

# 2006 Drinking Water Quality Report



We are very pleased to present our first annual Drinking Water Quality Report. The purpose of this report is to provide information to our customers about the quality of our drinking water. It contains a table of water quality data, definitions of terms, specific language requirements, and other information we hope you will find useful and educational. Please read this report carefully and contact Sandy Burwick, SWA CFO/Office Administrator or Roger Dick, SWA Water Treatment Plant Operator at 701-225-0241 or 888-425-0241 or e-mail us at [swa@swwater.com](mailto:swa@swwater.com), if you have any questions.

## Where does our drinking water come from and how is it treated?



Our drinking water is supplied to us by the City of Mandan. The Mandan Water Treatment Plant treats surface water that is drawn from the Missouri River. They then use the following treatment processes before delivering the water to their customers: clarification, softening, filtration, fluoridation, and disinfection. The Missouri West Water System purchases water from the City of Mandan for delivery to their customers. The Southwest Water Authority then purchases water from Missouri West Water System for delivery to you, our valued customers.

## Is our raw water supply susceptible to contamination?

The North Dakota Department of Health has prepared a Source Water Assessment for the City of Mandan's surface water intake and has classified Mandan's water system as moderately susceptible to potential contaminant sources. It should be noted that historically, the city has effectively treated its source water to meet drinking water standards and the risk for potential contamination is low. Information about the Source Water Assessment is available by calling 701-225-0241 or 1-888-425-0241, or e-mail us at [swa@swwater.com](mailto:swa@swwater.com).

## Is our water safe to drink?

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). More information about drinking water is available on EPA's website at [www.epa.gov/safewater](http://www.epa.gov/safewater).

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. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

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/Centers for Disease Control and Prevention (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).

## Where do drinking water contaminants come from?

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, in some cases, radioactive material, 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, 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 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 can also come from gas stations, urban stormwater runoff, and septic systems.
- Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

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### Which contaminants were detected in our drinking water?

EPA requires us to monitor for over 90 drinking water contaminants and those that were detected are listed in the table below. Test results are from 2006. The State does allow reduced monitoring for certain contaminants because their levels do not change significantly over time. For this reason, some of the test results are more than one year old.

#### Definitions and abbreviations:

- Action Level or AL: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
- Maximum Contaminant Level or 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.
- Maximum Contaminant Level Goal or 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 Residual Disinfectant Level or MRDL: 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 or MRDLG: 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.
- Parts per billion or ppb: 1 ppb is equivalent to adding 1 pound of a contaminant to 999,999,999 pounds of water (about 120,000,000 gallons).
- Parts per million or ppm: 1 ppm is equivalent to adding 1 pound of a contaminant to 999,999 pounds of water (about 120,000 gallons).
- Treatment Technique or TT: A required process intended to reduce the level of a contaminant in drinking water.
- N/A: Not Applicable
- NTU: Nephelometric Turbidity Units

<sup>1</sup> Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of our filtration system.

As you can see from the table, there were no exceedances or violations. We are pleased to report that our water system was also in compliance with all other drinking water regulations in 2006.

The Southwest Water Authority encourages you to participate in decisions that may affect our water by attending any of our regularly scheduled meetings, which are held on the first Monday of each month. If you are interested in attending or would like to request agenda time, please contact us at 701-225-0241 or 1-888-425-0241 for information on time and location. The City of Mandan, as our water supplier, also conducts regular meetings that may pertain to our water. If you are interested in attending any of their meetings, please call 701-667-3275 for more information. Missouri West Water System also holds regular meetings that may relate to our water. If you wish to attend any of their meetings, please call 701-663-8549 for more information. Please contact us if you are aware of non-English speaking individuals who need assistance with the appropriate language translation. We would also appreciate it if our large volume water customers would post copies of this report in conspicuous locations or distribute them to tenants, residents, patients, students, and/or employees. This will allow individuals who consume our drinking water, but who do not receive water bills, to learn about our water system.

### CITY OF MANDAN'S TABLE OF DETECTED REGULATED CONTAMINANTS

Contaminant (units)	MCLG	MCL	Level Detected	Detection Range	Test Date	Exceedance or Violation?	Major Sources in Drinking Water
<b>Total Organic Carbon (TOC) Removal</b>							
Total Organic Carbon (ppm) Source Water	N/A	TT	51.5	1.50 - 51.50	2002	N/A	Naturally present in the environment.
Total Organic Carbon (ppm) Finished Water	N/A	TT	3.7	1.00 - 3.70	2002	N/A	Naturally present in the environment.
<b>Microbial Contaminants</b>							
Turbidity <sup>1</sup> (NTU)	N/A	TT = .3	0.12	N/A	2006	100% of samples met turbidity limit	Soil runoff.
<b>Inorganic Contaminants</b>							
Barium (ppm)	2	2	0.0151	N/A	2002	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Copper (ppm)	1.3	AL = 1.3	0.0333	N/A	2005	No sites exceeded the Action Level	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives.
Fluoride (ppm)	4	4	1.26	N/A	2002	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Lead (ppb)	0	AL = 15	3.1	N/A	2005	No sites exceeded the Action Level	Corrosion of household plumbing systems; Erosion of natural deposits.
Nitrate-Nitrite (ppm)	10	10	0.13	N/A	2006	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
<b>Disinfectants</b>							
Chlorine (ppm)	MRDLG = 4	MRDL = 4.0	2	1.62 - 2.34	2003	No	Water additive used to control microbes.
<b>Disinfection By-products</b>							
Total Haloacetic Acids (ppb)	N/A	60	28	7.91 - 48.19	2002	No	By-product of drinking water disinfection.
Total Trihalomethanes (ppb)	N/A	80	79	30.32 - 127.2	2004	No	By-product of drinking water chlorination.
<b>Radioactive Contaminants</b>							
Uranium, Combined (ppb)	0	30	0.608	N/A	2003	No	Erosion of natural deposits.

Southwest Water Authority does not discriminate on the basis of race, color, national origin, sex, religion, age, marital status or disability in employment or the provision of services.