

LOOKING TO THE FUTURE

20 16

WATER QUALITY REPORT

This report details the quality of your drinking water and we're pleased to report Santa Ana upholds the highest standards year after year.

As stewards of this precious resource, we're concerned about water availability for generations to come, which is why smarter water use is so important.

Remember, doing your part to save water will make a huge difference for us all.



2016 WATER QUALITY TABLE



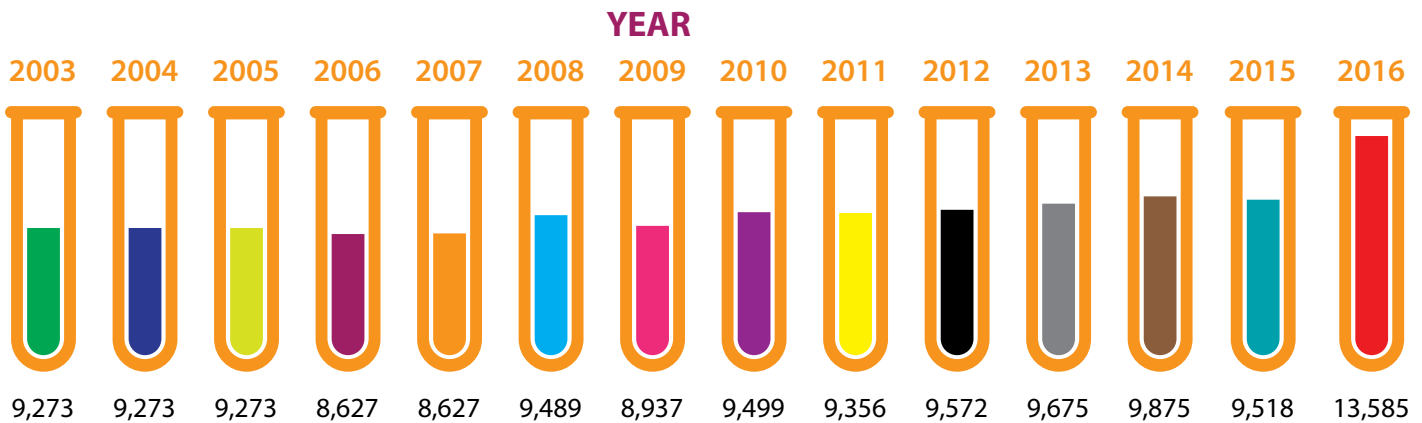
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WATER
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This report details

Number of samples collected



The state allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old.

Santa Ana conducts extensive monitoring to ensure that your water meets all water quality standards. In 2016, we collected numerous samples for contaminants at various

sampling points in your water system; all of which were below state and federal maximum allowable levels. The results of our monitoring are reported in the following data tables.

GLOSSARY

Refer to this glossary to understand the terms and abbreviations used in the data tables.

Terms/Abbreviations

Constituents

Components or elements found in drinking water.

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 USEPA.

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 Standard (PDWS)

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

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 (Cal/EPA).

Regulatory Action Level

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

Treatment Technique (TT)

A required process intended to reduce the level of contaminants in drinking water that are difficult and sometimes impossible to measure directly.

Additional Abbreviations

AL = Regulatory Action Level

CFU = Colony-Forming Units

MFL = Million Fibers per Liter

NA = Not Applicable

NC = Not Collected

ND = Not Detected

NL = Notification Level

NR = Not Required

NS = No Standard





GLOSSARY

Measurements

Water is sampled and tested consistently throughout the year to ensure the best possible quality. Contaminants are measured in:

Parts per million (ppm) or milligrams per liter (mg/L)

Parts per billion (ppb) or micrograms per liter (µg/L)

Parts per trillion (ppt) or nanograms per liter (ng/L)

Parts per quadrillion (ppq) or picograms per liter

PicoCuries per liter (pCi/L)—A measurement of radioactivity in water.

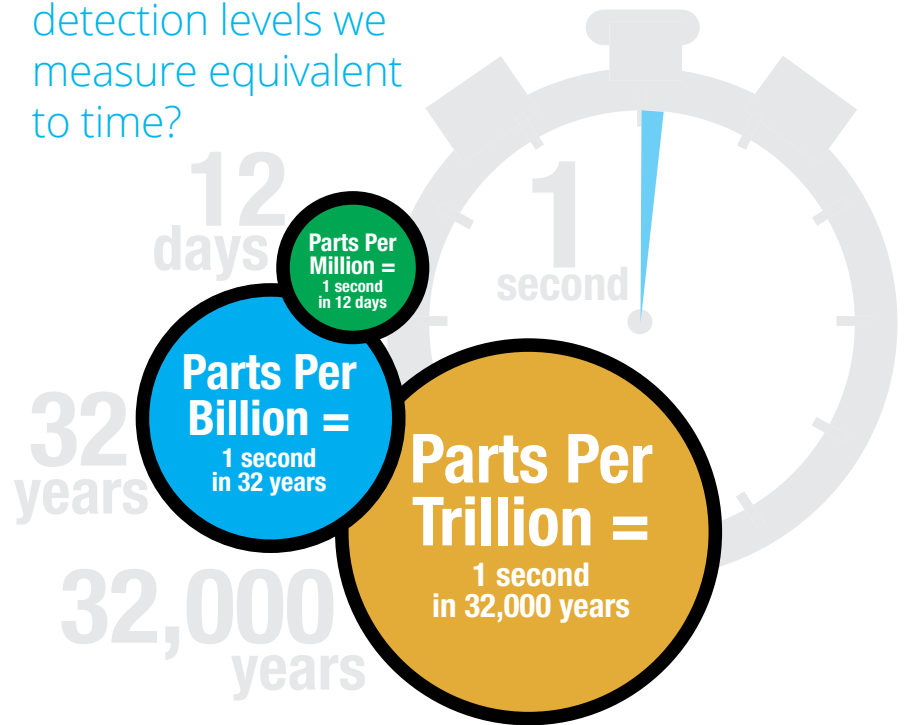
Millirems per year (mrem/year)—A measurement of radiation absorbed by the body.

Micromhos per centimeter (umho/cm)

Grains per gallon (grains/gal)—A measurement of water hardness often used for sizing household water softeners. One grain per gallon is equal to 17.1 mg/L of hardness.

Nephelometric Turbidity Units (NTU)—A measurement of the clarity of water. Turbidity in excess of 5 NTU is noticeable to the average person.

How are the detection levels we measure equivalent to time?



Quality Standards

Primary Standards

Mandatory health-related standards that may cause health problems in drinking water.

Secondary Standards

Aesthetic standards (non health-related) that could cause odor, taste, or appearance problems in drinking water.

Unregulated Parameters

Information about contaminants that are monitored, but are not currently regulated by federal and state health agencies.



2016 WATER QUALITY TABLE

How to read this table

- Starting with a **Substance**, read across.
- MCL** is the highest level of substance (contaminant) allowed.
- MCLG** is the goal level for that substance (this may be lower than what is allowed).
- Average Amount** is the average level measured for the substance (less is better).
- Range of Detections** is the highest and lowest amounts measured.
- A **No** under **MCL Violation** indicates government requirements were met.
- Typical Sources in Drinking Water** tells where the substance usually originates.
[Unregulated substances are measured, but maximum allowed contaminant levels have not been established by the government.]

2016 CITY OF SANTA ANA DISTRIBUTION SYSTEM WATER QUALITY

Constituent	MCL (MRDL/MRDLG)	Average Amount	Range of Detections	MCL Violation?	Typical Sources in Drinking Water
DISINFECTANT RESIDUAL AND DISINFECTION BY-PRODUCTS					
Chlorine Residual (ppm)	(4 / 4)	0.85	ND - 2.66	No	Disinfectant Added for Treatment
Total Trihalomethanes (ppb) ¹	80	37	1 - 51.2	No	Byproducts of Chlorine Disinfection
Haloacetic Acids (ppb) ¹	60	10	ND - 23.9	No	Byproducts of Chlorine Disinfection
AESTHETIC QUALITY					
Odor (threshold odor number)	3*	1	1	No	Naturally-occurring organic materials

< = Detected but average is less than the reporting limit.

*Chemical is regulated by a secondary standard to maintain aesthetic qualities (color, odor, and taste).

Microbiological	MCL	MCLG	Highest Monthly Percent Positives	MCL Violation?	Typical Sources in Drinking Water
Total Coliform Bacteria ²	5.0%	0	1.2%	No	Naturally present in the environment

LEAD AND COPPER ACTION LEVELS AT RESIDENTIAL TAPS

Constituent	Action Level (AL)	Public Health Goal	90th Percentile Value	Sites Exceeding AL / Number of Sites	AL Violation?	Typical Sources in Drinking Water
Lead (ppb) ³	15	0.2	ND	0 / 80	No	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits
Copper (ppm) ³	1.3	0.3	0.17	0 / 80	No	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits

UNREGULATED CONSTITUENTS REQUIRING MONITORING IN THE DISTRIBUTION SYSTEM

Constituent	Notification Level	PHG	Average Amount	Range of Detections	Most Recent Sampling Date
Chlorate (ppb)	800	n/a	49.8	37.5 - 85.8	2014
Chromium, Hexavalent (ppb) ^{**}	MCL = 10	0.02	0.73	0.09 - 1.1	2014
Chromium, Total (ppb) ^{***}	MCL = 50	MCLG = 100	0.56	ND - 0.9	2014
Molybdenum, Total (ppb)	n/a	n/a	4.38	3.8 - 5.2	2014
Strontium, Total (ppb)	n/a	n/a	715	547 - 959	2014
Vanadium, Total (ppb)	50	n/a	2.45	2.3 - 2.8	2014

^{**} Hexavalent chromium was included as part of the unregulated chemicals requiring monitoring.

^{***} Total chromium is regulated with an MCL of 50 ppb but was not detected, based on the detection limit for purposes of reporting of 10 ppb. Total chromium was included as part of the unregulated chemicals requiring monitoring.

2016 CITY OF SANTA ANA GROUNDWATER QUALITY

Constituent	MCL	PHG (MCLG)	Average Amount	Range of Detections	MCL Violation?	Most Recent Sampling Date	Typical Sources in Drinking Water
Radiologicals							
Uranium (pCi/l)	20	0.43	2.78	ND - 4.98	No	2014	Erosion of Natural Deposits
Organic Constituents							
1, 1 - Dichloroethene (ppb)	6	10	< 0.5	ND - 0.7	No	2016	Discharge from Industrial Chemical Factories
Inorganic Constituents							
Arsenic (ppb)	10	0.004	< 2	2.3	No	2016	Erosion of Natural Deposits
Barium (ppm)	1	2	< 0.1	ND - 0.151	No	2016	Erosion of Natural Deposits
Fluoride (ppm) ⁴	2	1	0.33	0.18 - 0.51	No	2016	Erosion of Natural Deposits
Hexavalent Chromium (ppb)	10	0.02	< 1	ND - 2.1	No	2016	Erosion of Natural Deposits: Industrial Discharge
Nitrate (ppm as N)	10	10	2.19	0.4 - 7.71	No	2016	Runoff and Leaching from Fertilizer Use; Leaching from Septic Tanks and Sewage; Erosion of Natural Deposits
Nitrate + Nitrite (ppm as N)	10	10	2.19	0.4 - 7.72	No	2016	Runoff and Leaching from Fertilizer Use; Leaching from Septic Tanks and Sewage; Erosion of Natural Deposits
Perchlorate (ppb)	6	1	< 4	ND - 0.2	No	2016	Discharge from Industrial Operations
Secondary Standards							
Chloride (ppm)	500*	n/a	53.2	20.4 - 115	No	2016	Erosion of Natural Deposits
Specific Conductance (umho/cm)	1,600*	n/a	680	439 - 1,120	No	2016	Substance that forms Ions when in water
Sulfate (ppm)	500*	n/a	91.4	47.7 - 140	No	2016	Erosion of Natural Deposits
Total Dissolved Solids (ppm)	1,000*	n/a	413	256 - 664	No	2016	Erosion of Natural Deposits
Turbidity (ntu)	5*	n/a	< 0.1	ND - 0.2	No	2016	Soil Runoff
Unregulated Constituents							
Alkalinity, total as CaCO ₃ (ppm)	Not Regulated	n/a	172	144 - 243	n/a	2016	Erosion of Natural Deposits
Bicarbonate (ppm HCO ₃)	Not Regulated	n/a	210	176 - 296	n/a	2016	Erosion of Natural Deposits
Boron (ppm)	NL=1	n/a	< 0.1	ND - 0.21	n/a	2016	Erosion of Natural Deposits
Calcium (ppm)	Not Regulated	n/a	75.9	35.9 - 130	n/a	2016	Erosion of Natural Deposits
Hardness, total (grains/gallon)	Not Regulated	n/a	14.7	6.98 - 25	n/a	2016	Erosion of Natural Deposits
Hardness, total (ppm as CaCO ₃)	Not Regulated	n/a	250	119 - 427	n/a	2016	Erosion of Natural Deposits
Magnesium (ppm)	Not Regulated	n/a	14.7	7.1 - 27.2	n/a	2016	Erosion of Natural Deposits
pH (pH units)	Not Regulated	n/a	7.8	7.5 - 8	n/a	2016	Acidity Hydrogen Ions
Potassium (ppm)	Not Regulated	n/a	2.2	1.3 - 3.4	n/a	2016	Erosion of Natural Deposits
Sodium (ppm)	Not Regulated	n/a	46.6	35.5 - 66.7	n/a	2016	Erosion of Natural Deposits

< = Average is less than the detection limit for reporting purposes.
 * Constituent is regulated by a secondary standard to maintain aesthetic qualities (taste, odor, color).

UNREGULATED CONSTITUENTS REQUIRING MONITORING

Constituent	Notification Level	PHG	Average Amount	Range of Detections	Most Recent Sampling Date
1,4-Dioxane (ppb)	1	n/a	0.14	ND - 0.24	2014
Chlorate (ppb)	800	n/a	63.3	21.1 - 249	2014
Chromium, Hexavalent (ppb) **	MCL = 10	0.02	1.01	0.21 - 2.06	2014
Chromium, Total (ppb) ***	MCL = 50	MCLG = 100	0.85	ND - 1.8	2014
Molybdenum, Total (ppb)	n/a	n/a	4.92	2.6 - 11.1	2014
Strontium, Total (ppb)	n/a	n/a	529	244 - 766	2014
Vanadium, Total (ppb)	50	n/a	2.69	1.4 - 5.2	2014

** Hexavalent chromium was included as part of the unregulated chemicals requiring monitoring.

*** Total chromium is regulated with an MCL of 50 ppb but was not detected, based on the detection limit for purposes of reporting of 10 ppb. Total chromium was included as part of the unregulated chemicals requiring monitoring.

2016 METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA TREATED SURFACE WATER

Constituent	MCL	PHG (MCLG)	Average Amount	Range of Detections	MCL Violation ?	Typical Sources in Drinking Water
Radiologicals - Tested in 2014						
Alpha Radiation (pCi/L)	15	(0)	ND	ND - 4	No	Erosion of Natural Deposits
Beta Radiation (pCi/L)	50	(0)	5	4 - 6	No	Decay of Man-made or Natural Deposits
Uranium (pCi/l)	20	0.43	3	2 - 3	No	Erosion of Natural Deposits
Inorganic Constituents - Tested in 2016						
Aluminum (ppm)	1	0.6	0.168	0.12 - 0.24	No	Treatment Process Residue, Natural Deposits
Arsenic (ppb)	10	0.004	2.3	2.3	No	Production Wastes, Natural Deposits
Barium (ppm)	1	2	0.138	0.138	No	Refinery Discharge, Erosion of Natural Deposits
Fluoride (ppm) treatment-related	Control Range 0.6 - 1.2 ppm Optimal Level 0.7 ppm		0.7	0.6 - 0.9	No	Water Additive for Dental Health
Secondary Standards - Tested in 2016						
Aluminum (ppb)	200*	600	168	120 - 240	No	Treatment Process Residue, Natural Deposits
Chloride (ppm)	500*	n/a	103	101 - 103	No	Runoff or Leaching from Natural Deposits
Color (color units)	15*	n/a	1	1	No	Naturally-occurring Organic Materials
Odor (threshold odor number)	3*	n/a	3	3	No	Naturally-occurring Organic Materials
Specific Conductance (umho/cm)	1,600*	n/a	1,040	1,030 - 1,040	No	Substances that Form Ions in Water
Sulfate (ppm)	500*	n/a	260	257 - 262	No	Runoff or Leaching from Natural Deposits
Total Dissolved Solids (ppm)	1,000*	n/a	654	650 - 658	No	Runoff or Leaching from Natural Deposits
Unregulated Constituents - Tested in 2016						
Alkalinity, total as CaCO3 (ppm)	Not Regulated	n/a	120	115 - 124	n/a	Runoff or Leaching from Natural Deposits
Boron (ppm)	NL=1	n/a	0.15	0.15	n/a	Runoff or Leaching from Natural Deposits
Calcium (ppm)	Not Regulated	n/a	76	75 - 76	n/a	Runoff or Leaching from Natural Deposits
Hardness, total as CaCO3 (ppm)	Not Regulated	n/a	296	292 - 300	n/a	Runoff or Leaching from Natural Deposits
Hardness, total (grains/gallon)	Not Regulated	n/a	17	17 - 18	n/a	Runoff or Leaching from Natural Deposits
Magnesium (ppm)	Not Regulated	n/a	27	26 - 27	n/a	Runoff or Leaching from Natural Deposits
pH (pH units)	Not Regulated	n/a	8.1	8.1	n/a	Hydrogen Ion Concentration
Potassium (ppm)	Not Regulated	n/a	5.1	5 - 5.1	n/a	Runoff or Leaching from Natural Deposits
Sodium (ppm)	Not Regulated	n/a	103	99 - 107	n/a	Runoff or Leaching from Natural Deposits
Total Organic Carbon (ppm)	TT	n/a	2.5	2.1 - 2.6	n/a	Various Natural and Man-made Sources
*Contaminant is regulated by a secondary standard						
Turbidity - combined filter effluent Metropolitan Water District Diemer Filtration Plant	Treatment Technique	Turbidity Measurements		TT Violation?	Typical Sources in Drinking Water	
1) Highest single turbidity measurement 2) Percentage of samples less than 0.3 NTU	0.3 NTU 95%	0.07 100%		No No	Soil Runoff Soil Runoff	

UNREGULATED CONSTITUENTS REQUIRING MONITORING

Constituent	Notification Level	PHG	Average Amount	Range of Detections	Most Recent Sampling Date
Chlorate (ppb)	800	n/a	53.3	38.1 - 67.6	2013
Chromium, Hexavalent (ppb) **	MCL = 10	0.02	0.07	0.03 - 0.12	2013
Chromium, Total (ppb) ***	MCL = 50	MCLG = 100	< 0.2	ND - 0.5	2014
Molybdenum, Total (ppb)	n/a	n/a	4.8	4.5 - 5.3	2014
Strontium, Total (ppb)	n/a	n/a	938	854 - 1,070	2014
Vanadium, Total (ppb)	50	n/a	2.8	2.3 - 3	2014

- ** Hexavalent chromium is regulated with an MCL of 10 ppb but was not detected, based on the detection limit for purposes of reporting of 1 ppb. Hexavalent chromium was included as part of the unregulated constituents requiring monitoring.
- *** Total chromium is regulated with an MCL of 50 ppb but was not detected, based on the detection limit for purposes of reporting of 10 ppb. Total chromium was included as part of the unregulated chemicals requiring monitoring.



NOTES

1. Trihalomethanes and Haloacetic Acids:

Eight locations in the distribution system are tested quarterly for total trihalomethanes and haloacetic acids. Fifty locations are tested monthly for color, odor and turbidity. Color and turbidity were not detected in 2016.

2. Coliform: The state required raw water coliform monitoring for all treatment plants beginning March 2008. No more than 5% of the monthly samples may be positive for total coliform bacteria. The occurrence of 2 consecutive total coliform positive samples, one of which contains fecal coliform/E.coli, constitutes an acute MCL violation.

3. Lead and Copper. In 2015, eighty residences were tested for lead and copper at-the-tap. Lead was not detected in any of the samples. Copper was detected in 66 samples, none of which exceeded the AL for copper. A regulatory action level is the concentration of a constituent, which, if exceeded, triggers treatment or other requirements that a water system must follow.

4. Fluoride. Data for the naturally-occurring fluoride were taken before the fluoridation treatment began. Fluoridation treatment of water supplies at all five MWD treatment plants started sequentially from October 29, 2007 to December 3, 2007. MWD was in compliance with all provisions of the State's Fluoridation System Requirements.

5. Combined Filter Effluent Turbidity (NTU). Is a measure of the cloudiness of the water, an indication of particulate matter, some of which might include harmful microorganisms. It is monitored in our imported water source. Low turbidity in MWD treated water is a good indicator of effective filtration.

6. Combined Filter Effluent Turbidity (%). The turbidity level of the filtered water shall be less than or equal to 0.3 NTU in 95 percent of the measurements taken each month and shall not exceed 1 NTU at any time. The averages and ranges of turbidity shown in the Secondary Standards were based on the treatment plant effluent.



MONITORING REQUIREMENTS NOT MET FOR THE CITY OF SANTA ANA

There are many monitoring requirements imposed on every public water system. Our water system staff failed to adequately meet these requirements on one occasion this past year; and therefore, the City of Santa Ana's water system was in violation of these regulations.

It is important to note that this was not a violation caused by having contaminants exceed allowable levels; rather, it was a violation caused by failing to conduct triggered source monitoring pursuant to Title 22 California Code of Regulations, Section 64430.

Even though this failure was not an emergency, as our customers, you have the right to know what happened, what we did to correct the situation, and what you should do. This notice is intended to provide you with this information. Please be sure to share this information with anyone who drinks Santa Ana water.

What happened?

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards.

On September 13, 2016, a routine sample tested positive for Total Coliform and a notification was sent to the City the following day.

We failed to deliver to the laboratory the required triggered source monitoring samples collected from the wells in a timely manner. This resulted in the samples being rendered invalid because they were not sampled and analyzed within the required time frame as required by the regulation.

What is being done?

We have provided additional training to our staff so there is no misunderstanding about the proper time frame and amount of samples required and when. Additional checks have been established to ensure compliance. We have performed and continue to perform all of the water system monitoring required under Title 22 to ensure the water provided to our customers is in full compliance with all regulations.

What should I do?

There is nothing you need to do at this time. The table below lists the contaminant we did not properly test for during the last year, how many samples we were required to take, how many samples were actually taken, and the date on which follow-up samples should have been taken.

Secondary Notification Requirements

Upon receipt of notification from a person operating a public water system, the following notification must be given within 10 days [Health and Safety Code Section 116450(g)]:

- Schools: Must notify school employees, students, and parents (if the students are minors).
- Residential Rental Property Owners or Managers (including nursing homes and care facilities): Must notify tenants.
- Business Property Owners, Managers, or Operators: Must notify employees of businesses located on the property.

For more information, please contact Water Resources at 714-647-3320 or write to: City of Santa Ana, 220 South Daisy Avenue, Santa Ana, CA 92703.

Contaminant	Number of Samples Required	Number of Samples Taken	When Follow-up Samples Should Have Been Taken	When Follow-Up Samples Were Taken
Total Coliform	16 groundwater well samples each time there is a triggered event	16 groundwater well samples	September 15, 2016	September 22, 2016



You can request a copy of the most recent summary of the Watershed Sanitary Surveys and the Source Water Assessment by calling MWD at 213-217-6000.

For a copy of the complete assessments for Santa Ana's distribution system and groundwater, call the Santa Ana Water Resources Division at 714-647-3320. If you have questions about your water quality, contact:

City of Santa Ana, Water Resources Division

Nabil Saba P.E. Water Resources Manager
Cesar Barrera P.E. Principal Civil Engineer
Robert Hernandez Acting Water Services Quality Coordinator

220 South Daisy Avenue
Bldg A, Santa Ana, California 92703

phone: 714-647-3320 | fax: 714-647-3345

web: santaanaccr.org

QUESTIONS ABOUT YOUR WATER QUALITY REPORT?

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

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

Daimntaw tshaj tawm no muaj lus tseemceeb txog koj
cov dej haus. Tshab txhais nws, los yog tham nrog tej
tug neeg uas totaub txog nws.

此份有关你的食水报告,内有重要资料和讯息,请找
他人为你翻译及解释清楚。

Mahalaga ang impormasyong ito. Mangyaring ipasalin ito.

