City of Garden Grove
Water Services Division

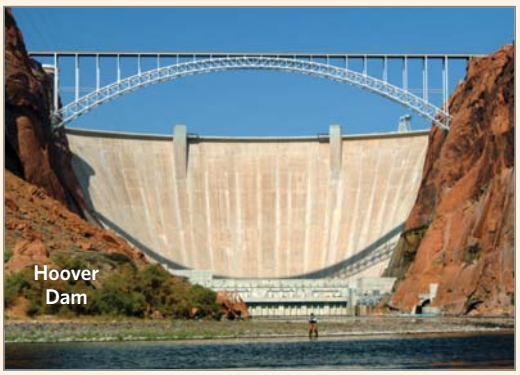
2017 Water Quality Report

DATA FOR 2016

Your 2017 Water Quality Report

Since 1990, California public water utilities have been providing an annual Water Quality Report to their customers. **This year's report covers calendar year 2016 drinking water quality testing and reporting.**

The City of Garden Grove Water Service Division (City) vigilantly safeguards its water supply and, as in years past, the water delivered to your home meets the quality standards required by federal and state regulatory agencies. The U.S. Environmental Protection Agency (USEPA) and the State Water Resources Control Board, Division of Drinking Water (DDW) are the agencies responsible for establishing and enforcing drinking water quality standards.


Hoover Dam

In some cases, the City goes beyond what is required by testing for unregulated chemicals that may have known health risks but do not have drinking water standards. For example, the Orange County Water District (OCWD), which manages the groundwater basin, and the Metropolitan Water District of Southern California (MWDSC), which supplies imported treated surface water to the City test for unregulated chemicals in our water supply. Unregulated chemical monitoring helps USEPA and DDW determine where certain chemicals occur and whether new standards need to be established for those chemicals to protect public health.

Through drinking water quality testing programs carried out by OCWD for groundwater, MWDSC for treated surface water and the City for the water distribution system, your drinking water is constantly monitored from source to tap for regulated and unregulated constituents. 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.

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

Este informe contiene información importante sobre su agua potable. Para mas información o traducción, favor contactar a nuestro representantes de servicio.

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

Questions about your water? Contact us for answers.

For information about this report, or your water quality in general, please contact Cel Pasillas or Cody Nicolae at (714) 741-5395.

Public City Council meetings are held on the second and fourth Tuesdays of each month at 6:45 p.m. in the Council Chambers at the Community Meeting Center, 11300 Stanford Avenue, Garden Grove, California. You may also contact our City Clerk's Office, Garden Grove City Hall, 11222 Acacia Parkway, Garden Grove, CA 92840 or call (714) 741-5040 for information about Garden Grove City Council meetings. 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 USEPA hotline at (800) 426-4791.

State Water Project Aqueduct

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。

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。

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

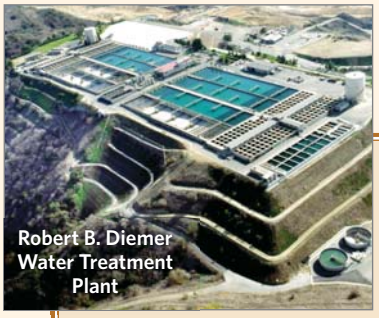
Bản báo cáo có ghi những chi tiết quan trọng về phẩm chất nước trong cộng đồng quý vị. Hãy nhờ người thông dịch, hoặc hỏi một người bạn biết rõ về vấn đề này.

The Quality of Your Water is Our Primary Concern

Sources of Supply

Your drinking water is a blend of mostly groundwater from 13 wells in the Orange County groundwater basin and also surface water imported by MWDSC. MWDSC's imported water sources are a blend of State Water project water from northern California and water from the Colorado River Aqueduct. Your groundwater comes from a natural underground reservoir managed by the Orange County Water District (OCWD) that stretches from the Prado Dam and fans across the northwestern portion of Orange County, excluding the communities of Brea and La Habra, and stretching as far south as the El Toro 'Y.'

Last year, as in years past, your tap water met all USEPA and State drinking water health standards. The City vigilantly safeguards its water supplies and once again we are proud to report that our system has never violated a maximum contaminant level or any other water quality standard. This brochure is a snapshot of last year's water quality. Included are details about where your water comes from, what it contains, and how it compares to Federal and State standards.

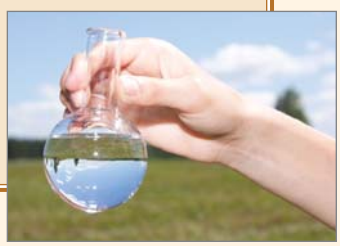


Robert B. Diemer Water Treatment Plant

Your Water: Always Available, Always Assured

The Diemer Water Treatment Plant, located in the hills above Yorba Linda, processes up to 520 million gallons of clean water per day — enough to fill the Rose Bowl every 4 hours. The water is a blend from both the Colorado River Aqueduct and the State Water Project. At 212-acres, it's one of the largest water treatment plants in the U.S. It provides nearly half of Orange County's total water supply.

Water flowing from Diemer meets — or exceeds — all state and federal regulations. And it is kept safe from the treatment plant to your tap by constant testing throughout the distribution network. The City of Garden Grove Water Services Division monitors the water quality at all sources, reservoirs, and various points on the distribution system. In addition, the Orange County Water District performs testing on the City's groundwater wells by analyzing for hundreds of compounds, many more than are required by state and federal laws and regulations. This constant surveillance ensures your drinking water stays within the requirements mandated by the federal Safe Drinking Water Act.



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 stormwater 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 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 gasoline stations, urban stormwater runoff, agricultural application and septic systems.

In order to ensure that tap water is safe to drink, USEPA and the DDW 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 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.

Federal and State Water Quality Regulations

Drinking Water Fluoridation

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.

In December 2007, MWDSC joined 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 DDW, as well as the U.S. Centers for Disease Control and Prevention, MWDSC adjusted the natural fluoride level in imported treated water from the Colorado River and State Project water to the optimal range for dental health of 0.6 to 1.2 parts per million. Our local water is not supplemented with fluoride. Fluoride levels in drinking water are limited under California state regulations at a maximum dosage of 2 parts per million.

About Lead in Tap Water

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. The City is responsible for providing high quality drinking water, but 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 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, (800) 426-4791, or at: www.epa.gov/safewater/lead.

Cryptosporidium

Cryptosporidium is a microscopic organism that, when ingested, can cause diarrhea, fever and other gastrointestinal symptoms. The organism comes from animal and/or human wastes and may be in surface water. MWDSC tested its source water and treated surface water for *Cryptosporidium* in 2016, but did not detect it. If it ever is detected, *Cryptosporidium* is eliminated by an effective treatment combination including sedimentation, filtration and disinfection.

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 10 a.m. and 4 p.m. Eastern Time (7 a.m. to 1 p.m. in California).

Nitrate Advisory

At times, nitrate in your tap water may have exceeded one-half the MCL, but it was never greater than the MCL of 10 milligrams per liter (mg/L). Nitrate in your drinking water in 2016 ranged from 1.3 mg/L to 7.5 mg/L. The following advisory is issued because in 2016 we recorded nitrate measurements in the drinking water supply which exceeded one-half the nitrate MCL.

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, or you are pregnant, you should ask advice from your health care provider.

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 chemo-therapy, 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.

2016 Metropolitan Water District of Southern California Treated Surface Water

Chemical	MCL	PHG, or (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 2016						
Aluminum (ppm)	1	0.6	0.168	0.12 – 0.24	No	Treatment Process Residue, Natural Deposits
Barium (ppm)	1	2	0.138	0.138	No	Refinery Discharge, Erosion of Natural Deposits
Fluoride (ppm) treatment-related	Control Range 0.6 – 1.2 ppm Optimal Level 0.7 ppm		0.7	0.6 – 0.9	No	Water Additive for Dental Health
Secondary Standards* – Tested in 2016						
Aluminum (ppb)	200*	600	168	120 – 240	No	Treatment Process Residue, Natural Deposits
Chloride (ppm)	500*	n/a	103	101 – 103	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	3	3	No	Naturally-occurring Organic Materials
Specific Conductance (µmho/cm)	1,600*	n/a	1,040	1,030 – 1,050	No	Substances that Form Ions in Water
Sulfate (ppm)	500*	n/a	260	257 – 262	No	Runoff or Leaching from Natural Deposits
Total Dissolved Solids (ppm)	1,000*	n/a	654	650 – 658	No	Runoff or Leaching from Natural Deposits
Unregulated Chemicals – Tested in 2013, 2014, and 2016						
Alkalinity, total as $CaCO_3$ (ppm)	Not Regulated	n/a	120	115 – 124	n/a	Runoff or Leaching from Natural Deposits
Boron (ppm)	NL=1	n/a	0.15	0.15	n/a	Runoff or Leaching from Natural Deposits
Calcium (ppm)	Not Regulated	n/a	76	75 – 76	n/a	Runoff or Leaching from Natural Deposits
Chlorate (ppb)	NL=800	n/a	53	38 – 68	n/a	Byproduct of Drinking Water Chlorination; Industrial Processes
Chromium, Hexavalent (ppb)**	10	0.02	0.07	0.03 – 0.12	n/a	Erosion of Natural Deposits; Industrial Discharge
Chromium, Total (ppb)***	50	(100)	<0.2	ND – 0.5	n/a	Erosion of Natural Deposits; Industrial Discharge
Hardness, total as $CaCO_3$ (ppm)	Not Regulated	n/a	296	292 – 300	n/a	Runoff or Leaching from Natural Deposits
Hardness, total (grains/gallon)	Not Regulated	n/a	17	17 – 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
Molybdenum, Total (ppb)	Not Regulated	n/a	4.8	4.5 – 5.3	n/a	Erosion of Natural Deposits
pH (pH units)	Not Regulated	n/a	8.1	8.1	n/a	Hydrogen Ion Concentration
Potassium (ppm)	Not Regulated	n/a	5.1	5 – 5.1	n/a	Runoff or Leaching from Natural Deposits
Sodium (ppm)	Not Regulated	n/a	103	99 – 107	n/a	Runoff or Leaching from Natural Deposits
Strontium, Total (ppb)	Not Regulated	n/a	940	850 – 1,100	n/a	Erosion of Natural Deposits
Total Organic Carbon (ppm)	TT	n/a	2.5	2.1 – 2.6	n/a	Various Natural and Man-made Sources
Vanadium, Total (ppb)	NL=50	n/a	2.8	2.3 – 3	n/a	Erosion of Natural Deposits; Industrial Discharge

ppb = parts-per-billion; **ppm** = parts-per-million; **pCi/L** = picoCuries per liter; **µmho/cm** = micromhos per centimeter; **ND** = not detected;
MCL = Maximum Contaminant Level; **(MCLG)** = federal MCL Goal; **PHG** = California Public Health Goal
NL = Notification Level; **n/a** = not applicable; **TT** = treatment technique *Chemical is regulated by a secondary standard.

**Hexavalent chromium is regulated with an MCL of 10 ppb but was not detected, based on the detection limit for purposes of reporting of 1 ppb. Hexavalent chromium was included as part of the unregulated constituents 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 constituents requiring monitoring.

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	0.07	No	Soil Runoff
2) Percentage of samples less than 0.3 NTU	95%	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. **NTU** = nephelometric turbidity units
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.

Chart Legend

What are Water Quality Standards?

Drinking water standards established by USEPA and DDW set limits for substances that may affect consumer health or aesthetic qualities of drinking water. The charts in this report show the following types of water quality standards:

- **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.
- **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.
- **Secondary MCLs** are set to protect the odor, taste, and appearance of drinking water.
- **Primary Drinking Water Standard:** MCLs for contaminants that affect health along with their monitoring and reporting requirements and water treatment requirements.
- **Regulatory Action Level (AL):** The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements that a water system must follow.

How are Contaminants Measured?

Water is sampled and tested throughout the year. 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)

What is a Water Quality Goal?

In addition to mandatory water quality standards, USEPA and DDW have set voluntary water quality goals for some contaminants. Water quality goals are often set at such low levels that they are not achievable in practice and are not directly measurable. Nevertheless, these goals provide useful guideposts and direction for water management practices. The chart in this report includes three types of water quality goals:

- **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 USEPA.
- **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.
- **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.

2016 City of Garden Grove Groundwater Quality

Chemical	MCL	PHG (MCLG)	Average Amount	Range of Detections	MCL Violation?	Most Recent Sampling Date	Typical Source of Contaminant
Radiologicals							
Gross Alpha (pCi/L)	15	(0)	1.49	ND – 5.77	No	2014	Erosion of Natural Deposits
Uranium (pCi/L)	20	0.43	5.05	2.86 – 7.13	No	2014	Erosion of Natural Deposits
Inorganic Chemicals							
Arsenic (ppb)	10	0.004	<2	ND – 2.6	No	2016	Erosion of Natural Deposits
Barium (ppm)	1	2	<0.1	ND – 0.138	No	2016	Erosion of Natural Deposits
Fluoride (ppm)	2	1	0.45	0.41 – 0.5	No	2016	Erosion of Natural Deposits
Chromium, Hexavalent (ppb)	10	0.02	1.3	ND – 2.1	No	2016	Erosion of Natural Deposits; Industrial Discharge
Nitrate (ppm as N)	10	10	3.5	1.3 – 7.5	No	2016	Fertilizers, Septic Tanks
Nitrate+Nitrite (ppm as N)	10	10	3.5	1.3 – 7.5	No	2016	Fertilizers, Septic Tanks
Secondary Standards*							
Chloride (ppm)	500*	n/a	74.5	31.2 – 117	No	2016	Erosion of Natural Deposits
Color (color units)	15*	n/a	<3	ND – 3	No	2016	Naturally-occurring organic materials
Specific Conductance (µmho/cm)	1,600*	n/a	831	564 – 1,120	No	2016	Erosion of Natural Deposits
Sulfate (ppm)	500*	n/a	121	66.7 – 164	No	2016	Erosion of Natural Deposits
Total Dissolved Solids (ppm)	1,000*	n/a	531	328 – 758	No	2016	Erosion of Natural Deposits
Turbidity (NTU)	5*	n/a	<0.1	ND – 0.2	No	2016	Erosion of Natural Deposits
Unregulated Constituents							
1,1-Dichloroethane (ppb)**	5	3	<0.03	ND – 0.04	n/a	2013	Industrial Waste Discharge
1,4-Dioxane (ppb)	NL=1	n/a	0.54	ND – 1.33	n/a	2013	Industrial Waste Discharge
Alkalinity, total (ppm as $CaCO_3$)	Not Regulated	n/a	188	172 – 222	n/a	2016	Erosion of Natural Deposits
Boron (ppm)	NL = 1	n/a	<0.1	ND – 0.26	n/a	2016	Erosion of Natural Deposits
Calcium (ppm)	Not Regulated	n/a	100	67 – 120	n/a	2016	Erosion of Natural Deposits
Chlorate (ppb)	NL=800	n/a	86	28 – 190	n/a	2013	Byproduct of Drinking Water Chlorination; Industrial Processes
Chlorodifluoromethane (ppb)	Not Regulated	n/a	<0.08	ND – 0.38	n/a	2013	Industrial Waste Discharge
Chromium, Hexavalent (ppb)***	10	0.02	1.43	0.62 – 2.16	No	2013	Erosion of Natural Deposits; Industrial Discharge
Chromium, Total (ppb)****	50	(100)	1.3	0.4 – 1.8	n/a	2013	Erosion of Natural Deposits; Industrial Discharge
Hardness, total (grains/gal)	Not Regulated	n/a	19	13 – 23	n/a	2016	Erosion of Natural Deposits
Hardness, total (ppm as $CaCO_3$)	Not Regulated	n/a	323	214 – 399	n/a	2016	Erosion of Natural Deposits
Magnesium (ppm)	Not Regulated	n/a	17.9	11.3 – 23.8	n/a	2016	Erosion of Natural Deposits
Molybdenum, Total (ppb)	Not Regulated	n/a	4.3	3.2 – 5.6	n/a	2013	Erosion of Natural Deposits
Perfluoro octane sulfonic acid (ppb)	Not Regulated	n/a	<0.04	ND – 0.05	n/a	2013	Industrial Waste Discharge
pH (pH units)	Not Regulated	n/a	7.9	7.7 – 8	n/a	2016	Acidity, hydrogen ions
Potassium (ppm)	Not Regulated	n/a	3.7	2.9 – 5.1	n/a	2016	Erosion of Natural Deposits
Sodium (ppm)	Not Regulated	n/a	51.1	33.7 – 85.3	n/a	2016	Erosion of Natural Deposits
Strontium, Total (ppb)	Not Regulated	n/a	760	460 – 880	n/a	2013	Erosion of Natural Deposits
Vanadium, Total (ppb)	NL=50	n/a	2.6	ND – 4.6	n/a	2016	Erosion of Natural Deposits; Industrial Discharge

ppb = parts-per-billion; **ppm** = parts-per-million; **pCi/L** = picoCuries per liter; **NTU** = nephelometric turbidity units; **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
µmho/cm = micromho per centimeter *Contaminant is regulated by a secondary standard to maintain aesthetic qualities (taste, odor, color).

**1,1-Dichloroethane is regulated with an MCL of 5 ppb but was not detected, based on the detection limit for purposes of reporting of 0.5 ppb.
1,1-Dichloroethane was included as part of the unregulated constituents requiring monitoring.

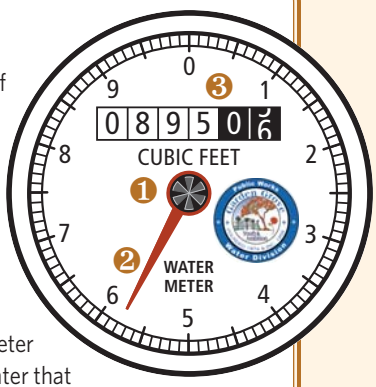
***Hexavalent chromium was included as part of the unregulated constituents requiring monitoring.

****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 constituents requiring monitoring.

How to Read Your Residential Water Meter

Your water meter is usually located between the sidewalk and curb under a cement cover. Remove the cover by inserting a screwdriver in the hole in the lid and then carefully lift the cover. The meter reads straight across, like the odometer on your car. Read only the white numbers (0895).

If you are trying to determine if you have a leak, turn off all the water in your home, both indoor and outdoor faucets, and then check the red or black triangular dial for any movement of the low-flow indicator. If there is movement, that indicates a leak between the meter and your plumbing system.



❶ **Low-Flow Indicator** — The low flow indicator will spin if any water is flowing through the meter.

❷ **Sweep Hand** — Each full revolution of the sweep hand indicates that one cubic foot of water (7.48 gallons) has passed through the meter. The markings at the outer edge of the dial indicate tenths and hundredths of one cubic foot.

❸ **Meter Register** — The meter register is a lot like the odometer on your car. The numbers keep a running total of all the water that has passed through the meter. The register shown here indicates that 89,505 cubic feet of water has passed through this meter.

2016 City of Garden Grove Distribution System Water Quality

Disinfection Byproducts	MCL (MRDL/MRDLG)	Average Amount	Range of Detections	MCL Violation?	Typical Source of Contaminant
Total Trihalomethanes (ppb)	80	13	ND – 32	No	Byproducts of Chlorine Disinfection
Haloacetic Acids (ppb)	60	6	ND – 22	No	Byproducts of Chlorine Disinfection
Chlorine Residual (ppm)	(4 / 4)	0.97	0.21 – 2.6	No	Disinfectant Added for Treatment
Aesthetic Quality					
Turbidity (NTU)	5*	<0.1	ND – 0.93	No	Erosion of Natural Deposits

Eight locations in the distribution system are tested quarterly for total trihalomethanes and haloacetic acids; thirty-three locations are tested each month for color, odor and turbidity.
Color and odor were not detected in 2016. **MRDL** = Maximum Residual Disinfectant Level; **MRDLG** = Maximum Residual Disinfectant Level Goal
*Contaminant is regulated by a secondary standard to maintain aesthetic qualities (taste, odor, color).

Bacterial Quality	MCL	MCLG	Highest Monthly Positive Samples	MCL Violation?	Typical Source of Contaminant
Total Coliform Bacteria	5%	0	1.5%	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	0.2	ND<5	0 / 52	No	Corrosion of Household Plumbing
Copper (ppm)	1.3	0.3	0.25	0 / 52	No	Corrosion of Household Plumbing

Every three years, at least 50 residences are tested for lead and copper at-the-tap. The most recent set of samples was collected in 2016.
Lead was not detected. Copper was detected above the reporting level in 46 samples, but none of the samples exceeded the copper 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.

Unregulated Chemicals Requiring Monitoring in the Distribution System

Chemical	Notification Level	PHG	Average Amount	Range of Detections	Most Recent Sampling Dates
Chlorate (ppb)	800	n/a	100	52 – 140	2013
Chromium, Hexavalent (ppb)	MCL = 10	0.02	1.3	0.15 – 1.5	2013
Chromium, Total (ppb)**	MCL = 50	MCLG = 100	1	ND – 1.3	2013
Molybdenum, Total (ppb)	n/a	n/a	4.5	3.2 – 5.8	2013
Strontium, Total (ppb)	n/a	n/a	710	460 – 870	2013
Vanadium, Total (ppb)	50	n/a	3	1.9 – 3.6	2013

**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 constituents requiring monitoring.

Want Additional Information?

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

City of Garden Grove
Water Services Division:
www.ci.garden-grove.ca.us/pw/water

U.S. Environmental Protection Agency:
www.epa.gov/safewater

State Water Resources Control Board,
Division of Drinking Water:
www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/publicwatersystems.shtml

Metropolitan Water District of So. California:
www.mwdh2o.com

Municipal Water District of Orange County:
www.mwdoc.com

Drought and Water Conservation Tips:
www.BeWaterWise.com
www.SaveOurWater.com

Rebate Information, Water Saving Resources:
www.OCWaterSmart.com

Source Water Assessments

Imported (MWDSC) Water Assessment

Every five years, MWDSC is required by DDW to examine possible sources of drinking water contamination in its State Water Project and Colorado River source waters.

The most recent watershed sanitary surveys for MWDSC's source waters are the Colorado River Watershed Sanitary Survey – 2015 Update, and the State Water Project Watershed Sanitary Survey – 2011 Update.

Water from the Colorado River is considered to be most vulnerable to contamination from recreation, urban/stormwater runoff, increasing urbanization in the watershed, and wastewater. Water supplies from Northern California's State Water Project are most vulnerable to contamination from urban/stormwater runoff, wildlife, agriculture, recreation, and wastewater.

USEPA also requires MWDSC to complete one Source Water Assessment (SWA) that utilizes information collected in the watershed sanitary surveys. MWDSC completed its SWA in December 2002. The SWA is used to evaluate the vulnerability of water sources to contamination and helps determine whether more protective measures are needed.

A copy of the most recent summary of either Watershed Sanitary Survey or the SWA can be obtained by calling MWDSC at (800) CALL-MWD (225-5693).

Groundwater Assessment

An assessment of the drinking water sources for the City was completed in December 2002. The groundwater sources are considered most vulnerable to the following activities associated with contaminants detected in the water supply: known contaminant plumes, historic agricultural activities and application of fertilizers, and parks. The groundwater sources are considered most vulnerable to the following activities not associated with detected contaminants: confirmed leaking underground storage tanks, dry cleaners, gas stations, and photo processing/printing.

A copy of the complete assessment is available at State Water Resources Control Board, Division of Drinking Water, 605 W. Santa Ana Boulevard, Building 28, Room 325, Santa Ana, California 92701. You may request a summary of the assessment by contacting the City at (714) 741-5395.