2013
Water Quality Report

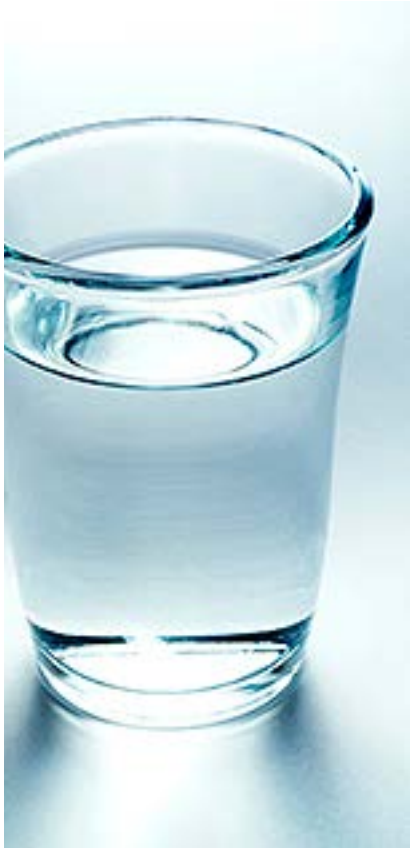
Bakersfield District
North Garden

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

CALIFORNIA WATER SERVICE CO.

2013
Water Quality Report

Bakersfield District
North Garden



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Welcome

At California Water Service Company (Cal Water), protecting the health and safety of our customers is our top priority. In everything we do, we are mindful of our responsibility to our customers and our communities.

We are committed to enhancing the quality of life for those we serve by delivering a reliable supply of high-quality water at affordable rates. We are there when you need us, for uninterrupted service, fire protection, and assistance with water conservation.

Although you probably don't give it a second thought, it takes a lot of effort to get a reliable, clean supply of water to your tap. In addition to maintaining and upgrading the wells, pumps, and pipes needed to get the water from the source to your home, we treat and test the water in our state-of-the-art water quality laboratory, which can now test for compounds as low as three parts per trillion. That's like finding three grains of salt in an Olympic-size swimming pool.

This annual water quality report shows any constituents that were detected in your water in 2013, and how your water compares to state and federal water quality standards. **We are pleased to confirm that your water met or surpassed all primary and secondary water quality standards in this reporting period.** This report also provides additional information about the steps we take to protect your health and safety and answers questions you may have about your water quality.

Besides our focus on water quality and reliability, we conduct our business as environmentally responsibly as possible. As such, this year's report is being presented to you online to save paper; however, it is still easy for you to print out at home if you so choose. Or, if you prefer, you can call us to request a hard copy.

As always, if you have any questions or concerns, you can contact us by phone or email, through our web site, or in person at our Customer Center. For important announcements and other water-related news, please visit www.calwater.com or watch for information in your monthly bill. I also invite you to follow us on Facebook or Twitter, where we regularly post news and announcements and communicate with users.

Sincerely,
RUDY VALLES, JR.
District Manager
Bakersfield District

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Your Water System

Cal Water has provided high-quality water utility services in the Bakersfield area since 1927. To meet our North Garden customers' needs, we use a combination of local groundwater produced by 12 active wells (treated where necessary to improve taste and odor), surface water from the Kern River (treated with highly advanced membrane filtration), and treated water purchased from the Kern County Water Agency.

Cal Water proactively maintains and upgrades 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

At Cal Water, we are committed to ensuring we have a reliable supply of water for you and your family for generations to come.

In addition to our long-term water supply planning, we offer a range of rebates on high-efficiency devices, conservation programs, and tips to help you save water. How can you help? Take a moment to learn more and take advantage of offerings that are available in your area at www.calwater.com/conservation.

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Inside the 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. Scientists, chemists, and microbiologists test the water for more than 140 contaminants with equipment so sensitive it can detect levels as low as three parts per trillion.

Water quality results are entered into our Laboratory Information Management System (LIMS), sophisticated software that enables us to react quickly to changes in water quality and analyze water quality trends in order to plan effectively for future needs.

Cal Water's lab recently received a new addition called a gas chromatograph/mass spectrometer/mass spectrophotometer system. This device will allow our lab to test for more organic compounds and reduce outside laboratory fees by about $100,000 each year, savings that eventually get passed on to our customers.

Unregulated Contaminants

Cal Water regularly tests the water for certain constituents that are not currently regulated by the U.S. Environmental Protection Agency (EPA) but are being considered for possible future regulation. In 2012, the EPA revised its Unregulated Contaminant Monitoring Rule, named UCMR 3, to establish a new set of 30 unregulated contaminants to be tested. The monitoring enables the EPA to use scientific data in assessing occurrence and potential effects of these lesser-known constituents. If any of these constituents were detected in your system's water, they are listed in the water quality table of this report.

At Cal Water, we are committed to UCMR 3 monitoring, because protecting our customers' health and safety is our highest priority. More information about UCMR 3 and the list of contaminants being monitored, visit water.epa.gov/lawsregs/rulesregs/sdwa/ucmr/ucmr3.

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Water Hardness

Water's "hardness" is a measure of the amount of minerals (generally calcium and magnesium) it contains. 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 80 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. In addition, people on low-sodium diets should be aware that some water softeners increase the sodium content of the water.

About Lead

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water comes primarily from materials and components associated with service lines and home plumbing.

The water delivered by Cal Water to your meter meets all water quality standards, but your home plumbing can affect water quality. 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 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 private lab. 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.

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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, but 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 California Department of Public Health (CDPH) web site at www.cdph.ca.gov/certlic/drinkingwater/Pages/Fluoridation.aspx. For general information on water fluoridation, visit us online at www.calwater.com.

DWSAPP

By the end of 2002, Cal Water had submitted to the CDPH 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 system are considered most vulnerable to stormwater, wastewater, surface water (streams, lakes, rivers), chemical/petroleum industries, agriculture, wells (water supply, agricultural, irrigation, oil, gas, geothermal), construction/demolition activities, existing and historic gas stations, automobile body and repair shops, electrical/electronic manufacturing, transportation terminals, home manufacturing, junk/scrap/salvage yards, machine shops, known contaminant plumes, above- and underground storage tanks, drinking water treatment plants, high-density housing, parks, metal plating/fabrication, photo processing, and high-density septic systems.

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

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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 EPA's 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 the California Department of Public Health (CDPH) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. CDPH 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.

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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.

Exceeded Standard

Out of compliance with a primary MCL, a secondary MCL, or an action level, as determined by the California Department of Public Health (CDPH). For some compounds, compliance is determined by averaging the results for one source over a year.

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 United States Environmental Protection Agency (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 the CDPH 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.

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2013 Water Quality Table

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," and "Unregulated Compounds Detected at Negligible Amounts." 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. Compounds that were detected at amounts so low that they are considered insignificant are reported together.

Primary Drinking Water Standards

Radiological	Year Tested	Unit	MCL (SMCL)	PHG (MCLG)	Exceeded Standard?	Range	Average	Source of Substance
Gross alpha particle activity	2005–2013	pCi/L	15	(0)	**No**	ND–9.8	2.3	Erosion of natural deposits
Radium 228	2005–2013	pCi/L	5	0.019 (0)	**No**	ND–1.4	0.04	Erosion of natural deposits
Uranium	2005–2013	pCi/L	20	0.43	**No**	ND–7.6	2.6	Erosion of natural deposits
Inorganic Chemicals	**Year Tested**	**Unit**	**MCL (SMCL)**	**PHG (MCLG)**	**Exceeded Standard?**	**Range**	**Average**	**Source of Substance**
Aluminum	2011–2013	ppm	1 (0.2)	0.6	**No**	0.1–0.2	0.03	Residue from some surface water treatment processes
Arsenic	2011–2013	ppb	10	0.004	**No**	ND–3	1	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Barium	2011–2013	ppm	1	2	**No**	ND–0.1	0.01	Discharges of oil-drilling waste and from metal refineries; erosion of natural deposits
Chromium	2011–2013	ppb	50	(100)	**No**	ND–2	ND	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits

TABLE KEY

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)
ppm	parts per million (milligrams per liter)
ppb	parts per billion (micrograms per liter)
ppt	parts per trillion (nanograms per liter)
SMCL	secondary maximum contaminant level

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2013 Water Quality Table (Continued)

Inorganic Chemicals	Year Tested	Unit	MCL (SMCL)	PHG (MCLG)	Exceeded Standard?	Range	Average	Source of Substance
Fluoride	2011–2013	ppm	2	1	**No**	0.2–0.4	0.2	Erosion of natural deposits
Nitrate (as nitrate) [1]	2012–2013	ppm	45	45	**No**	ND–29	6.3	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits

	Year Tested	Unit	MCL (SMCL)	PHG (MCLG)	Exceeded Standard?	Highest Level	Lowest Monthly Percent	Source of Substance
Turbidity (surface water requiring filtration)	2013	NTU	TT=0.1	n/a	**No**	0.06	100%	Soil runoff
Turbidity (purchased surface water)[2]	2013	NTU	TT=0.3	n/a	**No**	0.16	100%	Soil runoff

Organic Chemicals	Year Tested	Unit	MCL (SMCL)	PHG (MCLG)	Exceeded Standard?	Range	Result or Average	Source of Substance
Dibromochloropropane (DBCP)	2012–2013	ppt	200	(0)	**No**	ND–10	0.3	Banned nematocide that may still be present in soils due to runoff/leaching from former use on soybeans, cotton, vineyards, tomatoes, and tree fruit
Simazine	2013	ppb	4	4	**No**		0.008	Herbicide runoff
Tetrachloroethylene (PCE)	2012–2013	ppb	5	0.06	**No**	ND–0.6	0.03	Discharge from factories, dry cleaners, and auto shops (metal degreaser)

Disinfection Byproducts	Year Tested	Unit	MCL (SMCL)	PHG (MCLG)	Exceeded Standard?	Range	Highest Annual Average	Source of Substance
Total haloacetic acids	2013	ppb	60	n/a	**No**	ND–30	16.4	Byproduct of drinking water chlorination
Total trihalomethanes	2013	ppb	80	n/a	**No**	2.7–41.1	26.3	Byproduct of drinking water chlorination

[1]The average nitrate level was 6.3 ppm, with a maximum level of 29 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 meets certain criteria in 95% of the measurements taken and shall not exceed 1 NTU at any time. Cal Water's surface water supply is treated through membranes where the treatment technique requires the filtered water to be less than or equal to 0.1 NTU in 95% of measurements taken. The Kern County Water Agency's surface water is treated through conventional filtration, where the treatment technique requires the filtered water to be less than or equal to 0.3 NTU in 95% of measurements taken. 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.

TABLE KEY

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)
ppm	parts per million (milligrams per liter)
ppb	parts per billion (micrograms per liter)
ppt	parts per trillion (nanograms per liter)
SMCL	secondary maximum contaminant level

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2013 Water Quality Table (Continued)

Disinfectant and DBP Precursor	Year Tested	Unit	MRDL	MRDLG	Exceeded Standard?	Range	Average	Source of Substance
Chlorine	2013	ppm	4	4	**No**	0.1–2.1	1.2	Drinking water disinfectant added for treatment
Total organic carbon (treated surface water) [3]	2013	ppm	n/a	n/a	n/a	0.6–2.2	1.4	Various natural and manmade sources

Secondary Drinking Water Standards and Unregulated Compounds

Inorganic Chemicals	Year Tested	Unit	SMCL	PHG (MCLG)	Exceeded Standard?	Range	Result or Average	Source of Substance
Boron	2013	ppm	NL=1	n/a	**No**		0.15	Erosion of natural deposits
Calcium	2011–2013	ppm	n/a	n/a	**No**	14–95	29	Erosion of natural deposits
Chloride	2011–2013	ppm	500	n/a	**No**	6–110	27	Erosion of natural deposits; seawater influence
Hardness	2011–2013	ppm	n/a	n/a	**No**	35–240	80	Erosion of natural deposits
Magnesium	2011–2013	ppm	n/a	n/a	**No**	ND–6	3	Erosion of natural deposits
Odor	2011–2013	Units	3	n/a	**No**	ND–2	1	Naturally occurring organic matter
pH	2011–2013	Units	n/a	n/a	**No**	6.0–9.2	7.8	Inherent characteristic of water
Sodium	2011–2013	ppm	n/a	n/a	**No**	17–83	34	Erosion of natural deposits; seawater influence
Specific conductance	2011–2013	µS/cm	1600	n/a	**No**	160–860	311	Erosion of natural deposits; seawater influence
Sulfate	2011–2013	ppm	500	n/a	**No**	13–230	43	Runoff/leaching from natural deposits; industrial wastes
Total dissolved solids	2011–2013	ppm	1000	n/a	**No**	106–540	200	Runoff/leaching from natural deposits
Turbidity (groundwater)	2011–2013	NTU	5	n/a	**No**	ND–0.4	0.1	Soil runoff
Zinc	2011–2013	ppm	5.0	n/a	**No**	ND–0.05	0.004	Runoff/leaching from natural deposits; industrial wastes

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

TABLE KEY

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pCi/L	picoCuries per liter (measure of radioactivity)
ppm	parts per million (milligrams per liter)
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2013 Water Quality Table (Continued)

Disinfection Byproducts	Year Tested	Unit	MCL (SMCL)	PHG (MCLG)	Exceeded Standard?	Range	Average	Source of Substance
Chlorate	2013	ppb	NL=800	n/a	No	170–540	307	Byproduct of drinking water chlorination

Organic Chemicals	Year Tested	Unit	SMCL	PHG (MCLG)	Exceeded Standard?	Range	Average	Source of Substance
Dichlorodifluoromethane (Freon12)	2012–2013	ppb	NL=1000	n/a	No	ND–44	5	Refrigerant
1,2,3-Trichloropropane (TCP)[4]	2012–2013	ppt	NL=5	0.7	Yes	ND–150	50	Impurity in some pesticides that may still be present in soils

Unregulated Compounds Detected at Negligible Amounts

	Year Tested	Unit	SMCL	PHG (MCLG)	Exceeded Standard?	Range	Result or Average	Source of Substance
Acesulfame-K	2013	ppt	n/a	n/a	No	29–51	40	Manmade compound
DACT	2013	ppt	n/a	n/a	No		6.2	Manmade compound
DEET	2013	ppt	n/a	n/a	No		23	Manmade compound
DIA	2013	ppt	n/a	n/a	No		9.7	Manmade compound
Diuron	2013	ppt	n/a	n/a	No		9	Manmade compound

[4]Currently, there is no MCL or SMCL for TCP. There is a notification level because TCP is a constituent of interest. Cal Water is cooperating with CDPH, conducting extensive monitoring, and investigating acceptable treatment methods. Laboratory studies indicate that some people who use water containing TCP in excess of the notification level over many years may have an increased risk of cancer.

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For More Information, Visit **www.calwater.com**

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.

Other links to check out:

» Lead in water

» Water treatment and disinfection

» Protecting the water supply

» Pharmaceuticals in water

» Chromium-6

» Drought news

» Conservation tips, rebates, and programs

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