Antelope Valley District

2008 Water Quality Report for Leona Valley

At California Water Service Company (Cal Water), we are committed to supplying you with high-quality water. We are pleased to provide this annual water quality report, which includes information about where your water comes from, what it contains, how it compares to state and federal standards, and how you can help us conserve water. It also explains the steps we take to protect your water supply. **Most importantly, it confirms that your water met or surpassed all water quality standards during this reporting period.**

If you have any questions, suggestions, or concerns, please contact your local Customer Center. Also, please watch for bill inserts, where you will find announcements of any water-related public meetings or workshops, as well as important information about your water. Additional information and time-sensitive announcements about your water can be found at www.calwater.com.

Where Your Water Comes From

We serve approximately 1,450 customer connections in our Fremont Valley, Grand Oaks, Lancaster, Lake Hughes, and Leona Valley water systems. On July 1, 2007, Cal Water took over ownership of the Grand Oaks system. Previously, we served customers and maintained the Grand Oaks system through an operating contract.

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

The water we provide in Leona Valley is supplied by two active groundwater wells and purchased surface water imported by the Antelope Valley-East Kern Water Agency (AVEK) from the State Water Project in northern California. The Leona Valley system also includes four storage tanks and three booster pumps. Cal Water proactively maintains and upgrades its facilities to ensure a reliable, high-quality supply.

Inside Water Quality

A water quality report represents literally hundreds of hours of work by dozens of people. At Cal Water, one of those people is Water Quality Project Manager Tarrah Henrie.

"I've always wanted a career that allows me to do good for the community," says Tarrah. "My first job out of college was working for an environmental consulting firm, and I learned a lot about how interesting and exciting the field is."

Tarrah's bachelor's degree in environmental soil and water science and master's degree in soil chemistry prepared her for a career in water quality. Since college, she has received certifications in water treatment and distribution, as well as backflow tester and backflow specialist certifications. Tarrah joined Cal Water in 2000.

Tarrah is just one of the highly educated and experienced scientists managing water quality at Cal Water. Says Tarrah, "We have a manager of

laboratory services and six full-time scientists — two in the microbiology laboratory, two in the inorganic laboratory, and two in the organic laboratory. There are also six technicians who assist the scientists. Seven additional employees make sure we meet all water quality standards — five water quality project managers who review water-testing data, and two environmental project managers who monitor water discharge. District employees are also very important to water quality. They are the first people to identify an issue, so we certainly rely on them."

Meeting water quality standards means knowing the ins and outs of copious government regulations, but according to Tarrah, this isn't the most difficult part of the job. "Monitoring water quality doesn't stop when the work day ends. Just this month, one of our scientists stayed here until after midnight analyzing samples to ensure that we were meeting standards and doing everything possible to protect public health. Over the Thanksgiving holiday, our microbiologist came in to analyze samples after a water main repair. Project managers have to be available to receive those results and make the best decisions for our customers."

Tarrah says that if she could pass along just one message about water quality, it would be this: "We work hard to protect our customers, but we need the public's help, too. Chemicals that go on lawns, down storm drains, and into the trash can eventually end up in somebody's water. We all have to be vigilant and protect our precious water supply."

Promoting Water-Use Efficiency

California's population continues to increase, while the amount of water available to Californians does not. Water supplies throughout the state have become more constrained due to periodic drought, aging infrastructure, and heightened environmental concerns.

That's why your efforts to use water wisely are important to ensuring that we have enough clean water for you and future generations.

Cal Water offers a variety of traditional and innovative programs to help you conserve. These include:

- Rebates on many water-efficient appliances.
- High-efficiency fixtures available at no charge to our customers.
- Educational materials on a variety of topics (conservation gardening, checking for leaks around the house, and more).
- Conservation-related events.
- School programs.

Visit www.calwater.com/conservation to learn more about programs available in your area, apply for an appliance rebate, request water-saving fixtures, and find other ways that Cal Water can help you conserve water.

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Angelope Valley District
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www.calwater.com

Be Water-Wise, Not Water-Wasting!

At Cal Water, we worry about water quality so you don't have to. But when it comes to water supply, we all need to do our share to conserve Earth's most precious resource.

So what can a busy person do to contribute to this very important effort? It's easy! By taking a few simple steps, you can reduce your water use *and* lower your water bill. Look how much water a family of four can save…

A standard **showerhead** uses 2.5 gallons per minute (gpm), while a high-efficiency showerhead uses only 2 gpm.

Water-wasting	4 showers/day x	10 minutes/shower x	2.5 gallons	= 100 gallons/day
Water-wise	4 showers/day x	6 minutes/shower x	2 gallons	= 48 gallons/day

Total annual savings = 18,980 gallons!

Tip: *Shorten your showers and install a water-efficient showerhead.*

A pre-1993 **toilet** uses 3.5 to 8 gallons per flush, while a modern high-efficiency toilet uses only 1.28 gallons.

Water-wasting	20 flushes/day x	3.6 gallons	= 72 gallons/day
Water-wise	20 flushes/day x	1.28 gallons	= 26 gallons/day

Total annual savings = 16,790 gallons!

Tip: *Install a high-efficiency toilet.*

A typical **kitchen faucet** uses 4.7 gpm, but a faucet aerator can reduce that to 1.5 gpm.

Water-wasting	15 minutes/day x	2.75 gallons/minute	= 41 gallons/day
Water-wise	10 minutes/day x	1.5 gallon/minute	= 15 gallons/day

Total annual savings = 9,490 gallons!

Tip: *Turn off the faucet whenever possible and use a faucet aerator.*

A typical **washing machine** uses 37.5 gallons per load, while a high-efficiency machine uses 24.2 gallons.

Water-wasting	12 loads/week x	37.5 gallons/load	= 450 gallons/week
Water-wise	8 loads/week x	24.2 gallons/load	= 194 gallons/week

Total annual savings = 13,312 gallons!

Tip: *Wash only full loads and invest in a high-efficiency washing machine.*

If you think that's a lot of savings, think about this — 50% or more of the typical household's water is used **outside**. So you can save even more water by…

- Turning off your sprinklers when it rains.
- Reducing the amount of time you run each station.
- Adjusting sprinklers to avoid watering the sidewalk.
- Installing a weather-based controller.
- Replacing your thirsty lawn with drought-tolerant landscaping.

For more on water conservation — including rebates and free water-efficient hardware — visit www.calwater.com/conservation.

Q&A

Why do Cal Water employees sometimes open fire hydrants? Isn't that a waste of water?
This is a process known as "flushing." When necessary, it is done to remove sediment or sand from the water lines and ensure that water circulates adequately throughout the system. Fire hydrants may also be opened for testing purposes.

How does dirt or sand get in my water?
Dirt or sand can occur naturally in groundwater or enter water lines during water-line repair. Flushing helps remove dirt and sand in the water.

What causes white particles in my water?
Minerals can build up in water lines, home plumbing, and water heaters. If you notice white particles in your water or your pressure is lower than usual, check your faucet aerators for buildup (if your faucets do not have aerators, visit www.calwater.com/conservation to have some sent to you at no charge). It is also important to maintain your water heater as directed by the manufacturer.

What gives my water a milky or cloudy appearance?
This is usually caused by harmless air bubbles. If the water is allowed to sit, the air will dissipate and the water will clear. If it doesn't, contact your local Customer Center.

What causes an odor in my hot water?
If you detect an odor in your hot water that is not present in your cold water, you may need to adjust, flush, or repair your water heater. Check with the manufacturer for details. If you detect an odor in both the hot and cold water, inform your local Customer Center.

What causes color in the water?
Naturally occurring organics and metals can give your water color. These typically do not pose a health hazard, but you should report colored water to your local Customer Center. If a faucet has not been used for a period of time, rust or residue from pipes may have collected, discoloring your water. Let the water run for a minute, and it should return to normal (while the faucet runs, collect the water in a bucket for use in your garden).

Should I worry about pharmaceuticals in my water?
In 2008, news stories warned about the possibility of trace amounts of pharmaceuticals in tap water. It is important to remember that the quantities of pharmaceutical substances found were measured in parts per trillion — amounts so small that typical water quality laboratories couldn't even detect them. Although these trace amounts of pharmaceuticals do not appear to pose any significant health risk, Cal Water reminds you that you can help protect your water supply by responsibly disposing of drugs that are expired or no longer needed. Do not flush them down the toilet or put them in the sink.

Should I buy a home filtration unit?
Home water-treatment units are often used to improve the aesthetic qualities of the water, but according to the United States Environmental Protection Agency, they are rarely necessary for health reasons. If you choose to install a home treatment unit, be sure to follow the manufacturer's maintenance instructions, because improperly maintained units can cause water quality problems. For example, bacteria can grow in carbon filters that are not replaced as recommended.

Is bottled water safer than tap water?
Both tap and bottled water must meet strict water quality standards, but tap water is subject to more frequent testing. Although bottled water is generally not better quality than what comes out of your tap, a Cal Water customer can get hundreds of gallons of tap water for the average price of a 20-ounce container of bottled water.

If you have any questions, please contact Chris Whitley, Local Manager, at (800) 680-1160.

How to Read This Table

We test your water for more than 100 regulated contaminants. **The table in this report lists only those that were detected.**

The table shows water quality test results divided into two main sections: "primary standards" and "secondary standards." Primary standards protect public health by limiting the levels of contaminants in drinking water. Secondary standards are limits for substances that could affect the water's taste, odor, or appearance.

Drinking Water Source Assessment and Protection Program (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 their 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 salt-water 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.

Potential Sources of Contamination

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 U.S. Environmental Protection Agency (USEPA) 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 USEPA and the California Department of Public Health (Department) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. Department 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, 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. USEPA/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.

Lead and Copper Monitoring

We were unable to collect all of the required samples for lead and copper testing in 2008 and received a technical violation from the Department of Public Health. Even though this was not an emergency, you have a right to know what you should do, what happened, and what we did to correct the situation.

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether our drinking water meets health standards. During July 2008, we were required to collect 10 samples from taps inside our customers' homes for lead and copper monitoring, but were not able to collect the required number of samples from the selected customers, and therefore cannot be sure of the water's corrosivity during that time. Follow-up testing indicated that the water met lead and copper standards. We are required to test for these contaminants again in July 2009.

In response to the technical violation, Cal Water has taken the following actions:

- Additional sample collection training has been provided to the operator, and district management will provide additional training on system operations.
- The importance of system monitoring was reviewed.
- The importance of timely sample collection has been stressed to district staff.
- District management will monitor sample collection in Leona Valley more closely.

There is nothing you need to do at this time.

Please share this information with all other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

For more information, please contact the Cal Water Customer Center at (661) 943-9001.

What About Fluoride?

Fluoride occurs naturally in many water sources, but **Cal Water does not add fluoride to your water supply.**

California law requires Cal Water to add fluoride as funding from federal grants or other sources becomes available. In the meantime, you might wish to check with your dentist to see if fluoride supplements are recommended for any children in your family. Note that supplements may not be recommended for children who attend a school that has fluoridated water.

Want to know more? For general information on water fluoridation, visit us online at www.calwater.com.

Definitions

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.

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 U.S. Environmental Protection Agency (USEPA).

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

Maximum Residual Disinfectant Level Goal (MRDLG): The level of a disinfectant added for water treatment below which there is no known or expected risk to health. MRDLGs are set by the USEPA.

Maximum Residual Disinfectant Level (MRDL): The level of a disinfectant added for water treatment that may not be exceeded at the consumer's tap.

Notification Level (NL): A health-based advisory level for an unregulated contaminant in drinking water. It is used by the California Department of Public Health 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.

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

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

PRIMARY DRINKING WATER STANDARDS						GROUNDWATER		PURCHASED SURFACE WATER		DISTRIBUTION SYSTEM-WIDE		
Radiological	Year Tested	Unit	MCL	PHG (MCLG)	Exceeded Standard?	Range	Average	Range	Average	Range	Average	Source of Substance
Gross alpha particle activity	2006–2008	pCi/L	15	(0)	No	ND–10	3		n/a		n/a	Erosion of natural deposits
Radium 226	2006–2008	pCi/L	5	0.05 (0)	No	ND–1.1	0.2		n/a		n/a	Erosion of natural deposits
Inorganic Chemicals	Year Tested	Unit	MCL (SMCL)	PHG	Exceeded Standard?	.	Average	Range	Average	Range	Average	Source of Substance
Aluminum	2008	ppm	1 (0.2)	0.6	No	ND–0.2	0.005		ND		n/a	Erosion of natural deposits; residue from some surface water treatment processes
Barium	2006–2008	ppm	1	2	No	ND–0.1	0.06		ND		n/a	Discharges of oil-drilling waste and from metal refineries; erosion of natural deposits
Fluoride	2008	ppm	2	1	No	0.1–1.3	0.5		ND		n/a	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate (as nitrate)[1]	2008	ppm	45	45	No	22–39	33		4.1		n/a	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
	Year Tested	Unit	MCL	PHG (MCLG)	Exceeded Standard?	Highest Level	Lowest Monthly Percent	Highest Level	Lowest Monthly Percent	Highest Level	Lowest Monthly Percent	Source of Substance
Turbidity (surface water requiring filtration)[2]	2008	NTU	TT	n/a	No		n/a	0.36	97%		n/a	Soil runoff
Disinfection Byproducts	Year Tested	Unit	MCL	PHG (MCLG)	Exceeded Standard?	Range	Highest Annual Average	Range	Highest Annual Average	Range	Highest Annual Average	Source of Substance
Total haloacetic acids	2008	ppb	60	n/a	No		n/a		n/a	4.2–9.5	15.5	Byproduct of drinking water chlorination
Total trihalomethanes	2008	ppb	80	n/a	No		n/a		n/a	18.6–73.1	55.5	Byproduct of drinking water chlorination
Disinfectant and DBP Precursor	Year Tested	Unit	MRDL	MRDLG	Exceeded Standard?	Range	Average	Range	Average	Range	Average	Source of Substance
Chlorine	2008	ppm	4	4	No		n/a		n/a	0.2–0.7	0.5	Drinking water disinfectant added for treatment
Total organic carbon[3]	2008	ppm	TT	n/a	No		0.8	0.7–2.2	1.5		n/a	Various natural and manmade sources
OTHER REGULATED SUBSTANCES												
Metals	Year Tested	Unit	AL	PHG	Exceeded Standard?	90th Percentile	Samples > AL	90th Percentile	Samples > AL	90th Percentile	Samples > AL	Source of Substance
Copper[4]	2005	ppm	1.3	0.3	No		n/a		n/a	0.73	0 of 10	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
SECONDARY DRINKING WATER STANDARDS AND UNREGULATED COMPOUNDS												
Inorganic Chemicals	Year Tested	Unit	SMCL	PHG (MCLG)	Exceeded Standard?	Range	Average	Range	Average	Range	Average	Source of Substance
Calcium	2006–2008	ppm	n/a	n/a	No	63–114	88		27		n/a	Erosion of natural deposits
Chloride	2006–2008	ppm	500	n/a	No	44–108	67		100		n/a	Erosion of natural deposits; seawater influence
Chromium 6+	2006–2008	ppb	n/a	n/a	No	ND–2	1		ND		n/a	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits
Hardness	2006–2008	ppm	n/a	n/a	No	240–360	310		110		n/a	Erosion of natural deposits
Iron[5]	2008	ppb	300	n/a	No	ND–400	7		ND		n/a	Leaching from natural deposits; industrial wastes
Magnesium	2006–2008	ppm	n/a	n/a	No	7–36	21		9.5		n/a	Erosion of natural deposits
Odor	2008	Units	3	n/a	No	ND–2	0.7		ND		n/a	Naturally occurring organic matter
pH	2008	Units	n/a	n/a	No	7.4–8.1	7.8	6.4–7.2	6.8		n/a	Inherent characteristic of water
Sodium	2006–2008	ppm	n/a	n/a	No	39–206	105		72		n/a	Erosion of natural deposits; seawater influence
Specific conductance	2006–2008	µS/cm	1600	n/a	No	870–1460	1177	430–852	512		n/a	Erosion of natural deposits; seawater influence
Sulfate[6]	2006–2008	ppm	500	n/a	No	93–514	239		69		n/a	Runoff/leaching from natural deposits; industrial wastes
Total dissolved solids[6]	2006–2008	ppm	1000	n/a	No	510–1100	710		320		n/a	Runoff/leaching from natural deposits
Turbidity (groundwater)	2008	NTU	5	n/a	No	ND–2.2	0.3		n/a		n/a	Soil runoff
Zinc	2006–2008	ppm	5.0	n/a	No		ND		0.3		n/a	Runoff/leaching from natural deposits; industrial wastes

[1]The average nitrate level was 33 ppm, with a maximum level of 39 ppm. We are closely monitoring the nitrate levels. Nitrate in drinking water at levels above 45 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 45 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 seek advice from your health care provider.

[2]For surface water systems, the treatment technique dictates that the turbidity level of the filtered water be less than or equal to 0.3 NTU in 95% of the measurements taken each month and shall not exceed 1 NTU at any time. Turbidity is a measurement of the cloudiness of water. We monitor it because it is a good indicator of the effectiveness of our filtration system.

[3]Total organic carbon (TOC) has no health effects. However, TOC provides a medium for the formation of disinfection byproducts. These byproducts include THMs and HAAs. Drinking water containing these byproducts in excess of the MCL may lead to adverse health effects, liver or kidney problems, or nervous system effects, and may lead to an increased risk of cancer. Concerns regarding disinfection byproducts are based upon exposure over many years.

[4]Lead and copper are required to be monitored every 3 years. We were unable to collect the required number of samples within the allotted time frame in 2008. Therefore, samples will be collected in 2009.

[5]Iron is present at levels that exceed the SMCL of 300 ppb. We blend well and purchased water to reduce iron levels, and weekly samples are collected to verify effectiveness. In September 2008, there was one sample that exceeded the iron SMCL, but the average of that month's results was below the SMCL. All other samples in 2008 were non-detect for iron. The iron SMCL was set to protect you against unpleasant aesthetic effects, such as color, taste, odor, and the staining of plumbing fixtures and clothing. Exceeding this MCL does not pose a health risk.

µS/cm = measure of specific conductance
n/a = not applicable
ND = not detected
NTU = nephelometric turbidity unit
pCi/L = picoCuries per liter (measure of radioactivity)
ppb = parts per billion (micrograms per liter)
ppm = parts per million (milligrams per liter)
SMCL = secondary maximum contaminant level

[6]Sulfate and total dissolved solids (TDS) were detected above the SMCL in one sample collected from one of the system's two active groundwater wells. In a subsequent sample from this well, sulfate and TDS were below their respective SMCLs. The blending system is effectively reducing sulfate and TDS levels. SMCLs are established for various compounds to protect you against unpleasant aesthetic effects, such as color and taste. Exceeding SMCLs for these compounds does not pose a health risk.