

Bakersfield District

2006 Water Quality Report for the City of Bakersfield



Your Water Quality Report

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, and how it compares to state and federal standards. It also explains the steps we take to protect your water supply.

We care about what you think. If you have any suggestions or concerns, please call us. 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.

Inside the Water Quality Lab

At Cal Water's multi-million-dollar, state-of-the-art laboratory in San Jose, California, it's the little things that count. Cal Water's chemists and microbiologists conduct more than 300,000 separate water quality tests every year, looking for organic and inorganic compounds in the water in quantities as small as parts per trillion — that's like looking for bad pennies in three football stadiums filled with coins.

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

Our scientists examine water samples that are carefully shipped to the lab from sampling stations throughout Cal Water's systems to ensure that your water meets or surpasses strict state and federal water quality standards.

Because protecting our customers' health and safety is our highest priority, Cal Water staffs its lab with some of the best scientists in the water industry. The entire laboratory operation is fully certified by the California Environmental Laboratory Accreditation Program — one of the toughest certifications to achieve in the country.

You might not have thought much about Cal Water's water quality laboratory, but the scientists in the lab have thought about your water. Every drop of it.



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.

Where Your Water Comes From

Cal Water has provided high-quality water utility services in the Bakersfield area since 1927. To meet our customers’ needs, we use local groundwater produced by 47 local wells.

A new state of the art PALL micro filtration plant with highly advanced membrane filter has been treating water from the Kern River for use in the North Garden and City of Bakersfield systems. The plant is designed to treat eight million gallons a day (MGD) with a peak capacity of up to 10.5 MGD.

Drinking Water Source Assessment and Protection Program (DWSAPP)

By the end of 2002, Cal Water had submitted to the California Department of Health Services a 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 the City of Bakersfield system are considered most vulnerable to agriculture, storm water, wastewater, surface water (streams, lakes, rivers), lumbering industries/retailers, wood treatment, paper production, metal plating/fabrication, photo processing,

electrical/electronic manufacturing, large equipment storage yards, above- and underground storage tanks, drinking water treatment plants, parking lots/malls, research laboratories, high-density housing, wells (water supply, agricultural, oil, gas, geothermal), known contaminant plumes, parks, utility stations (maintenance areas), chemical/petroleum industries, chemical/pesticide/fertilizer/petroleum storage, existing and historic gas stations, dry cleaners, dredging, automobile repair shops, artificial recharge projects (spreading basins), sewer collection systems, storm drain discharge points, 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.

Water Hardness

Water is considered soft if total hardness is less than 75 ppm, moderately hard at 75 to 150 ppm, hard at 150 to 300 ppm, and very hard at 300 ppm or higher. To convert the hardness of your water from parts per million to grains per gallon, simply divide by 17.1.

Water’s hardness varies with its source. Hard water is not harmful to health, so the choice to buy a water softener is an aesthetic one. However, people on low-sodium diets should be aware that many water softeners increase the sodium content of the water.

2006 Water Quality Report

PRIMARY DRINKING WATER STANDARDS

RADIOLOGICAL	Year Tested	Unit	MCL (SMCL)	PHG (MCLG)	Exceeded Standard	Range	Average	Source of Substance
Gross Alpha Particle Activity	2004–2006	pCi/l	15	(0)	No	ND–9.6	2.74	Erosion of natural deposits
Radium 226	2004–2006	pCi/L	n/a	n/a	No	ND–1	0.03	Erosion of natural deposits
Radium 228	2004–2006	pCi/L	n/a	n/a	No	ND–1.37	0.02	Erosion of natural deposits
Uranium	2004–2006	pCi/l	20	0.5	No	ND–8.38	3.41	Erosion of natural deposits
INORGANIC CHEMICALS	Year Tested	Unit	MCL (SMCL)	PHG (MCLG)	Exceeded Standard	Range	Average	Source of Substance
Aluminum	2004–2006	ppm	1 (0.2)	0.6	No	ND–0.12	ND	Erosion of natural deposits; residue from some surface water treatment processes
Arsenic ¹	2004–2006	ppb	10	0.004	Yes	ND–15	5.3	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Cadmium	2004–2006	ppb	5	0.07	No	ND–1.4	0.01	Internal corrosion of galvanized pipes; erosion of natural deposits; discharge from electroplating and industrial chemical factories, and from metal refineries; runoff from waste batteries and paints
Chromium	2004–2006	ppb	50	(100)	No	ND–6.79	2	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits
Fluoride	2004–2006	ppm	2	1	No	ND–0.2	0.09	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Mercury (inorganic)	2004–2006	ppb	2	1.2	No	ND–1.7	0.08	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills and cropland
Nitrate (as nitrate) ²	2004–2006	ppm	45	45	No	ND–27	7.55	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Nitrite	2004–2006	ppm	1	1	No	ND–0.11	0	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
ORGANIC CHEMICALS	Year Tested	Unit	MCL	PHG (MCLG)	Exceeded Standard	Range	Average	Source of Substance
1,2-Dichloropropane	2004–2006	ppb	5	0.5	No	ND–0.59	0.05	Discharge from industrial chemical factories; primary component of some fumigants
Dibromochloropropane (DBCP)	2004–2006	ppt	200	1.7	No	ND–58	2.61	Banned nematocide that may still be present in soils due to runoff/leaching from former use on soybeans, cotton, vineyards, tomatoes, and tree fruit
Ethylene dibromide (EDB)	2004–2006	ppt	50	(0)	No	ND–50	3.93	Discharge from petroleum refineries; underground gas tank leaks; banned nematocide that may still be present in soils due to runoff/leaching from grain and fruit crops
DISINFECTION BY-PRODUCTS	Year Tested	Unit	MCL	PHG (MCLG)	Exceeded Standard	Range	Highest Annual Average	Source of Substance
Total Haloacetic Acids	2006	ppb	60	n/a	No	ND		By-product of drinking water chlorination
Total Trihalomethanes	2006	ppb	80	n/a	No	1.9		By-product of drinking water chlorination
DISINFECTANT	Year Tested	Unit	MRDL	MRDLG	Exceeded Standard	Range	Average	Source of Substance
Chlorine	2006	ppm	4	4	No	0.23–1.89	1.05	Drinking water disinfectant added for treatment
MICROBIOLOGICAL	Year Tested	Unit	MCL (SMCL)	PHG (MCLG)	Exceeded Standard	Highest Monthly		Source of Substance
Total Coliform (systems with >40 samples/month)	2006	positive samples	5%	(0)	No	2.10%		Naturally present in the environment

OTHER REGULATED SUBSTANCES

METALS	Year Tested	Unit	AL	PHG (MCLG)	Exceeded Standard	90th Percentile	# of Samples Exceeding AL	Source of Substance
Copper	2004	ppm	1.3	0.17	No	0.1	0 of 30	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead	2004	ppb	15	2	No	ND	0 of 30	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers, erosion of natural deposits

SECONDARY DRINKING WATER STANDARDS AND UNREGULATED COMPOUNDS

INORGANIC CHEMICALS	Year Tested	Unit	SMCL	PHG (MCLG)	Exceeded Standard	Range	Average	Source of Substance
Calcium	2004–2006	ppm	n/a	n/a	No	2.6–56	27.99	Erosion of natural deposits
Chloride	2004–2006	ppm	500	n/a	No	6–82	19.54	Erosion of natural deposits; seawater influence
Color	2004–2006	Units	15	n/a	No	ND–7	1.09	Naturally occurring organic matter
Iron	2004–2006	ppb	300	n/a	No	ND–220	18.36	Leaching from natural deposits; industrial wastes
Magnesium	2004–2006	ppm	n/a	n/a	No	ND–6.04	2.06	Erosion of natural deposits
Manganese ³	2004–2006	ppb	50	n/a	Yes	ND–61	17	Leaching from natural deposits
Foaming agents [MBAS]	2004–2006	ppb	500	n/a	No	ND–1.7	0.04	Municipal and industrial waste discharges
Odor	2004–2006	Units	3	n/a	No	ND–3	0.41	Naturally occurring organic matter
pH	2004–2006	Units	n/a	n/a	No	7.53–9.1	8.11	Inherent characteristic of water
Sodium	2004–2006	ppm	n/a	n/a	No	16–97	28.44	Erosion of natural deposits; seawater influence
Specific Conductance	2004–2006	µS/cm	1600	n/a	No	150–730	281.92	Erosion of natural deposits; seawater influence
Sulfate	2004–2006	ppm	500	n/a	No	ND–210	23.31	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids	2004–2006	ppm	1000	n/a	No	100–506	182.52	Runoff/leaching from natural deposits
Total Hardness	2004–2006	ppm	n/a	n/a	No	6.5–140	78.36	Erosion of natural deposits
Turbidity (groundwater)	2004–2006	NTU	5	n/a	No	ND–2.5	0.2	Soil runoff
Vanadium	2004–2006	ppb	NL=50	n/a	No	ND–21.59	7.19	Erosion of natural deposits; manufacturing of alloys and steel
Zinc	2004–2006	ppm	5.0	n/a	No	ND–0.08	0	Runoff/leaching from natural deposits; industrial wastes
ORGANIC CHEMICALS	Year Tested	Unit	SMCL	PHG (MCLG)	Exceeded Standard	Range	Average	Source of Substance
1,2,3-Trichloropropane	2005–2006	ppb	NL=0.005	n/a	Yes	ND–0.25	0.05	Pesticide that may still be present in soils due to runoff/leaching; various industrial uses
Methyl Ethyl Ketone (MEK)	2004–2006	ppb	n/a	n/a	No	ND–8.77	0.42	Utilized in the manufacture of colorless synthetic resins, artificial leather, rubbers, lacquers, varnishes, and glues.

1 The well that exceeded the Arsenic MCL of 10 ppb has seasonal increases; however, the annual average of this well is below the MCL. Some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.

2 Nitrate in drinking water at levels above 45 mg/L 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 serious illness; symptoms include shortness of breath and blueness of the skin. Nitrate levels above 45 mg/L 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.

3 The high Manganese detections were for a short period of time on a newly active well and only exceeded the SMCL for a three month period; the manganese is oxidized using liquid oxygen and removed before distribution. Manganese was detected above its respective Secondary MCL. Secondary standards are established for aesthetic reasons, such as taste or color, and are not based on health concerns.

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.

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 U.S. Environmental Protection Agency.

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 Health Services 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.

$\mu\text{S/cm}$ = measure of specific conductance

n/a = not applicable

ND = none 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

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 USEPA'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 by-products 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 be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (USEPA) and the State Department of Health Services (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 about drinking water from their health care providers. USEPA/Centers for Disease Control (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.

Questions? Answers!

Is bottled water safer than tap water?

Tap water and bottled water both must meet strict water quality standards, but tap water is subject to more frequent testing and higher reporting standards. Bottled water is generally not better quality than what comes out of your tap, but it can cost \$2 or more per gallon. An average Cal Water customer could get 1,000 gallons of tap water for that same \$2.

Why do Cal Water employees occasionally open fire hydrants?

This is a process known as “flushing.” It is done periodically to remove sediment or sand from the water lines and ensure that water circulates adequately throughout the system. Fire hydrants may also be opened to conduct fire-flow capability tests.

How does dirt or sand get in my water?

Dirt or sand can occur naturally in groundwater or as a result of a water line repair. Flushing reduces the instances of dirt and sand in the water.

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.

Why does my water have a milky or cloudy appearance?

This is usually caused by air bubbles in the water, which pose no health risk. If the water is allowed to sit, the air will dissipate and the water will clear. If it does not, inform your local Customer Center.



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Should I buy a home filtration unit?

According to the United States Environmental Protection Agency, home treatment units are rarely necessary for health reasons — they are most often used to improve the aesthetic qualities of the water. If you choose to install a home treatment unit, be sure to follow the manufacturer’s maintenance instructions. Improperly maintained units can actually cause water quality problems. For example, carbon filters can grow bacteria if they are not changed as recommended.

Why does the taste of my water change throughout the year?

In some of our service areas, water sources change at certain times of the year due to the availability of supplies. Surface water, or water that comes from sources like rivers and lakes, tends to taste slightly different than water pumped from underground aquifers. Water from all sources must meet the same rigorous standards.

What causes color in the water?

Colored water is usually caused by naturally occurring organics and metals such as manganese. These typically do not pose a health hazard, but you should report any instances of colored water to your local Customer Center.

If you have any questions, please contact Tim Treloar, District Manager, at (661) 837-7200.

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.