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%	0.013-0.081 % <0.1	0.019 100%	Highest % <0.1	0.08 100%	Soil runoff
INORGANIC CHEMICALS										
Arsenic	ppb	10	0.004	ND	ND	2.1	2.1	ND	ND	Natural deposits erosion, glass and electronics production wastes
Nitrate (as N) (i)	ppm	10	10	ND	ND	ND-.04	ND	ND	ND	Runoff and leaching from fertilizer use; sewage; natural deposit erosion
Fluoride Treatment-related (l)	ppm	2.0	1	0.6-0.8	0.7	0.6 - 0.63	0.6	0.6 - 0.799	0.696	Water additive for dental health
RADIOLOGICAL										
Uranium	pCi/L	20	0.43	ND-3	2	ND	ND	ND	ND	Erosion of natural deposits
DISINFECTION BY-PRODUCTS, DISINFECTANT RESIDUALS, AND DISINFECTION BY-PRODUCTS PRECURSORS										
VCMWD Total Trihalomethanes (e)	ppb	80	NA	VCMWD Distribution System						By-product of drinking water chlorination
				Range		Highest LRAA				
				5.5-62.0		39				
VCMWD Haloacetic Acid (d)	ppb	60	NA	VCMWD Distribution System						By-product of drinking water chlorination
				Range		Highest LRAA				
				0.0-26.0		12				
VCMWD Total Chlorine Residual (Chloramines)	ppm	[4.0]	[4.0]	VCMWD Distribution System						Drinking water disinfectant added for treatment
				Range		Average				
				1.4-2.4		1.78				
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 2022	ppm	AL = 1.3	0.3	VCMWD Distribution System						Internal corrosion of household plumbing; natural deposit erosion
				90th Percentile		0.255				
VCMWD Lead (f) Triennial 2022	ppb	AL = 15	0.2	VCMWD Distribution System						Internal corrosion of household plumbing; natural deposit erosion
				90th Percentile		4.0				
SECONDARY STANDARDS – AESTHETIC STANDARDS				Range	Average	Range	Average	Range	Average	
Chloride	ppm	500	NA	72-110	91	100	100	35-98	75	Runoff/leaching from natural deposits; seawater influence
Specific Conductance	µs/cm	1600	NA	664-1040	852	NA	NA	225.5-506.4	405.4	Substances that form ions in water; seawater influence
Sulfate	ppm	500	NA	113-236	174	122-210	166	13.0-15.0	13.5	Runoff/leaching from natural deposits; industrial waste
Total Dissolved Solids(TDS)	ppm	1000	NA	401-670	536	570	570	122-318	216	Runoff/leaching from natural deposits; seawater influence
OTHER PARAMETERS										
Alkalinity (as $CaCO_3$)	ppm	NA	NA	92-125	108	NA	NA	46-87	63	
Boron	ppb [ppm]	NL= 1000	NA	130	130	140	140	0.39-0.90	0.62	Runoff/leaching from natural deposits; industrial waste
Calcium	ppm	NA	NA	39-72	56	61	61	17.48-55.2	22.55	
Corrosivity (k) (as Aggressive Index)	AI	NA	NA	12.50	12.5	NA	NA	10.3-11.2	10.58	Elemental balance in water; affected by temperature, other factors
Corrosivity (g) (as Saturation Index)	SI	NA	NA	0.62-0.75	0.68	NA	NA	0.04-0.62	0.28	Elemental balance in water; affected by temperature, other factors
Hardness ($CaCO_3$)	ppm	NA	NA	165-291	228	NA	NA	43.7-79.6	56.12	Runoff/leaching from natural deposits; sum of polyvalent cations, generally magnesium & calcium present in water
Magnesium	ppm	NA	NA	15-27	21	24	24	0.9-1.1	1.1	Runoff/leaching from natural deposits
Ph	Units	NA	NA	8.2 - 8.5	8.4	7.8-8.7	8.3	8.34-8.71	8.53	
Potassium	ppm	NA	NA	3.6 - 4.8	4.2	4.8	4.8	NA	NA	Salt present in the water, naturally occurring
Sodium	ppm	NA	NA	69-103	86	99	99	40.1-61	55.35	Various natural and man-made sources
Total Organic Carbon (TOC)	ppm	TT	NA	2.3-3.0	2.6	2.0-2.5	2.2	NA	NA	Various natural and man-made sources
VCMWD Color	Units	15	NA	VCMWD Distribution System						Naturally occurring organic materials
				Range		Average				
				ND - 10		0.096				
VCMWD Odor Threshold (h)	TON	3	NA	VCMWD Distribution System						Naturally occurring organic materials
				Range		Average				
				ND		ND				
VCMWD Turbidity (b)	NTU	5	NA	VCMWD Distribution System						Soil runoff
				Range		Average				
				ND - 0.99		0.054				

UCMR 5(j) (Unregulated Contaminant Monitoring Rule)

PARAMETER	Units	MCL	[DLR] MRL	Test Results	
				Range	Average
Lithium	ug/l	NA	9	23	23

2023 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 2023. 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 2022 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 2023, 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.waterboards.ca.gov/drinking_water/certlic/drinkingwater/Fluoridation.html

(m) VCMWD had no total coliform present samples in 2023. 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.

2023 Water Quality Data - Valley Center Municipal Water District

Our water quality information for 2023 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 4 "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.

2023 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