Mojave Water Agency
2019 Consumer Confidence Report

We are pleased to provide you with our annual Consumer Confidence Report. It provides the results of our extensive water quality tests conducted in 2019. Some results, however, 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.

Kathy Cortner, Interim General Manager
Issued April 2020

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

Mojave Water Agency

Mojave Water Agency Board of Directors: Seated from bottom row left to right are Jeanette Hayhurst, Secretary; Carl Coleman; and Kimberly Cox, Treasurer. Top from left are Richard Hall; Mike Page; Jim Ventura, Vice President; and Thurston Smith, President.

From the Board of Directors

Our commitment to you...

More than 50 years ago, the voters in the Mojave Desert region approved the creation of an organization, the Mojave Water Agency (MWA), that would participate in the State Water Project (SWP) to bring water from northern California to the desert.

In 2013, MWA completed the first phase of the Regional Recharge and Recovery Project (**R^3**) which pumps imported and stored SWP water using groundwater wells from our local aquifers along the Mojave River in Hesperia and Apple Valley. MWA, a water wholesaler, is able to provide this water to local purveyors, such as the Victorville Water District, Hesperia Water District, and Liberty Utilities.

We are proud to announce that water provided by the Mojave Water Agency met all 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.

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

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

Newly Installed Hydroelectric System...

A newly completed hydroelectric system has brought Mojave Water Agency (MWA) close to attaining a net neutral status in its energy consumption — this system will save the Agency millions of dollars over the next 30 years and provide numerous environmental benefits.

The $4.3 million, clean-energy system is designed to take advantage of water being delivered from the California Aqueduct to the groundwater basin in the Victor Valley area by converting existing water pressure into electrical energy.

This process is done through a hydroelectric turbine that was installed at the Agency's Deep Creek Pressure Reducing Facility. Unlike solar, the new hydroelectric system is not restricted to daytime production and allows for greater operational flexibility.

The central component of the project is an 820-kilowatt, hydroelectric turbine generator that can process up to 12,000 acre-feet of water (nearly 4 billion gallons) per year at a maximum flow rate of 20 cubic-feet per second. Using the existing pressure and available flow within the pipeline, the hydroelectric turbine controls the flow of water while producing electricity and offsetting MWA operating costs. The power is sent to California Edison's (SCE) power grid, which is then credited to the Agency's other SCE accounts.

Over the course of the last year, MWA consumed more than 6.7 million kilowatt-hours of electrical power. At full capacity, the hydroelectric turbine can produce 6.5 million kilowatt-hours of power.

Capitalizing on existing pressure and flow of water when recharging the aquifer, the hydroelectric project signals a new era of efficiency for MWA in its role in ensuring a sustainable water supply for the region. It also qualifies for California's Renewable Portfolio Standard as an eligible project to help the state reach its goal of 50-percent renewable energy by 2030.

MWA replenishes the local groundwater supply with State Water Project (SWP) water, which is transported from the California Aqueduct through a series of pipelines to the Deep Creek recharge site, the Agency’s largest groundwater recharge facility, where it is released into nearby groundwater recharge areas to percolate into the underground aquifer. The water is later recovered, pumped, and distributed by retail water purveyors to serve local communities.

MWA Operations Center, Apple Valley

Results of our 2019 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 R^3 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 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	0.25 - 0.32	2	1	2019	NO	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate as N (mg/L) (NO3-N)	0.54	0.46 - 0.65	10	10	2019	NO	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Nitrate + Nitrite (mg/L) (as N)	0.54	0.46 - 0.65	10	10	2019	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)	0.72	<1.0 - 1.3	20	0.43	2019	NO	Erosion of natural deposits
Radium 226 + 228 (pCi/L)	<1.0	<1.0 - 1.8	5	0	2019	NO	Erosion of natural deposits
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 - 1.8	60	N/A	2019	NO	Byproduct of drinking water disinfection
Total Trihalomethanes (ug/L) (TTHM)	8.5	<1.0 - 30.3	80	N/A	2019	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)	22	18 - 25	500	2019	NO	Runoff/leaching from natural deposits; seawater influence
Odor (units)	1	1	3	2019	NO	Naturally occurring organic materials
Specific Conductance (µS/cm)	240	220 - 250	1600	2019	NO	Substances that form ions when in water; seawater influence
Sulfate (mg/L)	15	13 - 17	500	2019	NO	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (mg/L)	146	130 - 170	1000	2019	NO	Runoff/leaching from natural deposits
Turbidity (NTU)	<0.10	<0.10 - 0.60	5	2019	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)	0.49	0.12 - 1.23	4	4	Weekly	Drinking water disinfectant added for treatment

Unregulated Contaminants							Wells 1, 2, 3, 4, & 5
Contaminants	**Average**	**Sample Range**	**MCL**	**PHG (MCLG)**	**NL**	**Sample Date**	**Major Sources in Drinking Water**
Vanadium (ug/L)	<3.0	<3.0 - 3.2	None	None	50	2019	Vanadium is a naturally occurring "rare earth" element that is found in the earth's crust

Constituents that may be of interest to consumers				Wells 1, 2, 3, 4, & 5
Constituents	**Average**	**Range**	**Sample Date**	**Note**
Bicarbonate (mg/L)	86	81 - 89	2019	No PHG or MCL's available
Calcium (mg/L)	27	24 - 30	2019	No PHG or MCL's available
Magnesium (mg/L)	4.2	3.5 - 4.9	2019	No PHG or MCL's available
pH	7.5	7.4 - 7.7	2019	No PHG or MCL's available
Potassium (mg/L)	1.5	1.3 - 1.6	2019	No PHG or MCL's available
Sodium (mg/L)	15	14 - 16	2019	No PHG or MCL's available
Total Alkalinity (as CaCO3) (mg/L)	70	67 - 73	2019	No PHG or MCL's available
Total Hardness (as CaCO3) (mg/L)	86	73 - 96	2019	No PHG or MCL's available
Aggressive Index	11.21	11.09 - 11.34	2019	No PHG or MCL's available

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 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 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.

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 continual 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.

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/index.shtml

Source Water Assessment

Source water assessments were conducted for Wells 1-5 in June 2012. 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 regulations2 - Septic systems– high density [>1/acre]
002	Well No.2	Animal feeding operations as defined in federal regulations2 - Septic systems– high density [>1/acre]
003	Well No.3	Animal feeding operations as defined in federal regulations2
004	Well No.4	Animal feeding operations as defined in federal regulations2
005	Well No.5	Animal feeding operations as defined in federal regulations2

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. 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.

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. All wells were below the U.S. EPA MCL advisory level of 4,000 pCi/L. Radon is a radioactive gas that you cannot see, taste, or smell, and 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, contact the radon program at radonprogram@cdph.ca.gov (email) or 1-800-745-7236, the U.S. EPA Safe Drinking Water Act Hotline, 1-800-426-4791 or the National Safety Council Radon Hotline, 1-800-767-7236.

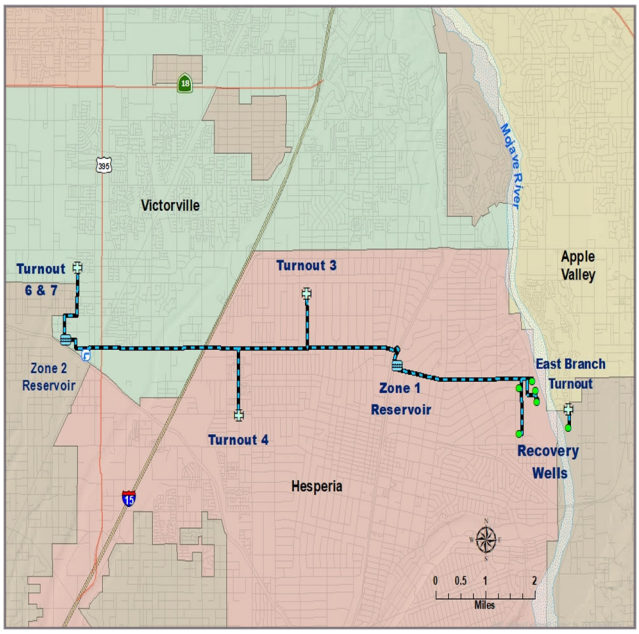
Definitions

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): 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: 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. 32 years.

Regional Recharge and Recovery Water Supply

Mojave Water Agency's R^3 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. (During 2019 just five wells were in production). The Agency maintains two storage reservoirs which have a combined capacity of approximately 7.5 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 and reliable drinking water.

Need more information...

Questions
For questions about this report or concerning the water system, please contact Michael Simpson, Director 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.