

2015 WATER QUALITY REPORT

At the City of Santa Ana,
protecting our residents' health
and safety is our highest priority.

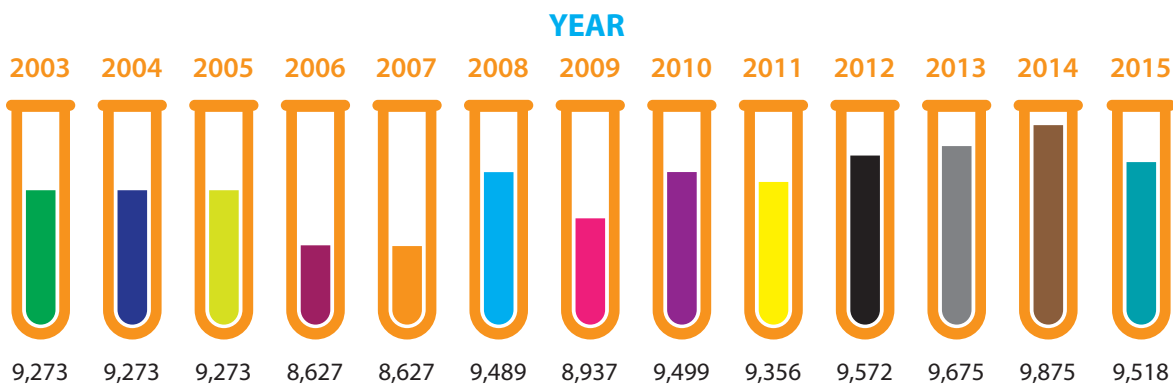
But as your local water provider,
we deliver more than just safe
drinking water.

We deliver quality, service
and value.



2015 WATER QUALITY TABLE

Number of samples collected



Santa Ana conducts extensive monitoring to ensure that your water meets all water quality standards. In 2015, 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 table.

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.

The following glossary will help you understand the terms and abbreviations used in the table.

Abbreviations To Examine

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 a contaminant in drinking water.

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

NTU = Nephelometric Turbidity Units

mrem/year = millirems per year (a measure of radiation absorbed by the body)

pCi/L = picocuries per liter (a measure of radioactivity)

ppb = parts per billion, or micrograms per liter (µg/L)

ppm = parts per million, or milligrams per liter (mg/L)

ppq = parts per quadrillion, or picograms per liter

ppt = parts per trillion, or nanograms per liter

umho/cm = micromho per centimeter

Terms to Examine

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.

Additional Parameters

Information that may also be of interest to our customers.

ABBREVIATIONS



How to read this table

Starting with a Substance, read across. MCL shows the highest level of substance (contaminant) allowed. MCLG is the goal level for that substance (this may be lower than what is allowed). Range tells the highest and lowest amounts measured. Average represents the measured amount (less is better). Typical Source of Contaminant tells where the substance usually originates. Unregulated substances are measured, but maximum allowed contaminant levels have not been established by the government.

2015 CITY OF SANTA ANA DISTRIBUTION SYSTEM WATER QUALITY

| 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) | 0.82 | 0.63 - 0.98 | No | Disinfectant Added for Treatment |
| Total Trihalomethanes (ppb) | 80 | 41 | ND - 46.4 | No | Byproducts of Chlorine Disinfection |
| Haloacetic Acids (ppb) | 60 | 15 | ND - 19.3 | 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 - 2.2 | 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. Color was not detected in 2015.

< = 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 Source Of Chemical |
|-------------------------|------|------|-----------------------------------|----------------|--------------------------------------|
| Total Coliform Bacteria | 5.0% | 0 | 1.9% | No | Naturally present in the environment |

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.

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 / 80 | No | Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits |
| Copper (ppm) | 1.3 | 0.3 | 0.17 | 0 / 80 | No | Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits |

In 2015, 80 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 contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

UNREGULATED CHEMICALS REQUIRING MONITORING IN THE DISTRIBUTION SYSTEM

| Chemical | 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.

2015 CITY OF SANTA ANA GROUNDWATER QUALITY

| Chemical | MCL | PHG (MCLG) | Average Amount | Range of Detections | MCL Violation? | Most Recent Sampling Date | Typical Source of Chemical |
|----------------------------|-----|------------|----------------|---------------------|----------------|---------------------------|---|
| Radiologicals | | | | | | | |
| Uranium (pCi/L) | 20 | 0.43 | 2.78 | ND - 4.98 | No | 2014 | Erosion of Natural Deposits |
| Organic Chemicals | | | | | | | |
| 1,1-Dichloroethene (ppb) | 6 | 10 | <0.5 | ND - 0.6 | No | 2015 | Discharge from Industrial Chemical Factories |
| Inorganic Chemicals | | | | | | | |
| Arsenic (ppb) | 10 | 0.004 | <2 | ND - 2.8 | No | 2015 | Erosion of Natural Deposits |
| Barium (ppm) | 1 | 2 | <0.1 | ND - 0.146 | No | 2015 | Erosion of Natural Deposits |
| Fluoride (ppm) | 2 | 1 | 0.34 | 0.16 - 0.47 | No | 2015 | Erosion of Natural Deposits |
| Hexavalent Chromium (ppb) | 10 | 0.02 | <1 | ND - 2.1 | No | 2014 | Erosion of Natural Deposits; Industrial Discharge |
| Nitrate (ppm as N) | 10 | 10 | 2.15 | ND - 7.12 | No | 2015 | Runoff and Leaching from Fertilizer Use; Leaching from Septic Tanks and Sewage; Erosion of Natural Deposits |
| Nitrate+Nitrite (ppm as N) | 10 | 10 | 2.15 | ND - 7.12 | No | 2015 | Runoff and Leaching from Fertilizer Use; Leaching from Septic Tanks and Sewage; Erosion of Natural Deposits |

| Secondary Standards* | | | | | | | |
|--------------------------------|--------|-----|------|-------------|----|------|---|
| Chloride (ppm) | 500* | n/a | 51.4 | 20.1 - 115 | No | 2015 | Erosion of Natural Deposits |
| Specific Conductance (µmho/cm) | 1,600* | n/a | 684 | 449 - 1,120 | No | 2015 | Substance that forms Ions when in Water |
| Sulfate (ppm) | 500* | n/a | 91 | 49.5 - 153 | No | 2015 | Erosion of Natural Deposits |
| Total Dissolved Solids (ppm) | 1,000* | n/a | 420 | 276 - 664 | No | 2015 | Erosion of Natural Deposits |
| Turbidity (ntu) | 5* | n/a | <0.1 | ND - 0.2 | No | 2015 | Soil Runoff |

| Unregulated Chemicals | | | | | | | |
|----------------------------------|---------------|-----|------|-------------|-----|------|-----------------------------|
| Alkalinity, total (ppm as CaCO3) | Not Regulated | n/a | 170 | 138 - 235 | n/a | 2015 | Erosion of Natural Deposits |
| Bicarbonate (ppm as HCO3) | Not Regulated | n/a | 207 | 168 - 287 | n/a | 2015 | Erosion of Natural Deposits |
| Boron (ppm) | NL = 1 | n/a | <0.1 | ND - 0.2 | n/a | 2015 | Erosion of Natural Deposits |
| Calcium (ppm) | Not Regulated | n/a | 73.2 | 34.5 - 130 | n/a | 2015 | Erosion of Natural Deposits |
| Hardness, total (grains/gal) | Not Regulated | n/a | 14.2 | 6.69 - 25 | n/a | 2015 | Erosion of Natural Deposits |
| Hardness, total (ppm as CaCO3) | Not Regulated | n/a | 242 | 114 - 427 | n/a | 2015 | Erosion of Natural Deposits |
| Magnesium (ppm) | Not Regulated | n/a | 14 | 6.8 - 27 | n/a | 2015 | Erosion of Natural Deposits |
| pH (pH units) | Not Regulated | n/a | 7.9 | 7.7 - 8.1 | n/a | 2015 | Acidity, Hydrogen Ions |
| Potassium (ppm) | Not Regulated | n/a | 2.1 | 1.4 - 3.4 | n/a | 2015 | Erosion of Natural Deposits |
| Sodium (ppm) | Not Regulated | n/a | 44.2 | 30.8 - 64.5 | n/a | 2015 | Erosion of Natural Deposits |

< = average is less than the detection limit for reporting purposes

*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 |
|-------------------------------|--------------------|------------|----------------|---------------------|---------------------------|
| 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.

2015 METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA TREATED SURFACE WATER

| Chemical | MCL | PHG (MCLG) | Average Amount | Range of Detections | MCL Violation? | Typical Source of Chemical |
|--|--|----------------------------|-------------------------------|---------------------|----------------------|---|
| 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 Chemicals - Tested in 2015 | | | | | | |
| Aluminum (ppm) | 1 | 0.6 | 0.155 | 0.073 - 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 | 0.125 | 0.125 | No | Refinery Discharge, Erosion of Natural Deposits |
| Fluoride (ppm) treatment-related | Control Range 0.6 - 1.2 ppm Optimal Level 0.7 ppm | | 0.8 | 0.6 - 1 | No | Water Additive for Dental Health |
| Secondary Standards - Tested in 2015 | | | | | | |
| Aluminum (ppb) | 200* | 600 | 155 | 73 - 240 | No | Treatment Process Residue, Natural Deposits |
| Chloride (ppm) | 500* | n/a | 100 | 98 - 101 | 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 | 2 | 2 | No | Naturally-occurring Organic Materials |
| Specific Conductance (µmho/cm) | 1,600* | n/a | 1,040 | 1,040 | No | Substances that Form Ions in Water |
| Sulfate (ppm) | 500* | n/a | 257 | 253 - 261 | No | Runoff or Leaching from Natural Deposits |
| Total Dissolved Solids (ppm) | 1,000* | n/a | 663 | 660 - 665 | No | Runoff or Leaching from Natural Deposits |
| Unregulated Chemicals - Tested in 2015 | | | | | | |
| Alkalinity, total as CaCO ₃ (ppm) | Not Regulated | n/a | 126 | 120 - 131 | n/a | Runoff or Leaching from Natural Deposits |
| Boron (ppm) | NL=1 | n/a | 0.12 | 0.12 | n/a | Runoff or Leaching from Natural Deposits |
| Calcium (ppm) | Not Regulated | n/a | 78 | 76 - 80 | n/a | Runoff or Leaching from Natural Deposits |
| Hardness, total as CaCO ₃ (ppm) | Not Regulated | n/a | 303 | 300 - 306 | n/a | Runoff or Leaching from Natural Deposits |
| Hardness, total (grains/gallon) | Not Regulated | n/a | 18 | 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 | 4.9 | 4.8 - 5 | n/a | Runoff or Leaching from Natural Deposits |
| Sodium (ppm) | Not Regulated | n/a | 101 | 98 - 104 | n/a | Runoff or Leaching from Natural Deposits |
| Total Organic Carbon (ppm) | TT | n/a | 2.6 | 2.3 - 2.7 | 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 Source of Chemical |
| 1) Highest single turbidity measurement | | 0.3 NTU | 0.04 | | No | Soil Runoff |
| 2) Percentage of samples less than 0.3 NTU | | 95% | 100% | | No | Soil Runoff |

UNREGULATED CHEMICALS REQUIRING MONITORING

| Chemical | 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 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.



1. Turbidity: Is a measure of the cloudiness of the water. It is monitored in our imported water source because it is a good indicator of the effectiveness of the filtration system.

2. 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.

3. The State required raw water coliform monitoring for all treatment plants beginning March 2008. Reporting level is 1 CFU/100mL for total coliform and E. coli.

4. 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. Metropolitan was in compliance with all provisions of the State's Fluoridation System Requirements.

5. Special Educational Statement Regarding Nitrate:

Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. Nitrate in drinking water at levels above 10 mg/L is a health risk for infants of less than six months of age. Such nitrate 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 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, you should ask advice from your health care provider.

6. Special Educational Statement Regarding Perchlorate:

Perchlorate has been shown to interfere with uptake of iodide by the thyroid gland, and to thereby reduce the production of thyroid hormones, leading to adverse affects associated with inadequate hormone levels. Thyroid hormones are needed for normal prenatal growth and development of the fetus, as well as for normal growth and development in the infant and child. In adults, thyroid hormones are needed for normal metabolism and mental function.

7. Eight locations in the distribution system are tested quarterly for total trihalomethanes and haloacetic acids.

8. Radon: Radon is a radioactive gas that you can't see, taste, or smell. It is found throughout the U.S. Radon can move through the ground and into a home through cracks and holes in the foundation. Radon can build up in high levels in all types of homes. Radon can also get into indoor air when released from tap water from showering, washing dishes, and other household activities. Compared to radon entering the home through soil, radon entering the home through tap water will in most cases be a small source of radon in indoor air. Radon is a known human carcinogen. Breathing air containing radon can lead to lung cancer. Drinking water containing radon may also cause increased risk of stomach cancer. If you are concerned about radon in your home, test the air in your home. Testing is inexpensive and easy. Fix your home if the level of radon in your air is 4 picocuries per liter of air (pCi/L) or higher. There are simple ways to fix a radon problem that aren't too costly. For additional information, call the California radon program (1-800-745-7236), the USEPA Safe Drinking Water Act Hotline (1-800-426-4791), or the National Safe Council Radon Hotline (1-800-767-7236.)

Questions About Your Water Quality Report?

A copy of the complete assessment is available at the Water Resources Division office. You can request a summary of the assessment be sent to you by contacting us 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
Thomas Dix Water Quality Coordinator

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

phone: 714-647-3320 | fax: 714-647-3345
web: santaanaccr.com

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.**

Daimntawv 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.

