

**The 2016
Annual Drinking Water Quality Report**
City of Lisbon
May 19, 2017

We're pleased to present to you this year's Annual Drinking Water Quality Report. This report is designed to inform you about the safe water we deliver to you every day. 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. We are committed to ensuring the quality of your water. Our water source is ground water from three city wells and four wells owned and maintained by Southeast Water Users District. The city wells draw from the Sheyenne River alluvium and undifferentiated glacial outwash. Which means the U.S. Geological Survey has not given this aquifer its' own name. The Southeast Water Users District's wells draw from the Sheyenne Delta Aquifer.

We have a Wellhead Protection Plan that provides more information, such as, potential sources of contamination. This plan is available at our plant; please contact Randy Seelig at 683-5138 for more information. We are pleased to report that our drinking water is safe and meets federal and state requirements.

Our public water system, in cooperation with the North Dakota Department of Health has completed the delineation and contaminant/land use inventory, elements of the North Dakota Source Water Protection Program. Based on the information from these elements, the North Dakota Department of Health has determined that our source water is susceptible to potential contaminants.

If you have any questions about this report, or concerning your water utility, please contact Randy Seelig at 683-5138. We want our valued customers to be informed about their water utility. If you want to learn more please attend any of our regularly scheduled meetings. They are held on the first Monday of each month at 7:30 pm in the lower level of the Lisbon Public Library. If you are aware of non-English speaking individuals who need help with the appropriate language translation, please call Randy Seelig at the number listed above.

The City of Lisbon would appreciate it if large volume water customers post copies of the CCR in conspicuous locations or distribute them to tenants, residents, patients, students and/or employees, so individuals who consume the water, but do not receive a water bill can learn about our water system.

The City of Lisbon routinely monitors for contaminants in your drinking water according to Federal and State laws. This table shows the results of our monitoring for the period of January 1st to December 31st, 2016.

As authorized and approved by EPA, the state has reduced monitoring requirements for certain contaminants to less often than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of our data {e. g., for organic contaminants}, though representative, is more than one year old.

The sources of drinking water (both tap 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 storm water, industrial or domestic wastewater discharges, oil production, mining or farming.

Pesticides and herbicides, which come from a variety of sources such as agriculture, urban storm water 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 storm water runoff and septic systems.

Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production activities.

In order to ensure that tap water is safe to drink, the Environmental Protection Agency (EPA) prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

In this table you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions:

Non-detects (ND) – laboratory analysis indicates that a contaminant is not present.

Parts per million (ppm) or Milligrams per liter (mg/l) – one part per million corresponds to one minute in two years or a single penny in \$10,000.

Parts per billion (ppb) or Micrograms per liter (ug/l)—one part per billion corresponds to one minute in 2000 years, or a single penny in \$10,000,000.

Parts per trillion (ppt) or Nanograms per liter (nanograms/l) – one part per trillion corresponds to one minute in 2,000,000 years, or a single penny in \$10,000,000,000.

Parts per quadrillion (ppq) or Picograms per liter (pictograms/l) – one part per quadrillion corresponds to one minute in 2,000,000,000 years or one penny in \$10,000,000,000,000.

Picocuries per liter (pCi/L) – Picocuries per liter is a measure of the radioactivity in water.

Umho/cm – micromhos per centimeter (a measure of conductivity).

Obsvns – Observations/field at 100 Power.

Millirems per year (mrem/yr) – measure of radiation absorbed by the body.

Million Fibers per Liter (MFL) – million fibers per liter is a measure of the presence of asbestos fibers that are longer than 10 micrometers.

Nephelometric Turbidity Unit (NTU)– nephelometric turbidity unit is a measure of the clarity of water. Turbidity is excess of 5 NTU is just noticeable to the average person.

Action Level (AL) – the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Treatment Technique (TT) – a treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

Maximum Contaminant Level – The “Maximum Allowed” (MCL) is 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 – The “Goal” (MCLG) is 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 Disinfection Level Goal (MRDLG) – The level of drinking water disinfection 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.

Maximum Residual Disinfectant Level (MRDL) – The highest level of a disinfectant allowed in drinking water. There is convincing evidence that the addition of a disinfectant is necessary for control of microbial contaminants.

Highest Compliance Level – The highest level of that contaminant used to determine compliance with the National Primary Drinking Water Regulation.

Range of detections – The lowest to the highest result value recorded during the required monitoring timeframe for systems with multiple entry points.

IDSE – Initial Distribution System Evaluation

TEST RESULTS							
<u>Contaminant</u>	<u>Date</u>	<u># Samples</u>	<u>Action Level</u>	<u>90TH Percentile</u>	<u>Samples Exceed AL</u>	<u>Units</u>	<u>Likely Source of Contamination</u>
Lead/Copper							
Copper 90 th Percentile	10/27/2016	20	1.3	No detect	0	ppm	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.
*Lead 90 th Percentile	10/27/2016	20	15	15	2	ppb	Corrosion of household plumbing systems; erosion of natural deposits.
Inorganic Contaminants							
<u>Contaminant</u>	<u>Date</u>	<u>MCL</u>	<u>MCLG</u>	<u>High Comp.</u>	<u>Units</u>	<u>Range</u>	<u>Likely Source of Contamination</u>
Arsenic	3/21/2016	10	0	3.63	ppb	N/A	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes.
Barium	4/6/2009	2	2	0.0361	ppm	N/A	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Chromium	4/6/2009	100	100	1.05	ppb	N/A	Discharge from steel pulp mills; Erosion of natural deposits.
Fluoride	4/6/2009	4	4	1.23	ppm	N/A	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate + Nitrite (as Nitrogen)	2/24/2016	10	10	0.23	ppm	N/A	Runoff from fertilizer use; leaching from septic tanks, sewage; Erosion of natural deposits.
Selenium	4/6/2009	50	50	3.24	ppb	N/A	Discharge from petroleum and metal

							refineries; Erosion of natural deposits; Discharge from mines.
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Radioactive Contaminants

<u>Contaminant</u>	<u>Date</u>	<u>MCL</u>	<u>MCLG</u>	<u>High Comp.</u>	<u>Units</u>	<u>Range</u>	<u>Likely Source of Contamination</u>
Gross Alpha, including RA, excluding RN & U	9/10/2009	15	15	3.1	pCi/l	N/A	Erosion of natural deposits.
Radium, combined (226,228)	9/10/2009	5		0.9	pCi/l	N/A	Erosion of natural deposits.
Uranium, combined	9/10/2009	30		0.09	ppb	N/A	Erosion of natural deposits.

Disinfection By-Products

Total Haloacetic Acids(HAA5)	12/31/2016	60		2	ppb	N/A	By-product of drinking water disinfection.
Total Trihalomethanes (TTHM)	12/31/2016	80		6	ppb	N/A	By-product of drinking water disinfection.

Disinfectants

Chloramines	5/31/2016	MRDL=4.0	MRDLG=4.0	1.7	ppm	1.52 to 1.85	Water additive used to control microbes.
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Unregulated Contaminants

<u>Contaminant</u>	<u>Date</u>	<u>MCL</u>	<u>MCLG</u>	<u>High Comp.</u>	<u>Units</u>	<u>Range</u>	<u>Likely Source of Contamination</u>
Alkalinity, Carbonate	12/5/2016			22	ppm	ND - 22	
Alkalinity, Total	12/5/2016			99.5	ppm	71.4 to 99.5	
Bicarbonate as HCO3	12/5/2016			107	ppm	52-107	
Calcium	12/5/2016			55.6	ppm	29.1-55.6	
Conductivity @ 25 C UMHOS/CM	12/5/2016			6380	Umho/cm	567-6380	
Orthophosphate	10/24/2016			.104	ppm	.038-.104	
PH	12/5/2016			9.41	PH	7.85-9.41	

TDS	12/5/2016			3960	ppm	352-3960	
Chloride	12/5/2016			35.30	ppm	25.7-35.3	
Hardness Total (as CaCO ₃)	12/5/2016			167	ppm	135-167	
Magnesium	12/5/2016			12.1	ppm	5.3-12.1	
Sulfate	12/5/2016			189	ppm	159-189	

*The steps we have taken in the treatment process appears to be reducing the lead levels at the customers lead service lines. The City is no longer in the 90th percentile but still had two samples that exceeded the Action Level.

As you can see by the table, our system had no violations. We're proud that your drinking water meets or exceeds all Federal and State requirements. We have learned through our monitoring and testing that some contaminants have been detected. The EPA has determined that your water IS SAFE at these levels.

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 the 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 (1-800-426-4791).

MCL's are set at very stringent levels. To understand the possible health effects described for many regulated contaminants, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

Infants and young children are typically more vulnerable to lead in drinking water than the general population. Infants and children who drink water containing lead in excess of the action level could experience delays in their physical and mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems of high blood pressure.

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 others 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 Safe Drinking Water Hotline (1-800-426-4791).

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. The City of Lisbon is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. **Use water from the cold tap for drinking and cooking. 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 drinking water, you may wish to have your water tested. Information on lead in drinking water, test methods, and steps you can take to minimize exposure is available from Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>

The City of Lisbon works around the clock to provide top quality water to every tap. We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life and our children's future.