2023

WATER QUALITY REPORT

BAKERSFIELD DISTRICT

City of Bakersfield's
Domestic Water System

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

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WELCOME

California Water Service (Cal Water) and the City of Bakersfield's Water Resources Department are committed to providing a reliable supply of safe, clean water to our customers and communities, 24 hours per day, 7 days per week, 365 days per year. As water quality regulations have become more stringent, we have added or adjusted treatment to confirm the water we deliver continues to meet or surpass all standards—because protecting our customers' health and safety is our highest priority.

IN THIS SYSTEM IN 2023, WE CONDUCTED 51,345 TESTS ON 9,327 WATER SAMPLES FOR 188 CONSTITUENTS. WE ARE PLEASED TO CONFIRM THAT WE MET EVERY PRIMARY AND SECONDARY FEDERAL AND STATE WATER QUALITY STANDARD LAST YEAR.

But, our promise to provide quality, service, and value means more than just treating and testing water. It means having expert professionals available to assist with routine services safely and efficiently. It means having personnel available to handle emergencies around the clock. It means maintaining and upgrading the infrastructure needed to transport water from its source through a network of pumps, tanks, and pipes to your tap. It also means that, even with costs increasing across the country, we do everything we can to operate as efficiently as possible to keep your water service affordable.

I encourage you to read this year's water quality report, also called your Consumer Confidence Report, as it details any constituents detected in your water supply in 2023 and shows how your water compares to federal and state standards. It also provides information on hot topics and steps we take to protect your health and safety.

If you have any questions, we are here to help. You can contact your local office by phone or by using the Contact Us form at **www.calwater.com**. You can also get water service news on our web site and via our Facebook, X (formerly Twitter), and Instagram pages. If you're an account holder, you can find updates in your monthly bill and should keep your contact information up to date by visiting **ccu.calwater.com** to make sure you receive emergency and other important information.

Sincerely,
Tamara Johnson, District Manager, Bakersfield District
Kris Budak, Water Resources Director, City of Bakersfield

Bakersfield District
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Bakersfield, CA 93304
(661) 837.7200

ACTION ITEMS

There were no significant issues in your water system in 2023, and we have no recommended action items for our customers in this area.

YOUR WATER SYSTEM

YOUR WATER

Cal Water began providing high-quality water utility services for the City of Bakersfield's Domestic Water System in 1976. In partnership with the City of Bakersfield, we meet customers' needs using a combination of local groundwater produced by 57 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.

Our company-wide water quality assurance program includes vigilant monitoring throughout our systems and testing at our state-of-the-art laboratory. Additionally, we proactively maintain and upgrade our facilities to provide a reliable, high-quality supply. Together, we are evaluating treatment technologies to bring wells back online, and we have plans to construct three new wells.

CHLORINATION

Chlorination is the addition of chlorine to drinking water systems. It is the most common type of drinking water disinfection, killing bacteria, viruses, and other microorganisms that cause disease or immediate illness. Chlorine is effective and continues to keep water safe as it travels through pipelines to the consumer's tap.

USING WATER WISELY

Whether in wet or dry years, it's important that we make saving water every day a way of life. Using water wisely will ensure that we have enough water in periods of drought and for generations to come.

Cal Water has a robust water conservation program. Visit www.calwater.com/conservation for details.

If you have any questions or concerns, please contact our local office by phone at (661) 837-7200 or through the Contact Us link at www.calwater.com.

WATER QUALITY

THE WATER QUALITY LAB

Water professionals collect samples from throughout the water system for testing at our newly upgraded, state-of-the-art water quality laboratory, which is certified each year through the stringent Environmental Laboratory Accreditation Program (ELAP).

Our laboratory team tests the water for 326 constituents with equipment so sensitive it can detect levels as low as one part per trillion. In order to maintain the ELAP certification, all of our scientists must pass blind-study proficiency tests for every water quality test performed. Water quality test results are entered into our Laboratory Information Management System (LIMS), a sophisticated software program that enables us to react quickly to changes in water quality and analyze water quality trends in order to plan effectively for future needs.

CROSS-CONNECTION CONTROL

So that the high-quality water we deliver is not compromised in the distribution system, Cal Water has a robust cross-connection control program in place. Cross-connection control is critical to making sure that activities on customers' properties do not affect the public water supply. Our cross-connection control specialists ensure that all of the existing backflow prevention assemblies are tested annually, assess all connections, and enforce and manage the installation of new commercial and residential assemblies.

Backflow can occur when certain pressure conditions exist either in our distribution system or within the customer's plumbing, so our customers are our first line of defense. A minor home improvement project—without the proper protections—can create a potentially hazardous situation, so careful adherence to plumbing codes and standards will keep the community's water supply remains safe. Please be sure to utilize the advice or services of a qualified plumbing professional.

Many water-use activities involve substances that, if allowed to enter the distribution system, would be aesthetically displeasing or could even present health concerns.

Some common cross-connections are:

- Garden hoses connected to a hose bib without a simple hose-type vacuum breaker (available at a home improvement store).
- Improperly installed toilet tank fill valves that do not have the required air gap between the valve or refill tube.
- Landscape irrigation systems that do not have the proper backflow prevention assembly installed on the supply line.

The list of materials that could potentially contaminate the water system is vast. According to the United States Environmental Protection Agency (EPA), a wide variety of substances have contaminated drinking water systems throughout the country as a result of poor cross-connection control. Examples include:

- Antifreeze from a heating system.
- Lawn chemicals from a garden hose or sprinkler head.
- Blue water from a toilet tank.
- Carbonated water from a soda dispenser.

Customers must ensure that all plumbing is in conformance with local plumbing codes. Additionally, state law requires certain types of facilities to install and maintain backflow prevention assemblies at the water meter. Cal Water's cross-connection control staff will determine whether you need to install a backflow prevention assembly based on water uses at your location.

DWSAPP

By the end of 2002, Cal Water had submitted to the Division of Drinking Water (DDW) 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 office.

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

The water sources in the City of Bakersfield system are considered most vulnerable to:

- Agriculture
- Stormwater
- 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
- High-density septic systems

YOUR 2023 RESULTS

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, and 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.

WATER HARDNESS

Hardness is a measure of the magnesium, calcium, and carbonate minerals in the water. Water is considered soft if its hardness is less than 75 parts per million (ppm), moderately hard at 75 to 150 ppm, hard between 150 and 300 ppm, and very hard at 300 ppm or higher.

Hard water is generally not a health concern, but it can have an impact on how well soap lathers and is significant for some industrial and manufacturing processes. Hard water may also lead to mineral buildup in pipes or water heaters.

Some people with hard water opt to buy a water softener for aesthetic reasons; however, some water softeners add salt to the water, which can cause problems at wastewater treatment plants. Additionally, people on low-sodium diets should be aware that some water softeners increase the sodium content of the water.

For more information on water hardness, visit **www.calwater.com/video/hardness**.

More information about fluoridation, oral health, and related issues can be found on the DDW web site.

For general information on water fluoridation, visit us online at www.calwater.com.

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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 Safe Drinking Water Hotline at (800) 426-4791.

The sources of drinking water (both tap and bottled) include rivers, lake, 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 activities. Prior to entering the distribution system, source water with constituents over maximum contaminant levels is treated to reduce levels to meet standards set by public health experts.

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 compounds, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural applications, and septic systems.
- Radioactive contaminants, which can be naturally occurring or the result of oil and gas production and mining activities.

In order to keep tap water safe to drink, the EPA and DDW prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations 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 contaminants. EPA and 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.

ABOUT LEAD

As the issue of lead in water continues to be top of mind for many Americans, Cal Water wants to assure you about the quality of your water. We are compliant with health and safety codes mandating use of lead-free materials in water system replacements, repairs, and new installations. We have no known lead service lines in our systems. We test and treat (if necessary) water sources to confirm that the water delivered to customer meters meets all water quality standards and is not corrosive toward plumbing materials.

The water we deliver to your home meets lead standards. However, if present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing (for example, lead solder used to join copper plumbing, and brass and other lead-containing fixtures).

Cal Water is responsible for providing high-quality drinking water to our customers' meters, but cannot control the variety of materials used in properties' plumbing components. 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 2 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 certified lab. More information about lead in drinking water can be found through the Safe Drinking Water Hotline (1-800-426-4791) or at www.epa.gov/safewater/lead.

TESTING FOR LEAD IN SCHOOLS

The State of California required that all public schools built before 2010 test for lead in their drinking water by July 1, 2019. We are committed to supporting our school districts' efforts to protect students and ensure that the drinking water at their school sites are below regulatory limits. We worked with all school districts in our service area that serve kindergarten through 12th grade to develop sampling plans, test samples, and conduct follow-up monitoring, if needed, for corrective actions.

Please see our Testing for Lead in Schools web page for more information. For specific information regarding local school data, see the state web portal lead sampling in schools page.

LEAD AND COPPER RULE

The Lead and Copper Rule requires us to test water inside a representative number of homes that have plumbing most likely to contain lead and/or lead solder to determine the presence of lead and copper or any action level exceedance. An action level is the concentration of a contaminant which, when exceeded, triggers corrective actions before it becomes a health concern. If action levels are exceeded, either at a customer's home or system-wide, we work with the customer to investigate the issue and/or implement corrosion control treatment to reduce lead levels.

LEAD SERVICE LINE INVENTORY (LSLI)

Protecting our customers' health and safety is our highest priority. As part of this commitment, we have been working to identify and replace any old customer water service lines and fittings that may contain lead. California Senate Bill (SB) 1398 required all water utilities in California to develop an inventory of all distribution service line materials, and submit a list of known lead service lines to the state by 2018. A list of unknown service lines that may contain lead, along with a plan for replacement, was due to the state by July 1, 2020. Known lines must be replaced as soon as possible.

More information regarding LSLI and specific data for each water system can be found on the health and safety code page of the state web site.

In your system, results from our lead monitoring program, conducted in accordance with the Lead and Copper Rule, were below the action level for the presence of lead.

PFAS

In April 2024, the EPA adopted the final water quality regulation for certain per- and polyfluoroalkyl substances (PFAS):

- MCL of 4 ppt for PFOS and PFOA.
- MCL of 10 ppt for PFHxS, PFNA, and GenX.
- Hazard Index of 1.0 combined for PFHxS, PFNA, PFBS, and GenX.

Water systems must begin monitoring for these PFAS within three years (2027), and must comply with the regulation within five years (2029).

At Cal Water, protecting our customers' health and safety is our highest priority, and we are committed to complying with all requirements set by the public health experts. We have been preparing for the EPA regulation and its potential impact on—and any treatment needed in—our systems, and already evaluated the impact of the proposed regulation so that we could be better prepared to comply with the final MCLs.

We also have protocols to test our water sources for compliance with the new MCLs. We have long followed recommendations from DDW, and even went beyond by testing every active source in our California systems years ago. Although not required at the time, we believed it was the right thing to do. In any cases across our service areas where detections were above the levels at which state public health experts have recommended water suppliers take action (the previous response level), we took the affected sources out of service until treatment was/can be installed.

Our active water sources are in compliance with current California response levels, based on the running annual average at each site. The response level, which is the level at which a water system should make operational changes to reduce the concentration of a compound, is set with a margin of protection for all people (including sensitive populations) over a lifetime of exposure.

Additionally, we believe a comprehensive approach is needed to properly address the situation. We urged the EPA to establish a consistent, science-based standard as quickly as feasible, and strongly supported state legislation that will prohibit the sale and use of certain products that contain PFAS, require the certification of accurate testing methods for PFAS, and establish a publicly accessible database that houses the sources of PFAS entering water supplies. We have also filed lawsuits to hold PFAS manufacturers responsible—and ultimately prevent our customers from bearing the costs of treatment, to the extent possible—and are pursuing grants where available to further offset customer cost impacts.

As background, PFAS are manmade compounds that have been used to make carpets, clothing, fabrics for furniture, paper packaging for food, and other materials (e.g., cookware) that are resistant to water, grease, or stains. These compounds are also used for firefighting at airfields, which is one way they have found their way into groundwater in certain areas.

Studies indicate that long-term exposure to PFAS over certain levels could have adverse health effects, including developmental effects to fetuses during pregnancy or infants; cancer; or impacts on liver, immunity, thyroid, and other functions. Potential health effects related to PFAS are still being studied, and research is still evolving on this issue.

More information on PFAS is available on the DDW web site.

KEY DEFINITIONS

IN COMPLIANCE: Does not exceed any applicable MCL, SMCL, or action level, as determined by DDW. For some compounds, compliance is determined by averaging the results for one source over a one-year period.

LEVEL 1 ASSESSMENT: A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in the system.

LEVEL 2 ASSESSMENT: A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an E. coli MCL violation has occurred and/or why total coliform bacteria have been found in the system on multiple occasions.

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 is economically and technologically feasible. Secondary MCLs (SMCLs) are set to protect the odor, taste, and appearance of drinking water.

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 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) AND RESPONSE LEVEL (RL): Health-based advisory levels for unregulated contaminants in drinking water. They are used by DDW to provide guidance to drinking water systems.

PRIMARY DRINKING WATER STANDARDS (PDWS): MCLs, MRDLs, and TTs 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 without regard to technological or economic feasability.

REGULATORY ACTION LEVEL (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

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

VARIANCES AND EXEMPTIONS: Permissions from the State Water Resources Control Board (State Board) to exceed an MCL or not comply with a treatment technique under certain conditions.

STANDARD ABBREVIATIONS

AL	Action level
Max	Maximum
MFL	Million fibers per liter
Min	Minimum
N/A	Not applicable
ND	Constituent not detected
NL	Notification level
NTU	Nephelometric turbidity unit
pCi/L	Picocuries per liter (a measure of radiation)
ppb	Parts per billion or micrograms per liter (µg/L)
ppm	Parts per million or milligrams per liter (mg/L)
ppq	Parts per quadrillion or picogram per liter (pg/L)
ppt	Parts per trillion or nanograms per liter (ng/L)
RAA	running annual average
µS/cm	Microsiemens/centimeter

TABLE INTRODUCTION

Every year, Cal Water performs hundreds of thousands of tests to monitor the quality of our water. If any contaminants are detected, they are included in this annual water quality report. However, most of the contaminants we test for are not detected, so they are not listed.

See the Potential Contaminants web page for a complete list of contaminants we test for.

In the table, water quality test results are divided into four major sections: “Primary Drinking Water Standards,” “Secondary Drinking Water Standards,” “State-Monitored Contaminants with Notification Levels,” and “Unregulated Compounds.” Primary standards protect public health by limiting the levels of certain constituents in drinking water. Secondary standards are set for substances that don’t impact health but could affect the water’s taste, odor, or appearance. Some unregulated substances (hardness and sodium, for example) are included for your information. The State allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old.

SUBSTANCE SOURCES

BB	Major biodegradation byproduct of TCE and PCE groundwater contamination
BN	Banned nematocide that may still be present in soils due to runoff/leaching from former use on soybeans, cotton, vineyards, tomatoes, and tree fruit
CF	Discharge from industrial chemical factories
DI	Byproduct of drinking water disinfection
DS	Drinking water disinfectant added for treatment
EN	Naturally present in the environment
ER	Erosion of natural deposits
EX	Extraction and degreasing solvent; used in manufacture of pharmaceuticals and stone, clay, and glass products; fumigant
FD	Discharge from factories, dry cleaners, and auto shops (metal degreaser)
FE	Human and animal waste
FL	Water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
FR	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage
IC	Internal corrosion of household plumbing systems
IM	Discharge from industrial manufacturers
IO	Substances that form ions when in water
IW	Industrial waste
MD	Discharge from metal-degreasing sites and other factories
MF	Discharge from metal factories
OC	Runoff from orchards; glass and electronics production waste
OD	Discharges of oil-drilling waste and from metal refineries
OM	Naturally occurring organic materials
RU	Runoff/leaching from natural deposits
RS	Residue from some surface water treatment processes
SO	Soil runoff
SW	Seawater influence
VA	Various natural and manmade sources
WD	Leaching from wood preservatives
UR	Unregulated constituents with no source listed and that do not have standardized “source of substance” language

Our testing equipment is so sensitive, it can detect constituents as small as 1 part per trillion. That is equivalent to 1 inch over 15 million miles.

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PRIMARY DRINKING WATER STANDARDS

Microbiological	Year Tested	Unit	MCL	PHG (MCLG)	In Compliance	Distribution System-Wide Highest Monthly	Source
Fecal coliform and E. coli	2023	Positive Samples	0[1]	(0)	**Yes**	0	FE

Disinfection Byproducts	Year Tested	Unit	MCL	PHG (MCLG)	In Compliance	Distribution System-Wide Range	Distribution System-Wide Highest Annual Average	Source
Total haloacetic acids (THAA)[2]	2023	ppb	60	N/A	**Yes**	ND–70	40	DI
Total trihalomethane (TTHM)	2023	ppb	80	N/A	**Yes**	ND–59	42	DI

Disinfectants	Year Tested	Unit	MRDL	MRDLG	In Compliance	Distribution System-Wide Range	Distribution System-Wide Average	Source
Free chlorine	2023	ppm	4	4	**Yes**	0.27–2.0	1.3	DS

Lead and Copper	Year Tested	Unit	AL	PHG (MCLG)	In Compliance	Distribution System-Wide 90th Percentile	Distribution System-Wide Samples > AL	Source
Copper	2022	ppm	1.3	0.3	**Yes**	0.14	0 of 50	IC, ER, WD
Lead	2022	ppb	15	0.2	**Yes**	ND	0 of 50	IC, IM, ER

Surface Water—Turbidity and Total Organic Carbon (TOC)	Year Tested	Unit	MCL	PHG (MCLG)	In Compliance	Groundwater —	Groundwater —	Surface Water Highest Level	Surface Water Lowest Monthly %/Removal Ratio	KCWA[3] Highest Level	KCWA[3] Lowest Monthly %/Removal Ratio	Source
Turbidity[4]	2023	NTU	TT	N/A	**Yes**	—	—	0.056	100%	0.07	100%	SO
Total organic carbon[5]	2023	ppm	TT	N/A	**Yes**	—	—	1.62	1.03	2.6	0.69	VA

[1] Exceeds if routine and repeat samples are total coliform-positive and either is E. coli-positive or system failed to take repeat samples following E. coli-positive routine sample or system failed to analyze total coliform-positive repeat sample for E. coli.

[2] In one sample in the City of Bakersfield system was over the MCL for THAA; however, compliance is based on a four-quarter average. The annual average for THAA is less than the MCL and meets the standard. Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.

[3] Part of the system's water supply is purchased from the Kern County Water Agency (KCWA) and Cal Water—North Garden (BKNG). The water provided by KCWA may have ND for some contaminants. For these instances, we put "N/A" as the data was not provided. A comprehensive report for BKNG is completed separately and available for review.

[4] For surface water systems, the TT dictates that the turbidity level of the filtered water be less than or equal to 0.1 NTU in 95% of measurements taken each month and not exceed 1 NTU at any time. Turbidity is a measurement of cloudiness of water. We monitor it because it is a good indicator of the effectiveness of our filtration system.

[5] TOC has no health effects; however, TOC provides a medium for the formation of disinfection byproducts. These byproducts include trihalomethanes and haloacetic acids. The TT dictates that a removal ratio of 1 or higher must be achieved. 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.

2023 WATER QUALITY

Inorganic Chemicals	Year Tested	Unit	MCL	PHG (MCLG)	In Compliance	Groundwater Range	Groundwater Average	Surface Water Range	Surface Water Average	KCWA Range	KCWA Average	Source
Arsenic[1]	2021–2023	ppb	10	0.004 (0)	**Yes**	ND–50	ND	ND	ND	ND	ND	ER, OC
Barium	2021–2023	ppm	1	2 (2)	**Yes**	ND–0.10	ND	ND	ND	ND	ND	ER, OD
Fluoride	2016–2023	ppm	2	1 (4.0)	**Yes**	ND–0.56	ND	ND	ND	ND–0.13	0.09	ER, FL
Nickel	2021–2023	ppb	100	12	**Yes**	ND–53	ND	ND	ND	ND	ND	ER, MF
Nitrite as N	2016–2023	ppm	1	1 (1)	**Yes**	ND–0.45	ND	ND	ND	N/A	N/A	ER, FR
Nitrate as N[2]	2016–2023	ppm	10	10 (10)	**Yes**	ND–5.0	1.7	ND	ND	0.12–1.43	0.53	ER, FR

Synthetic Organic Contaminants (SOCs) Including Pesticides and Herbicides	Year Tested	Unit	MCL	PHG (MCLG)	In Compliance	Groundwater Range	Groundwater Average	Surface Water Range	Surface Water Average	KCWA Range	KCWA Average	Source
Dibromochloropropane	2017–2023	ppt	200	1.7 (0)	**Yes**	ND–57	ND	ND	ND	ND	ND	BN

Volatile Organic Compounds	Year Tested	Unit	MCL	PHG (MCLG)	In Compliance	Groundwater Range	Groundwater Average	Surface Water Range	Surface Water Average	KCWA Range	KCWA Average	Source
1,1-Dichloroethane	2016–2023	ppb	5	3	**Yes**	ND–0.82	ND	ND	ND	ND	ND	EX
1,1-Dichloroethylene	2016–2023	ppb	6	10 (7)	**Yes**	ND–1.2	ND	ND	ND	ND	ND	CF
cis-1,2-Dichloroethylene	2016–2023	ppb	6	13 (70)	**Yes**	ND–0.74	ND	ND	ND	ND	ND	CF, BB
Tetrachloroethylene (PCE)	2016–2023	ppb	5	0.06 (0)	**Yes**	ND–1.8	ND	ND	ND	ND	ND	FD
Trichloroethylene (TCE)	2016–2023	ppb	5	1.7 (0)	**Yes**	ND–0.66	ND	ND	ND	ND	ND	MD

Radiological	Year Tested	Unit	MCL	PHG (MCLG)	In Compliance	Groundwater Range	Groundwater Average	Surface Water Range	Surface Water Average	KCWA Range	KCWA Average	Source
Gross alpha particle activity	2015–2023	pCi/L	15	(0)	**Yes**	ND–8.5	ND	ND–6.5	2.2	0.834–0.834	0.834	ER
Radium 228	2015–2023	pCi/L	N/A	0.019	N/A	ND–1.1	ND	ND	ND	ND	ND	ER
Uranium	2015–2023	pCi/L	20	0.43 (0)	**Yes**	ND–14	1.8	ND	ND	ND	ND	ER

[1] The average arsenic level was ND, with a one-time maximum level of 50 ppb from a singular source. Following the result, the source has been taken offline and is under evaluation for additional treatment. While your drinking water meets the federal and state standards for arsenic, it does contain levels of arsenic. The arsenic standards balance the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. The EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects, such as skin damage and circulatory problems.

[2] The average nitrate as N level was 1.7 ppm, with a maximum level of 5.01 ppm. We are closely monitoring the nitrate levels. Nitrate in drinking water at levels above 10 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 an infant's blood to carry oxygen, resulting in a serious illness; symptoms include shortness of breath and blueness of the skin. Nitrate levels above 10 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.

SECONDARY DRINKING WATER STANDARDS

Contaminants	Year Tested	Unit	SMCL	PHG (MCLG)	In Compliance	Groundwater		Surface Water		KCWA		
						Range	Average	Range	Average	Range	Average	Source
Aluminum	2021–2023	ppb	200	600	**Yes**	ND–120	1.7	ND	ND	ND	ND	ER, RS
Chloride	2016–2023	ppm	500	N/A	**Yes**	6.9–290	27	8.5	8.5	4.21–21.2	9.22	RU, SW
Color[1]	2016–2023	UNITS	15	N/A	**Yes**	ND–50	2.2	ND	ND	ND	ND	OM
Specific conductance[2]	2016–2023	US	1600	N/A	**Yes**	183–1890	344	110	110	81–266	157	SW, IO
Iron[3]	2016–2023	ppb	300	N/A	**Yes**	ND–4600	ND	ND	ND	ND–0.21	0.05	RU, IW
Manganese[4]	2021–2023	ppb	50	N/A	**Yes**	ND–450	ND	ND	ND	ND	ND	RU
Sulfate	2016–2023	ppm	500	N/A	**Yes**	10–490	35	4.7	4.7	7.75–35.1	20.4	RU, IW
Total dissolved solids[5]	2016–2023	ppm	1000	N/A	**Yes**	32–1200	207	100	100	62–162	97	RU
Turbidity (groundwater)[6]	2016–2023	NTU	5	N/A	**Yes**	ND–27	0.62	0.10	0.10	0.04–0.08	0.06	SO
Zinc	2018–2023	ppm	5	N/A	**Yes**	ND–0.09	ND	0.20	0.20	ND–0.05	0.03	RU, IW

[1] In one sample in the City of Bakersfield system, color exceeded the SMCL of 15 UNITS. The source water was being cleared, and this water did not go into the distribution system. The RAA is less than the SMCL. Compliance with the SMCL is based on RAA. We are monitoring the levels to confirm we do not exceed the SMCL RAA. The SMCL was set to protect you against unpleasant aesthetic effects, such as color, taste, odor, and the staining of plumbing fixtures and clothing when washed. Exceeding the SMCL does not pose a health risk.

[2] In one sample in the City of Bakersfield system, specific conductance exceeded the SMCL of 1600 US. The source water was being cleared, and this water did not go into the distribution system. The RAA is less than the SMCL. Compliance with the SMCL is based on RAA. We are monitoring the levels to confirm we do not exceed the SMCL RAA. The SMCL was set to protect you against unpleasant aesthetic effects, such as color, taste, odor, and the staining of plumbing fixtures and clothing when washed. Exceeding the SMCL does not pose a health risk.

[3] In one sample in the City of Bakersfield system, iron exceeded the SMCL of 300 ppb. The source water was being cleared, and this water did not go into the distribution system. The RAA is less than the SMCL. Compliance with the SMCL is based on RAA. We are monitoring the levels to confirm we do not exceed the SMCL RAA. The SMCL was set to protect you against unpleasant aesthetic effects, such as color, taste, odor, and the staining of plumbing fixtures and clothing when washed. Exceeding the SMCL does not pose a health risk.

[4] In one sample in the City of Bakersfield system, manganese exceeded the SMCL of 50 ppb. The source water was being cleared, and this water did not go into the distribution system. The RAA is less than the SMCL. Compliance with the SMCL is based on RAA. We are monitoring the levels to confirm we do not exceed the SMCL RAA. The SMCL was set to protect you against unpleasant aesthetic effects, such as color, taste, odor, and the staining of plumbing fixtures and clothing when washed. Exceeding the SMCL does not pose a health risk.

[5] In one sample in the City of Bakersfield system, total dissolved solids exceeded the SMCL of 1000 ppm. The source water was being cleared, and this water did not go into the distribution system. The RAA is less than the SMCL. Compliance with the SMCL is based on RAA. We are monitoring the levels to confirm we do not exceed the SMCL RAA. The SMCL was set to protect you against unpleasant aesthetic effects, such as color, taste, odor, and the staining of plumbing fixtures and clothing when washed. Exceeding the SMCL does not pose a health risk.

[6] In one sample in the City of Bakersfield system, turbidity (groundwater) exceeded the SMCL of 5 NTU. The source water was being cleared, and this water did not go into the distribution system. The RAA is less than the SMCL. Compliance with the SMCL is based on RAA. We are monitoring the levels to confirm we do not exceed the SMCL RAA. The SMCL was set to protect you against unpleasant aesthetic effects, such as color, taste, odor, and the staining of plumbing fixtures and clothing when washed. Exceeding the SMCL does not pose a health risk.

UNREGULATED COMPOUNDS AND UNREGULATED CONTAMINANT MONITORING RULE (UCMR)

						Groundwater		Surface Water		KCWA		
Constituents	Year Tested	Unit	NL	PHG (MCLG)	In Compliance	Range	Average	Range	Average	Range	Average	Source
1H,1H, 2H, 2H-perfluorooctane sulfonic acid	2023	ppt	N/A	N/A	N/A	ND–2.3	0.02	ND	ND	N/A	N/A	UR
Alkalinity (total)	2016–2023	ppm	N/A	N/A	N/A	26–160	81	26–77	48	28–52	40	UR
Boron	2016–2023	ppm	1	N/A	**Yes**	ND–0.31	0.12	ND–0.11	ND	N/A	N/A	UR
Bromochloroacetic acid	2020	ppb	N/A	N/A	N/A	ND–2.4	1.0	ND	ND	N/A	N/A	UR
Bromodichloroacetic acid	2020	ppb	N/A	N/A	N/A	ND–3.6	1.3	ND	ND	N/A	N/A	UR
Calcium	2016–2023	ppm	N/A	N/A	N/A	2.9–180	30	10	10	6.43–19.9	12.5	UR
Chlorodibromoacetic acid	2020	ppb	N/A	N/A	N/A	ND–0.56	0.17	ND	ND	N/A	N/A	UR
Hexavalent chromium	2015–2018	ppb	N/A	0.02	N/A	ND–1.5	ND	ND	ND	N/A	N/A	UR
Germanium	2020	ppb	N/A	N/A	N/A	ND–3.8	ND	ND	ND	N/A	N/A	UR
Haloacetic acids five	2020	ppb	N/A	N/A	N/A	ND–2.6	ND	ND	ND	N/A	N/A	UR
Haloacetic acids six brominated	2020	ppb	N/A	N/A	N/A	ND–6.2	2.6	3.5	N/A	N/A	N/A	UR
Haloacetic acids nine	2020	ppb	N/A	N/A	N/A	ND–33	15	21	N/A	N/A	N/A	UR
Hardness (total)	2016–2023	ppm	N/A	N/A	N/A	7.5–440	82	32–32	32	16.1–55.8	37.1	UR
Potassium	2016–2023	ppm	N/A	N/A	N/A	ND–2.5	1.1	ND	ND	1.38–2.45	1.86	UR
Magnesium	2016–2023	ppm	N/A	N/A	N/A	ND–8.0	2.2	1.7–1.7	1.7	ND–2.59	1.43	UR
Sodium	2016–2023	ppm	N/A	N/A	N/A	ND–230	34	6.1–6.1	6.1	8.39–28	15.6	UR

2023 WATER QUALITY

Constituents	Year Tested	Unit	NL	PHG (MCLG)	In Compliance	Groundwater		Surface Water		KCWA		
						Range	Average	Range	Average	Range	Average	Source
Perfluorobutanesulfonic acid (PFBS)	2020–2023	ppt	500	N/A	**Yes**	ND–2.3	0.02	ND	ND	N/A	N/A	UR
Perfluorodecanoic acid (PFDA)	2020–2023	ppt	N/A	N/A	N/A	ND–4.0	0.03	ND	ND	N/A	N/A	UR
Perfluorononanoic acid (PFNA)	2020–2023	ppt	N/A	N/A	N/A	ND–4.8	0.10	ND	ND	N/A	N/A	UR
Perfluorhexanesulfonic acid (PFHxS)[1]	2020–2023	ppt	3	N/A	**Yes**	ND–7.3	0.17	ND	ND	N/A	N/A	UR
Perfluorooctanesulfonic acid (PFOS)[1]	2020–2023	ppt	6.5	N/A	**Yes**	ND–8.9	0.29	ND	ND	N/A	N/A	UR
Perfluoropentanoic acid	2023	ppt	N/A	N/A	N/A	ND–4.2	0.14	ND	ND	N/A	N/A	UR
Perfluoropentanesulfonic acid	2023	ppt	N/A	N/A	N/A	ND–2.5	0.07	ND	ND	N/A	N/A	UR
Vanadium	2016–2023	ppb	50	N/A	**Yes**	ND–23	5.6	ND	ND	N/A	N/A	UR
pH	2016–2023	Units	N/A	N/A	N/A	6.2–9.5	8.0	7.0–7.9	7.5	7.21–7.31	7.28	UR

[1] Per-and polyfluoroalkyl substances (PFAS) are a broad class of chemicals, which includes perfluorooctanic acid (PFOA) and PFOS, perfluorobutanesulfonic acid (PFBS), and PFHxS. NLs have been established for these four compounds. NLs are non-regulatory, health-based advisory levels established for constituents that may be candidates for regulation in the future. Studies indicate that long-term exposure to PFOS/PFOA/PFHxS over certain levels could have adverse health effects, including developmental effects to fetuses during pregnancy or breastfed infants; cancer; or liver, immunity, thyroid, and other effects. Cal Water is working closely with DDW and EPA to conduct extensive monitoring and identify the best available treatment technology for treatment of PFAS.

Thanks for taking the time to learn more about your water quality.

Even more information awaits you at 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.

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