

Source water assessments

In 2002, the District completed its source water assessment of the underlying Purisima and Aromas Red Sands Aquifers. A source water assessment lists possible contaminating activities and the contamination threats that might affect the quality of our drinking water supplies.

Aromas Red Sands Aquifer supplies are considered to be most vulnerable to on-site residential septic systems and potential leakage from sewer lines. Purisima Formation supplies are considered to be most vulnerable to contamination from dry cleaners, historic and active automobile gas stations, sewer collection systems, home manufacturing, grazing, known contaminant plumes, photo processing/printing establishments, and utility stations/maintenance areas. The District monitors potential contamination in the vicinity of its wells and works with other agencies to proactively protect the quality of its groundwater resources.

Copies of the Executive Summary for each assessment are available at www.SoquelCreekWater.org/District_Reports.htm and both the Executive Summaries and the full reports are available at the District office.

For additional information: For information about this report, Source Water Assessments, general District news, or your water quality in general, please contact the District at (831) 475-8500 or visit our web site at www.SoquelCreekWater.org.

There is also a wealth of information on the Internet about Drinking Water Quality and water issues in general. Two good sites include:

California Department of Public Health, Division of Drinking Water and Environmental Management

www.cdph.ca.gov/certlic/drinkingwater/Pages/Chemicalcontaminants.aspx

U.S. Environmental Protection Agency

www.epa.gov/safewater/hfacts.html

If you are a landlord or manage a multi-unit dwelling, please contact us to order as many additional copies of the report as you need to ensure your tenants receive this important information.

Informacion muy importante: Este informe contiene informacion muy importante sobre su agua potable. Traduzcalo o hable con alguien que lo entienda bien, o llamenos a 475-8500.

Getting involved in decisions that affect your drinking water: The District encourages public participation in its decision-making process. 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 7:00 p.m. at 5180 Soquel Drive in Soquel.

Board of Directors

Dr. Thomas LaHue, President
Bruce Daniels, Vice President
Dr. Don Hoernschemeyer
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Laura D. Brown, General Manager

What's on Tap is an in-house publication printed bi-monthly for the customers of the District.



2008 Consumer Confidence/ Water Quality Report

Feeling confident about the water you drink

Providing safe drinking water is our first priority. We are proud to report that in 2008 the District's water met or exceeded established drinking water health standards set by the U.S. Environmental Protection Agency (USEPA) and the California Department of Public Health (CDPH).

This annual consumer confidence/water quality report presents the results of test data from all of our groundwater wells that pump water from the Purisima and Aromas Red Sands aquifers. All test samples are collected and reported in accordance with standards and requirements established by the USEPA and CDPH. This year's report covers calendar year 2008 testing.

The presence and level 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 the District at (831) 475-8500. Additional copies of this report are available upon request.

How are contaminants measured?

Water is sampled and tested throughout the year.

Detected constituents are measured in:

- parts per million (ppm) or milligrams per liter (mg/l)
- parts per billion (ppb) or micrograms per liter (ug/l)
- parts per trillion (ppt) or nanograms per liter (ng/L)

Think about these comparisons:

- parts per million 1 drop in 14 gallons
- parts per billion 1 drop in 14,000 gallons
- parts per trillion 1 drop in 14,000,000 gallons

Ensuring safe, quality drinking water

Drinking water standards are established by the USEPA and CDPH. In order to be called safe, water supplies must stay within USEPA and State maximums when measured for certain constituents. This Water Quality Report communicates whether there is a detectable presence and the levels of each of the tested constituents in our water supply.

During the past year, the District tested for over 130 constituents in order to ensure your water meets State and Federal drinking water standards. You can review the data for each of the aquifers in the table provided in this report. These test results reflect all of our groundwater wells. Only those constituents that had detected levels are shown.

What are water quality standards?

Drinking water standards established by USEPA and CDPH set limits for substances that may affect consumer health or aesthetic qualities of drinking water. The chart 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 level of a disinfectant added for water treatment that may not be exceeded at the consumer's tap.

Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.

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.

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

What are water quality goals?

In addition to mandatory water quality standards, USEPA and CDPH 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 chart 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 disinfectant added for water treatment below which there is no known or expected risk to health. MRDLGs are set by the USEPA.

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 EPA.

What you need to know about your water

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.

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 at 1-800-426-4791.

Where your water comes from

In 2008, District customers received water from 16 wells pumping from two underground aquifers. Both sources meet all current drinking water health standards.

Delivered water represents a blend from several wells. In general, the average amounts of contaminants shown in the analysis table are the most representative of the water quality received by customers.

Purisima Formation

The Purisima Formation provides water for Capitola, Soquel, and Aptos. Because this water is high in iron and manganese, it is treated to remove these minerals.

Aromas Red Sands Aquifer

Customers in Rio Del Mar, Seaside, and La Selva Beach receive water from the Aromas Red Sands Aquifer.

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (USEPA) and the California Department of Public Health (CDPH) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. CDPH regulations also establish limits for contaminants in bottled water that must provide the same protection for public health. 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.

Immuno-compromised people

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

Contaminants that may be present in source water include:	Possible Sources:
Microbial contaminants, such as viruses and bacteria	Sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
Inorganic compounds, such as salts and metals	Naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, and farming.
Radioactive contaminants	Can be naturally occurring or be the result of oil and gas production or mining activities.
Pesticides and herbicides	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	By-products of industrial processes and petroleum production, and can also come from gasoline stations, urban stormwater runoff, and septic systems.

2008 Soquel Creek Water District Water Quality Analysis Table

Primary Standards - Health Standards	MCL or [MRDL]	PHG, (MCLG) or [MRDLG]	Range of Detections	Average Amounts	Range of Detections	Average Amounts	Typical Sources of Constituent
Microbiological Constituents* - Tested in 2008			Purisima Formation		Aromas Red Sands		
Present/Absent % Positive	5	(0)	0 - 1.5	0	0	0	Naturally present in the environment
Disinfection Byproducts* - Tested in 2008							
Trihalomethanes, Total (THMs) (ppb)	80	NS	ND - 52	23	ND - 21	7.4	By-product of chlorination
Chlorine Residual (ppm)	[4.0]	[4.0]	0 - 1.7	0.73	0.09 - 1.3	0.76	Drinking water disinfectant added for treatment
Haloacetic Acid (five) (HAA5) (ppb)	60	NS	ND - 7.8	3.4	ND - 3.3	1.7	By-product of chlorination
Inorganic Constituents - Tested in 2008							
Arsenic** (ppb)	10	0.0040	ND - 2.9	ND	ND	ND	Erosion of natural deposits
Chromium total (ppb)	50	(100)	ND	ND	ND - 37	16	Erosion of natural deposits
Fluoride (ppm)	2.0	1.0	ND - 0.40	0.23	ND - 0.22	ND	Erosion of natural deposits
Nitrate (a) (as NO ₃) (ppm)	45	45	ND	ND	ND - 30	12	Runoff/leaching from fertilizer/septic; erosion of natural deposits
Zinc (ppb)	5,000	HA = 2,000	ND - 85	ND	ND	ND	Runoff/leaching from natural deposits; industrial wastes
Radioactive Constituents - Tested in 2007 †							
Radium 228 (pCi/L)	5.0	0.019	ND	ND	ND - 1.05	ND	Erosion of natural deposits
Secondary Standards - Aesthetic Standards - Tested in 2008							
Chloride (ppm)	500	NS	23 - 82	47	15 - 32	25	Runoff/leaching from natural deposits; seawater influence
Color (units)	15	NS	ND - 9.1	3.2	ND - 2.5	ND	Naturally occurring organic materials
Iron** (ppb)	300	NS	ND - 270	ND	ND - 170	ND	Leaching from natural deposits
Manganese** (ppb)	50	NL = 500	ND - 29	ND	ND	ND	Leaching from natural deposits
Odor [Threshold Odor Number (Ton)]	3.0	NS	ND	ND	ND	ND	Naturally occurring organic materials
Specific Conductance (micromhos)	1,600	NS	423 - 756	625	210 - 513	393	Substances that form ions when in water; seawater influence
Sulfate (ppm)	500	HA = 500	37 - 160	80	4.3 - 44	24	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (TDS) (ppm)	1,000	NS	296 - 614	443	154 - 296	244	Runoff/leaching from natural deposits
Turbidity** [Nephelometric Turbidity Units (NTUs)]	5.0	NS	0.45 - 1.3	0.71	0.15 - 0.66	0.39	Soil runoff (Measure of cloudiness/can mask pathogens)
Unregulated Constituents							
Boron (ppm) (tested 2003)†	NS	NL = 1.0	ND - 0.30	0.225	not tested	not tested	Naturally occurring
Hexavalent Chromium (Cr6) (ppb)***	NS	NS	ND	ND	ND - 36	15	Naturally occurring chromium bearing minerals
1,2,3-Trichloropropane (ppt) (tested 2008)	NS	NL = 5.0	ND	ND	ND - 10	ND	Leaching of obsolete agricultural fumigants
Other Monitoring Results - Tested in 2008							
Alkalinity (total) (CaCO ₃) (ppm)	NS	NS	157 - 277	232	92 - 203	149	A measure of the capacity to neutralize acid
Bicarbonate Alkalinity (HCO ₃) (ppm)	NS	NS	157 - 277	232	92 - 203	149	Naturally occurring mineral
Calcium (ppm)	NS	NS	39 - 140	69	18 - 39	30	Leaching from natural deposits
Carbon Disulfide (ppb)	NS	NL = 160	ND - 1.5	ND	ND	ND	Manufacturing activities; also naturally occurring
Chloroform (ppb)	NS	HA = 70	ND - 2.6	ND	ND	ND	Well disinfection by-product
Hardness (as CaCO ₃) (ppm)	NS	NS	160 - 460	288	92 - 260	186	Naturally occurring
Magnesium (ppm)	NS	NS	15 - 56	28	11 - 43	26	Naturally occurring mineral
Methyl ethyl ketone (2-Butanone) (ppb)	NS	HA = 4,000	ND - 6.4	ND	ND	ND	Industrial activities; also naturally occurring
pH* (unitless)	NS	NS	7.2 - 8.0	7.6	7.5 - 8.0	7.7	A measure of the acidity or alkalinity
Sodium‡ (ppm)	NS	HA = 20	39 - 89	65	10 - 30	22	Refers to salt present in water; generally naturally occurring

Lead and Copper Action Levels at Residential Tap - Tested in 2007†

Every 3 years, at least 30 residences are tested for lead and copper at-the-tap. The most recent set of samples was collected in 2007. None of the samples exceeded the regulatory action level.

	Action Level (AL)	PHG	90 th Percentile Value	Sites Exceeding AL/Number of Sites	Typical Source of Constituent
Copper (ppm)	1.3	0.30	0.45	0/30	Corrosion of household plumbing;erosion of natural deposits
Lead (b) (ppb)	15	2.0	ND	0/30	Corrosion of household plumbing;erosion of natural deposits

Footnotes: ND = Not detected at or above State detection limit for purposes of reporting; NS = No Standard; NL = Health-based advisory level established by CDPH for constituents in drinking water that lack MCLs; HA = USEPA Drinking Water Health Advisory; pCi/L = PicoCurries per liter (a measure of radioactivity); * = Sampled within distribution system. All others sampled at well head; ** = Sampled immediately after treatment where treated; *** = Purisima sampled in 2004. Aromas sampled in 2008; † = Data is most recent monitoring in compliance with regulations; ‡ = The 20 ppm USEPA health advisory is for individuals on a 500 mg/day restricted sodium diet.

(a) Nitrate in drinking water at levels above 45 mg/L (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 the infant's blood to carry oxygen, resulting in 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.
(b) 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 or at <http://www.epa.gov/safewater/lead>.