

Water Quality Report for Calendar Year 2008



Security Water District

PWSID # CO0121775

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

SECURITY WATER DISTRICT is pleased to present to you this year's Annual Water Quality Report. This report is designed to inform you about the quality water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. Security's water comes from two aquifers and the Fryingpan-Arkansas project (Fry-Ark). Of our total water supply, 69% comes from wells in the Widefield Aquifer and 7% from the Windmill Gulch Aquifer. The remaining 24% is treated surface water from the Fry-Ark project. Fry-Ark project water comes from a system of pipes and tunnels that collect water in the Hunter-Fryingpan Wilderness Area near Aspen, CO. Water collected from the system is diverted to the Arkansas River, near Buena Vista, and then flows approximately 150 miles downstream to Pueblo Reservoir. From Pueblo Reservoir, the water travels through a pipeline to the Fountain Valley Authority (FVA) water treatment plant, and then through a pipeline to our storage tanks.

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. 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, please 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 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.

THE U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA) WANTS YOU TO

KNOW: 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 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. It may also be helpful to flush your tap for 30 seconds to 2 minutes before drinking tap water. Additional information is available from the Safe Drinking Water Hotline at (800) 426-4791. Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask for advice from your health care provider. 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.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. The U.S. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water that must provide the same protection for public health. The Colorado Department of Public Health & 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 or by contacting Richard Davis or James L. Jones at 719-392-3475. 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 from which a source water protection plan may be developed on potential sources of contamination in our source water area which can come from EPA Super Fund Sites, EPA Abandoned Contaminated Sites, EPA Hazardous Waste Generators, EPA Chemical Inventory/Storage Sites, EPA Toxic Release Inventory Sites, Permitted Wastewater Discharge Sites, Aboveground/Underground and Leaking Storage Tank Sites, Solid Waste Sites, Existing/Abandoned Mines sites, Other Facilities, Commercial/Industrial Transportation, High and Low Intensity Residential, Urban Recreational Grasses, Quarries/ Strip Mines/Gravel Pits, Agricultural Land, Forest, Septic Systems, Oil/Gas Wells, and Road miles. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled meetings located at 231 Security Blvd. in Security, which are normally held on the third Wednesday of each month at 5: 30 p.m. If you have any questions concerning this report or regarding your water utility, please contact Richard Davis or James L. Jones at Security Water District's office (719-392-3475).

TABLE OF DETECTED CONTAMINANTS

Security Water District 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, 2008 unless otherwise noted. The State of Colorado requires us to monitor for certain contaminants less than once per year because the concentrations of 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. The "Range" column in the table(s) below will show a single value for those contaminants that were sampled only once. Note: Only detected contaminants appear in this report.

Organics and Inorganics	Collection Date	Highest Value	Range	Unit	MCL	MCLG	Typical Source
BARIUM	3/19/2008	0.15	0.02 - 0.15	ppm	2	2	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
CHROMIUM	3/19/2008	14	2.5 - 14	ppb	100	100	Discharge from steel and pulp mills; Erosion of natural deposits
FLUORIDE	3/10/2008	2.2	0.16 - 2.2	ppm	4	4	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
MERCURY	3/19/2008	0.2	0.1 - 0.2	ppb	2	2	Erosion of natural deposits; Discharge from refineries and factories; Runoff from landfills; Runoff from cropland
NITRATE	3/12/2008	8.4	4.4 - 8.4	ppm	10	10	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
NITRATE-NITRITE	3/19/2008	7.9	4.6 - 7.9	ppm	10	10	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
SELENIUM	3/19/2008	5.1	2.6 - 5.1	ppb	50	50	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines
TETRACHLOROETHYLENE	10/28/2008	6.2	0.6 - 6.2	ppb	5	0	Discharge from factories and dry cleaners
TRICHLOROETHYLENE	10/22/2008	0.9	0.5 - 0.9	ppb	5	0	Discharge from metal degreasing sites and other factories

Disinfection By-Products	Date	Average	Range	Highest RAA	Unit	MCL	MCLG	Typical Source
TOTAL HALOACETIC ACIDS (HAA5)	2008	16.267	1.3-33	22	ppb	60	N/A	By-product of drinking water disinfection
TOTAL TRIHALOMETHANES (TTHM)	2008	18.43	1.9-50.9	35	ppb	80	N/A	By-product of drinking water disinfection

Lead and Copper	Collection Date	90 TH Percentile	Unit	AL	Typical Source
COPPER, FREE	2008	0.94	ppm	1.3	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
LEAD	2008	2.3	ppb	15	Corrosion of household plumbing systems; Erosion of natural deposits By-product of drinking water disinfection

Radionuclides	Collection Date	Highest Value	Range	Unit	MCL	MCLG	Typical Source
COMBINED RADIUM (-226 & -228)	10/7/2008	3.3	0.7 - 3.3	pCi/L	5	0	Erosion of natural deposits
COMBINED URANIUM	4/28/2008	12.5	6.5 - 12.5	ppb	30	0	Erosion of natural deposits
GROSS ALPHA, EXCL. RADON & U	7/29/2008	6.3	4 - 6.3	pCi/L	15	0	Erosion of natural deposits
GROSS BETA PARTICLE ACTIVITY	9/29/2008	5.2	3.7 - 5.2	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
CHLOROMETHANE	9/29/2008	0.8	0.5-0.8	UG/L	N/A
NICKEL	3/19/2008	0.0096	0.0012 - 0.0096	MG/L	N/A
SODIUM	3/19/2008	47	28-47	MG/L	1000
SULFATE	9/23/2006	71	71	MG/L	250

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.

Violations

Type	Category	Analyte	Compliance Period
SECONDARY FLUORIDE	Secondary MCL Exceedence	FLUORIDE	01/01/2008 - 12/31/2010

Information About the Above Violation(s)

At low levels, fluoride can help prevent cavities, but children under nine years old drinking water containing more than 2 milligrams per liter (mg/L) of fluoride may develop cosmetic discoloration and/or pitting of their permanent teeth (dental fluorosis). This problem occurs only in developing teeth, before they erupt from the gums. Children under nine years of age should be provided with alternative sources of drinking water or water that has been treated to remove the fluoride to avoid the possibility of staining and pitting of their permanent teeth. You may also want to contact your dentist about proper use by young children of fluoride-containing products. Older children and adults may safely drink the water. Drinking water containing more than 4 mg/L of fluoride can increase your risk of developing bone disease. Your drinking water does not contain more than 4 mg/L of fluoride, but we're required to notify you when we discover that the fluoride levels in your drinking water exceed 2 mg/L because of this cosmetic dental problem. Some home water treatment units are also available to remove fluoride from drinking water. To learn more about available home water treatment units, you may call NSF International at 1-877-8-NSF-HELP." At this time there is nothing you need to do. The Water Districts Fluoride levels vary from well to well. In 2008, one of our 19 wells (which is about 1% of the total usage) exceeded a secondary fluoride level of 2.0 mg/L. Water from this well mixes with water from our other wells bringing the level in the distribution system under the SMCL before reaching any customer. The average Fluoride level from the nineteen sites taken in 2008 is at 0.63 mg/L.

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.