engineering changes to immediately identify and correct improper valve conditions that led to the April 21-22 incident. SDCWA has prepared new procedures for ensuring that the continuous disinfection treatment facility is operating as designed and as required. Inadequately treated water may contain disease causing organisms. These organisms include bacteria, viruses and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.

Your Water Agency's Sources of Supply

For VCMWD, your retail water supplier, the sources of water for our 25,960 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 both Metropolitan and the San Diego County Water Authority.

Metropolitan imports water into Southern California from two sources: a 242-mile-long Colorado River Aqueduct which brings water from the Colorado River, and the 444-mile-long State Water Project California Aqueduct that carries water from the Sacramento-San Joaquin Delta to southern California. Once in the Metropolitan system, the supply is then treated at the Robert F. Skinner Filtration Plant (RFSFP) located in Western Riverside County, one of Metropolitan's seven regional filtration plants.

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. 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 Filtration Plant (TOVFP), located in San Marcos, CA. The TOVTP is fed by two sources, a variable blend of Colorado River/State Water Project water and Desalinated Sea Water from the Carlsbad "Bud Lewis" Seawater Desalination Plant located by the Encina Power Plant, 15 miles west of the TOVTP.

After treatment at the RFSFP and the TOVFP, the water flows through 7 aqueduct connections off of the 1st and 2nd SDCWA Aqueducts and the SDCWA 2A Pipeline into the VCMWD water system. Once in the VCMWD system, water is delivered through 340 miles of pressurized water mains, 141 million gallons of covered storage in 41 reservoirs, and 27 pumping stations, further protecting its quality.

Valley Center Municipal Water District's Water Sources

VALLEY CENTER MUNICIPAL WATER DISTRICT
29300 Valley Center Road
P. O. Box 67
Valley Center, CA 92082
(760) 735-4500
Fax (760) 749-6478
email: vcwater@vcmwd.org
web: www.valleycenterwater.org

Valley Center Municipal Water District

2019 Water Quality Report

Consumer Confidence Report

Annual Report on Water Quality for 2019

Valley Center Municipal Water District 2019 Water Quality Report

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

Valley Center Municipal Water District (VCMWD) is committed to supplying safe water that meets or surpasses state and federal safety standards and achieves the highest standards of customer satisfaction. ***The U.S. Environmental Protection Agency (EPA) and the California State Division of Drinking Water (DDW) 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 VCMWD's water deliveries in calendar year 2019. Included are details about where the water comes from, what it contains, and how it compares to the DDW 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 (760-735-4512).

Water Quality Information

Generally, the sources of drinking water (both tap and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, seawater desalination and wells. 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 storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- ***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 that are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water 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 VCMWD 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 DDW 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.***

DDW 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).***

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 VCMWD 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.

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

Under the guidance of the DDW, the VCMWD 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 DDW determine where certain contaminants occur and whether the contaminants need to be regulated in the future.

Treatment Plant Process Event April 21-22, 2019

The San Diego County Water Authority (SDCWA) experienced a treatment process failure event at its regional Twin Oaks Treatment Plant. Water in the treatment plant was not in contact with the proper dosage of ozone disinfectant for the required amount of time. On April 21-22, 2019, a segment of the disinfection treatment facility did not provide the intended disinfection of pathogens. Upon being notified of the malfunction, a review of the overall pathogen removal at the treatment plant was performed. It was determined, however, though unable to be confirmed, that the required reduction of pathogens was most likely achieved during this two day period. Further, it was deemed by state health officials that the quality of the water delivered to Valley Center MWD by the SDCWA was not compromised and was safe to drink. This was confirmed by the District's own weekly sampling results which were negative for coliform bacteria during and after the malfunction event. The SDCWA implemented policy and

PARAMETER (a)	Units	MCL [MRDL]	PHG (MCLG) [MRDLG]	Skinner Treatment Plant Test Results		Twin Oaks Treatment Plant Test Results		Carlsbad Desalination Plant Test Results		Major Sources in Drinking Water
				Range	Average	Range	Average	Range	Average	
PRIMARY STANDARDS – MANDATORY HEALTH RELATED STANDARDS										
CLARITY										
Combined Filter Effluent Turbidity	NTU %	TT = 1 TT(b)	NA	Highest %<0.3	0.07 100%	0.01-0.02 % <0.1	0.015 100%	Highest % <0.1	0.06 100%	Soil runoff
INORGANIC CHEMICALS										
Arsenic	ppb	10	0.004	ND	ND	NA	3	ND	ND	Natural deposits erosion, glass and electronics production wastes.
Nitrate (as N) (i)	ppm	10	10	ND	ND	0.2-0.4	0.3	ND	ND	Runoff and leaching from fertilizer use; sewage; natural deposit erosion
Fluoride Treatment-related (l)	ppm	2.0	1	0.3-0.8	0.7	0.5-0.7	0.7	0.6-0.803	0.703	Water additive for dental health
RADIOLOGICAL										
Uranium	pCi/L	20	0.43	ND-3	ND	NA	1.1	ND	ND	Erosion of natural deposits
DISINFECTION BY-PRODUCTS, DISINFECTANT RESIDUALS, AND DISINFECTION BY-PRODUCTS PRECURSERS										
VCMWD Total Trihalomethanes (e)	ppb	80	NA	VCMWD Distribution System						By-product of drinking water chlorination
				Range		Highest LRAA				
				13.8-29.0		20				
VCMWD Haloacetic Acid (d)	ppb	60	NA	VCMWD Distribution System						By-product of drinking water chlorination
				Range		Highest LRAA				
				0.0-9.8		8				
VCMWD Total Chlorine Residual (Chloramines)	ppm	[4.0]	[4.0]	VCMWD Distribution System						Drinking water disinfectant added for treatment
				Range		Average				
				1.3-2.0		1.8				
CONTAMINANTS MONITORED BUT NOT DETECTED										
VCMWD Total Coliform Bacteria (c) (m)	%	5.0	0	VCMWD Distribution System						Naturally present in the environment
				Range		Average				
				ND		ND				
VCMWD Fecal Coliform Bacteria and E. Coli (c) (m)	CFU /mL	0	0	VCMWD Distribution System						Human and animal fecal waste
				Range		Average				
				ND		ND				
INORGANIC CHEMICALS										
VCMWD Copper (f) Triennial 2019	ppm	AL = 1.3	0.3	VCMWD Distribution System						Internal corrosion of household plumbing; natural deposit erosion
				Range		Average				
				90th Percentile		0.318				
VCMWD Lead (f) Triennial 2019	ppb	AL = 15	0.2	VCMWD Distribution System						Internal corrosion of household plumbing; natural deposit erosion
				Range		Average				
				90th Percentile		ND				
SECONDARY STANDARDS – AESTHETIC STANDARDS				Range	Average	Range	Average	Range	Average	
Chloride	ppm	500	NA	68-78	73	NA	75	65.7-94.0	79.1	Runoff/leaching from natural deposits; seawater influence
Specific Conductance	µs/cm	1600	NA	576-644	610	NA	600	345.1-495.9	408.3	Substances that form ions in water; seawater influence
Sulfate	ppm	500	NA	90-108	99	NA	89	10.0-19.3	12.2	Runoff/leaching from natural deposits; industrial waste
Total Dissolved Solids(TDS)	ppm	1000	NA	330-379	354	NA	340	147-282	212	Runoff/leaching from natural deposits; seawater influence
OTHER PARAMETERS										
Alkalinity (as $CaCO_3$)	ppm	NA	NA	84-87	86	NA	86	37-75	62	
Boron	ppb [ppm]	NL= 1000	NA	NA	120	NA	120	[0.460 - 0.733]	[0.596]	Runoff/leaching from natural deposits; industrial waste
Calcium	ppm	NA	NA	33-39	36	NA	34	15.60-24.88	19.29	
Corrosivity (k) (as Aggressive Index)	AI	NA	NA	12.0	12.0	NA	12	11.55-12.90	12.02	Elemental balance in water; affected by temperature, other factors
Corrosivity (g) (as Saturation Index)	SI	NA	NA	0.20-0.28	0.24	NA	0.11	-0.05-0.51	0.27	Elemental balance in water; affected by temperature, other factors
Hardness ($CaCO_3$)	ppm	NA	NA	139-164	152	NA	140	39.0-62.2	48.2	Runoff/leaching from natural deposits; sum of polyvalent cations, generally magnesium & calcium present in water
Magnesium	ppm	NA	NA	14-16	15	NA	14	0.605-1.250	0.833	Runoff/leaching from natural deposits
Ph	Units	NA	NA	8.1-8.2	8.1	7.6-8.5	8.2	6.00-8.68	8.48	
Potassium	ppm	NA	NA	3.3-3.6	3.4	NA	3.2	1.86-3.57	2.43	Salt present in the water, naturally occurring
Sodium	ppm	NA	NA	62-69	66	NA	64	47.8-77.8	61.8	Various natural and man-made sources
Total Organic Carbon (TOC)	ppm	TT	NA	2.0-2.7	2.4	1.9-2.5	2.2	NA	NA	Various natural and man-made sources
VCMWD Color	Units	15	NA	VCMWD Distribution System						Naturally occurring organic materials
				Range		Average				
				<1-5		0.135				
VCMWD Odor Threshold (h)	TON	3	NA	VCMWD Distribution System						Naturally occurring organic materials
				Range		Average				
				0-<1		<1				
VCMWD Turbidity (b)	NTU	5	NA	VCMWD Distribution System						Soil runoff
				Range		Average				
				<0.10-0.50		0.09				

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

2019 FOOTNOTES

(a) DData 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 2019.
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 2019 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.

(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: https://www.water-boards.ca.gov/drinking_water/certlic/drinkingwater/Fluoridation.html

(m) VCMWD had zero total coliform present samples in 2019. As a result, the MCL was not violated. Samples are collected every Monday, and the number collected per month is either 32 or 40.

(n) Constituent categories identified as VCMWD indicate that water quality testing was conducted by VCMWD. Other constituent sampling was conducted by the District's wholesale suppliers, the MWD and the SDCWA.

2019 Water Quality Data - Valley Center Municipal Water District

Our water quality information for 2019 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.

2019 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!
2019 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.