water purified?

Water is purified using several treatment processes. First, untreated water is brought to the Whitlock Treatment Plant via a raw water pipeline from the Pueblo Reservoir. At the treatment plant chemical processes are used to remove objectionable tastes and odors from the raw water. Next, the raw water is disinfected and clarified to remove suspended particles and biological contaminants. Finally, the water is filtered and fluoridated to meet state and federal drinking water standard requirements. The high quality drinking water reaches you through our distribution system.

## Special Health Issues

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as those with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants may be particularly at risk from 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 EPA/CDC (Centers for Disease Control) guidelines on appropriate means to lessen the risk of infections by cryptosporidium and microbiological contaminants, call the **EPA Safe Drinking Water Hotline at (800) 426-4791**.

### Get Involved!

You are invited to participate in our public board meetings to learn more about our drinking water and to voice your concerns. The Water Board meets at 2:00 p.m. on the third Tuesday of each month at 319 W. Fourth Street, with sessions open to the public. Inquiries about public participation can be made by calling 584-0212.

[www.pueblowater.org](http://www.pueblowater.org)

# Board of Water Works of Pueblo, Colorado

## 2005 Water Quality Report



A report to our customers regarding the quality of water provided by the Board of Water Works of Pueblo, Colorado during 2005.

Este reporte demuestra a nuestros clientes la calidad del agua, que el Board of Water Works of Pueblo, sirvió a su comunidad durante el año 2005. Si tiene alguna pregunta sobre este reporte, llame a 584-0250, durante las horas de trabajo.

319 W. 4th St. - P.O. Box 400  
Pueblo, CO 81002 - (719)584-0425

Public Water System ID #CO0151500

## Source Water Assessment Program

The Colorado Department of Public Health and Environment has completed a source water assessment for the Pueblo Board of Water Works as required by the 1996 Safe Drinking Water Act amendments and in accordance with the Colorado Source Water Assessment and Protection (SWAP) program. This assessment uses statistical analysis modeling to analyze the potential susceptibility of a public drinking water source to possible contamination. The information supplied by the assessment allows decision makers to develop and implement preventive measures to protect the water system's water sources. The Safe Drinking Water Act requires that all public water systems and their consumers be informed of the assessment results.

In summary, the Pueblo Board of Water Works has two drinking water sources defined as "surface waters". Please refer to the map for the names and locations of the drinking water sources. Water originating as rivers, lakes, streams and reservoirs in the mountains of Colorado is conveyed via the Arkansas River to the Pueblo reservoir. The Pueblo Board of Water Works uses the Pueblo reservoir and the Arkansas River below the Pueblo reservoir as its two drinking water sources. The statistical modeling used in the assessment takes into account the size of the watershed and the possible points of contamination of the water by "discrete" entities in the watershed (such as chemical storage sites, abandoned or existing

mining operations, hazardous waste generators, permitted wastewater discharge sites) and "dispersed" entities (such as runoff from pasture lands, residential areas or forested land). The statistical model indicates that the Board of Water Works source water has a "moderately high" susceptibility to potential contamination from these sources. Alternately, the assessment also indicates that the physical characteristics of the watershed itself and the location of source waters in the watershed provide a great deal of buffering capacity (mitigating a possible contamination event) and contribute to a "moderately low" vulnerability rating for possible contamination.

Customers should know that the Pueblo Board of Water Works diligently monitors the sources of your drinking water starting from the mountainous watershed, down to the Pueblo Reservoir and Arkansas River, through the Whitlock Treatment Facility and on to your tap to provide the highest quality of drinking water possible.

Copies of the source water assessment summary for the Pueblo Board of Water Works may be obtained by contacting James Hurt at (719) 584-0265. Consumers can obtain more information on source water assessment reports by going to the Source Water Assessment and Protection website at:

[www.cdphe.state.co.us/wq/sw/swaphom/html](http://www.cdphe.state.co.us/wq/sw/swaphom/html)

## Substances sometimes found in drinking 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 can acquire naturally occurring minerals, and in some cases, radioactive material; and substances resulting from the presence of animals or from human activity.

Substances 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 storm water 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 storm water 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.

**Cryptosporidium** is a microbial pathogen found in surface water throughout Colorado and the United States. The Pueblo Board of Water Works has monitored for cryptosporidium in raw and finished water for over nine years, and has never detected the organism in our system's finished water. The organism has been detected in the Arkansas River in the past; however, current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of cryptosporidium may cause cryptosporidiosis, an abdominal infection. Symptoms of infection may 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 life-threatening illness. We encourage immunocompromised people to consult their doctors regarding the 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.

## Water Quality Data

We routinely monitor for contaminants in your drinking water according to Federal and State laws. 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. Some of our data, though representative, may be more than one year old.

This table shows the results of our monitoring for the period of January1 to December 31, 2005 unless otherwise noted.

Microbiological	Result	MCL* <sup>1</sup>	MCLG* <sup>2</sup>	Possible Sources of Contamination				
Total Coliform	In the month of October, 1.00% of samples returned as positive.	No more than 5% positive monthly samples.	0	Naturally present in the environment				
<b>Inorganic Contaminants</b>	<b>Collection Date</b>	<b>Highest Value</b>	<b>Range</b>	<b>Unit</b>	<b>MCL</b>	<b>MCLG</b>	<b>Possible Sources of Contamination</b>	
Antimony	4/7/2005	0.1	0.1	ppb	6	6	Fire retardants, electronics, solder.	
Arsenic	4/7/2005	0.9	0.9	ppb	50	0	Natural deposit erosion	
Barium	4/7/2005	0.061	0.061	ppm	2	2	Natural deposit erosion	
Chromium	4/7/2005	4	4	ppb	100	100	Natural deposit erosion	
Selenium	4/7/2005	4	4	ppb	50	50	Natural deposit erosion	
Nitrate as N	4/7/2005	0.214	0.214	ppm	10	10	Wildlife & septic systems	
Nitrite as N	4/7/2005	0.002	0.002	ppm	1	1	Septic systems, fertilizer use	
Fluoride	4/7/2005	1.03	1.03	ppm	4	4	Water additive which promotes strong teeth	
<b>Turbidity</b>	<b>Sample Date</b>	<b>Level Found</b>		<b>TT Requirement*</b>		<b>Possible Sources of Contamination</b>		
	1/5/2005	Highest single measurement = 0.29 NTU		Maximum 1.0 NTU for any single measurement				
Turbidity	Monthly	Lowest monthly percentage of samples meeting TT standard for our technology = 100%		In any month, at least 95% of samples must be less than 0.30 NTU		Soil runoff		
<b>Disinfection By-Products</b>	<b>Date</b>	<b>Average</b>	<b>Range</b>	<b>Highest RAA*<sup>3</sup></b>	<b>Unit</b>	<b>MCL</b>	<b>MCLG</b>	<b>Possible Sources of Contamination</b>
Total Trihalomethanes (TTHM)	2005	6.99	3.01--16.5	7.61	ppb	80	N/A*	Chlorination by-product
Halocetic Acids (HAA)	2005	17.0	11.3--28.4	17.9	ppb	60	N/A	Chlorination by-product
<b>Total Organic Carbon (TOC)</b>	<b>Compliance Factor Required</b>	<b>Lowest RAA (Compliance Factor)</b>	<b>RAA Range for 2005 (Compliance Factor)</b>	<b>Possible Sources of Contamination</b>				
	1.00	1.01	1.01--1.17	Naturally present in the environment				
<b>Lead and Copper</b>	<b>Collection Date</b>	<b>90th Percentile*</b>	<b>Unit</b>	<b>AL*<sup>4</sup></b>	<b>Possible Sources of Contamination</b>			
Lead**	6/1/05--9/13/05	8.34	ppb	15	Household plumbing system corrosion			
Copper**	6/1/05--9/13/05	0.209	ppm	1.3	Household plumbing system corrosion			
<b>Radionuclides</b>	<b>Collection Date</b>	<b>Highest Value</b>	<b>Range</b>	<b>Unit</b>	<b>MCL</b>	<b>MCLG</b>	<b>Possible Sources of Contamination</b>	
Gross Alpha*	6/4/2001	7.74	7.74	pCi/L*	15	0	Natural deposit erosion	
Combined Radium*	11/30/2004	0.6	0.1--0.6	pCi/L*	5	0	Natural deposit erosion	
<b>Disinfectant</b>	<b>Date</b>	<b>Average</b>	<b>Range</b>	<b>Highest RAA*<sup>5</sup></b>	<b>Unit</b>	<b>MRDL*<sup>6</sup></b>	<b>MRDLG*<sup>7</sup></b>	<b>Possible Sources of Contamination</b>
Chloramine	2005	2.33	1.77--2.63	2.56	ppm	4.0	4.0	Chlorination by-product
<b>Secondary Contaminants*</b>	<b>Collection Date</b>	<b>Highest Value</b>	<b>Range</b>	<b>Units</b>	<b>Secondary Standard</b>			
Nickel	4/7/2005	0.012	0.012	ppm	0.1			
Sodium	4/7/2005	18.6	18.6	ppm	10000			

Listed in the table are regulated and unregulated contaminants detected in Pueblo's drinking water in 2005.

All are below allowed levels.

Not listed are hundreds of other contaminants that were tested for but not detected in 2005.

For a complete list of analyses and test results for Pueblo's drinking water, please visit our web site at [www.pueblowater.org](http://www.pueblowater.org)

\*The data table contains many terms and abbreviations that may be unfamiliar.

To help you better understand these terms we have provided the following definitions:

**AL --- Action Level** -- The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

**Combined Radium**--Measurement of the level of radium 226 and 228.

**Gross Alpha**-- The gross alpha particle activity compliance value. It includes radium-226 but excludes radon 222 and uranium.

**MCL**----(Maximum Contaminant Level) -The highest level of a contaminant that is allowed in drinking water. MCL's are set as close

to the MCLGS as feasible using the best available treatment technology.

**MCLG**-(Maximum Contaminant Level Goal) -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.

**MRDL**-(Maximum Residual Disinfection Level)- 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.

**MRDLG**-(Maximum Residual Disinfection Level Goal)- The level of a drinking water disinfectant, below which there is no known or expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.

**N/A**---Not applicable

**NTU**---(Nephelometric Turbidity Unit)--Turbidity is a measure of the cloudiness of water. We monitor it because it is a good indicator

of the effectiveness of our plant's filtration system.

**PCIL**---(Pecocures per liter)-A measure of radioactivity.

**RAA**-(Running Annual Average)- An average of monitoring results for the previous twelve months.

**Secondary Contaminants**---These contaminants in drinking water primarily affect the aesthetic qualities relating to the public acceptance of drinking water. At considerably higher concentrations of these contaminants,

health implications may also exist as well as aesthetic degradation.

**TT**---(Treatment Technique) -- A required process intended to reduce the level of a contaminant in drinking water.

**Variances or Exemptions**--- Permission to not meet an MCL, MRDL, AL or a treatment technique granted by the state or EPA.

**Waiver**: State permission not to test for a specific contaminant.

### \*\*Special Information About Lead

These results were obtained from testing 50 homes in the distribution system at highest risk for lead and copper contamination in 2005. Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels in your home may be higher than at other homes in your 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.

Flushing your tap for 30 seconds to 2 minutes before using tap water for consumption will also decrease the amount of lead if it is present.

Additional information is available from the **Safe Drinking Water Hotline (800-426-4791)**

### Violations

Type	Category	Analyte	Compliance Period
Monitoring (TCR) Repeat sampling violation	Failure to monitor	Coliform, Total (TCR)	10/1/2005--10/31/2005

**Violation Explanation**--On October 27th, 2005, we collected and analyzed a water sample from the Pueblo Nature Center area that showed the presence of coliform bacteria (see entry in the data table.) On October 28th we collected two repeat samples from the area that were negative for coliform bacteria.

According to the State of Colorado regulations, three repeat samples were required.

Since only two repeat samples were taken, the State classified this event as a repeat sampling violation of the Total Coliform Rule or TCR. This type of violation is classified as a minor repeat sample monitoring violation. No other violations occurred in 2005.

For more detailed information please contact **Don A. Colalancia at 719-584-0265**.

### Health Information About the Above Violation

There are no additional required health effects violation notices.