2023 Annual Drinking Water Quality Report
Wholesale Water Customers

For
CITY OF CASPER
200 N. DAVID STREET
CASPER, WY 82601
(307) 235-8213

The City of Casper (City) is pleased to present to you this year's Annual Water Quality Report. This report is designed to inform you about the water quality and services delivered to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. The City purchases wholesale water from the Central Wyoming Regional Water System (CWRWS) for your use. The water sources consist of twenty-nine ground water wells and one surface water source drawn from the North Platte River. The City continually strives to ensure the quality of the water as it travels to your system through transmission and distribution lines. The City and the CWRWS are committed to ensuring the quality of your water.

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 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 can 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.

We are pleased to report to our consumers that our drinking water is safe and meets Federal and State requirements.

If you have any questions about this report or concerning your water utility, please contact Bruce Martin, Public Utilities Manager at (307) 235-8213 or Tom Brauer, Chief Operating Officer at (307) 235-8341. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of the regularly scheduled meetings. The Casper Public Utilities Advisory Board **meets as needed on the fourth Wednesday of the month** at 7:00 AM at Casper City Hall, 200 N. David St., in the Downstairs Meeting Room. The CWRWS Joint

TEST RESULTS						
Contaminant	**Violation Y/N**	**Level Detected**	**Unit Measurement**	**MCLG**	**MCL**	**Likely Source of Contamination**
Microbiological Contaminants						
1. Total Coliform Bacteria	N	0.016% March 0% rest of months	Presence/ Absence Testing	0	5% of monthly samples are positive	Naturally present in the environment
2. Fecal Coliform and *E. coli*	N	ND	Presence/ Absence Testing	0	A routine sample and a repeat sample are total coliform positive, and one is also fecal coliform or *E. coli* positive	Human and animal fecal waste
3. Turbidity Groundwater Surface Water	N	 < 0.20 < 0.15	NTU	N/A	 0.20 0.15	Soil Runoff
4. Cryptosporidium	N	<1	oocysts/L	0	2-log removal	Animal and human fecal waste
Radioactive Contaminants						
5. Beta/Photon Emitters	N/A	N/A	Mrem/yr	0	4	Decay of natural and man-made deposits
6. Alpha Emitters (Annual Average) SP01 (Surface Water) SP02 (Ground Water)	N	 0.9 5.7	pCi/L	0	15	Erosion of natural deposits
7. Combined Radium SP01 (Surface Water) SP02 (Ground Water)	N	 1.5 0.5	pCi/L	0	5	Erosion of natural deposits
8. Uranium	N	7.8	ppb	0	30	Erosion of natural deposits

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18. Fluoride SP01 (Surface Water) SP02 (Ground Water)	N	0.30 0.40	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
19. Lead (Pb&Cu Rule) June 2023 (90% Value) Number of Sites Exceeding AL	N	1 0	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
20. Mercury (inorganic)	N	ND	ppb	2	2	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland
21. Nitrate (as Nitrogen) SP01 (Surface Water) SP02 (Ground Water)	N	ND 0.76	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
22. Selenium SP01 (Surface Water) SP02 (Ground Water)	N	ND 6	ppb	50	50	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
23. Sodium SP01 (Surface Water) SP02 (Ground Water)	N	29.3 50.5	ppm	None	None	Natural occurring
24. Thallium	N	ND	ppb	0.5	2	Leaching from ore-processing sites; discharge from electronics, glass, and drug factories
Synthetic Organic Contaminants including Pesticides and Herbicides						
25. 2,4-D	N	ND	ppb	70	70	Runoff from herbicide used on row crops
26. 2,4,5-TP (Silvex)	N	ND	ppb	50	50	Residue of banned herbicide
27. Acrylamide	N/A	N/A	ppb	0	TT	Added to water during sewage/wastewater treatment
28. Alachlor	N	ND	ppb	0	2	Runoff from herbicide used on row crops
29. Atrazine	N	ND	ppb	3	3	Runoff from herbicide used on row crops

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49. gamma-BHC (Lindane)	N	ND	Nanograms/l	200	200	Runoff/leaching from insecticide used on cattle, lumber, gardens
50. Methoxychlor	N	ND	ppb	40	40	Runoff/leaching from insecticide used on fruits, vegetables, alfalfa, livestock
51. Oxamyl [Vydate]	N	ND	ppb	200	200	Runoff/leaching from insecticide used on apples, potatoes and tomatoes
Volatile Organic Contaminants						
52. PCBs [Polychlorinated biphenyls]	N	ND	Nanograms/l	0	500	Runoff from landfills; discharge of waste chemicals
53. Pentachlorophenol	N	ND	ppb	0	1	Discharge from wood preserving factories
54. Picloram	N	ND	ppb	500	500	Herbicide runoff
55. Simazine	N	ND	ppb	4	4	Herbicide runoff
56. Toxaphene	N	ND	ppb	0	3	Runoff/leaching from insecticide used on cotton and cattle
57. Benzene	N	ND	ppb	0	5	Discharge from factories; leaching from gas storage tanks and landfills
58. Carbon tetrachloride	N	ND	ppb	0	5	Discharge from chemical plants and other industrial activities
59. Chlorobenzene	N	ND	ppb	100	100	Discharge from chemical and agricultural chemical factories
60. 1,2-Dichlorobenzene	N	ND	ppb	600	600	Discharge from industrial chemical factories
61. 1,4-Dichlorobenzene	N	ND	ppb	75	75	Discharge from industrial chemical factories
62. 1,2 – Dichloroethane	N	ND	ppb	0	5	Discharge from industrial chemical factories
63. 1,1 – Dichloroethylene	N	ND	ppb	7	7	Discharge from industrial chemical factories
64. cis-1,2-Dichloroethylene	N	ND	ppb	70	70	Discharge from industrial chemical factories
65. trans - 1,2 – Dichloroethylene	N	ND	ppb	100	100	Discharge from industrial chemical factories
66. Dichloromethane	N	ND	ppb	0	5	Discharge from pharmaceutical and chemical factories

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80a. Bromate (SW Source Water) – Running Annual Average Highest Level Detected Range of Results	N	1.5 2.7 0.0 – 2.7	ppb	0	10 (MCL based on running annual average)	Bromate is a by-product of using Ozone as a disinfectant if Bromide is present in the source water
80b. Bromate (GW Source Water) – Running Annual Average Highest Level Detected Range of Results	N	6.3 16 0.0 – 16	ppb	0	10 (MCL based on running annual average)	Bromate is a by-product of using Ozone as a disinfectant if Bromide is present in the source water
81. TOC Average (Total Organic Carbon) SW Raw Water SW Finished Water % TOC Removal	N	5.2 2.7 48%	ppm	N/A	TT (Greater than 25% removal)	Naturally present in the environment
82. Chloramine Residual (Running Annual Average) Range of Results	N	1.56 0.13 - 2.43	ppm	4	4	Water additive used to control microbes

The sampling frequency for the contaminants listed in the above table complies with Environmental Protection Agency (EPA) drinking water regulations. Some of our data in the table is more than one year old, since certain chemical contaminants are monitored less than once a year.

What do the numbers in these tables mean?

As you can see by the table, our system had no MCL 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 constituents have been detected. The Environmental Protection Agency has determined that your water is SAFE at these levels.

In order to ensure that tap water is safe to drink, the 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. All 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 (800-426-4791) OR EPA (800-227-8917.)

Our water system has sampled for a series of unregulated contaminants. Unregulated contaminants are those that don't yet have a drinking water standard set by EPA. The purpose of monitoring for these contaminants is to help EPA decide whether the contaminants should have a standard. As our customers, you have a right to know that this data is available. If you are interested in examining the results, please contact Bruce Martin at 307-235-8213 or by mail at 200 N David Street, Casper Wyoming 82601.

As part of an on-going evaluation program, the EPA has required us to monitor for some contaminants in drinking water that are not currently regulated. Under the Fifth Unregulated Contaminant Monitoring Rule (UCMR5), EPA is gathering information on the occurrence of 29 per- and polyfluoroalkyl substances (PFAS) and lithium in drinking water. UCMR5 is intended to improve understanding about the presence and quantity of these substances in public drinking water systems, and EPA often does not have full knowledge of the health effects for these unregulated contaminants. The UCMR5 data collected on PFAS and lithium from drinking water systems will help the EPA make determinations about future regulations and other actions to protect public health under the Safe Drinking Water Act. The process of developing regulatory standards is careful, deliberative, and data based. Monitoring for contaminants that are not regulated also helps federal, state, and other researchers prioritize studies for health effects information, identify data gaps, and determine the need for future studies to improve our understanding of the possible health risks associated with these contaminants in public drinking water. Information collected through the monitoring of these contaminants will help to ensure that future decisions on drinking water standards are based on sound science. For more information about UCMR5, visit https://www.epa.gov/dwucmr/fifth-unregulated-contaminant-monitoring-rule.

UCMR5 TEST RESULTS (only detects listed)				
Contaminant	**Level Detected**	**Unit Measurement**	**UCMR MRL (ppb)**	**Likely Source of Contamination**
Lithium Average Range of Results	40.76 29.9-54.9	ppb	9	Lithium is a naturally occurring metal and may be found at higher concentrations in certain parts of the country, particularly in groundwater sources in arid locations in the Western U.S.

1.UCMR MRL – EPA-established UCMR Minimum Reporting Level. The lowest concentration that laboratories may report to the EPA during UCMR 5 monitoring. MRLs are not associated with health effects information. More specifically, an MRL is the quantitation limit for a contaminant that is considered achievable, with 95% confidence, by at least 75% of laboratories nationwide using a specified analytical method (recognizing that individual laboratories may be able to measure at lower levels). [Note that the Agency for Toxic Substances and Disease Registry (ATSDR) uses the term "MRL" for a different purpose (i.e., to describe "Minimal Risk Level"). The UCMR term and the ATSDR term have no relationship to each other.]

Lithium is a naturally occurring metal and may be found at higher concentrations in certain parts of the country, particularly in groundwater sources in arid locations in the Western U.S.

Lithium has been used in pharmaceuticals for a long time to treat certain medical conditions under the care of a physician. Despite the abundance of information on patients receiving lithium at therapeutic levels, there has historically been limited information available to evaluate health risks in people at the levels associated with typical drinking water consumption, which are thought to be much lower than patients prescribed lithium as a therapy. Getting a better understanding of how much environmental lithium the public may be exposed to is one of the reasons the EPA is choosing to monitor for the presence and levels of lithium in drinking water systems around the country.

At present, EPA cannot confidently estimate the risk for people with lithium exposures from drinking water between the UCMR5 reporting limit of 9 µg/L (micrograms per liter) and a much higher concentration equivalent to a therapeutic dose. Therapeutic doses of lithium generally range from 600 to 1,200 mg/day (milligrams per day), which