The 2007 Water Quality Report

Drinking Water Quality

Since 1990, California water utilities have been providing an annual Water Quality Report to their customers. This year's report covers calendar year 2006 water quality testing, and has been prepared in compliance with regulations called for in the 1996 reauthorization of the Safe Drinking Water Act. The re-authorization charged the United States Environmental Protection Agency (USEPA) with updating and strengthening the tap water regulatory program and changed the report's due date to July 1.

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.

This past year Tritium levels were tested due to the proximity of our ground water supplies to the San Onofre Nuclear Generating Station as a precautionary measure and found to be non-detect.

If you have any questions about your water, please contact us for answers…

For information about this report, or your water quality in general, please contact Andrew J. Howard, Utilities Manager, at (949) 366-1553. The San Clemente City Council meets at 7:00 p.m. on the first and third Tuesdays 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 U.S. Environmental Protection Agency hotline at (800) 426-4791.

For further information about the City, please visit our website: http://san-clemente.org

This report contains important information about your drinking water. Translate it, or speak with someone who understands it.

Ce rapport contient des informations importantes sur votre eau potable. Traduisez-le ou parlez en avec quelqu'un qui le comprend bien.
French

这份报告中有些重要的信息，讲到关于您所在社区的水的品质，请您找人翻译一下，或者请能看得懂这份报告的朋友给您解释一下。
Chinese

يحتوي هذا التقرير على معلومات هامة عن نوعية ماء الشرب في منطقتك. يرجى ترجمته، أو ابحث التقرير مع صديق لك يفهم هذه المعلومات جيداً.
Arabic

この資料には、あなたの飲料水についての大切な情報が書かれています。内容をよく理解するために、日本語に翻訳して読むか説明を受けてください。
Japanese

Der Bericht enthält wichtige Informationen über die Wasserqualität in Ihrer Umgebung. Der Bericht sollte entweder offiziell uebersetzt werden, oder sprechen Sie mit Freunden oder Bekannten, die gute Englischkenntnisse besitzen
German

इस रिपोर्ट में पीने के पानी के विषय पर बहुत जरुरी जानकारी दी गई है। कृपया इसका अनुवाद करिये, या किसी जानकार से इस बारे में पूछिये।
Hindi

Este informe contiene información muy importante sobre su agua potable. Para mas información ó traducción, favor de contactar a Mr. A.J. Howard. Telefono: (949) 366-1553.
Spanish

Bản báo cáo có ghi những chi tiết quan trọng về phẩm chất nước trong cộng đồng quý vị. Hãy nhờ người thông dịch, hoặc hỏi một người bạn biết rõ về vấn đề này.
Vietnamese

이 보고서에는 귀하가 거주하는 지역의 수질에 관한 중요한 정보가 들어 있습니다. 이 것을 번역하거나 충분히 이해하시는 친구와 상의하십시오.
Korean

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Utilities Division
380 Ave Pico
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What You Need to Know About Your Water, and How it May Affect You

Sources of Supply

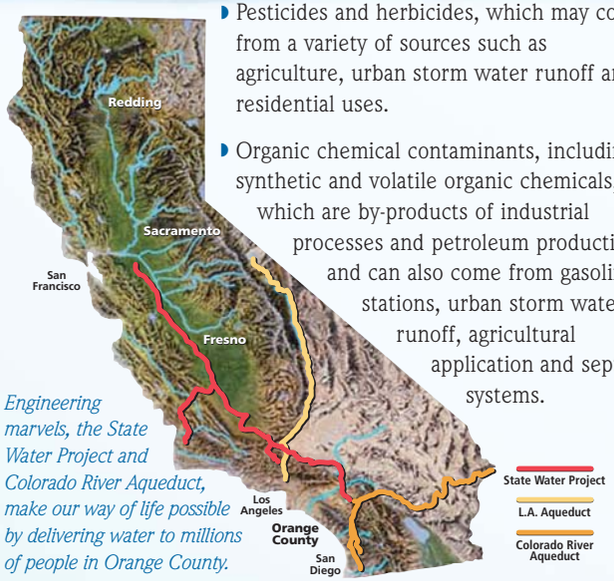
Your drinking water is a blend of surface water imported by the Metropolitan Water District of Southern California and ground water extracted from City wells located in the southern part of the City of San Clemente. The ground water represents 5 to 8 percent of the total water source. Metropolitan's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

Basic Information About Drinking Water Contaminants

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 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 animal and human activity.

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.
- 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, agricultural application and septic systems.



Engineering marvels, the State Water Project and Colorado River Aqueduct, make our way of life possible by delivering water to millions of people in Orange County.

In order to ensure that tap water is safe to drink, USEPA and the California Depatment of Health Services (CDHS) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. CDHS regulations also establish limits for contaminants in bottled water that must 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. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline at (800) 426-4791.

Immuno-Compromised People

Some people may be more vulnerable to contaminants in drinking 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 from infections. These people should seek advice about drinking water from their health care providers.

The USEPA 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 USEPA'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).

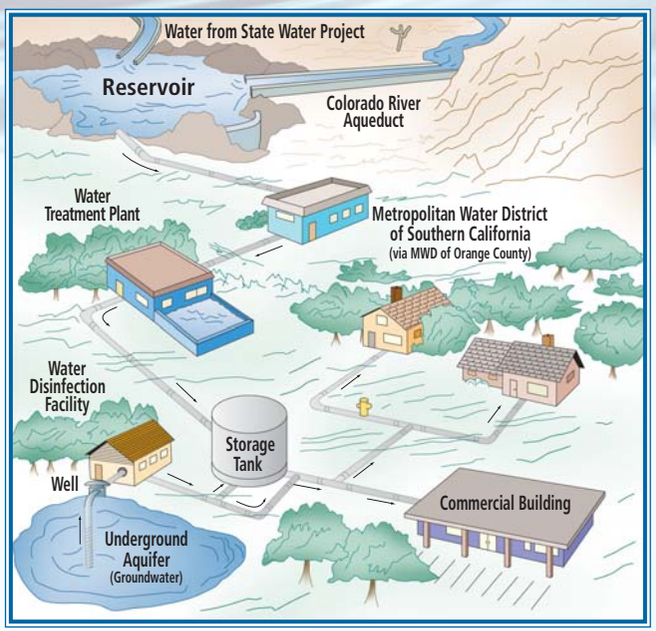
Ozone Disinfection

The Metropolitan Water District of Southern California is upgrading all five of its drinking water treatment plants with ozonation equipment. Ozone, a form of oxygen, is a colorless gas added to drinking water as an alternative to chlorine disinfection. Ozone has been used as a water disinfectant in Europe and America for more than a century. Ozone will improve water quality and it results in fewer disinfection byproducts that are a health concern than chlorination.

Ozone is an excellent disinfectant. It is able to destroy a wider range of organisms in drinking water than chlorine. Ozone has the added benefit of removing objectionable tastes and odors from the water. After primary disinfection with ozone, Metropolitan will continue to add a small amount of chlorine and ammonia to your drinking water, called chloramines, as a "residual" to prevent the growth of bacteria in the pipes that carry drinking water from the treatment plant into your home.

Upgrading of Metropolitan's treatment plant serving Orange County is scheduled to be completed by 2010.

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



Imported water — from the Colorado River and northern California — travels hundreds of miles, across deserts and mountains, to meet the needs of Orange County. Water is also pumped from local groundwater basins, then treated and sent to homes and businesses.

The Continuing Quality of Your Water is Our Primary Concern

Disinfection and Disinfection Byproducts

Disinfection of drinking water was one of the major public health advances in the 20th century. Disinfection was a major factor in reducing water-borne disease epidemics caused by pathogenic bacteria and viruses, and it remains an essential part of drinking water treatment today.

Chlorine disinfection has almost completely eliminated the risks of microbial waterborne diseases from our lives. Chlorine is added to your drinking water at the source of supply (groundwater well or surface water treatment plant). Enough chlorine is added so that it does not completely dissipate through the distribution system pipes. This "residual" chlorine helps to prevent the growth of bacteria in the pipes that carry drinking water from the source into your home.

However, chlorine can react with naturally-occurring materials in the water to form unintended chemical byproducts, called disinfection byproducts (DBPs), which may pose health risks. A major challenge is how to balance the risks from microbial pathogens and DBPs. It is important to provide protection from these microbial pathogens while simultaneously ensuring decreasing health risks from disinfection byproducts. The Safe Drinking Water Act requires the U.S. Environmental Protection Agency (USEPA) to develop rules to achieve these goals.

Trihalomethanes (THMs) and Haloacetic Acids (HAAs) are the most common and most studied DBPs found in drinking water treated with chlorine. In 1979, the USEPA set the maximum amount of total THMs allowed in drinking water at 100 parts per billion as an annual running average. Effective in January 2002, the Stage 1 Disinfectants / Disinfection Byproducts Rule lowered the total THM maximum annual average level to 80 parts per billion and added HAAs to the list of regulated chemicals in drinking water. Your drinking water complies with the Stage 1 Disinfectants / Disinfection Byproducts Rule. In 2003, the USEPA proposed a Stage 2 regulation that will further control allowable levels of DBPs in drinking water without compromising disinfection itself. This regulation was finalized by USEPA in January 2006.

Drinking Water Fluoridation

"Community water fluoridation continues to be the most cost-effective, practical and safe means for reducing and controlling the occurrence of tooth decay in a community." ~ *U.S. Surgeon General*

In fall 2007, the Metropolitan Water District of Southern California is scheduled to join a majority of the nation's public water suppliers in adding fluoride to drinking water in order to prevent tooth decay. In line with recommendations from the California Department of Health Services, as well as the U.S. Centers for Disease Control and Prevention, Metropolitan will adjust the natural fluoride level in the water, which ranges from 0.1 to 0.4 parts per million, to the optimal range for dental health of 0.7 to 0.8 parts per million. Fluoride levels in drinking water are limited under California state regulations at a maximum dosage of 2 parts per million.

Fluoride has been added to U.S. drinking water supplies since 1945. Of the 50 largest cities in the U.S., 43 fluoridate their drinking water. There are many places to go for additional information about the fluoridation of drinking water. They include:

U.S. Centers for Disease Control and Prevention
1-888-CDC-2306
www.cdc.gov/Oralhealth/factsheet/fl-background.htm
American Dental Association
www.ada.org/public/topics/fluoride/fluor-links.html
American Water Works Association
www.awwa.org

Lead

Infants and young children are typically 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 elevated lead levels in your home's water, you may wish to have your water tested; you could also flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline (800-426-4791).

Source Water Assessments

Imported (Metropolitan) Water Assessment

In December 2002, Metropolitan Water District of Southern California completed its source water assessment of its Colorado River and State Water Project supplies. Colorado River supplies are considered to be most vulnerable to recreation, urban/storm water runoff, increasing urbanization in the watershed and wastewater. State Water Project supplies are considered to be most vulnerable to urban/storm water runoff, wildlife, agriculture, recreation and wastewater. A copy of the assessment can be obtained by contacting Metropolitan by phone at (213) 217-6850.

Groundwater Assessment

The City of San Clemente Utilities Division completed an assessment of drinking water sources for its water supply in October 2001. The two sources are considered vulnerable to the following Possible Contamination Activities (PCAs) associated with some contaminants detected in the water supply: Maintenance yards, above-ground fuel tanks, an historic dump site, an electrical switching station, and a site for temporary deposition of street sweeper debris. Residences, parks, sewers, roads and storm drains represent additional PCAs. While PCAs exist within the source water assessment area, the water sources are protected from immediate contamination threats by the confining nature of the aquifer, and the significant depth of well perforations at each water source.

Copies of each water assessment are located at the City of San Clemente Utilities Division administration office, 380 Avenida Pico, Building N, San Clemente, California. You may inspect these water source assessments by contacting the Utilities Manager at (949) 366-1553.

Want Additional Information?

There's a wealth of information on the internet about Drinking Water Quality and water issues in general. Some good sites — both local and national — to begin your own research are:

City of San Clemente
http://ci.san-clemente.ca.us
Municipal Water District of Orange County
www.mwdoc.com
Orange County Water District
www.ocwd.com
Metropolitan Water District of Southern California
www.mwdh2o.com
California Department of Health Services, Division of Drinking Water and Environmental Management
www.dhs.ca.gov/ps/ddwem
U.S. Environmental Protection Agency
www.epa.gov/safewater/

Table Definitions

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 (2nd MCL) 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. Environmental Protection Agency.

MRDL (Maximum Residual Disinfectant Level): The level of a disinfectant added for water treatment that may not be exceeded at a consumer's tap.

MRDLG (Maximum Residual Disinfectant Level Goal): The level of a disinfectant added for water treatment below which there is no known or expected risk to health. MRDLGs are set by the USEPA.

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 Environmental Protection Agency.

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

TT (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 that a water system must follow.

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 (mg/L):
- 1 second in 12 days
- 1 penny in $10,000
- 1 inch in 16 miles

Parts per billion (µg/L):
- 1 second in 32 years
- 1 penny in $10 million
- 1 inch in 16,000 miles

It is important to note, however, that even a small concentration of certain contaminants can adversely affect a water supply.

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.

2006 City of San Clemente Groundwater Quality

Chemical	MCL	PHG (MCLG)	Average Amount	Range of Detections	MCL Violation?	Most Recent Sampling Date	Typical Source of Contaminant
Radiologicals							
Gross Beta (pCi/L)	50	(0)	6	5.2 – 7.5	No	2006	Decay of Natural / Man-made Deposits
Inorganic Chemicals							
Fluoride (ppm)	2	1	0.36	0.17 – 0.65	No	2006	Erosion of Natural Deposits
Nitrate (ppm as NO_3)	45	45	4.0	1.4 – 6.7	No	2006	Fertilizers, Septic Tanks
Nitrate + Nitrite (ppm as N)	10	10	0.9	0.3 – 1.5	No	2006	Fertilizers, Septic Tanks
Secondary Standards*							
Chloride (ppm)	500*	n/a	91	87 – 99	No	2006	Erosion of Natural Deposits
Color (color units)	15*	n/a	1	1	No	2006	Erosion of Natural Deposits
Manganese (ppb)	50*	n/a	<20	ND – 30	No	2006	Erosion of Natural Deposits
Odor (threshold odor number)	3*	n/a	1	1	No	2006	Erosion of Natural Deposits
Specific Conductance (µmho/cm)	1,600*	n/a	704	704	No	2006	Erosion of Natural Deposits
Sulfate (ppm)	500*	n/a	99	76 – 130	No	2006	Erosion of Natural Deposits
Total Dissolved Solids (ppm)	1,000*	n/a	463	428 – 500	No	2006	Erosion of Natural Deposits
Turbidity (ntu)	5*	n/a	0.24	0.24	No	2006	Erosion of Natural Deposits
Unregulated Contaminants Requiring Monitoring							
Bicarbonate (ppm)	Not Regulated	n/a	168	168	n/a	2006	Erosion of Natural Deposits
Boron (ppb)	Not Regulated	n/a	170	160 – 180	n/a	2006	Erosion of Natural Deposits
Calcium (ppm)	Not Regulated	n/a	41	41	n/a	2006	Erosion of Natural Deposits
Magnesium (ppm)	Not Regulated	n/a	25	25	n/a	2006	Erosion of Natural Deposits
pH (pH units)	Not Regulated	n/a	7.3	7.2 – 7.4	n/a	2006	Erosion of Natural Deposits
Potassium (ppm)	Not Regulated	n/a	5.4	5.4	n/a	2006	Erosion of Natural Deposits
Sodium (ppm)	Not Regulated	n/a	54	43 – 81	n/a	2006	Erosion of Natural Deposits
Total Alkalinity (ppm as $CaCO_3$)	Not Regulated	n/a	168	168	n/a	2006	Erosion of Natural Deposits
Total Hardness (ppm as $CaCO_3$)	Not Regulated	n/a	204	204	n/a	2006	Erosion of Natural Deposits

ppb = parts-per-billion; ppm = parts-per-million; pCi/L = picoCuries per liter; ntu = nephelometric turbidity units; µmho/cm = micromho per centimeter;
ND = not detected; n/a = not applicable; < = average is less than the detection limit for reporting purposes; 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).

2006 City of San Clemente Distribution System Water Quality

Disinfection Byproducts	MCL (MRDL/MRDLG)	Average Amount	Range of Detections	MCL Violation?	Typical Source of Contaminant
Total Trihalomethanes (ppb)	80	48	1.9 – 79	No	Byproducts of chlorine disinfection
Haloacetic Acids (ppb)	60	26	ND – 43	No	Byproducts of chlorine disinfection
Chlorine Residual (ppm)	(4 / 4)	1.5	0.16 – 2.2	No	Disinfectant added for treatment
Aesthetic Quality					
Color (color units)	15*	1	1	No	Erosion of Natural Deposits
Odor (threshold odor number)	3*	1	1	No	Erosion of Natural Deposits
Turbidity (ntu)	5*	0.12	0.05 – 0.32	No	Erosion of Natural Deposits

Twelve locations in the distribution system are tested quarterly for total trihalomethanes and haloacetic acids; twenty locations are tested monthly for color, odor and turbidity.
MRDL = Maximum Residual Disinfectant Level; MRDLG = Maximum Residual Disinfectant Level Goal; ntu = nephelometric turbidity units;
ND = not detected; *Contaminant is regulated by a secondary standard to maintain aesthetic qualities (taste, odor, color).

Bacterial Quality	MCL	MCLG	Highest Monthly Percent Positives	MCL Violation?	Typical Source of Contaminant
Total Coliform Bacteria	5%	0	2.8%	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

	Action Level (AL)	Health Goal	90th Percentile Value	Sites Exceeding AL / Number of Sites	AL Violation?	Typical Source of Contaminant
Lead (ppb)	15	2	ND<5	0 / 30	No	Corrosion of household plumbing
Copper (ppm)	1.3	0.17	0.21	0 / 30	No	Corrosion of household plumbing

In 2004, 30 residences were tested for lead and copper at-the-tap. Lead was detected in 5 of the samples. Copper was detected in all 30 samples.
None of the samples exceeded the regulatory action level. A regulatory action level is the concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

2006 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 – Tested in 2006						
Alpha Radiation (pCi/L)	15	(0)	3.6	ND – 7.2	No	Erosion of natural deposits
Beta Radiation (pCi/L)	50	(0)	<4	ND – 4.7	No	Decay of man-made or natural deposits
Inorganic Chemicals – Tested in 2006						
Aluminum (ppm)	1 / 0.2*	0.6	<0.05	ND – 0.06	No	Erosion of natural deposits
Fluoride (ppm)	2	1	0.15	0.12 – 0.18	No	Erosion of natural deposits
Nitrate as NO_3 (ppm)	45	45	2.0	ND – 3.0	No	Agriculture runoff and sewage
Nitrate and Nitrite as N (ppm)	10	10	0.45	ND – 0.68	No	Agriculture runoff and sewage
Secondary Standards* – Tested in 2006						
Chloride (ppm)	500*	n/a	66	47 – 97	No	Runoff or leaching from natural deposits
Color (color units)	15*	n/a	2	1 – 2	No	Runoff or leaching from natural deposits
Corrosivity (LSI)	non-corrosive	n/a	0.20	0.07 – 0.29	No	Elemental balance in water
Odor (odor units)	3*	n/a	2	2	No	Naturally-occurring organic materials
Specific Conductance (µmho/cm)	1,600*	n/a	652	536 – 810	No	Substances that form ions in water
Sulfate (ppm)	500*	n/a	132	106 – 159	No	Runoff or leaching from natural deposits
Total Dissolved Solids (ppm)	1,000*	n/a	378	307 – 458	No	Runoff or leaching from natural deposits
Turbidity (NTU)	5*	n/a	0.05	0.04 – 0.06	No	Runoff or leaching from natural deposits
Unregulated Chemicals – Tested in 2006						
Alkalinity (ppm)	Not Regulated	n/a	77	71 – 84	n/a	Runoff or leaching from natural deposits
Boron (ppb)	Not Regulated	n/a	130	ND – 160	n/a	Runoff or leaching from natural deposits
Calcium (ppm)	Not Regulated	n/a	37	31 – 43	n/a	Runoff or leaching from natural deposits
Hardness, total (ppm)	Not Regulated	n/a	161	134 – 185	n/a	Runoff or leaching from natural deposits
Hardness, total (grains/gal)	Not Regulated	n/a	9	8 – 11	n/a	Runoff or leaching from natural deposits
Magnesium (ppm)	Not Regulated	n/a	17	13 – 20	n/a	Runoff or leaching from natural deposits
N-Nitrosodimethylamine (ppt)	Not Regulated	3	<2	ND – 2.3	n/a	By-product of drinking water chlorination
pH (pH units)	Not Regulated	n/a	8.2	8.1 – 8.3	n/a	Hydrogen ion concentration
Potassium (ppm)	Not Regulated	n/a	3.2	2.8 – 3.9	n/a	Runoff or leaching from natural deposits
Sodium (ppm)	Not Regulated	n/a	65	52 – 85	n/a	Runoff or leaching from natural deposits
Total Organic Carbon (ppm)	Not Regulated	TT	2.3	1.9 – 2.7	n/a	Various natural and man-made sources
Vanadium (ppb)	Not Regulated	n/a	<3	ND – 3.5	n/a	Runoff or leaching from natural deposits

ppb = parts-per-billion; ppm = parts-per-million; ppt = parts-per-trillion; pCi/L = picoCuries per liter; ntu = nephelometric turbidity units; µmho/cm = micromhos per centimeter;
ND = not detected; < = average is less than the detection limit for reporting purposes; MCL = Maximum Contaminant Level; (MCLG) = federal MCL Goal;
PHG = California Public Health Goal; n/a = not applicable; LSI = Langelier Saturation Index; *Contaminant is regulated by a secondary standard.

Turbidity – combined filter effluent	Treatment Technique	Turbidity Measurements	TT Violation?	Typical Source of Contaminant
1) Highest single turbidity measurement	1 NTU	0.08	No	Soil run-off
2) Percentage of samples less than 0.3 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.