

Annual Drinking Water Quality Report



We are pleased to present to you this 2007 Annual Water Quality Report.
Our constant goal is to provide you with a safe and dependable supply of drinking water.

Lead and Copper	Collection Date	90th Percentile	Unit	AL	Typical Source
COPPER	2005 - 2007	0.2104	ppm	1.3	Corrosion of household plumbing systems; Erosion of natural deposits.
LEAD	2005 - 2007	1	ppb	15	Corrosion of household plumbing systems; Erosion of natural deposits.

Secondary Contaminants/ Other Monitoring	Collection Date	Highest Value	Range	Unit	Secondary Standard
SODIUM	1/23/2006	1.3	1.3	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 1-800-426-4791.

There are no additional required health effects notices.

Violations

Type	Category	Analyte	Compliance Period
INADEQUATE DBP PRECURSOR REMOVAL	Treatment Technique Violation	TOC AND ALKALINITY	7/1/2006 - 9/30/2006

Information About the Above Violation(s)

Total organic carbon (TOC) has no health effects. However, TOC provides a medium for the formation of disinfection byproducts (DBPs). 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 increase risk of getting cancer.

SUPERIOR METROPOLITAN DISTRICT NO. 1 is required to include an explanation of the violation(s) in the above table and the steps taken to resolve the violation(s):

Surface water sources used for drinking water often contain suspended and colloidal solids

produced by decaying vegetation, microorganisms and soil erosion. These colloidal solids are measured in nephelometric turbidity units (NTU). During the weeks preceding the samples that pushed the running annual average of TOC out of compliance, the NTU of the raw water increased slightly. Although the water treatment plant did not violate the finished water turbidity levels, they too were elevated. This is what caused the finished water TOC to be under the required 1.0 compliance factor. Raw water turbidity (NTU) has returned to normal levels and jar testing (for optimal treatment efficiency) has been done to optimize finished water turbidity levels. Further sampling has been done to ensure compliance. For more information about this violation, please contact Shilo Williams at 303-307-3200.

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](http://www.epa.gov/safewater) 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 Sources

Source	Water Type
Terminal Resv via Marshall	Surface Water
Carter Lake	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 or by contacting 303-692-3592.

Potential sources of contamination in our source water area come from: EPA Superfund sites, EPA abandoned contaminated sites, EPA chemical inventory/storage sites, aboveground, underground and leaking storage tank sites, existing/abandoned mine sites

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 David L. Takeda at 303-468-8468 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 (µg/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

SUPERIOR METROPOLITAN DISTRICT NO. 1 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, 2006 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 SUPERIOR MD NO 1 did not detect any contaminants in the last round of monitoring.

Organics and Inorganics	Collection Date	Highest Value	Range	Unit	MCL	MCLG	Typical Source
BARIUM	1/23/2006	0.024	0.024	ppm	2	2	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
FLUORIDE	12/12/2006	0.58	0.58	ppm	4.0	4.0	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
NITRATE+ NITRITE (AS N)	3/30/2005	0.07	0.04 - 0.07	ppm	10	10	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits

Turbidity	Sample Date	Level Found	TT Requirement	Likely Source of Contamination
TURBIDITY	Date: 10/11/2006	Highest single measurement: 0.30	Maximum 5.0 NTU for any single measurement	Soil Runoff
	Month: Jan-Dec 2006	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-Products	Date	Average	Range	Highest RAA	Unit	MCL	MCLG	Typical Source
TOTAL TRIHALOMETHANES (TTHM)	2006	31.75563	18.17 - 57.227	40	ppb	80.000	N/A	By-product of drinking water chlorination
TOTAL HALOACETIC ACIDS (HAA5)	2006	27.74688	18.7 - 50.8	30	ppb	60.000	N/A	By-product of drinking water disinfection

TOC	Compliance Factor (measurements should not be lower than this factor)	Lowest RAA (compliance factor)	RAA Range for the Year (compliance factor)	Typical Source
TOTAL ORGANIC CARBON (TOC)	1.0	.91	.91 - .96	Naturally present in the environment