

Annual Drinking Water Quality Report Town of Pine Bluffs

We are pleased to present to you this year's Annual 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 wells draw groundwater from the High Plains Aquifer (Tertiary Brule and Quaternary Terrace Formations) and Lance/Fox Hills Aquifer. This water is chlorinated prior to entering the storage tanks. We are pleased to report 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 Loren Lovitt at (307) 245-3746. We want our valued customers to be informed about their water utility.

The Town of Pine Bluffs routinely monitors for constituents 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, 2019. All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some constituents. It's important to remember that the presence of these constituents does not necessarily pose a health risk. Some of our data in the table is more than a year old since certain chemical contaminants are monitored less than once a year. Our sampling frequency complies with EPA drinking water regulations.

As you can see by the table, our system had one violation. This violation resulted in an Administrative Order that the Town has addressed and resolved. Details regarding the issues with nitrate levels are presented below. We tested for over 100 different contaminants and are proud to report that your drinking water currently meets or exceeds all Federal and State requirements. Our sampling frequency complies with EPA drinking water regulations. We have learned through our monitoring and testing that some constituents have been detected. The EPA has determined that your water is safe at these levels.

TEST RESULTS						
Contaminant	Violation Y/N	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Microbiological Contaminants						
Total Coliform	N	N	ppm	0	5.0%	Naturally present in environment
Inorganic Contaminants						
Copper	N	0.137	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Fluoride	N	0.7	ppm	4.0	4.0	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Lead	N	7	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
Nitrate (as Nitrogen)	Y	12	ppm	10.0	10.0	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Radioactive Contaminants						
Uranium	N	16.8	ppb	30	30	Erosion of natural deposits
Alpha emitters (minus uranium)	N	4.4-16	pCi/L	0	15	Erosion of natural deposits
Combined radium	N	0.9	pCi/L	0	5	Erosion of natural deposits
Disinfection Byproduct Contaminants						
Total Haloacetic Acids	N	4	ppb	NA	60	Byproduct of drinking water disinfection
Total Trihalomethanes	N	82	ppb	NA	80	Byproduct of drinking water disinfection

You may find that you are not familiar with many of the terms and abbreviations in the table. To help you better understand these terms we've provided the following definitions:

- 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 - one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.
- 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 - 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.
- Not Detected (ND) – The contaminant was not detected above laboratory detection limits.

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 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.

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 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 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 a result from urban storm runoff, mining or farming.
- (3) Pesticides and herbicides, which may come from agriculture, urban storm 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 the water provided by public water systems. The Food and Drug Administration establishes limits for contaminants in bottled water.

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/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).

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER
Tests Show Nitrate exceeded the Maximum Contaminant Level in the Town of Pine Bluffs Water

The Town of Pine Bluffs obtains its water supply from both the High Plains and Lance/Fox Hills Aquifers. The water system includes six High Plains Aquifer wells that are completed to depths less than 120 feet. These shallow wells provide the majority of the water supplied to the system and are critical to the long-term sustainability of the Town’s water system. However, these same shallow wells produce groundwater having a nitrate concentration that exceeds the EPA primary drinking water standard of 10 mg/L. In contrast, the Town’s two Lance/Fox Hills Aquifer wells are completed to depths ranging from 702 to 750 feet. Groundwater from this aquifer has a low nitrate concentration (typically <1 mg/L to non-detect). While the yields of these wells are lower, they have historically been productive enough to allow blending and dilution of the water such that water delivered to customers via the distribution system is in compliance with EPA drinking water standards.

Between October 3 and October 8, 2019, the Town’s water exceeded the EPA MCL for nitrate of 10 mg/L. The Town received an Administrative Order (SDWA-08-2020-0003) from EPA on October 8, 2019, that indicated it had violated the National Primary Drinking Water Standards for nitrate. EPA requested that the Town develop an action plan and provide a schedule to bring its water back into compliance with the Safe Drinking Water Act. This violation occurred because both Lance/Fox Hills aquifer wells (Well 5 and Well 9) were offline for repairs, and nitrate concentrations in the High Plains Aquifer exceeded the MCL (12.4 mg/L). The Well 5 pump failed because of a damaged electric line. The Well 5 pump setting has been problematic since March of 2017 and had been repaired several times. Following the EPA non-compliance event, the Town contracted with Bowman Irrigation and found that the pump’s electric line failed from excessive wear at the same depth as the previous repair, and concluded that there was something within the casing wall that was abrading the insulation on the line. The repaired pump was reset at a higher depth in an effort to avoid the point of excessive wear, and Well 5 was placed back in service. There have been no further problems with Well No. 5. Leading up to the EPA non-compliance event, Well No. 9 pump was also being serviced and was not operating. On October 3, the Town chlorinated Well 9 and upon resubmission of a total coliform sample received negative results and was able to bring that critical system well online. The Town quickly acted upon the failed nitrate test on October 3, 2019 and removed the high nitrate water from the water storage tanks and distribution lines and replaced it with low nitrate water from Well 9 and Well 5. Subsequent tests passed the EPA MCL for nitrate, and

the Town has returned to blending water between the High Plains and Lance/Fox Hills Aquifers. The Town publicly notified its water users regarding the Administrative Order on October 4, 2019.

What should I do?

We do not expect the water quality to exceed the MCL in nitrate again. If water quality were to exceed this or any MCL, all citizens will be informed and the Town will take appropriate actions, which may include further adjustment of their water blend, treatment or shutting off certain wells. With respect to nitrate levels, no action is required or recommended.

For information purposes, high nitrate levels can impact very young children. Infants below six months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome. While nitrate concentrations in the water system have remained below the MCL since October, any citizen can consider the incorporation of a “point of use” in house treatment for drinking water. The following treatment method(s) have proven to be effective for removing nitrate: ion exchange, reverse osmosis, and electrodialysis. Dilution with low nitrate water is also an affordable option.

What does this mean?

Because nitrate concentrations in the High Plains Aquifer remain elevated, the Town will continue to monitor and blend its municipal water to maintain nitrate concentrations below the MCL. Quarterly monitoring for nitrate will continue until levels return below 5 mg/L. Once we achieve 4 quarters at or below 5 mg/L, the Town’s sampling protocol will return to an annual sampling plan.

ADDITIONAL INFORMATION ABOUT LEAD

While samples of our water tested positive for lead, this analyte was not detected at a concentration that exceeded its MCL.

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 Town of Pine Bluffs 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 potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using the water for drinking or cooking. If you are concerned about lead in your 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>.

**IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER
Monitoring Violations Annual Notice
Monitoring Requirements Not Met for the Town of Pine Bluffs**

Our water system violated drinking water quality monitoring requirements over the past few years. Even though these were not emergencies, as our customers you have a right to know what happened and what we are doing to correct these situations.

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. Between 2017 and 2019, we did not complete all monitoring or testing for disinfection byproducts, inorganic chemicals, synthetic organic chemicals, and volatile organic chemicals. We cannot accurately report the quality of your drinking water during this period and are notifying you of this monitoring violation.

What should I do?

There is nothing you need to do at this time.

The table below lists the contaminants we did not properly test for during the last several years, how often we are supposed to sample for these contaminants, how many samples we are supposed to take, how many samples we took, when samples should have been taken, and the date on which follow-up samples were (or will be) taken.

Contaminant	Required sampling frequency	Number of samples taken	When samples should have been taken	When samples were taken
Volatile Organic Chemicals	1 sample every three years	0	2017-2019	June 2020
Disinfection Byproducts	1 sample per quarter	2	February 2020	March 2020
Inorganic Chemicals	1 sample every three years	0	2017-2019	June 2020
Synthetic Organic Chemicals	1 sample every three years	0	2017-2019	June 2020

What is being done?

The Town has obtained and submitted water samples to test for the current concentrations of volatile organic chemicals, inorganic chemicals, and synthetic organic chemicals. After these sample results are obtained, routine sampling will be completed according to the schedule noted in the table above. Sampling for disinfection byproducts will continue on a quarterly basis.

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER**The Town of Pine Bluffs has corrected a Significant Deficiency it failed to address Within a Required Time Frame**

Our water system recently violated a drinking water requirement. Although this incident was not an emergency, as our customers, you have a right to know what happened and what we did to correct this situation.

The 2017 sanitary survey completed by the EPA on September 5, 2017, found two significant deficiencies in our water system. These deficiencies include animals and their droppings in the wellhouse building of Well #2, and an overflow pipe on a finished water storage tank that discharged at an improper height. Each of these items was to have been addressed within six months of October 2018 or April 17, 2019.

What should I do?

There is nothing you need to do. You do not need to boil your water or take other corrective actions. However, if you have specific health concerns, consult your doctor.

What does this mean?

This is not an emergency. If it had been, you would have been notified within 24 hours.

What is being done?

Well 2 is not an active well and has not been "on-line" for over ten (10) years. Nevertheless, it is part of the Town's water system and should be maintained as such. In response to the EPA notification, all animals and their droppings were cleaned out of the well house on February 24, 2020. The height of the overflow pipe on the finished water storage tank was raised to the proper height on February 10, 2020. The Town submitted a notice to EPA on February 28, 2020, indicating that these issues had been addressed. Based on EPA correspondence, the problems were resolved as of June 1, 2020.

If you have any questions, please contact Loren Lovitt with the Town of Pine Bluffs at (307) 245-3746 or by mail at PO Box 429, Pine Bluffs WY 82082.