

What Might Be In My Drinking 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.

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 byproducts 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 and gas production and mining activities.

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

Tables 1, 2, 3, 4, and 5 list all of the drinking water contaminants that were detected during the most recent sampling for the constituent. The presence of these



contaminants in the water does not necessarily indicate that the water poses a health risk. The Department allows us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of the data, though representative of the water quality, are more than one year old.



Santa Fe Irrigation District
P.O. Box 409
Rancho Santa Fe, CA 92067

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Blue Ribbon Panel

As co-owners of the R.E. Badger Water Filtration Plant, the San Dieguito Water District and the Santa Fe Irrigation District convened a panel of scientific experts (Blue Ribbon Panel) on February 16, 2006. This elite panel was tasked with analyzing issues regarding the treatment of local water sources and compliance with newly instituted regulations. Some of the leading scientists and educators in the field of water source management and treatment were among the participants, including experts from UC Davis, BioVir Laboratories, McGuire-Malcolm Pirnie and Jones & Stokes, to name a few. The goal of this workshop was to identify options and make recommendations for treatment process enhancements at the Plant that will ultimately result in the best quality water for our customers from both an aesthetic and regulatory perspective. We recognize the importance of continuing to develop and manage local water sources to ensure that we can provide you with the most safe and cost-efficient water possible. Accessing knowledge and expertise from a group such as the Blue Ribbon Panel keeps us technically up to date on how best to meet your needs as customers of the Santa Fe Irrigation District.

Water Conservation and Preservation Programs

To maximize our precious potable water resources, the Santa Fe Irrigation District offers numerous water conservation programs. The following is a description of programs available to our customers.

Commercial Landscape Incentive Program. (CLIP)

Upgrade your existing irrigation system and you may qualify for \$2500 per acre, up to a maximum of \$5000 per site. Water budgets for sites with dedicated irrigation meters will be implemented by your water agency at no cost to you. For more information please call 1-800-986-4538.

Agricultural Water Management Program

Receive recommendations to improve the performance of your irrigation system, and determine how much water your crop actually needs. To take advantage of this free service, please call 760-728-1332.

Commercial, Industrial, Institutional Voucher

The vouchers are for pre-rinse spray valves, water efficient ultra-low-flush toilets, urinals, coin operated high-efficiency clothes washers and cooling tower conductivity controllers. To obtain a voucher, call 1-800-986-4538 before you buy.

Residential Vouchers

Customers receive a \$175 voucher, to be used at the time of purchase of an approved high-efficiency clothes washer.

Recycled Water

The Santa Fe Irrigation District and San Elijo Joint Powers Authority (SEJPA) have

partnered to bring recycled water to the area's golf courses, homeowner's associations, parks, schools, parkways and medians. In 2006, over 361 million gallons of recycled water was provided to the District's customers.

By utilizing recycled water, we are making the most of one of Southern California's most precious resources – water. Using recycled water helps the environment and is an important part of diversifying the local water supply.

If you would like to know more about the availability of recycled water in your area, please call us at 858-756-2424.



Santa Fe Irrigation District
P.O. Box 409
Rancho Santa Fe, CA 92067
(858) 756-2424
www.sfidwater.org



The Santa Fe Irrigation District supplies water to the community of Rancho Santa Fe, the City of Solana Beach and a portion of Fairbanks Ranch. It covers 15.9 square miles. The Santa Fe Irrigation District is governed by a Board of Directors: one member elected from each of the five divisions within the District.

SANTA FE IRRIGATION DISTRICT

ANNUAL WATER QUALITY REPORT

WATER QUALITY TEST RESULTS FROM 2006

What Is This Report About?

This brochure is a snapshot of the quality of the water that the Santa Fe Irrigation District provided in 2006. Included are details about where your water comes from, what it contains, and how it compares to standards set by regulatory agencies.

Where Does My Water Come From?

The San Dieguito Water District and Santa Fe Irrigation District jointly own and operate the R.E. Badger Filtration Plant. The plant treats both imported and local water. Imported water is delivered by pipeline from Lake Skinner located in the City of Hemet. Lake Skinner is a blend of water imported by the Metropolitan Water District of Southern California from the Colorado River and the Sacramento River Delta.

Local water originates from Lake Hodges. Lake Hodges water is either transferred to the San Dieguito Reservoir through a small aqueduct and then to the treatment plant, or directly to the treatment plant via the Cielo Pump Station.

Lake Skinner is a blend of water imported by the Metropolitan Water District of Southern California from two separate sources: a 242-mile aqueduct brings Colorado River Water from Lake Havasu and the 444-mile California Aqueduct brings water from the State Water Project originating in Northern California. Lake Hodges stores water from the San Dieguito River. The San Dieguito Reservoir receives water from Lake Hodges by a small aqueduct; water is pumped from the San Dieguito Reservoir to the treatment

plant as well as directly from Lake Hodges via the new Cielo pump station.

Source Water Assessment

Local water supplies are considered most vulnerable to agricultural and urban/storm runoff. A copy of the R. E. Badger Filtration Plant Watershed Sanitary Survey is available for review at the treatment plant. If you have any questions about this report, please call Cor Shaffer, Plant Manager, or Tim Bailey, Water Quality Analyst at (858) 756-2569.

In December 2002, Metropolitan Water District of Southern California completed its source water assessment of our imported water from the Colorado River and State Water Project supplies. Colorado River supplies are considered to be most vulnerable to recreation, urban/storm water runoff, increasing urbanization in the watershed and wastewater. State Water Project supplies are considered to be most vulnerable to urban/storm water runoff, wildlife, agriculture, recreation and wastewater. A copy of the assessment can be obtained by contacting Metropolitan by phone at (213) 217-6850.

Is My Water Safe?

Yes! Last year, as in years past, your tap water not only met, but exceeded all U.S. Environmental Protection Agency (USEPA) and state drinking water health standards. The Santa Fe Irrigation District vigilantly safeguards the water supplies and is committed to providing high quality drinking water to its customers.

All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants.

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).

Español (Spanish) - Este informe contiene información muy importante sobre la calidad de su agua de beber. Tradúzcalo ó hable con alguien que lo entienda bien.

Terms Used In This Report

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

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

Secondary Drinking Water Standards (SDWS): MCLs for contaminants that affect taste, odor, or appearance of the drinking water. Contaminants with SDWS do not affect the health at the MCL levels.

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 U.S. Environmental Protection Agency (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 Environmental Protection Agency.

Maximum Residual Disinfectant Level (MRDL): The level of a disinfectant added for water treatment that may not be exceeded at the consumer's tap.

Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.

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 U.S. Environmental Protection Agency.

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

ND: not detectable at testing limit
ppm: parts per million or milligrams per liter (mg/L)
ppb: parts per billion or micrograms per liter (ug/L)
ppt: parts per trillion or nanograms per liter (ng/L)
pCi/L: picocuries per liter (a measure of radiation)
SDWD: San Dieguito Water District
SFID: Santa Fe Irrigation District

Variations and Exemptions: Department permission to exceed an MCL or not comply with a treatment technique under certain conditions.

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).

TABLE 3 - SAMPLING RESULTS FOR SODIUM AND HARDNESS

Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	MCL	PHG (MCLG)	Typical Source of Contaminant
Sodium (ppm)	2006	86	75-110	none	none	Generally found in ground & surface water
Hardness (ppm)	2006	258	220-330	none	none	Generally found in ground & surface water
Hardness (Grains/ Gal)	2006	15	13 - 19	none	none	Generally found in ground & surface water

TABLE 4 - DETECTION OF CONTAMINANTS WITH A PRIMARY DRINKING WATER STANDARD

Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	MCL [MRDL]	PHG (MCLG) [MRDLG]	Typical Source of Contaminant
Aluminum (ppm)	2006	0.007	ND - .028	1.0	0.6	Erosion of natural deposits; residue from some surface water treatment processes.
Arsenic (ppb)	2006	.7	ND - 2	10	.004	Erosion of natural deposits; runoff from orchards; glass and electronic production wastes.
Barium (ppm)	2006	.073	.058 - .081	1	2	Discharges of oil drilling wastes and from metal refineries; erosion of natural deposits.
Chromium (ppb)	2006	.9	ND - 3.6	50	100	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits
Copper (ppm)	2006	.002	ND - .003	1.3	1.7	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Fluoride (ppm)	2006	.21	.18 - .23	2.0	1	Erosion of natural deposits; water additive that promotes strong teeth; discharges from fertilizer and aluminum factories.
Hexachlorocyclopentadiene (ppb)	2006	.08	ND - .08	50	50	Discharge from chemical factories
Total trihalomethanes (ppb)	2006	48.1	22 - 78	80	n/a	Byproduct of drinking water disinfection
Haloacetic Acids (ppb)	2006	23	11 - 34	60	n/a	Byproduct of drinking water disinfection
Chloramines (ppm)	2006	2.98	2.62 - 3.37	4.0	4.0	Drinking water disinfectant added for treatment
Chlorite (ppm)	2006	.35	ND - .64	1.0	0.8	Byproduct of drinking water disinfection
Control of DBP Precursors (TOC)	2006	3.9	2.2 - 5.7	TT	n/a	Various natural and man made sources

TABLE 5 - DETECTION OF CONTAMINANTS WITH A SECONDARY DRINKING WATER STANDARD

Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	PHG (MCLG)	Typical Source of Contaminant
Aluminum (ppb)	2006	7.0	ND - 28	200	Erosion of natural deposits; residual from some surface water treatment processes
Color (cu)	2006	5	2 - 15	15	Naturally occurring organic materials
Copper (ppm)	2006	.002	ND - .003	1.0	Internal corrosion of household plumbing systems; erosion of natural deposits
Manganese (ppm)	2006	3.5	ND - 8.8	50	Leaching from natural deposits
Odor (TON)	2006	1	ND - 4	3	Naturally occurring organic materials
Silver (ppb)	2006	.13	ND - .52	100	Industrial discharges
Turbidity (NTU)	2006	.19	.03 - 1.7	5	Soil runoff
Total dissolved solids (ppm)	2006	554	488 - 682	1000	Runoff; leaching from natural deposits
Specific Conductance (uS/cm)	2006	930	881 - 1140	1600	Substances that form ions when in water; sea water influence
Chloride (mg/l)	2006	113	95 - 160	500	Runoff/ leaching from natural deposits; sea water influence
Sulfate (ppm)	2006	165	140 - 200	500	Runoff/ Leaching from natural deposits; industrial wastes

*Any violation of an MCL, MRDL, or TT is asterisked. Additional information regarding the violation is provided later in this report.

TABLE 6 - SAMPLING RESULTS SHOWING TREATMENT OF SURFACE WATER SOURCES

Treatment Technique (a) (Type of approved filtration technology used)	Conventional Treatment: Coagulation, Flocculation, Sedimentation, Filtration
Turbidity Performance Standards (b) (that must be met through the water treatment process)	<u>Turbidity of the filtered water must:</u> 1 - Be less than or equal to 1.0 NTU in 95% of measurements in a month. 2 - Not exceed .3 NTU for more than eight consecutive hours. 3 - Not exceed 5.0 NTU at any time.
Lowest monthly percentage of samples that met Turbidity Performance Standard No. 1.	100%
Highest single turbidity measurement during the year	.11
Number of violations of any surface water treatment requirements	0

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

(b) Turbidity (measured in NTU) is a measurement of the cloudiness of water and is a good indicator of water quality and filtration performance. Turbidity results which meet performance standards are considered to be in compliance with filtration requirements.



TABLE 1 - SAMPLING RESULTS SHOWING THE DETECTION OF COLIFORM BACTERIA

Microbiological Contaminants	Highest No. of detections	No. of months in Violation	MCL	MCLG	Typical Source of Bacteria
Total Coliform Bacteria	0	0	More than 5% positive samples in a month	0	Naturally present in the environment
Fecal Coliform or E. coli	0	0	A routine sample and a repeat sample detect total coliform and either sample also detects fecal coliform or E. Coli	0	Human and animal fecal waste

TABLE 2 - SAMPLING RESULTS SHOWING THE DETECTION OF LEAD AND COPPER

Lead and Copper (to be completed only if there was a detection of lead or copper in the last sample set)	No. of samples collected	90 th percentile level detected	No. of months in Violation	AL	PHG	Typical Source of Containment
Lead (ppb) (2004)	30	< .003	0	15	2	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits
Copper (ppm) (2004)	30	1.1	0	1.3	0.17	Internal corrosion of household water plumbing systems; erosion of natural deposits; leaching from wood preservatives