

# 2014 Annual Water Quality Report

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Public Works Department



## WATER QUALITY DATA

The attached table lists the drinking water contaminants that were detected in City drinking water during 2014. The presence of any of these contaminants in the water does not necessarily constitute a health risk. As you can determine from the results, the quality of the water delivered by the City consistently meets all State Standards. The data presented in this table is from testing performed between January 1 and December 31, 2014, unless otherwise noted. State of California Standards are either equal to, or more stringent than federal EPA water quality standards.

Therefore, federal MCLs are not listed. Applicable Abbreviations, Definitions and Notes are identified at the conclusion of the Table.

## ABBREVIATIONS AND NOTES

**NS** = No Standard | **N/A** = Not Applicable

**ND** = None Detected. Detection limits for the purposes of reporting (DLRs) available on request

**NL** = Notification Level | **DBP** = Disinfection By-Product

**RAA** = Running Annual Average | **LRAA** = Locational Running Annual Average | **TON** = Threshold Odor Number

**µS/cm** = micro Siemen per Centimeter (to measure conductivity)

- [a]** 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 at any time. Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. Monthly turbidity values are listed in the Secondary Standards section.
- [b]** Total coliform MCLs: no more than 5.0% of the monthly samples may be total coliform positive. Fecal coliform/E. coli MCLs: the occurrence of 2 consecutive total coliform positive samples, one of which contains fecal coliform/E. coli, constitutes an acute MCL violation. These MCLs were not violated in 2014. Results are based on the distribution system's highest monthly percent positives. Over 780 samples were analyzed in 2014.
- [c]** MWD initiated a Fluoride Optimization Program in 11/07. See text for further detail.
- [d]** Results are for 2014, part of a 4-quarter radiological monitoring program. Water utilities are required to make these surveys every three years. The gross beta particle activity MCL is 4mili/rem year annual dose. The screening level is 50pCi/L.
- [e]** Compliance for treatment plants that use ozone is based on a running annual average of monthly samples, which was in compliance in 2014.
- [f]** Compliance was based on the LRAA of data collected at distribution system-wide monitoring locations. The range of all samples collected is included.
- [g]** AI measures the aggressiveness of water transported through pipes. AI <10 is highly corrosive to the water system. AI at 12 or above indicates non-aggressive water.

## SWRCB/ABBREVIATIONS AND DEFINITIONS

**AI** Aggressiveness Index

**AL** Federal Regulatory Action Level = The level of contaminant which when exceeded, triggers treatment or other requirements that a water system must follow.

**MCL** Maximum Contaminant Level = The highest level of 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.

**MCLG** Maximum Contaminant Level Goal = The level of contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the US Environmental Protection Agency (EPA).

**MRDL** Maximum Residual Disinfectant Level. The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of disinfectant is necessary for control of microbial contaminants.

**MRDLG** Maximum Residual Disinfectant Level Goal. The level of 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.

**NTU** Nephelometric Turbidity Units

**PHG** Public Health Goal = The level of contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency (Cal-EPA).

**pCi/L** Picocuries per liter (units to measure radiation)

**ppm** parts per million, or milligrams per liter (mg/L)

**ppb** parts per billion, or micrograms per liter (µg/L)

**ppt** parts per trillion, or nanograms per liter (ng/L)

**TT** Standards are Treatment Techniques with which Metropolitan and Calleguas are in compliance.

## PRIMARY STANDARDS - MANDATORY HEALTH-RELATED STANDARDS

Parameter	Units	State MCL	PHG (MCLG)	WATER SUPPLY			Potential Major Sources if Detected in Drinking Water
				Low	High	Average	
<b>CLARITY [a]</b> Combined Filter Effluent Turbidity	NTU	0.3		0.03	0.06	0.05	Soil runoff
				TT = % of samples ≤0.3NTU [a]			100%
<b>MICROBIOLOGICAL [b]</b>	Standards for Cryptosporidium, Giardia lamblia, Legionella, viruses and Heterotrophic Plate Count Bacteria are Treatment Techniques (TT) with which Metropolitan and Calleguas comply. There were no detections of Total Coliform or E. coli bacteria in the distribution system in 2014.						
<b>ORGANIC CHEMICALS</b>							
Pesticides/PCBs	27 chemicals were analyzed – none were detected						
Semi-Volatile Organic Compounds	8 chemicals were analyzed – none were detected						
Volatile Organic Compounds	27 chemicals were analyzed (including MTBE, PCE and TCE) – none were detected						
<b>INORGANIC CHEMICALS</b>							
Aluminum	ppb	1000	600	ND	230	64	Erosion of natural deposits; residue from water treatment process
Arsenic	ppb	10	0.004	ND	2.2	ND	Erosion of natural deposits; runoff from orchards, electronics production waste
Barium	ppm	1	2	ND	0.1	ND	Erosion of natural deposits; discharge from oil and metal refineries
Copper (2013) (at the customer tap)	ppm	AL=1.3	0.3	90th percentile of 42 examples was 0.170, No samples exceeded the AL			Erosion of natural deposits; internal corrosion of household pipes
Fluoride [c] (treatment related)	ppm	2.0	1	0.7	1.0	0.8 (RAA)	Erosion of natural deposits; water additive that promotes strong teeth
Lead (2013) (at the customer tap)	ppb	AL=15	0.2	90th percentile of 42 examples was 1.70, No samples exceeded the AL			Internal corrosion of household pipes; erosion of natural deposits
Nitrate (as NO3)	ppm	45	45	ND	2.7	ND	Runoff & leaching from fertilizer use; sewage; erosion of natural deposits
	16 other metals and chemicals were analyzed (including Asbestos, Chromium, Perchlorate, Mercury and Cyanide) – none were detected. Copper and Lead were not detected in the water supply.						
<b>RADIONUCLIDES [d]</b>	[analyzed every three years, for four consecutive quarters]						
Gross Alpha Particle Activity	pCi/L	15	(0)	ND	5	ND	Erosion of natural deposits
Gross Beta Particle Activity [d]	pCi/L	50	(0)	ND	6	ND	Decay of natural and manmade deposits
Uranium	pCi/L	20	0.43	2	3	1.7	Erosion of natural deposits
	3 other radionuclides were analyzed – none were detected						

## DISINFECTANT RESIDUALS / DISINFECTION BY-PRODUCTS - Federal Rule

Bromate [e]	ppb	10	0.1	ND	13.0	3.9 (RAA)	By-product of drinking water ozonation
Chloramines	ppm	MRDL 4	MRDLG 4	0.06	2.6	1.74	Drinking water disinfectant added for treatment
Haloacetic Acids (HAA5) [f]	ppb	60	N/A	0	8	4.7 (LRAA)	By-product of drinking water disinfection
Total Trihalomethanes (TTHM's) [f]	ppb	80	N/A	20.5	32.2	24.95 (LRAA)	By-product of drinking water disinfection

## SECONDARY STANDARDS - AESTHETIC STANDARDS

Aluminum	ppb	200	N/A	ND	230	64	Erosion of natural deposits; residue from water treatment process
Chloride	ppm	500	N/A	85	97	89	Runoff/leaching from natural deposits; seawater influence
Color	Units	15	N/A	ND	1	0.7	Naturally occurring organic materials
Odor Threshold	TON	3	N/A	ND	3	1.7	Naturally occurring organic materials
Specific Conductance	µS/cm	1600	N/A	588	1010	744	Substances that form ions when in water; seawater influence
Sulfate	ppm	500	N/A	60	238	121	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids	ppm	1000	N/A	325	641	438	Runoff/leaching from natural deposits; seawater influence
Turbidity (Monthly)	NTU	5	N/A	ND	0.1	ND	Soil runoff
	8 other metals and constituents were analyzed - none were detected						

## ADDITIONAL PARAMETERS (UNREGULATED)

Alkalinity	ppm	NS	NS	84	128	106	
Boron	ppm	NL=1	NS	0.11	0.20	0.16	
Calcium	ppm	NS	NS	26	74	46	
Chlorate	ppb	NL=800	NS	ND	102	46	
Corrosivity [g]	AI	NS	NS	11.7	12.5	12.2	
Hardness (Total Hardness)	ppm	NS	NS	114	294	184	184 ppm = 10.73 grains per gallon (gpg)
Magnesium	ppm	NS	NS	12	26	17	
N-Nitrosodimethylamine (NDMA)	ppt	NL=10	NS	ND	2.2	ND	
pH	pH units	NS	NS	7.8	8.4	8.2	
Potassium	ppm	NS	NS	3	5	4	
Sodium	ppm	NS	NS	67	96	78	
Total Organic Carbon	ppm	TT	NS	1.3	2.7	2.2	
Vanadium	ppb	NL=50	NS	ND	4.8	ND	
	5 other metals and constituents were analyzed (including Radon) – none were detected						