

2011 WATER QUALITY REPORT



**Golden State
Water Company**

A Subsidiary of American States Water Company

An Ongoing Commitment to the Communities We Serve



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Protecting and Preserving Your Drinking Water

We are pleased to present the following 2011 Water Quality Report, which contains information about testing completed in your water system through December 2010.

For more than 80 years, Golden State Water Company (GSWC) has taken seriously its job as the guardian of drinking water quality for its customers. GSWC is regulated by county, state and federal governments, and we are proud to say the quality of your water regularly meets all drinking water standards.

We must sample for more than 230 regulated and unregulated elements in our water systems. Each week, GSWC's industry professionals take water samples to monitor quality at approved sites at the water source and throughout the distribution system. We spend more than \$650,000 per year on laboratory tests to make sure the water in all of our water systems is of high quality and meets standards.

If there is an exceedance of a drinking water standard, we are required to notify you quickly and take action to restore normal service.

We pride ourselves on our strong customer service culture that comes from industry knowledge and relationships built over 80 years in the California water industry. Our around-the-clock Customer Service Center has representatives to answer questions and address any water concerns day or night. Our website, www.gswater.com, contains a wide range of topics, including information about water quality, your local customer service area, and water-use efficiency.

Speaking of water-use efficiency, everyone must play a role to preserve our limited water resources. While the recent rainy season in California produced above average precipitation, the state will continue to experience cyclical droughts and other pressures on our limited resources. Water-use efficiency remains one of the best and least-cost ways to maintain a reliable source of high quality water now and for future generations. Thank you for any steps you may have taken to date and please continue your efforts.

On behalf of all of us at Golden State Water Company, thank you for providing us the opportunity to serve you. If you have any questions about this report, please call our Customer Service Center at 1-800-999-4033.

Sincerely,



Robert Sprowls
President and Chief Executive Officer
Golden State Water Company



Perry Dahlstrom
Mountain Desert District Manager
Golden State Water Company

About the Company

Every day, well over a million people in the United States depend on the American States Water Company family of companies for the water, wastewater, and electric services that enable their quality of life. American States Water Company is the holding company for Golden State Water Company and American States Utility Services, Inc.

Golden State Water Company is a public utility company regulated by the California Public Utilities Commission (CPUC). Golden State Water engages principally in the reliable delivery of water. We operate 38 separate water systems within 75 communities in 10 counties in the State of California and provide water service to over 1 million people, or 1 out of every 36 Californians. In addition, we provide electric service to over 23,000 customers in the Big Bear recreational area of California.

American States Utility Services, Inc. is our contracted services business. Through its wholly-owned subsidiaries—Fort Bliss Water Services Company, Terrapin Utility Services, Inc., Old Dominion Utility Services, Inc., Old North Utility Services, Inc., and Palmetto State Utility Services, Inc.—American States Utility Services provides full-service contracts to operate and maintain water and wastewater systems on U.S. Army and U.S. Air Force installations in Texas, New Mexico, Maryland, Virginia, North Carolina, and South Carolina.

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 California Department of Public Health (CDPH) 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 U.S. 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 and MRDLs for contaminants that affect health along with their monitoring and reporting requirements 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. Public health goals are set by the California Environmental Protection Agency (CalEPA).

Regulatory Action Level (AL)

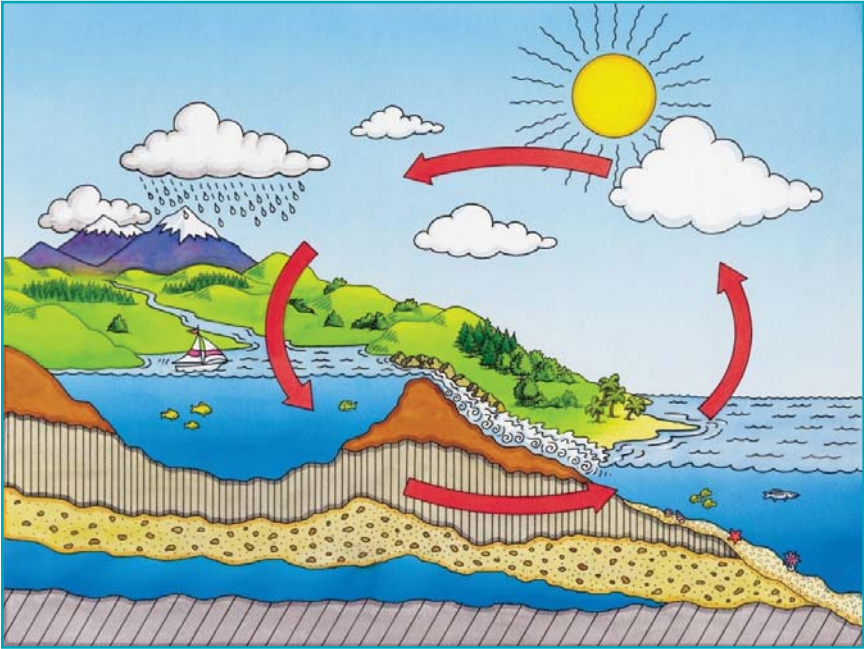
The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

Treatment Technique (TT)

A required process intended to reduce the level of a contaminant in drinking water.

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.



The Water Cycle:

A continuous process by which water circulates throughout the earth and atmosphere.

For People with Sensitive Immune Systems...

Some people may be more vulnerable to contaminants in the water than the general population. Immunocompromised persons such as persons undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly persons, and infants can be particularly at risk of infections. These people should seek advice from their healthcare provider about their drinking water.

USEPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available by calling the Safe Drinking Water Hotline at 1-800-426-4791.

Risk to Tap and Bottled Water

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 mean water may be 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, and can pick up substances resulting from the presence of animal or human activity.

In order to be certain that tap water is safe to drink, the USEPA and the CDPH prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. United States Food and Drug Administration (USFDA) and CDPH regulations also establish limits for contaminants in bottled water that must 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 storm water 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 storm water runoff and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff and septic systems.
- Radioactive contaminants, that can be naturally occurring or be the result of oil and gas production and mining activities.

Barstow Water System - Source Water Quality

Primary Standards - Health Based (units)	PRIMARY MCL	PHG (MCLG)	Range of Detection	Average Level	MCL Violation?	Most Recent Sampling Date	Typical Source of Constituent
Inorganic Constituents							
Arsenic (ug/L)	10	0.004	ND - 4.5	2.8	No	2008	Erosion of natural deposits; runoff from orchards, glass and electronics production wastes
Fluoride (mg/L)	2.0	1	0.38 - 0.80	0.54	No	2008	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate [as NO ₃] (mg/L)	45	45	7 - 30	16	No	2010	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Perchlorate (ug/L)	6	6	ND - 120	6	Yes	2010	Perchlorate is an inorganic chemical used in solid rocket propellant, fireworks, explosions, flares, matches, and a variety of industries. It usually gets into drinking water as a result of environmental contamination from historic aerospace or other industrial operations that used or use, store or dispose of perchlorate and its salts
Radioactive Constituents							
Gross Alpha Activity (pCi/L)	15	(0)	ND - 18	4	No	2009	Erosion of natural deposits
Uranium (pCi/L)	20	0.43	ND - 14	4	No	2009	Erosion of natural deposits
Secondary Standards - Aesthetic (units)	SECONDARY MCL	PHG (MCLG)	Range of Detection	Average Level	MCL Violation?	Most Recent Sampling Date	Typical Source of Constituent
Chloride (mg/L)	500	n/a	35 - 110	60	No	2008	Runoff/leaching from natural deposits; seawater influence
Specific Conductance (uS/cm)	1600	n/a	430 - 1400	679	No	2008	Substances that form ions when in water; seawater influence
Sulfate (mg/L)	500	n/a	ND - 250	85	No	2008	Runoff/leaching from natural deposits; industrial wastes
Other Parameters (units)	Notification Level	PHG (MCLG)	Range of Detection	Average Level	MCL Violation?	Most Recent Sampling Date	
Alkalinity (mg/L)	n/a	n/a	88 - 190	122	n/a	2008	
Calcium (mg/L)	n/a	n/a	26 - 100	51	n/a	2008	
Hardness [as CaCO ₃] (mg/L)	n/a	n/a	84 - 330	167	n/a	2008	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	5 - 19	10	n/a	2008	
Magnesium (mg/L)	n/a	n/a	5 - 19	10	n/a	2008	
pH (pH units)	n/a	n/a	7.5 - 8.1	7.8	n/a	2008	
Potassium (mg/L)	n/a	n/a	2.1 - 4.0	2.7	n/a	2008	
Sodium (mg/L)	n/a	n/a	41 - 120	66	n/a	2008	Refers to the salt present in the water and is generally naturally occurring.

Barstow Water System - Distribution Water Quality

Microbiological Constituents (units)	PRIMARY MCL	PHG (MCLG)	Value		MCL Violation?	Most Recent Sampling Date	Typical Source of Constituent
Total Coliform Bacteria \geq 40 Samples/Month (Present / Absent)	More than 5% of monthly samples are positive	(0)	Highest Percent of monthly samples positive was 1.5 %		No	2010	Naturally present in the environment
Disinfection Byproducts and Disinfectant Residuals (units)	PRIMARY MCL (MRDL)	PHG (MRDLG)	Range of Detection	Highest 4-Quarterly Average	MCL Violation?	Most Recent Sampling Date	Typical Source of Constituent
Chlorine [as Cl ₂] (mg/L)	(4.0)	(4)	0.8 - 1.7	1.2	No	2010	Drinking water disinfectant added for treatment
HAA5 [Total of Five Haloacetic Acids] (ug/L)	60	n/a	ND - 4.4	1.3	No	2010	Byproduct of drinking water disinfection
TTHMs [Total of Four Trihalomethanes] (ug/L)	80	n/a	ND - 8.8	4.6	No	2010	Byproduct of drinking water chlorination
Inorganic Constituents (units)	ACTION LEVEL	PHG (MCLG)	Sample Data	90th % Level	MCL Violation?	Most Recent Sampling Date	Typical Source of Constituent
Copper (mg/L)	1.3	0.3	None of the 31 samples collected exceeded the action level.	0.2	No	2008	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (ug/L)	15	0.2	None of the 31 samples collected exceeded the action level.	2.1	No	2008	Internal corrosion of household plumbing systems; discharges from industrial manufacturers; erosion of natural deposits

ND = Not Detected

Laboratory Analyses

Over the years we have taken thousands of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic or synthetic organic contaminants in your drinking water. The enclosed table shows only those contaminants that were detected in the water. Although all but **ONE** substance 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 the substance is present. This report serves as a reminder that our water temporarily exceeded drinking water standards. For more information, see the section marked **MCL Violation** later in this report.

Compliance (unless otherwise noted) is based on the average level of concentration being 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, though representative, is more than a year old.

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. GSWC 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 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. Information on 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>.

Gross Alpha Particle Activity

Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer.

Nitrate

Nitrate in drinking water at levels above 45 mg/L is a health risk for infants of less than six months of age. Such nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in a serious illness; symptoms include shortness of breath and blueness of the skin. Nitrate levels above 45 mg/L may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with certain specific enzyme deficiencies. If you are caring for an infant, or you are pregnant, you should ask advice from your health care provider.

MCL Violation

In November of 2010, perchlorate was detected at levels above the 6 microgram per liter ($\mu\text{g/L}$) Maximum Contaminant Level in three of the nineteen wells serving the Barstow system. Two of the wells were not in service at the time. The other well was immediately shut down so that none of the affected wells provided water to the system. GSWC flushed the distribution system until the water was safe to drink again. Bottled water was provided during this six-day emergency period. The affected wells remain out of service, and intensive monitoring of the remaining active wells continues, with the California Department of Public Health acting in close cooperation with GSWC in the review of the continued monitoring results.

Perchlorate has been shown to interfere with uptake of iodide by the thyroid gland, and to thereby reduce the production of thyroid hormones, leading to adverse effects associated with inadequate hormone levels. Thyroid hormones are needed for normal prenatal growth and development of the fetus, as well as for normal growth and development in the infant and child. In adults, thyroid hormones are needed for normal metabolism and mental function. Women who smoke and have low iodine intake appear to be particularly susceptible.

Perchlorate is an inorganic chemical often used in solid rocket propellant, fireworks, explosives, flares, matches, and a variety of industries. It usually gets into drinking water as a result of environmental contamination from historic aerospace or other industrial operations that used or use, store, or dispose of perchlorate and its salts.

Measurements

To ensure the best possible quality, water is sampled and tested consistently throughout the year.

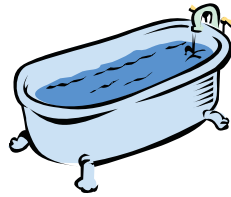
Contaminants are measured in:

- Parts per million (ppm) or milligrams per liter (mg/L).
- Parts per billion (ppb) or micrograms per liter ($\mu\text{g/L}$).
- Parts per trillion (ppt) or nanograms per liter (ng/L).
- Grains per gallon (grains/gal) – A measurement of water hardness often used for sizing household water softeners. One grain per gallon is equal to 17.1 mg/L of hardness.
- MicroSiemens per centimeter ($\mu\text{S/cm}$) – A measurement of a solution's ability to conduct electricity.
- Nephelometric Turbidity Units (NTU) – A measurement of the clarity of water. Turbidity in excess of 5 NTU is noticeable to the average person.
- PicoCuries per liter (pCi/L) – A measurement of radioactivity in water.

If this is difficult to imagine, think about these comparisons:

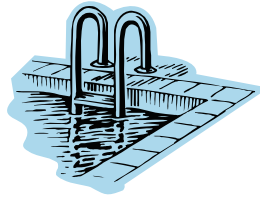
Parts per **million**:

- 1 drop in 14 gallons
- 1 second in 12 days
- 1 inch in 16 miles



Parts per **billion**:

- 1 drop in 14,000 gallons
- 1 second in 32 years
- 1 inch in 16,000 miles



Parts per **trillion**:

- 1 second in 32,000 years
- 1 inch in 16 million miles
- 10 drops in enough water to fill the Rose Bowl



Source Water Assessment

A source water assessment was conducted for each of the groundwater wells serving the customers of GSWC's Barstow System in July, August and September 2000.

Eighteen of the twenty-three groundwater wells are considered most vulnerable to the following activities, which have been associated with contaminants that have been detected in the water supply:

- Septic systems – high density
- Septic systems – low density
- Housing – high density

All of the twenty-three sources are also considered most vulnerable to one or more of the following activities which have not been detected in the water supply:

- Mining – sand/gravel, Automotive – gas stations, historic gas stations, Automotive – body shops, auto repair shops, Landfills/dumps. Railroad yards – maintenance and fueling areas, Illegal activities/ unauthorized dumping, Chemical/petroleum pipelines, Farm machinery repair, Animal operations

A copy of the assessment may be viewed at:

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

You may request a summary of the assessment be sent to you by contacting:

CDPH San Bernardino District Office at (909) 383-4320

For more details or information contact:

Jeffrey Long at 1-800-999-4033

Cross Connection Control Program

GSWC'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 the water quality page at www.gswater.com.

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 call center at 1-800-999-4033. Visit us online at www.gswater.com or e-mail 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.





Golden State Water Company

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Golden Rules for Water Conservation

- 1** End Wasteful Outdoor Water Activities
- 2** Fix Water Leaks
- 3** Replace Older Toilets with High-Efficiency Models
- 4** Be Water-Wise with your Clothes and Dish Washers
- 5** Make your Showerheads and Faucets Water-Efficient

Visit our website, www.gswater.com, to see videos of each Golden Rule.



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