

ANNUAL WATER QUALITY REPORT

WATER TESTING
PERFORMED
IN 2014



Presented By



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

PWS ID#: 3610073

Our Mission Continues

We are proud once again to present our annual water quality report covering all testing performed between January 1 and December 31, 2014. Most notably, last year marked the 40th anniversary of the Safe Drinking Water Act (SDWA). This rule was created to protect public health by regulating the nation's drinking water supply and we celebrate this milestone. Our mission is to provide a safe, reliable water supply and wastewater reclamation system for the customers of the Hi-Desert Water District (HDWD) in an efficient and financially responsible manner. This includes meeting the requirements of the SDWA therefore ensuring a future of healthy, clean drinking water.

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.

Community Participation

You are invited to attend Hi-Desert Water District's Board of Directors meetings normally scheduled on the 1st and 3rd Wednesdays of each month beginning at 6 p.m. Meetings are held at the District's administration office at 55439 29 Palms Highway. Information on regular meetings is available online at www.hdwd.com or by calling the District's Secretary at (760) 228-6267.

Your Elected Board of Directors:

- Bob Stadum - *President* • Sheldon Hough - *Vice President*
- Roger Mayes - *Director* • Sarann Graham - *Director*
- Dan Munsey - *Director*

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as those with cancer undergoing chemotherapy, those 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>.

Spurts of Air

As the District adds new piping to the system or repairs are made to the old steel water mains, air can become trapped in the system. As it arrives at your tap, the trapped air can cause the tap to sputter. This condition is normally temporary and can be flushed out by running the cold water for a few minutes. If you experience problems with long term air issues, please contact the District.

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.

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 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.

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 can 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 that can also come from gas stations, urban stormwater runoff, agricultural applications, and septic systems; Radioactive Contaminants that 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.

Where Does My Water Come From?

The Hi-Desert Water District relies on local groundwater supplies supplemented by imported State Water Project (SWP) water, which is used to recharge the groundwater basin. The District extracted approximately 2,971 acre-ft/yr from two aquifers and received approximately 619.19 acre-ft/yr from the SWP, down from 2013 because of the drought.

The existing water system consists of 12 active groundwater wells, including our new addition, Well 20 West was added in 2014. The water system produces just shy of 6,425 gpm and has approximately 300 miles of distribution piping over an approximately 57-square-mile area, 16 water storage reservoirs, and 18 pressure zones. The system maintains approximately 10,512 active service connections and serves approximately 24,000 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 we 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 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/safewater/lead.

Water Main Flushing

Distribution mains (pipes) convey water to homes, businesses, and hydrants in your neighborhood. The water entering distribution mains is of very high quality; however, water quality can deteriorate in areas of the distribution mains over time. Water main flushing is the process of cleaning the interior of water distribution mains by sending a rapid flow of water through the mains.

Flushing maintains water quality in several ways. For example, flushing removes sediments like iron and manganese. Although iron and manganese do not themselves pose health concerns, they can affect the taste, clarity, and color of the water. Additionally, sediments can shield microorganisms from the disinfecting power of chlorine, contributing to the growth of microorganisms within distribution mains. Flushing helps remove stale water and ensures the presence of fresh water with sufficient dissolved oxygen and disinfectant levels, and an acceptable taste and smell.

If you experience any changes in the aesthetics of your water please contact the District for assistance at (760) 365-8333.

Water Conservation

You can play a role in conserving water and save yourself money in the process by becoming conscious of the amount of water your household is using and by looking for ways to use less whenever you can. HDWD has a lot of good information as well as the Mandatory Water Use Restrictions found under California's Drought Crisis at www.hdwd.com It is not hard to conserve water. Here are a few tips:

- Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.
- Turn off the tap when brushing your teeth.
- Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year.
- Check your toilets for leaks by putting a few drops of food coloring in the tank. Watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from an invisible toilet leak. Fix it and you save more than 30,000 gallons a year.
- Use your water meter to detect hidden leaks. Simply turn off all taps and water-using appliances. Then check the meter after 15 minutes. If it moved, you have a leak.

Source Water Assessment

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

The greatest known potential contaminant within the District is septage caused from septic tank discharges. Septage can infiltrate the groundwater 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. The District is working hard to address this issue by moving forward with the construction of a Waste Water Treatment and Water Reclamation Facility commencing in 2015 and will reduce the number of septic tanks that are polluting our aquifer.

Infrastructure Improvements

The District continued to make improvements to the HDWD distribution system in 2014. These improvements include a new well, 20 West, that has the ability to produce 1,000 gpm. The ongoing water storage tank maintenance program continues making repairs and recoating both the inside and outside of the storage tanks. The 50-year-old steel water mains, in some cases, are the main cause for service interruptions and water quality issues. Our in-house Capital Replacement Program (CRP) crews have been busy replacing approximately 32,800 feet of old steel pipe with 6- to 12-inch PVC pipe to help reduce leaks and enhance water quality.

Treatment Train Description

Some wells within the District that extract water from the deeper portions of our aquifer can exceed the State's maximum contaminant levels (MCLs) for arsenic. Water from one or more of these wells may require treatment before it is placed into the distribution system for consumption. The District currently treats one well, Well 16 E, for arsenic by utilizing an approved treatment technique known as blending. In this process, the well water with the high concentrations of arsenic is blended with water from a second well that has a lower concentration of arsenic. The water is then pumped into a blending tank, thus lowering the overall arsenic levels, before being pumped into the system and to our customers' taps. The District routinely monitors the delivered water and reports the results to the State Water Resources Control Board (SWRCB).



Sampling Results

In 2014, Hi-Desert Water District has obtained hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants. The tables below show only those contaminants that were detected in the water.

The State Water Resources Control Board (SWRCB) along with the Environmental Protection Agency (U.S. EPA) requires us to monitor for certain substances less often than once a year. In these cases, the most recent sample data are used, along with the year in which the sample was taken.

We participated in the 3rd stage of the EPA's Unregulated Contaminant Monitoring Regulation (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, in order to determine if the EPA needs to introduce new regulatory standards to improve drinking water quality.

REGULATED SUBSTANCES							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	PHG (MCLG) [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Arsenic (ppb)	2014	10	0.004	2.55	ND-3.6	No	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Chlorine ¹ (ppm)	2014	[4.0 (as Cl ₂)]	[4 (as Cl ₂)]	0.637	ND-2.04	No	Drinking water disinfectant added for treatment
Chromium (ppb)	2014	50	(100)	1.56	ND-2.5	No	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits
Fluoride (ppm)	2014	2.0	1	0.3	0.2-0.4	No	Erosion of natural deposits; discharge from fertilizer and aluminum factories
Gross Alpha Particle Activity (pCi/L)	2014	15	(0)	4.4	1.88-7.75	No	Erosion of natural deposits
Haloacetic Acids-Stage 2 (ppb)	2014	60	NA	1.8	ND-4	No	By-product of drinking water disinfection
Hexavalent Chromium ² (ppb)	2014	10	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 nitrate] (ppm)	2014	45	45	13.29	4.6-28	No	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
TTHMs [Total Trihalomethanes]-Stage 2 (ppb)	2014	80	NA	7.4	4-19	No	By-product of drinking water disinfection
Total Coliform Bacteria [Total Coliform Rule] (% positive samples)	2014	More than 5.0% of monthly samples are positive	(0)	2.3	NA	No	Naturally present in the environment
Uranium (pCi/L)	2014	20	0.43	4.87	3.82-6.46	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)	2014	1.3	0.3	0.16	0/35	No	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

SECONDARY SUBSTANCES							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	PHG (MCLG)	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chloride (ppm)	2014	500	NS	29.33	14-39	No	Runoff/leaching from natural deposits; seawater influence
Color (Units)	2014	15	NS	0.066	ND-5	No	Naturally occurring organic materials
Specific Conductance (µS/cm)	2014	1,600	NS	376.66	350-410	No	Substances that form ions when in water; seawater influence
Sulfate (ppm)	2014	500	NS	0.021	0.019-0.024	No	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (ppm)	2014	1,000	NS	248.26	180-410	No	Runoff/leaching from natural deposits
Turbidity (NTU)	2014	5	NS	0.119	ND-3.1	No	Soil runoff

UNREGULATED AND OTHER SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
1,4-Dioxane ³ (ppb)	2014	0.014	ND-0.19	Has primarily been used as a stabilizer or solvent in manufacturing
Bicarbonate (ppm)	2014	116	88-150	Naturally occurring
Calcium (ppm)	2014	36.33	32-41	Naturally occurring
Chlorate ³ (ppb)	2014	33.19	ND-100	Agricultural defoliant or desiccant; disinfection by-product
Magnesium (ppm)	2014	5.43	5-6.3	Naturally occurring
Molybdenum ³ (ppb)	2014	4.6	1.2-24	Naturally occurring
pH (Units)	2014	7.60	7.4-8.2	Naturally occurring
Potassium (ppm)	2014	0.7	ND-1.4	Naturally occurring
Sodium (ppm)	2014	32	25-38	Naturally occurring
Strontium ³ (ppb)	2014	280.47	150-360	Naturally occurring
Total Alkalinity (ppm)	2014	94	72-120	Naturally occurring
Total Hardness (ppm)	2014	113.33	100-130	Naturally occurring
Vanadium ³ (ppb)	2014	3.62	1.5-5.6	Naturally occurring

¹ HDWD generates our own sodium hypochlorite at a 0.8% solution for our well head dosing of approximately 1.0 ppm. Note that household sodium hypochlorite solution is at 5.25%.

² In July 2014, California set the MCL for hexavalent chromium at 10 ug/l.

³ UCMR3 sampling.

Definitions

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

µS/cm (microsiemens per centimeter): A unit expressing the amount of electrical conductivity of a solution.

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.

NL (Notification Level) : Notification levels have been established in response to an actual contamination or in anticipation of a possible contamination.

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.

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).