

## Annual Water Quality Report 2017



## Clean Water for Your Tap

This brochure provides a snapshot of last year's water quality data for San Jose Water. Included are details about where your water comes from and how your water quality compares to State standards. SJW is pleased to report that your tap water met all USEPA and State primary drinking water health standards in 2017. As a member of the Partnership for Safe Water, SJW remains focused on water quality and environmental stewardship to ensure continued delivery of safe and high quality water to our customers.



## Grand Reopening of Montevina Water Treatment Plant

The newly upgraded Montevina Membrane Filtration Plant (Plant) in the Santa Cruz Mountains began treating water again late last year. Thanks to the filter technology upgrade, the Plant has been able to continuously treat water during winter storms, which the older water treatment plant could not do. This new ability to better take advantage of a local water source benefits our customers by providing them with high quality, low cost water.

To filter contaminants out of the water supply, SJW selected BASF/inge ultrafiltration membranes. These innovative membranes filter water from the inside of the membrane and are made of polyether sulfone (PES), a robust material that is guaranteed to deliver little to no breakage under normal operating conditions. The membranes also offer the advantage of requiring comparatively lower energy to push the water through their 20 nanometers pores (the diameter of a human hair is 50,000 larger than the pores in the membranes).

SJW built the Plant using a progressive design-build process. This process allowed SJW to collaborate with the design builder (HDR) on the membrane selection for the Plant and to make several design changes as the operational implications of the evolving design presented themselves. Some of the changes SJW incorporated included creating sufficient administrative

space and an analytical laboratory within the footprint of the old plant, as well as redesigning the Solids Handling Facility to ensure that the Plant can handle peak solids production during winter storms. Additional improvements included security enhancements, the ability to remotely control the operation of and the access to the Solids Handling Facility, and the repurposing of the old settling lagoons to serve as emergency storage for the settling basins sludge in the event of equipment failure or sustained winter storms.

This project is the product of SJW's tradition of taking advantage of cutting edge technology to provide its customers with high quality water at the lowest cost possible. The new Plant is the largest drinking water plant with membranes of this type in the United States, and is expected to provide our customers with high quality, low cost water from a local source for the next 40 years.





## 2017 SJW Annual Water Quality Report

SJW tests our water supplies for over 200 possible parameters. Only those parameters that were detected in any of our water sources appear in this table. Primary standards relate to public health, while secondary standards relate to aesthetic qualities such as taste, odor, and color. The state Division of Drinking

Water allows us to monitor for some parameters less often than yearly because the concentrations do not change frequently. Some of our data, though representative, are more than a year old.

### Primary Standards - Mandatory Health-Related Standards

PARAMETER	UNITS	MCL	PHG OR (MCLG)	GROUNDWATER		MOUNTAIN SURFACE WATER		SCVWD SURFACE WATER		SFPUC SURFACE WATER		TYPICAL SOURCES <sup>+</sup>
				AVERAGE	RANGE	AVERAGE	RANGE	AVERAGE	RANGE	AVERAGE	RANGE	
<b>INORGANIC MATERIALS</b>												
Aluminum	ppm	1	0.6	ND	ND - 0.08	ND	ND	0.029	0.053 - 0.12	ND	ND - 0.099	1, 4
Asbestos	MFL	7	7	ND	ND	ND	ND	0.39	ND - 0.39	ND	ND	1
Barium	ppm	1	2	0.16	ND - 0.31	ND	ND	ND	ND	ND	ND	8, 10
Fluoride	ppm	2	1	0.08	ND - 0.16	0.11	ND - 0.16	0.7	0.7	0.2	ND - 0.6	1
Chromium-6*	ppb	*	0.02	2.6	ND - 4.5	ND	ND	ND	ND	ND	ND	8, 10
Nitrate (as N)	ppm	10	10	3.0	ND - 7.1	ND	ND	ND	ND - 0.7	ND	ND	1, 2
Selenium	ppb	50	30	0.31	ND - 11	ND	ND	ND	ND	ND	ND	1, 7

\* the Chromium-6 MCL was invalidated during the 2017 calendar year, but SJW is required to report the information it collected prior to the MCL being invalidated. SJW has continued to sample through the year.

#### RADIONUCLIDES

Gross Alpha Activity	pCi/L	15	15	1.4	0 - 2.8	ND	ND	ND	ND	ND	ND	1
Radium 228	pCi/L	5	0.019	0.99	ND - 3.4	ND	ND	ND	ND	ND	ND	1
Uranium	pCi/L	20	0.43	ND	ND	NA	NA	1.0	ND	ND	ND	1

#### VOLATILE ORGANIC CHEMICALS

1,1,1-Trichloroethane	ppb	200	1	ND	ND - 1.2	ND	ND	ND	ND	ND	ND	8
1,1-Dichloroethylene	ppb	6	0.01	0.008	ND - 0.87	ND	ND	ND	ND	ND	ND	8

#### SURFACE WATER TREATMENT

				MAXIMUM LEVEL FOUND								TYPICAL SOURCES <sup>+</sup>
				GROUNDWATER		MOUNTAIN SURFACE WATER		SCVWD SURFACE WATER		SFPUC SURFACE WATER		
Turbidity	NTU	TT - 1 NTU	-	NA		0.08		0.23		1		11
	NTU	TT - 95% of samples ≤ 0.3 NTU	-	NA		100%		100%		99%		
				AVERAGE	RANGE	AVERAGE	RANGE	AVERAGE	RANGE	AVERAGE	RANGE	
Total Organic Carbon	ppm	TT	-	NA	NA	NA	NA	NA	NA	2.4	1.0 - 3.7	10

#### IN SURFACE WATER SAMPLES COLLECTED PRIOR TO TREATMENT:

				GROUNDWATER		MOUNTAIN SURFACE WATER		SCVWD SURFACE WATER		SFPUC SURFACE WATER		TYPICAL SOURCES <sup>+</sup>
				AVERAGE	RANGE	AVERAGE	RANGE	AVERAGE	RANGE	AVERAGE	RANGE	
Cryptosporidium	oocysts/L	TT	(0)	NA	NA	ND	ND - 0.3	0.1	0.1	ND	ND	10
Giardia	cysts/L	TT	(0)	NA	NA	ND	ND - 0.1	0.1	0.1 - 0.2	0.05	0 - 0.22	10

#### SJW DISTRIBUTION SYSTEM SAMPLES

				MRDL	MRDLG	RUNNING ANNUAL AVERAGE						TYPICAL SOURCES <sup>+</sup>
				4.0 as Cl <sub>2</sub>	4 as Cl <sub>2</sub>	1.1						
				MCL	PHG	HIGHEST SITE AVERAGE			RANGE			
<b>DISINFECTION</b>												
Total Chlorine	ppm											
<b>DISINFECTION BYPRODUCTS</b>												
Total Trihalomethanes	ppb			80	NA	Samples Collected at Designated Sample Points: 44			1.3 - 5.8			
Haloacetic Acids	ppb			60	NA	24			ND - 32.1			
<b>MICROBIOLOGICAL CONTAMINANTS</b>												
				MCL	PHG	HIGHEST MONTHLY %			RANGE			
Coliform Bacteria	%	> 5% of monthly samples positive	(0)			Samples Collected at Designated Sample Points: 0.27%			0 - 0.5%			
<b>LEAD AND COPPER</b>												
				AL	PHG	90th PERCENTILE LEVEL			SITES ABOVE AL			
Lead	ppb	(15)	0.2			Samples Collected at Customers' Taps (2017): < 5			4 of 125			
Copper	ppm	(1.3)	0.3			0.37			1 of 125			

### Secondary Standards-Aesthetic Standards

PARAMETER	UNITS	SMCL	GROUNDWATER		MOUNTAIN SURFACE WATER		SCVWD SURFACE WATER		SFPUC SURFACE WATER		TYPICAL SOURCES <sup>+</sup>
			AVERAGE	RANGE	AVERAGE	RANGE	AVERAGE	RANGE	AVERAGE	RANGE	
Aluminum	ppm	0.2	ND	ND - 0.08	ND	ND	0.03	0.05 - 0.12	ND	ND - 0.10	1, 4
Color	CU	15	3.3	ND - 14	6.5	ND - 89	ND	ND - 3	<5	<5 - 13	11, 12
Chloride	ppm	500	50.5	13 - 67	15	11 - 18	47	24 - 79	9	<3 - 17	3, 6
Conductivity	µmho/cm	1600	700	410 - 1000	330	300 - 390	408	211 - 530	168	29 - 256	6, 13
Foaming Agents (MBAS)	ppb	500	6	ND - 100	30	ND - 89	ND	ND	ND	ND	7
Hardness (as CaCO <sub>3</sub> )	ppm	NA	330	190 - 470	150	140 - 160	92	48 - 114	51	7 - 82	1
Iron	ppb	300	104	ND - 250	60	ND - 100	ND	ND	ND	ND	3, 5
Manganese	ppb	50	ND	ND - 37	4.2	ND - 9.7	ND	ND	ND	ND	3
Odor - Threshold @ 60°C	TON	3	ND	ND	ND	ND	1	ND - 1	ND	ND	12
Sodium	ppm	NA	30	15-47	15	13 - 16	41	21.1 - 57.2	18	2.3 - 31	1
Sulfate	ppm	500	60	30 - 100	32	27 - 35	45	17.4 - 59	17	0.9 - 34	3, 5
Total Dissolved Solids	ppm	1000	470	270 - 1100	200	160 - 250	219	120 - 272	76	<20 - 122	1
Turbidity	NTU	5	0.49	ND - 15	0.07	ND - 0.13	ND	ND	0.4	0.1 - 1	11

## Unregulated Contaminant Monitoring Rule 3 (UCMR3)

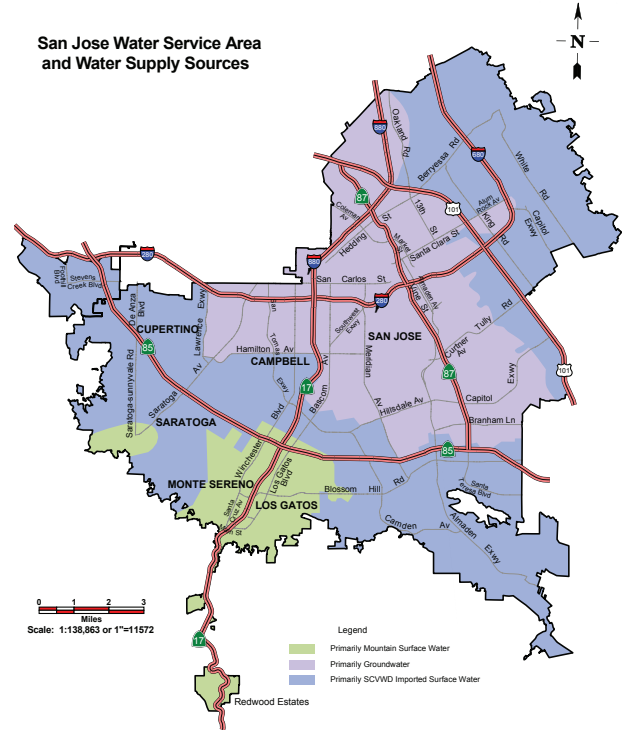
PARAMETER	UNITS	GROUNDWATER		MOUNTAIN SURFACE WATER	
		AVERAGE	RANGE	AVERAGE	RANGE
1,1-dichloroethane	ppb	ND	ND - 0.03	ND	ND
1,4-dioxane	ppb	ND	ND - 0.22	ND	ND
Bromochloromethane (halon 1011)	ppb	ND	ND	ND	ND - 0.11
Chlorate	ppb	70	ND - 190	150	64 - 540
Chlorodifluoromethane	ppb	0.29	ND - 1.5	ND	ND
Chromium	ppb	2.6	0.7 - 4.6	0.25	ND - 1.9
Chromium-6	ppb	2.5	.37 - 5.1	0.24	0.06 - 2
Molybdenum	ppb	ND	ND - 2.5	1.03	ND - 2.7
Strontium	ppb	420	240 - 710	230	130 - 420
Vanadium	ppb	3.1	1.3 - 5.7	2.2	0.7 - 3.7

UCMR testing was not conducted in 2017. Unregulated contaminants do not have a drinking water standard set by USEPA. The purpose of monitoring for these contaminants is to help EPA decide whether the contaminants should have a standard.

### SJW Service Area and Water Supply Sources

SJW provides water from three major sources. The first source is groundwater, which is pumped from over 100 wells that draw water from the Santa Clara Groundwater Sub-basin. The second source is local mountain surface water, which is collected in our watershed in the Santa Cruz Mountains and treated at our two treatment plants. The third source, imported surface water, is provided by the Santa Clara Valley Water District (SCVWD), our wholesale supplier. A majority of imported water originates as Sierra snowmelt and travels through the State and Federal water projects before treatment at SCVWD's three treatment plants. A smaller portion is impounded in local reservoirs in Santa Clara County. In 2017 and 2018, due to the shut-down of the Santa Teresa Water Treatment Plant, SJW also procured surface water from San Francisco Public Utility Commission through SCVWD's intertie.

- + Typical Sources of Chemical Constituents
1. Erosion of natural deposits
  2. Runoff and leaching from fertilizer use
  3. Runoff and leaching of natural deposits
  4. Residue from some surface water treatment processes
  5. Industrial waste
  6. Seawater influence
  7. Discharge from industrial chemical factories
  8. Discharge from metal degreasing sites and other factories
  9. By-product of drinking water disinfection
  10. Naturally present in the environment
  11. Soil erosion and stream sediments
  12. Naturally occurring organic materials
  13. Substances that form ions when in water
  14. Internal corrosion of household plumbing systems



## IMPORTANT DEFINITIONS

**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 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.

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

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

**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.

**One part per million (ppm):** is the same as one milligram per liter (mg/L). One ppm corresponds to a single penny in \$10,000 or one minute in two years.

**Detection Limit for Purposes of Reporting (DLR):** The lowest level of a constituent that the Department of Public Health requires to be reported.

**Nephelometric Turbidity Units (NTU):** This is a measure of the cloudiness of the water.

**Not Detected (ND):** If a constituent is not measured at or above a DLR, it is reported as ND.

**Not Analyzed (NA):** Source designated non-vulnerable or testing not required.

**TON:** Threshold Odor Number, a measure of odor.

**umho/cm:** micromho per centimeter, a measure of electrical conductivity.

**pCi/L:** picocuries per liter, a measure of radioactivity.

# WATER QUALITY GUIDANCE

## Source Water Assessment

An original assessment of the drinking water sources for SJW's water system was completed in December 2002 and is updated as new wells are brought online. SJW's wells are considered most vulnerable to one or more of the following activities, which have not been associated with any contaminants detected in the water supply: dry cleaners, automobile gas stations and repair shops, and underground storage tanks. Some of SJW's wells are also considered vulnerable to metal plating and finishing, photo processing/printing, electrical/electronics manufacturing, chemical/petroleum processing/storage, known contaminant plumes, and plastics/ synthetics producers. SJW's surface supplies are considered most vulnerable to low density septic systems. Imported surface water purchased from Santa Clara Valley Water District (SCVWD) is considered most vulnerable to a variety of land use practices, such as agricultural and urban runoff, recreational activities, livestock grazing, as well as residential and industrial development. In addition, local sources are vulnerable to potential contamination from commercial stables and historic mining practices. Although these activities exist in areas near one or more of SJW's or SCVWD's sources, physical barriers, treatment systems, and monitoring programs are in place to ensure that water supplied to our customers is not adversely affected. Customers seeking additional information are encouraged to contact SJW Water Quality Department at 408-279-7967.

## Special Populations

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).

## Drinking Water Regulation

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. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline (1-800-426-4791). 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 which 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.



## Fluoride

For information on Fluoride in your water, please refer to our website at <https://www.sjwater.com/customer-care/help-information/fluoride>.

## Selenium

Selenium is a naturally-occurring metal and also an essential nutrient. However, long-term exposure to concentrations above the MCL may cause a variety of circulatory problems.

## Lead

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (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. 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. San Jose Water Company 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 contact us 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 <https://www.epa.gov/lead>.

## Nitrate

Nitrate as Nitrogen (Nitrate-N) in drinking water at levels above 10 mg/L is a health risk for infants of less than six months of age. Such Nitrate-N levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in a serious illness; symptoms include shortness of breath and blueness of the skin. Nitrate-N levels above 10 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.

## Turbidity

Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration systems.

## Reminder for Dialysis Patients and Aquarium Owners

Chloramine and chlorine may be present in the water provided by SJW. These chemicals are used to protect public health by destroying disease-causing organisms. Except for a slight chlorinous taste or odor, these disinfectants will not cause any problems for the general public. However, home dialysis patients and aquarium owners must take special precautions before the water can be used in kidney dialysis machines or aquariums. Please consult your doctor or dialysis technician to be sure your home equipment is adequate and proper tests are being performed every time it is used. Before filling an aquarium or fish pond, the disinfectant must be removed. Your local tropical fish store can help determine the best water treatment for your fish.



## Ongoing lead sampling in the system

Data from the 2017 round of Lead and Copper Rule (LCR) sampling can be found in the Primary Standards table under Lead and Copper. To make LCR sampling as meaningful as possible, SJW worked with the state Division of Drinking Water and an outside consultant to identify the areas of highest risk for lead exposure from drinking water in our system. Samples collected at customers' taps last year have met the regulatory standards for lead and copper. An additional round of LCR sampling will be taking place in the spring of 2018 as well, due to the change of treatment process at the Montevina Water Treatment plant. If you have reason for concern about lead-containing fixtures in your home, please feel free to contact us at (408) 279-7900 to request sampling.

## Lead Sampling in Schools

In January 2018, Assembly Bill 746 went into effect requiring water utilities to collect lead samples in all daycare, pre-school and kindergarten through 12th grade schools on public property to ensure students have access to safe drinking water. If a private school wishes to have their water sampled, the head of the school may also request lead testing from their water provider. San Jose Water has sampled 193 of the 345 schools in our area to date. Of the 940 samples, 4 have been above the action level, all of which were promptly resolved. All public schools will be tested by July 2019. For more information about sampling in your child's school, contact your school officials or check out the website at: [https://www.waterboards.ca.gov/drinking\\_water/certlic/drinkingwater/leadsamplinginschools.html](https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/leadsamplinginschools.html).

## To Learn More about the Quality of Your Water

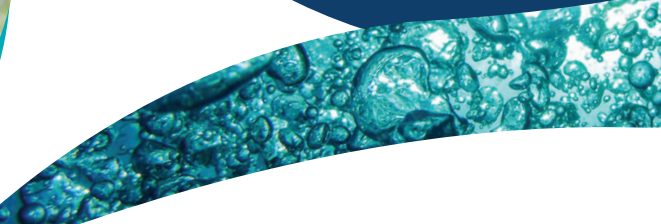
Your drinking water is continually tested to ensure compliance with state and federal standards for quality and safety. This annual report summarizes the results of more than 18,000 water quality tests conducted throughout the year. If you have any questions about your water quality, service, or the information contained in this report, please call us at 408.279.7900, Monday to Friday between 8:30AM and 5:30PM. You may also contact the US EPA Safe Drinking Water Hotline at 800.426.4791 for additional public information about the Safe Drinking Water Act or US EPA's drinking water regulatory programs.

## Important Information About Your Drinking Water

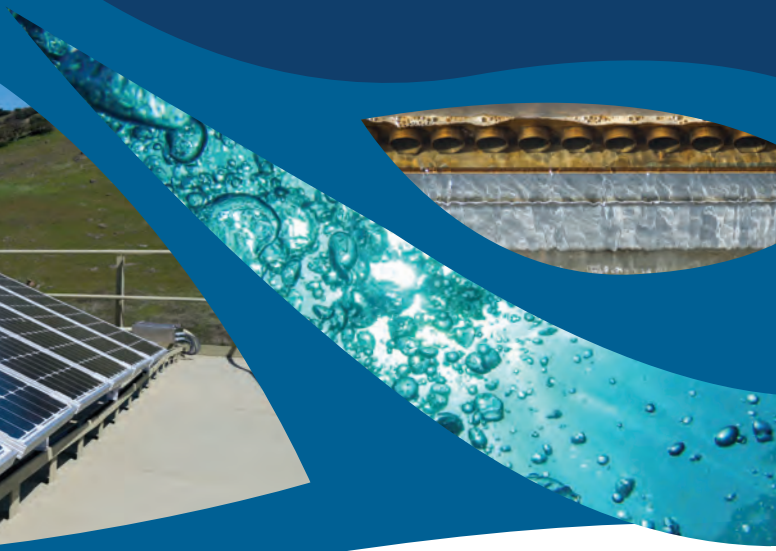
Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.

由於此報告書正包含着有關飲用水的重要信息,因此希望各位跟能夠翻譯或理解報告書內容的人對話。

**Chi tiết này thật quan trọng.  
Xin nhờ người dịch cho quý vị.**







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(408) 279-7900 • www.sjwater.com  
Se Habla Español  
*At your service since 1866*

This report is being sent to you in compliance with the Safe Drinking Water Act. Landlords, businesses and schools are encouraged to share this report with nonbilled water customers at their locations. Additional copies are available free of charge by calling our office.

Se le está enviando este informe en conformidad con la Ley de Agua Potable Segura. Se alienta a los propietarios, negocios y escuelas a compartir este informe con los usuarios a los que no se cobra el agua en sus centros. Llame a nuestra oficina para obtener más copias sin costo.

Báo cáo này được gửi đến quý vị chiếu theo quy định của Đạo Luật Nước Uống An Toàn. Những người cho thuê nhà, chủ doanh nghiệp và nhà trường được khuyến khích chia sẻ bản báo cáo này với những người sử dụng nước tại chỗ nhưng không nhận hóa đơn. Quý vị có thể xin thêm miễn phí bản sao của báo cáo này bằng cách gọi văn phòng chúng tôi.

這份報告根據《安全飲用水法案》的規定寄發給您。請房東、企業業主以及學校當局將此報告內容與其所在地點不會收到水費帳單的自來水用戶分享。如需更多的免費報告副本，請致電本辦公室。

## DRINKING WATER INFORMATION ON THE INTERNET

Detailed information about specific drinking water topics is available on the Internet. Visit our web site or any other of those listed below to find out more about water treatment, quality, and current regulations.

**San Jose Water Company:** [www.sjwater.com](http://www.sjwater.com)

**Santa Clara Valley Water District:** [www.valleywater.org](http://www.valleywater.org)

**American Water Works Association:** [www.awwa.org](http://www.awwa.org)

SWRCB Division of Drinking Water: [http://www.waterboards.ca.gov/drinking\\_water/programs/index.shtml](http://www.waterboards.ca.gov/drinking_water/programs/index.shtml)

United States Environmental Protection Agency: <http://water.epa.gov/drink>