

# Upper Surface Creek Domestic Water Users Association

## 2009 Drinking Water Consumer Confidence Report For Calendar Year 2008

Public Water System ID # CO0115784

*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, 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.

### Our Water Source(s)

Source	Water Type
Surface Creek	Surface 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 [www.cdphe.state.co.us/wq/sw/swaphom.html](http://www.cdphe.state.co.us/wq/sw/swaphom.html) or by contacting Dan Hawkins at 970-856-7199.

Potential sources of contamination in our source water area come from soil erosion, livestock, wildlife, and human activities such as fishing, hunting, logging, energy exploration, and recreation.

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 Dan Hawkins at 970-856-7199 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:

- **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 (ppq) 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.
- **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.



## Detected Contaminants

USCDWUA 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, 2008 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 tables appear in this section, that means that USCDWUA did not detect any contaminants in the last round of monitoring.

Organics and Inorganics	Collection Date	Highest Value	Range	Unit	MCL	MCLG	Typical Source
FLUORIDE	2/18/2008	0.1	0.1	ppm	4	4	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories

Disinfection By-Products	Date	Average	Range	Highest RAA	Unit	MCL	MCLG	Typical Source
TOTAL HALOACETIC ACIDS (HAA5)	2008	64.97	42.4 - 91.8	81	ppb	60	N/A	By-product of drinking water disinfection
TOTAL TRIHALOMETHANES (TTHM)	2008	50.23	17.4 - 82.1	82	ppb	80	N/A	By-product of drinking water chlorination

Turbidity	Sample Date	Level Found	TT Requirement	Typical Source
TURBIDITY	Date:	Highest single measurement:  0.20	Maximum 1 NTU for any single measurement	Soil Runoff
	Month:  1	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	

Disinfection By-Product	Average	Range	Unit	MCL	MCLG	Typical Sources
CHLORITE	0.41	0.28 - 0.56	ppb	1.0	0.8	By-product of drinking water disinfection

Lead and Copper	Collection Date	90 <sup>TH</sup> Percentile	Unit	AL	Typical Source
COPPER, FREE	2007	0.97	ppm	1.3	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
LEAD	2007	19	ppb	15	Corrosion of household plumbing systems; Erosion of natural deposits

Radionuclides	Collection Date	Highest Value	Range	Unit	MCL	MCLG	Typical Source
GROSS BETA PARTICLE ACTIVITY	6/13/2007	2.2	2.2	pCi/L	Trigger level = 15	0	Decay of natural and man-made deposits

Secondary Contaminants/ Other Monitoring	Collection Date	Highest Value	Range	Unit	Secondary Standard
SODIUM	2/18/2008	4.4	4.4	MG/L	10000

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.

### **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 and flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline at (800) 426-4791.

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.

Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.

## Violations

Type	Category	Analyte	Compliance Period
MCL, AVERAGE	Maximum Contaminant Level Violation	TOTAL HALOACETIC ACIDS (HAA5)	01/01/2008 - 12/31/2008
FAILURE TO HAVE MONITORING PLAN (DBP2)	Failure to Complete Report/Record Keeping	DBP STAGE 2	04/01/2008 -
FAILURE TO HAVE MONITORING PLAN (LT2)	Failure to Complete Report/Record Keeping	LT2ESWTR	07/01/2008 - 10/01/2008

### Information About the Above Violation(s)

Following is an explanation of the violations in the above table and the steps taken to resolve the violations.

Exceeding the average MCL, HAA5: This acronym stands for **HaloAceticAcid** (5 possible species). These compounds are created by the reaction of chlorine with organic acids naturally present in the water. The organic acids are typically humic acid, tannic acid, and fulvic acid. They are common constituents of water exposed to soil and decaying plant matter. The Surface Creek drainage is an ideal environment for the accumulation of these acids in the water. Leaf litter on the forest floor, peat bogs, and lakes all contribute some.

Although USCDWUA was in violation of the MCL in all four quarter of 2008, please understand that it does not mean all samples exceeded the MCL. A peak of 91.8 ppb was measured in the first quarter. Later samples were below the MCL of 60 ppb . However, since the peak sample was averaged into the three following quarters, USCDWUA remained in violation for the entire year. Fortunately, we were able to return to compliance in the first quarter of 2009.

USCDWUA is taking the following steps to reduce HAA5 concentrations:

- Adjust the pH of the water to reduce acidity, which discourages HAA5 formation.
- Increase pipeline flushing, which reduces the amount of time water spends in the distribution system.
- Apply chlorine dioxide as a pre-treatment. This oxidizes some of the organic acids, and also reduces the amount of chlorine necessary for safe disinfection.
- Carefully control the amount of chlorine used for disinfection. There is a regulatory conflict between the requirement to maintain a safe disinfectant level throughout the distribution system, and the requirement to control disinfection by-products like HAA5. USCDWUA recognizes its responsibility to comply with regulations, and to minimize your exposure to by-products that may be harmful over a long period. On the other hand, we will not risk your health by failing to adequately disinfect your water. The chlorine content must always be sufficient to neutralize bacteria and viruses, which pose a serious (and immediate) threat of illness.

Monitoring Plan: USCDWUA has completed and submitted the required monitoring plans.