



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.
- 3** MCLG is the goal level for that substance (this may be lower than what is allowed).
- 4** Average Amount is the average level measured for the substance (less is better).
- 5** Range of Detections is the highest and lowest amounts measured.
- 6** A “No” under MCL Violation indicates government requirements were met.
- 7** 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.



Glossary

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 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.

Variances and Exemptions

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

Measurements

Santa Ana conducts extensive sampling and testing to ensure your water meets all water quality standards. In 2021, we collected 16,774 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 (µg/L)

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

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

Micromhos per centimeter (umho/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.

Additional Abbreviations

AL = Regulatory Action Level

NA = Not Applicable

ND = Not Detected

NL = Notification Level

SMCL = Secondary MCL



1 part per trillion (ppt) =

A single drop of water in **20** Olympic-sized swimming pools!



2021 Water Quality Tables

2021 CITY OF SANTA ANA DISTRIBUTION SYSTEM'S WATER QUALITY

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Type	MCL (MRDL/MRDLG)	Average Amount	Range of Detections	MCL Violation?	Typical Source of Chemical
DISINFECTANT RESIDUAL AND DISINFECTION BY-PRODUCTS					
Chlorine Residual (ppm)	(4 / 4)	0.97	ND - 2.94	No	Disinfectant Added for Treatment
Total Trihalomethanes (ppb)	80	29	ND - 36	No	Byproducts of Chlorine Disinfection
Haloacetic Acids (ppb)	60	15	ND - 29	No	Byproducts of Chlorine Disinfection
AESTHETIC QUALITY					
Odor (threshold odor number)	3*	1	1	No	Naturally-Occurring Organic Materials
Turbidity (ntu)	5*	<0.1	ND - 0.83	No	Erosion of Natural Deposits

Twelve 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 was not detected in 2021.

MRDL = Maximum Residual Disinfectant Level; MRDLG = Maximum Residual Disinfectant Level Goal; < = detected but average is less than the reporting limit; ntu = nephelometric turbidity unit; ND = not detected.

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

Microbiological	MCL	MCLG	Highest Number of Detections	No. of Months in Violation	Typical Source of Bacteria
E.coli	(a)	0	0	0	Human and Animal Fecal Waste

(a) Routine and repeat samples are total coliform-positive and either is E. coli-positive or system fails to take repeat samples following E. coli-positive routine sample or system fails to analyze total coliform-positive repeat sample for E. coli.

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 Source of Chemical
Lead (ppb)	15	0.2	ND	0 / 123	No	Internal Corrosion of Household Water Plumbing Systems; Discharges from Industrial Manufacturers; Erosion of Natural Deposits
Copper (ppm)	1.3	0.3	0.16	0 / 123	No	Internal Corrosion of Household Water Plumbing Systems; Discharges from Industrial Manufacturers; Erosion of Natural Deposits

In 2021, 123 residences were tested for lead and copper at-the-tap. Lead was detected in 4 samples, none of which exceeded the AL for lead. Copper was detected in 98 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 2021, no school submitted a request to be sampled for lead.

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	0.94	ND - 3.9	2020
Bromodichloroacetic acid (ppb)	NA	NA	0.68	ND - 2.1	2020
Chlorodibromoacetic acid (ppb)	NA	NA	0.47	ND - 1.4	2020
Dibromoacetic acid (ppb)	NA	NA	0.88	ND - 2.6	2020
Dichloroacetic acid (ppb)	NA	MCLG = 0	1.2	ND - 6.1	2020
Monobromoacetic acid (ppb)	NA	NA	0.1	ND - 0.6	2020
Trichloroacetic acid (ppb)	NA	MCLG = 20	0.7	ND - 2.5	2020

** 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.

2021 Water Quality Tables



2021 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 - 0.6	No	2021	Discharge from Industrial Chemical Factories
Radiologicals							
Uranium (pCi/l)	20	0.43	2.6	ND - 5.8	No	2021	Erosion of Natural Deposits
Inorganic Chemicals							
Arsenic (ppB)	10	0.004	< 2	ND - 2.2	No	2021	Erosion of Natural Deposits
Barium (ppm)	1	2	<0.1	ND - 0.14	No	2021	Erosion of Natural Deposits
Fluoride (ppm)	2	1	0.35	0.21 - 0.45	No	2021	Erosion of Natural Deposits
Nitrate (ppm as N)	10	10	1.9	0.42 - 4.14	No	2021	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	0.42 - 4.14	No	2021	Runoff and Leaching from Fertilizer Use; Leaching from Septic Tanks and Sewage; Erosion of Natural Deposits
Perchlorate (ppb)	6	1	<2	ND - 4.2	No	2021	Discharge from Industrial Operations
Secondary Standards*							
Chloride (ppm)	500*	NA	51	19.9 - 107	No	2021	Erosion of Natural Deposits
Specific Conductance (umho/cm)	1,600*	NA	668	461 - 1,040	No	2021	Substance That Forms Ions When In Water
Sulfate (ppm)	500*	NA	87.8	50.9 - 123	No	2021	Erosion of Natural Deposits
Total Dissolved Solids (ppm)	1,000*	NA	408	258 - 635	No	2021	Erosion of Natural Deposits
Turbidity (ntu)	5*	NA	<0.1	ND - 0.1	No	2021	Soil Runoff
Unregulated Constituents							
Alkalinity, total (ppm as CaCO3)	Not Regulated	NA	170	143 - 235	NA	2021	Erosion of Natural Deposits
Bicarbonate (ppm as HCO3)	Not Regulated	NA	208	175 - 286	NA	2021	Erosion of Natural Deposits
Boron (ppm)	NL = 1	NA	<0.1	ND - 0.11	NA	2021	Erosion of Natural Deposits
Calcium (ppm)	Not Regulated	NA	75.5	39.5 - 128	NA	2021	Erosion of Natural Deposits
Hardness, total (grains/gal)	Not Regulated	NA	14	7.7 - 24	NA	2021	Erosion of Natural Deposits
Hardness, total (ppm as CaCO3)	Not Regulated	NA	247	132 - 410	NA	2021	Erosion of Natural Deposits
Magnesium (ppm)	Not Regulated	NA	14.1	8 - 22.4	NA	2021	Erosion of Natural Deposits
Perfluoro hexane sulfonic acid (ppt)	Not Regulated	NA	<4	ND - 4.9	NA	2021	Industrial Discharge
Perfluoro octane sulfonic acid (ppt)	NL = 6.5	NA	<4	ND - 4.9	NA	2021	Industrial Discharge
Perfluoro octanoic acid (ppt)	NL = 5.1	NA	<4	ND - 4	NA	2021	Industrial Discharge
pH (pH units)	Not Regulated	NA	7.8	7.5 - 8.1	NA	2021	Acidity, Hydrogen Ions
Potassium (ppm)	Not Regulated	NA	2.3	1.4 - 3.4	NA	2021	Erosion of Natural Deposits
Sodium (ppm)	Not Regulated	NA	44.5	36.7 - 60.5	NA	2021	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	0.13	0.062 - 0.298	2020
Manganese (ppb) **	SMCL = 50	NA	0.2	ND - 1	2020
Total Organic Carbon (Unfiltered) (ppm)	NA	NA	0.23	0.08 - 0.57	2020

SMCL = Secondary MCL

** 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.



2021 Water Quality Tables

2021 METROPOLITAN WATER DISTRICT TREATED SURFACE WATER



Constituent	MCL	PHG (MCLG)	Diemer Average	Weymouth Average	Range of Detections	MCL Violation?	Typical Source in Drinking Water
Radiologicals - Tested in 2020 and 2021							
Alpha Radiation (pCi/L)	15	(0)	ND	ND	ND - 3	No	Erosion of Natural Deposits
Beta Radiation (pCi/L)	50	(0)	5	5	4.6	No	Decay of Natural and Man-made Deposits
Combined Radium (pCi/L)	5	(0)	ND	ND	ND - 1	No	Erosion of Natural Deposits
Uranium (pCi/L)	20	0.43	2	2	1 - 3	No	Erosion of Natural Deposits
Inorganic Chemicals - Tested in 2021							
Aluminum (ppm)	1	0.6	0.141	0.148	ND - 0.24	No	Treatment Process Residue, Natural Deposits
Barium (ppm)	1	2	0.111	0.11	0.11 - 0.111	No	Refinery Discharge, Erosion of Natural Deposits
Bromate (ppb)	10	0.1	ND	ND	ND - 7	No	Byproduct of Drinking Water Ozonation
Fluoride (ppm) treatment-related	2	1	0.7	0.7	0.6 - 0.9	No	Water Additive for Dental Health
Secondary Standards - Tested in 2021							
Aluminum (ppb)	200*	600	141	148	ND - 260	No	Treatment Process Residue, Natural Deposits
Chloride (ppm)	500*	NA	96	96	95 - 97	No	Runoff or Leaching from Natural Deposits
Color (color units)	15*	NA	1	1	1	No	Runoff or Leaching from Natural Deposits
Odor (threshold odor number)	3*	NA	2	1	1 - 2	No	Naturally-occurring Organic Materials
Specific Conductance (µmho/cm)	1,600*	NA	958	964	950 - 965	No	Substances That Form Ions In Water
Sulfate (ppm)	500*	NA	214	219	215 - 217	No	Runoff or Leaching from Natural Deposits
Total Dissolved Solids (ppm)	1,000*	NA	597	604	597 - 609	No	Runoff or Leaching from Natural Deposits
Unregulated Chemicals - Tested in 2021							
Alkalinity, total (ppm as CaCO3)	Not Regulated	NA	125	126	123 - 128	NA	Runoff or Leaching from Natural Deposits
Boron (ppm)	NL = 1	NA	0.13	0.13	0.13	NA	Runoff or Leaching from Natural Deposits
Calcium (ppm)	Not Regulated	NA	66	67	64 - 70	NA	Runoff or Leaching from Natural Deposits
Hardness, total (ppm as CaCO3)	Not Regulated	NA	274	272	270 - 276	NA	Runoff or Leaching from Natural Deposits
Hardness, total (grains/gal)	Not Regulated	NA	15	15	15 - 16	NA	Runoff or Leaching from Natural Deposits
Magnesium (ppm)	Not Regulated	NA	25	26	24 - 26	NA	Runoff or Leaching from Natural Deposits
pH (units)	Not Regulated	NA	8.1	8.1	8.1	NA	Hydrogen Ion Concentration
Potassium (ppm)	Not Regulated	NA	4.4	4.6	4.2 - 4.7	NA	Runoff or Leaching from Natural Deposits
Sodium (ppm)	Not Regulated	NA	94	98	93 - 101	NA	Runoff or Leaching from Natural Deposits
Total Organic Carbon (ppm)	TT	NA	2.4	2.4	1.8 - 2.8	NA	Various Natural and Man-made Sources
Turbidity - Combined Filter Effluent Metropolitan Water District Filtration Plants			Treatment Technique	Turbidity Measurements		TT Violation?	Typical Source in Drinking Water
				Diemer	Weymouth		
1) Highest single turbidity measurement (NTU)			0.3	0.03	0.03	No	Soil Runoff
2) Percentage of samples less than or equal to 0.3 NTU			95%	100%	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 CONSTITUENTS REQUIRING MONITORING

Constituent	Notification Level	PHG	Average Amount	Range of Detections	Most Recent Sampling Date
Germanium (ppb)	NA	NA	0.1	ND - 0.4	2018
Manganese (ppb) **	SMCL = 50	NA	2.2	0.8 - 3.3	2018

** 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

Twelve 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 2021. These revisions add the requirements of the federal Revised Total Coliform Rule, effective since April 1, 2016, to the existing state Total Coliform Rule. The revised 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 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. The state Revised Total Coliform Rule became effective July 1, 2021.

3. Lead and Copper

In 2021, 123 residences were tested for lead and copper at-the-tap. Lead was detected in 4 of the samples, none of which exceeded the AL for lead. Copper was detected in 98 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 2021, no school submitted a request to be sampled for lead.

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 MWD'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.

Monitoring Requirements Not Met for Santa Ana

Our water system failed to monitor as required for drinking water standards 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 you should do, what happened, and what we did to correct this situation.

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 your drinking water meets health standards. During the fourth quarter 2021, we did not complete all monitoring for coliform bacteria, and therefore, cannot be sure of the quality of your drinking water during that time.

What should I do?

- There is nothing you need to do at this time.
- The table below lists the contaminant(s) we did not properly test during the last year, how many samples we are required to take and how often, how many samples we took, when samples should have been taken, and the date on which follow-up samples were (or will be) taken.

If you have health issues concerning the consumption of this water, you may wish to consult your doctor.

What is being done?

We have since taken the required samples, as described in the last column of the table below. The samples showed we are meeting drinking water standards.

For more information, please contact Robert Hernandez at (714) 647-3341 or RYHernandez@santa-ana.org.

Contaminant	Required Sampling Frequency	Number of Samples Taken	When All Samples Should Have been Taken	When Samples Were Taken
Coliform	1 each quarter from Well 39	1	3Q, 4Q 2021	3Q 2021

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (e.g., people in apartments, nursing homes, schools, and businesses). You can do this by posting this public notice in a public place or distributing copies by hand or mail.