

Quality. Service. Value.®



2017 Water Quality Report

Antelope Valley District
Lake Hughes System

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



Table of Contents

Welcome

From the Manager

Your Water System

Your Water System

Inside the Water Quality Laboratory

DWSAPP

2017 Test Results

Fluoride

Water Hardness

Possible Contaminants

About Lead

Key Definitions

Water Quality Table

More Information

Resources

Welcome



Since 2000, California Water Service (Cal Water) has delivered on its promise to provide quality, service, and value to your community. Our highest priority is to provide a reliable supply of water that meets all federal and state water quality standards, any and every time you turn on the tap. This means you don't have to wonder whether your water is safe to use and drink; we're dedicated to making sure it is.

In 2017, we conducted 422,344 tests on 62,009 water samples for 292 constituents. **We are pleased to confirm that we met every primary and secondary state and federal water quality standard last year.**

Making sure that high-quality water is always available to you means maintaining and upgrading the infrastructure needed to move water from the source to your tap, and having expert professionals to assist you with both routine service needs and after-hours emergencies. Although the costs to obtain, treat, test, store, and deliver safe water continue to increase across the country, we work to operate efficiently to keep your water affordable — less than a penny per gallon in almost all of our service areas.

This annual water quality report details any constituents detected in your water supply in 2017 and shows how your water compares to federal and state water quality standards. It also highlights other water quality issues and steps we take to protect your health and safety.

If you have any questions or concerns, you can contact us by phone or email, online at www.calwater.com, or in person at our local Customer Center. For important water service announcements, please visit our web site or watch for information in your monthly bill, and be sure your contact information is up to date by visiting ccu.calwater.com.

Sincerely,

Henry Wind, Interim Director Field Operations, Antelope Valley District

ANTELOPE VALLEY DISTRICT 5015 WEST AVENUE L-14, UNIT 2 QUARTZ HILL, CA 93536 (661) 943-9001

Your Water System

Cal Water serves approximately 1,400 customer connections in our Fremont Valley, Grand Oaks, Lancaster, Lake Hughes, and Leona Valley water systems.

Most of the water we provide is pumped from local aquifers by wells located throughout our service areas. The Lake Hughes system includes three active groundwater wells and two storage tanks. We proactively maintain and upgrade our facilities to ensure a reliable, high-quality supply.

If you have any questions, suggestions, or concerns, please contact our local Customer Center, either by phone or through the contact link at www.calwater.com.

USING WATER WISELY

As we await long-term water-use regulations from the State of California, it's important that we keep making conservation a way of life. Using water wisely will ensure that we have enough water in dry years and for generations to come.

Cal Water has a robust water conservation program that includes rebates, kits, and other tools to help our customers save water. Visit www.calwater.com/conservation for details.



WATER QUALITY LABORATORY

Water professionals collect samples from throughout the water system for testing at our state-of-the-art water quality laboratory, which is certified through the stringent Environmental Laboratory Accreditation Program (ELAP). Scientists, chemists, and microbiologists test the water for 292 constituents with equipment so sensitive it can detect levels as low as one part per trillion. In order to maintain the ELAP certification, all of our scientists must pass blind-study proficiency tests each year for every water quality test performed. Water quality test results are entered into our Laboratory Information Management System (LIMS), a sophisticated software program that enables us to react quickly to changes in water quality and analyze water quality trends in order to plan effectively for future needs.

CROSS-CONNECTION CONTROL

To ensure that the high-quality water we deliver is not compromised in the distribution system, Cal Water has a robust cross-connection control program in place. Cross-connection control is critical to ensuring that activities on customers' properties do not affect the public water supply. Our cross-connection control specialists ensure that all of the existing backflow prevention assemblies are tested annually, assess all non-residential connections, and enforce and manage the installation of new commercial and residential assemblies. Last year, our specialists oversaw installation of 2,826 new assemblies and testing of 36,433 backflow prevention assemblies company-wide.

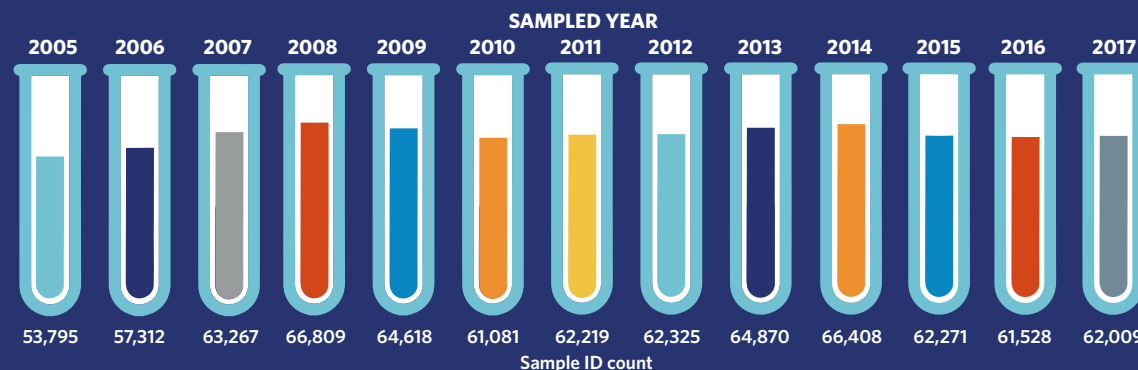
Our customers are our first line of defense in preventing water system contamination through backflow. A minor home improvement project can create a potentially hazardous situation, so careful adherence to plumbing codes and

standards will ensure the community's water supply remains safe. Please be sure to utilize the advice or services of a qualified plumbing professional.

Many water use activities involve substances that, if allowed to enter the distribution system, would be aesthetically displeasing or could present health concerns. Some of the most common cross-connections are:

- Garden hoses connected to a hose bib without a simple hose-type vacuum breaker (available at a home improvement store)
- Improperly installed toilet tank fill valves that do not have the required air gap between the valve or refill tube
- Landscape irrigation systems that do not have the proper backflow prevention assembly installed on the supply line

Number of samples collected



DWSAPP

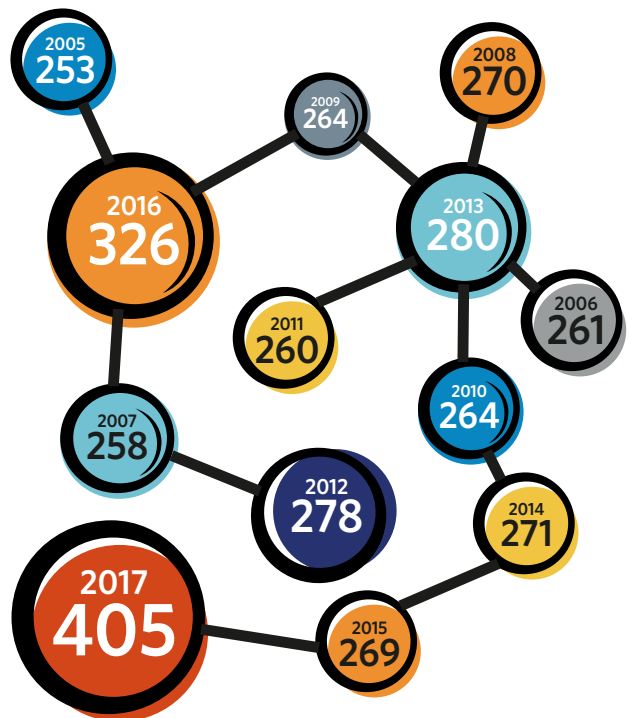
In August 2001 and December 2002, Cal Water submitted to the Division of Drinking Water (DDW) a Drinking Water Source Assessment and Protection Program (DWSAPP) report for each water source in the water system. The DWSAPP report identifies possible sources of contamination to aid in prioritizing cleanup and pollution prevention efforts. All reports are available for viewing or copying at our Customer Center.

The water sources in your district are considered most vulnerable to:

- Schools
- High-density housing
- Recreational activities
- Wastewater
- Grazing
- Agriculture
- Urban/stormwater runoff
- Wildlife
- Known contaminant plumes
- Above- and underground storage tanks
- Historic gas stations

We encourage customers to join us in our efforts to prevent water pollution and protect our most precious natural resource.





Number of constituents tested annually since 2005

SAMPLED YEAR
PARAMETER
COUNT

FLUORIDE

State law requires Cal Water to add fluoride to drinking water if public funding is available to pay for it, and it is a practice endorsed by the American Medical Association and the American Dental Association to prevent tooth decay.

In this area, low levels of fluoride occur naturally, so Cal Water doesn't add any to the water supply. Show the table in this report to your dentist to see if he or she recommends giving your children fluoride supplements.

More information about fluoridation, oral health, and related issues can be found on the DDW web site at www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/Fluoridation.shtml. For general information on water fluoridation, visit us online at www.calwater.com.

Water Hardness

We use water testing equipment so sensitive it can detect levels as low as **1 part per trillion.**

That's equivalent to:
one coffee bean
in 12,500,000,000 cups of coffee*



*Average cup of coffee is brewed from 80 beans

Hardness is a measure of the magnesium, calcium, and carbonate minerals in the water. Water is considered **soft** if its hardness is less than 75 parts per million (ppm), **moderately hard** at 75 to 150 ppm, **hard** at 150 to 300 ppm, and **very hard** at 300 ppm or higher.

The current water quality table for your service area shows an average hardness of 345 ppm.

Hard water is generally not a health concern, but it can have an impact on how well soap lathers and is significant for some industrial and manufacturing processes. Hard water may also lead to mineral buildup in pipes or water heaters.

Some people with hard water opt to buy a water softener for aesthetic reasons. However, some water softeners add salt to the water, which can cause problems at wastewater treatment plants. Additionally, people on low-sodium diets should be aware that some water softeners increase the sodium content of the water.

For more information on water hardness and to watch our Water Hardness video, visit www.calwater.com/video/hardness.



Possible Contaminants

All 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.

More information about contaminants and potential health effects can be obtained by calling the United States Environmental Protection Agency (EPA) Safe Drinking Water Hotline at (800) 426-4791.

The sources of drinking water (both tap and bottled) 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 human activity.

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 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 byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural application, and septic systems.

Radioactive contaminants, which 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 EPA and DDW prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. DDW regulations also establish limits for contaminants in bottled water, which must provide the same protection for public health.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised people, such as those with cancer undergoing chemotherapy, those who have undergone organ transplants, and those with HIV/AIDS or other immune system disorders; some elderly people; and infants can be particularly at risk from infections. These people should seek advice from their health care providers about drinking water. EPA/Centers for Disease Control and Prevention (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 at (800) 426-4791.



Testing for Lead in Schools

The State of California now requires that all public schools built before 2010 test for lead in their drinking water by July 1, 2019. We are committed to supporting our school districts' efforts to protect students and ensure that the drinking water at their school sites are below lead limits. We have already begun working with school districts serving kindergarten through 12th grade to develop sampling plans, test samples, and conduct follow-up monitoring for corrective actions. We will be publishing a summary of local school lead testing from the prior year in this year's Water Quality report. For more information, please see our [Testing for Lead in Schools](#) web page.

ABOUT LEAD

As the issue of lead in water continues to be top of mind for many Americans, Cal Water wants to assure you about the quality of your water.

We are compliant with health and safety codes mandating use of lead-free materials in water system replacements, repairs, and new installations. We have no known lead service lines in our systems. We test and treat (if necessary) water sources to ensure that the water delivered to customer meters meets all water quality standards and is not corrosive toward plumbing materials.

The water we deliver to your home meets lead standards, but what about your home's plumbing? In California, lead in drinking water comes primarily from materials and components used for in-home plumbing (for example, lead solder used to join copper plumbing, and brass and other lead-containing fixtures).

The lead and copper rule requires us to test water inside a representative number of homes that have plumbing most likely to contain lead and/or lead solder to determine the presence of lead and copper or an action

level exceedance (AL). An action level is the concentration of a contaminant which, when exceeded, triggers corrective actions before it becomes a health concern. If action levels are exceeded, either at a customer's home or system-wide, we work with the customer to investigate the issue and/or implement corrosion control treatment to reduce lead levels.

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. If your home's plumbing contains lead piping or pipe fittings, lead solder, or brass fixtures that may contain lead, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to two 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 by a lab. More information about lead in drinking water can be found on the Safe Drinking Water Hotline or at www.epa.gov/safewater/lead.

In your system, results from our lead monitoring program, conducted in accordance with the Lead and Copper Rule, were below the action level for the presence of lead.

Key Definitions

Maximum Contaminant Level (MCL)

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

In Compliance

Does not exceed any applicable primary MCL, secondary MCL, or action level, as determined by DDW. For some compounds, compliance is determined by averaging the results for one source over a one-year period.

Regulatory Action Level (AL)

The concentration of a contaminant which, if exceeded, triggers treatment or other required action by the water provider.

Maximum Contaminant Level Goal (MCLG)

The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the EPA.

Maximum Residual Disinfectant Level (MRDL)

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.

Maximum Residual Disinfectant Level Goal (MRDLG)

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.

Notification Level (NL)

A health-based advisory level for an unregulated contaminant in drinking water. It is used by DDW to provide guidance to drinking water systems.

Primary Drinking Water Standard (PDWS)

MCLs and MRDLs for contaminants that affect health, along with their monitoring, reporting, 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. PHGs are set by the California Environmental Protection Agency's Office of Environmental Health Hazard Assessment without regard to cost or available detection and treatment technologies.

Treatment Technique (TT)

A required process intended to reduce the level of a contaminant in drinking water.



Table Introduction

Cal Water tests your water for more than 140 regulated contaminants and dozens of unregulated contaminants. This table lists only those contaminants that were detected.

In the table, water quality test results are divided into three major sections: “Primary Drinking Water Standards,” “Secondary Drinking Water Standards,” and “Unregulated Compounds.” Primary standards protect public health by limiting the levels of certain constituents in drinking water. Secondary standards are set for substances that don’t impact health but could affect the water’s taste, odor, or appearance. Some unregulated substances (hardness and sodium, for example) are included for your information. The State allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old.

Substance Sources

DI Byproduct of drinking water disinfection	GP Internal corrosion of galvanized pipes; discharge from electroplating and industrial chemical factories and metal refineries; runoff from waste batteries and paint	IO Substances that form ions when in water	PH Inherent characteristic of water
DS Drinking water disinfectant added for treatment	IC Internal corrosion of household plumbing systems	IW Industrial waste	RL Runoff/leaching from natural deposits
EN Naturally present in the environment	IM Discharge from industrial manufacturers	MR Discharge from metal refineries, coal-burning factories, and electrical, aerospace, and defense industries	SW Seawater influence
ER Erosion of natural deposits	IN Runoff/leaching from insecticide used on cotton and cattle	OC Runoff from orchards; glass and electronics production waste	WD Leaching from wood preservatives
FL Water additive that promotes strong teeth; discharge from fertilizer and aluminum factories		PG Discharge from petroleum, glass, and metal refineries; discharge from mines and chemical manufacturers; runoff from livestock lots (feed additive)	UR Constituents with no source listed are unregulated and do not have standardized “source of substance” language
FR Runoff and leaching from fertilizer use; leaching from septic tanks and sewage			

2017 Water Quality Table

Primary Drinking Water Standards

Microbiological	Year Tested	Unit	MCL	PHG (MCLG)	In Compliance	Highest Monthly		Source
Total coliform (systems with <40 samples/month) (Total Coliform Rule)	2017	positive samples	1	(0)	Yes	ND		EN
Radiological	Year Tested	Unit	MCL	PHG (MCLG)	In Compliance	Range	Average	Source
Gross alpha particle activity	2009–2017	pCi/L	15	(0)	Yes	3.2–11	6.47	ER
Uranium	2009–2017	pCi/L	20	0.43	Yes	3.44–5.06	4.35	ER
Inorganic Chemicals	Year Tested	Unit	MCL	PHG (MCLG)	In Compliance	Range	Average	Source
Arsenic	2015–2017	ppb	10	0.004	Yes	ND–2.7	1.50	ER, OC
Barium	2015–2017	ppm	1	2	Yes	0.07–0.13	0.10	ER, OD
Beryllium	2015–2017	ppb	4	1	Yes	ND–3.5	1.75	MR
Cadmium	2015–2017	ppb	5	0.04	Yes	ND–3	1.50	ER, GP
Fluoride	2015–2017	ppm	2.0	1	Yes	0.59–1	0.79	ER, FL
Nitrate (as nitrogen)	2015–2017	ppm	10	10	Yes	1.01–3.94	2.47	ER, FR
Selenium	2015–2017	ppb	50	30	Yes	ND–4.4	2.75	ER, PG
Lead and Copper	Year Tested	Unit	AL	PHG (MCLG)	In Compliance	90 th Percentile	Samples > AL	Source
Copper	2016	ppm	1.3	0.3	Yes	0.26	0 of 10	IC, ER, WD
Lead	2016	ppb	15	0.2	Yes	ND	0 of 10	IC, ER, IM
<i>There are no schools in this system that require testing for lead in drinking water.</i>								
Disinfectants	Year Tested	Unit	MRDL	MRDLG	In Compliance	Range	Average	Source
Chlorine	2017	ppm	4	4	Yes	0.53–1.85	1.12	DS

2017 Water Quality Table

(Continued)

Secondary Drinking Water Standards

Inorganic Chemicals	Year Tested	Unit	SMCL	PHG (MCLG)	In Compliance	Range	Average	Source
Iron	2015–2017	ppb	300	n/a	Yes	ND–34	10.69	RL, IW
Total dissolved solids	2015–2017	ppm	1000	n/a	Yes	350–600	510.00	RL
Specific conductance	2015–2017	µS/cm	1600	n/a	Yes	610–1100	855.00	SW, IN
Chloride	2015–2017	ppm	500	n/a	Yes	8.9–91	49.95	RL, SW
Sulfate	2015–2017	ppm	500	n/a	Yes	43–82	62.50	RL, IW

Unregulated Compounds

Inorganic Chemicals	Year Tested	Unit	SMCL	PHG (MCLG)	In Compliance	Range	Average	Source
Calcium	2015–2017	ppm	n/a	n/a	Yes	72.11–91	78.60	ER
Magnesium	2015–2017	ppm	n/a	n/a	Yes	19.11–42	22.07	ER
Molybdenum	2015–2017	ppb	n/a	n/a	Yes	8.29	8.29	ER
pH	2015–2017	Units	n/a	n/a	Yes	7.1–8.2	7.55	PH
Hardness	2015–2017	ppm	n/a	n/a	Yes	290–400	345.00	ER
Sodium	2015–2017	ppm	n/a	n/a	Yes	20.91–70	26.23	ER

Thank you.

Thanks for taking the time to learn more about your water quality! Even more information awaits you at www.calwater.com. Visit our web site to get information about your account, water use history, water rates, and water system.

You will also find water-saving tips and news about water conservation programs and rebates available in your area.

- [> Conservation Resources](#)
- [> Lead in water](#)
- [> Water treatment and disinfection](#)
- [> Protecting the water supply](#)

