

Your 2003 Water Quality Report

This report includes data collected from January 1 to December 31, 2003
Metropolitan Utilities District ♦ 1723 Harney St ♦ Omaha NE 68102

Why this report?

The Safe Drinking Water Act requires public water supply systems to send annual water quality reports to all customers, paid for by customers through water rates. For more information about M.U.D. water operations, call 554.6666 or see our website, www.mudomaha.com.

Public meetings

The Board of Directors meets at 9 A.M. the first Wednesday of every month at 1723 Harney St., Omaha. See our website: www.mudomaha.com or call 449.8153 for an agenda.

Requests for special accommodations, alternative formats or sign language interpreters require a minimum of 72 hours advance notice. Call 449.8153 or TDD phone 449.8200.



Your customer-owned utility
e-mail:
customer_service@mudnebr.com

Your drinking water continues to surpass every federal, state requirement

We are proud to report you receive a high quality product that continues to surpass every federal and state standard for safe drinking water. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources.

Sources of water

We serve more than 180,500 customers an average of 96 million gallons of water per day. Sources of water include the Missouri and Platte Rivers and several groundwater peak-shaving wells in the Dakota sandstone aquifer.

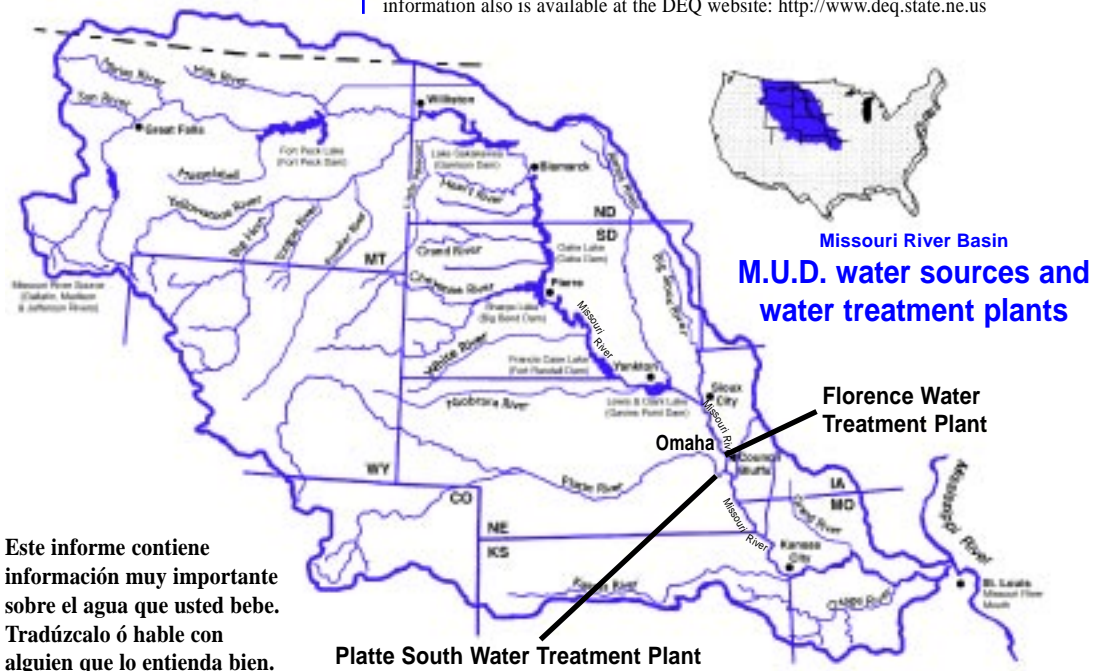
- The Florence Plant in north Omaha treats Missouri River water, defined by the U.S. Environmental Protection Agency (EPA) as surface water.
- The Platte Plant, south of Omaha in Sarpy County, treats Platte River water from wells, defined as groundwater.

Water from the two treatment plants is blended in the distribution system.

The Nebraska Department of Environmental Quality (DEQ) completed a source water assessment of our water supply in 2003. A condensed report is posted on our website, <http://www.mudomaha.com>. The assessment includes a map of the sources of water, an inventory of potential contaminant sources and a determination of the vulnerability of the system to contamination.

If you have questions, contact **Joel Christensen**, manager of Water Operations, 402.554.7774, or e-mail joel_christensen@mudnebr.com. You also may schedule an appointment to view the source water assessment in its entirety by contacting Mr. Christensen.

Additional information about the source water assessment is available from DEQ at 402.471.6988 or e-mail your questions to deana.barger@deq.state.ne.us. Program information also is available at the DEQ website: <http://www.deq.state.ne.us>



Este informe contiene información muy importante sobre el agua que usted bebe. Tradúzcalo ó hable con alguien que lo entienda bien.

How to read the report

Maximum Contaminant Level (MCL) Highest level of a contaminant allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Contaminant Level Goal (MCLG) 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.

N/A means not applicable.

NTU means nephelometric turbidity units. Turbidity is a measure of the cloudiness of the water. We monitor turbidity because it is a good indicator of the effectiveness of our filtration system. High turbidity can hinder the effectiveness of disinfectants.

pCi/L means picocuries per liter; a measure of radiation.

ppm (*parts per million*) means 1 part per million (*or milligram per liter*) and corresponds to 1 minute in 2 years or 1 penny in \$10 thousand.

ppb (*parts per billion*) means 1 part per billion (*or microgram per liter*) and corresponds to 1 minute in 2,000 years or 1 penny in \$10 million.

Peaking wells produced 0.5 percent of the water consumed in 2003.

TTHMs—Some people, who drink water over many years containing TTHMs in excess of the maximum contaminant level, may experience problems with their liver, kidneys or central nervous system, and may have an increased risk of getting cancer.

(a) This maximum contaminant level is based on a system-wide running annual average of several samples.

(b) This number is based on a running average for one year.

Drinking Water Analysis

EPA requires monitoring of more than 80 drinking water contaminants. Below are minimum ranges are listed under each facility. There were no violations. Levels s

	Unit	Maximum Allowed	Highest Level Goal	Highest Level Detected
Arsenic	ppb	50	N/A	6.0
Atrazine (b)	ppb	3	3	3
Barium	ppm	2	2	0.25
Chromium	ppb	100	100	13.5
Coliforms (% of monthly samples)	%	5%	0	0.3
Di(2-ethylhexyl) Adipate*	ppb	400	400	4.8
Diquat*	ppb	20	20	0.9
Fluoride (d)	ppm	4	4	1.1
Gross Alpha	pCi/L	15	0	4.4
Nitrate and Nitrite total (as Nitrogen)	ppm	10	10	3.8
Selenium	ppb	50	50	5.4
Sodium (e)	ppm	500	N/A	203
Trihaloacetic acids (HAA5s)	ppb	60 (a)	N/A	18 (a)
Trihalomethanes, total (TTHMs)	ppb	80 (a)	N/A	61 (a)
Turbidity	NTU	1	N/A	0.33

	Unit	Action Level†	Goal	90th Percentile
Copper (c)	ppm	1.3†	1.3	0.03
Lead (c)	ppb	15†	0	10 (f)

We tested for and did not detect the following contaminants in 2003: 1,1-dichloroethane; 1,1,2,2-tetrachloroethane; 1,1,2-trichloroethane; 1,1-dichloroethane; 1,2,4-trimethylbenzene; 1,2-dibromo-3-chloropropane; 1,2-dibromopropane; 1,2-diphenylhydrazine; 1,3,5-trimethylbenzene; 1,3-dichlorobenzene; 1,3-dichloropropane; 2,4,6-trichlorophenol; 2,4-D; 2,4-dichlorophenol; 2,4-dinitrophenol; 2,4-dinitrochlorotoluene; 2-methyl-1-phenol; 3-hydroxycarbofuran; 4,4'-DDE; 4-chlorotoluene; aldicarb sulfone; aldicarb sulfoxide; aldrin; antimony; asbestos; benzene; benzo[a]pyrene; bromomethane; butachlor; butylate; cadmium; carbaryl; carbofuran; carbon tetra-

Unregulated Contaminants

Unregulated contaminant monitoring helps EPA determine where certain contaminants occur and why. We tested for and detected the following unregulated contaminants in 2003.

	Unit	Maximum Allowed	Goal	Highest Level Detected
Bromochloroacetic acid	ppb	N/A	N/A	8.1
Bromodichloromethane	ppb	N/A	0	17
Bromoform	ppb	N/A	0	0.7
Chloroform	ppb	N/A	N/A	47
Chloromethane	ppb	N/A	N/A	3.5
Dibromoacetic acid	ppb	N/A	N/A	2.9
Dibromochloromethane	ppb	N/A	60	9.1
Dichloroacetic acid	ppb	N/A	0	22
Metolachlor	ppb	N/A	N/A	0.8
Nickel	ppb	N/A	N/A	4.0
Total Organic Carbon	ppm	N/A	N/A	2.9
Trichloroacetic acid	ppb	N/A	300	6.4
Sulfate	ppm	N/A	N/A	170

- (c) Source water does not contain lead or copper. Tests for lead and copper are done at the customer's tap to ensure the substances have not been dissolved from the customer's service or interior piping system.
- (d) Fluoride is added in treatment to bring the natural level of about 0.5 ppm to the optimum of 1.0 ppm.
- (e) State requirement only.
- (f) **We meet all standards for lead in drinking water. There is no lead in the water when it leaves our treatment plants.**

Infants and young children typically are more vulnerable to lead in drinking water than the general population.

It is possible lead levels in your home may be higher than at other homes in the community as a result of materials used in your home's plumbing.

If you are concerned about elevated lead levels in your home's plumbing, you may want to have your water tested. Also flush your tap for 30 seconds to two minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline, 800.4264791.

† Action Level is the concentration of a contaminant which triggers treatment or another requirement which a water system must follow.

< means less than.

> means more than.

* These chemicals were detected on a single sample. On subsequent confirmation tests, these chemicals were not detected.

**Safe Drinking
Water Hotline**
800.426.4791
www.epa.gov/safewater

Treatment process

- 1. Sedimentation:** At the Florence Plant, water is pumped from the Missouri River into three large sedimentation basins where sand and silt are removed and returned to the river. The clean water proceeds to further treatment. The sedimentation process is not needed at the Platte River Plant due to the natural filtration of the groundwater aquifer from which the water is pumped.
- 2. Softening and Clarification:** Water flows into four primary treatment basins. In two basins, lime is added to remove dissolved minerals, softening the water. Alum is mixed with water in the other two basins. Alum causes fine suspended particles of silt to cling together, so they can be removed, clarifying the water.
- 3. Disinfection:** Chlorine is added in precise amounts through automatic feeders. Chlorine destroys bacteria and ensures the health of our community. As required by law, a small quantity of fluoride is added to help prevent tooth decay.

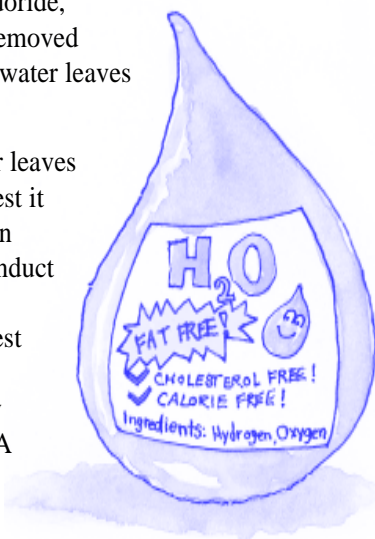
We also add chloramines (a combination of chlorine and ammonia) in the disinfection stage to reduce disinfection by-products. Dialysis centers and hospitals neutralize chloramines prior to their treatment processes.

Chloraminated water is safe for warm-blooded animals, including humans, to drink because the digestive process neutralizes chloramine before it reaches the bloodstream.

Chloraminated water is toxic to cold-blooded animals, such as fish, because these animals absorb or take water directly into their bloodstreams, bypassing the digestive process. People with aquariums need to pretreat the water to remove chloramine with products from pet and fish supply stores.

- 4. Filtration:** Water flows through sand filters trapping fine particles. Every 120 hours, the filter beds are cleaned by a process called back-washing. Except for chloramines and fluoride, every chemical is removed before the finished water leaves the plants.

After the treated water leaves our water plants, we test it daily in the distribution system. In fact, we conduct 300 tests a month for bacteria alone. Each test is conducted in strict accordance with every requirement of the EPA and Nebraska Health and Human Services.



Mineral Analysis (averages for 2003)

	Unit	Florence Plant	Platte Plant	Peaking Wells
pH (<i>in pH units</i>)		9.09	9.09	7.20
Alkalinity (<i>total</i>) as CaCO ₃	ppm	85	138	264
Aluminum	ppm	0.34	< 0.03	<0.03
Calcium	ppm	38	43	90
Chloride	ppm	18	65	8.6
Color (<i>in cobalt platinum units</i>)	ppm	3	4	1
Dissolved Solids (<i>total, calculated</i>)	ppm	450	435	574
Hardness (<i>total</i>) as CaCO ₃	grains per gallon	10	9	17
Iron	ppm	< 0.02	< 0.02	0.03
Magnesium	ppm	18	12	20
Manganese	ppm	< 0.02	< 0.02	<0.02
Phosphate	ppm	0.05	0.53	0.56
Silica	ppm	6.8	21.9	32.1
Spec. Conductance (@ 25 Deg.C.)	umhos	637	587	560
Temperature	degrees Celsius	13.8	14.3	—
Zinc	ppm	< 0.01	< 0.01	<0.01

Crypto and turbidity

Cryptosporidium (crypto), a protozoan parasite and one-celled animal, is too small to be seen without a microscope. It's common in surface waters (lakes and rivers), especially when these waters contain sewage or animal waste.

Crypto must be ingested to cause infection. Symptoms include diarrhea, nausea and abdominal cramps. Most healthy individuals can overcome the infection within a few weeks. We encourage immuno-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection.

Crypto may be spread through means other than drinking water.

We tested raw and treated water for Crypto at our two water treatment plants every month during 2003. We did not find Crypto in any of the raw or finished water samples.

With current technology, producing water with low turbidity is the best available indicator for particulate and Crypto removal.



The current Safe Drinking Water standard (MCL) for arsenic is 50 parts per billion (ppb). It will be lowered to 10 ppb in January 2006. The levels we detected in 2002 and 2003 ranged from <2.0 to 6.0 ppb.

Some people, who drink water containing arsenic in excess of the MCL over many years, could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.



Home water treatment devices are not needed since M.U.D. water surpasses all federal and state Safe Drinking Water standards. However, if you're considering the purchase of a system to enhance the aesthetics of the water:

- Look for the Underwriters Laboratory (UL) label,
- Find out what the device will remove, and
- Find out the total cost of maintenance.

Some units can harbor disease-causing bacteria if not properly maintained and serviced.

(printed on recycled paper)

Safe Drinking Water Hotline

800.426.4791
www.epa.gov/safewater

Notice to immuno-compromised people

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised people—such as those with cancer undergoing chemotherapy, people who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some older adults and infants—can be particularly at risk from infections.

These people should seek advice about drinking water from their health care providers.

EPA and the Centers for Disease Control 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** (www.epa.gov/safewater), or Nebraska Health and Human Services, 402.471.2541.

Why are there contaminants?

As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and radioactive material and can pick up substances resulting from the presence of animal or human activity. Source waters may contain microbes, organic or inorganic chemicals, pesticides, herbicides or radioactive materials.

Tap water comes from surface waters (*rivers, lakes, streams, ponds or reservoirs*) and ground-water (*springs, wells*). Bottled waters generally are from springs, wells and public water systems. Bottled water is regulated by the U.S. Food and Drug Administration while tap water is regulated by EPA.

To ensure tap water is safe to drink, EPA prescribes limits for the amount of certain contaminants in tap water. In cases where contaminants cannot be readily measured, EPA sets treatment techniques to reduce the amount of contaminants to acceptable levels.

All drinking water, including bottled water, may reasonably be expected to contain naturally-occurring minerals and at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate the water poses a health risk.

More information about contaminants and potential health effects may be obtained by calling the **EPA Safe Drinking Water Hotline** or Nebraska Health and Human Services, 402.471.2541.

Lawn Watering Guide

From: UN Cooperative Extension, Douglas/Sarpy Counties (444.7804)

- 💧 Water every other day, unless you have new sod.
- 💧 Water during the cool part of the day. Avoid watering on windy days. Water lawn, not streets and sidewalks.
- 💧 Raise mower height one inch in June, July and August.

April and May

Roots of cool season lawns (*blue grass, fescue*) are deep now. Apply supplemental water in the absence of natural rainfall—about an inch per week. Water deeply and infrequently.

June

Roots of cool season lawns begin to slough off for the summer. Apply supplemental water in the absence of rainfall—about 1.25 inches per week. Water more frequently and more shallow than in spring.

July and August

Roots of cool season lawns are at their shallowest point of the season. Apply supplemental water in the absence of rainfall—about 1.5 inches per week. Water to the depth of the root system (*usually about 2 inches deep*). Water more frequently and more shallow than in spring.

September and October

Roots of cool season lawns are deep now. Water deeply and infrequently. Apply supplemental water in the absence of rainfall—about an inch per week.

Water Alert

We will issue a Level 1 Water Alert via the news media when water use reaches 95 percent of capacity, reservoirs cannot be filled or low pressure jeopardizes fire fighting.

The alert asks you to voluntarily use an odd/even watering schedule.

If your address ends in with an odd number (1, 3, 5, 7, 9), water on the day of the month ending in 1, 3, 5, 7 or 9.

If your address ends with an even number (2, 4, 6, 8, 0), water on the day of the month ending in 2, 4, 6, 8 or 0.

More restrictive measures may become necessary due to extraordinary water use or other emergency situations. We will notify you via the news media.

Backflow prevention

According to the Safe Drinking Water Act, Nebraska Health and Human Services requires M.U.D. to make sure backflow preventers are installed and tested every year.

We keep records of these tests and issue notices when testing is due. [This requirement does not apply to lawn sprinkler systems unless they use booster pumps or chemical injection systems.](#) Also check your city's plumbing code for their regulations.