

The sources of drinking water



Both tap water and bottled water sources 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.

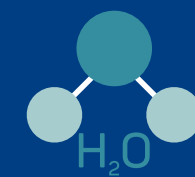


WATER QUALITY REPORT

2018



PWS ID # 3710023



We test the drinking water quality for many constituents as required by state and federal regulations. This report shows all positive results of our monitoring for the period of January 1 - December 31, 2018 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

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.



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 Winchester. 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.



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	5% positive monthly samples	0	Naturally present in the environment
E. coli (federal Revised Total Coliform Rule)	(In the year) 0	0	(a)		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	No. of Schools Requesting Lead Sampling	Typical Source of Contaminant
Lead (ppb)	2016	30	2.5	0	15	0.2	0	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits
Copper (ppm)	2016	30	0.43	0	1.3	0.3	N/A	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)	2018	104	87 - 120	none	none	Salt present in the water and is generally naturally occurring
Hardness (ppm)	2018	250	210 - 290	none	none	Sum of polyvalent cations present in the water, generally magnesium and calcium, and are usually naturally occurring

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 (mg/L)	2018	0.002	ND – 0.025	1	0.6	Erosion of natural deposits; residue from some surface water treatment processes.
Arsenic (ug/L)	2018	1.35	1.1 – 1.6	10	0.004	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder.
Barium (mg/L)	2018	0.068	0.045 – 0.081	1	2	Discharge of oil drilling wastes and from metal refineries; erosion of natural deposits.
Fluoride (mg/L)	2018	0.24	0.19 – 0.27	2	1	Erosion from natural deposits, water additive that promotes strong teeth; discharge from fertilizer and aluminum factories.
Total THMs (ug/L)	2018	56.1	42 - 70	80	-	Byproduct of drinking water disinfection.
Total HAA5 (ug/L)	2018	19.5	13 - 24	60	-	Byproduct of drinking water disinfection.
Chloramines (mg/L)	2018	2.29	2.20 – 2.41	4	4	Drinking water Disinfectant added for treatment.
Chlorite (mg/L)	2018	45	ND – 0.54	1	0.05	Byproduct of drinking water disinfection.
Chlorine Dioxide (ug/L)	2018	10	ND - 190	800	800	Drinking water disinfectant added for treatment.
Control of DBP Precursors (ppm)	2018	3.8	1.98 – 5.39	TT	-	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	SMCL	PHG (MCLG)	Typical Source of Contaminant
Aluminum (ug/L)	2018	2	ND – 25	15	0.6	Naturally occurring organic material
Turbidity (NTU)	2018	0.03	0.01 – 0.23	-	5	Soil Runoff
Total Dissolved Solids	2018	593	520 - 700	-	1000	Runoff, leaching from natural deposits.
Specific Conductance (uS/cm)	2018	968	880 – 1100	-	1600	Substances that form ions in water; seawater influence.
Chloride (mg/L)	2018	128	110 – 140	-	500	Runoff, leaching form natural deposits; seawater influence.
Sulfate (mg/L)	2018	165	120 - 200	-	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
Chlorate (ug/L)	2018	300	260 - 370	-	Animal studies demonstrated that chlorate exposure in rats caused adverse effects to the pituitary and thyroid glands.
Hexavalent Chromium (ug/L)	2018	0.039	0 – 0.39	10	Some people who drink water containing hexavalent chromium in excess of the MCL over many years may have an increased risk of getting cancer.

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. 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. 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.

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
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)

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

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

TABLE 8 - SAMPLING RESULTS SHOWING TREATMENT OF SURFACE WATER SOURCES

Treatment Technique (a)	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 0.30 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.	98.8%
Highest single turbidity measurement during the year	0.23 NTU
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.