

Mojave Water Agency 2017 Consumer Confidence Report

Issued April 2018



We are pleased to provide you with our annual Consumer Confidence Report. This report provides the results of our extensive water quality tests conducted in 2017, including most recent results 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.

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



Our commitment to you...

More than 50 years ago, the voters in the Mojave Desert region approved the creation of an organization that would participate in the State Water Project (SWP) to bring water from northern California to the desert. Since that time, the Mojave Water Agency (MWA) has managed the region's water resources to ensure sustainability for our citizens.

In 2013, we completed the Regional Recharge and Recovery Project (R³) which pumps imported SWP water using groundwater wells from our local aquifers along the Mojave River in Hesperia and Apple Valley for customers such as the cities of Victorville and Hesperia, and Liberty Utilities. That's why we're committed to providing high quality and reliable drinking water. We are proud to announce that water provided by the Mojave Water Agency met all United States Environmental Protection Agency (U.S. EPA) and State drinking water health standards.

Through the Agency'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 high quality and reliable drinking water.



Mojave Water Agency Board of Directors: Front row from left to right are Director Beverly Lowry, President Kimberly Cox, and Treasurer Jim Ventura. Back row from left are Vice President Carl Coleman, Director Richard Hall, Director Mike Page, and Secretary Thurston "Smitty" Smith.

Mojave Water Agency

Tom McCarthy, General Manager

Board meetings are held on the 2nd and 4th Thursday of the month at 9:30 a.m. located at 13846 Conference Center Drive in Apple Valley, CA.

For information on agenda items, visit our website at www.mojavewater.org

The State Water Project and MWA...

The Mojave Water Agency augments natural water supply with water delivered from the State Water Project (SWP). Mojave Water Agency serves the arid Mojave Desert region with a population of approximately 450,000.

Despite receiving an average annual rainfall of five inches, the Victor Valley region depends on groundwater from the Mojave River as its primary water source. The Mojave River is fed by rainfall and snowpack from the San Bernardino Mountains. Surface flows along the Mojave River can be seen in the Upper Narrows area between Victorville and Apple Valley, however, it primarily functions as an underground river.

The Morongo Basin/Johnson Valley area, relies on small streams that collect runoff from the surrounding mountains during storms. This runoff percolates into streambeds or flows to dry lake beds where it evaporates.

Mojave Water Agency releases water into recharge areas, where it percolates, and is stored in our region's aquifers thereby recharging the local groundwater supply.



How we protect water quality for you and your family

Extensive Testing

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

Disinfect for Safety

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

Flush to Keep the System Clean

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.

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 be naturally occurring 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 by-products 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 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 (EPA) and the State Water Resources Control Board (State Board) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. State Board regulations also establish limits for contaminants in bottled water that provide the same protection for public health.

Results of our 2017 Drinking Water Quality Tests

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 the R³ wholesale water system and represents water produced from wells 1, 2, 3, 4, & 5. These wells provide high quality drinking water through service connections to the cities of Victorville and Hesperia upon request. **Contact your local water provider for detailed information on your water quality and where your water comes from.**

Inorganic Contaminants with Primary Drinking Water Standards							Wells 1, 2, 3, 4, & 5
Contaminants	Average	Sample Range	MCL	PHG (MCLG)	Sample Date	Violation	Major Sources in Drinking Water
Fluoride (mg/L) (Naturally Occurring)	0.31	0.26 – 0.37	2	1	2016	NO	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate as N (NO ₃ -N) (mg/L)	0.54	0.47– 0.66	10	10	2017	NO	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Nitrate + Nitrite (as N) (mg/L)	0.54	0.47- 0.66	10	10	2017	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
Gross Alpha (pCi/L)	3.78	<3 - 11	15	0	2016	NO	Erosion of natural deposits
Disinfection Byproducts							Distribution sample results from wells 1, 2, 3, 4, & 5
Haloacetic Acids (HAA5) (ug/L)	<1.0	<1.0-1.1	60	N/A	2017	NO	Byproduct of drinking water disinfection
Total Trihalomethanes (TTHM) (ug/L)	5.36	1.0 – 14.8	80	N/A	2017	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)	18	16 - 23	500	2016	NO	Runoff/leaching from natural deposits; seawater influence	
Odor (units)	1	1	3	2016	NO	Naturally occurring organic materials	
Manganese (ug/L)	<20	<20 - 29	50	2016	NO	Leaching from natural deposits	
Specific Conductance (µS/cm)	238	220 - 260	1600	2016	NO	Substances that form ions when in water; seawater influence	
Sulfate (mg/L)	13	12 - 16	500	2016	NO	Runoff/leaching from natural deposits; industrial wastes	
Total Dissolved Solids (mg/L)	150	140 - 160	1000	2016	NO	Runoff/leaching from natural deposits	
Disinfectant Residuals							Distribution sample results from wells 1, 2, 3, 4, & 5
Constituent	Sample Date	Average	Range	MCL	PHG (MCLG)	Violation	Major Sources in Drinking Water
Chlorine (mg/L)	Weekly	0.21	0.04 – 1.5	4	4	NO	Drinking water disinfectant added for treatment
Unregulated Contaminants							Wells 1, 2, 3, 4, & 5
Contaminants	Average	Sample Range	NL	MCL	PHG (MCLG)	Date	
Vanadium (ug/L)	<3.0	<3.0 - 5.6	50	None	None	2016	
Chromium 6 (ug/L)	<1.0	<1.0 – 1.1	None	None	0.02	2016	
Constituents that may be of interest to consumers							Wells 1, 2, 3, 4, & 5
Constituent	Average	Range	Date				
Bicarbonate (mg/L)	86	84 - 90	2016				
Calcium (mg/L)	25	24 - 27	2016				
Magnesium (mg/L)	4	3.2 - 4.5	2016				
pH (Lab)	7.56	7.2 - 7.7	2016				
Potassium (mg/L)	1.66	1.6 - 1.7	2016				
Sodium (mg/L)	15	14 - 17	2016				
Total Alkalinity (as CaCO ₃) (mg/L)	71	69 - 74	2016				
Total Hardness (as CaCO ₃) (mg/L)	79	72 - 85	2016				
Aggressive Index	11.20	10.84 - 11.40	2016				

No PHG or MCL's available

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Inorganic Contaminants with Primary Drinking Water Standards							Well 6
Contaminant	Average	Sample Range	MCL	PHG (MCLG)	Sample Date	Violation	Major Sources in Drinking Water
Fluoride (mg/L) (Naturally Occurring)	0.37	0.37	2	1	2016	NO	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate as N (NO ₃ -N) (mg/L)	0.50	0.50	10	10	2017	NO	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Nitrate + Nitrite (as N) (mg/L)	0.50	0.50	10	10	2017	NO	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Radioactive Contaminants							Well 6
Uranium (pCi/L)	1.2	<1.0 - 2.4	20	0.43	2017	NO	Erosion of natural deposits
Regulated Contaminants with Secondary Maximum Contaminant Levels							Well 6
Contaminant	Average	Sample Range	Secondary MCL	Sample Date	Violation	Major Sources in Drinking Water	
Chloride (mg/L)	16	16	500	2016	NO	Runoff/leaching from natural deposits; seawater influence	
Odor (units)	1	1	3	2016	NO	Naturally occurring organic materials	
Specific Conductance (µS/cm)	230	230	1600	2016	NO	Substances that form ions when in water; seawater influence	
Sulfate (mg/L)	14	14	500	2016	NO	Runoff/leaching from natural deposits; industrial wastes	
Total Dissolved Solids (mg/L)	150	150	1000	2016	NO	Runoff/leaching from natural deposits	
Turbidity (NTU)	0.2	0.2	5	2016	NO	Soil runoff	
Unregulated Contaminants							Well 6
Contaminants	Average	Sample Range	NL	MCL	PHG (MCLG)	Date	
Vanadium (ug/L)	3.1	3.1	50	None	None	2016	
Constituents that may be of interest to consumers							Well 6
Constituent	Average		Range		Date		
Bicarbonate (mg/L)	84		84		2016		
Calcium (mg/L)	27		27		2016		
Magnesium (mg/L)	4.1		4.1		2016		
pH (Lab)	7.6		7.6		2016		
Potassium (mg/L)	1.6		1.6		2016		
Sodium (mg/L)	14		14		2016		
Total Alkalinity (as CaCO ₃) (mg/L)	69		69		2016		
Total Hardness (as CaCO ₃) (mg/L)	83		83		2016		
Aggressive Index	11.25		11.25		2016		

No PHG or MCL's available

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 USEPA Safe Drinking Water Hotline at 1-800-426-4791. You can also go to the following websites for more information:

USEPA - www.epa.gov/safewater

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

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

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. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (1-800-426-4791) or at <http://www.epa.gov/lead>.

Sensitive Populations May Be More Vulnerable

Some people may be more vulnerable to contaminants in drinking water than the general population. Persons with compromised immune systems such as those with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, and some elderly and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/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).

Radon

Radon is an unregulated chemical, therefore, there are no State drinking water standards for radon in California. Radon was detected at Wells 2 - 5 during the initial sampling in 2010 with results ranging from 479 - 589 pCi/L and an average of 546 pCi/L. During the initial sampling of Well 6 in 2011, results were 761 pCi/L. All wells were below the USEPA MCL advisory level of 4,000 pCi/L. Radon is a radioactive gas that you cannot see, taste, or smell. It is found throughout the U.S. Radon can move up through the ground and into a home through cracks and holes in the foundation. Radon can build up to high levels in all types of homes. Radon can also get into indoor air when released from tap water from showering, washing dishes, and other household activities. Compared to radon entering the home through soil, radon entering the home through tap water will in most cases be a small source of radon in indoor air. Radon is a known human carcinogen. Breathing air containing radon can lead to lung cancer. Drinking water containing radon may also cause increased risk of stomach cancer. If you are concerned about radon in your home, test the air in your home. Testing is inexpensive and easy. You should pursue radon removal for your home if the level of radon in your air is 4 picocuries per liter of air (pCi/L) or higher. There are simple ways to fix a radon problem that are not too costly. For additional information, call your State Radon program (1-800-745-7236), the USEPA Safe Drinking Water Act Hotline (1-800-426-4791), or the National Safety Council Radon Hotline (1-800-767-7236).

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): MCL's and MRDL's for contaminants that affect health along with their monitoring and reporting requirements and water treatment 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: Not 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.

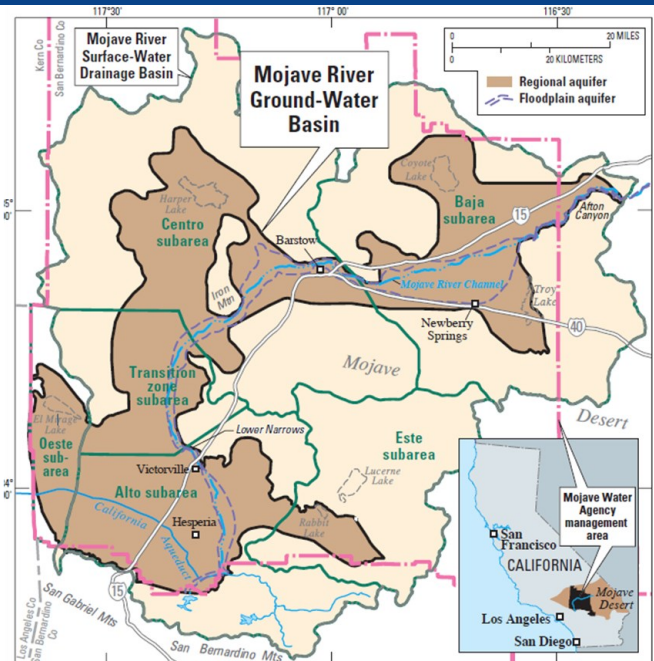
1 mg/L is equivalent to one second of time in approx. 11 1/2 days.

1 ug/L is equivalent to one second of time in approx. 31.7 years.

Regional Recharge and Recovery (R³) Water Supply

Mojave Water Agency's R³ water supply is 100 percent groundwater. The Agency obtains its source of groundwater from the Mojave Basin. All wells are located in the Alto Subarea of the Upper Mojave River Groundwater Basin. Each well has a capacity of approximately 3500 gallons per minute. The Agency maintains two storage reservoirs which have a combined capacity of approximately 8.45 million gallons.

To help monitor and keep your water safe, Staff uses a state of the art 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, reliable drinking water.



Need more information...

Questions

For questions about this report or concerning the water system, please contact Michael Simpson, Superintendent of Operations at 760-946-7000 during our regular office hours: Monday-Thursday 7:30 am – 5:30 pm / Friday 7:30 am – 4:30 pm.

Closed on Holidays and alternating Fridays.

En Español

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien, 760-946-7000.