

# City of Egan Utilities

## *Annual Drinking Water Quality Report* January 1, 2011 – December 31, 2011

### **Introduction**

The purpose of this report is to inform you of the quality of the drinking water that we provide you. We are required by the U.S. Environmental Protection Agency (EPA) to test our water frequently for the presence and concentrations of more than 90 different chemicals or chemical compounds. The South Dakota Department of Environment and Natural Resources (DENR) reviews all of our testing data to ensure that 1) we are providing safe drinking water to our customers, and 2) we are complying with EPA regulations

We want you to fully understand the information contained in this report. If you have any questions, you are welcome to attend our City Council meetings (held the 2nd Wednesday of the month) or please contact Jeff Carruthers with:

City of Egan Water Utility  
P.O. Box 42  
Egan, SD 57024  
Phone: (605) 997-2274

### **Where does our water come from?**

We serve over 265 customers an average of 16,600 gallons daily. We purchase our water from Big Sioux Community Water system. The source of Big Sioux CWS water is from the shallow sand and gravel aquifer adjacent to the Big Sioux River. Big Sioux CWS has eight wells located within the Big Sioux River valley in central Moody County, SD. The wells are approximately 40 feet deep. Well-head protection ordinances are in place in Moody County, and efforts are ongoing to protect the water quality of the Big Sioux Aquifer at the Big Sioux CWS well-field. A State assessment determined our source water to have a low susceptibility rating to potential contamination.

## Why do we test our drinking water?

The water in the Big Sioux Aquifer originally comes from the surface, and very slowly seeps down into the aquifer. As water travels over the surface of the land or through the ground, it can dissolve naturally occurring minerals, and pick up substances resulting from the presence of animals or from human activity. Too much of any substance, either naturally occurring or resulting from human activities, can be considered a contaminant.

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 chemicals or compounds*, 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 chemicals or compounds*, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, septic systems and agriculture.

*Radioactive contaminants*, which are naturally occurring in some of the rocks in South Dakota.

In order 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. 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 Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

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).

## Definition of Terms

*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)*, a measure of radioactivity.

*Positive samples per month (pspm)* – presence of coliform bacteria.

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

*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.

*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.

## 2011 Water Quality Test Results

Detected Inorganic Chemicals at Big Sioux CWS Treatment Plant								
Chemical	Sample Date	Level Detected	Average Level Detected	Range of Detection	Units	MCLG	MCL	Likely source of contamination
Antimony	05/27/03	0.5			Ppb	6	6	Refineries, electronics
Nickel	06/05/01	1.1			Ppb	100	100	Metal alloys, batteries
Chromium	05/27/03	1.6			Ppb	100	100	Pulp mills, natural deposits
Selenium	05/27/03	3.6			Ppb	50	50	Erosion of natural deposits
Fluoride	Twice Monthly	1.33	1.21	1.10 – 1.33	Ppm	4	4	Water additive to promote strong teeth
Alpha emitters	11/02/09	1.9			pCi/l	0	15	Erosion of natural deposits
Haloacetic acids	08/24/09	10.0			Ppb	0	60	By-product of chlorination
Total trihalomethanes	08/24/09	50.0			Ppb	0	80	By-product of chlorination
Barium	05/27/03	0.010			Ppm	2	2	Erosion of natural deposits
Nitrate (as Nitrogen)	01/06/11	2.1			Ppm	10	10	Fertilizer runoff; septic tank; erosion of natural deposits
Water Quality Tests taken from the City of Egan								
Chemical	Date Sampled	Level Detected (90 <sup>th</sup> Percentile)	# of Samples above the AL	Units	MCLG	MCL	Likely source of contamination	
Copper	09/28/11	0.0	0	Ppm	0	AL=1.3 ppm	Corrosion of household plumbing systems	
Lead	09/28/11	1	0	Ppb	0	AL=15 ppb	Corrosion of household plumbing systems	

## Failure to monitor Chlorine & Failure to Employ Certified Operator

On April 25<sup>th</sup>, 2011, the Town of Egan received a failure to monitor for Disinfection by-products. Since we did not monitor for these contaminants, we cannot be sure of the quality of the drinking water.

On September 21<sup>st</sup>, 2011, the Town of Egan received a failure to employ a certified operator violation. This violation does not necessarily indicate a health risk. However, since no certified city employee was available, we could not be sure of the quality of the drinking water during that time. Since that time, Big Sioux Community Water system certified personnel have been contracted to remedy both situations.

## Summary of Results

Of the 90+ chemical parameters tested for, the table above represents all that were even detected. Levels of Antimony, Arsenic, Barium, Chromium, Selenium and Alpha emitters were found at levels consistent with our aquifer type. Fluoride levels are consistent with the amount we add to promote healthy teeth. Nitrate levels are consistent with area land-use, and well below the MCL. Lead and Copper levels, a function of plumbing fixtures, are very low due to the chemical stability of the water we purchase.

**Our Drinking Water Meets Or Exceeds Federal And State Requirements.**