

Your Water Agency's Sources of Supply

For the Valley Center Municipal Water District, your retail water supplier, the sources of water for our 25,630 customers are the Metropolitan Water District of Southern California (Metropolitan) and the San Diego County Water Authority, through the aqueduct facilities owned and operated by the San Diego County Water Authority.

Metropolitan imports water into Southern California from two sources: a 242-mile-long aqueduct that brings Colorado River water from Lake Havasu and a 444-mile-long aqueduct that carries water from the Sacramento-San Joaquin Delta. Water from these sources travels to the Metropolitan system through pressurized large diameter pipes, open aqueduct canals and open reservoirs. The supply is then treated at the Robert F. Skinner Filtration Plant located in Western Riverside County.

In 2010 and 2011, Metropolitan Water District of Southern California completed its source water sanitary surveys for the Colorado River and the State Water Project. 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. Additional information regarding this topic may be obtained at www.mwdh2o.com.

Additionally, VCMWD also receives treated water from the San Diego County Water Authority's Twin Oaks Valley Treatment Plant, located in San Marcos, CA. Water travels approximately fifteen miles through pressurized large diameter pipes from the Carlsbad Seawater Desalination Plant to the Twin Oaks Valley Treatment Plant where it is blended with water supplied by Metropolitan.

After treatment at the Skinner Filtration Plant and the Twin Oaks Valley Plant, the water flows into five aqueduct pipelines and is delivered to the Valley Center Municipal Water District. Once in the Valley Center system, which includes 341 miles of water mains, 43 reservoirs, and 28 pumping stations; the water supply remains in pressurized pipelines and covered reservoirs, further protecting its quality.

Valley Center Municipal Water District's Water Sources



VALLEY CENTER MUNICIPAL WATER DISTRICT

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VALLEY CENTER MUNICIPAL WATER DISTRICT

2016 WATER QUALITY REPORT



Consumer Confidence Report

Annual Report on Water Quality for 2016

Valley Center Municipal Water District 2016 Water Quality Report

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

Valley Center Municipal Water District is committed to supplying safe water meeting or surpassing all state and federal safety standards and achieves the highest standards of customer satisfaction. *The U.S. Environmental Protection Agency (EPA) and the California State Water Resources Control Board (SWRCB) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems and require the publication and distribution of this report to our customers and the community we serve.*

We are pleased to report that the quality of water delivered by the Valley Center Municipal Water District meets or exceeds all State and Federal standards. *Your tap water is safe to drink.*

This report is a snapshot of the water quality of the Valley Center M.W.D.'s water deliveries in calendar year 2016. Included are details about where the water comes from, what it contains, and how it compares to the SWRCB standards. If you are interested in more information about your water supply or water supplier, please feel free to contact our administrative offices at 760-735-4500, reach us on our website: www.valleycenterwater.org (which includes links to Metropolitan and the San Diego County Water Authority) or attend one of our Board meetings on the 1st and 3rd Mondays of each month, at 2:00 p.m. Meetings are held at the District Offices, 29300 Valley Center Rd., Valley Center, and are open to the public.

For specific questions or information about water quality, please contact our Field Operations Department and ask for Thad Klimas or Greg Hoyle.

Water Quality Information

Generally, the sources of drinking water (both tap and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, wells, and the ocean. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

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 result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- 💧 **Lead**, if present and at elevated levels, 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 Valley Center Municipal Water District 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 or at <http://www.epa.gov/safewater/lead>.
- 💧 **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 that are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- 💧 **Radioactive contaminants**, which can be naturally-occurring or be the result of oil and gas production and mining activities.

Are there any precautions the public should consider?

As previously stated, the water supplied by the Valley Center Municipal Water District meets or exceeds all State and Federal safety standards and is safe to drink. However, all 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. In order to ensure

that tap water is safe to drink, EPA and SWRCB prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. *More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline (1-800-426-4791) or by viewing the USEPA's website at www.epa.gov/safewater.*

SWRCB regulations also establish limits for contaminants in bottled water that must provide the same protection for public health.

Some people may be more vulnerable to contaminants in drinking water than the general population. *Immunocompromised persons* such as persons with *cancer undergoing chemotherapy*, persons who have undergone *organ transplants*, people with *HIV/AIDS* or other *immune system disorders*, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. *EPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).*

What is your water supplier doing to keep the tap water safe?

Under the guidance of the SWRCB, the Valley Center Municipal Water District regularly conducts over 400 tests from 21 strategically positioned sample points to guarantee a *safe level of disinfectant residual* and the *bacteriological safety* of your water supply. We also monitor our supply for the levels of *Trihalomethanes* and *Haloacetic Acids*, which are disinfection byproducts and are suspected to be human carcinogens. Finally, the District administers an active and aggressive **Backflow Prevention Program**, which protects our water supply from the possibility of contamination coming from the customer's side of the meter.

In addition to our water quality efforts, the Metropolitan Water District performs over 300,000 analyses each year to monitor over 115 contaminants and characteristics of its supplies, including tests for water clarity (Turbidity), organic chemicals (pesticides, PCB's), volatile organic compounds, inorganic compounds, disinfection byproducts (DBP's), disinfectant residuals and radionuclides. Metropolitan also monitors for contaminants that are not yet regulated (i.e., assigned a safety limit) to help the EPA and SWRCB determine where certain contaminants occur and whether the contaminants need to be regulated in the future.

PARAMETER (a)	Units	MCL [MRDL]	PHG (MCLG) [MRDLG]	Skinner Treatment Plant Test Results		Twin Oaks Treatment Plant Test Results		Major Sources in Drinking Water
				Range	Average	Range	Average	
PRIMARY STANDARDS – MANDATORY HEALTH RELATED STANDARDS								
CLARITY								
Combined Filter Effluent Turbidity	NTU %	TT = 1 TT(b)	NA	Highest % <0.3	0.09 100%	0.01-0.02 100%	0.01	Soil runoff
CONTAMINANTS MONITORED BUT NOT DETECTED								
VCMWD Total Coliform Bacteria (c) (m)	%	5.0	0	NA	0	NA	0	Naturally present in the environment
VCMWD Fecal Coliform Bacteria and E. Coli (c) (m)	CFU/mL	0	0	NA	0	NA	0	Human and animal fecal waste
Arsenic	ppb	10	0.004	ND	ND	2.4	2.4	Natural deposit erosion, glass and electronics production waste
Nitrate (as N) (i)	ppm	10	10	ND	ND	ND	ND	Runoff and leaching from fertilizer use; sewage; natural deposit erosion
INORGANIC CHEMICALS								
Copper (f) Triennial 2016	ppm	AL = 1.3	0.3	90 th Percentile	0.276	90 th Percentile	0.276	Internal corrosion of household plumbing; natural deposit erosion
Copper Special Sample (n)	ppm	AL = 1.3	0.3	90 th Percentile	0.306	90 th Percentile	0.306	Internal corrosion of household plumbing; natural deposit erosion
Fluoride Treatment-related (l)	ppm	2.0	1	0.6-0.9	0.7	0.5-0.9	0.7	Water additive for dental health
Lead (f) Triennial 2016	ppb	AL = 15	0.2	90 th Percentile	6	90 th Percentile	6	Internal corrosion of household plumbing; natural deposit erosion
Lead Special Sample (n)	ppb	AL = 15	0.2	90 th Percentile	ND	90 th Percentile	ND	Internal corrosion of household plumbing; natural deposit erosion
RADIOLOGICAL								
Uranium	pCi/L	20	0.43	1-2	2	2.7-3.1	2.9	Erosion of natural deposits
DISINFECTION BY-PRODUCTS, DISINFECTANT RESIDUALS, AND DISINFECTION BY-PRODUCTS PRECURSORS								
VCMWD Total Trihalomethanes (e)	ppb	80	NA	9.2-23.2	Highest LRAA 20	9.2-23.2	Highest LRAA 20	By-product of drinking water chlorination
VCMWD Haloacetic Acid (d)	ppb	60	NA	0.0-10.5	Highest LRAA 7	0.0-10.5	Highest LRAA 7	By-product of drinking water chlorination
Total Chlorine Residual (Chloramines)	ppm	[4.0]	[4.0]	1.6-2.1	1.9	1.6-2.1	1.9	Drinking water disinfectant added for treatment
SECONDARY STANDARDS – AESTHETIC STANDARDS								
Chloride	ppm	500	NA	102-104	103	110	110	Runoff/leaching from natural deposits; seawater influence
Color	Units	15	NA	<1-10	1.09	<1-10	1.09	Naturally occurring organic materials
Odor Threshold (h)	TON	3	NA	0-<1	<1	0-<1	<1	Naturally occurring organic materials
Specific Conductance	Us/cm	1600	NA	NA	998	1000	1000	Substances that form ions in water; seawater influence
Sulfate	ppm	500	NA	229-238	234	240	240	Runoff/leaching from natural deposits; industrial waste
Total Dissolved Solids(TDS)	ppm	1000	NA	615-632	624	650	650	Runoff/leaching from natural deposits; seawater influence
Turbidity (b)	NTU	5	NA	0.05-0.38	0.107	0.05-0.38	0.107	Soil runoff
OTHER PARAMETERS								
Alkalinity	ppm	NA	NA	118-125	122	120	120	
Boron	ppb	NL=1000	NA	140	140	130	130	Runoff/leaching from natural deposits; industrial waste
Calcium	ppm	NA	NA	70-74	72	67	67	
Corrosivity (k) (as Aggressive Index)	AI	NA	NA	12.4-12.5	12.5	13	13	Elemental balance in water; affected by temperature, other factors
Corrosivity (g) (as Saturation Index)	SI	NA	NA	0.62-0.66	0.64	0.67	0.67	Elemental balance in water; affected by temperature, other factors
Hardness (CaCO ₃)	ppm	NA	NA	274-294	284	270	270	
Magnesium	ppm	NA	NA	24-25	25	25	25	
Ph	Units	NA	NA	8.1-8.2	8.1	7.4-8.6	8.1	
Potassium	ppm	NA	NA	4.8-4.9	4.9	4.6	4.6	
Sodium	ppm	NA	NA	101-104	102	99	99	
Total Organic Carbon (TOC)	ppm	TT	NA	2.2-2.7	2.5	1.7-2.4	2.1	Various natural and man-made sources
UCMR 3(j) (Unregulated Contaminant Monitoring Rule)								
PARAMETER	Units	MCL	[DLR] MRL	Test Results		Major Sources in Drinking Water		
				Range	Average			
Chlorate	ppb	NL=800	[20]	34-80	52.1	By product of water chlorination		
Chromium	ppb	50	[10]	0.38-0.40	0.39	Industrial waste discharges, natural causes		
Hexavalent Chromium	ppb	10	[1]	0.040-0.071	0.054	Industrial waste discharges, natural causes		
Molybdenum	ppb	NA	1	2.9-4.7	4.0	Mineral salt oxidation		
Strontium	ppb	NA	0.3	600-1100	900	Decay of natural deposits		
Vanadium	ppb	NL=50	[3]	0.20-0.21	0.206	Mineral and fossil fuel deposits		

2016 FOOTNOTES

- (a) Data shown are annual averages and ranges.

(b) As Primary Standards, the turbidity level of the filtered water shall be less than or equal to 0.3 NTU in 95% of the measurements taken each month and shall not exceed 1.0 NTU for more than one hour. Turbidity is a measure of the cloudiness of the water and is an indicator of treatment performance.

(c) Total coliform MCLs: No more than 5.0% of the monthly samples may be total coliform positive. When collecting <40 samples, if two or more are total coliform positive, the MCL is violated. The MCL was not violated.

E. coli MCLs: The occurrence of 2 consecutive total coliform positive samples, one of which contains fecal coliform/E. coli, constitutes an acute violation. Standards and results are based on distribution system monthly sampling averages. Compliance is based on distribution system sampling from all pressure zones. 416 samples were analyzed in The MCL was not violated.

(d) Calculated from the average of quarterly samples. Compliance is based on a running annual
- average of 16 distribution system samples. VCMWD was in compliance with the Stage 2 Disinfection By-Products (D/DBP) Rule.

(e) Calculated from the average quarterly samples. Compliance is based on a running annual average of 16 distribution system samples. VCMWD was in compliance with the Stage 2. Disinfection By-Products (D/DBP) Rule.

(f) Lead and copper are regulated in a Treatment Technique under the Lead and Copper Rule. The lead and copper results for 2016 are from 30 water samples collected from the consumers’ tap throughout the VCMWD distribution system. The federal action level, which triggers water systems into taking treatment steps if exceeded in more than 10% of the tap water samples, is 1.3 ppm for copper and 15 ppb for lead. There were zero samples that exceeded the action level.

(g) Positive SI index = non-corrosive; tendency to precipitate and/or deposit scale on pipes
Negative SI index = corrosive; tendency to dissolve calcium carbonate.

2016 Water Quality Data - Valley Center Municipal Water District

Our water quality information for 2016 is listed in the tables on this page. Contained in the table are the test results for clarity and microbiological safety. Also included are results for 10 inorganic and secondary standards (aesthetic). Finally, the table includes results for 11 “other parameters” for which there are no current state or federal standards.

What do all the abbreviations mean?

A number of abbreviations are contained on the Water Quality tables which are important to your understanding of the data, and those are:

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

Maximum Contaminant Level Goal or MCLG: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency.

Maximum Residual Disinfection Level or MRDL.
Maximum Residual Disinfection Level Goal or MRDLG.

Public Health Goal or 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.

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

Secondary Drinking Water Standards (SDWS): MCLs for contaminants that affect taste, odor, or appearance of the drinking water. Contaminants with SDWS do not affect the health at the MCL levels.

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

2016 ABBREVIATIONS

- A = Absence

AI = Aggressive Index

AL = Action Level: the concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow
- CFU/mL = Colony-forming units per milliliter

DBP = Disinfection Byproducts

DLR = Detection Limits for purposes of Reporting

HPC = Heterotrophic Plate Count

LRAA = Locational Running Annual Average

MCL = Maximum Contaminant Level

MCLG = Maximum Contaminant Level Goal

MRDL = Maximum Residual Disinfectant Level

MRDLG = Maximum Residual Disinfectant Level Goal

MRL = Method Reporting Limit

N = Nitrogen

NA = Not Applicable

ND = Non Detectable

NL = Notification Level

NTU = Nephelometric Turbidity Units is a measure of the suspended material in water
- P = Presence

pCi/L = Pico Curies per liter (a measure of radiation)

PHG = Public Health Goal

ppb = Parts per Billion

ppm = Parts per Million

ppt = Parts per Trillion

SI = Saturation Index

TOC = Total Organic Carbon

TON = Threshold Odor Number

TT = Treatment Technique: a required process intended to reduce the level of a contaminant in drinking water

µS/cm = Micromhos per centimeter

Important!
2016 Water Quality Report

If appropriate, please post this report so that others may review its contents. Additional copies may be obtained by contacting the District at (760) 735-4500.

- (h) Results are from VCMWD's laboratory's flavor-profile analysis that detects odor occurrences more accurately.

(i) State MCL is 45 ppm as nitrate, which equals 10 ppm as (N).

(j) In 2014, the USEPA required VCMWD to test for a specific list of compounds. VCMWD is required to report the results on this CCR in order to comply with State of California reporting requirements.

(k) AI <10.0 = highly aggressive and very corrosive water
AI >12.0 = non-aggressive water
AI (10.0 – 11.9) = moderately non-aggressive water

(l) Metropolitan Water District was in compliance with all provisions of the State's Fluoridation System Requirements. For additional information, visit the Health Department's fluoridation website: www.cdc.gov/fluoridation/index.html

(m) There is no range or average for total coliform sample results. VCMWD had no coliform present samples in 2016. Samples are collected every Monday, and the number collected per month is either 32 or 40.

(n) In April 2016, the San Diego Division of Drinking Water required VCMWD to perform additional lead and copper testing due to the introduction of water being delivered from the Carlsbad Desalination Plant to the Twin Oaks Valley Treatment Plant and then finally to VCMWD. The federal action level, which triggers water systems into taking treatment steps if exceeded in more than 10% of the tap water samples, is 1.3 for copper and 15 ppb for lead. There were zero samples that exceeded the action level.