

*Annual Drinking Water Quality Report  
For the City of Fertile, Iowa  
June 2012*

We're very pleased to provide you with this year's Annual Quality Water Report. We want to keep you informed about the excellent water and services we have delivered to you over the past year. Our goal is and always has been, to provide to you a safe and dependable supply of drinking water. Our water source is The City of Fertile obtains its water from the Devonian aquifer. The Devonian 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 fairly quickly. The City of Fertile well will be most susceptible to activities such as leaking underground storage tanks, waste water treatment plants, sink holes, and pipe lines. A detailed evaluation of your source water was completed by the Iowa Department of Natural Resources, and is available from the Fertile city clerk at 641-797-2121.

I'm pleased to report that our drinking water is safe and meets federal and state requirements.

This report shows our water quality and what it means.

If you have any questions about this report or concerning your water utility, please contact city hall at 641-797-2121. 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. They are held on the third Tuesday of the month at 7 pm.

The City of Fertile routinely monitors for constituents in your drinking water according to Federal and State laws. This table shows the results of our monitoring for the period of January 1<sup>st</sup> to December 31<sup>st</sup>, 2010. As water travels over the land or underground, it can pick up substances or contaminants such as microbes, inorganic and organic chemicals, and radioactive substances. All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some constituents. It's important to remember that the presence of these constituents does not necessarily pose a health risk.

In this table you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions:

*Non-Detects (ND)* - laboratory analysis indicates that the constituent 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.

*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.

*Millirems per year (mrem/yr)* - measure of radiation absorbed by the body.

*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* - the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

*Treatment Technique (TT)* - (mandatory language) A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

*Maximum Contaminant Level (MCL)* - (mandatory language) 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 (MCLG)* - (mandatory language) 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)* – (mandatory language) 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)* – (mandatory language) 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.

Total Coliform/Lead & Copper/Detect Report

ANALYTE	MCL/AL	MC LG	COMPLIANCE		DETECT		SAMPLES		BEGIN DATE	END DATE	SOURCE
			TYPE	VALUE	MIN	MAX	TOTAL	EXCEED			
Total Coliform Bacteria	presence of coliform bacteria in 5% of monthly samples	N/A	SGL	0	N/A	N/A	12	0	1/1/10	12/31/10	Naturally present in the environment
Fecal coliform and <i>E.coli</i>	a routine sample and repeat sample are total coliform positive, and one is also fecal coliform or <i>E. coli</i> positive	N/A	SGL	0	N/A	N/A	0	0	1/1/09	12/31/09	Human and animal fecal waste
Chlorine (ppm)	4.0	4.0	RAA	.9	0	1.3	12	0	1/1/09	12/31/09	Water additive used to control microbes
Fluoride (ppm)	4.0	4.0	SGL	0.44	n/a	n/a	-	-	10/30/06	10/30/06	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Copper (ppm)	AL=1.3	1.3	90 <sup>th</sup>	.38	0.0	0.56	5	0	6/1/07	9/30/09	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (ppm)	AL=15	0	95 <sup>th</sup>	10	0.0	10	5	0	6/1/07	9/30/09	Corrosion of household plumbing systems, erosion of natural deposits
Lead (ppm)	AL=15	0	90 <sup>th</sup>	10	0.0	10	5	0	6/1/07	9/30/09	Corrosion of household plumbing systems, erosion of natural deposits
Total Trihalomethanes (ppb) [TTHM]	80	n/a	SGL	31	n/a	n/a	-	-	8/19/08	8/19/08	By-products of drinking water disinfection
Total Haloacetic Acids (ppb) [HAA5]	60	n/a	SGL	19	n/a	n/a	-	-	8/19/08	8/19/08	By-products of drinking water disinfection
Combined Radium (pCi/L)	5	0	SGL	0.9	n/a	n/a	-	-	4/15/02	4/15/02	Erosion of natural deposits
Sodium (ppm)	n/a	n/a	SGL	10	n/a	n/a	-	-	1/21/08	1/21/08	Erosion of natural deposits; added to water during treatment process
Arsenic (ppb)	10	0	SGL	4	n/a	n/a	-	-	10/30/06	10/30/06	Erosion of natural deposits, runoff from orchards, runoff from glass and electronic production wastes
Barium (ppm)	2	2	SGL	0.19	n/a	n/a	-	-	10/30/06	10/30/06	Discharge of drilling wastes, discharge from metal refineries, erosion of natural deposits
Nitrate (as N) (ppm)	10	10	SGL	.52	.52	.52	1	0	1/1/11	12/13/11	Runoff from fertilizer use, leaching from septic tanks, sewage, erosion of natural deposits

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 cost 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.

Some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.

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 advice from your health care provider.

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. City of Fertile 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>.

Some people who drink water containing trihalomethanes in excess of the MCL over many years experience problems with their liver, kidneys, or central nervous systems, and may have increased risk of getting cancer.

As you can see by the table, our system had no violations. We're proud that your drinking water meets or exceeds all Federal and State requirements. We have learned through our monitoring and testing that some constituents have been detected. The EPA has determined that your water IS SAFE at these levels.

All sources of drinking water are subject to potential contamination by substances that are naturally occurring or man made. These substances can be microbes, inorganic or organic chemicals and radioactive substances. 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.

MCL's are set at very stringent levels. To understand the possible health effects described for many regulated constituents, 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.

In our continuing efforts to maintain a safe and dependable water supply it may be necessary to make improvements in your water system. The costs of these improvements may be reflected in the rate structure. Rate adjustments may be necessary in order to address these improvements.

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 from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

Please call our office if you have questions.

City of Fertile 641-797-2121