



SOQUEL CREEK  
WATER DISTRICT



## 2022 Consumer Confidence / Water Quality Report



Soquel Creek Water District is proud to report that in 2022 the District's water met all established drinking water health standards set by the U.S. Environmental Protection Agency (USEPA) and the State Water Resources Control Board (State Water Board).

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

## IMPORTANT INFORMATION REGARDING YOUR WATER

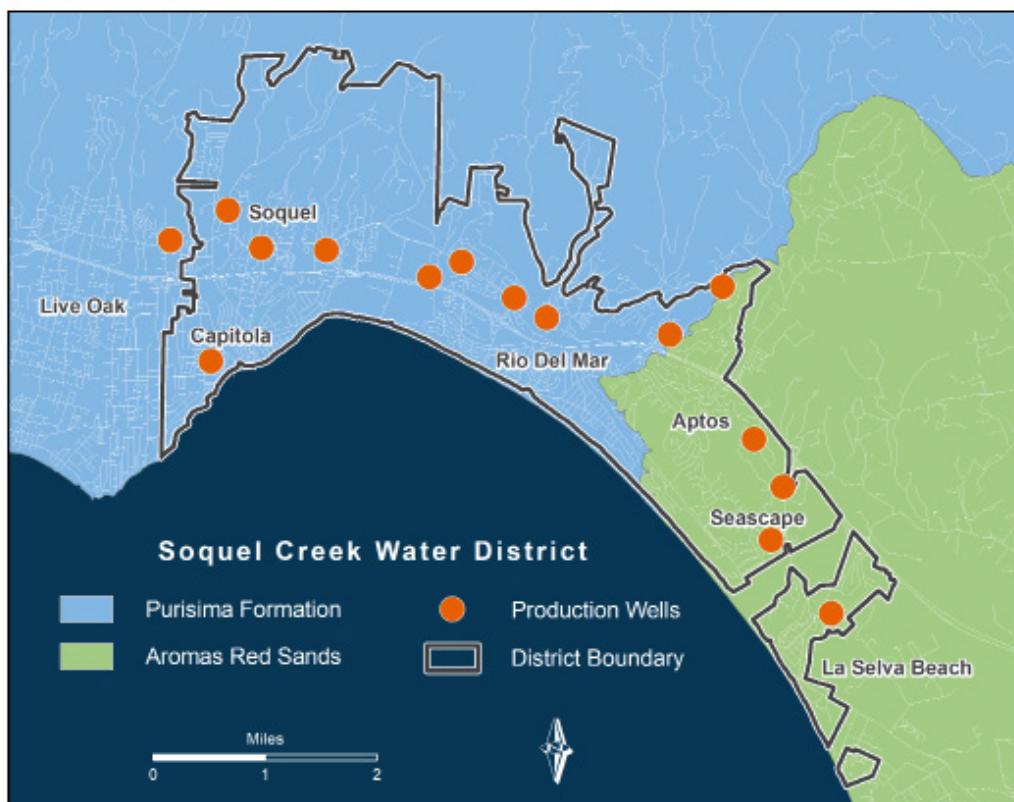
DRINKING WATER STANDARDS are established by the U.S. Environmental Protection Agency (USEPA) and the State Water Resources Control Board (State Water Board). In order to be considered safe, water supplies must stay within USEPA and State Water Board maximums when measured for certain constituents. Drinking water standards are enforced by the State Water Board's Division of Drinking Water (DDW).

This Water Quality Report communicates whether there is a detectable presence and the levels of each of the detected constituents in our water supply. This year's report covers calendar year 2022 testing and presents the results of test data from all of our supply wells that pump groundwater from aquifers in two geologic formations—the Purisima and Aromas Red Sands.

## WHERE DOES YOUR WATER COME FROM?

In 2022, DISTRICT CUSTOMERS received water from 15 wells pumping from the Santa Cruz Mid-County groundwater basin—specifically the Purisima Formation and the Aromas Red Sands. Aquifers are comprised of layers of rock, sand, sandstone, fractured rock, or other permeable layers that allow for water to be collected and stored in the pore spaces (voids) between the soil and rocks. Groundwater wells are designed to pump water from the most permeable layers of the aquifer – areas where water can flow easily from pore spaces into the constructed well pipe— and eventually to the surface. The groundwater is then treated and served to customers through distribution system pipes, ultimately reaching customers' taps.

The Purisima Formation is naturally high in iron and manganese, and the water supplied from these aquifers is treated using oxidation and filtration to reduce these elements. Delivered water from both the Purisima Formation and the Aromas Red Sands aquifers meets all current drinking water health standards. To learn more about aquifers, watch the following video [vimeo.com/180918902](https://vimeo.com/180918902).



## SOURCE WATER ASSESSMENTS

In 2015, the District updated its 2002 source water assessments of 14 of its wells. Initial source water assessments for four additional wells were completed in 2011, 2014 and 2019. These assessments identify activities that could potentially contaminate a drinking water well.

### Aromas Red Sands

Aromas Red Sands Aquifer supplies are considered to be the most vulnerable to on-site residential septic systems and potential leakage from sewer lines. Some of these wells are also vulnerable to contamination from nearby parks, a nearby golf course, irrigated crops, fertilizer/pesticide/herbicide applications, high density housing, transportation corridors, other supply wells, and/or chemicals used at the drinking water treatment plants.

### Purisima Formation

Purisima Formation supplies are considered to be the most vulnerable to contamination from dry cleaners, historic and active automobile gas stations and repair shops, sewer collection systems, photo processing/printing establishments, high density housing, septic systems, transportation corridors, parking lots, other supply wells, utility stations/maintenance areas, decommissioned underground storage tanks, historic lumberyards and railroad facilities, historic apple processing, and a construction/demolition and staging area.

The drinking water source assessment summaries are available on the District's website.

## SOURCE WATER QUALITY

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 ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

Microbial contaminants, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

Inorganic contaminants, such as salts and metals, that 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, 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 that are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural application, and septic systems.

Radioactive contaminants, that can be naturally occurring or be the result of oil or gas production and mining activities.

In order to ensure that tap water is safe to drink, the USEPA and the State Water Board prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The U.S. Food and Drug Administration (USFDA) regulations and California law also establish limits for contaminants in bottled water that provide the same protection for public health. Additional information on bottled water is available on the California Department of Public Health website: [cdph.ca.gov/Programs/CEH/DFDCS/Pages/FDBPrograms/FoodSafetyProgram/Water.aspx](https://cdph.ca.gov/Programs/CEH/DFDCS/Pages/FDBPrograms/FoodSafetyProgram/Water.aspx)

## WATER QUALITY TESTING

During the past year, the District tested for 148 constituents. All test samples are collected and reported in accordance with standards and requirements established by the USEPA and the State Water Board. These test results reflect all of our groundwater and distribution system water. Only those regulated constituents that had detected levels are shown. All tests showed compliance with State and Federal Drinking Water Standards.

## WHAT ARE WATER QUALITY GOALS?

In addition to mandatory water quality standards, USEPA and DDW have set voluntary water quality goals for some contaminants. Water quality goals are often set at such low levels that they are not achievable in practice and are not directly measurable. Nevertheless, these goals provide useful guideposts and direction for water management practices. The Water Quality Analysis Table includes three types of water quality goals:

**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 USEPA.

**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.

**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 Office of Environmental Health Hazard Assessment (OEHHA).

## WHAT ARE WATER QUALITY STANDARDS?

Drinking Water Standards established by USEPA and the State Water Board set limits for substances that may affect consumer health or aesthetic qualities of drinking water. The Water Quality Analysis Table in this report shows the following types of water quality standards:

**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.

**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.

**Primary Drinking Water Standards:** MCLs and MRDLs (see definitions above) for contaminants that affect health, along with their monitoring and reporting requirements and water treatment requirements.

**Secondary MCLs:** Are set to protect the odor, taste and appearance of drinking water.

**Regulatory Action Level (AL):** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

Water is sampled and tested throughout the year.



## HOW ARE CONSTITUENTS MEASURED?

Detected constituents are measured in:

### Milligrams per liter (mg/L) or parts per million (ppm)

equivalent to 1 drop in 14 gallons or 1 second in 11.5 days



### Micrograms per liter (ug/L) or parts per billion (ppb)

equivalent to 1 drop in 14,000 gallons or 1 second in nearly 32 years



### Nanograms per liter (ng/L) or parts per trillion (ppt)

equivalent to 1 drop in 14,000,000 gallons or 1 second in nearly 32,000 years



## IMPORTANT HEALTH INFORMATION

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/Centers for Disease Control (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 (1-800-426-4791).

## 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. The District 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 (1-800-426-4791) or at <https://www.epa.gov/ground-water-and-drinking-water/basic-information-about-lead-drinking-water>

# 2022 WATER QUALITY ANALYSIS TABLE

PRIMARY HEALTH STANDARDS	MCL or [MRDL]	PHG, (MCLG) or [MRDLG]	Year Tested	Range of Detections	Average Amount	Typical Sources of Constituent
<b>Disinfection Byproducts (DBPs)<sup>1a</sup></b>						
Total Trihalomethanes - TTHMs (ug/L)	80	N/A	2022	3 – 49	44	By-product of drinking water disinfection
Haloacetic Acids - HAA5 (ug/L)	60	N/A	2022	ND – 7	6	By-product of drinking water disinfection
<b>Disinfectant Residual<sup>1b</sup></b>						
Chlorine Residual (mg/L)	[4.0]	[4.0]	2022	0.20 – 1.48	0.74	Drinking water disinfectant added for treatment
<b>Inorganic Constituents</b>						
Arsenic (ug/L) <sup>2</sup>	10	0.004	2022	ND – 2.7	ND	Erosion of natural deposits
Chromium [Total Cr] (ug/L)	50	(100)	2022	ND – 14	ND	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits
Fluoride (mg/L)	2.0	1	2022	ND – 0.4	0.16	Erosion of natural deposits
Nitrate (as N) (mg/L)	10	10	2022	ND – 2.9	0.30	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
SECONDARY AESTHETIC STANDARDS	MCL	PHG or (MCLG)	Year Tested	Range of Detections	Average Amount	Typical Sources of Constituent
Chloride (mg/L)	500	N/A	2022	17– 88	39	Runoff/leaching from natural deposits; seawater influence
Color (units) <sup>2</sup>	15	N/A	2022	ND – 5	ND	Naturally occurring materials
Iron (ug/L) <sup>2</sup>	300	N/A	2022	ND – 233	ND	Leaching from natural deposits
Manganese (ug/L) <sup>2</sup>	50	N/A	2022	ND – 26	ND	Leaching from natural deposits
pH (unitless) <sup>1c</sup>	6.5 – 8.5 (USEPA)	N/A	2022	7.2 – 8.7	7.8	A measure of the acidity or alkalinity
Specific Conductance (microsiemens/centimeter)	1,600	N/A	2022	345 – 880	606	Substances that form ions when in water; seawater influence
Sulfate (mg/L)	500	HA = 500	2022	15 – 180	67	Runoff/leaching from natural deposits
Total Dissolved Solids (TDS) (mg/L)	1,000	N/A	2022	198 – 648	379	Runoff/leaching from natural deposits
Turbidity [Nephelometric Turbidity Units (NTUs)] <sup>2</sup>	5	N/A	2022	ND – 0.5	0.1	Runoff/leaching from natural deposits
UNREGULATED CONSTITUENT MONITORING <sup>3,4</sup>	MCL	Reference Concentration	Year Tested	Range of Detections	Average Amount	Typical Sources of Constituent
Germanium (ug/L)	N/A	N/A	2018	ND – 1.7	0.39	Naturally occurring element
1-Butanol (ug/L)	N/A	700	2018	ND – 21	2.4	Used as a solvent, food additive, and in production of other chemicals
Haloacetic Acids - HAA6Br (ug/L)	N/A	N/A	2018	2.2 – 21	12	By-product of drinking water disinfection
Haloacetic Acids - HAA9 (ug/L)	N/A	N/A	2018	2.7 – 23	14	By-product of drinking water disinfection
OTHER MONITORING RESULTS	MCL	PHG or (MCLG)	Year Tested	Range of Detections	Average Amount	Typical Sources of Constituent
Hardness (as CaCO <sub>3</sub> ) (mg/L)	N/A	N/A	2022	92 – 407	211	Sum of polyvalent cations present in the water, generally magnesium and calcium. The cations are usually naturally occurring.
Sodium (mg/L) <sup>5</sup>	N/A	HA = 20	2022	17 – 90	45	Salt present in water; generally naturally occurring
RESIDENTIAL TAP MONITORING FOR LEAD AND COPPER <sup>3</sup>	Action Level (AL)	PHG or (MCLG)	Year Tested	90th Percentile Value	Sites Exceeding AL/ Number of Sites	Typical Sources of Constituent
Lead (ug/L)	15	0.2	2022	ND	1/30	Internal corrosion of household plumbing systems; erosion of natural deposits
Copper (mg/L)	1.3	0.3	2022	0.26	0/30	Internal corrosion of household plumbing systems; erosion of natural deposits
LEAD SAMPLING OF DRINKING WATER IN CALIFORNIA SCHOOLS <sup>3,6</sup>			Year Tested	Number of Schools Tested for Lead	Typical Sources of Constituent	
Lead			2017–2019	15	Internal corrosion of school site plumbing systems; erosion of natural deposits	

## Definitions for Water Quality Analysis Table

N/A = Not Applicable

ND = Not Detected at or above the DDW Detection Limit for Purposes of Reporting

NL = Notification Level; a health-based advisory level established by DDW for constituents in drinking water that lack maximum contaminant levels (MCLs).

HA = USEPA Drinking Water Health Advisory

Reference Concentrations are health-based and provide context for the detection of unregulated constituents

pCi/L = Picocuries per liter (a measure of radioactivity)

mg/L = milligrams per liter or parts per million (ppm)

ug/L = micrograms per liter or parts per billion (ppb)

ng/L = nanograms per liter or parts per trillion (ppt)

## Footnotes for Water Quality Analysis Table

<sup>1a</sup> Sampled within the distribution system; Compliance is based on locational running annual average (LRAA); Average amount listed is the highest LRAA for 2022.

<sup>1b</sup> Sampled within the distribution system; Compliance is based on quarterly running annual average (RAA).

<sup>1c</sup> Sampled within the distribution system.

<sup>2</sup> Sampled immediately after treatment where treated.

<sup>3</sup> Monitoring for some contaminants is allowed less than once per year because the concentrations of these contaminants do not change frequently. Some of the data, although representative, are more than one year old.

<sup>4</sup> Unregulated contaminant monitoring is performed every 5 years and helps the USEPA and DDW to determine where certain contaminants occur and whether the contaminants need to be regulated. This section includes the Unregulated Contaminant Monitoring Rule 4 assessment monitoring results.

<sup>5</sup> The 20 ppm USEPA Health Advisory is for individuals on a 500 mg/day restricted sodium diet.

## LEAD TESTING IN SCHOOLS

The State Water Board, through the DDW, in collaboration with the California Department of Education, requires testing for lead in drinking water at all public K–12 schools. In early 2017, DDW issued amendments to the domestic water supply permits of community water systems so that schools that are served by a public water system could request assistance from their public water system to conduct water sampling for lead and receive technical assistance if an elevated lead sample is found. To further safeguard water quality in California's K–12 public schools, California Assembly Bill 746 (AB 746), effective January 1, 2018, required community water system to test lead levels, by July 1, 2019, in drinking water at all California public, K 12 school sites that were constructed before January 1, 2010, and preschools and child day care facilities located on public school property.

The District completed water sampling and testing for lead at fifteen schools. For more information about the Lead Sampling of Drinking Water in California Schools Program, visit: [waterboards.ca.gov/drinking\\_water/certlic/drinkingwater/leadsamplinginschools.html](https://waterboards.ca.gov/drinking_water/certlic/drinkingwater/leadsamplinginschools.html).

## FOR MORE INFORMATION

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 the 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 (1-800-426-4791).

The presence and levels of constituents varies throughout the District. If you have questions, suggestions, or comments regarding this report or questions regarding the specific water quality for your neighborhood, please contact Greg Wilson, the District's Water Quality Program Coordinator, at 831-475-8501 ext. 138 or [gregw@soquelcreekwater.org](mailto:gregw@soquelcreekwater.org).

The District's annual Water Quality Report is electronically delivered. If you wish to obtain a print copy, please call the District Office at 831-475-8500. Owners and operators of multi-residential units such as apartments and condominium complexes should ensure that tenants receive this important information.

There is also a wealth of information on the internet about drinking water quality and water issues in general. In addition to the District's website, [soquelcreekwater.org](http://soquelcreekwater.org), other reliable and trustworthy sites include:

- California State Water Resources Control Board, Division of Drinking Water (DDW) [waterboards.ca.gov/drinking\\_water/programs/index.shtml](http://waterboards.ca.gov/drinking_water/programs/index.shtml)
- U.S. Environmental Protection Agency (USEPA) [water.epa.gov/drink/index.cfm](http://water.epa.gov/drink/index.cfm)

## GET INVOLVED IN DECISIONS THAT AFFECT YOUR DRINKING WATER

The District encourages public participation in its decision-making processes. The District is governed by a five-person, publicly elected Board of Directors. The Board meets the first and third Tuesday of each month at 6:00 pm. Check the District's website [soquelcreekwater.org](http://soquelcreekwater.org) for meeting location.

We are a not-for-profit public agency dedicated to providing a safe, high quality, reliable, and sustainable water supply to meet our community's present and future needs in an environmentally sensitive and economically responsible manner.

### Board of Directors

Carla Christensen, President  
Dr. Bruce Jaffe, Vice President  
Dr. Bruce Daniels  
Rachél Lather  
Dr. Thomas LaHue

Ron Duncan, General Manager



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*Other ways to connect with us!*

