



**Golden State**  
**Water Company**  
 A Subsidiary of American States Water Company

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2014

Drinking Water Program  
 Santa Ana District

**Consumer Confidence Report  
 on Water Quality for 2013**

# West Orange County Water System



## Providing Quality Drinking Water in California Since 1929

**Golden State Water Company** is pleased to present our Annual Water Quality Report for the 2013 calendar year.

Bringing you clean drinking water is serious business. We strictly adhere to federal and state drinking water quality guidelines required by the United States Environmental Protection Agency (USEPA), the California Department of Public Health (CDPH) and the California Public Utilities Commission. To ensure the quality of your drinking water, Golden State Water tests for more than 230 regulated and unregulated elements in our water systems. Golden State Water's industry professionals routinely take samples to monitor water quality throughout the distribution system. We spent more than half a million dollars in 2013 on laboratory tests to meet regulatory standards and provide you with high quality drinking water.

If any drinking water standard is ever compromised, Golden State Water is required to take immediate action, notify you quickly and restore normal service.

We pride ourselves on getting the job done right. Over the last 80 years, we've successfully built relationships with the industry's best. Our team of experts is equipped to provide customers with the most efficient and effective service possible. Golden State Water strives to constantly improve its water production and delivery systems and adequately maintain wells, pumps and pipelines. Our philosophy is to invest in comprehensive preventive maintenance programs so that our water infrastructure reliably provides you with high quality drinking water, 24 hours per day, 7 days per week.

Our customers are our number one priority. Our Customer Service Center representatives are available to answer your water questions and address your concerns day or night, 24 hours a day, 7 days a week. Visit [www.gswater.com](http://www.gswater.com) to learn more about your customer service area, water quality, rebates and water-use efficiency.

As your water provider, we'd like to remind you that efficient water use remains one of the best and least-costly ways to maintain a reliable source of high quality drinking water now and for future generations.

On behalf of the men and women at Golden State Water Company who serve you, thank you for providing us the opportunity to be your water provider.

Please call our 24-hour Customer Service Center with any questions or feedback about this report at 1-800-999-4033.

Sincerely,



**Robert Sprowls**  
 President and Chief Executive Officer



**Robert Hanford**  
 Orange County District Manager



### About the Company

Golden State Water Company, a subsidiary of American States Water Company (AWR), provides water service to approximately one million Californians located within 75 communities throughout 10 counties in Northern, Coastal and Southern California. The Company also distributes electricity to more than 23,000 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 West Orange System is a blend of groundwater pumped from the Orange County Groundwater Basin and imported water from the Colorado River Aqueduct and the State Water Project (imported and distributed by the Metropolitan Water District of Southern California). The Orange County Groundwater Basin stretches 350 square miles from the Orange County line at Seal Beach and Long Beach, along the coast down to the El Toro "Y" and east to Yorba Linda.

## 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 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 and MRDLs for contaminants that affect health along with their monitoring and reporting requirements and water treatment requirements.

### Public Health Goal (PHG)

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.

## 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 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.

## 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](http://www.gswater.com) or email us at [customerservice@gswater.com](mailto:customerservice@gswater.com).

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

此份有關你的食水報告，內有重要資料和訊息，請找他人為你翻譯及解釋清楚。

이 안내는 매우 중요합니다.  
본인을 위해 번역인을 사용하십시오.

Mahalaga ang impormasyong ito. Mangyaring ipasalin ito.

Этот отчет содержит важную информацию о вашей питьевой воды. Переведите его или поговорите с тем, кто это понимает.

この情報は重要です。  
翻訳を依頼してください。

Chi tiết này thật quan trọng. Xin nhờ người dịch cho quý vị.

## 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 [www.gswater.com/protecting-our-drinking-water](http://www.gswater.com/protecting-our-drinking-water).

## Measurements

Water is sampled and tested consistently throughout the year to ensure the best possible quality.

### Contaminants are measured in:

- ▶ Parts per million (ppm) or milligrams per liter (mg/L).
- ▶ Parts per billion (ppb) or micrograms per liter (µg/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 (µS/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 second in 12 days  
1 inch in 16 miles  
1 drop in 14 gallons



**Parts per billion:**  
1 second in 32 years  
1 inch in 16,000 miles  
1 drop in 14,000 gallons



**Parts per trillion:**  
1 second in 32,000 years  
1 inch in 16 million miles

**YOUR WATER MEETS ALL CURRENT FEDERAL AND STATE REQUIREMENTS**

**West Orange County 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
<b>Turbidity</b>						
Highest single measurement of the treated surface water (NTU)	TT = 1.0	n/a	n/a	0.06	2013	Soil runoff
Lowest percent of all monthly readings less than 0.3 NTU (%)	TT = 95	n/a	n/a	100	2013	Soil runoff
<b>Inorganic Constituents</b>						
Aluminum (mg/L)	1	0.6	ND - 0.23	ND	2013	Erosion of natural deposits; residue from some surface water treatment processes
Arsenic (µg/L)	10	0.004	ND - 4.5	ND	2013	Erosion of natural deposits; runoff from orchards, glass and electronics production wastes
Fluoride (mg/L)	2.0	1	0.41 - 1.0	0.5	2013	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate [as NO <sub>3</sub> ] (mg/L)	45	45	ND - 24	6.7	2013	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Perchlorate (µg/L)	6	6	ND - 4.8	ND	2013	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
<b>Radioactive Constituents</b>						
Gross Alpha Activity (pCi/L)	15(a)	(0)	ND - 3.34	ND	2013	Erosion of natural deposits
Gross Beta Activity (pCi/L)	50(b)	(0)	ND - 4	ND	2013	Decay of natural and manmade deposits
Uranium (pCi/L)	20	0.43	ND - 15	6	2013	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
Aluminum (µg/L)	200	n/a	ND - 230	ND	2013	Erosion of natural deposits; residue from some surface water treatment processes
Color (units)	15	n/a	ND - 3	0.4	2013	Naturally-occurring organic materials
Chloride (mg/L)	500	n/a	13 - 91	42	2013	Runoff/leaching from natural deposits; seawater influence
Manganese (µg/L)	50	n/a	ND - 44	ND	2013	Leaching from natural deposits
Odor--Threshold (units)	3	n/a	ND - 4	ND	2013	Naturally-occurring organic materials
Specific Conductance (µS/cm)	1600	n/a	385 - 1080	700	2013	Substances that form ions when in water; seawater influence
Sulfate (mg/L)	500	n/a	36.7 - 200	90	2013	Runoff/leaching from natural deposits; industrial wastes
Turbidity (units)	5	n/a	ND - 0.5	0.1	2013	Soil runoff
Total Dissolved Solids (mg/L)	1000	n/a	240 - 652	400	2013	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	93 - 195	180	2013	
Calcium (mg/L)	n/a	n/a	18.2 - 103	70.4	2013	
Hardness [as CaCO <sub>3</sub> ] (mg/L)	n/a	n/a	55.4 - 339	230	2013	The sum of polyvalent cations present in the water, generally magnesium and calcium; the cations are usually naturally occurring
Hardness [as CaCO <sub>3</sub> ] (grains/gal)	n/a	n/a	3.2 - 20	13	2013	
Magnesium (mg/L)	n/a	n/a	1.5 - 23	14	2013	
pH (pH units)	n/a	n/a	7.9 - 8.2	8.0	2013	
Potassium (mg/L)	n/a	n/a	1.4 - 4.6	3.0	2013	
Sodium (mg/L)	n/a	n/a	31.6 - 87	46	2013	Refers to the salt present in the water and is generally naturally occurring
Unregulated Drinking Water Constituents (units)	Notification Level	PHG (MCLG)	Range of Detection	Average Level	Most Recent Sampling Date	Typical Source of Constituent
Vanadium (µg/L)	50	n/a	1.5 - 2.2	1.9	2013	
Molybdenum	n/a	n/a	6.7 - 7.6	7.3	2013	
Strontium	n/a	n/a	539 - 544	542	2013	
Chlorate (µg/L)	800	n/a	50 - 90	60	2013	

**West Orange County Water System - Distribution Water Quality**

Microbiological Constituents (units)	Primary MCL	PHG (MCLG)	Value	Most Recent Sampling Date	Typical Source of Constituent	
Total Coliform Bacteria ≥40 Samples/Month (Present / Absent)	More than 5% of monthly samples are positive	(0)	Highest percent of monthly samples positive was 1%	2013	Naturally present in the environment	
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 <sub>2</sub> ] (mg/L)	(4.0)	(4)	ND - 2.5	1.0	2013	Drinking water disinfectant added for treatment
HAA5 [Total of Five Haloacetic Acids] (µg/L)	60	n/a	ND - 28	21	2013	Byproduct of drinking water disinfection
TTHMs [Total of Four Trihalomethanes] (µg/L)	80	n/a	ND - 57	53	2013	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 30 samples collected exceeded the action level.	0.39	2013	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

## Source Water Assessment

Golden State Water Company conducted a source water assessment in 2003 for each groundwater well serving the customers of its West Orange County.

The groundwater sources are considered most vulnerable to the following activities not associated with detected contaminants: active and historic gas stations, confirmed leaking underground storage tanks, dry cleaners, and repair shops.

The groundwater sources are considered most vulnerable to the following activities which have been associated with contaminants detected in the water supply: fertilizer, high-density housing, irrigated crops, pesticide/herbicide application, and sewer collection systems.

A copy of the assessment may be viewed at:

CDPH Santa Ana District Office  
605 W. Santa Ana Blvd., Room 325, Santa Ana, CA 92701

or

Golden State Water Company, Anaheim Office  
1920 W. Corporate Way, Anaheim, CA 90801

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

CDPH Santa Ana District Office at 1-714-558-4410

For more details, contact Mark Johnson, Water Quality Engineer, at 1-800-999-4033.

In December 2002, the Metropolitan Water District of Southern California (MWD) completed a source water assessment of its Colorado River and State Water Project supplies. Colorado River supplies are considered to be most vulnerable to the following: increasing urbanization in the watershed, irrigation, urban/stormwater runoff, and wastewater.

State Water Project supplies are considered to be most vulnerable to the following: agriculture, recreation, urban/stormwater runoff, wastewater, and wildlife.

A copy of the assessment can be obtained by contacting MWD by phone at 1-213-217-6850, option 3.

## 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.

**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 is responsible for providing high-quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been running 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 [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).

**Aluminum** — The secondary MCL for aluminum is set for aesthetic reasons and there is no health concern associated with the aluminum levels in this water system.

**Chloramination** — The water purchased by Golden State Water Company from Metropolitan Water District of Southern California (MWD) contains chloramine. Chloramine is added to the water for public health protection. Chloraminated water is safe for people and animals to drink, and for all other general uses. Three special user groups, including kidney dialysis patients, aquarium owners, and businesses or industries that use water in their treatment process, must remove chloramine from the water prior to use.

Hospitals or dialysis centers should be aware of chloramine in the water and should install proper chloramine removal equipment, such as dual carbon

to remove or neutralize chloramine. Businesses and industries that use water in any manufacturing process or for food or beverage preparation should contact their water treatment equipment supplier regarding specific equipment needs.

Should you have any questions or concerns regarding chloramine in your water, please contact MWD at 1-213-217-6850, option 3.

**Fluoridation** — Fluoride has been added to the water that Golden State Water Company purchases from Metropolitan Water District of Southern California (MWD). Customers should see no difference in the taste, color or odor of their water as a result of fluoridation. Fluoridation does not change the way you normally use water for fish, pets, or cooking. Parents and guardians of children who receive fluoride supplements should consult the child's doctor or dentist. For information regarding fluoridation of your water, please contact MWD at 1-213-217-6850, option 3 or visit the California Department of Public Health's fluoridation website at [www.cdph.ca.gov/certlic/drinkingwater/Pages/Fluoridation.aspx](http://www.cdph.ca.gov/certlic/drinkingwater/Pages/Fluoridation.aspx).

**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 for advice from your health care provider.

**Odor** — The secondary MCL for odor is set for aesthetic reasons and there is no health concern associated with the odor levels in this water system.

**Turbidity** — Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of surface water filtration.

**Unregulated Contaminant Monitoring** — Monitoring for unregulated contaminants helps the USEPA and the CDPH to determine where certain contaminants occur and whether the contaminants need to be regulated.

## 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.

To be certain that tap water is safe to drink, the USEPA and the CDPH prescribe regulations limiting the amount of contaminants in water provided by public water systems. United States Food and Drug Administration (USFDA) and CDPH regulations also provide the same public health protection by establishing limits for contaminants in bottled water.

### 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 byproducts 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

## Connect with us to learn more!

Visit [www.gswater.com](http://www.gswater.com) to learn how to:

- ▶ Become a water conservation expert
- ▶ Learn more about available conservation rebates and programs
- ▶ Get the latest Water Quality Report for your area
- ▶ Understand your water bill and learn about payment options.
- ▶ For additional information, please contact our 24-hour Customer Service