2023
Annual Drinking Water Quality Report
For the City of Garrison, North Dakota

We are very pleased to provide you with this year's **Annual Drinking Water Quality Report**. We want to keep you informed about the excellent water and services we have delivered to you over the past year. Our goal is to provide you with a safe and dependable supply of drinking water.

Our water source is Lake Sakakawea via an intake located on the west side of Fort Stevenson State Park south of the boat ramp. The water intake is at an elevation of 1773. The water intake elevation and location were selected to provide a dependable supply of water even during dry periods and draw water from the main body of Lake Sakakawea rather than a bay.

The Garrison Water Treatment Plant is located on the west edge of the City of Garrison, one block north of ND Highway No. 37. Garrison's Water Treatment Plant has a capacity of 700 GPM. Treatment within the plant consists of the addition of AF 64100 and AF 4355 as a coagulant and flocculent, hydrated lime for softening, Carbon Dioxide (CO2) for PH stabilization, fluorosilicic acid for optimum fluoride levels, LPC-5 phosphate for corrosion control, chlorine as a primary disinfectant, ammonium sulfate to form chloramines as a secondary disinfectant in the distribution system. The water is filtered through a conventional filtration system of anthracite, sand, and gravel before entering the clear well. From the clear well the water is pumped to elevated storage for maintaining system pressure and distribution to the City of Garrison as well as Garrison Rural Water.

If you have any questions about this report or concerning your water utility, please contact Greg Boucher at (701) 463-2739 or Diane Affeldt at (701) 463-2600. 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 the month at 7:00 pm. If you are aware of non-English speaking individuals who need help with the appropriate language translation, please call Greg Boucher or Diane Affeldt at the number listed above.

The City of Garrison would appreciate it if large volume water customers would please post copies of the year's Annual Drinking Water Quality Report 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.

Our public water system, in cooperation with the North Dakota Department of Environmental Quality, 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 Environmental Quality has determined that our source water is not susceptible to potential contaminants.

The City of Garrison routinely monitors contaminants in your drinking water according to Federal and State laws. The following table shows the results of our monitoring for the period of January 1st to December 31st, 2023.

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 or inorganic contaminants], though representative, is more than one year old.

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 effects can be obtained by calling the EPA's 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.

Contaminants that may be present in source water:

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 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.

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, the Environmental Protection Agency (EPA) prescribes regulations which 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.

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

Non-Detects (ND) - laboratory analysis indicates that the 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 (µg/l) - one part per billion corresponds to one minute in 2,000 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 (picograms/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.

Nephelometric Turbidity Unit (NTU) - nephelometric turbidity unit is a measure of the clarity of water. Turbidity in 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 Disinfectant Level Goal: The "Goal" (MRDLG) is 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.

Maximum Residual Disinfectant Level: The "Maximum Allowed" (MRDL) is 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.

Highest Compliance Level: The highest level of that contaminant used to determine compliance with a National Primacy 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.

TEST RESULTS for GARRISON								
Contaminant	**MCLG**	**MCL**	**Level Detected**	**Unit Measurement**	**Range**	**Date (year)**	**Violation Yes/No Other Info**	**Likely Source of Contamination**
Microbiological Contaminants								
1. Turbidity	NA	TT1	0.1	NTU	NA	2023	100% of samples met turbidity limits	Soil runoff
Radioactive Contaminants								
Gross ALPHA Radium, combined	15 5	15	1.48 .998	pCi/l pCi/l	NA NA	3/18 3/18	No No	Erosion of natural deposits
Inorganic Contaminants								
Barium	2	2	0.00961	ppm	NA	3/16	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Copper	11 samples	AL=1.3	90th % Value 0. 019	ppm	NA	8/22	No	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Fluoride	4	4	.0.56	ppm	NA	3/16	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Lead	11 samples	AL=15	1.07 90th % Value	ppb	NA	8/22	No	Corrosion of household plumbing systems, erosion of natural deposits
Nitrate	10	10	0.051	ppm	NA	4/23	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
DISINFECTION BY PRODUCTS								
Total Haloacetic Acids (HAA5)	NA	60	19	ppb	17.12 to 18.99	9/23	No	By product of drinking water disinfection
Total Trihalomethanes (TTHM)	NA	80	51	ppb	40.61 to 59.71	9/23	No	By product of drinking water chlorination
DISINFECTANTS								
Chloramine	MRDLG=4	MRDL=4.0	2.1	ppm	2 To 2.35	5/23	No	Water additive used to control microbes
TOTAL ORGANIC CARBON REMOVAL								
Alkalinity – Source			171	MG/L	152.00 To 171.00	3/23	No	Naturally present in the Environment

Carbon, Total Organic (TOC) Finished			3.23	MG/L	2.35 to 3.23	7/23	No	Naturally present in the Environment
Carbon, Total Organic (TOC) Source			3.66	MG/L	2.64 to 3.66	3/23	No	Naturally present in the environment

UNREGULATED CONTAMINANTS

Alkalinity, Carbonate	NA	NA	3	ppm	ND 3	12/23	No	N/A
Bicarbonate asHCO3	NA	NA	208	ppm	181-208	12/23	No	NA

The highest single Turbidity Measurement for 2023 was 0. 1. The City of Garrison meets Turbidity limits 100% of the tests.

No sites exceeded the lead and copper Action Level for Lead during the 2022 sampling event. Testing for lead and copper is performed every three years. The next testing will be in 2025.

EPA requires monitoring of over 80 drinking water contaminants. Those contaminants listed in the table above are the only contaminants detected in your drinking water.

Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.

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.

Lead: Lead in drinking water is rarely the sole cause of lead poisoning, but it can add to a person's total lead exposure. All potential sources of lead in the household should be identified and removed, replaced, or reduced.

TTHMs: The TTHM level from the most recent 2022 testing is below the MCL.

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 Garrison 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, 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.

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

In 2016, the SDWA consisted of eleven major rules. These rules are the: Total Coliform Rule, Ground Water Rule, Phase 2/5 Rule (primary and secondary inorganic chemicals, synthetic organic chemicals which include pesticides and herbicides, volatile organic chemicals, nitrate/nitrite, and acrylamide and epichlorohydrin). Lead and Copper Rule along with Water Quality Parameters, Consumer Confidence Report Rule, Stage 1 and Stage 2 Disinfectant and Disinfection Byproducts Rules, Public Notification Rule, Radionuclides Rule, Arsenic Rule, Filter Backwash Recycle Rule, and Surface Water Treatment Rule which includes Interim Enhanced Surface Water Treatment Rule, Long Term 1 Enhanced Surface Water Treatment rule and Long Term 2 Enhanced Surface Water Treatment Rule. The water systems source water, population served, and the treatment process used determine the rules that must be complied with. The Fluoridation Program, which in not mandated by the SDWA, but a voluntary, state-run program, was also included in dertermining compliance.

In the Year 2023, the city and their staff successfully complied with all the requirements for your water system.

Thank you for allowing us to provide your family with clean, quality water this year. In order to maintain a safe and dependable water supply we sometimes need to make improvements that will benefit all our customers. These improvements sometimes require rate structure adjustments.

Please call our office if you have questions. The City of Garrison 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.