

Mohave Water System

Annual Water Quality Report for 2024

PWS ID: AZ0408032





A Message From Mark Clark

Dear Community,

This is your annual report about your drinking water quality, also called a Consumer Confidence Report or CCR. Having clean, safe water is one of the most important services we provide, and we want you to be as informed as possible about your drinking water.

This report is intended to provide peace of mind and confidence in your drinking water. Here we explain where your water comes from, the results of the sampling that we have performed, and what we are doing to protect you and your family. This year, The City tested for more than 2,650 analytes to ensure the safety and quality of your drinking water, and we are proud to report that the water we provide to you has met all federal and state requirements in 2024.

If upon reading this report, you have any questions, or don't feel that peace of mind, please reach out. You may contact our Water Quality Specialist or myself at (928) 763-9400 and nekwall@bullheadcityaz.gov or mclark@bullheadcityaz.gov.

Sincerely,

Mark R. Clark CCM
Utilities Director
2355 Trane Road
Bullhead City, AZ 86442
Bullheadcity.com

About Your Water



Where Your Drinking Water Comes From

Our water in Bullhead City does not come from surface sources like rivers and lakes, which are common in most parts of the United States. Instead, we have a number of wells that pump water from the underground aquifer, a layer of rock that holds groundwater. Well water has many benefits over surface water, such as its

natural filtration by the soil and rock, making it cleaner. It also contains minerals that are good for our health. Well water is more reliable and less affected by natural disasters, pollution, or maintenance issues than surface water.

What Is in Your 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, 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 stormwater 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 stormwater runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater 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 Environmental Protection Agency (EPA) prescribes regulations which limit the amount of certain contaminants in water provided by public

water systems. The Food and Drug Administration (FDA) 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 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 800-426-4791.

Sampling and Testing

We take 40 monthly samples across our water system. We're looking for bacteria, metals, and chemicals to make sure the water continues to be safe to drink.

Bacteria

We look for bacteria regularly, as required by law, and there are 40 locations in the water system where we take samples for analysis. More thorough testing, evaluation, and action is required if bacteria is found in even a small percentage of tests.

Disinfection by-products (Trihalomethane (THM) or Haloacetic Acids (HAA))

Once a year we look for byproducts of the disinfection process. When chlorine, the disinfectant we use to protect the water against bacteria and viruses, starts to break down in the water, it can form new compounds. These compounds, trihalomethanes (THM) and haloacetic acid (HAA), have been known to cause cancer at high levels. The legal limit for drinking water is 80 parts per billion and 60 parts per billion respectively.

Lead and Copper

We take water samples from 30 different homes in our system every 3 years to test them for lead and copper. More information about lead and copper can be found on page 7.

Your Water Meets All Standards

In the table on page 8, you will find all the substances that we detected in your drinking water.

Stay Informed About Your Water

Monthly City Council Meetings

We need your understanding and support to be successful, so we hope you will get involved with us all the ways you can on projects, programs, and policies. You are welcome to attend our Council meetings. We generally meet on the 1st and 3rd Tuesday of the month at the Bullhead City Council Chambers at 1255 Marina Blvd. in Bullhead City. A meeting agenda is posted at our

website before each meeting. We always make time to hear from guests and answer questions so please join us to learn more about what we're working on. Your input is important to us!

Social Media

One way to stay connected with us is by following us on Facebook and Twitter. Here you'll find the latest news about big projects we're working on, fun lessons for students, or opportunities to get involved with water in our community. We also offer helpful tips on conservation, landscaping, and how to protect your pipes.

Projects and Rates

Infrastructure projects and our rates go hand in hand. We can't keep the system in top shape without your help, so we want you to be as informed as possible about what we need and why. Check out our website at bullheadcity.com to learn about projects and ways you can have input to them.

Contact us at: (928) 763-9400

Your Role in Water Quality

Check Your Home or Business' Plumbing for Lead and Copper

We work hard to provide high quality water when it arrives on your property. Once the water we provide passes through the meter on your property however, it is

exposed to a whole new environment in your home that we have no control over. But you do.



Some of the things that can change the water quality on your property include your plumbing and pipe material, how long you go without running the water, and whether or how you connect outdoor hoses to your home's water supply. 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. Bullhead City Utilities is responsible for providing high quality drinking water and removing lead pipes in the public water system but cannot control the variety of materials used in plumbing components in your home. You share the responsibility for protecting yourself and your family from the lead in your home plumbing. You can take responsibility by identifying and removing lead materials within your home plumbing and taking steps to reduce your family's risk. Before drinking tap water, flush your pipes for several minutes by running your tap, taking a shower, doing laundry or a load of dishes. You can also use a filter certified by an American National Standards Institute accredited certifier

to reduce lead in drinking water. If you are concerned about lead in your water and wish to have your water tested, contact Bullhead City Utilities Water Quality Specialist for information on where you can get your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at <http://www.epa.gov/safewater/lead> (opens in a new window).

Run Water After Vacation

Another factor that affects water quality in your home is how “stale” the water is. When you leave your home or business for a long time, as you may when you take a vacation, the water in the pipes and plumbing doesn’t move. When water has been sitting in the pipes for days, bacteria can grow, and if you have lead or copper plumbing, those metals can start to seep into the water. The best thing to do when you get back from being away after a long time is to run the water on full blast for 30 seconds to two minutes before using it for drinking or cooking. And always use cold water for cooking, to draw in fresh water from the outside.



Safely Connect Outdoor Hoses

A third factor that can influence water quality in your home are connections to your water outside your home. The outdoor spigot connection to a hose provides a potential way for pollutants to enter your plumbing. If you use the hose to spray chemicals on your yard by connecting the nozzle to a spray bottle, or if you have a sprinkler system connected, there is the potential for chemicals from the bottle or the lawn to be accidentally sucked back into your internal plumbing.

To prevent this from happening, we recommend (and in some states it is the law) that you have a device installed to prevent that from happening.

Look Out for Special Populations

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 microbial contaminants are available from the Safe Drinking Water Hotline at 800-426-4791.

Lead Service Line Information

To address lead in drinking water, public water systems were required to develop and maintain an inventory of service line materials by Oct 16, 2024. Developing an inventory and identifying the location of lead service lines (LSL) is the first step for beginning LSL replacement and protecting public health. Please contact us if you would like more information about the inventory or any lead sampling that has been done.

If you are concerned about lead in your water and wish to have your water tested, contact Nick Ekwall at nekwall@bullheadcityaz.gov or 928-201-8341. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at <http://www.epa.gov/safewater/lead>.

Additional Resources

- Information on lead in drinking water: www.epa.gov/safewater/lead (opens in a new window)
- Requirements of the Water Quality Report (also known as the Consumer Confidence Report): http://www.epa.gov/sites/default/files/201405/documents/guide_qrg_ccr_2011.pdf (opens in a new window)
- The Safe Drinking Water Act: www.epa.gov/sdwa (opens in a new window)
- CDC Guide to Understanding your CCR: http://www.cdc.gov/healthywater/drinking/public/understanding_ccr.html (opens in a new window)
- American Water Works Association: <http://www.awwa.org> (opens in a new window)
- Water Environment Federation: <http://www.wef.org> (opens in a new window)
- Groundwater Information: <https://waterdata.usgs.gov/nwis> and <http://www.epa.gov/ground-water-and-drinking-water/> (opens in a new window)
- Arizona department of Environmental Quality: <https://www.azdeq.gov/ContactUs> (opens in a new window)

Table of Water Data for 2024

The samples were taken in 2024 unless noted otherwise.

Lead and Copper – Tested throughout the Mohave water system. Testing is done every 3 years. Most recent tests were done in 2022.

| Lead and Copper | MCL Violation Y or N | 90 th percentile | Number of samples exceeds AL | AL | Source |
|-----------------|----------------------|-----------------------------|------------------------------|----------|---|
| Copper (PPM) | N | 0.21 | 0 | 1.3 mg/L | Corrosion of household plumbing; Erosion of natural deposits |
| Lead (PPB) | N | 3.2 | 1 | 15 ug/L | Corrosion of household plumbing; Erosion of natural deposits |

Inorganic Chemicals (IOC)

| Chemicals Detected | Samples Collected | Highest Level Allowed (MCL) | Ideal Goal (MCLG) | Highest Result | Range of Test Results for the Year | Violation | Source |
|--------------------|-------------------|-----------------------------|-------------------|----------------|------------------------------------|-----------|---|
| Arsenic | 12/2023 | 80 | NA | 3.6 | 3.6 – 3.6 | N | Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes. |
| Barium (ppm) | 12/2023 | 2 | 2 | 0.052 | 0.052 – 0.052 | N | Discharge of drilling wastes; discharge from metal refineries; Erosion of natural deposits |
| Fluoride (ppm) | 12/2023 | 4 | 4 | 0.37 | 0.37-0.37 | N | Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines |
| Mercury | 12/2023 | 2 | 2 | 0.79 | 0.79 – 0.79 | | Erosion of natural deposits; Discharge from refineries and factories; Runoff from landfills; Runoff from cropland |
| Nitrate | 12/2023 | 50 | 50 | 3 | 2.3-5 | N | Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits |
| Sodium | 12/2023 | NA | NA | 230 | 230 - 230 | N | Erosion of natural deposits |

Routine Coliform Testing

| Microbiological (RTCR) | TT Violation Y or N | Number of Positive Samples | MCL | MLG | Source |
|------------------------|---------------------|----------------------------|-----|-----|------------------------------|
| E. Coli | N | 0 | 0 | 0 | Human and animal fecal waste |
| Fecal indicator | N | 0 | 0 | 0 | Human and animal fecal waste |

Disinfectants and Disinfection By-products

| Blank | Highest Level Allowed (MCL) | Results | System Wide Range of Results | Violation | Source |
|-------------------------------|-----------------------------|---------|------------------------------|-----------|---|
| Chlorine | 4 | 1 | 1 - 1 | N | Water additive to control microbes. |
| Total Trihalomethanes (TTHMs) | 80 (1 year average) | 9.5 | 5.8 – 6.2 | N | Byproducts of drinking water disinfection |

Radioactive Contaminants

| Chemicals Detected | Collectin Date | Highest Level Allowed (MCL) | Ideal Goal (MCLG) | Highest Result | Range of Test Results for the Year | Violation | Source |
|---|----------------|-----------------------------|-------------------|----------------|------------------------------------|-----------|------------------------------|
| Gross alpha excluding radon and uranium | 12/12/2023 | 15 | 0 | 3.5 pCi/L | 0.5 – 3.5 | N | Erosion of natural deposits. |
| Uranium | 12/12/2023 | 30 | 0 | 4.023 ppb | 2.98 – 4.023 | N | Erosion of natural deposits. |

Unregulated Contaminant Monitoring

| Chemical | Testing Period | Result |
|----------------------|----------------|----------|
| Benzene | 2022 | <0.00050 |
| Bromodichloromethane | 2024 | 0.00080 |
| Bromoform | 2024 | 0.0037 |
| Chloroform | 2022 | <0.00050 |
| Dibromochloromethane | 2024 | 0.0025 |
| Ethylbenzene | 2022 | <0.00050 |
| Trichloroethene | 2022 | <0.00050 |

Definitions

| ACRONYMS | DEFINITIONS |
|---------------------------|--|
| 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. |
| MRDLG | Maximum Residual Disinfectant Level Goal: This is the lowest amount of cleaning chemical drinking water should have, because it is the lowest amount needed to make sure bacteria and viruses can't live. |
| 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. |
| Level 1 Assessment | A Level 1 assessment is a study of the water system to identify potential problems 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. |
| mg/L | Number of milligrams in one liter of water |
| pCi/L | Picocuries per liter (a measure of radioactivity) |
| NA | Not applicable |
| ND | Not detected |
| NR | Monitoring not required, but recommended |
| NTU | Nephelometric Turbidity Units: Turbidity is measured with an instrument called a nephelometer. Measurements are given in nephelometric turbidity units. |
| PPM | Part Per Million= 1 drop of water in a hot tub |
| PPB | Part Per Billion = 1 drop of water in an Olympic size swimming pool |
| PPT | Part Per Trillion (ppt) = 1 drop of water in a lake that's 6 square acres |

Violations

| Violation Type | Explanation, Health Effects | Time Period | Corrective Actions |
|--------------------------|---|--------------------------------|---|
| Tier 3, Reporting | Failed to submit VOC sampling data. VOCs can have negative effects on the blood and liver, as well as increased risk of cancer. | 2023 – March 2024 | Resolved with late data submission |
| Quarterly Reporting | Failed to submit Maximum Residual Disinfection Limit (MRDL). Some people who drink water containing chlorine well in excess of the MRDL (4.0 mg/L) could experience irritating effects to their eyes. If consumed well in excess of the MRDL over many years, some people may experience stomach discomfort or anemia. | July 2024 – August 2024 | Resolved with late data submission |
| Tier 3, Annual Reporting | Missing Certification for 2023 CCR. | July 2024 | Resolved by submission of 2024 CCR |
| Tier 2, DBP2 Violation | Disinfectant Byproducts not sampled. Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous system, and may have an increased risk of getting cancer. | July 2024 - present | Will be resolved with 2025 routine DBP2 sampling. |
| Tier 3, LCRR Violation | Failed to submit Lead Consumer Notice for 2023 sampling. | 2023 – May 2024 | Resolved by submitting data in May 2024. |
| Tier 3, Annual Sampling | Nitrate samples collected during the wrong months. Infants below the age of 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. | 2023 - 2024 | Resolved by confirming inactivation of specific EPDS locations in January 2025. |
| Tier 2, RTCR Violation | Failed to complete RTCR Level 1 assessment on time. The Revised Total Coliform Rule (RTCR) seeks to prevent waterborne diseases caused by E. coli. E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Human pathogens in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms | May 2024 – August 2024 | Completed Level 1 Assessment in August |
| Tier 2, RTCR Violation | Failed to collect all RTCR samples. Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We missed the required samples and therefore cannot be sure of the quality of our drinking water during that time. | November 2024 – December 2024 | Resolved by completing December 2024 RTCR sampling. |
| Tier 3, RTCR Violation | Failed to submit RTCR data on time. The Revised Total Coliform Rule (RTCR) seeks to prevent waterborne diseases caused by E. coli. E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Human pathogens in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms | September 2024 – December 2024 | Submitted missing data in December 2024 |
| Tier 2, LCRR Violation | Public notice for Lead Service Line Inventory not submitted on time. | December 2024 – April 2025 | Notice of Violation posted to website and mailed to customers. |

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). You can do this by posting this notice in a public place or distributing copies by hand or mail.

APPENDIX: ADDITIONAL REQUIRED LANGUAGE IF APPLICABLE

Not All Substances in the Water Have Official Health Limits

In this report, we share the data for all the substances we monitor as required by the Safe Drinking Water Act (SDWA). The law doesn't specify a limit for every potential substance that could be found in the water, so the Environmental Protection Agency (EPA) is constantly studying new potential pollutants (they call them unregulated contaminants) to determine what their effects are on our health, and at what levels, to determine where to set limits for them. Dimethoate, for example, is a chemical used to kill bugs and is usually used on farms. There is no limit for it in water now, but it is one of the chemicals EPA is looking at closely. We are helping EPA by looking for Dimethoate in our water to help them learn more about where it occurs and whether it needs to be regulated.

Assessments for the Revised Total Coliform Rule (RTCR)

Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessment(s) to identify problems and to correct any problems that were found during these assessments.

During the past year we were required to conduct one Level 1 assessment. One Level 1 assessment was completed. In addition, we were required to take one corrective action and we completed one of these actions.

Required information on specific contaminants

Cryptosporidium, Radon, Arsenic, Nitrate and TTHMs

Cryptosporidium

Cryptosporidiosis or "Crypto" is a disease that causes mild to severe diarrhea. It comes from a microscopic parasite, *Cryptosporidium*, that can live in the intestine of humans and animals and be passed in the stool of an infected person or animal. The parasite is protected by an outer shell, an oocyst, that allows it to survive outside the body for long periods of time. This makes it very resistant to the type of disinfectant we use to clean the water. During the past two decades, Crypto has become recognized as one of the most common causes of waterborne disease (recreational water and drinking water) in humans in the United States. The parasite is found in every region of the United States and throughout the world.

There are currently no accurate ways for detecting Crypto in the water supply at the very low levels that cause sickness. Therefore, EPA does not require testing for the Crypto parasite unless concentrations in the water before treatment exceed 10 oocysts per liter.

Symptoms of a Crypto infection include nausea, diarrhea, and stomach cramps. Most healthy people are able to recover from the disease within a few weeks. However, some immuno-compromised people (such as those with AIDS, undergoing chemotherapy or recent organ transplant recipients) are at a greater risk of developing a severe, life-threatening illness. Immuno-compromised persons should contact their doctor to learn about appropriate precautions to prevent infection.

Radon

Radon is a naturally occurring gas present in some groundwater. Radon may pose a risk to your health if you inhale it once it is released from water into the air. This could occur during showering, bathing, washing dishes, or washing clothes. The radon gas released from drinking water is a relatively small part of the total radon naturally found in air. One major source of radon gas is from the soil, where the gas can seep through the foundations of homes. It is not clear whether ingested (i.e., taken through the mouth) radon contributes to cancer or other adverse health conditions. If you are concerned about radon in your home, tests are available to determine the total exposure level. For additional information on home testing, contact Mohave County Environmental Health.

If systems with arsenic sample over 0.005 mg/L

Arsenic is a mineral known to cause cancer in humans at high concentrations and is linked to other health issues, such as skin damage and circulatory problems. While your drinking water meets EPA's standard for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

If systems with nitrate samples above 5 mg/L

Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant you should ask advice from your health care provider.

If systems with TTHM (total trihalomethanes) samples above 0.080 mg/L and less than MCL

Trihalomethanes are compounds that can form in water over time when the chlorine used for disinfectant breaks down. Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.