

2019 WATER QUALITY REPORT

Investing In Our Water Infrastructure.
Investing In Our Community.



Water Quality



Learn about the sources and quality of your drinking water, how we monitor it and protect you.

Sustainability



Discover how we invest in our infrastructure and community, flowing value to you everyday.

Santa Ana Kids



For kids ... explore and learn about your water, the environment, contests and more.

Santa Ana News



Read about our FOG and rebate programs, latest news, useful telephone numbers and more.



Glossary

Use this glossary to understand the terms, abbreviations, quality standards and measurements used in the data tables.

Terms & Abbreviations

Chemicals

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 U.S. EPA.

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.

Variations and Exemptions

Permissions from the State Board to exceed an MCL or not comply with a treatment technique under certain conditions.

Additional Abbreviations

- AL = Regulatory Action Level
- NA = Not Applicable
- ND = Not Detected
- NL = Notification Level
- SMCL = Secondary MCL





Measurements

Santa Ana conducts extensive sampling and testing to ensure your water meets all water quality standards. In 2019, we collected 16,125 samples for contaminants at various sampling points in our water system; all of which were below state and federal maximum allowable levels. Contaminants are measured in:

Parts per million (ppm)

or milligrams per liter (mg/L)

Parts per billion (ppb)

or micrograms per liter ($\mu\text{g/L}$)

PicoCuries per liter (pCi/L)

A measurement of radioactivity in water.

Micromhos per centimeter ($\mu\text{mho/cm}$)

A measurement for conductivity of water.

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.

Quality Standards

Primary Standards

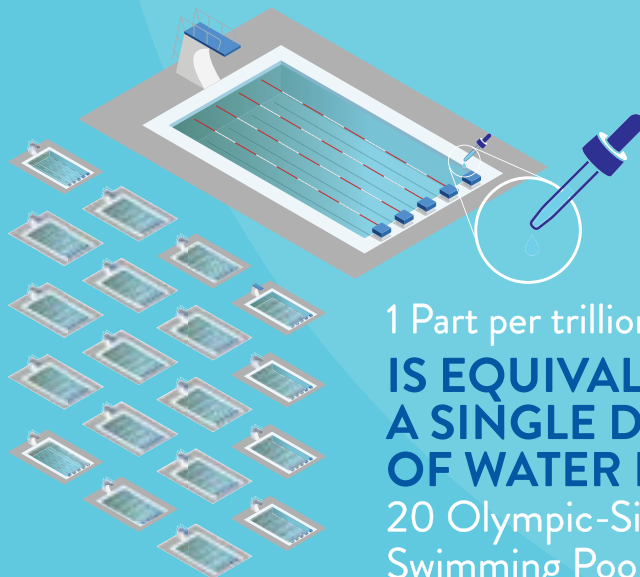
Mandatory health-related standards that may cause health problems in drinking water.

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.



1 Part per trillion (ppt)
**IS EQUIVALENT TO
A SINGLE DROP
OF WATER IN
20 Olympic-Sized
Swimming Pools**



How To Read The Data Tables

You will find three data tables showing a list of chemicals tested in each of the following water sources:

- Santa Ana Distribution System
- Santa Ana Groundwater
- Metropolitan Water District of Southern California Treated Surface Water

For each table, begin with the chemical and read across.

- 1 The column marked “Chemicals” lists the substances found in the water Santa Ana delivers.
- 2 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).
- 3 Average Amount is the average level measured for the substance (less is better).
- 4 Range of Detections is the highest and lowest amounts measured.
- 5 A “No” under MCL Violation indicates government requirements were met.
- 6 Typical Sources in Drinking Water tells you where the constituent usually originates.

Note: “Unregulated Constituents” are measured, but maximum allowed contaminant (MCL) levels have not been established by the government.



2019 CITY OF SANTA ANA DISTRIBUTION SYSTEM WATER QUALITY

- ① ② ③ ④ ⑤ ⑥

Type	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)	0.9	ND - 2.92	No	Disinfectant Added for Treatment
Total Trihalomethanes (ppb) ¹	80	25	ND - 40	No	Byproducts of Chlorine Disinfection
Haloacetic Acids (ppb) ¹	60	9	ND - 20	No	Byproducts of Chlorine Disinfection
AESTHETIC QUALITY					
Color (color units)	15*	<3	ND - .5	No	Naturally-occurring organic materials
Odor (threshold odor number)	3*	1	1 - 2	No	Naturally-occurring organic materials
Turbidity (ntu)	5*	<0.1	ND - 0.5	No	Erosion of natural deposits

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.
*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	0.5%	No	Naturally present in the environment

No more than 5.0% 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.

LEAD AND COPPER ACTION LEVELS AT RESIDENTIAL TAPS

Chemical	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 / 135	No	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits
Copper (ppm) ³	1.3	0.3	0.14	0 / 135	No	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits

In 2019, 135 residences were tested for lead and copper at-the-tap. Lead was detected in 3 samples, none of which exceeded the AL for lead. Copper was detected in 100 samples, none of which exceeded the AL for copper. A regulatory action level is the concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow. In 2019, the City of Santa Ana Water Resources Division and Santa Ana Unified School District voluntarily sampled for lead at 73 schools.

UNREGULATED CHEMICALS REQUIRING MONITORING IN THE DISTRIBUTION SYSTEM

Chemical	Notification Level	PHG	Average Amount	Range of Detections	Most Recent Sampling Date
Bromochloroacetic acid (ppb)	NA	NA	1.1	ND - 2.7	2019
Bromodichloroacetic acid (ppb)	NA	NA	0.55	ND - 1.4	2019
Chlorodibromoacetic acid (ppb)	NA	NA	0.41	ND - 1.1	2019
Dibromoacetic acid (ppb)	NA	NA	1.03	ND - 2.6	2019
Dichloroacetic acid (ppb)	NA	MCLG = 0	1.2	ND - 3.1	2019
Monobromoacetic acid (ppb)	NA	NA	0.18	ND - 0.6	2019
Trichloroacetic acid (ppb)	NA	MCLG = 20	0.45	ND - 1.3	2019

** 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.



2019 Water Quality Tables



2019 CITY OF SANTA ANA GROUNDWATER QUALITY

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Chemical	MCL	PHG (MCLG)	Average Amount	Range of Detections	MCL Violation?	Most Recent Sampling Date	Typical Source of Chemical
Organic Chemicals							
1,1-Dichloroethene (ppb)	6	10	<0.5	ND - 0.8	No	2019	Discharge from Industrial Chemical Refineries
Radiologicals							
Gross Alpha (pCi/L)	15	(0)	<3	ND - 13.98	No	2019	Erosion of Natural Deposits
Uranium (pCi/l)	20	0.43	2.84	ND - 8.18	No	2019	Erosion of Natural Deposits
Inorganic Chemicals							
Barium (ppm)	1	2	< 0.1	ND - 0.14	No	2019	Erosion of Natural Deposits
Fluoride (ppm)	2	1	0.35	0.18 - 0.49	No	2019	Erosion of Natural Deposits
Nitrate (ppm as N)	10	10	1.9	ND - 4.1	No	2019	Runoff and Leaching from Fertilizer Use; Leaching from Septic Tanks and Sewage; Erosion of Natural Deposits
Nitrate + Nitrite (ppm as N)	10	10	1.9	ND - 4.1	No	2019	Runoff and Leaching from Fertilizer Use; Leaching from Septic Tanks and Sewage; Erosion of Natural Deposits
Perchlorate (ppb)	6	1	<4	ND - 5	No	2019	Discharge from Industrial Operations
Secondary Standards*							
Chloride (ppm)	500*	NA	54	19.3 - 98.9	No	2019	Erosion of Natural Deposits
Color (color units)	15*	NA	<1	ND - 3	No	2019	Naturally-Occurring Organic Materials
Specific Conductance (umho/cm)	1,600*	NA	694	525 - 1,140	No	2019	Substance That Forms Ions When In Water
Sulfate (ppm)	500*	NA	90.7	61.8 - 125	No	2019	Erosion of Natural Deposits
Total Dissolved Solids (ppm)	1,000*	NA	412	292 - 602	No	2019	Erosion of Natural Deposits
Turbidity (ntu)	5*	NA	<0.1	ND - 0.3	No	2019	Soil Runoff
Unregulated Constituents							
Alkalinity, total (ppm as CaCO3)	Not Regulated	NA	167	155 - 186	NA	2019	Erosion of Natural Deposits
Bicarbonate (ppm as HCO3)	Not Regulated	NA	203	189 - 227	NA	2019	Erosion of Natural Deposits
Boron (ppm)	NL = 1	NA	<0.1	ND - 0.22	NA	2019	Erosion of Natural Deposits
Calcium (ppm)	Not Regulated	NA	76	52.5 - 114	NA	2019	Erosion of Natural Deposits
Hardness, total (grains/gal)	Not Regulated	NA	15	11 - 22	NA	2019	Erosion of Natural Deposits
Hardness, total (ppm as CaCO3)	Not Regulated	NA	252	180 - 372	NA	2019	Erosion of Natural Deposits
Magnesium (ppm)	Not Regulated	NA	14.7	11.7 - 21.5	NA	2019	Erosion of Natural Deposits
Perfluoro octane sulfonic acid (ppt)	NL = 6.5	NA	13	11.8 - 15.1	NA	2019	Industrial Discharge
Perfluoro octanonic acid (ppt)	NL = 5.1	NA	8.9	8.1 - 10.1	NA	2019	Industrial Discharge
pH (pH units)	Not Regulated	NA	7.9	7.7 - 8.1	NA	2019	Acidity, Hydrogen Ions
Potassium (ppm)	Not Regulated	NA	2.2	1.6 - 3	NA	2019	Erosion of Natural Deposits
Sodium (ppm)	Not Regulated	NA	45	34.5 - 69.9	NA	2019	Erosion of Natural Deposits

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

UNREGULATED CHEMICALS REQUIRING MONITORING

Chemical	Notification Level	PHG	Average Amount	Range of Detections	Most Recent Sampling Date
Bromide (ppm)	NA	NA	0.138	0.065 - 0.298	2019
Manganese (ppb) **	SMCL = 50	NA	0.2	ND - 1	2019
Total Organic Carbon (Unfiltered) (ppm)	NA	NA	0.28	0.11 - 0.57	2019

** Manganese is regulated with a secondary standard of 50 ppb but was not detected, based on the detection limit for purposes of reporting of 20 ppb. Manganese was included as part of the unregulated chemicals requiring monitoring.



2019 MWD TREATED SURFACE WATER

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Chemical	MCL	PHG (MCLG)	Average Amount	Range of Detections	MCL Violation ?	Typical Source in Drinking Water
Inorganic Chemicals - Tested in 2019						
Aluminum (ppm)	1	0.6	0.124	ND - 0.065	No	Treatment Process Residue, Natural Deposits
Bromate (ppb)	10	0.1	2	ND - 5.9	No	Byproduct of Drinking Water Disinfection
Fluoride (ppm)	2	1	0.7	0.1 - 0.9	No	Water Additive for Dental Health
Nitrate as N (ppm)	10	10	0.5	0.5	No	Fertilizers, Septic tanks, Natural Deposits
Secondary Standards - Tested in 2019						
Aluminum (ppm)	200*	600	124	ND - 65	No	Treatment Process Residue, Natural Deposits
Chloride (ppm)	500*	NA	56	53 - 58	No	Runoff or Leaching from Natural Deposits
Color (color units)	15*	NA	ND	ND - 1	No	Naturally-occurring Organic Materials
Odor (threshold odor number)	3*	NA	ND	ND - 1	No	Naturally-occurring Organic Materials
Specific Conductance (µmho/cm)	1,600*	NA	514	508 - 521	No	Substances That Form Ions In Water
Sulfate (ppm)	500*	NA	91	89 - 93	No	Runoff or Leaching from Natural Deposits
Total Dissolved Solids (ppm)	1,000*	NA	304	296 - 312	No	Runoff or Leaching from Natural Deposits
Unregulated Constituents - Tested in 2019						
Alkalinity, total as CaCO ₃ (ppm)	Not Regulated	NA	72	69 - 74	NA	Runoff or Leaching from Natural Deposits
Boron (ppm)	NL=1	NA	0.12	0.12	NA	Runoff or Leaching from Natural Deposits
Calcium (ppm)	Not Regulated	NA	30	29 - 30	NA	Runoff or Leaching from Natural Deposits
Hardness, total as CaCO ₃ (ppm)	Not Regulated	NA	127	124 - 130	NA	Runoff or Leaching from Natural Deposits
Hardness, total (grains/gallon)	Not Regulated	NA	7.4	7.3 - 7.6	NA	Runoff or Leaching from Natural Deposits
Magnesium (ppm)	Not Regulated	NA	14	13 - 14	NA	Runoff or Leaching from Natural Deposits
Perfluorohexanoic Acid (ppt)	Not Regulated	NA	2.3	2.2 - 2.3	NA	Industrial Discharge
pH (pH units)	Not Regulated	NA	8.4	8.4 - 8.5	NA	Hydrogen Ion Concentration
Potassium (ppm)	Not Regulated	NA	2.8	2.6 - 2.9	NA	Runoff or Leaching from Natural Deposits
Sodium (ppm)	Not Regulated	NA	56	54 - 57	NA	Runoff or Leaching from Natural Deposits
Total Organic Carbon (ppm)	TT	NA	2.4	1.8 - 2.6	NA	Various Natural and Man-made Sources
Turbidity - combined filter effluent Metropolitan Water District Diemer Filtration Plant	Treatment Technique	Turbidity Measurements	TT Violation?	Typical Source of Chemical		
1) Highest single turbidity measurement	0.3 NTU	0.05	No	Soil Runoff		
2) Percentage of samples less than 0.3 NTU	95%	100%	No	Soil Runoff		

Turbidity is a measure of the cloudiness of the water, an indication of particulate matter, some of which might include harmful microorganisms. Low turbidity in Metropolitan's treated water is a good indicator of effective filtration. Filtration is called a "treatment technique" (TT).

A treatment technique is a required process intended to reduce the level of chemicals in drinking water that are difficult and sometimes impossible to measure directly. NTU = nephelometric turbidity units.

UNREGULATED CHEMICALS REQUIRING MONITORING

Chemical	Notification Level	PHG	Average Amount	Range of Detections	Most Recent Sampling Date
Bromide (ppm)	NA	NA	0.138	0.065 - 0.298	2019
Manganese (ppb) ***	SMCL = 50	NA	0.2	ND - 1	2019
Total Organic Carbon (Unfiltered) (ppm)	SMCL = 50	NA	2.2	0.8 - 3.3	2019

*** Manganese is regulated with a secondary standard of 50 ppb but was not detected, based on the detection limit for purposes of reporting of 20 ppb. Manganese 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 (TTHMs) and haloacetic acids (HAAS).

2. Coliform.

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. This Consumer Confidence Report (CCR) reflects changes in drinking water regulatory requirements during 2016. All water systems are required to comply with the state Total Coliform Rule. Effective April 1, 2016, all water systems are also required to comply with the federal Revised Total Coliform Rule. The new federal rule maintains the purpose to protect public health by ensuring the integrity of the drinking water distribution system and monitoring for the presence of microbials (i.e., total coliform and E. coli bacteria). The U.S. EPA anticipates greater public health protection as the new rule requires water systems that are vulnerable to microbial contamination to identify and fix problems. Water systems that exceed a specified frequency of total coliform occurrences are required to conduct an assessment to determine if any sanitary defects exist. If found, these must be corrected by the water system.

3. Lead and Copper.

In 2019, 135 residences were tested for lead and copper at-the-tap. Lead was detected in 3 of the samples, none of which exceeded the AL for lead. Copper was detected in 100 samples, none of which exceeded the AL for copper. A regulatory action level (AL) is the concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow. In 2019, the City of Santa Ana Water Resources Division and Santa Ana Unified School District voluntarily sampled for lead at 73 schools.

4. Combined Filter Effluent Turbidity (NTU).

Turbidity is a measure of the cloudiness of the water, an indication of particulate matter, some of which might include harmful microorganisms. Low turbidity in Metropolitan's treated water is a good indicator of effective filtration. Filtration is called a "treatment technique" (TT). A treatment technique is a required process intended to reduce the level of chemicals in drinking water that are difficult and sometimes impossible to measure directly.



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
Cesar Barrera P.E., Acting Water Resources Manager
Rudy Rosas P.E., Principal Civil Engineer
Robert Hernandez, Water Services Quality Supervisor

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Este informe contiene información importante sobre su agua potable. Favor de comunicarse con la División de Recursos Hídricos de la ciudad de Santa Ana al 714-647-3320 para obtener asistencia en español.

Báo cáo này chứa thông tin quan trọng về nước uống. Vui lòng liên hệ với Thành phố Santa Ana, Phòng Tài nguyên Nước theo số 714-647-3320 để được hỗ trợ bằng tiếng Việt

这份报告含有关于您的饮用水的重要讯息。请用以下地址和电话联系 Santa Ana Water Resources Division 以获得中文的帮助: 714-647-3320.