

Quality. Service. Value.®



## 2017 Water Quality Report

Antelope Valley District  
Leona Valley 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](http://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](http://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.

The water we provide in Leona Valley is supplied by two active groundwater wells and purchased surface water obtained by the Antelope Valley-East Kern Water Agency (AVEK) from the State Water Project in northern California. We blend our well water with AVEK water to manage fluoride and nitrate levels. The Leona Valley system also includes six storage tanks and three booster pumps.

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](http://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](http://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.

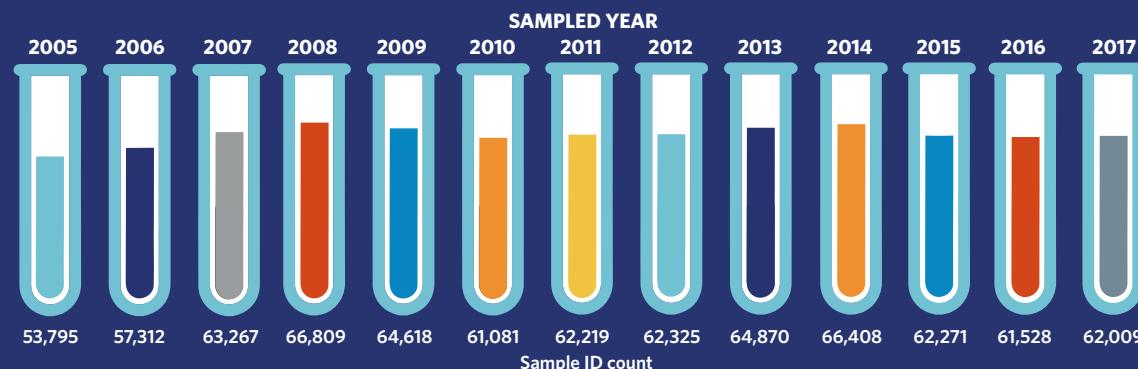
Our customers are our first line of defense in preventing water system contamination through backflow. A minor home improvement project can create a potentially hazardous situation, so careful adherence to plumbing codes and

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

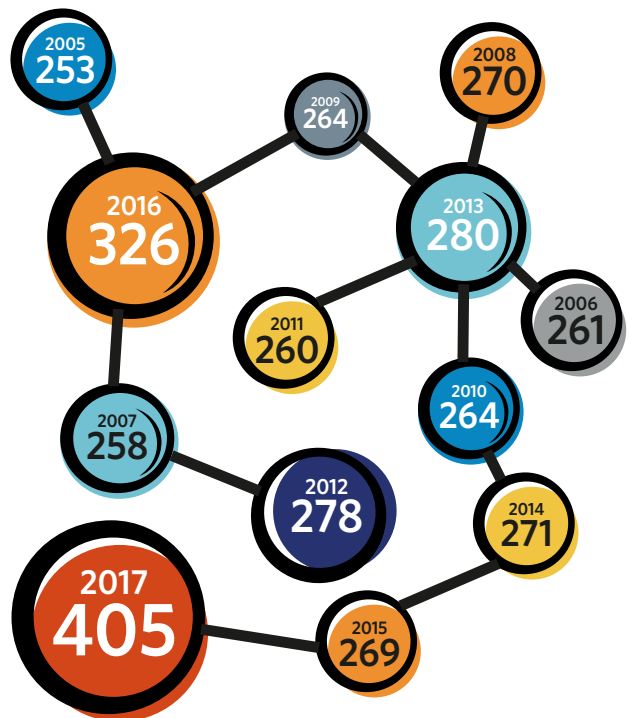
The possible contaminating activities present within the California Aqueduct watershed are described in the State Water Project Watershed Sanitary Survey, conducted by the California Department of Water Resources and its consultants in 1986 and updated in 2001.

The California Aqueduct originates at the Sacramento-San Joaquin Delta at Clifton Court Forebay. Water in the Delta originates in the Sacramento River watershed, the San Joaquin watershed, and the watershed drainage from the Mokelumne River, Stanislaus River, Merced River, and several smaller rivers that drain the eastern slopes of the Sierra Nevadas. Located in these drainage areas are a broad variety of potential sources of contamination, including municipal, industrial, and agricultural activities. Also influencing the quality of water pumped from the Delta is the impact of the estuarial nature of the Delta and the naturally occurring saltwater intrusion, which is dependent to a large extent on the inflow from the contributing rivers.

A copy of the complete assessment may be viewed at Antelope Valley-East Kern Water Agency, 6500 West Avenue N, Palmdale, CA 93551.

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 Division of Drinking Water (DDW) web site at [www.waterboards.ca.gov/drinking\\_water/certlic/drinkingwater/Fluoridation.shtml](http://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/Fluoridation.shtml). For general information on water fluoridation, visit us online at [www.calwater.com](http://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.

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](http://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](http://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 four major sections: “Primary Drinking Water Standards,” “Secondary Drinking Water Standards,” “State Regulated Contaminants with Notification Levels,” 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  
 DS Drinking water disinfectant added for treatment  
 EN Naturally present in the environment  
 ER Erosion of natural deposits  
 FL Water additive that promotes strong teeth; discharge from fertilizer and aluminum factories  
 FR Runoff and leaching from fertilizer use; leaching from septic tanks and sewage  
 IC Internal corrosion of household plumbing systems  
 IM Discharge from industrial manufacturers  
 IN Runoff/leaching from insecticide used on cotton and cattle  
 IO Substances that form ions when in water

IW Industrial waste  
 MF Discharge from metal factories  
 OD Discharges of oil-drilling waste and from metal refineries  
 OM Naturally occurring organic materials  
 PH Inherent characteristic of water  
 RL Runoff/leaching from natural deposits  
 SW Seawater influence  
 WD Leaching from wood preservatives

**UR** Constituents with no source listed are unregulated and do not have standardized “source of substance” language



# 2017 Water Quality Table

## Primary Drinking Water Standards

## Groundwater Purchased Water (AVEK Quartz Hill Plant)

Microbiological	Year Tested	Unit	MCL	PHG (MCLG)	In Compliance	Highest Monthly		Highest Monthly		Source
Total coliform (systems with <40 samples/month) (Total Coliform Rule)	2017	positive samples	1	(0)	Yes	0		-		EN
Radiological	Year Tested	Unit	MCL	PHG (MCLG)	In Compliance	Range	Average	Range	Average	Source
Gross alpha particle activity	2009–2017	pCi/L	15	(0)	Yes	ND–3.4	ND	n/a	n/a	ER
Radium 228	2009–2017	pCi/L	5	0.019 (0)	Yes	ND–1.4	ND	n/a	n/a	ER
Uranium	2009–2017	pCi/L	20	0.43	Yes	ND–2.32	1.73	n/a	n/a	ER
Inorganic Chemicals	Year Tested	Unit	MCL	PHG (MCLG)	In Compliance	Range	Average	Range	Average	Source
Barium	2015–2017	ppm	1	2	Yes	ND	ND	n/a	0.02	ER, OD
Fluoride	2015–2017	ppm	2.0	1	Yes	ND–1.49	0.49	n/a	ND	ER, FL
Nickel	2015–2017	ppb	100	12	Yes	ND–76.28	11.59	n/a	ND	ER, MF
Nitrate (as nitrogen)	2015–2017	ppm	10	10	Yes	0.521–4.794	2.13	n/a	0.5	ER, FR
Lead and Copper	Year Tested	Unit	AL	PHG (MCLG)	In Compliance	Distribution System-Wide				Source
						90 <sup>th</sup> Percentile		Samples > AL		
Copper	2015	ppm	1.3	0.3	Yes	0.52		0 of 10		IC, ER, WD
Lead <sup>1</sup>	2015	ppb	15	0.2	Yes	ND		1 of 10		IC, ER, IM
Schools that requested lead sampling in 2017: 0										
Disinfection Byproducts	Year Tested	Unit	MCL	PHG (MCLG)	In Compliance	Distribution System-Wide				Source
						Range		Highest Annual Average		
Total trihalomethanes	2017	ppb	80	n/a	Yes	19.6–60.9		39.57		DI

<sup>1</sup>One site exceeded the action level for lead, although the 90th percentile is ND. The 90th percentile value means that 90% of customers sampled were below that level. These system-wide levels are in compliance with the action level set by the U.S. Environmental Protection Agency (EPA). 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. You may wish to have your water tested and/or flush your tap for 30 seconds to two minutes before using tap water. Additional information is available from the EPA Safe Drinking Water Hotline at (800) 426-4791.



# 2017 Water Quality Table

(Continued)

Disinfectants	Year Tested	Unit	MRDL	MRDLG	In Compliance	Distribution System-Wide		Source
						Range	Average	
Chlorine	2017	ppm	4	4	Yes	0.35–1.44	0.89	DS

## Secondary Drinking Water Standards

### Groundwater

### Purchased Water

Inorganic Chemicals	Year Tested	Unit	SMCL	PHG (MCLG)	In Compliance	Range	Average	Range	Average	Source
Color	2015–2017	Units	15	n/a	Yes	ND	ND	<5	<5	OM
Odor	2015–2017	Units	3	n/a	Yes	ND	ND	<1	<1	OM
Zinc	2015–2017	ppm	5	n/a	Yes	ND	ND	0.44	0.44	RL, IW
Total dissolved solids	2015–2017	ppm	1000	n/a	Yes	960–980	970	180	180	RL
Specific conductance	2015–2017	µS/cm	1600	n/a	Yes	1500	1500	121–630	275	SW, IN
Chloride	2015–2017	ppm	500	n/a	Yes	140–150	145	43	43	RL, SW
Sulfate	2015–2017	ppm	500	n/a	Yes	340–380	360	37	37	RL, IW

## State-Regulated Contaminants with Notification Levels

### Groundwater

### Purchased Water

Chemical	Year Tested	Unit	NL	PHG (MCLG)	In Compliance	Range	Average	Range	Average	Source
Hexavalent chromium <sup>2</sup>	2015–2017	ppb	n/a	n/a	Yes	ND	ND	n/a	0.08	ER, EF
Vanadium	2015–2017	ppb	50	n/a	Yes	3.92–7.06	5.44	n/a	n/a	UR

<sup>2</sup>The previous MCL of 0.010 mg/L (10 ppb) for hexavalent chromium was withdrawn on September 11, 2017, and there is currently no MCL in effect. The state requires that any hexavalent chromium results above the detection limit of 1 ppb still be reported.

# 2017 Water Quality Table

(Continued)

## Unregulated Compounds

## Groundwater

## Purchased Water

Inorganic Chemicals	Year Tested	Unit	MCL	PHG (MCLG)	In Compliance	Range	Average	Range	Average	Source
Alkalinity	2015–2017	ppm	n/a	n/a	<b>Yes</b>	ND	ND	n/a	40	ER
Calcium	2015–2017	ppm	n/a	n/a	<b>Yes</b>	76.82–120	93.88	14	14	ER
Magnesium	2015–2017	ppm	n/a	n/a	<b>Yes</b>	20.47–34.64	29.14	8.2	8.2	ER
pH	2015–2017	Units	n/a	n/a	<b>Yes</b>	0.4–8.4	7.51	6.1–7.4	6.57	PH
Hardness	2015–2017	ppm	n/a	n/a	<b>Yes</b>	380–390	385.00	69	69	ER
Sodium	2015–2017	ppm	n/a	n/a	<b>Yes</b>	40.12–200	92.95	32	32	ER
Strontium	2015–2017	ppb	n/a	n/a	<b>Yes</b>	3000–3200	3100.00	n/a	n/a	ER

# Thank you.

Thanks for taking the time to learn more about your water quality! Even more information awaits you at [www.calwater.com](http://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](#)

