

Annual
WATER
QUALITY
REPORT

Reporting Year 2012



Presented By _____
Santa Fe Irrigation District

PWS ID#: 3710023

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

There When You Need Us

For over 90 years, the Santa Fe Irrigation District has taken pride in providing safe, high-quality water to its customers. In keeping with this commitment, we are proud to present our annual water quality report covering all testing performed between January 1 and December 31, 2012. We are dedicated to producing drinking water that meets or exceeds all state and federal standards and providing stewardship in the areas of source water protection, water conservation, and community education.

Please remember that we are always available to assist you should you ever have any questions or concerns about your water. Our customer service staff is available Monday through Thursday, 7:30 a.m. to 5:00 p.m., and every other Friday, 7:30 a.m. to 4:00 p.m.

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 from the Colorado River and the Sacramento River Delta. Local water originates from Lake Hodges and is transferred either 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.

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 the day and time of the Board Meeting, please visit our Web site at www.sfidwater.org.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) 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 (800) 426-4791 or <http://water.epa.gov/drink/hotline>.

Lead in Home Plumbing

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. We are responsible for providing high-quality drinking water, but we 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 www.epa.gov/safewater/lead.

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, Operations Manager, or Tim Bailey, Water Quality Analyst, at (858) 756-2569.

In December 2007, 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 Projects supplies are considered to be most vulnerable to urban/storm water runoff, wildlife, agriculture, recreational activities, and wastewater. A copy of the assessment can be obtained by contacting Metropolitan by phone at (213) 217-6850.

QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please call Tim Bailey, Water Quality Analyst, at (858) 756-2569, or Cor Shaffer, Operations Manager, at (858) 756-2424.

Water Treatment Process

The water treatment process consists of a number of steps that progressively remove contaminants from the water. The process at the R.E. Badger Filtration plant is referred to as a Conventional process. This process begins with preoxidation, where chlorine dioxide is added to oxidize many of the metal contaminants and help remove them later in the process. As water reaches the influent of the treatment plant, a coagulant is added which neutralizes the charge on particles in the water, causing them to coagulate or stick together. As they stick together, they eventually get heavier and sink to the bottom of the water tank. The surface water is then collected, and chlorine is added to provide disinfection. The water then travels to the filters where it passes through an anthracite and sand filter where any remaining particles are removed. After the filtering process, ammonia is added to the water which converts the chlorine disinfectant to a more stable form of disinfectant called chloramines. These chloramines have a much longer life span and ensure that the water stays disinfected as it travels through the distribution system to the customers.

Substances That Could Be in 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.

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (U.S. EPA) and the California Department of Public Health (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. 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.

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 can 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 that can also come from gas stations, urban stormwater runoff, agricultural applications, and septic systems;

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

More information about contaminants and potential health effects can be obtained by calling the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Sampling Results

During the past year, we have taken hundreds of water samples in order to determine the presence of any biological, inorganic, volatile organic, or synthetic organic contaminants. The tables below show only those contaminants that were detected in the water. The state requires us to monitor for certain substances less often than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	PHG (MCLG) [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Aluminum (ppm)	2012	1	0.6	0.002	ND–0.024	No	Erosion of natural deposits; residue from some surface water treatment processes
Arsenic (ppb)	2012	10	0.004	1.25	ND–2.1	No	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Barium (ppm)	2012	1	2	0.051	0.043–0.058	No	Discharges of oil drilling wastes and from metal refineries; erosion of natural deposits
Chloramines (ppm)	2012	[4.0 (as Cl ₂)]	[4 (as Cl ₂)]	2.53	1.7–3.1	No	Drinking water disinfectant added for treatment
Chlorine Dioxide (ppb)	2012	[800 (as ClO ₂)]	[800 (as ClO ₂)]	10	ND–100	No	Drinking water disinfectant added for treatment
Chromium (ppb)	2012	50	100	1.70	ND–6.8	No	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits
Combined Radium (pCi/L)	2007	5	(0)	0.23	ND–0.90	No	Erosion of natural deposits
Control of DBP Precursors [TOC] (Units)	2012	TT	TT	4.783	2.98–6.77	No	Various natural and man-made sources
Fluoride (ppm)	2012	2.0	1	0.19	0.17–0.21	No	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Gross Beta Particle Activity ¹ (pCi/L)	2007	50	(0)	1.47	ND–5.9	No	Decay of natural and man-made deposits
Haloacetic Acids [HAAs] (ppb)	2012	60	NA	14.07	2.9–22	No	By-product of drinking water disinfection
Nitrate [as nitrate] (ppm)	2012	45	45	0.09	ND–0.36	No	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Selenium (ppb)	2012	50	30	1.53	ND–6.10	No	Discharge from petroleum, glass, and metal refineries; erosion of natural deposits; discharge from mines and chemical manufacturers; runoff from livestock lots (feed additive)
TTHMs [Total Trihalomethanes] (ppb)	2012	80	NA	62.32	35–83	No	By-product of drinking water disinfection
Uranium (pCi/L)	2007	20	0.43	0.625	ND–2.5	No	Erosion of natural deposits

Tap water samples were collected for lead and copper analyses from sample sites throughout the community

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	PHG (MCLG)	AMOUNT DETECTED (90TH% TILE)	SITES ABOVE AL/ TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2010	1.3	0.3	0.49	0/30	No	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (ppb)	2010	15	0.2	2.2	0/30	No	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits

SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	PHG (MCLG)	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Aluminum (ppb)	2012	200	NS	2.0	ND–24	No	Erosion of natural deposits; residual from some surface water treatment processes
Chloride (ppm)	2012	500	NS	152	120–200	No	Runoff/leaching from natural deposits; seawater influence
Color (Units)	2012	15	NS	4.5	2.0–5.8	No	Naturally occurring organic materials
Copper (ppm)	2012	1.0	NS	0.002	ND–0.005	No	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Odor–Threshold (Units)	2012	3	NS	1	1–3	No	Naturally occurring organic materials
Specific Conductance (µS/cm)	2012	1,600	NS	1,057	930–1,200	No	Substances that form ions when in water; seawater influence
Sulfate (ppm)	2012	500	NS	160	130–170	No	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (ppm)	2012	1,000	NS	627	560–710	No	Runoff/leaching from natural deposits
Turbidity (NTU)	2012	5	NS	0.04	0.02–0.49	No	Soil runoff

UNREGULATED AND OTHER SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Bromochloroacetic Acid (ppb)	2012	6.88	1.9–11.0	By-product of drinking water disinfection
Bromodichloromethane (ppb)	2012	17.9	10.0–23.0	By-product of drinking water disinfection
Bromoform (ppb)	2012	9.63	5.7–14.0	By-product of drinking water disinfection
Chlorate (ppm)	2012	0.386	0.28–0.67	By-product of drinking water disinfection
Chloroform (ppb)	2012	10.10	4.90–15.0	By-product of drinking water disinfection
Dibromoacetic Acid (ppb)	2012	4.87	ND–8.8	By-product of drinking water disinfection
Dibromochloromethane (ppb)	2012	24.63	14.0–31.0	By-product of drinking water disinfection
Dichloroacetic Acid (ppb)	2012	5.04	1.5–9.6	By-product of drinking water disinfection
Hardness (grains/gal)	2012	15.6	13.5–18.1	Sum of polyvalent cations present in the water, generally magnesium and calcium; usually naturally occurring
Hardness (ppm)	2012	267	230–310	Sum of polyvalent cations present in the water, generally magnesium and calcium; usually naturally occurring
Monobromoacetic Acid (ppb)	2012	0.32	ND–1.4	By-product of drinking water disinfection
Sodium (ppm)	2012	111	97–130	Salt present in the water; generally naturally occurring
Trichloroacetic Acid (ppb)	2012	3.22	1.1–4.7	By-product of drinking water disinfection

¹ Effective 6/11/2006, the gross beta particle activity MCL is 4 millirem/year annual dose equivalent to the total body or any internal organ. 50 pCi/L is used as a screening level.

Definitions

AL (Regulatory Action Level):

The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow.

µS/cm (microsiemens per centimeter): A unit expressing the amount of electrical conductivity of a solution.

grains/gal (grains per gallon): Grains of compound per gallon of water.

MCL (Maximum Contaminant Level): 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 (SMCLs) are set to protect the odor, taste, and appearance of drinking water.

MCLG (Maximum Contaminant Level Goal): 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. EPA.

MRDL (Maximum Residual Disinfectant Level): 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.

MRDLG (Maximum Residual Disinfectant Level Goal): 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.

NA: Not applicable

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

NS: No standard

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

pCi/L (picocuries per liter): A measure of radioactivity.

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

PHG (Public Health Goal): 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.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).