

Your 1999 Water Quality Report

This report includes data collected from January 1 to December 31, 1999
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 meet 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: customerservice@mudnebr.com

Your drinking water surpasses every federal, state requirement

We are proud to report that as a customer of the Metropolitan Utilities District, you receive a high quality product that continues to surpass every federal and state standard for safe drinking water. Since we do not have the capability or resources to determine health risks of chemical compounds found in water, we rely on the U.S. Environmental Protection Agency (EPA) and Nebraska Health and Human Services to tell us what substances are a health risk—and if they are a health risk, what levels are safe for human consumption.

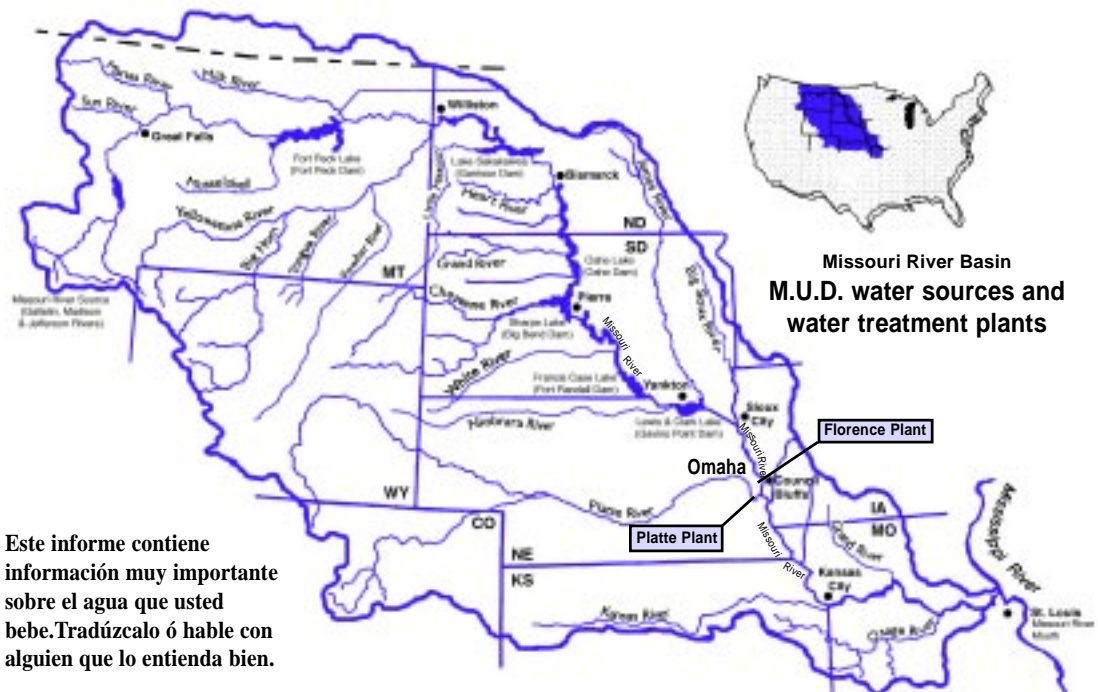
If EPA sets standards our present treatment process is unable to meet, we will take the necessary steps, regardless of capital cost, to modify our system and bring the water treatment process into compliance. Our customers will pay the cost to bring the treatment process into EPA compliance.

Sources of water

We serve more than 167 thousand customers an average of 90 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.



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.

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 0.2 percent of the water consumed in 1999.

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

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

(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) Lead and copper sampling is not required every year. These results are the 90th percentile values from 1998. No sampling site exceeded the action level (†) for lead or copper.

† 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.

Drinking Water Analysis

EPA requires monitoring of more than 80 drinking water contaminants. Below are the results listed under each facility. There were no violations. Levels surpassed federal and state requirements.

	Unit	Maximum Allowed	Goal	Highest Level Detected
Antimony	ppb	6	6	1
Arsenic	ppb	50	N/A	7
Atrazine (b)	ppb	3	3	1.5
Barium	ppm	2	2	0.340
Chromium	ppb	100	100	3.0
Coliforms (% of monthly samples)	%	5%	0	0.5
Copper (c)	ppm	1.3†	1.3	0.08
Lead (c)	ppb	15†	0	7.9
Fluoride (d)	ppm	4	4	0.93
Nitrate and Nitrite total (as Nitrogen)	ppm	10	10	8.98
Selenium	ppb	50	50	5
Sodium (e)	ppm	500	N/A	85
Trihalomethanes, total (TTHMs)	ppb	100 (a)	0	89
Turbidity	NTU	5	N/A	0.21

Tested and Not Detected: 1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethylene, 1,2,4-Sulfoxide, Aldicarb, Asbestos, Benzene, Benzo (a) pyrene, Beryllium, Cadmium, Carbofuran, Carbo-phthalate, Dichloromethane, Dinoseb, Diquat, E. Coli, EDB, Endothall, Endrin, Epichlorohydrin, E-Hexachlorocyclopentadiene, Legionella, Lindane, Mercury, Methoxychlor, Monochlorobenzene, o-D-Styrene, Tetrachloroethylene, Thallium, Toluene, Toxaphene, trans-1,2 Dichloroethylene, Trichloroethane

Unregulated Contaminants

Unregulated contaminant monitoring helps EPA determine where certain contaminants are present and regulate those contaminants. We tested for and detected the following unregulated contaminants.

	Unit	Maximum Allowed	Goal	Highest Level Detected	Florence Plant
Bromodichloromethane	ppb	N/A	N/A	29	29 - 6.6
Bromoform	ppb	N/A	N/A	7	7.0 - <0.1
Chloroform	ppb	N/A	N/A	103	103 - 3.4
Dibromochloromethane	ppb	N/A	N/A	16	16 - 3.1
Metolachlor	ppb	N/A	N/A	0.29	0.22
Nickel	ppb	N/A	N/A	2.2	2.2
Sulfate	ppm	N/A	N/A	223	223

Tested and Not Detected: 1,1,1,2-Tetrachloroethane, 1,1,2,2-Tetrachloroethane, 1,1-Dichloroethane, 1,2-Dibromo-3-chloropropane (DBCP), 1,3-Dichloropropane, 1,3-Dichloropropene, 2,2-Dichloropropane, Chlorobenzene, Chloroethane, Chloromethane, cis-2,3-Dichloroethylene, Cryptosporidium, Dibromochloroethane, Dichlorobenzene, m-Xylene, o-Chlorotoluene, o-Xylene, p-Chlorotoluene, p-Xylene.

Mineral Analysis (averages for 1999)

	Unit	Florence Plant
pH (in pH units)		9.10
Alkalinity (total) as CaCO ₃	ppm	64
Aluminum	ppm	0.20
Calcium	ppm	45
Chloride	ppm	17
Color (in cobalt platinum units)	ppm	1
Dissolved Solids (total, calculated)	ppm	483
Hardness (total) as CaCO ₃	grains per gallon	11
Iron	ppm	< 0.02
Magnesium	ppm	17
Manganese	ppm	< 0.02
Phosphate	ppm	0.05
Silica	ppm	7.4
Spec. Conductance (@ 25 Deg.C.)	umhos	593
Temperature	degrees Celsius	13.7
Zinc	ppm	< 0.01

ulated contaminants detected in your drinking water between January 1 and December 31, 1999. The maximum and minimum ranges are requirements.

		Millard/Elkhorn	
Florence Plant	Platte Plant	Peaking Wells	Likely source(s)
<1.0	1.0	1.0-<1.0	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder.
<2.0	4.0 - 3.0	7.0 - <2.0	Runoff from orchards; natural deposits; runoff from glass and electronic production wastes.
0.4 - <0.08	1.5 - <0.08	<0.08	Runoff from herbicide used on row crops.
0.017	0.120	0.340 - 0.115	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
1.1	1.0	3.0 - <1.0	Discharge from steel and pulp mills; erosion of natural deposits.
0.50 - 0.00	0.50 - 0.00	0.50 - 0.00	Bacteria naturally present in the environment; used as an indicator that other potentially harmful bacteria may be present.
0.04 (f)	0.04 (f)	0.04 (f)	Corrosion of household plumbing; erosion of natural deposits; leaching from wood preservatives.
2.5 (f)	2.5 (f)	2.5 (f)	Corrosion of household plumbing; erosion of natural deposits.
0.93 - 0.77	0.93 - 0.75	0.54 - 0.20	Water additive to promote strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories.
1.3	1.63	8.98 - 0.19	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
<5.0	<5.0	5 - <5.0	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines.
85 - 50	63 - 35	21 - 18	An element of the alkali metal group found in nature, soil, rocks and other deposits.
135 - 26	135 - 26	135 - 26	By-product of drinking water chlorination.
0.21 - <0.05	N/A	N/A	Soil runoff.

Trichlorobenzene, 1,2-Dichloroethane, 1,2-Dichloropropane, 2,3,7,8-TCDD (Dioxin), 2,4,5-TP, 2,4-D, Acrylamide, Alachlor, Aldicarb Sulfone, Aldicarb, Carbon Tetrachloride, Chlordane, cis-1,2-Dichloroethylene, Cyanide (*as free cyanide*), Dalapon, DBCP, Di (2-ethylhexyl) adipate, Di (2-ethylhexyl) thylbenzene, Giardia Lamblia, Glyphosate, Gross alpha and Gross beta (*radioactivity*), Heptachlor epoxide, Heptachlor, Hexachlorobenzene, Dichlorobenzene, Oxamyl (*vydate*), p-Dichlorobenzene, PCBs, Pentachlorophenol, Picoram, Radium-226 & 228 combined, Simazine, Strontium-90 (*e*), ethylene, Tritium (*e*), Vinyl chloride, Viruses, Xylenes (*total*).

inants occur and whether it needs to d contaminants in 1999.

	Platte Plant	Millard/Elkhorn Peaking Wells
	29 - 6.6	29 - 6.6
	7.0 - <0.1	7.0 - <0.1
	103 - 3.4	103 - 3.4
	16 - 3.1	16 - 3.1
	0.29	<0.1
	3.0	3.0 - <1.0
	72	52 - 13

, 1,1-Dichloropropene, 1,2,3-Trichloropropane, pane, Bromobenzene, Bromomethane, omethane, Ethylene dibromide (EDB), m-

	Platte Plant	Millard/Elkhorn Peaking Wells
	9.08	7.20
	125	264
	< 0.03	<0.03
	44	89.5
	33	8.6
	4	1
	416	574
	10	17.2
	< 0.02	0.03
	14	20
	< 0.02	<0.02
	0.35	0.56
	23	32.1
	481	560
	14.2	—
	< 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 1999.

Crypto was found in one raw water sample from the Missouri River, however none were found in the treated water.

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

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.

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

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 groundwater (*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 that 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, 800.426.4791**, or Nebraska Health and Human Services, 402.471.2541.

Nitrates in drinking water at levels above 10 ppm are a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask advice from your health care provider.

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.

Tour the Florence Water Treatment Plant, 9100 Pershing Dr., for a firsthand look at the treatment process. With advance reservations, groups of 10 to 40 people are welcome weekdays, between 9 A.M. and 2:45 P.M., May 1-August 31. (1 hour: 1st grade-adult) Call 449-8156 for reservations.

Requests for special accommodations, alternative formats or sign language interpreters (signers) require a minimum of 72 hours advance notice.

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.
 - 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 chlorine 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 a minimum of 300 tests a month for bacteria alone. Every test is conducted in strict accordance with every requirement set by EPA and Nebraska Health and Human Services.