

# City Of Sterling 2010 Drinking Water Consumer Confidence Report For Calendar Year 2009

Public Water System ID # CO0138045

*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 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.

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
Well No 7	Ground Water
Well No 8	Ground Water
Well No 9	Ground Water
Well No 10R	Ground Water
Well No 11	Ground Water
Well No 12	Ground Water
Well No 13	Ground Water
South Golf Well Aka Well No 15	Ground Water
Columbine Park Well	Ground Water
Well No 30	Ground Water
Well No 1	Ground Water
Well No 2	Ground Water
Well No 3	Ground Water
Well No 4A	Ground Water
Well No 5	Ground Water
Well No 3R	Ground 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 Bill Wright at 970-522-2619 ext. 156.

**Potential sources of contamination in our source water area may come from: Commercial/Industrial Transportation, Low Intensity Residential, Row Crops, Septic Systems, and natural occurring development of dissolving minerals.**

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 Bill Wright at 970-522-2619 ext. 156 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



### Detected Contaminants

City Of Sterling 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, 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 tables appear in this section, that means that City Of Sterling did not detect any contaminants in the last round of monitoring.

<b>Microbiological</b>	<b>Result</b>	<b>MCL</b>	<b>MCLG</b>	<b>Typical Source</b>
COLIFORM (TCR)	In the month of November, 1 sample(s) returned as positive	MCL: Systems that Collect Less Than 40 Samples per Month - No more than 1 positive monthly sample	0	Naturally present in the environment

- 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.

Organics and Inorganics	Collection Date	Highest Value	Range	Unit	MCL	MCLG	Typical Source
ARSENIC	10/12/2009	7.8	4.7 - 7.8	ppb	10		Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes.
BARIUM	10/12/2009	0.33	0.038 - 0.33	ppm	2	2	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
CHROMIUM	10/12/2009	7.3	3.5 - 7.3	ppb	100	100	Discharge from steel and pulp mills; Erosion of natural deposits
FLUORIDE	10/12/2009	1.1	0.45 - 1.1	ppm	4	4	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
NITRATE	8/18/2009	4.9	3.1 - 4.9	ppm	10	10	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
NITRATE-NITRITE	10/12/2009	4.5	4.5	ppm	10	10	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
SELENIUM	10/12/2009	8.8	2.6 - 8.8	ppb	50	50	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines

Disinfection By-Products	Date	Average	Range	Highest RAA	Unit	MCL	MCLG	Typical Source
TOTAL HALOACETIC ACIDS (HAA5)	2009	8.1165	1.99 - 18.28	18	ppb	60	N/A	By-product of drinking water disinfection
TTHM	2009	57.5595	37.35 - 69.83	61	ppb	80	N/A	By-product of drinking water chlorination

Lead and Copper	Collection Date	90 <sup>TH</sup> Percentile	Unit	AL	Typical Source
COPPER, FREE	2008 - 2010	1.4	ppm	1.3	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
LEAD	2008 - 2010	6.9	ppb	15	Corrosion of household plumbing systems; Erosion of natural deposits

Radionuclides	Collection Date	Highest Value	Range	Unit	MCL	MCLG	Typical Source
COMBINED RADIUM (-226 & -228)	3/30/2009	0.9	0.5 - 0.9	pCi/L	5		Erosion of natural deposits
COMBINED URANIUM	11/3/2009	52	7.7 - 52	ppb	30		Erosion of natural deposits
GROSS ALPHA, EXCL. RADON & U	3/30/2009	6.5	1.5 - 6.5	pCi/L	15	0	Erosion of natural deposits
GROSS BETA PARTICLE ACTIVITY	3/30/2009	12	4.3 - 12	pCi/L	4	0	Decay of natural and man-made deposits
RADON	3/31/2009	320	250 - 320	PCI/L			

Secondary Contaminants/ Other Monitoring	Collection Date	Highest Value	Range	Unit	Secondary Standard
DIBROMOMETHANE	9/16/2009	0.58	0.58	UG/L	
MPA RAW ONLY	6/1/2005	11	7 - 11	UNITS	
TDS	3/30/2009	1490	300 - 1490	MG/L	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.

## 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 (800)426-4791.

While your drinking water meets EPA's standard for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems. As of January 23, 2006, the Arsenic MCL is now 10 ppb.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Your water system is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present.

Radon is a radioactive gas that you cannot see, taste, or smell. It is found in the soil throughout the United States. Radon can move up through the ground and into a home through cracks and holes in the foundation. Radon can reach high levels in all types of homes. Radon can also be released from tap water from showering, washing dishes, and other household activities. Compared to radon entering the home through the soil, radon entering the home through tap water will be, in most cases, a small source of radon in indoor air. Radon is a known human carcinogen. Breathing air that contains radon can lead to lung cancer. Drinking water that contains radon may also cause increased risk of stomach cancer. If you are concerned about radon in your home, test the air in your home. Testing is inexpensive and easy. Fix your home if the level of radon in your air is four (4) picocuries per liter of air (pCi/L) or higher. There are simple ways to fix a radon problem that are relatively inexpensive. For additional information, call the state radon program at 303-692-3030 or call the EPA Radon Hotline 1-800-SOS-RADON.

Some people who drink water containing uranium in excess of the MCL over many years may have an increased risk of getting cancer and kidney toxicity.

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.

### Violations

Type	Category	Analyte	Compliance Period
MONITORING, ROUTINE MAJOR	Failure to Monitor	NITRATE	01/01/2009 - 12/31/2009
MCL, AVERAGE	Maximum Contaminant Level Violation	COMBINED URANIUM	01/01/2009 - 12/31/2009
MCL, AVERAGE	Maximum Contaminant Level Violation	COMBINED URANIUM	01/01/2009 - 12/31/2009
MCL, AVERAGE	Maximum Contaminant Level Violation	COMBINED URANIUM	01/01/2009 - 12/31/2009
MONITORING, ROUTINE MAJOR	Failure to Monitor	XYLENES, TOTAL	04/01/2009 - 06/30/2009
MONITORING, ROUTINE MAJOR	Failure to Monitor	NITRATE	04/01/2009 - 06/30/2009
MONITORING, ROUTINE MAJOR	Failure to Monitor	FLUORIDE	04/01/2009 - 06/30/2009

<b>Type</b>	<b>Category</b>	<b>Analyte</b>	<b>Compliance Period</b>
MONITORING, ROUTINE MAJOR	Failure to Monitor	ARSENIC	04/01/2009 - 06/30/2009
MONITORING, ROUTINE MAJOR	Failure to Monitor	BARIUM	04/01/2009 - 06/30/2009
MONITORING, ROUTINE MAJOR	Failure to Monitor	CADMIUM	04/01/2009 - 06/30/2009
MONITORING, ROUTINE MAJOR	Failure to Monitor	CHROMIUM	04/01/2009 - 06/30/2009
MONITORING, ROUTINE MAJOR	Failure to Monitor	MERCURY	04/01/2009 - 06/30/2009
MONITORING, ROUTINE MAJOR	Failure to Monitor	NICKEL	04/01/2009 - 06/30/2009
MONITORING, ROUTINE MAJOR	Failure to Monitor	SODIUM	04/01/2009 - 06/30/2009
MONITORING, ROUTINE MAJOR	Failure to Monitor	ANTIMONY, TOTAL	04/01/2009 - 06/30/2009
MONITORING, ROUTINE MAJOR	Failure to Monitor	BERYLLIUM, TOTAL	04/01/2009 - 06/30/2009
MONITORING, ROUTINE MAJOR	Failure to Monitor	THALLIUM, TOTAL	04/01/2009 - 06/30/2009
MONITORING, ROUTINE MAJOR	Failure to Monitor	SELENIUM	04/01/2009 - 06/30/2009
MONITORING, ROUTINE MAJOR	Failure to Monitor	COMBINED URANIUM	07/01/2009 - 09/30/2009
MONITORING, ROUTINE MAJOR	Failure to Monitor	GROSS ALPHA, EXCL. RADON & U	10/01/2009 - 12/31/2009

### **Information about the Above Violation(s)**

In the year 2009, this system was under Enforcement Order from the state of Colorado for violation of radionuclides MCL and TTHM MCL.

City Of Sterling is required to include an explanation of the violations in the above table and the steps taken to resolve the violations with this report.

#### **Maximum Contaminant Level Violations**

The City of Sterling is presently working with an outside engineering firm on the development of a water treatment plant to remove uranium and TTHMs; and their precursors this is in accordance with the enforcement Order from the state of Colorado issued in the year 2009. A treatment plant is scheduled to go on line January 2012 that will remove / reduce all contaminates to a safe level

#### **Failure to Monitor**

The City of Sterling operator(s) have set up a spread sheet to help ensure samples are taken on time specified by the monitoring schedule set by the state health department. Training of a second operator in the proper techniques, preserving, and holding times of samples is on going to help insure samples are taken and shipped proper manner and time frame.