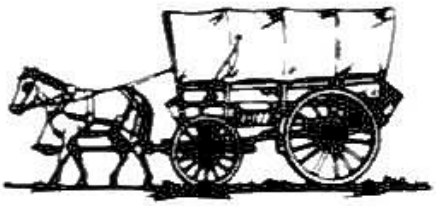
2024 Annual Drinking Water Quality Report



For

Pioneer Water & Sewer District

8917 Poison Spider Road
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We are pleased to present to you this year's Annual Drinking Water Quality Report. This report is designed to inform you about the quality water and services 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 the Central Wyoming Regional Water System (CWRWS) and their source consists of twenty-nine groundwater wells and surface water drawn from the North Platte River.

We are pleased to report to our consumers that our drinking water is safe and meets Federal and State requirements, with one exception during November 2024, discussed later in this report.

If you have any questions about this report or concerning your water utility, please contact **Lee Anne Bayne, District Manager** at **(307) 472-7300**. 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 second Monday of each month at 6:00 PM at the District office building located at 8917 Poison Spider Rd**.

Pioneer Water & Sewer District (PWSD) 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, 2024**. As water travels over the land or underground it can pick up substances or contaminants such as microbes, inorganic and organic chemicals, and radioactive substances. All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some contaminants. It's important to remember that the presence of these contaminants does not necessarily pose 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 at 1-800-426-4791.

The sources of drinking water include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it can dissolve naturally occurring minerals and, in some cases, radioactive materials. The water can also pick up substances such as:

1. Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural operations, and wildlife.
2. Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or domestic waste water discharges, oil and gas production, mining or farming.
3. Pesticides and Herbicides, which may come from agriculture, urban storm water runoff, and residential uses.
4. Organic chemical contaminants, which can come from industrial processes, gas stations, urban storm water runoff and septic systems.
5. Radioactive contaminants, which can be naturally occurring or the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA establishes regulations which limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration establishes limits for contaminants in bottled water which must provide the same protection for human 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:

Term	Definition
ND	*Non-Detect (ND)* - laboratory analysis indicates that the laboratory does not detect the constituent.
NA	*Not applicable (NA)* – not applicable for the category
NR	*Not required (NR)* -monitoring is not required, but recommended.
ppm or mg/l	*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
ppb or µg/l	*Parts per billion (ppb) or Micrograms per liter* - One part per billion corresponds to one minute in 2,000 years, or a single penny in $10,000,000.
ppt or ng/l	*Parts per trillion (ppt) or Nanograms per liter (ng/l)*- One part per trillion corresponds to one minute in 2,000,000 years, or a single penny in $10,000,000,000.
NTU	*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.
CFU	*Colony-Forming Units (CFU)* – the counting of viable cells, in contrast with microscopic examination which counts all cells, living or dead.
MFL	*Million Fibers Per Liter (MFL)* – Million fibers per liter is a measure of the presence of asbestos fibers per liter greater than 10 micrometers in length.
Mrem	*Millirem (Mrem)* – Measure of radiation absorbed by the body. This dosage is commonly encountered, such as the amount of radiation received from medical x-rays and background sources.
pCi/l	*picoCuries Per Liter (pCi/L)* - picoCuries per Liter is a measurement of radioactivity in drinking water.
AL	*Action Level (AL)*- the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
TT	*Treatment Technique (TT) – (mandatory language)* A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.
MCL	*Maximum Contaminant Level (MCL)* - (mandatory language) The "Maximum Allowed" (MCL) is the highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's as feasible using the best available treatment technology.
MCLG	*Maximum Contaminant Level Goal (MCLG)* – (mandatory language) The "Goal" (MCLG) is the 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.
MRDL	*Maximum Residual Disinfection Level (MRDL*) - The highest level of a disinfectant allowed in your drinking water. A certain amount of disinfectant has been shown to help control germs and microbes in the water.
MRDLG	*Maximum Residual Disinfection Level Goal (MRDLG)* - 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.
SW	*Surface Water (SW)* – Water which is diverted from the North Platte River through the CWRWS water treatment plant
GW	*Ground Water (GW)* – Water which is produced by the CWRWS wells.
V&E	*Variances & Exemptions (V&E)* – State or EPA permission not to meet am MCL or a treatment technique under certain conditions.
90th Percentile	*90th Percentile* - Compliance with the lead and copper action levels is based on the 90th percentile lead and copper levels. This means that the concentration of lead and copper must be less than or equal to the action level in at least 90% of the samples collected

TEST RESULTS						
Contaminant	**Violation Y/N**	**Level Detected**	**Unit Measurement**	**MCLG**	**MCL**	**Likely Source of Contamination**
Microbiological Contaminants						
Total Coliform Bacteria	y	Present 11/1/24	Presence/ absence	0	Presence in 5% of monthly samples	Naturally present in the environment
Fecal Coliform and *E. coli*	N	ND	Presence/ absence	0	A routine sample and repeat sample are TC positive, one is also FC or E.coli positive	Human and animal fecal waste
Turbidity Ground Water Surface Water	N	 <0.20 <0.15	NTU	N/A	 0.20 0.15	Soil runoff
Cryptosporidium	N	<1	Oosysts/L	0	2-log removal	Animal and human fecal waste
Radioactive Contaminants						
Alpha emitters (Annual Average) SW SP01 GW SP02	N	 0.9 5.7	pCi/L	0	15	Erosion of natural deposits
Beta/photon emitters	N/A	N/A	Mrem/yr	0	4	Decay of natural and man-made deposits
Combined radium SW SP01 GW SP02	N	 1.5 0.5	pCi/L	0	5	Erosion of natural deposits
Uranium	N	7.8	ppb	0	30	Erosion of natural deposits
Inorganic Contaminants						
Copper **(Pb&Cu Rule/Tap Monitoring)** July 2022 **90th Percentile** Range of results Number of sites exceeding AL	N	 0.86 .14 – 1.11 0	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Copper (Source)	N	ND	ppm	1.3	AL=1.3	Erosion of natural deposits
Flouride SW SP01 GW SP02	N	 0.30 0.40	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Lead **(Pb&Cu Rule/Tap Monitoring)** July 2022 **90th Percentile** Range of results Number of sites exceeding AL	N	 2 < 1 - 6 0	ppb	0	AL=15	Corrosion of household plumbing systems; erosion of natural deposits
Lead (Source)	N	ND	ppb	0	AL=15	Erosion of natural deposits
Nitrate (as Nitrogen) SW SP01 GW SP02	N	 0.07 0.55	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Selenium SW SP01 GW SP02	N	 0.001 0.009	ppb	50	50	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
Sodium SW SP01	N	 29.7	ppm	None	None	Naturally occurring

GW SP02		53.5				

Contaminant	Violation Y/N	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Disinfectants and Disinfection Byproducts						
TTHM (Total trihalomethanes) Highest Annual Average Range of Results	N	 37 2.6 – 48	ppb	N/A	80	By-product of drinking water chlorination
HAA5 (Total Haloacetic Acids) Highest Annual Average Range of Results	N	 20.25 2.2-32	ppb	N/A	60	By-product of drinking water chlorination
Bromate (SW Finished Water) Running Annual Avg Highest Level Detected Range of Results	N	 0.9 2.3 0.0-2.3	ppb	0	10 (MCL based on running annual average)	By-product of using Ozone as a disinfectant if bromide is present in the source water
Bromate (GW Finished Water) Running Annual Avg Highest Level Detected Range of Results	N	 2.8 9.1 0.0-9.1	ppb	0	10 (MCL based on running annual average)	By-product of using Ozone as a disinfectant if bromide is present in the source water
Average TOC **(Total Organic Carbon)** SW Raw Water SW Finished Water Percent TOC removal	 N N	 5.8 3.0 48%	ppm	N/A	>25% removal	Naturally occurring
Chloramine Residual Running Annual Avg. Range of Results	N	.81 .07-1.6	ppm	4.0	4.0	By-product of drinking water chlorination

As you can see by the table, our system had one MCL violation. On November 1, 2024 one of our two routine samples tested positive for total coliform bacteria, which means that coliform bacteria were found to be present in the sample. Upon notification, we immediately completed the required up and downstream and repeat samples, all of which found no coliform bacteria present. We then failed to complete the second set of required routine samples in November, which created a RTN/RPT major monitoring failure for the Surface Water Treatment Rule (SWTR) and a routine, minor monitoring violation for RTCR (Revised Total Coliform Rule). Because of this failure, we cannot be sure of the quality of our drinking water during the period indicated (November 2024). Additional training has been provided to prevent a future violation of this nature in the future. Please be assured that all subsequent water samples have been analyzed as safe.

MCL's are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink a half gallon 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.

Some of our data in the tables is more than one year old, since certain chemical contaminants are monitored less than once a year. Our sampling frequency complies with EPA drinking water regulations.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised people such as people with cancer undergoing chemotherapy, people 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/CDC 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) or EPA (800-227-8917).
We are required to monitor your drinking water for total coliform bacteria and chlorine residual on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses).

As part of the Interim Enhanced Surface Water Treatment Rule (IESWTR) regulation governing treatment for the pathogen *Cryptosporidium* (40 CFR Part 141, Subpart P), the EPA requires a treatment technique for 99% removal of *Cryptosporidium*. Water Systems using surface water or ground water under the direct influence of surface water (GWUDI) must comply with this new treatment technique starting in January 2002.

Currently, the CWRWS utilizes GWUDI from collection devices along the North Platte River: vertical wells and Ranney collectors or caissons. This water is not treated in a filtration plant, but it is ozonated and disinfected with chloramines. Alternative filtration occurs through these devices, such as riverbank filtration occurring from the wells. On December 10, 2001, EPA granted conditional removal credit to the CWRWS GWUDI system while a detailed study was conducted to demonstrate the effectiveness of the alternative filtration technologies to remove *Cryptosporidium*. During the study period, the CWRWS implemented interim measures designed to ensure public health protection. The study was completed and a final report provided to EPA in January 2005.

EPA granted approval to the GWUDI system as an alternative filtration technology on March 18, 2005 based on the preponderance of these study results, and previous studies and knowledge of the GWUDI system. This decision has been predicated on the primary goals of protecting public health and ensuring compliance with the Sage Drinking Water Act, while using sound science and recognizing cost considerations for the CWRWS. This approval is contingent upon CWRWS complying with several operational and performance requirements to improve pathogen removal, including abandoning or filtering water from the infiltration gallery, and ongoing monitoring of water quality. The CWRWS will also continue to provide inactivation of this GWUDI water with ozonation and chloramines, and will meet all other monitoring and treatment technique requirements of the surface water treatment rules.

Following is a description of concerns and possible health effects of contaminants which were detected in our water, although at amounts less than the MCL.

Copper: Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor. To minimize exposure to copper, the tap should be flushed by running water through it for 30 seconds to 2 minutes before using the water for drinking or cooking.

Lead: If present, lead can cause serious health effects in people of all ages, especially pregnant women, infants (both formula-fed and breastfed), and young children. Lead in drinking water is primarily from materials and parts used in service lines and in home plumbing. PWSD is responsible for providing high-quality drinking water and removing lead pipes but cannot control the variety of materials used in the plumbing in your home. Because lead levels may vary over

time, lead exposure is possible even when your tap sampling results do not detect lead at one point in time. You can help protect yourself and your family by identifying and removing lead materials within your home plumbing and taking steps to reduce your family's risk. Using an American National Standards Institute-certified filter to remove lead is effective. Follow the instructions provided with the filter to ensure the filter is used properly. Use only cold water for drinking, cooking, and making baby formula. Boiling water does not remove lead from water. Before using tap water for drinking, cooking, or making baby formula, flush your pipes for several minutes. You can do this by running your tap, taking a shower, doing laundry or a load of dishes. If you have a lead service line or galvanized requiring replacement service line, you may need to flush your pipes for a longer period. If you are concerned about lead in your water and wish to have your water tested, contact PWSD. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at www.epa.gov/safewater/lead.

Lead Service Line Inventory: In accordance with EPA regulations, we have developed an inventory of service lines to identify Lead Service Lines. The determination of the components of service lines were made based on ages of construction, record drawings, District rules and regulations, and physical observations. NO lead service lines have been identified within the District. The Lead Service Line Inventory is available at the Pioneer Water & Sewer District office, located at 8917 Poison Spider Rd, Casper WY 82604

Turbidity: Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.

We at the Pioneer Water & Sewer District work 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.