PUEBLO OF ZUNI

Zuni Water System
2022 Water Quality Report
(Provided by Zuni Utility Department)
(Issued June 2023 - PWS 063501124)

Is my water safe?
Last year your tap water met most U.S. Environmental Protection Agency (EPA) and state drinking water health standards except for arsenic levels. The Zuni Water Department vigilantly safeguards its water supplies and we are required to inform the public of any violations on exceedance on any maximum contaminant levels, or any other water quality standards. More information on arsenic levels in our water and what is being done about it is presented in this report.

Do I need to take special precautions?
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 (CDC) guidelines on appropriate means to lessen the risk of infection by (Cryptosporidium) and other microbial contaminants are available from the Safe Water Drinking Hotline (800-426-4791).

Where does my water come from?
The water for the Zuni Utility Department Water System comes from 2-wells (OJO North Well & OJO South Well) that are both about 700 feet deep and are located near Ojo Caliente. The wells draw water from the Glorietta Sandstone/San Andres Limestone aquifer. The water is piped over 10 miles to where it is treated prior to going out to the distribution system.

Source water assessment and its availability
The 1996 amendments to the Safe Drinking Water Act authorize a Source Water Assessment Program to determine the susceptibility of a public drinking water supply to contamination. Source of contaminants regulated by the Safe Drinking Water Act are required to be inventoried during the assessment process. The EPA region 6 Source Water Protection Branch in cooperation with Division of Resource Management and Protection conducted this assessment in November of 2005. Based on the following factors, your water system was determined to have a **low** susceptibility to contamination. The physical integrity of the well, the characteristics of the hydrologic system around the well, the characteristics of the contaminants inventoried and the likelihood of those contaminants to reach the source of the drinking water supply all impact the susceptibility of the source to contamination. Additionally, the Pueblo is actively working with the New Mexico Rural Water Association to complete a draft source water protection plan.

Description of Water Treatment Process
The Zuni Utility Department uses gas Chlorination to treat its water source. Gas Chlorine is used to treat the Zuni water source, to combat bacteria that might be present in our water source. Dosage of the chlorine is monitored daily, to make sure that our water system is being disinfected to provide safe drinking water to the community.

Why are there contaminants in my drinking 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 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 that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

- Inorganic contaminants, such as salts and metals, that 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 agriculture, urban storm water runoff, and residential uses.

- Organic chemical contaminants, including synthetic and volatile organic chemicals that are byproducts of industrial processes 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. To ensure that tap water is safe to drink, USEPA prescribe regulations that limit the number of certain contaminants in water provided by public water systems.

Additional Information for 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 Zuni Utility Department is responsible for providing high quality 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 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 www.epa.gov/safewater/lead.

Water Conservation Tips
Did you know that the average U.S. household uses approximately 400 gallons of water per day or 100 gallons per person per day? Luckily, there are many low-cost and no-cost ways to conserve water. Small changes can make a big difference - try one today and soon it will become second nature.

- Take short showers – a 5-minute shower uses 4 to 5 gallons of water compared to up to 50 gallons for a bath.

- Shut off water while brushing your teeth, washing your hair and shaving and save up to 500 gallons a month
- Use a shower-efficient showerhead. They're inexpensive, easy to install and can save you up to 750 gallons a month.
- Run your clothes washer only when it's full. You can save up to 1000 gallons a month.
- Fix or replace leaky toilets and faucets. Water leaking from these fixtures can add up when it is leaking 24 hours-a-day. To check your toilet for a leak, place a few drops of food coloring in the tank and wait. If it seeps into the toilet bowl without flushing, you have a leak. Fixing it or replacing it with a new, more efficient model can save up to 1,000 gallons a month.
- Always remember that water is essential in washing your hands constantly to combat the virus and not to use it for irrigating crops, gardens, lawns, trees and landscaping. It is also not to be used for watering live stocks, washing vehicles, filling swimming pools and washing driveways and streets.
- Teach your kids about water conservation and its importance in using it to protect themselves and others during this trying time.
- If you have access to a computer and want to learn more, visit www.epa.gov/watersense for more information.

Cross Connection Control Survey

The purpose of this survey is to determine whether a cross-connection may exist at your home or business. A cross connection is an unprotected or improper connection to a public water distribution system that may cause contamination or pollution to enter the system. We are responsible for enforcing cross-connection control regulations and ensuring that no contaminates can, under any flow conditions, enter the distribution system. If you have any of the devices listed below, please contact us so that we can discuss the issue, and if needed, survey your connection, and assist you in isolating it if that is necessary.

- Boiler / Radiant heater (water heaters not included)
- Underground lawn sprinkler system
- Pool or hot tubs (whirlpool tubs not included)
- Additional source (s) of water on the property
- Decorative ponds
- Watering troughs

Source Water Protection Tips

Protection of drinking water is everyone's responsibility. You can help protect your community's drinking water source in several ways. Eliminate excess use of lawn and garden fertilizers and pesticides. They contain hazardous chemicals that can reach your drinking water source. If you have your own septic system, properly maintain your system to reduce leaching to water sources. Dispose of chemicals properly; take used motor oil to a recycling center. Volunteer and organize a project to help in protecting your community's watershed, and always remind household residents, that some storm drains dumps directly into your local water body.

How can I get involved?
Since the **COVID-19 PANDEMIC** is currently impacting our community, it is now more important than ever that we protect our valuable water resources by conserving water usage and reporting broken waterlines immediately. The ever-present possibility of low water pressure conditions calls for an even greater emphasis on the misuse of water for our community. The Zuni Utility Department still has a ban on using water for car washing, watering grass, trees, and gardens, and prohibits the use of water for anything else other than domestic use. Notices are posted at all public places and will be reposted from time to time. You can also assist in reporting any type of misuse of water by calling 505-782-5654, and crews will be dispatched out immediately. As community members, you can assist in your community to use the potable water source only for washing your hands constantly, washing clothes, and most importantly, for personal hygiene protection.

Additional Information on COVID-19
The Novel Corona Virus (COVID-19) has not been detected in any drinking water supplies and the risk to water supplies is low. Below are some answers to frequently asked questions:

Is drinking water safe?
Yes, drinking water is safe. Drinking water is obtained from groundwater wells. The water supply, treatment and disinfection systems are designed to continuously deliver safe drinking water to customer taps.

According to the World Health Organization (WHO) and the American Water Works Association (AWWA), current treatment methods are sufficient to disinfect water for contaminants, including COVID-19.

Groundwater sources would not be sources for COVID-19 and existing mandated EPA testing throughout our distribution system requires a chlorine residual to ensure water is clean and safe for consumption.

Where can I get additional information?
The World Health Organization has issued a technical brief on COVID-19 March 3 technical brief (https://www.who.int/publications-detail/water-sanitation-hygiene-and-waste-management-for-covid-19) on water, sanitation, hygiene, and waste management. The brief states that current water treatment methods are expected to be effective against the Novel Coronavirus (COVID-19) and based on current evidence the risk to water supplies is low.

What precautions are at the Pueblo of Zuni Water Department taking?
During the production and sampling of your water, extra pre-cautions have been taken by the water including working with a limited crew, social distancing, and wearing and having on hand all needed Personal Protective Equipment (PPE). Also, extra chlorine sampling to make sure there is proper disinfection in the water to prevent any virus from living or multiplying in the water.

Other Information
As many of the community members are already aware, Zuni Pueblo switched to using new wells and a new treatment plant at the end of 2002. Since then, there have been concerns expressed regarding hardness in the water. The water from the new wells does indicate that a considerable amount of hardness is present in the water. Typically, the hardness will accumulate in the form of a white buildup or will be seen when water is brought to a boil. Hardness is something that is not a health concern. The Zuni Utility Department is examining options to address the issue of hardness in our community's water.

Currently the Pueblo of Zuni is in the process of making the Zuni Utility Department a separate enterprise. We are in the beginning stages of creating several aspects to meet the criteria to become the Zuni Tribal Utility Authority, Inc. (ZTUA). Once this is accomplished, we will take on the solicitation for community members, business owners and professional individuals who are interested in serving on the Zuni Water Board Committee. Please let us know if you are interested.

2022 Water Quality Data Tables

The table below lists all of the drinking water contaminants that we detected during the calendar year of this report. The presence of contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done in the calendar year of the report. The EPA requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not change frequently.

Detected Regulated Contaminants

Contaminants	MCLG	AL	90th Percentile	Sample Date	# Samples Exceeding AL	Exceeds AL	Typical Source
Inorganic Contaminants (Lead and Copper)							
Copper - action level at consumer taps (ppm)	1.3	1.3	0.14	2020	0	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead - action level at consumer taps (ppb)	0	15	2	2020	0	No	Corrosion of household plumbing systems; Erosion of natural deposits

Contaminants	MCLG or MRDLG	MCL, TT, or MRDL	Highest Detected in Your Water	Range		Sample Date	Violation	Typical Source
				Low	High			
Disinfectants & Disinfection By-Products								
(There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants)								
Chlorine (as Cl2) (ppm)	MRDLG = 4	MRDL = 4	1.6	1	1.6	2022	No	Water additive used to control microbes
TTHMs [Total Trihalomethanes] (ppb)	No goal for the total	80	3.41	2.28	3.41	2022	No	By-product of drinking water disinfection
Inorganic Contaminants								
Arsenic (ppb)	0	10	12 (Avg)	12	13	2022	YES	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes.
Barium (ppm)	2	2	0.021	0.021	0.021	2022	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.

Contaminants	MCLG or MRDLG	MCL, TT, or MRDL	Highest Detected in Your Water	Range		Sample Date	Violation	Typical Source
				Low	High			
Fluoride (ppm)	4	4	0.45	0.45	0.45	2022	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Selenium (ppb)	50	50	1.7	1.7	1.7	2022	No	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines.
Radioactive Contaminants								
Beta/photon emitters (pCi/L)	0	50	5.48	5.48	5.48	09/26 2018	No	Decay of natural and man-made deposits. The EPA considers 4 pCi/L to be the level of concern for Beta particles.
Uranium (ug/L)	0	30	2.2	2.2	2.2	09/26/ 2018	No	Erosion of natural and man-made deposits

2022 Violations Table

Arsenic			
Some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.			
Violation Type	Violation Begin	Violation End	Violation Explanation
MCL, AVERAGE	04/01/2022	06/30/2022	Water samples showed that the amount of this contaminant in our drinking water was above its standard (called a maximum contaminant level and abbreviated MCL) for the period indicated.
MCL, AVERAGE	07/01/2022	09/30/2022	Water samples showed that the amount of this contaminant in our drinking water was above its standard (called a maximum contaminant level and abbreviated MCL) for the period indicated.
MCL, AVERAGE	10/01/2022	12/31/2022	Water samples showed that the amount of this contaminant in our drinking water was above its standard (called a maximum contaminant level and abbreviated MCL) for the period indicated.
MONITORING, ROUTINE MAJOR	04/01/2022	06/30/2022	We failed to test our drinking water for the contaminant and period indicated. Because of this failure, we cannot be sure of the quality of our drinking water during the period indicated.

What is Being Done

On March 30, 2023 two violations were issued to the Zuni Utility Department from the Region 6 Environmental Protection Agency that regulates the Safe Drinking Water Act. The First violation was for failure on taking arsenic samples on time, as quarterly sampling was required once the arsenic level went over the MCL (maximum contaminate level). The second violation was for exceeding the MCL once EPA determined a running average after several quarters of sampling for arsenic levels. In working very closely with the Indian Health Service, they assisted us in implementing a pilot study to further define the arsenic levels in our drinking water, and to determine the most appropriate solution that can be quickly, and effectively implemented. Based on this work, a contractor that was hired by the I.H.S has now determined the best filtration media system that would remove arsenic from our domestic water, and have provided their recommendations to the Indian Health Services. At this time, the Zuni Tribal Administration and the Zuni Utility Department, in coordination with the IHS and their contractors, will now go further to design and build a treatment plant that will protect the health of our community and allow our water to return to compliance with the arsenic MCL. For more information, you may call our office at 505-782-5654.

Unit Descriptions	
Term	**Definition**
ug/L	Number of micrograms of substance in one liter of water or one ounce in 7,350, 000 gallons of water.
ppm	Parts per million, or milligrams per liter (mg/L), - or one ounce in 7, 350 gallons of water.
ppb	Parts per billion, or micrograms per liter (µg/L)
pCi/L	Picocuries per liter (a measure of radioactivity)
NA	Not applicable
ND	Not detected
NR	Monitoring not required but recommended.
Important Drinking Water Definitions	
Term	**Definition**
MCLG	Maximum Contaminant Level Goal: 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.
MCL	Maximum Contaminant Level: 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.
TT	Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.
AL	Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
ALG	Action Level Goal: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
Variances and Exemptions	Variances and Exemptions: State or EPA permission not to meet an MCL or a treatment technique under certain conditions.
MRDLG	Maximum residual disinfection level goal. 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.
MRDL	Maximum residual disinfectant level. 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.
MNR	Monitored Not Regulated
MPL	State Assigned Maximum Permissible Level
AVG	Regulatory compliance with some MCL's are based on running average of monthly samples

Unit Descriptions	
RAA	Running Annual Average. The average of samples taken during the previous four quarters
Level 1 Assessment:	A Level 1 assessment is a study of the water system to identify potential problem s and determine (if possible) why total coliform bacteria have been found in our water system.
Level 2 Assessment:	A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an *E.coli* MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

For more information, please contact:

Strallie Edaakie Sr.
Manager, Zuni Utility Department
Mailing Address: Box 339
Zuni, NM 87327
Physical Address: Bldg. 143 Route 301 South
Office Phone Number: (505) 782-5654
Fax Number: (505) 782-4834
E-mail Address: Strallie.EdaakieSr@ashiwi.org