

Bear Gulch District

2006 Water Quality Report



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. **Most importantly, it confirms that your water met or surpassed all water quality standards during this reporting period.**

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 communities of Portola Valley, Woodside, Atherton, and portions of Menlo Park and Redwood City since 1936. To meet our customers’ needs, we use a combination of local surface water and surface water purchased from the City and County of San Francisco (SFPUC). The local surface water, about 11% of our total supply, comes from our 1,200-acre watershed in the Woodside hills; it is collected and treated at our reservoir and treatment plant in Atherton. The remaining 89% of our supply is purchased from the SFPUC.

In 2006, water pipeline infrastructure improvements were made throughout our district. These improvements occurred on various streets. Most notably, in Atherton and Menlo Park, we installed over 6,200 feet of 12” pipe in Valparaiso Avenue to replace an older 6” cast iron pipeline. This work was coordinated with street improvements to keep costs down and achieve a good final product. Subsequent fire hydrant testing in the area showed very high fire protection flows. Some 1,800 feet of 12” pipeline was installed in Portola Road in Woodside to eliminate two dead ends, improve pressure and flow, and better serve Portola Valley. Cal Water realizes that installing pipelines can be an inconvenience, and thanks you for your patience during our construction activities.

In anticipation of compliance with the Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR) for Cryptosporidium treatment, in 2006 the Bear Gulch Surface Water Treatment facility installed and implemented Ultra Violet (UV) Treatment Technologies. In April 2007, we began monthly LT2ESWTR sampling for Cryptosporidium at surface water intakes and post UV treatment, when the plant is in operation, for a period of two years. The cryptosporidium sampling will satisfy both compliance requirements and verify treatment effectiveness.

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 surface water source in your system is considered most vulnerable to the following activities for which no associated contaminant has been detected: high density septic systems and underground storage tanks (confirmed leaking tanks).

The San Francisco Public Utilities Commission (SFPUC), which supplies 80-100% of the water for your system, completed such a report in 2000. It found that its watersheds are vulnerable to contaminants associated with wildlife and to a limited extent, human recreational activity. Historically, the levels of contaminants have been very low in the watersheds. A complete copy of the report may be obtained at the SFPUC web site (www.ci.sf.ca.us/html/wqb.htm) and at the main branch of the San Francisco Public Library.

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

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Primary Drinking Water Standards						Surface Water		Purchased Water		
INORGANIC CHEMICALS	Year Tested	Units	MCL (SMCL)	PHG (MCLG)	Exceeded Standard	Result or Range	Average	Range	Average	Source of Substances
Aluminum ¹	2006	ppm	1 (0.2)	0.6	No	ND–0.55	0.29	ND–0.07	ND	Erosion of natural deposits
Fluoride ²	2006	ppm	2	1	No	0.2		0.1–1.5	1	Erosion of natural deposits
Selenium	2006	ppb	50	(50)	No	5.2				Discharge from petroleum, glass, and metal refineries; erosion of natural deposits; discharge from mines and chemical manufacturers; runoff from livestock lots (feed additive)
	Year Tested	Units	MCL	PHG (MCLG)	Exceeded Standard	Range	Maximum	Range	Maximum	Source of Substances
Turbidity (surface water not requiring filtration) ³	2006	NTU	TT	n/a	No			0.22–0.93	4.4 ⁴	Soil runoff
	Year Tested	Units	MCL	PHG (MCLG)	Exceeded Standard	Highest Single Measurement	Lowest Monthly Percent	Highest Single Measurement	Lowest Monthly Percent	Source of Substances
Turbidity (surface water requiring filtration) ⁵	2006	NTU	TT	n/a	No	0.1	100%	0.33	99.3%	Soil runoff
ORGANIC CHEMICALS	Year Tested	Units	MCL (SMCL)	PHG (MCLG)	Exceeded Standard	Range	Average	Range	Average	Source of Substances
Total Organic Carbon (TOC)	2006	ppm	n/a	n/a	No	2.2–3.6	2.8	1.1–2.9	2.4	Naturally-occurring organic materials
DISINFECTION BY-PRODUCTS	Year Tested	Units	MCL	PHG (MCLG)	Exceeded Standard	Range	Highest Running Annual Average	Range	Highest Running Annual Average	Source of Substance
Total Haloacetic Acids (THAA) ⁶	2006	ppb	60	n/a	No	14–78	43	14–78	43	By-product of drinking water disinfection
Total Trihalomethane (TTHM)	2006	ppb	80	n/a	No	30–70	49	30–70	49	By-product of drinking water chlorination
DISINFECTANT	Year Tested	Units	MRDL	MRDLG	Exceeded Standard	Range	Average	Range	Average	Source of Substance
Chloramine ⁷	2005	ppm	4	4	No	0.2–3.2	1.9	0.2–3.2	1.9	Drinking water disinfectant added for treatment.
OTHER REGULATED SUBSTANCES	Year Tested	Units	AL	PHG	Exceeded Standard	Level Detected (90th percentile)	# Samples Exceeding AI	Level Detected (90th percentile)	# Samples Exceeding AI	Source of Substance
Copper	2006	ppm	1.3	0.17	No	0.07	0 of 30	0.07	0 of 30	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead ⁸	2006	ppb	15	2	No	2.5	0 of 30	2.5	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 Range	Units	MCL (SMCL)	PHG (MCLG)	Exceeded Standard	Result or Range	Average	Range	Average	Source of Substance
Boron	2006	ppb	NL= 1	n/a	No			ND–0.16	ND	Erosion of natural deposits
Calcium	2006	ppm	n/a	n/a	No	60		3–28	15	Erosion of natural deposits
Chloride	2006	ppm	(500)	n/a	No	23		3–22	12	Runoff/leaching from natural deposits; seawater influence
Color	2006	Units	(15)	n/a	No			ND–10	ND	Naturally-occurring organic materials
Hardness (as CaCO ₃)	2006	ppm	n/a	n/a	No	200		6–146	66	Erosion of natural deposits
Magnesium	2006	ppm	n/a	n/a	No	12		ND–11.5	6.3	Erosion of natural deposits
Odor	2006	Units	3	n/a	No	2				Naturally occurring organic matter
pH	2006	Units	n/a	n/a	No	8.1–8.3	8.2	7.6–9.7	8.9	Inherent characteristic of water
Sodium	2006	ppm	n/a	n/a	No	24		2–24	14	Erosion of natural deposits; seawater influence
Specific Conductance	2006	µS/cm	(1600)	n/a	No	490		24–376	195	Substances that form ions when in water; seawater influence
Sulfate	2006	ppm	(500)	n/a	No	62		0.8–44	20	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids	2006	ppm	(1000)	n/a	No	310		20–190	112	Runoff/leaching from natural deposits; industrial wastes

Notes

1 In 2006 the Bear Gulch district exceeded the Secondary MCL for Aluminum. Secondary MCLs are established for aesthetic reasons, and not health reasons. Your water met the primary MCL for Aluminum. Recent treatment operation changes resolved this issue.

2 Fluoride is added to your water supply.

3 The turbidity standard for unfiltered supplies is 5 NTU. Turbidity is a measure of the cloudiness of water. We monitor it because it is a good indicator of water quality. High turbidity can hinder the effectiveness of disinfectants.

4 The turbidity range is based on monthly averages of individual readings that were measured every four hours. The max is the highest individual reading, which was evened out when the corresponding monthly average was calculated.

5 For surface water systems, the Treatment Technique dictates that the turbidity level of the filtered water is 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.

6 Compliance with the Haloacetic Acid MCL is determined by the concentration of the highest running annual average. Your water met this standard.

7 In February 2004, the SFPUC converted to chloramination as its means of disinfection. Chloramines are more stable and longer lasting than chlorine alone.

8 Infants and children who drink water containing lead in excess of the action level may experience delays in their physical or mental development. Children may show slight deficits in attention span and learning abilities. Adults who drink this water over many years may develop kidney problems or high blood pressure.

$\mu\text{S}/\text{cm}$ = 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

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.

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.

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.

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.



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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 as a result of a water line repair, and settleable sediments may result from the use of surface water and groundwater. Flushing reduces the instances of dirt and sand in the water.

If you have any questions, please contact Darin Duncan, District Manager, at (650) 367-6800.

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.

What about Cryptosporidium?

Cryptosporidium and giardia are parasitic microbes found in most surface water supplies and can pose a potential health threat. If ingested, either may produce symptoms such as diarrhea, stomach cramps, upset stomach, and slight fever. Some people — especially those with compromised immune systems — are more vulnerable to cryptosporidium and giardia than others. The SFPUC tests regularly for cryptosporidium and giardia in both source and treated water supplies. Both were occasionally found at very low levels in the City of San Francisco's treated water in 2003.