



## 2010 Drinking Water Quality Report

We're pleased to present to you the 2010 annual drinking water quality report. This report tells you about the quality of water delivered to you every day. Our most important goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water. Our primary water source is the Missouri River. 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, which 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, which 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 by-products of industrial processes and petroleum production, and can also, come from gas stations, urban storm water runoff, and septic systems. - Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

**T**he City of Council Bluffs obtains its water from the Missouri River and its tributaries. Reservoirs and streams are highly susceptible to contamination because contaminants can move through them quickly. Council Bluffs' water supply will be susceptible to contaminant releases from landfills and livestock confinements. A portion of the Council Bluffs' water supply is obtained from an alluvial aquifer. The alluvial aquifer was determined to be highly susceptible to contamination because the characteristics of the aquifer and overlying materials allow contaminants to move through the aquifer quickly. The City of Council Bluffs' wells will be most susceptible to activities such as dry cleaners, gas stations, industrial sites, and municipal wastewater discharges. A detailed evaluation of your source water was completed by the Iowa Department of Natural Resources, and is available from John Meads, Purification Manager at 328-1006 ext. 1020.

The Council Bluffs Water Works routinely monitors for contaminants in your drinking water according to Federal and State laws. The following table shows the results of our monitoring for the period of January 1, 2005 to December 31, 2009. In this table you will find many terms and abbreviations with which you might not be familiar. To help you better understand these terms we've provided the following EPA approved definitions:

*Non-Detects (ND)* - laboratory analysis indicates that the contaminant is not present.

*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* - one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

*Picocuries per liter (pCi/L)* - picocuries per liter is a measure of the radioactivity in water.

*Million Fibers per Liter (MFL)* - million fibers per liter is a measure of the presence of asbestos fibers that are longer than 10 micrometers.

*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* - The "Maximum Allowed" (MCL) 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 Contaminant Level Goal* - The "Goal" (MCLG) 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 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.

*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.

*Not applicable (na)* - Does not apply or no maximum contaminant level has been set.

< - Less than. > - More than.



MCL's are set at very stringent levels. To understand the possible health effects described for many regulated contaminants, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect. Our drinking water meets all current federal and state requirements.

We're proud that your drinking water meets all Federal and State requirements. We have learned through our monitoring and testing that some regulated contaminants

have been detected. The Environmental Protection Agency (EPA) has determined that your water is safe at these levels. The EPA requires water utilities to test for over 80 contaminants. Those contaminants listed below are the only regulated contaminants detected in your drinking water. For a complete list of the regulated and unregulated contaminants contact our Purification Manager, John Meads, at 328-1006 extension 1020 between the hours of 8:00 am and 3:00pm M-F except holidays.

Contaminant	Violation Y/N	Level Detected	Range	Unit of measurement	MCLG	MCL	Likely Source(s) of contamination.
Turbidity (100% of samples <0.3 NTU) Begin date - 1/1/2009 End date - 12/31/2009	N	0.16	0.03-0.16 Average 0.08	NTU	na	TT	Soil runoff.
Copper (No tests over AL) Begin date - 6/1/2005 End date - 9/30/2007	N	0.1	<0.01-0.24	ppm	1.3	AL=1.3	Corrosion of house hold plumbing systems.
Fluoride Begin date - 4/11/2005 End date - 4/11/2005	N	1.15	.33-1.34	ppm	4	4	Water additive that promotes strong teeth.
Lead Begin date - 6/1/2005 End date - 9/30/2007	N	3	<1-10	ppb	0	AL=15	Corrosion of house hold plumbing systems.
Nitrate (as nitrogen) Begin date - 4/6/2009 End date - 4/6/2009	N	1.7	na	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks; sewage.
TTHM (Total Trihalomethanes) Begin date - 10/1/2008 End date - 9/30/2009	N	48*	24 to 73	ppb	na	80	By-product of drinking water chlorination.
Haloacetic Acids Begin date - 1/1/2009 End date - 12/31/2009	N	16*	7 to 27	ppb	na	60	By product of drinking water chlorination.
Sodium Begin date - 4/6/2009 End date - 4/6/2009	N	50	na	ppm	na	na	Erosion of natural deposits.
Carbon, Total Organic Begin date - 1/1/2009 End date - 12/31/2009	N	3.6	2.3 to 3.6 Average removal 46%	ppm	na	TT	Naturally present in the environment.
Chlorine Begin date - 4/1/2008 End date - 3/31/2009	N	1.9*	0.1 to 2.0	ppm	MRDLG=4.0	MRDL=4.0	Water additive used to control microbes.
Chlorite Begin date - 4/1/2008 End date - 3/31/2009	N	0.20	0.0 to .20	ppm	0.8	1.0	By-product of drinking water disinfection.
Total Coliform Bacteria Begin date - 11/1/2009 End date - 11/30/2009	N	2**	0-78	Presence/Absence	0	Presence of coliform bacteria in >5% of monthly samples	Naturally present in the environment.

\*These are running annual averages.

\*\*Two samples collected during November tested positive for total coliforms. Repeat samples indicated coliform bacteria were not present, and the water was determined to be safe for consumption.

In addition we performed an Initial Distribution System Evaluation to comply with future disinfection by-product regulations. The following table shows the results of the evaluation.

	Minimum level	Maximum level	
Total trihalomethanes	19 ppb	36 ppb	By-product of drinking water chlorination
Total haloacetic acids	6 ppb	17 ppb	By-product of drinking water chlorination

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. The Council Bluffs Water Works 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>.

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. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791. 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. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

Some people may be more vulnerable to contaminants in drinking water than the general population. We constantly monitor the water supply for various contaminants, including cryptosporidium. Cryptosporidium, a protozoan parasite and one-celled animal, is too

small to be seen without a microscope. It is common in surface waters (lakes and rivers), especially when these waters contain sewage or animal waste. Sampling conducted by the Council Bluffs Water Works has detected cryptosporidium in our source water.

The Council Bluffs Water Works utilizes the multiple barrier treatment process that effectively removes and inactivates cryptosporidium. Although cryptosporidium has never been detected in any drinking water samples, we believe it is important for you to know that cryptosporidium may cause serious illness in immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders. These people should seek advice from their health care providers. Our treatment processes consistently produces low turbidity finished water, which is very effective in removing cryptosporidium. Cryptosporidium can be spread through means other than drinking water.

We at the Council Bluffs Water Works work around the clock to provide top quality water to every tap. We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life and our children's future.

If you have any questions about this report or concerning the Council Bluffs Water Works, please contact our Purification Manager, John Meads, at 328-1006 extension 1020 between the hours of 8:00 am and 3:00pm M-F except holidays. We want our valued customers to be informed about their water utility. The Board of Water Works Trustees conducts the business of the Water Works during their regularly scheduled meetings. The meetings are normally held on the third Tuesday of the month at 4:30 p.m. at the Water Works office, 2000 N. 25th St.