

*Annual Water Quality Report 2016*

## Building an Intelligent Water System

In response to recent calls for conservation, customers have gone above and beyond to exceed the requested targets. While this outstanding response ensures continued adequate water supplies, conservation also presents challenges for maintaining SJWC's high standard for water quality.

Water conservation can result in increased water age, where water resides in a system for longer than usual. To understand, maintain, and improve water quality throughout the service area, SJWC has increased water quality monitoring. A year-long study identified strategic locations where installation of mixing and disinfectant residual boosting systems will enhance water quality. In addition, SJWC will be installing mixing and residual monitoring devices at all of our tanks and reservoirs.

Deployment of these mixing and boosting systems at over 100 sites is one of the first steps to transforming SJWC's water system to a state-of-the-art, intelligent operation. This new technology will require an investment of over \$5 million per year over the next four years. Customers will benefit through better public health protection, more efficient monitoring, and a proactive water quality management program. Additional initiatives underway to enhance water quality and ensure outstanding value for our customers include:

- Deployment of pressure monitors at representative high and low pressure locations throughout the water system
- Improvements in water flushing technology
- Remote leak detection systems
- A sustainable water main replacement program
- Improved operating procedures

The vision for this intelligent water system stems from SJWC's participation in the Partnership for Safe Water, a collaboration between the American Water Works Association, the US Environmental Protection Agency, the Association of State Drinking Water Administrators, the Association of Metropolitan Water Agencies, the National Association of Water Companies, and the Water Research Foundation.



*Newly installed tank mixing systems (top) and remote pressure monitors will provide continuous monitoring of SJWC's system and water quality*



*A new Dechlorinating Overflow Security Assembly (DOSA) installed at one of SJWC's water tanks*

SJWC's Water Quality team is also responsible for environmental stewardship and ensuring compliance with environmental regulations. Any large quantity of drinking water containing chlorine or chloramines could negatively impact natural waterways and aquatic life. To prevent accidental chlorinated discharges from tanks and reservoirs to streams and rivers, SJWC engineers worked with a leading manufacturer to develop the Dechlorinating Overflow Security Assembly (DOSA). The DOSA systems are installed in-line with water tank overflows to remove chlorine from water before it can reach a stream or river.

SJWC remains focused on water quality, environmental stewardship, and operational efficiencies that ensure continued delivery of safe, high quality, and reliable water service to our customers.



# 2016 SJWC Annual Water Quality Report

SJWC regularly tests our water supplies for over 200 potential contaminants. Only those contaminants detected in any of our water sources appear in this table. Primary standards relate to public health, whereas secondary standards relate to aesthetic qualities such as taste, odor, and color. The state Division of Drinking Water allows us to monitor for some contaminants every few years instead of annually because these concentrations do not change frequently. Therefore, some of our data are more than a year old, though they are representative of the water served in 2016. Where possible, averages are weighted based on use of each source during the year.

## Primary Standards - Mandatory Health-Related Standards

PARAMETER	UNITS	MCL OR (AL)	PHG OR (MCLG)	GROUNDWATER		IMPORTED SURFACE WATER		MOUNTAIN SURFACE WATER		TYPICAL SOURCES
				AVERAGE	RANGE	AVERAGE	RANGE	AVERAGE	RANGE	
<b>INORGANIC MATERIALS</b>										
Aluminum	ppm	1	0.6	ND	ND - 0.16	ND	ND - 0.1	0.16	ND - 0.18	1, 4
Barium	ppm	1	2	0.2	ND - 0.30	ND	ND	ND	ND	8, 10
Fluoride	ppm	2	1	ND	ND - 0.16	ND	ND - 0.8	0.14	0.14 - 0.18	1
Hexavalent Chromium	ppb	10	0.02	3.1	ND - 5.6	ND	ND	ND	ND	8, 10
Nitrate (as N)	ppm	10	10	3.0	0.60 - 6.2	ND	ND - 1.2	ND	ND	1, 2
Selenium	ppb	50	30	ND	ND - 5.5	ND	ND	ND	ND	1, 7
<b>RADIONUCLIDES</b>										
Gross Alpha Activity	pCi/L	15	15	1.1	0.62 - 6.0	ND	ND	3.7	ND - 4.1	1
Uranium	pCi/L	20	0.43	NA	NA	ND	ND - 1.0	NA	NA	1
<b>VOLATILE ORGANIC CHEMICALS</b>										
1,1,1,-Trichloroethane	ppb	200	1000	ND	ND - 1.8	ND	ND	ND	ND	8
<b>MAXIMUM LEVEL FOUND</b>										
				<b>GROUNDWATER</b>		<b>IMPORTED SURFACE WATER</b>		<b>MOUNTAIN SURFACE WATER</b>		
CLARITY	NTU	TT = 1 NTU	-	NA		2.2		0.17		11
				NA		100%		100%		
Turbidity	NTU	TT = 95% of samples ≤ 0.3 NTU		-						
<b>LEAD AND COPPER</b>										
Lead	ppb	(15)	0.2	From samples collected at customers' taps (2014):		4.5		1 of 51		1, 14
Copper	ppm	(1.3)	0.3			0.46		1 of 51		1, 14
<b>COMPLIANCE LEVEL</b>										
<b>RANGE</b>										
<b>DISINFECTION BYPRODUCTS</b>										
Total Trihalomethanes	ppb	80	-	From samples collected in the distribution system:		50		ND - 100		9
Haloacetic Acids	ppb	60	-			17		ND - 74		9
<b>MICROBIOLOGICAL CONTAMINANTS</b>										
Coliform Bacteria	%	> 5% of monthly samples positive	(0)	From samples collected in the distribution system:		0.5%		0 - 0.5%		10
<b>HIGHEST MONTHLY %</b>										
<b>RANGE</b>										
<b>IN SURFACE WATER SAMPLES COLLECTED PRIOR TO TREATMENT:</b>										
				<b>GROUNDWATER</b>		<b>IMPORTED SURFACE WATER</b>		<b>MOUNTAIN SURFACE WATER</b>		
				<b>AVERAGE</b>	<b>RANGE</b>	<b>AVERAGE</b>	<b>RANGE</b>	<b>AVERAGE</b>	<b>RANGE</b>	
Cryptosporidium	oocysts/L	TT	(0)	NA	NA	ND	ND - 0.1	ND	ND - 0.3	10
Giardia	cysts/L	TT	(0)	NA	NA	ND	ND	ND	ND - 0.1	10
<b>DISINFECTION</b>										
		<b>MRDL</b>	<b>MRDLG</b>	<b>SJWC DISTRIBUTION SYSTEM RUNNING ANNUAL AVERAGE</b>						
Total Chlorine	ppm	4.0 as Cl <sub>2</sub>	4 as Cl <sub>2</sub>	1.1						

## Secondary Standards - Aesthetic Standards

PARAMETER	UNITS	MCL	GROUNDWATER		IMPORTED SURFACE WATER		MOUNTAIN SURFACE WATER		TYPICAL SOURCES
			AVERAGE	RANGE	AVERAGE	RANGE	AVERAGE	RANGE	
Color	Units	15	4	ND - 5	ND	ND	ND	ND	11, 12
Chloride	ppm	500	50	32 - 61	77	53 - 120	16	16 - 21	3, 6
Conductivity	µmho/cm	1600	700	430 - 980	530	330 - 740	410	400 - 470	6, 13
Hardness (as CaCO <sub>3</sub> )	ppm	NA	310	160 - 480	86	58 - 140	170	170 - 190	1
Iron	ppb	300	1.7	ND - 110	ND	ND	ND	ND	3, 5
Odor - Threshold	TON	3	ND	ND - 1	1	1 - 1	ND	ND	12
Sodium	ppm	NA	29	ND - 73	50	36 - 80	18	17 - 24	1
Sulfate	ppm	500	56	29 - 80	52	20 - 70	62	57 - 63	3, 5
Total Dissolved Solids	ppm	1000	470	270 - 600	300	180 - 420	270	260 - 310	1

## Unregulated Contaminant Monitoring Rule 3 (UCMR3)

PARAMETER	UNITS	GROUNDWATER		IMPORTED SURFACE WATER		MOUNTAIN SURFACE WATER	
		AVERAGE	RANGE	AVERAGE	RANGE	AVERAGE	RANGE
1,4-Dioxane	ppb	ND	ND - 0.22	ND	ND	ND	ND
Chlorodifluoromethane	ppb	ND	ND - 0.12	ND	ND	0.08**	0.08**
Chromium VI	ppb	1.1	0.37 - 1.7	ND	ND	0.46	0.38 - 0.54
Molybdenum	ppb	ND	ND - 2.5	1.3	ND - 2.2	ND	ND
Strontium	ppb	420	240 - 710	210	130 - 420	190	150 - 240
Vanadium	ppb	3.1	1.8 - 4.4	2.7	1.5 - 3.7	1.4	1.2 - 1.6

UCMR sampling is completed every few years as requested by the USEPA, and was not conducted in 2016. Unregulated contaminants do not have a drinking water standard at the time of testing. Data collected by utilities help USEPA decide whether the contaminants should have a standard.

\*\* data from one sample

\* Typical Sources of 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 refineries and mines 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

### Primary Drinking Water Standards (PDWS):

MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

### Detection Limit for the Purposes of Reporting (DLR):

The lowest level of a constituent that the Division of Drinking Water requires to be reported.

### 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.

### Not Detected (ND):

If a constituent is not measured at or above a DLR, it is reported as ND.

### Not Analyzed (NA):

Source is designated as not vulnerable to contamination or testing not required.

### 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 risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

### 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.

## Units of Measure

### Nephelometric Turbidity Units (NTU):

A measure of the cloudiness of water.

### TON:

Threshold Odor Number, a measure of odor.

### pCi/L:

picocuries per liter, a measure of radioactivity.

### umho/cm:

micromho per centimeter, a measure of electrical conductivity.

### One part per million (ppm):

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.

### One part per billion (ppb):

the same as one microgram per liter (ug/L). One ppb corresponds to a single penny in \$10,000,000 or one minute in two thousand years.

## Fluoride in our Community's Drinking Water

The Santa Clara Valley Water District (SCVWD) Board of Directors decided in November 2011 to provide optimal fluoride concentrations at its three water treatment plants, which provide a significant portion of the water served by SJWC. In December 2016, SCVWD began delivering

fluoridated water from their Santa Theresa Water Treatment Plant. Customers receiving this water were notified by mail in advance. As other treatment plants begin delivering fluoridated water, SJWC will provide advance notification to our customers. More information about SCVWD's program can be found at [www.valleywater.org/services/fluoridation.aspx](http://www.valleywater.org/services/fluoridation.aspx).

SJWC maintains a neutral position on water fluoridation. Many organizations including the Centers for Disease Control (CDC) and the State Water Resources Control Board's Division of Drinking Water are supportive of adding fluoride to drinking water to help prevent tooth decay. Please contact your health care provider or the CA State Department of Public Health's dedicated line for fluoride inquiries, at 1-844-435-8420.

## Ongoing Lead Sampling in the System

The next round of Lead and Copper Rule (LCR) sampling will take place in summer 2017 (data from 2014 sampling can be found in the table opposite). With input from the state Division of Drinking Water and guided by an outside consultant, SJWC has just completed a voluntary comprehensive survey of our distribution system to identify areas of highest risk for lead exposure from drinking water. This survey will be used to conduct the 2017 LCR compliance round. Samples collected at customers' taps over the past several years have not indicated that our customers face significant risk due to lead exposure from drinking water. 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 early 2017, the state Division of Drinking Water set up a program for schools serving grades K-12 to request lead sampling from their water utilities. Requests are made by the school superintendent (or principal, for private schools) to the utility. San Jose Water Company has already sampled at several schools in our area. For more information about sampling in your child's school, contact your school officials or see the California DDW website at [http://www.waterboards.ca.gov/drinking\\_water/certlic/drinkingwater/leadsamplinginschools.shtml](http://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/leadsamplinginschools.shtml)



### Source Assessment

An assessment of the drinking water sources for SJWC's water system was completed in December 2002. Though not associated with any contaminants detected in the water supply, SJWC's wells are considered most vulnerable to dry cleaners, automobile gas stations and repair shops, and underground storage tanks. Some of SJWC's wells are also considered vulnerable to metal plating and finishing, photo processing/printing, electrical/electronics manufacturing, chemical/petroleum processing and storage, plastics/synthetics producers, and known contaminant plumes. SJWC's surface supplies are most vulnerable to low density septic systems, and vulnerable to potential contamination from commercial stables and historic mining practices. 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, and residential and urban development. Although these activities exist or have existed near one or more of SJWC'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 may view a copy of the assessment during normal business hours at our 110 W. Taylor St. office.

### Special Populations

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as those with cancer undergoing chemotherapy, those who have had organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk. These people should seek advice about drinking water from their healthcare providers. USEPA/Centers for Disease Control(CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium, Giardia, and other microbial contaminants are available from the Safe Drinking Water Hotline.

Cryptosporidium is a microbial pathogen commonly found in surface water, and was detected in our source water before treatment in 2016. However, the most common filtration methods cannot guarantee 100% removal. Ingesting Cryptosporidium can cause abdominal illness, with more severe implications for immuno-compromised persons.

## Drinking Water Regulations

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

Drinking water, including bottled water, may reasonably be expected to contain 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). Sources of drinking 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. It 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, viruses, and bacteria which may come from sewage treatment plants, septic systems, livestock, and wildlife
- Inorganic contaminants, such as salts and metals, which 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 from a variety of sources such as agriculture, urban stormwater runoff, and residential uses
- Organic chemical contaminants including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production or may come from gas stations, urban stormwater runoff, agricultural application, and septic systems
- Radioactive contaminants, which can be naturally-occurring or the result of oil and gas production or mining activities

### Fluoride

For more information about fluoride in your water, please refer to our website at <http://www.sjwater.com>.

### 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

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water primarily comes from materials and components associated with service lines and home plumbing. SJWC is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing and service line components on the customer's side of the water meter. When your water has been sitting for several hours, you can minimize potential lead exposure by flushing your tap for 30 sec to 2 min before using water for drinking or cooking. You may wish to collect the flushed water and reuse it for a beneficial purpose such as watering plants. 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>.

### Nitrate

Nitrate-N in drinking water at a level above 10 ppm is a health risk for infants under 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 skin. Nitrate-N levels above 10 ppm may also affect the ability of blood to carry oxygen in other individuals, including pregnant women and those with certain enzyme deficiencies. If you are caring for an infant or are pregnant, you should seek advice from your health care provider.

### Turbidity

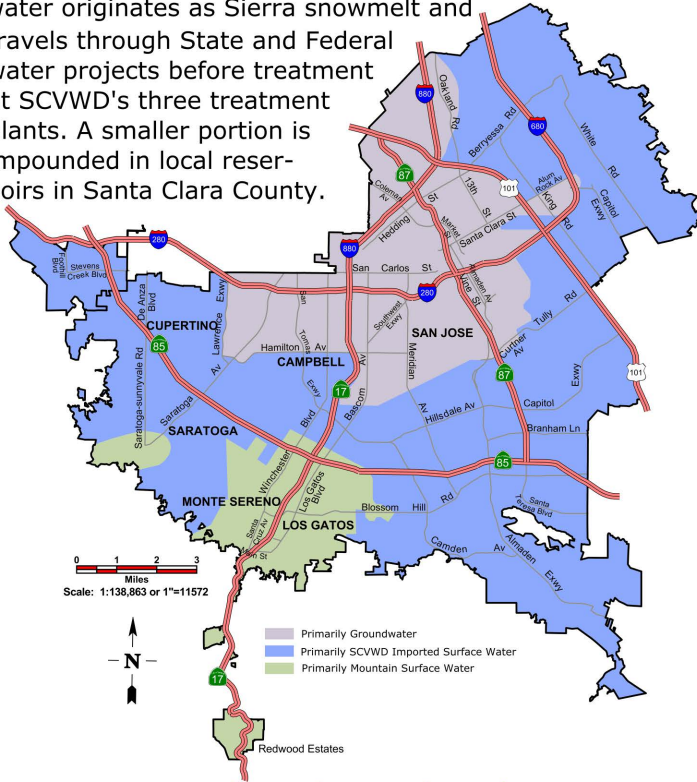
Turbidity is a measure of cloudiness of the water. It is a good indicator of the effectiveness of our filtration systems.

### Reminder for Dialysis Patients and Aquarium Owners

Chloramine and chlorine may be present in water provided by SJWC. 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 or aquariums. Please consult your doctor or dialysis technician to be sure your home equipment is adequate and that proper tests are performed every time it is used. Before filling an aquarium or fish pond, the disinfectant must be removed. Your local fish store can help determine the best water for your fish.

## SJWC Service Area and Water Supply Sources

SJWC 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 and treated at our two treatment plants. The third source, imported surface water, is provided by the Santa Clara Valley Water District, our wholesale supplier. A majority of imported water originates as Sierra snowmelt and travels through 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.



## 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 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. Or, you may contact the USEPA Safe Drinking Water Hotline at 1-800-426-4791 for additional public information about the Safe Drinking Water Act or USEPA's drinking water regulatory programs.

Detailed information about specific drinking water topics is available on the internet. Visit our website or any of the sites listed below to find out 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:** [www.waterboards.ca.gov/drinking\\_water/programs/index.shtml](http://www.waterboards.ca.gov/drinking_water/programs/index.shtml)
- **United States Environmental Protection Agency:** [water.epa.gov/drink](http://water.epa.gov/drink)

This brochure provides a snapshot of last year's water quality data for SJWC. Included are details about where your water comes from and how your water quality compares to State standards. As you can see, in 2016, as in years past, your drinking water met all USEPA and State primary drinking water health standards.

## IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

Este aviso contiene información importante sobre su agua potable. Para obtener más información, por favor llame: (408) 279-7828

Thông báo này chứa thông tin quan trọng về nước uống của bạn. Vui lòng gọi để biết thêm thông tin: (408) 279-7828

此通知包含有关饮用水的重要信息。如欲了解更多信息，请致电：(408) 279-7828

### Monitoring Requirements Not Met for San Jose Water Company

Our water system failed to monitor for a drinking water standard during the past year and therefore was in violation of the regulations. Even though this failure was not an emergency, as our customers, you have a right to know what happened and what we did to correct the situation.

After being informed of a positive coliform result, we are required to monitor groundwater wells that may have contributed to the sample tested as positive. We collect and test approximately 400 samples a month for coliform and our tests results are in full compliance with State and Federal Regulations. On April 20, 2017, we failed to collect three groundwater samples within 24 hours of being notified by our laboratory of a positive coliform result. We collected these samples on April 25, 2017 and all results met drinking water standards.

SJWC has provided additional training to staff to ensure that follow up samples are taken within the timeframe required by regulations.

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。

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.



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Se Habla Español  
*At your service since 1866*