

Presented By



HI-DESERT
WATER
DISTRICT

ANNUAL
WATER
QUALITY
REPORT

WATER TESTING PERFORMED IN 2017

Quality First

We are pleased to present our 2017 Annual Water Quality Report. The Hi-Desert Water District (HDWD) is committed to delivering the best-quality drinking water possible at the best possible cost. We remain vigilant in meeting the challenges of new regulations, source water protection, conservation, and community outreach and education while continuing to serve the needs of all our water users. Construction on the wastewater and water reclamation facility is on track and going strong.

Thank you for allowing us the opportunity to serve you and your family.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention)



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 or <http://water.epa.gov/drink/hotline>.

Treatment Train Description

The District continuously chlorinates the District's water year-round. The chlorine is made on site into a sodium hypochlorite solution below 1% and is injected into the distribution system at 1 ppm. HDWD has a few wells that extract water from the deeper portions of our aquifer, which have exceeded the State's maximum contaminant level (MCL) for arsenic and nitrate. Water from these wells may require treatment before placing them into the distribution system for consumption. The District currently treats one active well, Well 16 E, for arsenic and nitrates by utilizing an approved treatment technique known as Blending. In this process, the well water, with the high concentrations of arsenic and nitrate, is blended with two other wells with lower concentrations. The water is then pumped into a blending tank, thus lowering the overall levels before pumping it into the system. The District monitors the delivered water weekly and reports all of the results to the State Water Resources Control Board (SWRCB) on a monthly basis.

Where Does My Water Come From?

Water supplied to HDWD customers comes from ground water and is supplied from two basins, the Warren Basin located in the heart of Yucca Valley running west to east and the Ames Basin located in the northern part of the District. To maintain water levels within the Warren Basin, the District has been importing State Water from The State Water Project via Mojave Water Agency (MWA) into three recharge locations, Sites 3, 6, and 7. In 2017, the District extracted approximately 2,830.4 acre-ft/yr with a daily average demand of 7.7 acre-ft/yr from the two aquifers and was able to recharge approximately 4,122.32 acre-ft/yr (up from last year) into the Warren Basin from the State Water Project.

(1 acre-foot = 325,851 gallons)

The District's distribution system consists of more than 300 miles of piping and is served by 12 active ground water wells, supplying a totaling of 6,425 gallons per minute. There are 16 water storage reservoirs that feeds 18 pressure zones with a total storage capacity of 13.34 million gallons. HDWD maintains approximately 10,544 active service connections and serves approximately 24,926 residents in the Town of Yucca Valley and unincorporated areas of San Bernardino County known as the Mesa.



Lead in Home 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. We are 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 or at www.epa.gov/lead.

Substances That Could Be in 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.

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. The U.S. Food and Drug Administration regulations and California law also establish limits for contaminants in bottled water that 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.

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 can 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 which can also come from gas stations, urban stormwater runoff, agricultural applications, and septic systems;

Radioactive Contaminants, which can be naturally occurring or can be the result of oil and gas production and mining activities.

More information about contaminants and potential health effects can be obtained by calling the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Community Participation

You are invited to attend Hi-Desert Water District's Board of Director's meetings, normally scheduled twice a month, on the 2nd and 4th Wednesdays beginning at 5:30 p.m. Board meetings are held at the District's Administration Office located at 55439 29 Palms Hwy., Yucca Valley, California. Information on regularly scheduled meetings is available online at www.hdwd.com or by calling the District's Secretary at (760) 228-6267. We also offer tours of the District, which are very informative about the District's Operations.

Your Elected Board of Directors:

Sarann Graham - *President 2017-2020*

Dan Munsey - *Vice President 2014-2018*

Roger Mayes - *Director 2014-2018*

Bob Stadum - *Director 2017-2020*

Sheldon Hough - *Director 2014-2018*

Milky Water

Once in a while you'll get a glass of water and it looks cloudy; maybe milky is a better term. After a few seconds it miraculously clears up! The cloudiness might be caused by the water in the pipes being under a bit more pressure than the water in the glass, but more likely due to tiny air bubbles in the water. Like any bubble, the air rises to the top and goes into the air above, clearing up the water. Cloudy water, also known as white water, is caused by bubbles in the water and it's completely harmless, just let it sit for a minute or two.



QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please feel free to contact Steve Schwab, Water Quality Technician, at (760) 365-8333, ext. 210.

School Lead Sampling

In 2017, there were six schools within the District's boundaries that requested lead sampling and five different sampling locations per school were tested.



Infrastructure Repair and Improvements

The District is committed to performing continual maintenance within the distribution systems: water mains, water tanks, wells, pressure regulating system, booster stations, and equipment. This year our In-House Capital Replacement Program (CRP) has been dedicated to replacing old, under-sized steel pipe, and in 2017, 25,745 feet of steel pipe was replaced, leaving approximately 38 miles of pipe to be replaced out of the 300 miles of pipe within the system.

Nitrate

Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. Such nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in a serious illness; symptoms include shortness of breath and blueness of the skin. Nitrate levels above 10 ppm may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with certain specific enzyme deficiencies. If you are caring for an infant, or you are pregnant, you should ask advice from your health care provider.



Source Water Assessment

The Source Water Assessment Report (SWAR) is available for review at HDWD. This plan is an assessment of the delineated area around our listed sources through which contaminants, if present, could migrate and reach our water source. It also includes an inventory of potential sources of contamination within the delineated area and a determination of the basin's susceptibility to contamination by the identified potential sources.

Septic systems within the Warren Basin have the highest potential of contaminants that can affect the ground water. Septage can infiltrate the ground water supply causing nitrate contamination in excess of Maximum Contaminant Levels (MCL). Nitrates in excess of the MCL can cause a condition known as Methemoglobinemia, also referred to as Blue Baby Syndrome.

HDWD broke ground in January 2017 laying the first wastewater piping. By the end of 2017, approximately 134,141 feet of 6- to 12-in. wastewater piping, 413 manholes, and 22.1 miles of paving had been installed. The Waste Water Treatment and Water Reclamation Facility broke ground on January 16, 2018, and is scheduled for an estimated completion date of 2021.

This will reduce the number of septic systems, which will help remove the threat of nitrate infiltration to the aquifer.

Test Results

Water is monitored for many different kinds of substances on a very strict sampling schedule required by the U.S. Environmental Protection Agency (EPA) and the State Water Resources Control Board (SWRCB). The information in the data tables shows only those substances that were detected between January 1 and December 31, 2017. Remember that detecting a substance does not necessarily mean the water is unsafe to drink; our goal is to keep all detections below their respective maximum allowed levels. The State recommends monitoring for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

We participated in the 3rd stage of the EPA's Unregulated Contaminant Monitoring Rule (UCMR3) program by performing additional tests on our drinking water. UCMR3 benefits the environment and public health by providing the EPA with data on the occurrence of contaminants suspected to be in drinking water, to determine if the EPA needs to introduce new regulatory standards to improve drinking water quality. The next (UCMR4) is scheduled for 2020. Contact us for more information on this program.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	PHG (MCLG) [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Arsenic (ppb)	2017	10	0.004	0.96	ND–2.9	No	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Chlorine (ppm)	2017	[4.0 (as Cl ₂)]	[4 (as Cl ₂)]	0.63 (RAA)	0–1.69	No	Drinking water disinfectant added for treatment
Chromium (ppb)	2017	50	(100)	1.5	ND–2.6	No	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits
Gross Alpha Particle Activity (pCi/L)	2017	15	(0)	7.2	3.26–15.3	No	Erosion of natural deposits
Hexavalent Chromium (ppb)	2014	10 ¹	0.02	1.48	ND–4.7	No	Discharge from electroplating factories, leather tanneries, wood preservation, chemical synthesis, refractory production, and textile manufacturing facilities; erosion of natural deposits
Nitrate [as nitrogen] (ppm)	2017	10	10	3.1	1.3–8.7	No	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
TTHMs [Total Trihalomethanes] (ppb)	2017	80	NA	10.8 (LRAA)	4.6–17	No	By-product of drinking water disinfection
Uranium (pCi/L)	2017	20	0.43	5.1	1.86–12.4	No	Erosion of natural deposits

Tap water samples were collected for lead and copper analyses from sample sites throughout the community

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	PHG (MCLG)	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2017	1.3	0.3	0.17	0/31	No	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (ppb)	2017	15	0.2	6.3	0/31	No	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits

Definitions

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

LRAA (Locational Running Annual Average): The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters. Amount Detected values for TTHMs and HAAs are reported as the highest LRAAs.

MCL (Maximum Contaminant Level): The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs (SMCLs) are set to protect the odor, taste and appearance of drinking water.

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 are set by the U.S. EPA.

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.

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

NA: Not applicable

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

NS: No standard

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

continued...

SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	PHG (MCLG)	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Total Dissolved Solids (ppm)	2017	1,000	NS	252.5	160–330	No	Runoff/leaching from natural deposits
Turbidity (NTU)	2017	5	NS	0.22	ND–0.55	No	Soil runoff

UNREGULATED CONTAMINANT MONITORING RULE - PART 3 (UCMR3) ²

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
1,4-Dioxane (ppb)	2014	0.014	ND–0.19	Has primarily been used as a stabilizer or solvent in manufacturing
Chlorate (ppb)	2014	33.19	ND–100	Agriculture defoliant or desiccant disinfection by-product
Molybdenum (ppb)	2014	4.6	1.2–24	Naturally occurring
Strontium (ppb)	2014	280.47	150–360	Naturally occurring
Vanadium (ppb)	2014	3.62	1.5–5.6	Naturally occurring

UNREGULATED AND OTHER SUBSTANCES ²

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
pH (Units)	2017	7.5	7.4–7.6	Naturally occurring
Sodium (ppm)	2017	32.6	27–37	Natural occurring salt content in water
Total Hardness (ppm)	2017	107.6	83–130	Naturally occurring

¹There is currently no MCL for hexavalent chromium. The previous MCL of 10 ppb was withdrawn on September 11, 2017.

²Unregulated contaminant monitoring helps the U.S. EPA and the State Water Resources Control Board to determine where certain contaminants occur and whether the contaminants need to be regulated.

Definitions

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

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

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

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

RAA (Running Annual Average): The average of sample analytical results for samples taken at all monitoring locations during the previous four calendar quarters.

TT (Treatment Technique): A required process intended to reduce the level of a contaminant in drinking water.