Quality. Service. Value.®

WATER QUALITY REPORT 2022

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 continue to be committed to providing a reliable supply of safe, clean water to our customers and communities. As water quality regulations have become more stringent over recent years, we have stayed on top of them, adding treatment or adjusting, to ensure we meet our surpass them—because protecting our customers' health and safety is our highest priority.

In the City of Bakersfield's Domestic Water System in 2021, we conducted 46,653 tests on 8,273 water samples for 181 constituents. We are pleased to confirm that we met every primary and secondary state and federal water quality standard last year.

Fulfilling our promise to provide quality, service, and value means more than treatment and testing, however. It also means maintaining and upgrading the infrastructure needed to transport water from the source to your tap through a network of pumps, tanks, and pipes. It means having expert professionals available to help you with both routine service needs and emergencies. It also means that, although the costs to obtain, treat, test, store, and deliver the water continue to increase across the country, we do everything we can to operate as efficiently as possible to keep your water affordable–less than a penny per gallon in most of our service areas, in fact.

We encourage you to review this annual water quality report, also called your Consumer Confidence Report, as it details any constituents detected in your water supply in 2022 and shows how your water compares to federal and state standards. It also provides information on current water quality issues and steps we are taking to protect your health and safety.

If you have any questions, we are here to assist you. You can reach us by phone or email at our local office, or online at **www.calwater.com**. You can also get water service news on our web site and via our Facebook, 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 ensure you receive important emergency and other information.

Sincerely, Tamara Johnson, District Manager, Bakersfield District
Art Chianello, Water Resources Manager, City of Bakersfield

[Bakersfield District | 3725 South H Street, Bakersfield, CA 93304 | 661.837.7200]

ACTION ITEMS

There were no significant issues in your water system in 2022, 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 62 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 ensure 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).

Scientists, chemists, and microbiologists test 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

To ensure 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 ensuring 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 ensure 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.

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

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

2022 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.

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/waterquality/fluoride.

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.

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 ensure that tap water is safe to drink, the EPA and DDW prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. 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 ensure 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 on the Safe Drinking Water Hotline or at **www.epa.gov/safewater/lead**.

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.

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.

For more information, please see our **Testing for Lead in Schools** web page. For specific information regarding local school data, see the **state web portal**.

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 state web site**.

PFAS

Per- and polyfluoroalkyl substances (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.

In March 2023, EPA issued a proposed national primary drinking water regulation for certain PFAS. The proposed regulation calls for a maximum containment level for PFOS and PFOA of 4 ppt each. Four additional PFAS—PFNA, PFHxS, PFBS, and GenX— would have a combined hazard index limit of 1.0; the hazard index calculation would determine if the levels of these PFAS as a mixture pose a potential risk.

Knowing that these were constituents of emerging concern, Cal Water proactively tested active sources in our systems for these PFAS years ago. Although not required, we believed it was the right thing to do. In any areas across the state where detections were above levels at which DDW recommends water suppliers take action (the response level), we took the affected sources out of service until treatment was or can be installed.

None of our active water sources have levels of these six PFAS compounds over current California response levels. 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. We are currently evaluating the impact of the proposed regulation on our systems and any treatment required should the proposed regulation be adopted as is.

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 a lawsuit 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.

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.

While we are doing our part to treat the water and meet the standards public health experts have set, it's important that our population as a whole focuses on being good stewards of the environment and takes steps to prevent impacting the water supply.

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.

STANDARD ABBREVIATIONS

AL	Action level	Max	Maximum
Min	Minimum	N/A	Not applicable
NL	Notification level	NTU	Nephelometric turbidity unit
ND	Constituent not detected		
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)		
µS/cm	Microsiemens/centimeter		

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.

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
BT	Banned nematocide that may still be present in soils due to runoff and leaching from grain and fruit crops
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
IA	Discharge from industrial and agricultural chemical factories; leaching from hazardous waste sites; used as cleaning and maintenance solvent, paint and varnish remover, and cleaning and degreasing agent; byproduct of production of other compounds and pesticides
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
PG	Discharge from petroleum, glass, and metal refineries; discharge from mines and chemical manufacturers; runoff from livestock lots (feed additive)
PT	Discharge from petroleum refineries
RU	Runoff/leaching from natural deposits
RS	Residue from some surface water treatment processes
SO	Soil runoff
SW	Seawater influence
UN	Underground gas tank leaks
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

2022 WATER QUALITY

Primary Drinking Water Standards

Microbiological	Year Tested	Unit	MCL	PHG (MCLG)	In Compliance	Distribution System-Wide Highest Monthly	Source
Fecal coliform and E. coli	2022	Positive Samples	0[1]	(0)	**Yes**	0	FE

Radiological	Year Tested	Unit	MCL	PHG (MCLG)	In Compliance	Groundwater		KCWA[2]		Source
						Range	Average	Range	Result	
Gross alpha particle activity	2014–2022	pCi/L	15	(0)	**Yes**	ND-8.5	ND	N/A	2.11	ER
Uranium	2014–2022	pCi/L	20	0.43 (0)	**Yes**	ND-14	1.7	N/A	ND	ER

Inorganic Chemicals	Year Tested	Unit	MCL	PHG (MCLG)	In Compliance	Groundwater		KCWA		Source
						Range	Average	Range	Average/ Result	
Arsenic[3]	2020–2022	ppb	10	0.004 (0)	**Yes**	ND-16	ND	2–3	1	ER, OC
Barium	2020–2022	ppm	1	2 (2)	**Yes**	ND-0.10	ND	N/A	ND	ER, OD
Fluoride	2016–2022	ppm	2	1 (4.0)	**Yes**	ND-0.84	ND	0.24–0.30	0.27	ER, FL
Nickel	2020–2022	ppb	100	12	**Yes**	ND-51	ND	N/A	ND	ER, MF
Nitrate as N[4]	2016–2022	ppm	10	10 (10)	**Yes**	ND-6.1	1.8	ND-0.10	0.03	ER, FR
Selenium	2019–2022	ppb	50	30 (50)	**Yes**	ND-11	ND	N/A	ND	PG, ER

[1] Exceeded if routine and repeat samples are total coliform-positive and either is E. coli-positive, the system fails to take repeat samples following an E. coli-positive routine sample, or the system fails to analyze a total coliform-positive repeat sample for E. coli.

[2] A part of the system's water supply is purchased from the Kern County Water Agency (KCWA). The water provided by KCWA may have ND for some contaminants. For these instances, we put "N/A" as the data was not provided.

[3] The average arsenic level was ND, with a maximum level of 16 ppb. While your drinking water meets the federal and state standards for arsenic, it does contain low 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.

[4] The average nitrate level was 1.8 ppm, with a maximum level of 6.1 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.

2022 WATER QUALITY
(Continued)

Lead and Copper	Year Tested	Unit	AL	PHG (MCLG)	In Compliance	Distribution System-Wide		Source
						90th Percentile	Samples > AL	
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

Synthetic Organic Contaminants (SOCs) Including Pesticides and Herbicides	Year Tested	Unit	MCL	PHG (MCLG)	In Compliance	Groundwater		KCWA		Source
						Range	Average	Range	Average/ Result	
1,2,3-Trichloropropane[1]	2019–2022	ppt	5	0.7	**Yes**	ND-5	ND	N/A	ND	IA
Dibromochloropropane	2017–2022	ppt	200	1.7 (0)	**Yes**	ND-57	ND	N/A	ND	BN
Ethylene dibromide	2017–2022	ppt	50	10 (0)	**Yes**	ND-21	ND	N/A	ND	PT, UN, BT

Volatile Organic Compounds	Year Tested	Unit	MCL	PHG (MCLG)	In Compliance	Groundwater		KCWA		Source
						Range	Average	Range	Result	
1,1-Dichloroethane	2016–2022	ppb	5	3	**Yes**	ND-0.88	ND	N/A	ND	EX
1,1-Dichloroethylene	2016–2022	ppb	6	10 (7)	**Yes**	ND-1.5	ND	N/A	ND	CF
cis-1,2-Dichloroethylene	2016–2022	ppb	6	13 (70)	**Yes**	ND-0.80	ND	N/A	ND	CF, BB
Tetrachloroethylene (PCE)	2016–2022	ppb	5	0.06 (0)	**Yes**	ND-1.8	ND	N/A	ND	FD
Trichloroethylene (TCE)	2016–2022	ppb	5	1.7 (0)	**Yes**	ND-0.87	ND	N/A	ND	MD

Disinfection Byproducts	Year Tested	Unit	MCL	PHG (MCLG)	In Compliance	Distribution System-Wide		Source
						Range	Highest Annual Average	
Total haloacetic acids (THAA)	2022	ppb	60	N/A	**Yes**	ND-41	25	DI
Total trihalomethane (TTHM)	2022	ppb	80	N/A	**Yes**	ND-56	35	DI

Disinfectants	Year Tested	Unit	MRDL	MRDLG	In Compliance	Distribution System-Wide		Source
						Range	Average	
Free chlorine	2022	ppm	4	4	**Yes**	0.28–2.2	1.3	DS

[1] In one sample in Bakersfield, 1,2,3-TCP (TCP) was at the MCL; however, compliance is based on a four-quarter average. The annual average for TCP is less than the MCL and meets the standard. Some people who drink water containing TCP in excess of the MCL over many years may have an increased risk of getting cancer.

2022 WATER QUALITY
(Continued)

Secondary Drinking Water Standards

Contaminants	Year Tested	Unit	SMCL	PHG (MCLG)	In Compliance	Groundwater		KCWA		Source
						Range	Average	Range	Average/ Result	
Aluminum	2020–2022	ppb	200	600	**Yes**	ND-69	1.8	ND-120	67	ER, RS
Chloride	2016–2022	ppm	500	N/A	**Yes**	7.2–290	25	10.4–14.7	12.2	RU, SW
Color	2016–2022	UNITS	15	N/A	**Yes**	ND-5.0	1.8	N/A	<2.5	OM
Specific conductance[1]	2016–2022	µS/cm	1600	N/A	**Yes**	183–1890	332	213–326	264	SW, IO
Copper	2018–2022	ppm	1	0.3	**Yes**	ND-0.06	ND	N/A	ND	IC, ER, WD
Iron	2016–2022	ppb	300	N/A	**Yes**	ND-140	ND	N/A	ND	RU, IW
Odor	2016–2022	T.O.N.	3	N/A	**Yes**	ND-1.0	ND	1.4–2.0	1.6	OM
Sulfate	2016–2022	ppm	500	N/A	**Yes**	4.7–490	33	32.4–55.8	43.1	RU, IW
Total dissolved solids[2]	2016–2022	ppm	1000	N/A	**Yes**	32–1200	200	115–182	148	RU
Turbidity (groundwater)	2016–2022	NTU	5	N/A	**Yes**	ND-1.2	0.17	0.04–0.07	0.06	SO
Zinc	2018–2022	ppm	5	N/A	**Yes**	ND-0.12	ND	ND-0.056	0.027	RU, IW

[1] In one sample in the City of Bakersfield system, specific conductance exceeded the SMCL. The source did not run long enough before sampling, and we did not provide this water to the distribution system. The running annual average (RAA) is less then the SMCL. Compliance with the SMCL is based on an RAA. We are monitoring the levels to ensure we do not exceed the SMCL. 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, total dissolved solids exceeded the SMCL. The source did not run long enough before sampling, and we did not provide this water to the distribution system. The RAA is less then the SMCL. Compliance with the SMCL is based on an RAA. We are monitoring the levels to ensure we do not exceed the SMCL. 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.

2022 WATER QUALITY
(Continued)

State-Regulated Contaminants with Notification Levels

Contaminants	Year Tested	Unit	NL	PHG (MCLG)	In Compliance	Groundwater		KCWA		Source
						Range	Average	Range	Result	
Boron	2016–2022	ppm	1	N/A	**Yes**	ND-0.31	0.13	N/A	0.18	UR
Perfluorhexanesulfonic acid (PFHxS)[1]	2020–2022	ppt	3	N/A	**Yes**	ND-7.0	0.11	N/A	N/A	UR
Perfluorooctanesulfonic acid (PFOS)[1]	2020–2022	ppt	6.5	N/A	**Yes**	ND-8.4	0.20	N/A	N/A	UR
Vanadium	2016–2022	ppb	50	N/A	**Yes**	ND-24	6.9	N/A	ND	UR

Unregulated Contaminant Monitoring Rule (UCMR)

Constituents	Year Tested	Unit	MCL	PHG (MCLG)	In Compliance	Groundwater		KCWA		Source
						Range	Average	Range	Average	
Germanium	2020	ppb	N/A	N/A	N/A	ND-3.8	ND	—	—	UR
Haloacetic acids five	2020	ppb	N/A	N/A	N/A	ND-2.6	ND	—	—	UR
Haloacetic acids six brominated	2020	ppb	N/A	N/A	N/A	ND-6.2	2.6	—	—	UR
Haloacetic acids nine	2020	ppb	N/A	N/A	N/A	ND-33	15	—	—	UR

[1] Per-and polyfluoroalkyl substances (PFAS) is a broad class of chemicals, which includes perfluorooctanic acid (PFOA), perfluorooctanesulfonic acid (PFOS), perfluorobutanesulfonic acid (PFBS), and perfluorohexanesulfonic acid (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/PFBS/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 have identified the best available treatment technology for treatment of PFAS.

2022 WATER QUALITY
(Continued)

Unregulated Compounds

Constituents	Year Tested	Unit	MCL	PHG (MCLG)	In Compliance	Groundwater		KWCA		Source
						Range	Average	Range	Average/ Result	
Alkalinity (total)	2016–2022	ppm	N/A	N/A	N/A	27–150	80	54–78	65	UR
Calcium	2016–2022	ppm	N/A	N/A	N/A	2.9–180	29	14.7–28.2	20.7	UR
Hexavalent chromium[1]	2014–2018	ppb	N/A	0.02	N/A	ND-1.8	ND	N/A	0.005	UR
Hardness (total)	2016–2022	ppm	N/A	N/A	N/A	7.5–440	79	47–90.9	66.7	UR
Potassium	2016–2022	ppm	N/A	N/A	N/A	ND-2.5	1.3	2.13–2.85	2.46	UR
Magnesium	2016–2022	ppm	N/A	N/A	N/A	ND-8.0	2.2	2.5–5	3.63	UR
Sodium	2016–2022	ppm	N/A	N/A	N/A	ND-230	34	24.6–32.3	27.7	UR
Perfluorodecanoic acid (PFDA)	2020–2022	ppt	N/A	N/A	N/A	ND-4.0	0.03	N/A	N/A	UR
Perfluorononanoic acid (PFNA)	2020–2022	ppt	N/A	N/A	N/A	ND-5.2	0.09	N/A	N/A	UR
pH	2016–2022	Units	N/A	N/A	N/A	6.3–9.3	7.9	7.15–7.30	7.24	UR

[1] The previous MCL of 0.010 mg/L (10 ppb) for hexavalent chromium was withdrawn on September 11, 2017, and there is currently no MCL in effect. The state recommends that any hexavalent chromium results above the detection limit of 1 ppb still be reported.

THANK YOU.

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

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