



WATER QUALITY REPORT 2016

PWS ID # 3710023

We test the drinking water quality for many constituents as required by state and federal regulations. This report shows the results of our monitoring for the period of January 1 - December 31, 2016 and may include earlier monitoring data.


Este informe contiene información muy importante sobre su agua potable. Tradúzcalo ó hable con alguien que lo entienda bien.

For more information, contact: (858) 756 -2424

Where Does My Water Come From?

The Santa Fe Irrigation District and San Dieguito Water 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 California, and the San Diego County Water Authority, from the Colorado River and the Sacramento River Delta. Local water originates from Lake Hodges and 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.





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.

ADDITIONAL GENERAL INFORMATION ON DRINKING 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 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).

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).

PUBLIC MEETINGS:

The Santa Fe Irrigation District supplies water to a service area that includes the City of Solana Beach, and the unincorporated communities of Rancho Santa Fe and Fairbanks Ranch. The Santa Fe Irrigation District is governed by an elected Board of Directors, with one member representing each of the five geographical divisions within the District. The regular monthly meeting of the Board of Directors is held on the third Thursday of each month at the District's Administrative Office. The public is encouraged to attend the Board meetings. For agenda information, or day and time of the Board Meetings, please visit our website at www.sfidwater.org.



WATER QUALITY TEST RESULTS

In order to ensure that tap water is safe to drink, the USEPA and the State Water Resources Control Board (State Board) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. State Board regulations also establish limits for contaminants in bottled water that provide the same protection for public health.

Tables 1, 2, 3, 4, 5, and 6 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 State Board 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. Any violation of an AL, MCL, MRDL, or TT is asterisked. Additional information regarding the violation is provided later in this report.

TABLE 1 – SAMPLING RESULTS SHOWING THE DETECTION OF COLIFORM BACTERIA

Microbiological Contaminants (complete if bacteria detected)	Highest No. of Detections	No. of months in violation	MCL	MCLG	Typical Source of Bacteria
Total Coliform Bacteria (state Total Coliform Rule)	(In a mo.) 1	0	More than 5% positive samples in a month	0	Naturally present in the environment
Fecal Coliform or E. coli (state Total Coliform Rule)	(In the year) 0	0	A routine sample and a repeat sample are total coliform positive, and one of these is also fecal coliform or <i>E. coli</i> positive	0	Human and animal fecal waste
E. coli (federal Revised Total Coliform Rule)	(from 4/1/16-12/31/16) 0	0	(a)	0	Human and animal fecal waste

(a) Routine and repeat samples are total coliform-positive and either is E. coli-positive or system fails to take repeat samples following E. coli-positive routine sample or system fails to analyze total coliform-positive repeat sample for E. coli.

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

Lead and Copper (complete if lead or copper detected in the last sample set)	Sample Date	No. of samples collected	90 th percentile level detected	No. sites exceeding AL	AL	PHG	Typical Source of Contaminant
Lead (ppb)	2016	30	4.1	0	15	0.2	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits
Copper (ppm)	2016	30	0.56	0	1.3	0.3	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

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

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)	2016	87.5	78-97	none	none	Salt present in the water and is generally naturally occurring
Hardness (ppm)	2016	245	170-300	none	none	Sum of polyvalent cations present in the water, generally magnesium and calcium, and are usually naturally occurring
Grains Per Gallon	2016	14.3	9.9-17.5			
Calcium (ppm)	2016	61.5	47-75			
Potassium (ppm)	2016	4.4	3.5-4.9			

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)	2016	0.002	ND – 0.20	1.0	0.6	Erosion of natural deposits; residue from surface water treatment processes
Arsenic (ppb)	2016	1.6	1.2 – 2.0	10	0.004	Erosion of natural deposits; run off from orchards; glass and electronic production wastes.
Barium (ppm)	2016	0.09	0.049 – 0.12	1.0	2.0	Discharge of oil drilling wastes and from metal refineries; erosion of natural deposits.
Fluoride (ppm)	2016	0.36	0.23 – 0.65	2.0	1.0	Erosion from natural deposits, water additive that promotes strong teeth; discharge from fertilizer and aluminum factories.
Hexavalent Chromium (ppb)	2016	0.031	0.031	10	0.02	Discharge from electroplating factories; leather tanneries, wood preservation, chemical synthesis, refractory production and textile manufacturing facilities; erosion of natural deposits.
Nitrate (ppm)	2016	0.11	ND – 0.23	10	10	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits.
Total THMs (ppb)	2016	50.2	36 - 74	80	-	Byproduct of drinking water disinfection
Total HAA5 (ppb)	2016	16.8	12.8 – 23	60	-	Byproduct of drinking water disinfection.
Chloramines (ppm)	2016	2.43	2.017 – 2.63	4.0	4.0	Drinking water Disinfectant added for treatment.
Chlorite (ppm)	2016	0.12	ND – 0.23	1.0	0.05	Byproduct of drinking water disinfection.
Chlorine Dioxide (ppb)	2016	< 0.002	ND - 50	800	800	Drinking water disinfectant added for treatment.
Control of DBP Precursors (ppm)	2016	3.56	2.5 – 6.0	-	-	Various Natural and manmade 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	MCL	PHG (MCLG)	Typical Source of Contaminant
Aluminum (ppb)	2016	20	ND – 20	200	-	Erosion of natural deposits; residue from surface water treatment processes
Color	2016	2.5	2.5 - 8	15	-	Naturally occurring organic material
Odor (TON)	2016	1	ND-3	3	-	Naturally occurring organic material
Turbidity (NTU)	2016	0.02	0.01 – 0.12	5.0	-	Runoff
Total Dissolved Solids	2016	557	450 - 630	1000	-	Runoff, leaching from natural deposits.
Specific Conductance (uS/cm)	2016	882	760 - 1000	1600	-	Runoff, leaching form natural deposits; seawater influence.
Chloride (ppm)	2016	97	89 - 110	500	-	Runoff, leaching form natural deposits; seawater influence.
Sulfate (ppm)	2016	192	120 - 240	500	-	Runoff, leaching form natural deposits; industrial wastes.

TABLE 6 – DETECTION OF UNREGULATED CONTAMINANTS

Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	Notification Level	Health Effects Language
Molybdenum (ppb)	2013	3.8	3.2 - 4.4	-	
Strontium (ppb)	2013	706	510 - 790	-	
Vanadium (ppb)	2013	1.8	1.5 – 2.5	50	The babies of some pregnant women who drink water containing vanadium in excess of the notification level may have an increased risk of developmental effects based on studies in laboratory animals.
Chlorate (ppb)	2015	140.9	ND - 240	-	

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

Lead-Specific Language for Community Water Systems: 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. Santa Fe Irrigation 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. [Optional: If you do so, you may wish to collect the flushed water and reuse it for another beneficial purpose, such as watering plants.] 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/lead>.

Cryptosporidium is a microbial pathogen found in surface water throughout the U.S. Although filtration removes Cryptosporidium, the most commonly-used filtration methods cannot guarantee 100 percent removal. Our monitoring indicates the presence of these organisms in our source water. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of Cryptosporidium may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people, infants and small children, and the elderly are at greater risk of developing life-threatening illness. We encourage immuno-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water.

TABLE 8 - SAMPLING RESULTS SHOWING TREATMENT OF SURFACE WATER SOURCES

Treatment Technique ^(a) (Type of approved filtration technology used)	Conventional Treatment
Turbidity Performance Standards ^(b) (that must be met through the water treatment process)	Turbidity of the filtered water must: 1: Be less than or equal to 0.3 NTU in 95% of measurements in a month. 2: Not exceed 1.0 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	0.12
Number of violations of any surface water treatment requirements	None

(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.

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 and gas production and mining activities.

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.

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 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.

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 Standards (PDWS): MCLs and 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 SDWSs do not affect the health at the MCL levels.

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

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

ND: not detectable at testing limit

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

ppb: parts per billion or micrograms per liter (µg/L)

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

ppq: parts per quadrillion or picogram per liter (pg/L)

pCi/L: picocuries per liter (a measure of radiation)