

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 microbial contaminants can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

If present, elevated levels of lead can cause serious health problems, especially for pregnant women, infants, and young children who are typically more vulnerable to lead in drinking water than the general population. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. The City of Madison 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 (800-426-4791) or at <http://www.epa.gov/safewater/lead>.

**WE DON'T TAKE OUR DRINKING WATER FOR GRANTED, DO YOU?**

### Water Source

We serve more than 6474 customers an average of 764,000 gallons of water per day. Our water is groundwater that we produce from local wells. The state of South Dakota has performed an assessment of our source water and they have determined that the relative susceptibility rating for the City of Madison public water supply system is medium.

In order to ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits on 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).

For more information about your water and information on opportunities to participate in public meetings, call (605) 256-7515 and ask for Fred Snoderly

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Water Department

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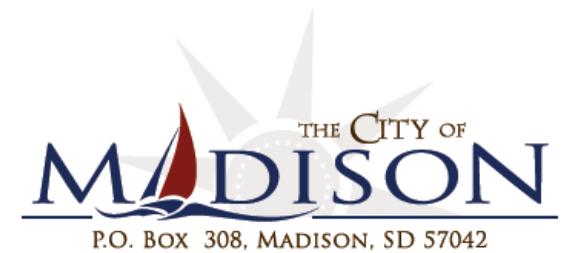
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To learn more visit our Web Site at  
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*Copies of this document are available at the  
City Water Department, City Hall, and the  
Madison Public Library.*



## *2012 Water Quality Report*



### **Water Quality**

**Last year, the City of Madison monitored your drinking water for 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 information because informed customers are our best allies.**

**Additional Information**

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. Contaminant 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.

**Detected Contaminants**

The following table lists all the drinking water contaminants that we detected during the 2012 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 done January 1 to December 31, 2012. The state requires us to monitor for 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. The City of Madison had maximum contaminant level violations in 2012, please see additional information below.

**2012 Table of Detected Contaminants for Madison, SD (EPA-ID SD4600199) Terms and abbreviations used in this table:**

- 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.
- Maximum Contaminant Level (MCL): 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.
- Action Level (AL): the concentration of a contaminant which, when exceeded, triggers treatment or other requirements which a water system must follow. For lead and copper, 90% of samples must be below AL.
- RAA: Running Annual Average of quarterly samples and is used to determine the compliance for the maximum contaminant level.

**Units:** ppm = parts per million/milligrams per liter    ppb = parts per billion/micrograms per liter    pCi/l = picocuries per liter (a measure of radioactivity)

**Regulated Contaminants**

| <b><u>Substance</u></b> | <b><u>90% level</u></b>              | <b><u>Test Sites &gt; Action Level</u></b> | <b><u>Date Tested</u></b> | <b><u>Highest Level Allowed (AL)</u></b>  | <b><u>Ideal Goal</u></b>        | <b><u>Unit</u></b> | <b><u>Major Source of Contaminant</u></b>  |
|-------------------------|--------------------------------------|--|---------------------------|---|---------------------------------|--------------------|--|
| Copper                  | 0.1                                  | 0  | 08/23/2011                | AL=1.3                                    | 0                               | ppm                | Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.                    |
| Lead                    | 2                                    | 2  | 08/16/2011                | AL=15                                     | 0                               | ppb                | Corrosion of household plumbing systems; erosion of natural deposits.  |
| <b><u>Substance</u></b> | <b><u>Highest Level Detected</u></b> | <b><u>Range</u></b>                        | <b><u>Date Tested</u></b> | <b><u>Highest Level Allowed (mcl)</u></b> | <b><u>Ideal Goal (mclg)</u></b> | <b><u>Unit</u></b> | <b><u>Major Source of Contaminant</u></b>  |
| Alpha Emitters          | 1.7                                  |  | 11/14/2011                | 15  | 0                               | pCi/l              | Erosion of natural deposits.   |
| Arsenic                 | 1                                    |  | 04/13/2011                | 10  | n/a                             | ppb                | Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes.                    |
| Barium                  | 0.009                                |  | 04/13/2011                | 2   | 2                               | ppm                | Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.                                |
| Chromium                | 1.8                                  |  | 4/13/2011                 | 100                                       | 100                             | ppb                | Discharge from steel and pulp mills; erosion of natural deposits.  |
| Fluoride                | 1.36                                 | 1.06-1.36                                  | 08/20/2012                | 4   | 4                               | ppm                | Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories. |
| Haloacetic Acids        | 22.6                                 | 9.06-22.6                                  | 3/12/2012                 | 60  | 0                               | ppb                | By-product of drinking water chlorination.   |
| Selenium                | 3.8                                  |  | 04/13/2011                | 50  | 50                              | ppb                | Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines.                          |
| Tetrachloroethylene     | 2                                    | 0-2  | 05/18/2010                | 5   | 0                               | ppb                | Leaching from pvc pipes; discharge from factories and dry cleaners.  |
| Total Trihalomethanes   | 117                                  | 65.5-117                                   | 03/12/2012                | 80  | 0                               | ppb                | By-product of drinking water chlorination.   |

**2012 Information on Violations for Madison, SD(EPA ID SD4600199)**

| <b><u>Violation Type</u></b>            | <b><u>Parameter</u></b> | <b><u>Dates System Notified</u></b> | <b><u>Total Duration in Months</u></b> | <b><u>Possible Adverse Health Effects</u></b>  | <b><u>Action Taken by Your System</u></b>  |
|---|-------------------------|-------------------------------------|--|--|--|
| Exceedance of Maximum Contaminant Level | Trihalomethane          | 04/10/2012                          | 12                                     | Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer. | The Madison Water Treatment Plant will be altering the water treatment process during treatment plant upgrades in 2013-14 to include chloramination, which will reduce/eliminate the trihalomethane violation. |
|   | Trihalomethane          | 06/15/2012                          | 12                                     |  |  |
|   | Trihalomethane          | 10/01/2012                          | 12                                     |  |  |
|   | Trihalomethane          | 12/18/2012                          | 12                                     |  |  |

**Please direct questions regarding this information to Mr. Kim Verhey with the Madison public water system at (605) 256-7517.**