

# **McKenzie County Rural Water Annual Drinking Water Quality Report - 2011**

## **Is my water safe?**

We are pleased to present this year's Annual Water Quality Report (Consumer Confidence Report) as required by the Safe Drinking Water Act (SDWA). This report is designed to provide details about where your water comes from, what it contains, and how it compares to standards set by regulatory agencies. This report is a snapshot of last year's water quality. We are committed to providing you with information because informed customers are our best allies. Last year, we conducted tests for over 80 contaminants. We only detected 5 of those contaminants, and found only 1 at a level higher than the EPA allows. As we informed you at the time, our water temporarily exceeded drinking water standards. (For more information see the section labeled Violations at the end of the report.)

## **Do I need to take special precautions?**

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

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

Our water source is groundwater purchased from the City of Watford City. The groundwater is drawn from the Tobacco Garden Aquifer and is pumped by five wells. The city treats the water with potassium permanganate to precipitate iron and manganese, it is then filtered, chlorine is added to disinfect the water, hydrofluosinic acid to maintain 1.2 parts per million fluoride level to strengthen teeth, and polyphosphate to prevent copper corrosion.

## **Source water assessment and its availability**

The City of Watford City (our water supplier) is participating in North Dakota's Wellhead Protection Program. Copies of the Wellhead Protection Program plan and other relevant information regarding this program can be obtained from the City of Watford City during normal office hours. The North Dakota Department of Health has prepared a Source Water Assessment for the City of Watford City. Information regarding this assessment is available upon request.

### **Why are there contaminants in my drinking water?**

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 (EPA) Safe Drinking Water Hotline (800-426-4791).

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: microbial contaminants, such as viruses and bacteria, that 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; and radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities. 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. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

### **How can I get involved?**

If you have any questions about this report concerning your water quality, please contact Clint Hecker, the operator/assistant manager at 701-842-2821 ext.7. We want our valued customers to be informed about their water quality. If you want to learn more, please attend any of our regularly scheduled meetings, which are held the third Tuesday of each month in the Rural Water meeting room in Watford City. If you are aware of non-English speaking individuals who need help with the appropriate language translation, please call Clint Hecker at the number listed above.

### **Description of Water Treatment Process**

Your water is treated by disinfection. Disinfection involves the addition of chlorine or other disinfectant to kill dangerous bacteria and microorganisms that may be in the water. Disinfection is considered to be one of the major public health advances of the 20th century.

### **Water Conservation Tips**

Did you know that the average U.S. household uses approximately 400 gallons of water per day or 100 gallons per person per day? Luckily, there are many low-cost and no-cost ways to conserve water. Small changes can make a big difference – try one today and soon it will become second nature.

- Take short showers - a 5 minute shower uses 4 to 5 gallons of water compared to up to 50 gallons for a bath.
- Shut off water while brushing your teeth, washing your hair and shaving and save up to 500 gallons a month.
- Use a water-efficient showerhead. They're inexpensive, easy to install, and can save you up to 750 gallons a month.
- Run your clothes washer and dishwasher only when they are full. You can save up to 1,000 gallons a month.
- Water plants only when necessary.
- Fix leaky toilets and faucets. Faucet washers are inexpensive and take only a few minutes to replace. To check your toilet for a leak, place a few drops of food coloring in the tank and wait. If it seeps into the toilet bowl without flushing, you have a leak. Fixing it or replacing it with a new, more efficient model can save up to 1,000 gallons a month.
- Adjust sprinklers so only your lawn is watered. Apply water only as fast as the soil can absorb it and during the cooler parts of the day to reduce evaporation.
- Teach your kids about water conservation to ensure a future generation that uses water wisely. Make it a family effort to reduce next month's water bill!
- Visit [www.epa.gov/watersense](http://www.epa.gov/watersense) for more information.

### **Source Water Protection Tips**

Protection of drinking water is everyone's responsibility. You can help protect your community's drinking water source in several ways:

- Eliminate excess use of lawn and garden fertilizers and pesticides – they contain hazardous chemicals that can reach your drinking water source.
- Pick up after your pets.
- If you have your own septic system, properly maintain your system to reduce leaching to water sources or consider connecting to a public water system.
- Dispose of chemicals properly; take used motor oil to a recycling center.
- Volunteer in your community. Find a watershed or wellhead protection organization in your community and volunteer to help. If there are no active groups, consider starting one. Use EPA's Adopt Your Watershed to locate groups in your community, or visit the Watershed Information Network's How to Start a Watershed Team.
- Organize a storm drain stenciling project with your local government or water supplier. Stencil a message next to the street drain reminding people "Dump No Waste - Drains to River" or "Protect Your Water." Produce and distribute a flyer for households to remind residents that storm drains dump directly into your local water body.

### **Monitoring and reporting of compliance data violations**

#### **Lead Consumer Notice Violations**

McKenzie Rural Water failed to provide a copy of Lead Monitoring results and Lead educational materials to the individual homeowners who had monitoring performed in their

homes. There were two instances of this violation, March and October. The system will provide this information to homeowners in the future.

#### DBP Violation

Violation: For the third quarter of 2011, including the months of July, August and September, McKenzie County Rural Water failed to comply with the reporting requirements of the Disinfectants and Disinfection By-products Rule. This rule requires us to monitor monthly chlorine levels and report them to the State Health Department on a quarterly basis. Some people who use water-containing chlorine well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water-containing chlorine well in excess of the MRDL could experience stomach discomfort. McKenzie Rural Water has taken steps to correct this violation of the Disinfectants and Disinfection By-products Rule by returning to a normal reporting schedule.

#### TCR Violation

Violation: In September 2011, McKenzie Rural Water failed to take the required monthly bacteriological sample. Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful bacteria may be present. We have returned to a regular sampling program.

#### Additional Information for Lead

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. McKenzie County Water Resource Dist 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>.

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## Water Quality Data Table

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of contaminants in water provided by public water systems. The table below lists all of the drinking water contaminants that we detected during the calendar year of this report. Although many more contaminants were tested, only those substances listed below were found in your water. All sources of drinking water contain some naturally occurring contaminants. At low levels, these substances are generally not harmful in our drinking water. Removing all contaminants would be extremely expensive, and in most cases, would not provide increased protection of public health. A few naturally occurring minerals may actually improve the taste of drinking water and have nutritional value at low levels. Unless otherwise noted, the data presented in this table is from testing done in the calendar year of the report. The EPA or the State requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not vary significantly from year to year, or the system is not considered vulnerable to this type of contamination. As such, some of our data, though representative, may be more than one year old. In this table you will find terms and abbreviations that might not be familiar to you. To help you better understand these terms, we have provided the definitions below the table.

Contaminants	MCLG or MRDLG	MCL, TT, or MRDL	Your Water	Range		Sample Date	Violation	Typical Source
				Low	High			

**Disinfectants & Disinfectant By-Products**

(There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants)

TTHMs [Total Trihalomethanes] (ppb)	NA	80	2	NA		2011	No	By-product of drinking water disinfection
Chlorine (as Cl <sub>2</sub> ) (ppm)	4	4	0.5	0	0.9	2011	No	Water additive used to control microbes

**Inorganic Contaminants**

Barium (ppm)	2	2	0.038	NA		2007	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Fluoride (ppm)	4	4	1.07	NA		2007	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories

**Microbiological Contaminants**

Fecal Indicator - E. coli at the source (positive samples)	0	0	1	NA		2011	No	Human and animal fecal waste
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**Synthetic organic contaminants including pesticides and herbicides**

Dalapon (ppb)	200	200	2.5	NA		2011	No	Runoff from herbicide used on rights of way
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Contaminants	MCLG	AL	Your Water	Sample Date	# Samples Exceeding AL	Exceeds AL	Typical Source
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**Inorganic Contaminants**

Copper - action level at consumer taps (ppm)	1.3	1.3	1.63	2011	2	Yes	Corrosion of household plumbing systems; Erosion of natural deposits
Lead - action level at consumer taps (ppb)	0	15	0	2011	0	No	Corrosion of household plumbing systems; Erosion of natural deposits

**Violations and Exceedances**

**Copper - action level at consumer taps**

Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor. 2011 Continue to monitor copper levels, and notify customers of levels

**Fecal Indicator - E. coli at the source**

Fecal coliforms and E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, some of the elderly, and people with severely compromised immune systems. Low chlorine levels at site of sample. This has been addressed with additional flush hydrants and chlorine injectors.

## Additional Contaminants

In an effort to insure the safest water possible the State has required us to monitor some contaminants not required by Federal regulations. Of those contaminants only the ones listed below were found in your water

<u>Contaminants</u>	<u>State MCL</u>	<u>Your Water</u>	<u>Violation</u>	<u>Explanation and Comment</u>
ALKALINITY, TOTAL	NA	525 ppm	No	
BICARBONATE AS HCO <sub>3</sub>	NA	641 ppm	No	
CALCIUM	NA	65.5 PPM	No	
TDS	NA	1370 ppm	No	
PH	NA	7.68 PH	No	
ORTHOPHOSPHATE	NA	0.317 PPM	No	
CONDUCTIVITY @ 25 C UMHOS/CIM	NA	2210 umho/com	No	

<u>Unit Descriptions</u>	
<u>Term</u>	<u>Definition</u>
ppm	ppm: parts per million, or milligrams per liter (mg/L)
ppb	ppb: parts per billion, or micrograms per liter (µg/L)
positive samples	positive samples/yr: The number of positive samples taken that year
NA	NA: not applicable
ND	ND: Not detected
NR	NR: Monitoring not required, but recommended.

<u>Important Drinking Water Definitions</u>	
<u>Term</u>	<u>Definition</u>
MCLG	MCLG: 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.
MCL	MCL: 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.
TT	TT: Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.
AL	AL: Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
Variances and Exemptions	Variances and Exemptions: State or EPA permission not to meet an MCL or a treatment technique under certain conditions.
MRDLG	MRDLG: Maximum residual disinfection level goal. 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.
MRDL	MRDL: Maximum residual disinfectant level. 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.

MNR	MNR: Monitored Not Regulated
MPL	MPL: State Assigned Maximum Permissible Level

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