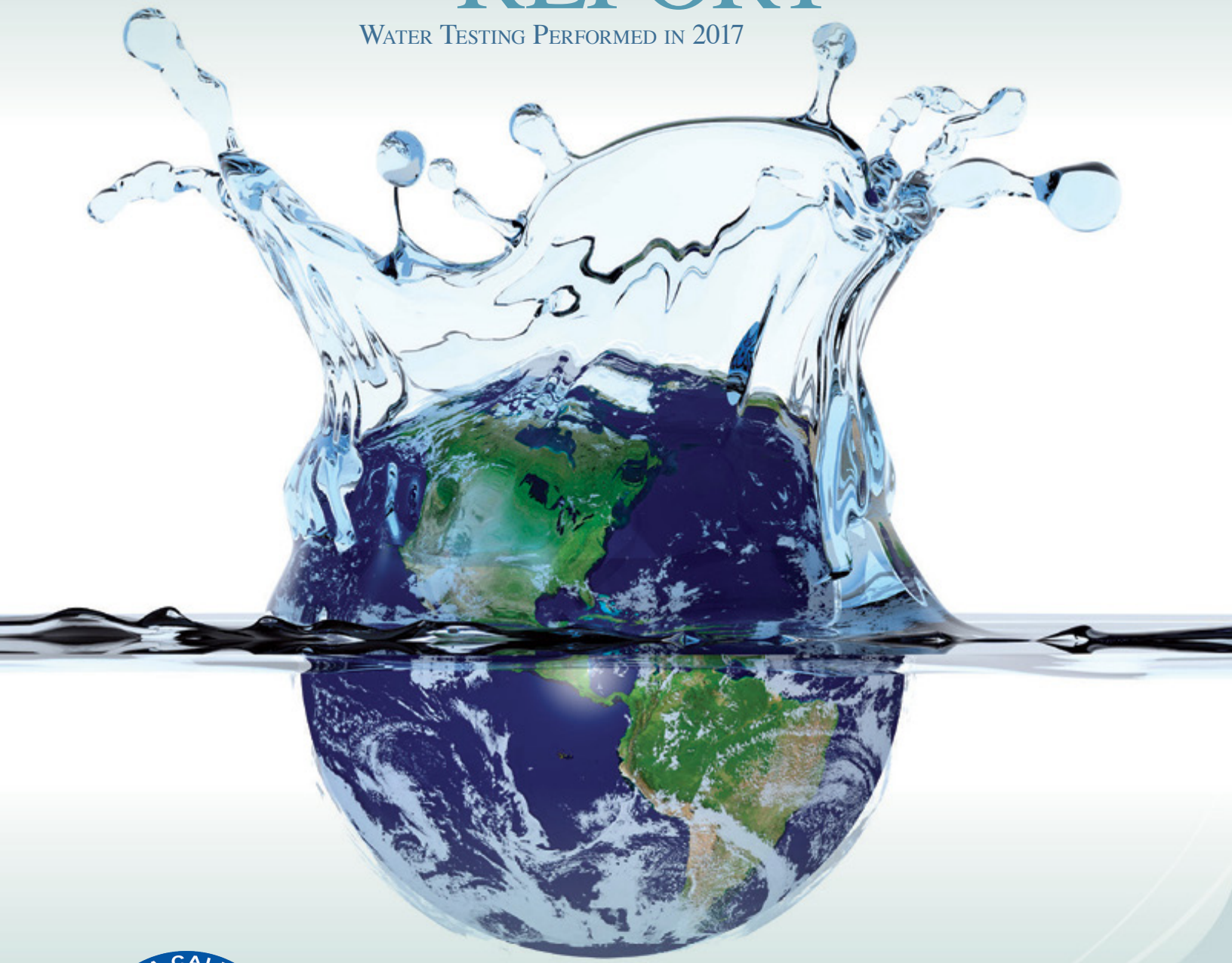
ANNUAL WATER QUALITY REPORT

WATER TESTING PERFORMED IN 2017



Presented By

Ramona Municipal Water District

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

PWS ID#: 3710019

Quality First

Once again we are pleased to present our annual water quality report. As in years past, we are committed to delivering the best-quality drinking water possible. To that end, we remain vigilant in meeting the challenges of new regulations, source water protection, water conservation, and community outreach and education while continuing to serve the needs of all of our water users. Thank you for allowing us the opportunity to serve you and your family.

We encourage you to share your thoughts with us on the information contained in this report. After all, well-informed customers are our best allies.

Count on Us

Delivering high-quality drinking water to our customers involves far more than just pushing water through pipes. Water treatment is a complex, time-consuming process. Because tap water is highly regulated by state and federal laws, water treatment plant and system operators must be licensed and are required to commit to long-term, on-the-job training before becoming fully qualified. Our licensed water professionals have a basic understanding of a wide range of subjects, including mathematics, biology, chemistry, and physics. Some of the tasks they complete on a regular basis include:

> **Water treatment is a complex, time-consuming process.**

- Operating and maintaining equipment to purify and clarify water;
- Monitoring and inspecting machinery, meters, gauges, and operating conditions;
- Conducting tests and inspections on water and evaluating the results;
- Maintaining optimal water chemistry;
- Applying data to formulas that determine treatment requirements, flow levels, and concentration levels;
- Documenting and reporting test results and system operations to regulatory agencies; and
- Serving our community through customer support, education, and outreach.

So, the next time you turn on your faucet, think of the skilled professionals who stand behind each drop.

Source Water Assessments

- The Colorado River Watershed Sanitary Survey 2015 Update was completed in December 2016
- The California State Water Project Watershed Sanitary Survey 2016 Update was completed in June 2017

State Water Project supplies are considered to be most vulnerable to urban/stormwater runoff, wildlife, agriculture, recreation, and wastewater. A copy of the assessment can be obtained by contacting the Metropolitan Water District by phone at (213) 217-6000.

Lead in Home Plumbing

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. We are responsible for providing high-quality drinking water, but we cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. (If you do so, you may wish to collect the flushed water and reuse it for another beneficial purpose, such as watering plants.) If you are concerned about lead in your water, you may wish to have your water tested. 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 www.epa.gov/lead.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as those with cancer undergoing chemotherapy, those who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or http://water.epa.gov/drink/hotline.

Where Does My Water Come From?

The San Diego County Water Authority (CWA) purchases water from the Metropolitan Water District of Southern California (MWD). This water is a blend of surface water from the Colorado River and runoff from the Northern California Sierra Nevada Mountains. It is treated at the Twin Oaks Valley Treatment Plant, located in San Diego County, and the MWD Lake Skinner Filtration Plant, located in Riverside County. The Carlsbad Desalination Plant provides San Diego County with a locally controlled drought-proof supply of high-quality water.

Substances That Could Be in Water

The sources of drinking water (both tap water and bottled 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, and can pick up substances resulting from the presence of animals or from human activity.

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (U.S. EPA) and the State Water Resources Control Board (State Board) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The U.S. Food and Drug Administration regulations and California law also establish limits for contaminants in bottled water that provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk.

Contaminants that may be present in source water include:

Microbial Contaminants, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife;

Inorganic Contaminants, such as salts and metals, that can be naturally occurring or can result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;

Pesticides and Herbicides, that may come 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 and can also come from gas stations, urban stormwater runoff, agricultural applications, and septic systems;

Radioactive Contaminants, that can be naturally occurring or can be the result of oil and gas production and mining activities.

More information about contaminants and potential health effects can be obtained by calling the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Public Meetings

You are invited to attend our district board meetings. We meet the second Tuesday of each month at 2 p.m., at the Ramona Community Center, 434 Aqua Lane, Ramona.

Board of Directors:

Jim Robinson, *President, Division IV*
Jim Hickle, *Vice President, Division II*
Bryan Wadlington, *Secretary, Division V*
Jeff Lawler, *Treasurer, Division I*
Thomas Ace, *Director, Division III*
David Barnum, *General Manager*

Water Conservation

You can play a role in conserving water and saving yourself money in the process by becoming conscious of the amount of water your household is using and by looking for ways to use less whenever you can. It is not hard to conserve water. Here are a few tips:

- Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.
- Turn off the tap when brushing your teeth.
- Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year.
- Check your toilets for leaks by putting a few drops of food coloring in the tank. Watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from an invisible toilet leak. Fix it and you save more than 30,000 gallons a year.
- Use your water meter to detect hidden leaks. Simply turn off all taps and water using appliances. Then check the meter after 15 minutes. If it moved, you have a leak.

QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please call Sarah Yorba, Water Quality Lab Analyst, at (760) 789-1330.

Fluoridation

Our water system treats your water by adding fluoride to the naturally occurring level to help prevent dental caries in consumers. State regulations require the fluoride levels in the treated water be maintained within a range of 0.7 - 1.3 ppm, with an optimum dose of 0.8 ppm. Our monitoring showed that the fluoride levels in the treated water ranged from 0.5 - 1.1 ppm, with an average of 0.7 ppm. Information about fluoridation, oral health, and current issues is available from http://www.swrcb.ca.gov/drinking_water/certlic/drinkingwater/Fluoridation.shtml.

Benefits of Chlorination

Disinfection, a chemical process used to control disease-causing microorganisms by killing or inactivating them, is unquestionably the most important step in drinking water treatment. By far the most common method of disinfection in North America is chlorination.

Before communities began routinely treating drinking water with chlorine (starting with Chicago and Jersey City in 1908), cholera, typhoid fever, dysentery, and hepatitis A killed thousands of U.S. residents annually. Drinking water chlorination and filtration have helped to virtually eliminate these diseases in the U.S. Significant strides in public health are directly linked to the adoption of drinking water chlorination. In fact, the filtration of drinking water plus the use of chlorine is probably the most significant public health advancement in human history.

How chlorination works:

Potent Germicide Reduction in the level of many disease-causing microorganisms in drinking water to almost immeasurable levels.

Taste and Odor Reduction of many disagreeable tastes and odors like foul-smelling algae secretions, sulfides, and odors from decaying vegetation.

Biological Growth Elimination of slime bacteria, molds, and algae that commonly grow in water supply reservoirs, on the walls of water mains, and in storage tanks.

Chemical Removal of hydrogen sulfide (which has a rotten egg odor), ammonia, and other nitrogenous compounds that have unpleasant tastes and hinder disinfection. It also helps to remove iron and manganese from raw water.

BY THE NUMBERS

The number of gallons of water produced daily by public water systems in the U.S. **34 BILLION**

1 MILLION The number of miles of drinking water distribution mains in the U.S.

The amount of money spent annually on maintaining the public water infrastructure in the U.S. **135 BILLION**

300 MILLION The number of Americans who receive water from a public water system.

The age in years of the world's oldest water found in a mine at a depth of nearly two miles. **2 BILLION**

151 THOUSAND The number of active public water systems in the U.S.

The number of highly trained and licensed water professionals serving in the U.S. **199 THOUSAND**

93 The number of federally regulated contaminants tested for in drinking water.

Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule. The information in the data tables shows only those substances that were detected between January 1 and December 31, 2017. Remember that detecting a substance does not necessarily mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels. The state recommends monitoring for certain substances less often than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

In 2017, the Ramona Municipal Water District conducted lead sampling per the request of twelve schools. Results of the sampling are available from the school district.

REGULATED SUBSTANCES

				Ramona Municipal Water District		Metropolitan Water District Skinner Plant			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	PHG (MCLG) [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Arsenic[1] (ppb)	2017	10	0.004	NA	NA	NA	NA	No	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Barium[1] (ppm)	2017	1	2	NA	NA	ND[1]	NA	No	Discharges of oil drilling wastes and from metal refineries; erosion of natural deposits
Bromate (ppb)	2017	10	0.1	NA	NA	4.1	ND–12	No	By-product of drinking water disinfection
Chloramines (ppm)	2017	[4.0 (as Cl2)]	[4 (as Cl2)]	1.57	0.20–3.09	NA	NA	No	Drinking water disinfectant added for treatment
Fecal coliform and *E. coli* (# positive samples)	2017	a routine sample and a repeat sample are total coliform positive, and one of these is also fecal coliform or *E. coli* positive	(0)	0	NA	NA	NA	No	Human and animal fecal waste
Fluoride (ppm)	2017	2.0	1	NA	NA	0.7[2,3]	0.5–0.9[2,3]	No	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Gross Alpha Particle Activity (pCi/L)	2017	15	(0)	NA	NA	ND	ND–4	No	Erosion of natural deposits
Gross Beta Particle Activity[5] (pCi/L)	2017	50	(0)	NA	NA	ND	ND–5	No	Decay of natural and man-made deposits
Haloacetic Acids[6] (ppb)	2017	60	NA	8.6	2.0–16.0	NA	NA	No	By-product of drinking water disinfection
Heterotrophic Plate Count Bacteria (Units)	2017	Surface water treatment=TT	HPC=NA; Others = (0)	1.7	ND–327	NA	NA	No	Naturally present in the environment
Hexavalent Chromium[7] (ppb)	2017	NS	0.02	NA	NA	ND	NA	No	Discharge from electroplating factories, leather tanneries, wood preservation, chemical synthesis, refractory production, and textile manufacturing facilities; erosion of natural deposits
Nitrate [as nitrate] (ppm)	2017	45	45	NA	NA	NA	NA	No	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
TTHMs [Total Trihalomethanes][6] (ppb)	2017	80	NA	34.5	12.0–47.0	NA	NA	No	By-product of drinking water disinfection
Turbidity (NTU)	2017	TT	NA	NA	NA	0.10 100	Highest % </= 0.3	No	Soil runoff
Uranium (pCi/L)	2017	20	0.43	NA	NA	ND	ND–3	No	Erosion of natural deposits

REGULATED SUBSTANCES

				San Diego County Water Authority		Carlsbad Desalination Plant			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	PHG (MCLG) [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Arsenic[1] (ppb)	2017	10	0.004	2.0[1]	NA	ND	ND	No	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Barium[1] (ppm)	2017	1	2	ND	NA	ND	NA	No	Discharges of oil drilling wastes and from metal refineries; erosion of natural deposits
Bromate (ppb)	2017	10	0.1	6.0	2.0–13.0	NA	NA	No	By-product of drinking water disinfection
Chloramines (ppm)	2017	[4.0 (as Cl2)]	[4 (as Cl2)]	NA	NA	NA	NA	No	Drinking water disinfectant added for treatment
Fecal coliform and *E. coli* (# positive samples)	2017	a routine sample and a repeat sample are total coliform positive, and one of these is also fecal coliform or *E. coli* positive	(0)	NA	NA	NA	NA	No	Human and animal fecal waste
Fluoride (ppm)	2017	2.0	1	0.7[3,4]	0.5–1.1[3,4]	0.746	0.55–0.90	No	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Gross Alpha Particle Activity (pCi/L)	2017	15	(0)	5	4–7	0.075	0-2.265	No	Erosion of natural deposits
Gross Beta Particle Activity[5] (pCi/L)	2017	50	(0)	5	4–6	1.59	0–3.56	No	Decay of natural and man-made deposits
Haloacetic Acids[6] (ppb)	2017	60	NA	NA	NA	NA	NA	No	By-product of drinking water disinfection
Heterotrophic Plate Count Bacteria (Units)	2017	Surface water treatment=TT	HPC=NA; Others = (0)	NA	NA	NA	NA	No	Naturally present in the environment
Hexavalent Chromium[7] (ppb)	2017	NS	0.02	0.11	0.03–0.16	NA	NA	No	Discharge from electroplating factories, leather tanneries, wood preservation, chemical synthesis, refractory production, and textile manufacturing facilities; erosion of natural deposits
Nitrate [as nitrate] (ppm)	2017	45	45	0.5	0.3–0.6	ND	ND	No	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
TTHMs [Total Trihalomethanes][6] (ppb)	2017	80	NA	NA	NA	NA	NA	No	By-product of drinking water disinfection
Turbidity (NTU)	2017	TT	NA	0.02	Highest	1.0	Highest	No	Soil runoff
				100	% </= 0.1	99.7	% </= 0.1		
Uranium (pCi/L)	2017	20	0.43	2.9	2.7–3.1	0.085[8]	0.029–0.161[8]	No	Erosion of natural deposits

Tap water samples were collected for lead and copper analyses from sample sites throughout the community

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	PHG (MCLG)	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2016	1.3	0.3	0.15	0/30	No	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (ppb)	2016	15	0.2	0.0	0/30	No	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits

SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	PHG (MCLG)	Metropolitan Water District Skinner Plant AMOUNT DETECTED	Metropolitan Water District Skinner Plant RANGE LOW-HIGH	San Diego County Water Authority AMOUNT DETECTED	San Diego County Water Authority RANGE LOW-HIGH	Carlsbad Desalination Plant AMOUNT DETECTED	Carlsbad Desalination Plant RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chloride (ppm)	2017	500	NS	64	56–72	59[1]	NA	76.9	39.7–127	No	Runoff/leaching from natural deposits; seawater influence
Color (Units)	2017	15	NS	1	1–1	ND	NA	NA	NA	No	Naturally occurring organic materials
Odor–Threshold (Units)	2017	3	NS	3	3–3	NA	NA	NA	NA	No	Naturally occurring organic materials
Specific Conductance (µS/cm)	2017	1,600	NS	513	455–571	470[1]	NA	430.70	304.26–694.09	No	Substances that form ions when in water; seawater influence
Sulfate (ppm)	2017	500	NS	74	66–81	240[1,8]	NA	16.6	11.4–41.0	No	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (ppm)	2017	1,000	NS	290	259–321	280[1]	NA	232.7	80–426	No	Runoff/leaching from natural deposits

UNREGULATED AND OTHER SUBSTANCES [9]

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	Metropolitan Water District Skinner Plant AMOUNT DETECTED	Metropolitan Water District Skinner Plant RANGE LOW-HIGH	San Diego County Water Authority AMOUNT DETECTED	San Diego County Water Authority RANGE LOW-HIGH	Carlsbad Desalination Plant AMOUNT DETECTED	Carlsbad Desalination Plant RANGE LOW-HIGH
Alkalinity (ppm)	2017	70	62–78	77[1]	NA	59.7	48–88
Boron (ppb)	2017	110[1]	NA	120[1]	NA	0.59	0.33–0.95
Calcium (ppm)	2017	30	27–32	26[1]	NA	23.9	19.4–43.9
Chlorate (ppb)	2017	NA	NA	244	180–360	NA	NA
Corrosivity [as Aggressiveness] (Units)	2017	11.9	11.8–12.0	12[1]	NA	11.57	11.30–12.01
Corrosivity [as Saturation] (Units)	2017	0.14	0.04–0.25	0.55[1]	NA	0.28	0.02–0.66
Hardness (ppm)	2017	119	109–129	110[1]	NA	53.3	43.4–96.2
Magnesium (ppm)	2017	12	11–13	10[1]	NA	0.745	0.483–1.09
N-Nitrosodimethylamine [NDMA] (ppt)	2017	ND	ND–3.1	NA	NA	NA	NA
Potassium (ppm)	2017	3.0	2.8–3.2	2.7[1]	NA	NA	NA
Sodium (ppm)	2017	52	48–56	50[1]	NA	52.3	32.7–80.4
Total Organic Carbon (TOC) (ppm)	2017	2.5	1.9–3.1	2.4	2.0–3.0	NA	NA

[1] Single sample taken.
[2] Control range 0.6-1.2 ppm, optimal fluoride level 0.7 ppm
[3] This water system treats your water by adding fluoride to the naturally occurring level to help prevent dental caries in consumers. State regulations require the fluoride levels in the treated water be maintained within a range of 0.6 - 1.2 ppm, with an optimal dose of 0.7 ppm. Information about fluoridation, oral health, and current issues is available from http://www.swrcb.ca.gov/drinking_water/certlic/drinkingwater/Fluoridation.shtml.
[4] Control range 0.7 - 1.3 ppm, optimal fluoride level 0.8 ppm
[5] The State Water Resources Control Board considers 50 pCi/L to be the level of concern for beta particles.
[6] Highest locational running annual average (LRAA).
[7] There is currently no MCL for hexavalent chromium. The previous MCL of 10 ppb was withdrawn on September 11, 2017.
[8] Sampled in 2016.
[9] Unregulated contaminant monitoring helps U.S. EPA and the State Water Resources Control Board to determine where certain contaminants occur and whether the contaminants need to be regulated.

Definitions

AL (Regulatory Action Level): The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow.

µS/cm (microsiemens per centimeter): A unit expressing the amount of electrical conductivity of a solution.

LRAA (Locational Running Annual Average): The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters. Amount Detected values for TTHMs and HAAs are reported as the highest LRAAs.

MCL (Maximum Contaminant Level): 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 (SMCLs) are set to protect the odor, taste, and appearance of drinking water.

MCLG (Maximum Contaminant Level Goal): 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.

MRDL (Maximum Residual Disinfectant Level): 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.

MRDLG (Maximum Residual Disinfectant Level Goal): 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.

NA: Not applicable

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

NS: No standard

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

pCi/L (picocuries per liter): A measure of radioactivity.

PDWS (Primary Drinking Water Standard): MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

PHG (Public Health Goal): 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 EPA.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

ppt (parts per trillion): One part substance per trillion parts water (or nanograms per liter).

TT (Treatment Technique): A required process intended to reduce the level of a contaminant in drinking water.