



This report was prepared by:
Council Bluffs Water Works
2000 N. 25th Street
Council Bluffs, IA 51501

Quality First

Once again we are proud to present our annual water quality report covering all testing performed between January 1 and December 31, 2010. As in years past, we are committed to delivering the best-quality drinking water possible. To that end, we remain vigilant in meeting the challenges of new regulations, source water protection, water conservation, and community outreach and education while continuing to serve the needs of all of our water users. Thank you for allowing us to continue providing you and your family with high-quality drinking water.

We encourage you to share your thoughts with us on the information contained in this report. Should you ever have any questions or concerns, we are always available to assist you.



For more information about this report, or for any questions relating to your drinking water, please visit our website at www.cbwaterworks.com or call John Meads, Purification Department Manager, at (712) 328-1006, ext. 1020.

Community Participation

We want our valued customers to be informed about their water utility. The Board of Water Works Trustees conduct 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 Street.

Where Does My Water Come From?

The Council Bluffs Water Works' primary water source is the Missouri River. However, in the winter months, water from the Council Bluffs Water Works' two wells is blended with the river water to assist in the deicing process of the outdoor basins.

Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

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 can acquire naturally occurring minerals, in some cases, radioactive material, and substances resulting from the presence of animals or from human activity. Substances 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, or wildlife; Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban stormwater 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 stormwater runoff, and residential uses; Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production and may also come from gas stations, urban stormwater runoff, and septic systems; Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.



Why do I get this report each year?

Community water system operators are required by Federal law to provide their customers an annual water quality report. The report helps people make informed choices about the water they drink. It lets people know what contaminants, if any, are in their drinking water and how these contaminants may affect their health. It also gives the system operators a chance to tell customers what it takes to deliver safe drinking water.

Why does my water sometimes look “milky”?

The “milky” look is caused by tiny air bubbles in the water. The water in the pipes coming into your home or business is under pressure, so gasses (the air) are dissolved and trapped in the pressurized water as it flows into your glass. As the air bubbles rise in the glass, they break free at the surface, thus clearing up the water. Although the milky appearance might be disconcerting, the air bubbles won't affect the quality or taste of the water.

How much water is used during a typical shower?

The Federal Energy Policy Act set a nationwide regulation that limits shower heads to a maximum flow of 2.5 gallons per minute (GPM). Shower heads made before 1980 are rated at 5 GPM. Since the average shower is estimated to last 8.2 minutes, the old shower heads use 41 gallons of water while the newer, low-flow shower heads use only about 21 gallons.

Is it okay to use hot water from the tap for cooking and drinking?

No, ALWAYS use cold water. Hot water is more likely to contain rust, copper, and lead from household plumbing and water heaters. These substances can dissolve into hot water faster than they do into cold water, especially when the faucet has not been used for an extended period of time.

How many contaminants are regulated in drinking water?

The U.S. EPA regulates over 80 contaminants in drinking water. Some states may choose to regulate additional contaminants or to set stricter standards, but all states must have standards at least as stringent as the U.S. EPA's.

Important Health Information

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 the use of a microscope. It is common in surface waters (lakes and rivers), especially when the waters contain sewage or animal waste. Sampling conducted by the Council Bluffs Water Works has detected *Cryptosporidium* in the 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. Immunocompromised 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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The Council Bluffs Water Works' multibarrier treatment process constantly produces low-turbidity finished water, which is very effective in removing *Cryptosporidium*. It is also important to understand that *Cryptosporidium* can be spread through means other than drinking water. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or www.epa.gov/drink/hotline/.

Water Conservation

You can play a role in conserving water and save yourself money in the process by becoming conscious of the amount of water your household is using and by looking for ways to use less whenever you can. It is not hard to conserve water. Here are a few tips:

Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.

Turn off the tap when brushing your teeth.

Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year.

Check your toilets for leaks by putting a few drops of food coloring in the tank. Watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from an invisible toilet leak. Fix it and you save more than 30,000 gallons a year.

Use your water meter to detect hidden leaks. Simply turn off all taps and water-using appliances. Then check the meter after 15 minutes. If it moved, you have a leak.

Tap vs. Bottled

Thanks in part to aggressive marketing, the bottled water industry would have you believe that water purchased in bottles is a healthier alternative to tap water. However, according to a four-year study conducted by the Natural Resources Defense Council, bottled water is not necessarily cleaner or safer than most tap water. In fact, about 25 percent of bottled water is actually just bottled tap water (40 percent according to government estimates).

The Food and Drug Administration is responsible for regulating bottled water, but these rules allow for less rigorous testing and purity standards than those required by the U.S. EPA for community tap water. For instance, the high mineral content of some bottled waters makes them unsuitable for babies and young children. Further, the FDA completely exempts bottled water that's packaged and sold within the same state, which accounts for about 70 percent of all bottled water sold in the United States.

People spend 10,000 times more per gallon for bottled water than they typically do for tap water. If you get your recommended eight glasses a day from bottled water, you could spend up to \$1,400 annually. The same amount of tap water would cost about 49 cents. Even if you installed a filter device on your tap, your annual expenditure would be far less than what you'd pay for bottled water.

Source Water Assessment

The 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 (712) 328-1006, ext. 1020.

Lead in Home Plumbing

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. We are responsible for providing high-quality drinking water, but we 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 www.epa.gov/safewater/lead.

Naturally Occurring Bacteria

The simple fact is, bacteria and other microorganisms inhabit our world. They can be found all around us: in our food; on our skin; in our bodies; and, in the air, soil, and water. Some are harmful to us and some are not. Coliform bacteria are common in the environment and are generally not harmful themselves. The presence of this bacterial form in drinking water is a concern because it indicates that the water may be contaminated with other organisms that can cause disease. Throughout the year, we tested many water samples for coliform bacteria. Federal regulations now require that public water that tests positive for coliform bacteria must be further analyzed for fecal coliform bacteria. Fecal coliform are present only in human and animal waste. Because these bacteria can cause illness, it is unacceptable for fecal coliform to be present in water at any concentration. Our tests indicate no fecal coliform is present in our water.

Sampling Results

During the past year we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants. The tables below show only those contaminants that were detected in the water. The state allows us to monitor for certain substances less often than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

REGULATED SUBSTANCES							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chlorine ¹ (ppm)	2010	[4.0]	[4.0]	1.9	ND–3.0	No	Water additive used to control microbes
Chlorite (ppm)	2010	1	0.8	0.14	ND–0.14	No	By-product of drinking water disinfection
Fluoride (ppm)	2010	4	4	1.09	0.98–1.34	No	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAA] ¹ (ppb)	2010	60	NA	22	12–32	No	By-product of drinking water disinfection
Nitrate (ppm)	2010	10	10	2.3	2.3–2.3	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [Total Trihalomethanes] ¹ (ppb)	2010	80	NA	69.00	35–110	No	By-product of drinking water disinfection
Total Coliform Bacteria ² (% positive samples)	2010	5% of monthly samples are positive	0	1.3	NA	No	Naturally present in the environment
Total Organic Carbon ³ (ppm)	2010	TT	NA	4.3	2.3–4.3	No	Naturally present in the environment
Turbidity ⁴ (NTU)	2010	TT	NA	0.45	0.02–0.45	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2010	TT	NA	99.95	NA	No	Soil runoff

Tap water samples were collected for lead and copper analyses from sample sites throughout the community

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED 90TH PERCENTILE	SITES ABOVE AL/ TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2010	1.3	1.3	0.1	0/40	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2010	15	0	3 (95th percentile=6)	0/40	No	Corrosion of household plumbing systems; Erosion of natural deposits

UNREGULATED SUBSTANCES				
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Sodium (ppm)	2010	60	NA	Erosion of natural deposits; Added to water during treatment process

¹ Amount detected has been reported as a running annual average.

² One sample tested positive for total coliform bacteria in the month of May, but repeat confirmation samples showed no total coliform bacteria present.

³ Average yearly removal was 42.2%

⁴ Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of the filtration system. During the calendar year 2010, the average turbidity was 0.07 NTU.

Definitions

AL (Action Level): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

MCL (Maximum Contaminant Level): 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.

MCLG (Maximum Contaminant Level Goal): 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.

MRDL (Maximum Residual Disinfectant Level): 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.

MRDLG (Maximum Residual Disinfectant Level Goal): 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.

NA: Not applicable

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

TT (Treatment Technique): A required process intended to reduce the level of a contaminant in drinking water.