



Golden State
Water Company
A Subsidiary of American States Water Company

Barstow Water System



2019

Consumer Confidence Report on Water Quality for 2018

Providing Quality Drinking Water in California Since 1929

www.gswater.com/BarstowCCR

Golden State Water Company (Golden State Water) is pleased to present our 2019 Annual Water Quality Report (Consumer Confidence Report), providing customers with important information regarding local water quality and service during the 2018 calendar year.

Golden State Water is proud to report that the water delivered to your tap continues to meet all federal and state quality standards established to protect public health and safety. Within this document, you will find information regarding local water supply sources, testing and the steps Golden State Water takes to ensure our water is in compliance with standards set by the United States Environmental Protection Agency (USEPA), State Water Resources Control Board's (State Board) Division of Drinking Water and California Public Utilities Commission (CPUC).

For more than 90 years, Golden State Water has been committed to providing high-quality water and reliable service throughout California. Delivering drinking water is serious business, and our team of scientists, engineers and water experts is dedicated to protecting our water systems and ensuring the water we deliver to local homes and businesses meets the stringent standards set by the state and federal governments and is safe to drink.

Golden State Water provides water service to approximately 1 million customers in more than 80 communities throughout California. We aggressively monitor and test for hundreds of contaminants in each of our 37 water systems and have consistently scored among the top water companies for compliance with water quality regulations.

To access the most up-to-date Water Quality Report for your area, sampling results and to learn more about common contaminants, you can visit www.gswater.com/water-quality/. If you have any questions about this report, please contact our 24-hour Customer Service Center at 1.800.999.4033 or email us at customerservice@gswater.com.

Golden State Water is constantly working toward 100 percent customer satisfaction and encourages all customers to visit www.gswater.com and follow us on Twitter and on Facebook at [@GoldenStateH2O](https://twitter.com/GoldenStateH2O).

On behalf of everyone at Golden State Water, thank you for allowing us the opportunity to serve you and your family.

Sincerely,



Robert Sprowls
President and Chief Executive Officer
Golden State Water Company



Perry Dahlstrom
General Manager, Mountain-Desert District
Golden State Water Company

About the Company

Golden State Water Company, a subsidiary of American States Water Company (AWR), provides water service to approximately one million Californians located in over 80 communities throughout 10 counties in Northern, Coastal and Southern California. The Company also distributes electricity to more than 24,000 customers in the Big Bear recreational area of California. AWR's contracted services subsidiary, American States Utility Services, Inc., provides operations, maintenance and construction management services for water and wastewater systems located on military bases throughout the country.

Where Does My Water Come From?

Water delivered to customers in the Barstow system is groundwater pumped from the Mojave River Basin-Centro Sub-Basin, which is the center of the Mojave Basin extending northwesterly and southeasterly from the Mojave River.

Source Water Assessment

Golden State Water Company conducted a source water assessment in July, August and September 2000 for each groundwater well serving the customers of its Barstow system.

All of the 23 local water sources are considered most vulnerable to one or more of the following activities, which have not been detected in the water supply: animal operations, active and historic gas stations, auto body and repair shops, chemical/petroleum pipelines, farm machinery repair, illegal activities/ unauthorized dumping, landfills/dumps, sand and gravel mining, and railroad yard maintenance and fueling areas.

Eighteen of the 23 groundwater wells are also considered most vulnerable to the following activities associated with contaminants detected in the water supply: high-and low-density septic systems and high-density housing

A copy of the assessment may be viewed at:

State Board San Bernardino District Office
464 West 4th St., Suite 437, San Bernardino, CA 92401
or
Golden State Water Company, Apple Valley Office
13608 Hitt Rd., Apple Valley, CA 92308

You may request a summary of the assessment be sent to you by contacting: State Board San Bernardino District Office at 1.909.383.4328

For more details, contact George Zakhari, Associate Water Quality Engineer, at 1.800.999.4033.

Laboratory Analyses

Through the years, we have taken thousands of water samples to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants in your drinking water. The table we provide shows only detected contaminants in the water.

Even though all the substances listed here are under the Maximum Contaminant Level (MCL), we feel it is important that you know exactly what was detected and how much of these substances were present in your water. Compliance (unless otherwise noted) is based on the average level of concentration below the MCL. The state allows us to monitor for some contaminants less than once per year because the concentrations do not change frequently. Some of our data, while representative, is more than a year old.

Arsenic – While your drinking water does meet the federal and state standard for arsenic, it does contain low levels of arsenic. The arsenic standard balances the current understanding of arsenic's possible health effects against the cost of removing arsenic from drinking water. The USEPA 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.

Lead – 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. Golden State Water Company is responsible for providing high quality drinking water, but cannot control the variety of materials used in 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 two minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information about lead in drinking water, testing methods and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at 1.800.426.4791 or at <http://www.epa.gov/safewater/lead>.

Nitrate – Nitrate in drinking water at levels above 10 mg/L is a health risk for infants of less than six months of age. Such nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in a serious illness; symptoms include shortness of breath and blueness of the skin. Nitrate levels above 10 mg/L may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with certain specific enzyme deficiencies. If you are caring for an infant, or you are pregnant, you should ask for advice from your health care provider.

School Lead Testing – Water quality and protecting public health are top priorities for Golden State Water Company, and we are proud to have partnered with schools throughout our service areas over the last few years to test the drinking water at their facilities for the presence of lead.

California state law (AB 746), established in 2018, requires that all public K-12 schools built before January 1, 2010, have their drinking water tested for lead before the deadline of July 1, 2019. With that deadline approaching, we are pleased to report that the vast majority of schools we serve have already completed testing.

Golden State Water has been working collaboratively with schools to test the water at drinking fountains, cafeterias, food preparation areas and other locations on campus.

To learn more about the school lead testing program and to see if your school has been tested, please visit www.gswater.com/schools.

Glossary of Terms

Maximum Contaminant Level (MCL)

The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the public health goals and maximum contaminant level goals as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste and appearance of drinking water.

California Notification Level (NL)

Non-regulatory, health-based advisory levels established by the State Board for contaminants in drinking water for which an MCL has not been established.

Maximum Contaminant Level Goal (MCLG)

The level of contaminant in drinking water below which there is no known or expected risk to health. Maximum contaminant level goals are set by the United States Environmental Protection Agency (USEPA).

Maximum Residual Disinfectant Level (MRDL)

The highest level of a disinfectant allowed in drinking water. There is convincing evidence that the 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.

Primary Drinking Water Standard (PDWS)

MCLs, MRDLs and treatment techniques (TTs) for contaminants that affect health, along with their monitoring and reporting requirements.

Public Health Goal (PHG)

The level of a contaminant in drinking water below which there is no known or expected risk to health. Public health goals are set by the California Environmental Protection Agency (CalEPA).

Regulatory Action Level (AL)

The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

Contaminants are measured in	Unit Abbreviation	Also known as	This can be compared to...
Parts per million (PPM)	mg/L	milligrams per liter	1 second in 12 days
Parts per billion (PPB)	µg/L	micrograms per liter	1 second in 32 years
Parts per trillion (PPT)	ng/L	nanograms per liter	1 second in 32,000 years
Grains per gallon	grains/gallon	a measurement for water hardness often used for sizing household water softeners	1 grain/gal equals 17.1 mg/L of hardness
Nephelometric Turbidity Units	NTU	a measurement of the clarity of water	Turbidity in excess of 5 NTU is noticeable to the average person
Microsiemens per centimeter	µS/cm	a measurement of a solution's ability to conduct electricity	
Picocuries per liter	pCi/L	a measurement of radioactivity in water	

YOUR WATER MEETS ALL CURRENT FEDERAL AND STATE REQUIREMENTS

Barstow Water System – Source Water Quality

Primary Standards - Health Based (units)	Primary MCL	PHG (MCLG)	Range of Detection	Average Level	Most Recent Sampling Date	Typical Source of Constituent
Inorganic Constituents						
Arsenic (µg/L)	10	0.004	ND - 7.2	3.7	2017	Erosion of natural deposits; runoff from orchards, glass and electronics production wastes
Barium (mg/L)	1	2	ND - 0.11	ND	2017	Discharges of oil drilling wastes and from metal refineries; erosion of natural deposits
Fluoride (mg/L)	2.0	1	0.36 - 0.64	0.48	2017	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Nickel (µg/L)	100	12	ND - 14	ND	2017	Erosion of natural deposits; discharge from metal factories
Nitrate [as N] (mg/L)	10	10	2.1 - 9.3	4.1	2018	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Radioactive Constituents						
Gross Alpha Activity (pCi/L)	15(a)	(0)	ND - 7.5	ND	2018	Erosion of natural deposits
Radium 226 (pCi/L)	5	0.05	ND - 1.4	ND	2018	Some people who drink water containing radium 226 in excess of the MCL over many years may have an increased risk of getting cancer.
Uranium (pCi/L)	20	0.43	ND - 5.7	3.2	2018	Erosion of natural deposits
Secondary Standards - Aesthetic (units)	Secondary MCL	PHG (MCLG)	Range of Detection	Average Level	Most Recent Sampling Date	Typical Source of Constituent
Color (units)	15	n/a	ND - 3	ND	2017	Naturally-occurring organic materials
Chloride (mg/L)	500	n/a	47 - 110	77	2017	Runoff/leaching from natural deposits; seawater influence
Iron (µg/L)	300	n/a	ND - 250	ND	2017	Leaching from natural deposits; industrial wastes
Odor---Threshold (units)	3	n/a	ND - 2	ND	2017	Naturally-occurring organic materials
Specific Conductance (µS/cm)	1600	n/a	510 - 1,000	740	2017	Substances that form ions when in water; seawater influence
Sulfate (mg/L)	500	n/a	62 - 190	110	2017	Runoff/leaching from natural deposits; industrial wastes
Turbidity (units)	5	n/a	ND - 1.7	0.59	2017	Soil runoff
Total Dissolved Solids (mg/L)	1000	n/a	320 - 670	460	2017	Runoff/leaching from natural deposits
Other Parameters (units)	Notification Level	PHG (MCLG)	Range of Detection	Average Level	Most Recent Sampling Date	Typical Source of Constituent
Alkalinity (mg/L)	n/a	n/a	110 - 150	130	2017	
Calcium (mg/L)	n/a	n/a	43 - 81	60	2017	
Hardness [as CaCO ₃] (mg/L)	n/a	n/a	140 - 260	200	2017	The sum of polyvalent cations present in the water, generally magnesium and calcium; the cations are usually naturally occurring
Hardness [as CaCO ₃] (grains/gal)	n/a	n/a	8.2 - 15	12	2017	
Magnesium (mg/L)	n/a	n/a	7.9 - 15	11	2017	
pH (pH units)	n/a	n/a	7.4 - 8.1	7.8	2017	
Potassium (mg/L)	n/a	n/a	2.0 - 3.0	2.5	2017	
Sodium (mg/L)	n/a	n/a	43 - 120	69	2017	Refers to the salt present in the water and is generally naturally occurring

Barstow Water System – Distribution Water Quality

Disinfection Byproducts and Disinfectant Residuals (units)	Primary MCL (MRDL)	PHG (MRDLG)	Range of Detection	Average Level	Most Recent Sampling Date	Typical Source of Constituent	
Chlorine [as Cl ₂] (mg/L)	(4.0)	(4)	0.3 - 2.2	1.6	2018	Drinking water disinfectant added for treatment	
HAA5 [Total of Five Haloacetic Acids] (µg/L)	60	n/a	ND - 2.2	ND	2018	Byproduct of drinking water disinfection	
TTHMs [Total of Four Trihalomethanes] (µg/L)	80	n/a	3.0 - 14	11	2018	Byproduct of drinking water disinfection	
Inorganic Constituents (units)	Action Level	PHG (MCLG)	Sample Data	90th % Level	Most Recent Sampling Date	Typical Source of Constituent	
Copper (mg/L)	1.3	0.3	None of the 32 samples collected exceeded the action level.	0.31	2016	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives	
Lead sampling in schools and residential plumbing	Action Level	PHG	Sample Data	90th % Level	Most Recent Sampling Date	Typical Source	Number of Schools Tested (b)
Lead (µg/L)	15	0.2	None of the 32 samples collected exceeded the action level.	ND	2016	Internal corrosion of household water plumbing systems; discharges from industrial manufacturerers; erosion of natural deposits.	10

(a) MCL is based on Gross Alpha minus Uranium.

(b) The State of California has made lead sampling in schools mandatory with a compliance window through 2019.

ND = Not Detected

CaCO₃ = Calcium Carbonate

This table includes data only on constituents that were detected.

Conserving for California

The 2018-19 winter season has provided an abundance of rain and snow for most of California, and water supply sources in many regions have recharged to normal levels. Although winter storms arrived a little late in the season, the state's snowpack water content measured at record levels in March 2019.

While water supply conditions have improved for a large part of the state, sources in some regions have yet to recharge to historical norms and communities continue to struggle with supply insecurity.

Golden State Water Company reminds customers that California is a drought-prone state, and there is no certainty that we will experience wet winters in the years to come. We must continue to use water responsibly to protect against and prepare for future droughts. It's important that we all work together to make conservation a part of our daily lives.

State law prohibits actions that result in water waste, such as hosing off driveways and sidewalks, washing a motor vehicle with a hose without a shut-off nozzle, watering outdoor landscapes that causes excess runoff, operating decorative fountains that do not recirculate water, and watering ornamental turf or public street medians.

Golden State Water thanks you for your conservation efforts. To learn more about conservation programs and/or water-use restrictions in your area, please visit www.gswater.com or call 1.800.999.4033.

Risk to Tap and Bottled Water

Drinking water, including bottled water, may reasonably be expected to contain 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 1.800.426.4791.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the layers in the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, which can pick up substances resulting from the presence of animal or human activity.

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (U.S. EPA) and the State Water Resources Control Board (State Board) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The U.S. Food and Drug Administration regulations and California law also establish limits for contaminants in bottled water that provide the same protection for public health.

Contaminants in Drinking Water Sources May 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, and farming
- ◆ Pesticides and herbicides that may come from a variety of sources such as agriculture, urban stormwater runoff and residential uses
- ◆ Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff and septic systems
- ◆ Radioactive contaminants that can be naturally occurring or be the result of oil and gas production and mining activities

For People with Sensitive Immune Systems

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised people, such as those individuals with cancer undergoing chemotherapy, those who have undergone organ transplants, those with HIV/AIDS or other immune system disorders, some elderly populations, and

If You Have Questions – Contact Us

For information about your water quality or to find out about upcoming opportunities to participate in public meetings, please contact our 24-hour Customer Service Center at 1.800.999.4033. Visit us online at www.gswater.com or email us at customerservice@gswater.com.

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

infants, can be particularly at risk from infections. These people should seek advice from their health care providers.

The USEPA and Centers for Disease Control issue guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants. To obtain a copy of these guidelines, please call the USEPA's Safe Drinking Water Hotline at 1.800.426.4791.

Connect with us to learn more!

Visit www.gswater.com to:

- ◆ Access the latest Water Quality Report for your area
- ◆ Get the latest updates and news regarding the drought and state/local restrictions
- ◆ Learn more about water-use efficiency, including programs and rebates in your area
- ◆ Understand your water bill and learn about payment options
- ◆ Obtain information about programs for low-income customers (CARW)
- ◆ Sign up to receive email updates about your water service

For additional information, please contact our 24-hour Customer Service Center at 1.800.999.4033 or email us at customerservice@gswater.com.

Cross Connection Control Program

Golden State Water Company's Cross Connection Control Program provides a level of certainty that the water in the company's distribution system is protected from possible backflow of contaminated water from commercial or industrial customers' premises. For additional information, visit <http://www.gswater.com/protecting-our-drinking-water/>.

Hydrant Flushing

Hydrant flushing is an essential maintenance procedure that all water providers must perform periodically to ensure the delivery of water that meets state and federal drinking water standards.

Flushing is a necessary part of maintaining the water system and the quality of the water within it. Golden State Water Company has modified procedures to minimize the amount of water released during flushing activities. Water used for flushing represents less than 1 percent of the total water usage in each of our water systems.

For more information about hydrant flushing, visit <http://www.gswater.com/flushing-info/>.

