



City of *Cheyenne* Board of Public Utilities

Consumer Confidence Report - January 1 - December 31, 2019

The City of Cheyenne Board of Public Utilities (BOPU) is proud to release the Consumer Confidence Report for annual drinking water quality, for calendar year 2019. If you have any questions about this report, call the Water Quality Control Supervisor Kent Loader at (307) 635-7693.

Is Cheyenne's water safe? Summary of Report Findings.

Yes! The BOPU is proud to report that Cheyenne's drinking water is safe and meets or exceeds (is better than) federal and local requirements.

No Violations

Water quality sampling contained detects, but no violations. As you can see by the data in our table, our water system had no violations. We're proud that the drinking water provided by the BOPU meets or exceeds (is better than) drinking water standards established by the Environmental Protection Agency (EPA).

We have learned through monitoring and testing, that some constituents have been detected in Cheyenne's water. The EPA has determined that the amount of these constituents in drinking water is safe.

The BOPU's Water Treatment Division routinely monitors Cheyenne's drinking water for potential contaminants in accordance with Federal laws. The tables below show the most recent results of this water quality monitoring (through 12/31/2019), completed in accordance with the US EPA Drinking Water Regulations.

Where does Cheyenne's water come from?

Cheyenne's water comes from both surface water and groundwater sources. A Source Water Assessment and Protection report was completed in 2004. To view a copy of this report, call (307) 637-6460.

Douglas Creek

Surface water is collected from the Douglas Creek Watershed located about 75 miles west of Cheyenne in the Medicine Bow Mountains (also called the Snowy Range). Water from Douglas Creek is stored in Rob Roy Reservoir. Two pipelines deliver the water from Rob Roy Reservoir to Granite and Crystal Reservoirs.



When Cheyenne collects water from Douglas Creek, the Board of Public Utilities (Board) must replace the water. The Board replaces the water with water from west of the Continental Divide in the Little Snake River Watershed. The Little Snake River is located in the Sierra Madre Mountains approximately 110 miles west of Cheyenne. A series of collection structures and pipelines collect water from tributaries in the Little Snake River and transport the water under the Continental Divide to Hog Park Reservoir. Water released from Hog Park can also be stored in Seminoe Reservoir. The BOPU uses this stored water as trade water. Hog Park Reservoir, Seminoe Reservoir and Rob Roy Reservoir drain to the North Platte River. When the BOPU releases water from Hog Park Reservoir or Seminoe Reservoir, the BOPU can collect water at Rob Roy Reservoir.

Crow Creek

Surface water is also collected from the Crow Creek Watershed. Crow Creek is located about 30 miles west of Cheyenne in the Laramie Mountains near the Vedauwoo area. Water from Crow Creek is stored in North Crow Reservoir (North Crow Creek), Granite and Crystal Reservoirs (Middle Crow Creek) and South Crow Diversion Structure (South Crow Creek).



Water stored in Crystal Reservoir and South Crow Diversion Structure is delivered to the R.L. Sherard Water Treatment Plant by pipelines.

Groundwater

Cheyenne owns and operates about 36 wells in four well fields located west and northwest of Cheyenne. The wells pump from the High Plains (Ogallala and White River) Aquifers. Approximately 30 percent of the water used in Cheyenne comes from wells.

Learn more about Cheyenne's water by watching videos.

We encourage all of our customers to learn about Cheyenne's water system and the Safe Drinking Water Act. Help us protect our valuable water sources that protect our health, provide fire protection, provide a natural resource for businesses and provide for our way of life. Our water is vital to our future. Visit our website at www.cheyennebopu.org and watch videos for the following information.

- Where does Cheyenne's water come from?
- View a map of Cheyenne's water system.
- How does the BOPU prepare drinking water?
- How does the BOPU protect water resources?
- How does the BOPU protect water quality as it is delivered to homes and businesses?
- Find out more about how the United States of America protects drinking water through the Environmental Protection Agency's Safe Drinking Water Act.

A Note from the EPA About Drinking Water Sources and Regulations

All sources of drinking water (both tap water and bottled water) include rivers, streams, lakes, reservoirs, ponds, 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 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 agricultural, urban storm water runoff, and residential uses.

Organic chemical contaminants, including synthetic and volatile organic chemicals which are by-products of industrial process 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 and mining activities.

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

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 EPA's Safe Drinking Water Hotline at 1 (800) 426-4791 or by visiting <https://www.epa.gov/sdwa>.

Definitions

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

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

Maximum Contaminant Level (MCL) - The "maximum allowed" is the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the Maximum Contaminant Level Goals as feasible using the best available treatment technology.

MCL values are set at very stringent levels. To understand the possible health effects described for many regulated constituents, 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. *(Reprinted with permission from the National Rural Water Association.)*

Maximum Contaminant Level Goal (MCLG) - The "Goal" 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.

Nephelometric Turbidity Unit (NTU) - Nephelometric Turbidity Unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable by the average person.

Parts per billion (ppb) or microgram per Liter (ug/L) - one part per billion corresponds to one minute in 2,000 years, or one penny in \$10,000,000.

Parts per million (ppm) or milligram per Liter (mg/L) - one part per million corresponds to one minute in two years, or one penny in \$10,000.

Picocurie per Liter (pCi/L) - picocurie per Liter is a measure of radioactivity.

RTST - Sample was taken at the Round Top Storage Tank.

SWTP - Sample was taken at the Sherard Water Treatment Plant.

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

Microbial Contaminants and Turbidity

Contaminant	Violation Yes/No	Level Detected	MCLG	MCL	Likely Source of Contamination/ Comments
Total Coliform Bacteria	No	Presence/ Absence Testing	0	Presence of coliform in $\geq 5\%$ of monthly samples	Naturally present in the environment. 720 samples were required for regulatory compliance. The BOPU collected 920 samples. Of that number, no samples tested positive for total coliform.
Turbidity	No	≤ 0.09 NTU 100%	N/A	TT 95% < 0.3	Soil runoff. Maximum allowable filtered water turbidity is 0.3 NTU in 95% of all samples. Turbidity values are recorded every 4 hours from all filters in operation and values reported monthly to the EPA.

The BOPU tested raw (untreated) water for Giardia and Cryptosporidium in 2017 but found less than one per liter of sample.

Inorganic Contaminants

Contaminant	Violation Yes/No	Level Detected	Unit	MCLG	MCL	Likely Source of Contamination/ Comments
Arsenic	No	RTST: 0.00 SWTP: 0.00	ppb	0	10	Erosion of natural deposits; runoff from orchards; glass and electronics production waste. Arsenic was last detected in 2018 at 1.5 ppb.
Barium	No	RTST: 0.045 SWTP: 0.041	ppm	2	2	Discharge of drilling wastes; erosion of natural deposits.
Copper	No	0.4 90 th percentile, based on 30 samples taken (27 th highest value) in August 2017	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives. This sample was taken from a private residence.
Fluoride	No	RTST: 0.3 SWTP: 0.3	ppm	4	4	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories.
Lead	No	3.3 90 th percentile, based on 30 samples collected (27 th highest) in August 2017	ppb	0	AL=15	Corrosion of household plumbing systems; erosion of natural deposits. This sample was taken from a private residence.
Nitrate (as Nitrogen)	No	RTST: 0.5 SWTP: 0.5	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits.
Sulfate	No	RTST: 18 SWTP: 19	ppm	None	250	Used as a coagulation compound in the treatment of drinking water. Water additive – ferric sulfate

Additionally, the Board tested drinking water from Antimony, Beryllium, Bromate, Cadmium, Chromium, Cyanide, Mercury, Nickel, Nitrite, Selenium and Thallium but found no detects. Asbestos was sampled in 2018 but found no detects.

The BOPU also sampled for and detected Sodium (SWTP: 8.8 ppm, RTST: 11 ppm). Sodium comes primarily from water treatment chemicals and erosion of natural deposits.

Organic Contaminants

Contaminant	Violation Yes/No	Level Detected RTST	Level Detected SWTP	Unit	MCLG	MCL	Likely Source of Contamination/ Comments
Total Trihalomethanes (sum of the 4 compounds: Chloroform, Bromoform, Bromodichloromethane, Dibromochloromethane)	No	Min=23.7 Max=27.9 Avg=25.3	Min=12.4 Max=56.7 Avg=28.6	ppb	0	80	By-product of drinking water chlorination.
Haloacetic Acid (Sum of the 5 compounds: Monochloroacetic Acid, Dichloroacetic Acid, Trichloroacetic Acid, Monobromoacetic Acid, Dibromoacetic Acid)	No	Min=15.1 Max=20.6 Avg=17.5	Min=9.0 Max=27.0 Avg=17.8	ppb	0	60	By-product of drinking water chlorination.
Total Organic Carbon	No	N/A	Raw Max=5.5 Finished Min=1.8	ppm	N/A	TT	Measure of the organic matter associated with the water source.

Additionally, the Board tested drinking water for the following organic compounds but found no detects: Acrylamide; Alachlor; Atrazine; Benzene; Benzo(a)pyrene (PAHs); Carbofuran; Carbon Tetrachloride; Chlordane; Chlorobenzene; 2,4-D; Dalapon; 1,2-Dibromo-3-chloropropane (DBCP); o-Dichlorobenzene; p-Dichlorobenzene; 1,2-Dichloroethane; 1,1-Dichloroethylene; cis-1,2-Dichloroethylene; trans-1,2-Dichloroethylene; Dichloromethane; 1,2-Dichloropropane; Di(2-ethylhexyl) adipate; Di(2-ethylhexyl) phthalate; Dinoseb; Dioxin (2,3,7,8-TCDD); Diquat; Endothall; Endrin; Epichlorohydrin; Ethylbenzene; Ethylene Dibromide; Glyphosate; Heptachlor; Heptachlor Epoxide; Hexachlorobenzene; Hexachlorocyclopentadiene; Lindane; Methoxychlor; Oxamyl (Vydate); Polychlorinated Biphenyls (PCBs); Pentachlorophenol; Picloram; Simazine; Styrene; Tetrachloroethylene; Toluene; Toxaphene; 2,4,5-TP (Silvex); 1,2,4-Trichlorobenzene; 1,1,1-Trichloroethane; 1,1,2-Trichloroethane; Trichloroethylene; Vinyl Chloride; Xylenes (total).

Radionuclides

Contaminant	Violation Yes/No	Level Detected RTST	Level Detected SWTP	Unit	MCLG	MCL	Likely Source of Contamination/ Comments
Gross Alpha	No	10.1±2.4 (2018)	4.3±1.9 (2018)	pCi/L	None	15	Erosion of natural deposits.
Radium 226	No	0.20±0.12 (2018)	0.08±0.10 (2018)	pCi/L	None	15	Erosion of natural deposits.
Radium 228	No	0.31±0.54 (2018)	0.22±0.52 (2018)	pCi/L	None	15	Erosion of natural deposits.
Uranium	No	1.6	0	ppb	None	30	Naturally present in the environment.

A Note About Drinking Water Quality and Immuno-compromised Persons

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 systems disorders, some elderly, and infants can be particular risk from infections. These people should seek advice about drinking water from health care providers. EPA/Centers for Disease Control and Prevention guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hotline at 1 (800) 426-4791 or at <http://www.epa.gov/safewater>.

A Note About Lead

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 Board is 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 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 at 1 (800) 426-4791 or at <http://www.epa.gov/safewater/lead>.

How is the water system funded?

In the Board's continuing effort to provide a safe and dependable water supply, it is necessary to make improvements to Cheyenne's water system. Water system improvements and maintenance are paid for through water rates charged to the users.

Our Goal

Our goal is to provide the community of Cheyenne with safe, quality drinking water that meets federal and local requirements and provides the utmost benefit for the community's investment.



Questions

Questions about this report or concerning your water utility should be directed to:

Brad Brooks
Director
(307) 637-6460

Kent Loader
Water Quality Control Supervisor
(307) 635-7693

We want our customers to be informed about their water. If you want to learn more or participate in Cheyenne's water system, please attend any of our regularly scheduled Board Meetings.

Board Meetings
Third Monday of each month
3:00 p.m. MST
2416 Snyder Avenue
Cheyenne, WY