2011 Consumer Confidence Report for Drinking Water Quality

Ellsworth AFB, South Dakota

This is an annual report on the quality of water delivered by Ellsworth AFB. Under the "Consumer Confidence Reporting Rule" of the federal Safe Drinking Water Act (SDWA), community water systems must report this water quality information to the consuming public. Last year Ellsworth AFB monitored your drinking water for more than 80 possible contaminants.

This brochure is a snapshot of the quality of the water that we provided last year. Included are details about where your water comes from, what it contains, and how it compares to Environmental Protection Agency (EPA) and state standards. We are committed to providing you with the information because informed customers are our best allies.

What is the source of my water?

Your drinking water comes from the Rapid City Water Division. We serve more than 6,000 customers an average of 577,000 gallons of water per day. Our water is surface water that we purchase from another water system. The state has performed an assessment of our source water and they have determined that the relative susceptibility rating for the Rapid City public water supply system is low.

Is my water safe to drink? Absolutely!

To ensure tap water is safe to drink, the Environmental Protection Agency (EPA) prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) 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 contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (800-426-4791).

What substances are found in my water?

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 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, may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- **Inorganic contaminants**, such as salts and metals 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** 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 are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- **Radioactive contaminants** can be naturally occurring or be the result of oil and gas production and mining activities.

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 and Center for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791)

Important Definitions

- **Maximum Contaminant Level (MCL)** – the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to MCLGs as feasible using the best available treatment technology.
- **Maximum Contaminant Level Goal (MCLG)** – 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.
- **Action Level (AL)** – the concentration of a contaminant which, when exceeded, triggers treatment or other requirements that a water system must follow. For Lead and Copper 90% of the samples must be below the AL.
- **Treatment Technique (TT)** – a required process intended to reduce the level of a contaminant in drinking water. For turbidity, 95% of samples must be less than 0.3 NTU
- **Removal Ratio (RR)** – The total organic compounds (TOC) removal ratio is the ratio between the actual TOC removal and the TOC removal requirement. The lowest running annual average of quarterly percentages is reported.

MCLs are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink two 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

Water Quality Testing Results

EPA and state regulations require many tests of water quality after treatment. Ellsworth AFB and the Rapid City Water Division follows, or even goes beyond, all federal and state standards with the frequency and sensitivity of tests. Table 1 lists the drinking water contaminants that were detected during the 2011 calendar year. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing conducted January 1 – December 31, 2011. The state requires us to monitor certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data, though representative of the water quality, is more than one year old. **Our drinking water meets all federal and state requirements.**

2011 Table of Detected Contaminants For Ellsworth AFB (EPA ID 8004)

Units:

**MFL: million fibers per liter*

**mrem/year: millirems per year(a measure of radiation absorbed by the body)*

**NTU: Nephelometric Turbidity Units*

**pCi/l: picocuries per liter(a measure of radioactivity)*

**ppm: parts per million, or milligrams per liter(mg/l)*

**ppb: parts per billion, or micrograms per liter(ug/l)*

**ppt: parts per trillion, or nanograms per liter*

**ppq: parts per quadrillion, or picograms per liter*

**pspm: positive samples per month*

Substance	90% Level	Test Sites > Action Level	Date Tested	Highest Level Allowed (AL)	Ideal Goal	Units	Major Source of Contaminant
Copper	0.4	0	06/24/10	AL=1.3	0	ppm	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.
Lead	2	0	06/24/10	AL=15	0	ppb	Corrosion of household plumbing systems; erosion of natural deposits.

Substance	Highest Level Detected	Range	Date Tested	Highest Level Allowed (MCL)	Ideal Goal (MCLG)	Units	Major Source of Contaminant
Arsenic *	6	ND - 6	05/13/09	10	NA	ppb	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes.
Fluoride *	1.3	0.8 - 1.3	01/25/11	4	4	ppm	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
Haloacetic Acids *	42	ND - 42	08/31/11	60	0	ppb	By-product of drinking water chlorination.
Nitrate (as Nitrogen) *	1.7		09/12/11	10	10	ppm	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
Total organic carbon *	1.00			RR	NA		Naturally present in the environment.
Total trihalomethanes *	56	ND - 56	08/31/11	80	0	ppb	By-product of drinking water chlorination.

* Rapid City test result

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 Ellsworth AFB public water supply 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.

Frequently Asked Questions

Q. How would I know about a problem with the water supply?
A. Bioenvironmental Engineering and Civil Engineering regularly test and inspect the water supply and the distribution system. If a problem was found, all affected people would be notified through written notices delivered to your home, email, and the base newspaper.
Q. My water tastes and smells funny. Is it safe to drink?
A. Yes, you can safely drink and cook with the water. Customers may taste or smell the low levels of chlorine compounds added to disinfect the water. Fill a jug with tap water and put it the refrigerator to get rid of the taste and odor.
Q. My water is cloudy sometimes but then clears up. Can I drink it?
A. Yes, you can safely drink and cook with the water. Water travels under pressure throughout the system. Occasionally, air can become trapped in the water in tiny bubbles causing water to look cloudy. This is only temporary and the water clears up in a short time.
Q. My water is discolored sometimes. What causes this?
A. Older iron pipes in some buildings can cause a slight red, brown, or yellow color in the water. A yellow color is from iron that is absorbed by water that has been sitting in pipes for a long time. A red or brown color is caused by very small specks of iron. These specks of iron can enter the water if there is quick change in water speed or direction in your local pipes. Such changes can result from valve repair, flushing the system or the testing or use of fire hydrants. Running the water from your tap for about a minute usually clears out the contaminants.

How can I find out more information?

Ellsworth AFB and the Rapid City Water Division are dedicated to providing top quality drinking water to every tap. If you have any questions or concerns about anything contained in this report, someone at one of the following numbers will be happy to assist you.

Ellsworth AFB Public Affairs	(605) 385-5056
Ellsworth AFB Bioenvironmental Engineering	(605) 385-3172
Rapid City Water Division	(605) 394-4162
South Dakota State Drinking Water Program	(605) 773-3754
EPA Safe Drinking Water Hotline	(800) 426-4791

Additional information can be obtained from the following website: http://www.epa.gov/safewater/dwinfo/sd.htm