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2022

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Questions:

For questions about this report or the water system, contact Director of Operations Michael Simpson at (760) 946-7000 during our regular office hours:

M-Th 8 a.m. – 5 p.m.
Alternating Fridays 8 a.m. – 4:30 p.m.
Closed on Holidays

Consumer Confidence Report

The Mojave Water Agency (MWA) is pleased to provide our annual Consumer Confidence Report. It provides the results of our extensive water quality tests conducted in 2022.

These results represent the most recent sampling, which could be from previous years, as indicated. We encourage you to review this report which provides a description of where your water comes from and detailed information about your water quality.

Allison Febbo

General Manager

Together, we're securing water for today and tomorrow...

2023

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**MWA Board Meetings are open to the public
at 9:30 a.m. on the 2nd and 4th Thursday of
each month.**



From the Board of Directors

Our commitment to you...

For more than 60 years, the Mojave Water Agency has been charged with managing groundwater sustainably to benefit the residents and lands within its 4,900-square-foot service area. This means we work every day to ensure the Agency fulfills its vision to manage water for generations to come.

As one of 29 State Water Project (SWP) Contractors we use sound science to identify and maintain access to imported water from Northern California, combine it with local water supplies, and maintain the infrastructure to ensure the availability and accessibility of water supplies for local use. We do this with robust technology, science, and data management systems to support effective operations and decision-making.

In 2013, MWA completed the first phase of the Regional Recharge and Recovery Project (R3), which pumps imported State Water Project water into the local aquifers along the Mojave River in Hesperia and Apple Valley. MWA stores these supplies as groundwater until it is needed, then recovers it for wholesale distribution to local purveyors, including the Victorville Water District, Hesperia Water District, Liberty Utilities, and City of Adelanto.

We are proud to announce that water provided by the Mojave Water Agency has met all of California's Drinking Water standards. Through MWA's trained and certified water professionals, customers have the security of knowing their drinking water has proper monitoring and oversight. We are committed to providing our customers with reliable, high-quality drinking water.

2022 Drinking Water Quality Test Results Wells 1-5

This report includes results from several tests for various constituents. Mojave Water Agency routinely monitors for constituents in the Agency's drinking water in accordance with Federal and State laws. Substances that are not detected (ND) are not listed. Values accompanied by < indicate a result less than the detection limit.

The results below represent drinking water quality tests performed by Mojave Water Agency on Wells 1, 2, 3, 4, & 5 in the R3 wholesale water system. These wells provide high quality drinking water through service connections to the cities of Victorville, Hesperia and Adelanto upon request. Contact your local water provider for detailed information on your water quality and where your water comes from.

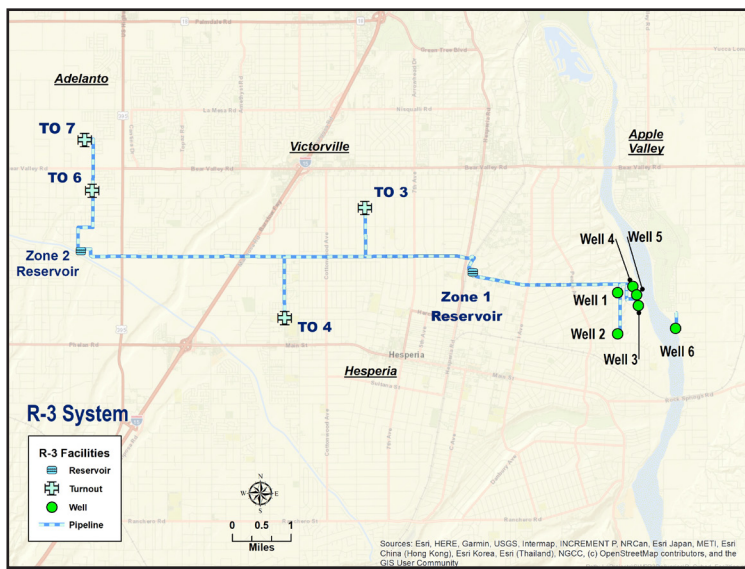
Inorganic w/ Primary Drinking Water Standards							Wells 1, 2, 3, 4, & 5
Contaminants	Average	Sample Range	MCL	PHG	Sample Date	Violation	Major Sources in Drinking Water
Fluoride (mg/L) (Naturally Occurring)	0.28	0.23 - 0.33	2	1	2022	NO	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate as N (mg/L) (NO ₃ -N)	0.51	0.46 - 0.62	10	10	2022	NO	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Nitrate + Nitrite (mg/L) (as N)	0.51	0.46 - 0.62	10	10	2022	NO	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Radioactive Contaminants							Wells 1, 2, 3, 4, & 5
Uranium (pCi/L)	<1.0	<1.0 - 1.2	20	0.43	2022	NO	Erosion of natural deposits
*Radium 226 + 228 (pCi/L)	<1.0	<1.0 - 4.3	5	0	2022	NO	Erosion of natural deposits
* Note: The Agency is committed to providing safe, potable drinking water and performs additional water quality sampling for various constituents. In 2022, the sampling of Radium 226+228 was performed on all wells. In performing additional water quality sampling, one well had a Radium 228 result of 4.3 pCi/L. Although the result was below the MCL and in compliance with State and Federal regulations, the Agency took precautionary measures and performed two additional quarterly samples for Radium 226+228. The Agency is pleased to report the two additional quarterly samples were below the detection limit and therefore considered Non-Detect for Radium 226+228. All other wells were well below the MCL.							
Disinfectant Byproducts							Sample results are from the distribution system from Wells 1, 2, 3, 4, & 5
Haloacetic Acids (ug/L) (HAA5)	<1.0	<1.0 - 1.2	60	N/A	2022	NO	Byproduct of drinking water disinfection
Total Trihalomethanes (ug/L) (TTHM)	8.2	<1.0 - 16.6	80	N/A	2022	NO	Byproduct of drinking water disinfection
Regulated Contaminants with Secondary Maximum Contaminant Levels							Wells 1, 2, 3, 4, & 5
Contaminants	Average	Sample Range	Secondary MCL	Sample Date	Violation	Major Sources in Drinking Water	
Chloride (mg/L)	24	19 - 29	500	2022	NO	Runoff/leaching from natural deposits; seawater influence	
Foaming Agents (ug/L) (MBAS)	<100	<100 - 100	500	2022	NO	Municipal and industrial wastes discharges	
Odor (units)	1	1	3	2022	NO	Naturally occurring organic materials	
Specific Conductance (µS/cm)	262	240 - 290	1600	2022	NO	Substances that form ions when in water; seawater influence	
Sulfate (mg/L)	15	12 - 17	500	2022	NO	Runoff/leaching from natural deposits; industrial wastes	
Total Dissolved Solids (mg/L)	170	140 - 190	1000	2022	NO	Runoff/leaching from natural deposits	
Turbidity (NTU)	0.17	<0.10 - 0.40	5	2022	NO	Soil runoff	
Disinfection Residuals							Sample results are from the distribution system from Wells 1, 2, 3, 4, & 5
Constituent	Average	Sample Range	MCL	PHG (MCLG)	Sample Date	Major Sources in Drinking Water	
Chlorine (mg/L)	0.54	0.24 - 0.94	4	4	Weekly	Drinking water disinfectant added for treatment	
Constituents that may be of interest to consumers							Wells 1, 2, 3, 4, & 5
Constituents	Average	Range	Sample Date	Note			
Bicarbonate (mg/L)	82	80 - 86	2022	No PHG or MCL's available			
Calcium (mg/L)	30	28 - 32	2022	No PHG or MCL's available			
Magnesium (mg/L)	4.5	4.3 - 4.8	2022	No PHG or MCL's available			
pH	7.3	7.1 - 7.7	2022	No PHG or MCL's available			
Potassium (mg/L)	1.5	1.5 - 1.6	2022	No PHG or MCL's available			
Sodium (mg/L)	15.4	15 - 16	2022	No PHG or MCL's available			
Total Alkalinity (as CaCO ₃) (mg/L)	67	66 - 71	2022	No PHG or MCL's available			
Total Hardness (as CaCO ₃) (mg/L)	94	88 - 100	2022	No PHG or MCL's available			
Aggressive Index	11.20	10.77 - 11.40	2022	No PHG or MCL's available			

2022 Drinking Water Quality Test Results Well 6

The results below represent drinking water quality tests performed by Mojave Water Agency on Well 6, which provides water to Liberty Utilities upon request.

Inorganic w/ Primary Drinking Water Standards							Well 6
Contaminants	Average	Sample Range	MCL	PHG	Sample Date	Violation	Major Sources in Drinking Water
Fluoride (mg/L) (Naturally Occurring)	0.26	0.26	2	1	2022	NO	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate as N (mg/L) (NO ₃ -N)	0.52	0.52	10	10	2022	NO	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Nitrate + Nitrite (mg/L) (as N)	0.52	0.52	10	10	2022	NO	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Radioactive Contaminants							Well 6
Radium 226 + 228 (pCi/L)	<1.0	<1.0 - 1.1	5	0	2022	NO	Erosion of natural deposits
Regulated Contaminants with Secondary Maximum Contaminant Levels							Well 6
Contaminants	Average	Sample Range	Secondary MCL	Sample Date	Violation	Major Sources in Drinking Water	
Chloride (mg/L)	28	28	500	2022	NO	Runoff/leaching from natural deposits; seawater influence	
Odor (units)	1	1	3	2022	NO	Naturally occurring organic materials	
Specific Conductance (µS/cm)	270	270	1600	2022	NO	Substances that form ions when in water; seawater influence	
Sulfate (mg/L)	16	16	500	2022	NO	Runoff/leaching from natural deposits; industrial wastes	
Total Dissolved Solids (mg/L)	170	170	1000	2022	NO	Runoff/leaching from natural deposits	
Constituents that may be of interest to consumers							Well 6
Constituents	Average	Range	Sample Date	Note			
Bicarbonate (mg/L)	86	86	2022	No PHG or MCL's available			
Calcium (mg/L)	31	31	2022	No PHG or MCL's available			
Magnesium (mg/L)	4.8	4.8	2022	No PHG or MCL's available			
pH	7.5	7.5	2022	No PHG or MCL's available			
Potassium (mg/L)	1.7	1.7	2022	No PHG or MCL's available			
Sodium (mg/L)	17	17	2022	No PHG or MCL's available			
Total Alkalinity (as CaCO ₃) (mg/L)	70	70	2022	No PHG or MCL's available			
Total Hardness (as CaCO ₃) (mg/L)	98	98	2022	No PHG or MCL's available			
Aggressive Index	11.20	11.20	2022	No PHG or MCL's available			

Regional Recharge and Recovery Water Supply



Mojave Water Agency's R3 water supply is 100 percent groundwater. The Agency obtains its source of groundwater from six (6) vertical wells which are located in the Alto Subarea of the Upper Mojave River Groundwater Basin. Each well has a capacity of approximately 3,500 gallons per minute. The Agency maintains two (2) storage reservoirs that have a combined capacity of approximately 7.5 million gallons.

To help monitor and keep your water safe, staff uses a Supervisory Control and Data Acquisition (SCADA) system to monitor reservoir levels, chlorine levels, and well status. The SCADA system provides remote operation and monitoring capabilities, increased security, and advanced notification. This is just one of the ways the Agency provides you with safe and reliable drinking water.

Source Water Assessment

Source water assessments were conducted for Wells 1-5 in June 2012 and Well 6 was conducted in September 2011. The assessments are summarized in the table below. A copy of the complete source water assessment and vulnerability assessment can be obtained by contacting the Mojave Water Agency at 13846 Conference Center Dr., Apple Valley, CA 92307; or the State Water Resources Control Board (SWRCB), 464 West 4th Street, Suite 437, San Bernardino, CA 92401. You may request a summary of the assessments be mailed to you by contacting the Mojave Water Agency at (760) 946-7000 or SWRCB District Engineer at (909) 383-4328.

Source Number	Source ID	Most Vulnerable Activities (PCA)
001	Well No.1	Animal feeding operations as defined in federal regulations ² - Septic systems– high density [$>1/\text{acre}$]
002	Well No.2	Animal feeding operations as defined in federal regulations ² - Septic systems– high density [$>1/\text{acre}$]
003	Well No.3	Animal feeding operations as defined in federal regulations ²
004	Well No.4	Animal feeding operations as defined in federal regulations ²
005	Well No.5	Animal feeding operations as defined in federal regulations ²
006	Well No.6	Animal feeding operations as defined in federal regulations ² - Septic systems– high density [$>1/\text{acre}$] Wells– Agricultural / Irrigation

En Español: Este informe contiene información muy importante sobre su agua para beber. Favor de comunicarse Mojave Water Agency a 760-946-7000 para asistirlo en español.

New weather stations installed in the basin

You can't manage what you don't understand...and to understand...you need data, which is why the Mojave Water Agency recently installed seven new meteorological weather stations across its 4,900-square-mile service area in the last few months.

These stations replace some hobby-grade equipment that were nearly 10 years old. Additionally, MWA previously relied on federal and state agencies for some of this weather data, but some of these stations have gone offline with no indication that they will be brought back. This created data gaps that make it difficult to determine the water needs of the area.

These new stations will give the Agency more accurate and timely data about the amount of water entering the area through rain or runoff, and exiting as evaporation. More specifically, they measure precipitation, temperature, wind speed, wind direction and relative humidity.

In short, it will help the Agency manage the basin better!

All of this data is publicly available at <https://mojave.westernweathergroup.com/>

While some of the stations are located on MWA property, the rest of them are located on property owned by other agencies that MWA has positive working relationships with, such as Bighorn Desert View, Helendale Community Service District, Phelan Pinon Hills Community Service District and others.

"The goal is that these scientific, long-term stations can help us better understand the impacts to climate change and help make better management decisions for our groundwater basins," said Water Resources Manager Melody Bailey.

For more information on how the Agency manages the service area's water needs, visit www.MojaveWater.org.



Water in the Environment

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 occur naturally or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides that 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, that are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural application, and septic systems.
- Radioactive contaminants that 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 U.S. Environmental Protection Agency (U.S. EPA) and the State Water Resources Control Board (State Water Board) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. State Water Board regulations also establish limits for contaminants in bottled water that provide the same protection for public health.

How we protect water quality *For you and your family*

1. Extensive Testing

Water quality technicians test the water weekly for bacteriological activity at six locations. We also perform bacteriological tests on each active well site monthly. The samples are tested by an independent state certified lab.

2. Disinfect for Safety

A small amount of chlorine is added at a centralized location on a continual basis to ensure the water remains free of any bacteria.

3. Flush the System

Staff periodically flushes water out of blow-offs, key flush points within the distribution system, at a high velocity to remove small amounts of natural sand and minerals that can slowly build up in pipelines. This happens because our water comes from deep groundwater wells.

Additional General Information *About Drinking Water*

Are Special Precautions Needed?

Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. 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. Mojave Water Agency 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 water for drinking or cooking. If you do so, you may wish to collect the flushed water and reuse it for another beneficial purpose such as watering plants. If you are concerned about lead in your water, you may wish to have your water tested. For information on lead in drinking water, testing methods, and steps you can take to minimize exposure please check <https://www.epa.gov/lead> or call the Safe Drinking Water Hotline, 1-800-426-4791.

Sensitive populations may be more vulnerable

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. U.S. 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 Drinking Water Hotline, 1-800-426-4791.

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. The tables in this report indicate which minerals and substances have been detected in the water provided by Mojave Water Agency. More information about contaminants and potential health effects can be obtained by calling the U.S. EPA Safe Drinking Water Hotline at 1-800-426-4791.

You can also go to the following websites for more information:

U.S. EPA - www.epa.gov/safewater

CA State Water Resources Control Board - www.waterboards.ca.gov/drinking_water/programs/

Definitions

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. Primary MCL's are set as close to the PHG's (or MCLG's) as is economically and technologically feasible.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's are set by the U.S. Environmental Protection Agency (USEPA).

Maximum Residual Disinfectant Level (MRDL): 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.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Notification Level (NL): The concentration of a contaminant which, if exceeded, triggers notification to local political jurisdictions and customers.

Primary Drinking Water Standard (PDWS): MCLs, MRDLs and treatment techniques (TTs) for contaminants that affect health, along with their monitoring and reporting requirements.

Public Health Goal (PHG): The level of a contaminant in drinking water below which there is no known or expected risk to health. PHG's are set by the California Environmental Protection Agency.

Regulatory Action Level (AL): The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow.

Secondary Drinking Water Standard: Requirements that ensure appearance, taste, and smell of drinking water are acceptable.

Secondary MCL's (SMCL): Are set to protect the odor, taste, and appearance of drinking water.

Unregulated Contaminants: Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. For additional information, call the Safe Drinking Water Hotline at (800) 426-4791.

NA: Not applicable.

ND: Non-detected.

NTU: Nephelometric Turbidity Units.

µS/cm: a measure of conductance.

pCi/L: picocuries per liter (a measure of radioactivity).

mg/L: milligrams per liter or parts per million (ppm).

ug/L: micrograms per liter or parts per billion (ppb).

< : Less than the detection limit.

1 mg/L is equivalent to one second of time in approx. 11 1/2 days.

1 ug/L is equivalent to one second of time in approx. 32 years.

