City of San Clemente

Utilities Division

380 Ave Pico

San Clemente, California 92672

The 2000 Water Quality Report

Drinking Water Quality

Since 1991, California water utilities have been providing an annual Water Quality Report to their customers. Normally mailed to customers in April, this year's report (covering calendar year 1999 water quality testing) has been prepared in compliance with new regulations called for in the 1996 reauthorization of the Safe Drinking Water Act. The reauthorization charged the United States Environmental Protection Agency (EPA) with updating and strengthening the tap water regulatory program and changed the report's due date to July 1. Some of the tests for City ground water are not required every year. Therefore, some of the data presented in the charts is from 1998, but is representative of water quality in 1999.

EPA and the California Department of Health Services (DHS) are the agencies responsible for establishing drinking water quality standards. To ensure that your tap water is safe to drink, EPA and DHS prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. DHS regulations also establish limits for contaminants in bottled water that must provide the same protection for public health. The federal Food and Drug Administration (FDA) also sets regulations for bottled water.

The City of San Clemente vigilantly safeguards its water supply and, as in years past, the water delivered to your home meets the standards required by the state and federal regulatory agencies. In some cases, your local utility goes beyond what is required to monitor for additional contaminants that have known health risks.

Unregulated contaminant monitoring helps EPA determine where certain contaminants occur and whether it needs to establish regulations for those contaminants.

If you have questions, please contact us for answers...

For information about this report, or your water quality in general, please contact John Bressan, Utilities Manager, at (949) 361-6150. The San Clemente City Council meets at 7:00 p.m. on the first and third Wednesdays of each month in the City Council Chambers, located at 100 Ave. Presidio in the City of San Clemente. Please feel free to participate in these meetings.

For more information about the health effects of the listed contaminants in the following tables, call the Environmental Protection Agency hotline at (800) 426-4791.

This information is important.
Have someone translate it for you.

これは重要な情報ですので、翻訳を依頼してください。

Esta información es importante. Por favor pídale a alguien que se la traduzca.

此乃重要資料，必須請人替您翻譯。

این اطلاعیه مهم می باشد. از کسی بخواهید که این را به شما ترجمه کند.

이 자료는 매우 중요한 것입니다. 그러므로 영어를 할 수 있는 사람한테 번역해 줄 것을 부탁하십시오.

What You Need to Know, And How it May Affect You

Sources of Supply

Your drinking water is a blend of surface water imported by the Metropolitan Water District of Southern California and ground water extracted from City wells located in the southern part of the City of San Clemente. The ground water represents 5 to 8 percent of the total water source. Metropolitan's imported water sources are the Colorado River and the State Water Project, which draws water from the San Francisco-San Joaquin Bay Delta.

Government Regulations of Potential Contaminants

Drinking water, including bottled water, may be reasonably expected to contain at least small amounts of some contaminants. As water travels over the surface of the land or through the layers of the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of human or animal activity. For most people, the presence of contaminants does not necessarily mean water may be a health risk.

Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban storm runoff, industrial or domestic wastewater discharges, oil and gas production, mining and farming.

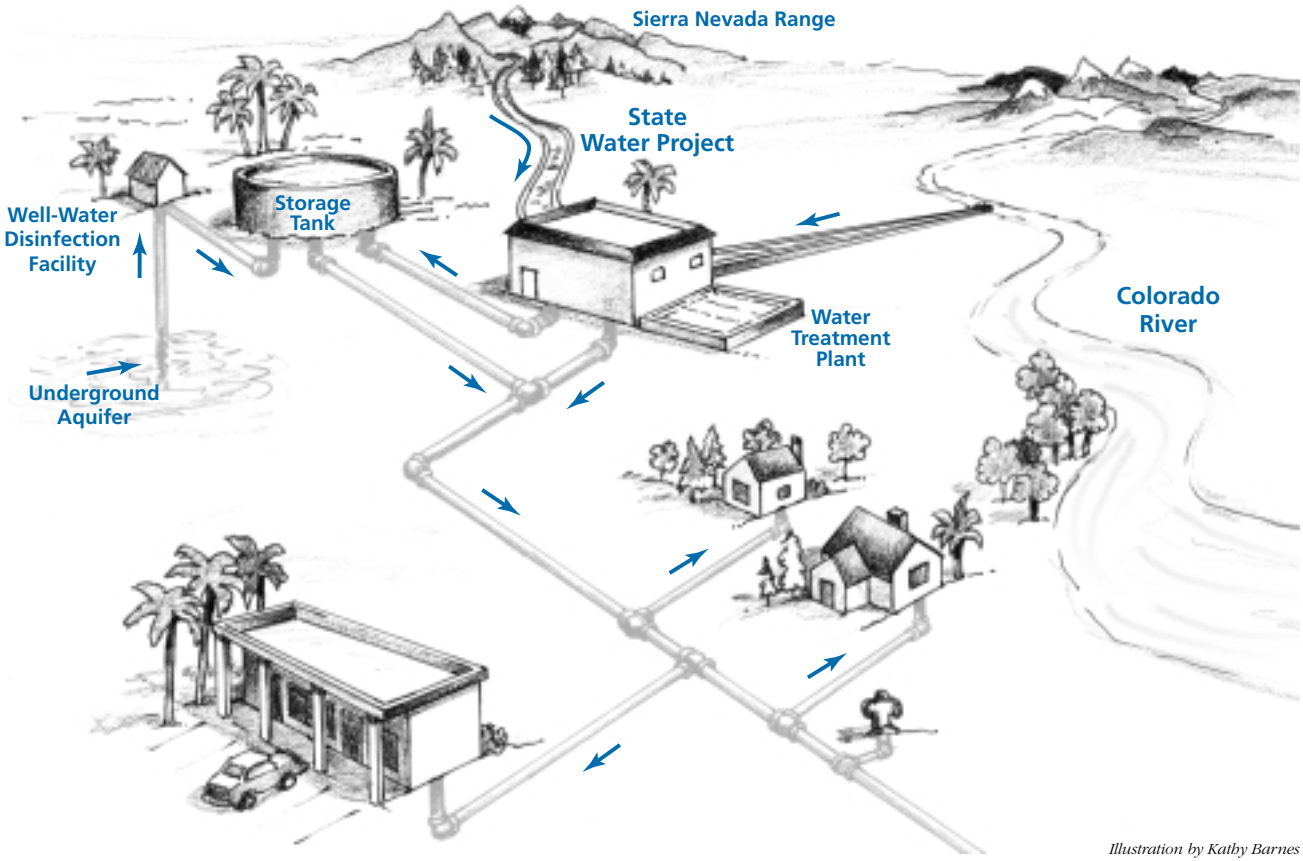

Illustration by Kathy Barnes

- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production or mining activities.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water 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 gasoline stations, urban storm water runoff and septic systems.

Cryptosporidium

Cryptosporidium is a microscopic organism that, when ingested, can cause diarrhea, fever, and other gastro-intestinal symptoms. The organism comes from animal and/or human wastes and may be in surface water. The Metropolitan Water District of Southern California, which did not detect it in the water, tested your surface water for *Cryptosporidium* in 1999. If it ever is detected, *Cryptosporidium* is eliminated by an effective treatment combination including sedimentation, filtration and disinfection.

Immuno-compromised people

Some people may be more vulnerable to constituents in the water than the general population. Immuno-compromised people, such as those with cancer who are undergoing chemotherapy, persons who have had organ transplants, people with HIV/AIDS or other immune system disorders, some elderly persons and infants can be particularly at risk of infections. These people should seek advice about drinking water from their healthcare providers.

The EPA and the federal Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from EPA's safe drinking water hotline at (800) 426-4791 between 9 a.m. and 5 p.m. Eastern Time (6 a.m. to 2 p.m. in California).

Total Trihalomethanes

Trihalomethanes (THMs) are a family of chemicals formed when a disinfectant such as chlorine is added to the water supply. Disinfection is an important and necessary step in the water treatment process to protect against harmful bacteria and other possible contamination. Chlorine is the most widely used and approved disinfectant in the United States. San Clemente Water Division uses chloramine (a blend of chlorine and amonia) in addition to chlorine as a way to reduce the Trihalomethanes in your water.

The amount of THMs allowed in drinking water is regulated by the EPA, which has set an annual average safe limit for THMs of 100 parts-per-billion in drinking water. Results of a health study released in early 1998 suggest that women who drink five glasses of tap water daily and are in their first three months of pregnancy may have an increased risk of miscarriage from levels of THMs greater than 75 parts-per-billion in drinking water. State officials, however, have cautioned that the study is not definitive and have stated that more study on the issue is needed.

Lead

Infants and young children typically are more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about possible elevated lead levels in your home's water, you may wish to have your water tested by an independent laboratory and flush your tap for 30 seconds to 2 minutes before using the water. Additional information is available from the Safe Drinking Water Hotline at (800) 426-4791.

City of San Clemente Groundwater Quality

Chemical	MCL	PHG (MCLG)	Average Amount	Range of Detections	MCL Violation?	Most Recent Sampling Date	Typical Source
Radiologicals							
Alpha Radiation (pCi/L)	15	(0)	1.2	0.5 - 1.9	No	1999	Erosion of Natural Deposits
Uranium (pCi/L)	20	(0)	4.5	4.5	No	1999	Erosion of Natural Deposits
Inorganic Chemicals							
Fluoride (ppm)	2	1	0.35	0.33 - 0.36	No	1998	Erosion of Natural Deposits
Secondary Standards*							
Chloride (ppm)	500*	n/a	122	90 - 153	No	1998	Erosion of Natural Deposits
Iron (ppb)	300*	n/a	15	ND - 28	No	1998	Erosion of Natural Deposits
Manganese (ppb)	50*	n/a	45	ND - 49	No	1998	Erosion of Natural Deposits
Specific Conductance (umho/cm)	1,600*	n/a	885	770 - 1000	No	1999	Erosion of Natural Deposits
Sulfate (ppm)	500*	n/a	126	92 - 160	No	1998	Erosion of Natural Deposits
Total Dissolved Solids (ppm)	1000*	n/a	540	440 - 640	No	1998	Erosion of Natural Deposits
Unregulated Contaminants Requiring MonitoringErosion of Natural Deposits							
Alkalinity as $CaCO_3$	Not Regulated	n/a	165	160 - 170	n/a	1998	Erosion of Natural Deposits
Calcium (ppm)	Not Regulated	n/a	58	44 - 72	n/a	1998	Erosion of Natural Deposits
Magnesium (ppm)	Not Regulated	n/a	28	25 - 31	n/a	1998	Erosion of Natural Deposits
Sodium (ppm)	Not Regulated	n/a	79	78 - 81	n/a	1998	Erosion of Natural Deposits
Hardness (ppm)	Not Regulated	n/a	267	185 - 350	n/a	1998	Erosion of Natural Deposits
Hardness (grains/gal.)	Not Regulated	n/a	16	11 - 20	n/a	1998	Erosion of Natural Deposits

ppb = parts-per-billion; ppm = parts-per-million; pCi/L = pico curies per liter; ntu = nephelometric turbidity units; ND = not detected; n/a = not applicable
MCL = Maximum Contaminant Level; (MCLG) = federal MCL Goal; PHG = California Public Health Goal
*Contaminant is regulated by a secondary standard to maintain aesthetic qualities (taste, odor, color).

Definitions

Public Health Goal (PHG)
The level of a contaminant in drinking water below which there is no known or expected risk to health. Public health goals are set by the California Environmental Protection Agency.

Maximum Contaminant Level Goal (MCLG)
The level of contaminant in drinking water below which there is no known or expected risk to health. Maximum contaminant level goals are set by the EPA.

Maximum Contaminant Level (MCL)
The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the public health goals and maximum contaminant level goals as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste and appearance of drinking water.

AL
Action Level

Primary Drinking Water Standard (PDWS)
MCL's for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

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

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

Variance
State or EPA permission not to meet an MCL or a treatment technique under certain conditions.

Measurements
Water is sampled and tested throughout the year. Contaminants are measured in parts per million (ppm), parts per billion (ppb), parts per trillion (ppt), and even parts per quadrillion (ppq). If this is difficult to imagine, think about these comparisons:

Parts per million:
- 3 drops in 42 gallons
- 1 second in 12 days
- 1 penny in $10,000
- 1 inch in 16 miles

Parts per billion:
- 1 drop in 14,000 gallons
- 1 second in 32 years
- 1 penny in $10 million
- 1 inch in 16,000 miles

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.

City of San Clemente Distribution System Water Quality

	Primary MCL	Average Amount	Range of Detections	MCL Violation?	Typical Source of Contaminant
Total Trihalomethanes (ppb)	100	44	1.1 - 87	No	Byproducts of chlorine disinfection
Color (color units)	15*	1	1	No	Naturally present in groundwater
Turbidity (ntu)	5*	0.2	0.04 - 5.7	No	Naturally present in groundwater
Odor (threshold odor number)	3*	1	1	No	Naturally present in groundwater

Twelve locations in the distribution system are tested quarterly for total trihalomethanes; twenty locations are tested monthly for color, odor and turbidity.
*Contaminant is regulated by a secondary standard to maintain aesthetic qualities (taste, odor, color); ntu = nephelometric turbidity units

Microbiological

	MCL	MCLG	Range of Detections	MCL Violation?	Typical Source of Contaminant
Total Coliform Bacteria	5%	0%	1.25%	No	Naturally present in the environment

A total of 20 total coliform bacteria samples are taken each week. During the month of July 1999, one sample of the 80 samples taken was positive (1.25%).
Total Coliform MCL = No more than 5.0% of the monthly samples may be total coliform positive.

Lead and Copper Action Levels at Residential Taps

	Action Level (AL)	Health Goal	90th Percentile Value	Sites Exceeding AL / Number of Sites	AL Violation?	Typical Source Of Contaminant
Lead (ppb)	15	2	5.4	0 / 30	No	Corrosion of household plumbing
Copper (ppm)	1.3	0.17	0.05	0 / 30	No	Corrosion of household plumbing

Every three years, 30 residences are tested for lead and copper at-the-tap. The most recent set of samples was collected in 1998. Lead was detected in five samples. Copper was detected in fourteen samples. None of the samples exceeded the regulatory action level (AL). A regulatory action level is the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Metropolitan Water District of Southern California Treated Surface Water

Chemical	MCL	PHG, or (MCLG)	Average Amount	Range of Detections	MCL Violation?	Typical Source of Contaminant
Radiologicals						
Alpha Radiation (pCi/L)	15	(0)	3.6	1.2 - 6.0	No	Erosion of natural deposits
Beta Radiation (pCi/L)	50	(0)	6.2	5.2 - 7.8	No	Decay of man-made or natural deposits
Combined Radium	5	(0)	<1	ND - 1.9	No	Erosion of natural deposits
Uranium (pCi/L)	20	(0)	2.6	ND - 3.8	No	Erosion of natural deposits
Inorganic Chemicals						
Aluminum (ppm)	1 / 0.2*	n/a	0.16	0.11 - 0.26	No	Residue from water treatment process
Arsenic (ppb)	50	n/a	2.5	2.1 - 3.2	No	Erosion of natural deposits
Fluoride (ppm)	2	1	0.26	0.22 - 0.32	No	Erosion of natural deposits
Secondary Standards*						
Chloride (ppm)	500*	n/a	71	67 - 77	No	Runoff or leaching from natural deposits
Specific Conductance (umho/cm)	1600*	n/a	834	781 - 938	No	Substances that form ions in water
Sulfate (ppm)	500*	n/a	194	179 - 234	No	Runoff or leaching of natural deposits
Total Dissolved Solids (ppm)	1000*	n/a	512	481 - 586	No	Runoff or leaching of natural deposits
Unregulated Contaminants Requiring Monitoring						
Perchlorate (ppb)	Not Regulated	n/a	<4	ND - 6	n/a	Rocket fuel discharged to the Colorado River
Sodium (ppm)	Not Regulated	n/a	76	70 - 84	n/a	Runoff or leaching from natural deposits
Hardness (ppm)	Not Regulated	n/a	250	233 - 289	n/a	Runoff or leaching of natural deposits
Hardness (grains/gal)	Not Regulated	n/a	15	14 - 167	n/a	Runoff or leaching of natural deposits

ppb = parts-per-billion; ppm = parts-per-million; pCi/L = pico curies per liter; ntu = nephelometric turbidity units; ND = not detected; < = less than
MCL = Maximum Contaminant Level; (MCLG) = federal MCL Goal; PHG = California Public Health Goal; n/a = not applicable
*Contaminant is regulated by a secondary standard to maintain aesthetic qualities (taste, odor, color)

Turbidity - combined filter effluent	Treatment Technique	Turbidity Measurements	TT Violation?	Typical Source of Contaminant
1) Highest single turbidity measurement	5 NTU	0.09	No	Soil run-off
2) Percentage of samples less than 0.5 NTU	95%	100	No	Soil run-off

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 contaminants in drinking water that are difficult and sometimes impossible to measure directly.

Information Collection Rule Disinfection By-Products in Metropolitan Water District Finished Water Data Collected August 1997 - November 1998

Chemical	Average Amount (ppb)	Range of Detections (ppb)	Typical Source of Contaminant
Disinfection By-Products			
Haloacetic Acids	17	9.5 - 24	Formed by the reaction with chlorine disinfectant
Haloacetonitriles	7.6	5.1 - 11	Formed by the reaction with chlorine disinfectant
Haloketones	1.8	1.1 - 2.7	Formed by the reaction with chlorine disinfectant
Chloropicrin	<0.1	ND - 0.2	Formed by the reaction with chlorine disinfectant
Chloral Hydrate	3.8	1.5 - 6.1	Formed by the reaction with chlorine disinfectant
Total Organic Halogen	113	78 - 155	Formed by the reaction with chlorine disinfectant
Cyanogen Chloride	1.9	1.5 - 2.3	Formed by the reaction with chlorine disinfectant
Total Chlorine Residual	2 ppm	1.6 - 2.6 ppm	Formed by the reaction with chlorine disinfectant

The Information Collection Rule (ICR) is a multi-year national monitoring program administered by the U.S. Environmental Protection Agency. The primary purpose of the ICR is to gather nationwide occurrence data on chemicals which may be formed during drinking water disinfection. The results of the ICR will assist the EPA in regulating many of these disinfection by-products over the next 5 years.
ppb = parts-per-billion, ppm = parts-per-million, ND = not detected