

Lake Mohave Highlands  
Water System

# Annual Water Quality Report for 2022

PWS ID: AZ0408062





## **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 sampling that we have performed, and what we are doing to protect you and your family. We are proud to report that the water we provide to you has met all federal and state requirements in 2022.

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 [chobbs@bullheadcityaz.gov](mailto:chobbs@bullheadcityaz.gov) or [mclark@bullheadcityaz.gov](mailto:mclark@bullheadcityaz.gov).

Sincerely,

**Mark R. Clark CCM**  
**Utilities Director**  
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*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 1 monthly sample 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 is 1 location 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 10 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 1<sup>st</sup> and 3<sup>rd</sup> 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](http://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.

## Additional Resources

- Information on lead in drinking water: [www.epa.gov/safewater/lead](http://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](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](http://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](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 2022

The samples were taken in 2022 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 <sup>th</sup> percentile	Number of samples exceeds AL	AL	AGL	Source
Copper (PPM)	N	0.86	0	1.3	1.3	Corrosion of household plumbing; Erosion of natural deposits
Lead (PPB)	N	1.2	0	15	0	Corrosion of household plumbing; Erosion of natural deposits

*MCL - Maximum Contaminant Level: This is the highest level allowed of a pollutant in drinking water. MCLs are set as close as possible to the goal using the best available technology.*

*MCLG - Maximum Contaminant Level Goal: The goal level of a pollutant in drinking water. Below this amount, there is no known or expected health effect.*

*PPB - Part Per Billion = 1 drop of water in an Olympic size swimming pool*

*PPM - Part Per Million = 1 drop of water in a hot tub*

## Inorganic Chemicals (IOC)

Chemicals Detected	Highest Level Allowed (MCL)	Ideal Goal (MCLG)	Highest Result	Range of Test Results for the Year	Violation	Source
Barium (ppm)	2	2	0.044	0.044 – 0.044	N	Discharge of drilling wastes; discharge from metal refineries; Erosion of natural deposits
Selenium (ppm)	50	50	8.1	8.1-8.1	N	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines
Fluoride (ppm)	4	4	0.32	0.32-0.32	N	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines
Nitrate	50	50	9.1	5.4-9.1	N	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

*MCL - Maximum Contaminant Level: This is the highest level allowed of a pollutant in drinking water. MCLs are set as close as possible to the goal using the best available technology.*

*MCLG - Maximum Contaminant Level Goal: The goal level of a pollutant in drinking water. Below this amount, there is no known or expected health effect.*

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## 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

PPM - Part Per Million = 1 drop of water in a hot tub

## Disinfection By-products

Blank	Highest Level Allowed (MCL) - One Year Average	Maximum Locational Running Annual Average (Year)	System Wide Range of Results	Violation	Source
Total Trihalomethanes (TTHMs)	60 ppb	12.8 ppb	11.3 – 12.8 ppm	N	Byproducts of drinking water disinfection
Total Haloacetic Acids (THAAs)	60 ppb	ND	ND	N	Byproducts of drinking water disinfection

TTHMs - Total Trihalomethanes

THAAs - Total Haloacetic Acids

MCL - Maximum Contaminant Level: This is the highest level allowed of a pollutant in drinking water. MCLs are set as close as possible to the goal using the best available technology.

PPB - Part Per Billion = 1 drop of water in an Olympic size swimming pool

PPM - Part Per Million = 1 drop of water in a hot tub

## Unregulated Contaminant Monitoring

Chemical	Testing Period	Result
Benzene	2022	<0.00050
Bromodichloromethane	2022	0.00063
Bromoform	2022	0.0042
Chloroform	2022	<0.00050
Dibromochloromethane	2022	0.012
Ethylbenzene	2022	<0.00050
Trichloroethene	2022	<0.00050

PPB - Part Per Billion = 1 drop of water in an Olympic size swimming pool

PPM - Part Per Million = 1 drop of water in a hot tub

## 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.

<b>MCL</b>	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.
<b>TT</b>	Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.
<b>AL</b>	Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
<b>MRDLG</b>	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.
<b>MRDL</b>	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.
<b>Level 1 Assessment</b>	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.
<b>Level 2 Assessment</b>	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.
<b>mg/L</b>	Number of milligrams in one liter of water
<b>pCi/L</b>	Picocuries per liter (a measure of radioactivity)
<b>NA</b>	Not applicable
<b>ND</b>	Not detected
<b>NR</b>	Monitoring not required, but recommended
<b>NTU</b>	Nephelometric Turbidity Units: Turbidity is measured with an instrument called a nephelometer. Measurements are given in nephelometric turbidity units.
<b>PPM</b>	Part Per Million= 1 drop of water in a hot tub
<b>PPB</b>	Part Per Billion = 1 drop of water in an Olympic size swimming pool
<b>PPT</b>	Part Per Trillion (ppt) = 1 drop of water in a lake that's 6 square acres

# 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.

## **VIOLATIONS**

All six Bullhead City Water Systems have had **ZERO** violations in 2022. Bullhead City Utilities works very hard each and every day to ensure that our customers have safe and reliable water.

## **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 immunocompromised 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. Immunocompromised 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.