

2016 Annual Water Quality Report

For January 1 to December 31, 2016

City of Gering, 1025 P Street, P.O. Box 687, Gering, NE 69341 (308) 436-6800



Why This Report

This report is intended to provide you with important information about your drinking water and the efforts made by the City of Gering water system to provide safe drinking water.

Para Clientes Que Hablan Español: Este informe contiene información muy importante sobre el agua que usted bebe. Tradúzcalo ó hable con alguien que lo entienda bien.

Our goal is and always has been to provide to you a safe and dependable supply of drinking water. For more information regarding this report, contact Pat Heath, Director of Public Works at 436-6800.

If you would like to observe or participate in the decision-making process that affects your drinking water quality, please attend the regularly scheduled meetings of the Gering City Council, on the 2nd and 4th Monday of each month at 6:00 PM, Gering City Hall, 1025 P Street.

Sources of Drinking Water

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and groundwater wells. 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 animals or human activity.

Contaminants that may be present in source water include:

- A. Microbial contaminants, such as viruses and bacteria, which may come from wastewater treatment plants, septic systems, agricultural livestock operations and wildlife.
- B. Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban storm water run-off, industrial or domestic wastewater discharges, oil and gas production, mining or farming.
- C. Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water run-off and residential uses.

Contaminants Found in Drinking Water

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants in drinking water does not necessarily indicate that water poses a health risk.

For more information about contaminants and potential health effects, check out EPA's website at www.epa.gov/safewater/dwhealth.html or call the U.S. Environmental Protection Agency Safe Drinking Water Hotline at (800) 426-4791.

Source Water Assessment Availability

The Nebraska Department of Environmental Quality, (NDEQ) has completed a Source Water Assessment. Included in the assessment are a Wellhead Protection Area Map, potential contaminant source inventory, vulnerability rating and source water protection information. To view the Source Water Assessment or for more information please contact Pat Heath at 436-6800 or the NDEQ at (402) 471-6988 or go to www.deq.state.ne.us.

- D. Organic chemicals, 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 run-off and septic systems.
- E. Radioactive contaminants, which can be naturally occurring or the result of oil production and mining activities.

In order to ensure that tap water is safe to drink, the Environmental Protection Agency and the Nebraska Department of Health and Human Services prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. The U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Notice to Immuno-Compromised People

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. Environmental Protection Agency and Center 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.**

Drinking Water Analysis (Samples Collected In 2016 Unless Noted)

Regulated Samples Collected From Source Water

Regulated Contaminants	Highest Level Detected	Range of Levels Detected	Unit of Measurements	MCLG	MCL	Violation	Likely Source of Contamination
Arsenic 5/10/2016	3.34	2.84 - 3.34	ppb	0	10	No	Erosion of natural deposits, run-off from orchards and run-off from electronics production wastes
Barium 4/7/2014	0.0786	0.0786	ppm	2	2	No	Discharge of drilling wastes, discharge from metal refineries and erosion of natural deposits
Chromium 4/7/2014	12.7	12.7	ppb	100	100	No	Discharge from steel and pulp mills and erosion of natural deposits
Fluoride 4/7/2014	0.84	0.84	ppm	4	4	No	Water additive which promotes strong teeth, erosion of natural deposits, and fertilizer discharge
Nitrate-Nitrite 8/13/2016	2.76	2.76	ppm	10	10	No	Run-off from fertilizer use, leaching from septic tanks, sewage and erosion of natural deposits
Selenium 4/7/2014	5.11	5.11	ppb	50	50	No	Erosion of natural deposits
Uranium Mass 8/8/2016	26.3	22.9 - 26.3	ug/l	0	30	No	Erosion of natural deposits
Radionuclides Contaminants	Highest Level Detected	Range of Levels Detected	Unit of Measurements	MCLG	MCL	Violation	Likely Source of Contamination
Combined Radium (226 & 228) 2/6/2012	1.1	0.3 - 1.1	pCi/L	0	5	No	Erosion of natural deposits
Gross Alpha <i>a</i> 8/3/2015 (including radon and uranium)	27.3	27.3	pCi/L	0	15	No	Erosion of natural deposits
Gross Alpha <i>a</i> 8/3/2015 (excluding radon and uranium)	5.7	5.7	pCi/L	0	15	No	Erosion of natural deposits
Combined Uranium 8/3/2015	21.6	21.6	pCi/L	0	N/A	No	Erosion of natural deposits
Radium-226 8/13/2012	0.3	0.1 - 0.3	pCi/L	0	N/A	No	Erosion of natural deposits
Radium-228 2/6/2012	1.1	0.9 - 1.1	pCi/L	0	N/A	No	Erosion of natural deposits

Regulated Samples Collected From Water Distribution System

Regulated Contaminant	Monitoring Period	Number of Positive Samples in 2016	Unit of Measurements	MCLG	MCL	Violation	Likely Source of Contamination
Total Coliform and E. Coli	1/1/2016 - 12/31/2016	0	Present/Absent	0	0	No	Naturally present in the environment
Disinfectants, Disinfection By-Products	Monitoring Period	Highest Level Detected, (RAA)	Unit of Measurements	MCLG	MCL	Violation	Likely Source of Contamination
Total Haloacetic Acids (HAA5)	7/1/2015 - 6/30/2016	6.77	ppb	0	60	No	By-product of drinking water disinfection
Total Trihalomethanes (THMs)	7/1/2015 - 6/30/2016	29.4	ppb	0	80	No	By-product of drinking water disinfection
Lead and Copper	Monitoring Period	Lead 90th Percentile	Unit	Action Level (AL)	# Sites Over Copper AL		Likely sources of Contamination
Copper, Free AL	2014-2016	0.529	ppm	1.3	0	0	Erosion of natural deposits, leaching from wood Preservatives, corrosion of household plumbing
Lead AL	2014-2016	3.23	ppb	1.5	0	0	Erosion of natural deposits, leaching from wood Preservatives, corrosion of household plumbing

Unregulated Samples Collected From Source Water

Unregulated Water Quality Data	Collection Date	Highest Value	Range	Unit	Secondary MCL
Nickel	7/7/2014	0.00347	0.00347	mg/l	0.1
Sulfate	7/7/2014	229	229	mg/l	250

During the 2016 Calendar Year, the City of Gering had the below noted violation(s) of the drinking water regulations.

Type	Category	Analyte	Compliance Period
No Violations Occurred in the Calendar year of 2016			

How to Read This Report:

The EPA and State Drinking Water program establish the safe drinking water regulations that limit the amount of contaminants allowed in drinking water. The table shows the concentrations of detected substances in comparison to the regulatory limits. Substances not detected are not included in the table. The state requires monitoring of certain contaminants less than once per year because the concentrations of these contaminants do not change frequently. Therefore, some of this data may be older than one year.

Maximum Contaminant Level (MCL) - Highest level of a contaminant allowed in drinking water. MCL's are set as close to the MCLG's 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. MCLG's allow for a margin of safety.

AL - Action Level is the concentration of a contaminant which, if exceeded triggers treatment or another requirement which a water system must follow.

ppm (parts per million) or (micrograms per liter) - 1 part per million corresponds to 1 gallon of water in 1 million gallons of water.

ppb (parts per billion) or (ug/l, micrograms per liter) - 1 part per billion corresponds to 1 gallon of water in 1 billion gallons of water.

pCi/L (Pico Curies per liter) - radioactivity concentration unit.

ug/l (micrograms per liter) - measurement of radioactivity

ND - Not detectable

90th Percentile - Represents the highest value found out of 90% of the samples taken in a representative group. If the 90th percentile is greater than the action level, it will trigger a treatment or other requirements that a water system must follow.

RAA - (Running annual average) - An ongoing annual average calculation of data from the most recent four quarters.

N/A - Not applicable

Additional Required Health Effects

a. Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer.

Alpha Emitters results include radon and uranium, with radon and uranium subtracted from the result the City is in compliance with the Radioactive MCL.

b. Some people who drink water containing uranium in excess of the MCL over many years may have an increased risk of getting cancer and kidney toxicity.

Gering's Water Source

The City of Gering serves approximately 8,500 customers an average of 2.5 million gallons of water per day. Our water source is groundwater, which is pumped to the water system from five wells located in Gering and four wells west of Scottsbluff.

The Midtown and Gueck Well Fields pump water from the North Platte River alluvium, (alluvium is a sand and gravel formation under the North Platte River Valley).

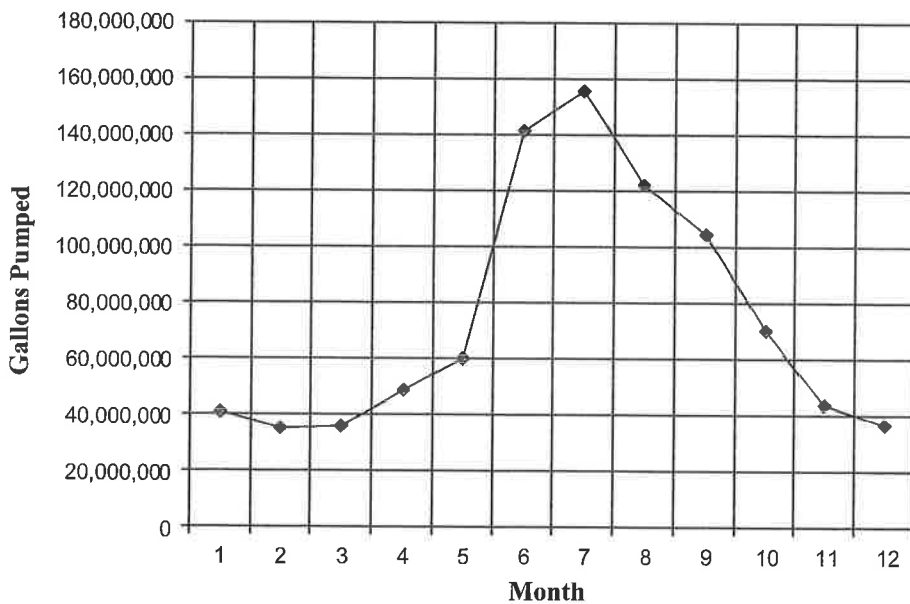
Treatment Process

The City of Gering does not treat our drinking water supply. Thanks to the natural filtration of the aquifer, nature has already done the work enhancing the quality of Gering's water. However, chlorine and fluoride are added to the water supply. Chlorine kills a variety of microbial waterborne pathogens, like e-coli and those that can cause typhoid fever, dysentery, and cholera. Fluoride is a natural occurring element in groundwater. Gering's natural fluoride level is 0.33 ppm. The optimum level for fluoride in drinking water to promote strong teeth is 1.0 ppm. The City of Gering adjusts the fluoride level to between 0.80 ppm and 1.0 ppm. The fluoride ion added to the water is the same fluoride ion that occurs naturally in groundwater.

Water Use Information

During 2016, the City of Gering pumped 897 million gallons of water. With a population of 8,500 this averages to 289 gallons per person each day. The national average is 150 gallons per person each day. The chart below shows water pumped each month during 2016.

Water Pumped 2016



Delivery of this Report

This report will not be mailed to each water system customer. You may obtain a copy of this report at the City of Gering offices located at 1025 P Street, Gering, NE 69341. You may call (308) 436-6800 and request a copy be mailed to you. You may also view this report on the City of Gering website at www.gering.org/2016WaterQualityReport.

Lead in Drinking Water

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.

All Community water systems are 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, at <http://www.epa.gov/safewater/lead> or at the DHHS/DPH/Office of Drinking Water (402-471-2541).

The City of Gering is required to test for the following contaminants:

Coliform Bacteria, Antimony, Arsenic, Asbestos, Barium, Beryllium, Cadmium, Chromium, Copper, Cyanide, Fluoride, Lead, Mercury, Nickel, Nitrate, Nitrite, Selenium, Sodium, Thallium, Alachlor, Atrazine, Benzo(a)pyrene, Carbofuran, Chlordane, Dalapon, Di(2-ethylhexyl)adipate, Dibromochloropropane, Dinoseb, Di(2-ethylhexyl)phthalate, Diquat, 2,4-D, Endothall, Endrin, Ethylene dibromide, Glyphosate, Heptachlor, Heptachlor epoxide, Hexachlorobenzene, Hexachloro-cyclopentadiene, Lindane, Methoxychlor, Oxamyl (Vydate), Pentachlorophenol, Picloram, PCB'S (Polychlorinated biphenyls), Simazine, Toxaphene, Dioxin, Silvex, Benzene, Carbon Tetrachloride, o-Dichlorobenzene, Para-Dichlorobenzene, 1,2-Dichloroethane, 1,1-Dichloroethylene, Cis-1,2-Dichloroethylene, Trans-1,2-Dichloroethylene, Dichloromethane, 1,2-Dichloropropane, Ethylbenzene, Monochlorobenzene, 1,2,4-Trichlorobenzene, 1,1,1-Trichloroethane, 1,1,2-Trichloroethane, Trichloroethylene, Vinyl Chloride, Styrene, Tetrachloroethylene, Toluene, Xylenes (total), Gross Alpha (minus Uranium & Radium 226), Radium 226 plus Radium 228, Sulfate, Chloroform, Bromodichloromethane, Chlorodromomethane, Bromoform, Chlorobezene, m-Dichlorobenzene, 1,1-Dichloropropene, 1,1-Dichloroethane, 1,1,2,2-Tetrachlorethane, 1,2-Dichloropropane, Chloromethane, Bromomethane, 1,2,3-Trichloropropane, 1,1,1,2-Tetrachloroethane, Chloroethane, 2,2-Dichloropropane, o-Chlorotoluene, p-Chlorotoluene, Bromobenzene, 1,3-Dichloropropene, Aldrin, Butachlor, Carbarryl, Dicamba, Dieldrin, 3-Hydroxy-carbofuran, Methonyl, Metolachlor, Metribuzin, Propachlor, Uranium and tests for Disinfection By Products.