

Your 2013 Water Quality

Consumer Confidence Report | ISSUED JULY 2014 | www.emwd.org



Why You Should Read This Report

This year's drinking water quality report...

- Examines how EMWD ensures your drinking water is safe, high quality, and reliable
- Provides science-based data and facts about the sources, quality, and safety of your drinking water
- Explains how customers can always choose how they wish to receive future water quality reports

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Eastern Municipal Water District (EMWD) wants you, our valued customer, to be confident the drinking water EMWD serves is safe. This annual water quality report provides important information about the source(s) of your water and the tests used to ensure your tap water is safe and healthy to drink.

Our Continuing Commitment to You

EMWD and its trained, certified water quality professionals are committed to...

- Providing high quality, safe drinking water at the lowest price possible
- Monitoring and testing the water we serve to optimize quality and ensure it is always safe to drink
- Finding and developing new water supply sources to ensure continued reliability for our customers
- Providing educated staff to answer any questions from our customers



Our Mission: To deliver value to our customers and the communities we serve by providing safe, reliable, economical and environmentally sustainable water, wastewater and recycled water services.

Our Vision: To provide essential services to our community at a level that exceeds the performance of any other public or private agency.

This report contains important information about the quality of your water. If you would like to obtain this information in Spanish, visit us at www.emwd.org and select "Español" or call (951) 928-3777 ext. 4221 for a Spanish copy by mail.

Este informe contiene información importante con sobre la calidad de su agua. Si usted desea obtener información en español, visitenos en www.emwd.org y seleccione "Español" o llame (951) 928-3777, ext. 4221 para solicitar una copia por correo.



Dear EMWD Customer,

It is my pleasure to present Eastern Municipal Water District's (EMWD) annual water quality report. I am gratified to report that throughout 2013 EMWD provided consistently high quality drinking water, and met or surpassed all drinking water quality standards established by the U.S. Environmental Protection Agency (EPA) and regulated by the California Department of Public Health (CDPH).

EMWD achieves such high quality tap water by managing our water sources, using state-of-the-art water treatment processes, prudently maintaining and operating our facilities, and conducting rigorous monitoring and testing of the water we serve. Protecting public health with high quality water supply is our highest priority.

Throughout the year, water samples are collected from EMWD's 32 drinking water sources to carefully test for more than 160 contaminants and impurities. In 2013, EMWD laboratory personnel collected nearly 7,000 water samples and performed more than 48,000 tests to monitor and ensure quality.

While groundwater or surface waters can have trace measurable contaminants, EMWD protects customers' health and safety by treating or otherwise ensuring water meets or surpasses all regulated drinking water standards before distribution. EMWD supports science-based standards that provide health benefits to the public in an economically balanced manner.

The CDPH requires that EMWD customers receive a copy of this report which summarizes the results of water quality tests and provides, among other important information, specific details about sources and quality of the water served in your community. The guidelines for distributing this report were recently amended to allow water agencies to provide electronic delivery.

As a result of these changes, EMWD notified all water customers in July 2013 that future water quality reports would be delivered electronically, unless a customer specifically requested a paper copy. By delivering these reports electronically, we not only offer you a more contemporary method of reading the report, but we also reduce costs and eliminate unwanted paper waste associated with printing and mailing the report to those of our nearly 140,000 customers that don't want to receive a paper copy. However, EMWD will gladly furnish customers with a paper copy of this report upon request through our web site at www.emwd.org/ccr or by calling us at (951) 928-3777, extension 4237.

I strongly encourage you to read this report and if you have any questions, please feel free to contact Amy Mora, Senior Environmental Analyst, at (951) 928-3777, extension 6337.

Thank you for being a customer of EMWD – we're here to serve you.



Paul D. Jones II, P.E.

GENERAL MANAGER

EASTERN MUNICIPAL WATER DISTRICT

This report contains important and useful information about the sources, quality, and safety of your drinking water and describes how EMWD meets all drinking water standards as set by the Environmental Protection Agency (EPA) and enforced by the California Department of Public Health (CDPH).

About Regulations

In order to ensure that tap water is safe to drink, the EPA and the CDPH prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. CDPH regulations also establish limits for contaminants in bottled water that provide the same protection for public health.

CONTAMINANTS THAT MAY BE PRESENT IN SOURCE WATER INCLUDE:

- **Microbial contaminants**, such as viruses and bacteria, may come from sewage treatment plants, septic systems, agricultural livestock, and wildlife.
- **Inorganic contaminants**, such as salts and metals, can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.
- **Organic chemical contaminants**, including synthetic and volatile organic chemicals may be by-products of industrial processes or petroleum production, and can also come from gas stations, urban storm water runoff, agricultural application, and septic systems.
- **Pesticides and herbicides** may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- **Radioactive contaminants** can be naturally-occurring or be the result of oil and gas production and mining activities.

ABOUT NITRATE

Nitrate in drinking water at levels above 45 ppm 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 an infant's blood to carry oxygen, resulting in a serious illness; symptoms include shortness of breath and blueness of the skin.

Nitrate levels above 45 ppm 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.

ARSENIC

While your drinking water meets the federal and state standard for arsenic, some of our sources do contain low levels of arsenic. The arsenic standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. The EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.



SENSITIVE POPULATIONS

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised individuals such as those 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 their drinking water from their health care providers. EPA and 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 at 1(800) 426-4791.



UNREGULATED CONTAMINANTS

Unregulated contaminant monitoring helps EPA and CDPH determine where certain contaminants occur and whether the contaminants need to be regulated.

LEAD AND COPPER

Lead and copper are rarely found in source waters; however both of these metals can enter drinking water by leaching from household plumbing and fixtures. Water that sits in your pipes for long periods of time may dissolve tiny amounts of lead and/or copper (parts per billion levels) into household water. The EPA has developed a rule to minimize the levels of these metals in drinking water.

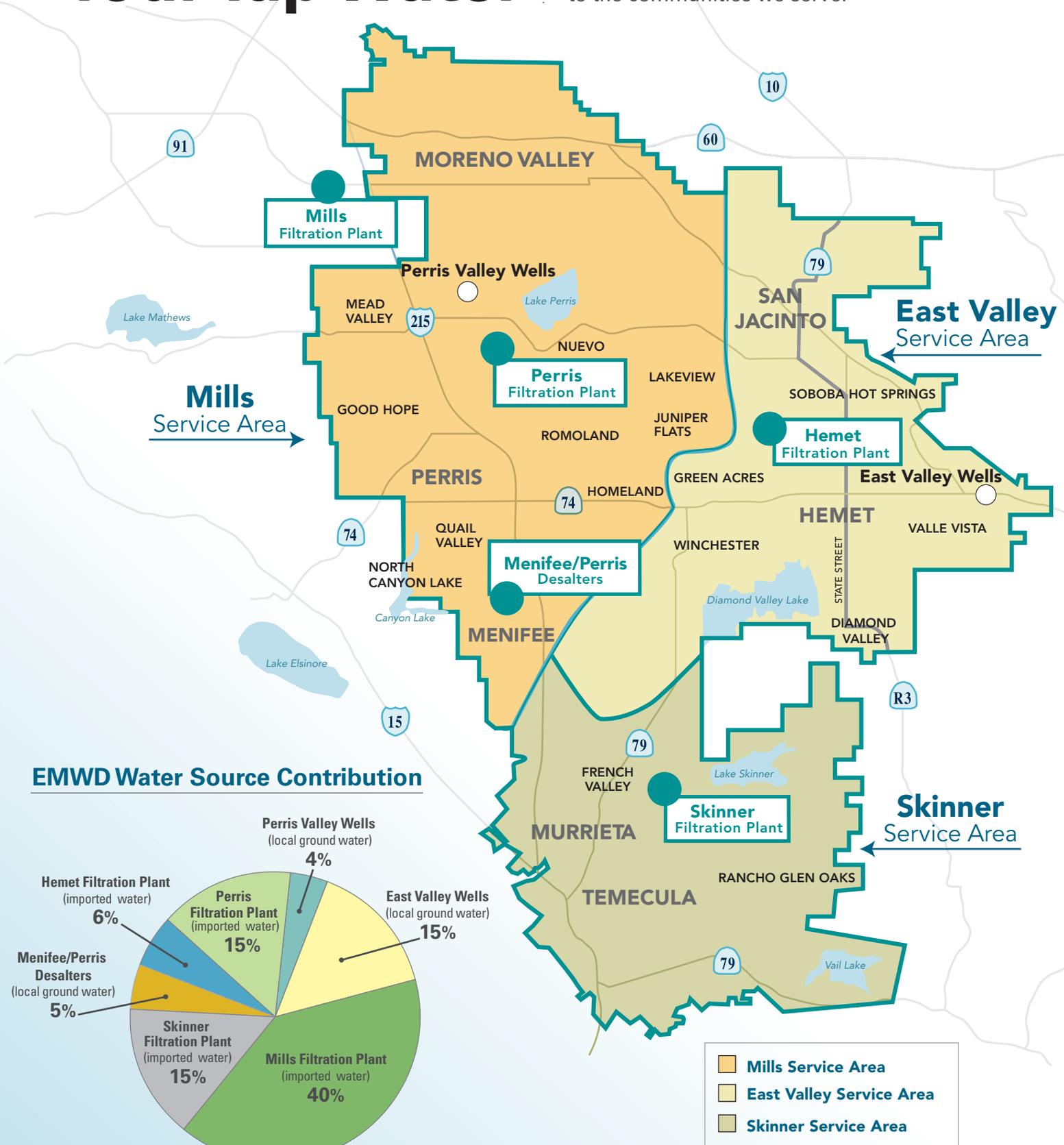
The Lead and Copper Rule was developed to protect public health by establishing an action level of 15 ppb (parts per billion) for lead and 1300 ppb for copper at the tap.

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. EMWD is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. If your water has been sitting in your household plumbing 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 at 1(800) 426-4791 or at www.epa.gov/safewater/lead.

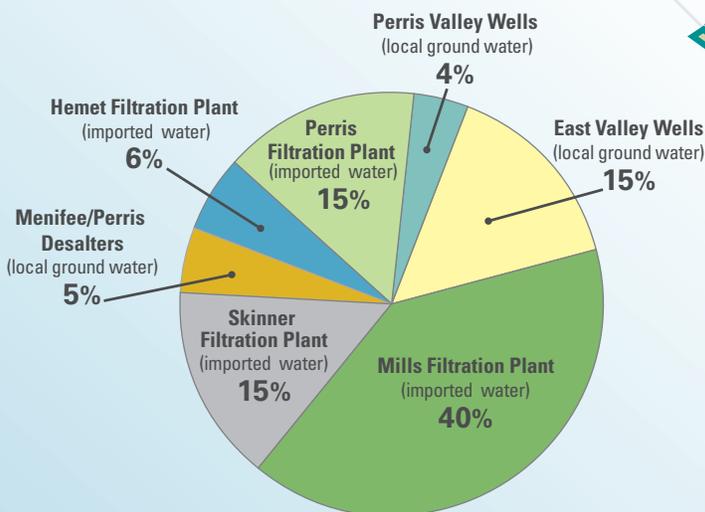


The source of Your Tap Water

To help you find specific details about your tap water, we have organized this report according to the communities we serve.



EMWD Water Source Contribution



Total Annual Water Usage: 30.6 Billion Gallons



The Source Of Your Tap Water

To help you find specific details about your tap water, we have organized this report according to the communities we serve.

THE COMMUNITIES WE SERVE...

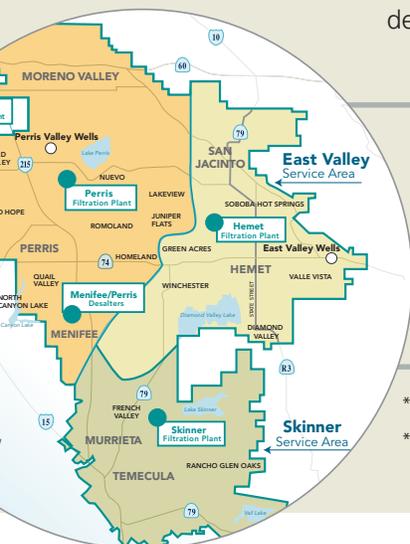
MILLS service area

Water for this service area comes from a combination of sources:

- The Henry J. Mills Filtration Plant* treats imported surface water supplied solely from northern California through the State Water Project (SWP). Mills Plant uses chloramine for final disinfection.

Water from the Mills Filtration Plant is blended with several other EMWD water sources:

- Three Perris Valley Wells serve a limited area of Perris – along Perris Boulevard south of the Ramona Expressway.
- The Perris Water Filtration Plant treats a blend of Colorado River and SWP waters. This plant uses the latest ultrafiltration technology to remove particulate contaminants to produce quality, potable water. This plant serves Lakeview, Nuevo, Romoland, Homeland, and Juniper Flats. Perris Plant uses chloramine for final disinfection.
- The Menifee/Perris Desalters convert salty groundwater into potable water using a reverse osmosis process. Menifee, North Canyon Lake, and Quail Valley are the only communities within the Mills Service Area to receive blended water from this desalination plant. The Menifee/Perris Desalters use chloramine for final disinfection.



COMMUNITIES SERVED:

Good Hope

Mead Valley

Nuevo

Homeland

Menifee**

Perris

Juniper Flats

Moreno Valley

Quail Valley

Lakeview

North Canyon Lake

Romoland

* The Mills and Skinner Filtration Plants are owned and operated by The Metropolitan Water District of Southern California (MWD)

** Typically served by Mills Filtration Plant and occasionally served by the Skinner Filtration Plant

Protecting Your Drinking Water

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 EPA's Safe Drinking Water Hotline at 1(800) 426-4791.

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 the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. The land that the water comes into contact with is called the watershed; everything that happens to or in the watershed can affect the quality of your drinking water supply.

EMWD uses several sources of water to serve its customers, including surface water from the Colorado River and the California State Water Project (SWP), as well as local groundwater.

An initial vulnerability assessment of all the watersheds, both surface water and groundwater, was completed in 2002. The Colorado River, a surface water source, was reassessed in 2010 and found to be most vulnerable to recreational activities, urban and storm water runoff, increasing urbanization in the watershed, and wastewater.

Water from the SWP, also a surface water source, was reassessed in 2006 and found to be most vulnerable to urban and storm water runoff, wildlife, agriculture, recreational activities, and wastewater.

An assessment of each of EMWD's wells was completed in 2013. Two sources were considered vulnerable to airports and airplane maintenance associated with a contaminant detected in the water supply. In addition, other EMWD wells were considered most vulnerable to the following (not associated with any contaminants): commercial and industrial activities, residential activities, agriculture, and other activities such as recreation and transportation.



(Top photo) Northern California Delta, where the State Water Project originates.

(Bottom photo) Copper Basin, part of the Colorado River Aqueduct system.

You can view vulnerability assessments on line at www.cdph.ca.gov/certlic/drinkingwater/Pages/DWSAP.aspx and then click on "Summary of Assessments." You can also call (951) 928-3777, ext. 6337 for a copy of EMWD's vulnerability assessments.

Protecting the sources of drinking water helps protect our health. It's everyone's responsibility, and here are a few ways you can help:

- Eliminate excess use of lawn and garden fertilizers and pesticides – they contain hazardous chemicals that can reach your drinking water source.
- Pick up after your pets.
- Dispose of chemicals properly; take used motor oil to a recycling center.

Facts about Total Coliform Bacteria

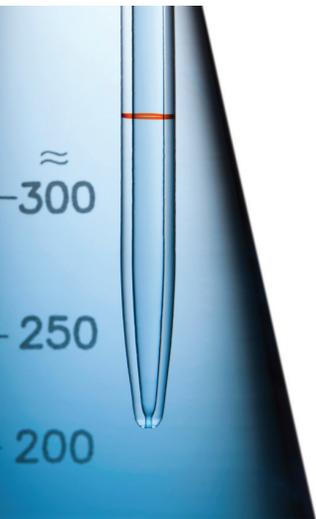


Water agencies test for the presence of coliform bacteria as an indicator of drinking water quality.

Coliform bacteria are naturally present in the environment and are generally not harmful. Coliform bacteria may occur in soil, vegetation, animal waste, sewage, and surface waters.

Eastern Municipal Water District routinely tests for the presence of coliform bacteria as an indicator of the sanitary quality of drinking water. EMWD analyzed 3,049 coliform samples in 2013, three of which were coliform positive. The maximum allowed by EPA for coliforms is no more than 5 percent in any month. The highest monthly coliform result was 0.4 percent, which complies with this standard. EMWD also tests for *E. coli* bacteria, which indicate fecal or sewage contamination. Zero samples tested positive for *E. coli* in 2013.

A positive coliform test result does not necessarily mean a maximum contaminant level (MCL) has been exceeded, or that there is a problem in the water system. More information and general guidelines on ways to lessen the risk of infection by microbes are available from the EPA's Safe Drinking Water Hotline at 1(800) 426-4791 or at <http://water.epa.gov/drink/info/>.



We've Gone Electronic

EMWD MUST DISTRIBUTE A water quality report to its customers by July 1 every year. Until recently, the only method for distributing the report was sending paper copies through the mail.

However, guidelines were recently changed to allow distributing the report, also known as the Consumer Confidence Report (CCR), electronically. According to the new guidelines, EMWD is able to meet the distribution requirement by sending a postcard with a direct website address to the 2013 CCR to all water customers, except those who specifically requested a paper copy. This alternate method saves resources and cuts costs.

The choice is always yours. We have made it easy and convenient for you to tell us how you want to receive future water quality reports. If you would like to change your current delivery method, simply use one of the following options:

Submit your preference on-line at www.emwd.org/ccr

OR

Call (951) 928-3777, extension 4237

We are required to monitor your drinking water for specific contaminants on a regular basis. Results are an indicator of whether or not your drinking water meets health standards.

Abbreviations & Definitions

ABBREVIATIONS:

AL	Action Level	MRDLG	Maximum Residual Disinfectant Level Goal	ppb	parts per billion or micrograms per liter (µg/L)
CFU/mL	Colony-Forming Units per milliliter	MRL	Minimum Reporting Level: set by EPA for unregulated contaminant monitoring	ppm	parts per million or milligrams per liter (mg/L)
DLR	Detection Limits for purposes of Reporting: State-determined level that a test can detect the chemical	NA	Not Applicable: no State or Federal standards are established	ppt	parts per trillion or nanograms per liter (ng/L)
grains/gallon	Grains per gallon: a measure of water hardness. One grain/gallon equals 17.1 ppm or mg/L	ND	None Detected: sample was taken and chemical was not detected	RAA	Running Annual Average
HPC	Heterotrophic Plate Count: a bacteriological test that counts the number of bacteria per milliliter of sample	NL	Notification Level	TON	Threshold Odor Number
LRAA	Locational Running Annual Average	NR	No Range: all result(s) were the same value	TT	Treatment Technique
MCL	Maximum Contaminant Level	NTU	Nephelometric Turbidity Units	µS/cm	microSiemen per centimeter; or micromho per centimeter (µmho/cm)
MCLG	Maximum Contaminant Level Goal	pCi/L	picoCuries per Liter	"—"	Samples not required
MRDL	Maximum Residual Disinfectant Level	PHG	Public Health Goal	">"	Greater than
				"<"	Less than

DEFINITIONS:

90th Percentile: The value in a data set in which 90 percent of the set is less than or equal to this value.

Disinfection By-Product: Compounds which are formed from mixing of organic or mineral precursors in the water with ozone, chlorine or chloramine. Bromate, Total Trihalomethanes, Haloacetic Acids and NDMA are disinfection by-products.

Locational Running Annual Average (LRAA): The RAA at one sample location.

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. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.

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 the EPA.

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.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of a disinfectant added for water treatment 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.

Notification Level (NL): Notification levels are health-based advisory levels established by CDPH for chemicals in drinking water that lack maximum contaminant levels (MCLs).

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

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.

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

Running Annual Average (RAA): The yearly average which is calculated every 3 months using the previous 12 months' data.

Secondary Drinking Water Standard (Secondary Standard): MCLs for contaminants that do not affect health but are used to monitor the aesthetics of the water.

Treatment Technique (TT): A required treatment process intended to reduce the level of a contaminant in drinking water.

EASTERN MUNICIPAL WATER DISTRICT DISTRIBUTION SYSTEM DATA FOR 2013

Parameter	Units	State or Federal Maximum Contaminant Level (MCL)	California Public Health Goal (PHG)	State Detection Limit for Reporting (DLR)	Range Average	EMWD's Entire Distribution System	Service Area		
							Mills	East Valley	Skinner
MICROBIOLOGICAL									
Total Coliform Bacteria	# positive coliforms	A	MCLG = 0	NA	# positives in 2013 Highest monthly %	3 0.4	3 ---	0 ---	0 ---
Fecal Coliform Bacteria (<i>E. coli</i>)	# positive <i>E. coli</i>	B	MCLG = 0	NA	# positives in 2013	0	0	0	0
Heterotrophic Plate Count (HPC)	# HPCs > 500 CFU/mL	TT C	NA	NA	# HPC>500 in 2013 Lowest monthly %	1 99.6	0 ---	0 ---	1 ---
DISINFECTION BY-PRODUCTS AND DISINFECTANT RESIDUALS									
Bromate (Mills & Skinner plants only)	ppb	RAA = 10	0.1	1	Range Highest RAA	--- ---	1.0 - 12 3.9 D	--- ---	1.0 - 11 5.9 D
Haloacetic Acids (5) (HAA5s) E	ppb	LRAA = 60	NA	E	Range Highest LRAA	<1.0 - 23 18	<1.0 - 23 18	<1.0 - 19 18	2.2 - 14 10
Total Trihalomethanes (TTHMs) F	ppb	LRAA = 80	NA	1	Range Highest LRAA	4.8 - 99 67	18 - 99 67 F	4.8 - 61 45	18 - 32 30
Total Chlorine Residual chlorine and chloramines	ppm	MRDL = 4	MRDLG = 4	NA	Range Average	<0.2 - 4.4 1.4	<0.2 - 3.2 1.3	<0.2 - 3.0 1.4	<0.2 - 4.4 1.7 G
PHYSICAL PARAMETERS									
Color	Units	15	NA	NA	Range Average	<2.5 - 50 <2.5	<2.5 - 40 <2.5 H	<2.5 - 50 <2.5 H	<2.5 - 5.0 <2.5
Odor Threshold	TON	3	NA	1	Range Average	NR 1	NR 1	NR 1	NR 1
pH	pH unit	6.5 - 8.5	NA	NA	Range Average	6.8 - 8.7 8.0 I	6.8 - 8.6 8.0 I	7.1 - 8.7 8.0 I	7.7 - 8.6 8.2 I
Turbidity	NTU	5	NA	0.1	Range Average	0.1 - 4.4 0.2	0.1 - 4.1 0.1	0.1 - 4.4 0.2	0.1 - 0.4 0.1
METALS AS A BY-PRODUCT OF CORROSION OF CONSUMER'S PLUMBING J									
Copper	ppb	AL = 1300	300	50	NA	90th percentile of 50 samples: 140 ppb Zero samples exceeded the Action Level			
Lead	ppb	AL = 15	0.2	5	NA	90th percentile of 50 samples: <5 ppb Zero samples exceeded the Action Level			
UNREGULATED CONTAMINANT MONITORING									
N-Nitrosodimethylamine (NDMA) K	ppt	NL = 10	3	2	Range Average	ND - 12 ND	ND - 12 2	ND - 4 ND	ND - 8 2
Chlorate	ppb	NL = 800	NA	MRL = 20	Range Average	ND - 230 79	ND - 230 75	37 - 190 97	34 - 74 53
Chromium-6	ppb	NA	0.02	MRL = 0.03	Range Average	ND - 1.3 0.32	ND - 1.3 0.42	ND - 0.38 0.16	0.06 - 0.09 0.07
Molybdenum	ppb	NA	NA	MRL = 1	Range Average	ND - 9.9 4.4	ND - 9.9 4.0	3.5 - 6.5 5.5	3.4 - 3.7 3.5
Strontium	ppb	NA	NA	MRL = 0.3	Range Average	200 - 860 420	260 - 700 400	200 - 360 270	750 - 860 820
Vanadium	ppb	NL = 50	NA	MRL = 0.2	Range Average	ND - 17 6.4	3.3 - 17 7.3	2.6 - 11 6.9	NR ND

The State allows EMWD to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of EMWD's data, though representative, are more than one year old.

EMWD supports science-based standards that provide health benefits to the public in an economically balanced manner. Should more stringent standards be set, EMWD will meet them. EMWD's water has met and will continue to meet all regulations.

Unregulated contaminant monitoring helps EPA and CDPH determine where certain contaminants occur and whether the contaminants need to be regulated.

EASTERN MUNICIPAL WATER DISTRICT 2013 WATER QUALITY TABLE

					Moreno Valley, Perris, Menifee & North Canyon Lake								
Parameter	Units	State or Federal Maximum Contaminant Level (MCL)	California Public Health Goal (PHG)	State Detection Limit for Reporting (DLR)	Mills Filtration Plant		Perris Valley Wells		Perris Filtration Plant		Menifee & Perris Desalters		Major Sources in Drinking Water
Percent of total water delivered by EMWD	%				40%		4%		15%		5%		
					Range	Average	Range	Average	Range	Average	Range	Average	
PRIMARY STANDARDS—Mandatory Health-Related Standards													
CLARITY													
Combined Filter Effluent Turbidity	NTU and %	M	NA	NA	0.12	100	---	---	0.02	99.97	---	---	Soil runoff
ORGANIC CHEMICAL													
Trichloroethylene (TCE)	ppb	5	1.7	0.5	NR	ND	ND - 1.1	ND L	NR	ND	NR	ND	Discharge from metal degreasing sites and other factories
INORGANIC CHEMICALS													
Aluminum	ppb	1000 N 200	600	50	ND - 360 N	130	NR	ND	ND - 72	ND	NR	ND	Residue from water treatment process; natural deposits erosion
Arsenic	ppb	10	0.004	2	NR	ND	ND - 2	ND	NR	ND	NR	ND	Natural deposits erosion; runoff from orchards; glass and electronics production wastes
Barium	ppm	1	2	0.1	NR	ND	0.2 - 0.3	0.3	NR	ND	NR	ND	Oil and metal refineries discharge; natural deposits erosion
Fluoride (Naturally-occurring)	ppm	2.0	1.0	0.1	---	---	0.2 - 0.4	0.3	ND - 0.3	0.1	NR	ND	Erosion of natural deposits
Fluoride (Treatment related) P	ppm	2.0	1.0	0.1	0.2 - 1.0	0.8	---	---	---	---	---	---	Water additive to promote strong teeth
Nitrate (as NO ₃)	ppm	45	45	2	NR	4.9	17 - 26	21 L	ND - 4.2	ND	4.3 - 13	10	Runoff/leaching from fertilizer use; septic tank and sewage; natural deposits erosion
Selenium	ppb	50	30	5	NR	ND	NR	ND	NR	ND	NR	ND	Runoff/leaching from livestock lots; erosion of natural deposits
RADIOLOGICALS													
Gross Alpha Particle Activity	pCi/L	15	MCLG = 0	3	NR	ND	ND - 9	5	NR	5	NR	ND	Erosion of natural deposits
Gross Beta Particle Activity	pCi/L	50	MCLG = 0	4	NR	ND	7 - 10	9 L	NR	7	NR	5	Decay of natural and man-made deposits
Uranium	pCi/L	20	0.43	1	ND - 1	1	1 - 9	5	NR	ND	NR	ND	Erosion of natural deposits
SECONDARY STANDARDS—Aesthetic Standards													
Chloride	ppm	500	NA	NA	76 - 100	90	180 - 390	280	86 - 110	93	85 - 200	170	Runoff/leaching from natural deposits; seawater influence
Color	Units	15	NA	NA	1 - 2	2	<2.5 - 2.5	<2.5	<2.5 - 2.5	<2.5	NR	<2.5	Naturally-occurring organic materials
Manganese	ppb	50	NL = 500	20	NR	ND	NR	ND	ND - 510 a	21	NR	ND	Leaching from natural deposits
Odor Threshold	TON	3	NA	1	NR	3	NR	1	NR	1	NR	1	Naturally-occurring organic materials
Specific Conductance	µS/cm	1600	NA	NA	570 - 580	580	880 - 1470	1240 L	490 - 850	600	450 - 940	760	Substances that form ions in water; seawater influence
Sulfate	ppm	500	NA	0.5	45 - 63	54	50 - 57	53	41 - 210	55	18 - 45	28	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (TDS)	ppm	1000	NA	NA	310 - 320	310	470 - 900	750 L	280 - 600	330	190 - 610	450	Runoff/leaching from natural deposits
Turbidity R	NTU	5	NA	0.1	NR	ND	0.1 - 0.3	0.2	0.1 - 0.3	0.2	NR	0.1	Soil runoff
UNREGULATED CONTAMINANT MONITORING													
Chlorate	ppb	NA	NL = 800	MRL = 20	ND - 30	ND	ND - 170	44	110 - 150	130	68 - 620	340	Agricultural defoliant or desiccant; disinfection by-product; used in production of chlorine dioxide
Chromium-6	ppb	NA	0.02	MRL = 0.03	0.18 - 0.36	0.27	0.44 - 1.3	0.97	0.06 - 0.11	0.08	0.12 - 0.16	0.14	Naturally-occurring element; used in making steel and other alloys; used for chrome plating, dyes and pigments, leather tanning and wood preservation
Molybdenum	ppb	NA	NA	MRL = 1	1.5 - 3.0	2.3	ND - 11	6.0	2.9 - 3.2	3.1	ND - 2.0	1.0	Naturally-occurring element found in ores and present in plants, animals and bacteria; used in a chemical reagent
Perfluoroheptanoic Acid (PFHpA)	ppt	NA	NA	MRL = 10	NR	ND	ND - 22	ND	NR	ND	NR	ND	Manmade chemical; used in products to make them stain, grease, heat and water resistant
Perfluorohexanesulfonic Acid (PFHxS)	ppt	NA	NA	MRL = 30	NR	ND	ND - 120	38	NR	ND	NR	ND	Manmade chemical; used in products to make them stain, grease, heat and water resistant
Perfluorooctanesulfonic Acid (PFOS)	ppt	NA	NA	MRL = 40	NR	ND	ND - 82	ND	NR	ND	NR	ND	Surfactant or emulsifier; used in fire-fighting foam, circuit board etching acids, alkaline cleaners, floor polish, and as a pesticide
Perfluorooctanoic Acid (PFOA)	ppt	NA	NA	MRL = 20	NR	ND	ND - 53	ND	NR	ND	NR	ND	Used as surfactant or emulsifier, in Teflon, fire-fighting foams, cleaners, cosmetics, greases and lubricants, paints, polishes, adhesives and photographic films
Strontium	ppb	NA	NA	MRL = 0.3	190 - 330	270	340 - 820	570	250 - 260	260	240 - 340	290	Naturally-occurring element; historically used in production of cathode-ray tube televisions
Vanadium	ppb	NA	NL = 50	MRL = 0.2	3.6 - 3.9	3.7	4.4 - 16	11	3.3 - 5.0	4.2	2.7 - 4.4	3.6	Naturally-occurring; industrial waste discharge
OTHER PARAMETERS													
Alkalinity (Total)	ppm	NA	NA	NA	63 - 89	78	130 - 210	170	81 - 160	94	38 - 99	63	Naturally-occurring carbonates; measures water's ability to neutralize acid
Boron	ppb	NL = 1000	NA	100	NR	220	370 - 560	460	110 - 200	160	ND - 240	190	Runoff/leaching from natural deposits; industrial wastes
Calcium	ppm	NA	NA	NA	19 - 28	24	86 - 160	120	24 - 69	30	23 - 78	51	Naturally-occurring mineral
Hardness as Calcium Carbonate S	grains/gallon	NA	NA	NA	5.8 - 7.0	6.4	18 - 33	25	6.4 - 16	7.6	5.0 - 16	10	Naturally-occurring; the sum of calcium and magnesium in the water
Magnesium	ppm	NA	NA	NA	NR	12	24 - 37	29	12 - 23	14	6.6 - 21	12	Naturally-occurring mineral
Sodium	ppm	NA	NA	NA	63 - 72	68	97 - 130	110	56 - 86	66	45 - 93	74	Naturally-occurring mineral

2010 values
 2011 values
 ND - NONE DETECTED
 NR - NO RANGE

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EASTERN MUNICIPAL WATER DISTRICT 2013 WATER QUALITY TABLE

					Murrieta		
Parameter	Units	State or Federal Maximum Contaminant Level (MCL)	California Public Health Goal (PHG)	State Detection Limit for Reporting (DLR)	Skinner Filtration Plant		Major Sources in Drinking Water
Percent of total water delivered by EMWD	%				15%		
					Range	Average	
PRIMARY STANDARDS—Mandatory Health-Related Standards							
CLARITY							
Combined Filter Effluent Turbidity	NTU and %	M	NA	NA	Highest NTU	% ≤ 0.3	
					0.09	100	Soil runoff
ORGANIC CHEMICAL							
Trichloroethylene (TCE)	ppb	5	1.7	0.5	NR	ND	Discharge from metal degreasing sites and other factories
INORGANIC CHEMICALS							
Aluminum	ppb	1000 N 200	600	50	NR	ND	Residue from water treatment process; natural deposits erosion
Arsenic	ppb	10	0.004	2	NR	ND	Natural deposits erosion; runoff from orchards; glass and electronics production wastes
Barium	ppm	1	2	0.1	NR	ND	Oil and metal refineries discharge; natural deposits erosion
Fluoride (Naturally-occurring)	ppm	2.0	1.0	0.1	---	---	Erosion of natural deposits
Fluoride (Treatment related) P	ppm	2.0	1.0	0.1	0.7 - 1.0	0.8	Water additive to promote strong teeth
Nitrate (as NO ₃)	ppm	45	45	2	NR	ND	Runoff/leaching from fertilizer use; septic tank and sewage; natural deposits erosion
Selenium	ppb	50	30	5	NR	ND	Runoff/leaching from livestock lots; erosion of natural deposits
RADIOLOGICALS							
Gross Alpha Particle Activity	pCi/L	15	MCLG = 0	3	ND - 3	ND	Erosion of natural deposits
Gross Beta Particle Activity	pCi/L	50	MCLG = 0	4	ND - 5	ND	Decay of natural and man-made deposits
Uranium	pCi/L	20	0.43	1	ND - 2	1	Erosion of natural deposits
SECONDARY STANDARDS—Aesthetic Standards							
Chloride	ppm	500	NA	NA	83 - 86	84	Runoff/leaching from natural deposits; seawater influence
Color	Units	15	NA	NA	1 - 2	2	Naturally-occurring organic materials
Manganese	ppb	50	NL = 500	20	NR	ND	Leaching from natural deposits
Odor Threshold	TON	3	NA	1	NR	2	Naturally-occurring organic materials
Specific Conductance	µS/cm	1600	NA	NA	830 - 870	850	Substances that form ions in water; seawater influence
Sulfate	ppm	500	NA	0.5	170 - 180	170	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (TDS)	ppm	1000	NA	NA	500 - 520	510	Runoff/leaching from natural deposits
Turbidity R	NTU	5	NA	0.1	NR	ND	Soil runoff
UNREGULATED CONTAMINANT MONITORING							
Chlorate	ppb	NA	NL = 800	MRL = 20	34 - 77	52	Agricultural defoliant or desiccant; disinfection by-product; used in production of chlorine dioxide
Chromium-6	ppb	NA	0.02	MRL = 0.03	0.06 - 0.08	0.07	Naturally-occurring element; used in making steel and other alloys; used for chrome plating, dyes and pigments, leather tanning and wood preservation
Molybdenum	ppb	NA	NA	MRL = 1	3.5 - 3.7	3.6	Naturally-occurring element found in ores and present in plants, animals and bacteria; used in a chemical reagent
Perfluoroheptanoic Acid (PFHpA)	ppt	NA	NA	MRL = 10	NR	ND	Manmade chemical; used in products to make them stain, grease, heat and water resistant
Perfluorohexanesulfonic Acid (PFHxS)	ppt	NA	NA	MRL = 30	NR	ND	Manmade chemical; used in products to make them stain, grease, heat and water resistant
Perfluorooctanesulfonic Acid (PFOS)	ppt	NA	NA	MRL = 40	NR	ND	Surfactant or emulsifier; used in fire-fighting foam, circuit board etching acids, alkaline cleaners, floor polish, and as a pesticide
Perfluorooctanoic Acid (PFOA)	ppt	NA	NA	MRL = 20	NR	ND	Used as surfactant or emulsifier, in Teflon, fire-fighting foams, cleaners, cosmetics, greases and lubricants, paints, polishes, adhesives and photographic films
Strontium	ppb	NA	NA	MRL = 0.3	750 - 830	780	Naturally-occurring element; historically used in production of cathode-ray tube televisions
Vanadium	ppb	NA	NL = 50	MRL = 0.2	NR	ND	Naturally-occurring; industrial waste discharge
OTHER PARAMETERS							
Alkalinity (Total)	ppm	NA	NA	NA	72 - 130	110	Naturally-occurring carbonates; measures water's ability to neutralize acid
Boron	ppb	NL = 1000	NA	100	NR	120	Runoff/leaching from natural deposits; industrial wastes
Calcium	ppm	NA	NA	NA	56 - 59	58	Naturally-occurring mineral
Hardness as Calcium Carbonate S	grains/gallon	NA	NA	NA	13 - 14	13	Naturally-occurring; the sum of calcium and magnesium in the water
Magnesium	ppm	NA	NA	NA	20 - 21	20	Naturally-occurring mineral
Sodium	ppm	NA	NA	NA	78 - 81	80	Naturally-occurring mineral

2011 values ND - NONE DETECTED NR - NO RANGE

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EASTERN MUNICIPAL WATER DISTRICT 2013 WATER QUALITY TABLE

					Hemet & San Jacinto				
Parameter	Units	State or Federal Maximum Contaminant Level (MCL)	California Public Health Goal (PHG)	State Detection Limit for Reporting (DLR)	East Valley Wells		Hemet Filtration Plant		Major Sources in Drinking Water
Percent of total water delivered by EMWD	%				15%		6%		
					Range	Average	Range	Average	
PRIMARY STANDARDS—Mandatory Health-Related Standards									
CLARITY							Highest NTU	% ≤ 0.1	
Combined Filter Effluent Turbidity	NTU and %	M	NA	NA	---	---	0.08	100	Soil runoff
ORGANIC CHEMICAL									
Trichloroethylene (TCE)	ppb	5	1.7	0.5	NR	ND	NR	ND	Discharge from metal degreasing sites and other factories
INORGANIC CHEMICALS									
Aluminum	ppb	1000 N 200	600	50	NR	ND	ND - 68	ND	Residue from water treatment process; natural deposits erosion
Arsenic	ppb	10	0.004	2	ND - 7.3 O	ND	NR	ND	Natural deposits erosion; runoff from orchards; glass and electronics production wastes
Barium	ppm	1	2	0.1	ND - 0.1	ND	NR	ND	Oil and metal refineries discharge; natural deposits erosion
Fluoride (Naturally-occurring)	ppm	2.0	1.0	0.1	0.1 - 0.4	0.3	ND - 0.1	ND	Erosion of natural deposits
Fluoride (Treatment related) P	ppm	2.0	1.0	0.1	---	---	---	---	Water additive to promote strong teeth
Nitrate (as NO ₃)	ppm	45	45	2	ND - 12	3.3	NR	ND	Runoff/leaching from fertilizer use; septic tank and sewage; natural deposits erosion
Selenium	ppb	50	30	5	ND - 12	ND	NR	ND	Runoff/leaching from livestock lots; erosion of natural deposits
RADIOLOGICALS									
Gross Alpha Particle Activity	pCi/L	15	MCLG = 0	3	ND - 5	ND	NR	ND	Erosion of natural deposits
Gross Beta Particle Activity	pCi/L	50	MCLG = 0	4	ND - 16	ND	NR	ND	Decay of natural and man-made deposits
Uranium	pCi/L	20	0.43	1	ND - 34	2	NR	1	Erosion of natural deposits
SECONDARY STANDARDS—Aesthetic Standards									
Chloride	ppm	500	NA	NA	10 - 83	25	78 - 99	87	Runoff/leaching from natural deposits; seawater influence
Color	Units	15	NA	NA	<2.5 - 7.5	<2.5	NR	<2.5	Naturally-occurring organic materials
Manganese	ppb	50	NL = 500	20	ND - 34	ND	NR	ND	Leaching from natural deposits
Odor Threshold	TON	3	NA	1	1 - 4	1.4	NR	1	Naturally-occurring organic materials
Specific Conductance	µS/cm	1600	NA	NA	310 - 900	460	450 - 660	540	Substances that form ions in water; seawater influence
Sulfate	ppm	500	NA	0.5	10 - 210	57	39 - 51	45	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (TDS)	ppm	1000	NA	NA	170 - 590	270	190 - 360	290	Runoff/leaching from natural deposits
Turbidity R	NTU	5	NA	0.1	0.1 - 0.2	0.1	0.1 - 0.2	0.1	Soil runoff
UNREGULATED CONTAMINANT MONITORING									
Chlorate	ppb	NA	NL = 800	MRL = 20	ND - 760	200	82 - 170	140	Agricultural defoliant or desiccant; disinfection by-product; used in production of chlorine dioxide
Chromium-6	ppb	NA	0.02	MRL = 0.03	ND - 1.4	0.21	0.06 - 0.09	0.08	Naturally-occurring element; used in making steel and other alloys; used for chrome plating, dyes and pigments, leather tanning and wood preservation
Molybdenum	ppb	NA	NA	MRL = 1	2.8 - 15	7.3	2.1 - 2.6	2.3	Naturally-occurring element found in ores and present in plants, animals and bacteria; used in a chemical reagent
Perfluoroheptanoic Acid (PFHpA)	ppt	NA	NA	MRL = 10	NR	ND	NR	ND	Manmade chemical; used in products to make them stain, grease, heat and water resistant
Perfluorohexanesulfonic Acid (PFHxS)	ppt	NA	NA	MRL = 30	NR	ND	NR	ND	Manmade chemical; used in products to make them stain, grease, heat and water resistant
Perfluorooctanesulfonic Acid (PFOS)	ppt	NA	NA	MRL = 40	NR	ND	NR	ND	Surfactant or emulsifier; used in fire-fighting foam, circuit board etching acids, alkaline cleaners, floor polish, and as a pesticide
Perfluorooctanoic Acid (PFOA)	ppt	NA	NA	MRL = 20	NR	ND	NR	ND	Used as surfactant or emulsifier, in Teflon, fire-fighting foams, cleaners, cosmetics, greases and lubricants, paints, polishes, adhesives and photographic films
Strontium	ppb	NA	NA	MRL = 0.3	220 - 390	310	240 - 270	260	Naturally-occurring element; historically used in production of cathode-ray tube televisions
Vanadium	ppb	NA	NL = 50	MRL = 0.2	2.7 - 20	7.2	2.1 - 2.9	2.4	Naturally-occurring; industrial waste discharge
OTHER PARAMETERS									
Alkalinity (Total)	ppm	NA	NA	NA	130 - 180	160	75 - 100	88	Naturally-occurring carbonates; measures water's ability to neutralize acid
Boron	ppb	NL = 1000	NA	100	ND - 180	ND	140 - 180	160	Runoff/leaching from natural deposits; industrial wastes
Calcium	ppm	NA	NA	NA	36 - 88	55	22 - 28	25	Naturally-occurring mineral
Hardness as Calcium Carbonate S	grains/gallon	NA	NA	NA	5.8 - 17	9.4	5.8 - 7.6	6.4	Naturally-occurring; the sum of calcium and magnesium in the water
Magnesium	ppm	NA	NA	NA	2.3 - 16	5.8	11 - 14	12	Naturally-occurring mineral
Sodium	ppm	NA	NA	NA	26 - 93	39	55 - 69	62	Naturally-occurring mineral

2010 values
2011 values
2010 and 2011 values
ND - NONE DETECTED
NR - NO RANGE

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FOOTNOTES

- A** Total coliform MCLs: No more than 5.0% of the monthly samples may be total coliform-positive. Compliance is based on distribution system samples. EMWD analyzed 3049 coliform samples in 2013, three of which were total coliform positive. The highest monthly coliform result was 0.4%. The MCL was not violated in 2013.
- B** Fecal coliform/*E. coli* MCLs: An MCL violation is the occurrence of two (2) consecutive total coliform-positive samples, one of which contains fecal coliform or *E. coli*. There were zero detected fecal coliforms. The MCL was not violated in 2013.
- C** HPCs were tested only in distribution system samples which had no detectable chlorine residual. No less than 95% of all distribution system samples in one month may have no detectable chlorine residual and an HPC greater than 500 colony forming units per mL. The HPC results were no less than 99.6% in any month in 2013.
- D** Bromate is a disinfection by-product resulting from the use of ozone. Currently, Mills and Skinner Filtration plants use ozone. The MCL is based on the Running Annual Average (RAA), so values above the MCL are acceptable, so long as the RAA complies with the MCL.
- E** DLR = 1.0 ppb for each HAA5 analyte (dichloroacetic acid, trichloroacetic acid, monobromoacetic acid, and dibromoacetic acid) except for monochloroacetic acid which has a DLR = 2.0 ppb. Locational Running Annual Averages (LRAA) and ranges were taken from 12 samples sites collected quarterly throughout the distribution system. HAA5s are a by-product of drinking water chlorination.
- F** Total Trihalomethanes are the sum of the following analytes: bromodichloromethane, bromoform, chloroform, and dibromochloromethane. Locational Running Annual Averages (LRAA) and ranges taken from 12 sample sites collected quarterly throughout the distribution system. Since the MCL is based on the LRAA, values above the MCL are acceptable, so long as the LRAA complies with the MCL. TTHMs are a by-product of drinking water chlorination.
- G** The Maximum Residual Disinfectant Level (MRDL) is computed as the average chlorine residual. Values above the MRDL are acceptable, so long as the average complies with the MRDL. One sample out of 3,049 was over the MRDL of 4 ppm.
- H** High color (over 15) represents five sample sites in the Hemet, Lakeview and Perris areas. EMWD responded to these high values by flushing the areas and resampling, and the resamples complied with state standards.
- I** The recommended Federal secondary MCL for pH is a range of 6.5 to 8.5. California DPH does not regulate pH in drinking water. In 2013 nine samples out of 836 were slightly over the 8.5 limit.
- J** Lead and copper are regulated as a Treatment Technique under the Lead and Copper Rule, which requires systems to take water samples at the consumers' tap every three years. Results are from 2013. Neither lead nor copper are typically found in the source waters but can get into water by way of internal corrosion of household plumbing.
- K** NDMA is a disinfection by-product. Samples are from chlorinated distribution samples taken in 2008.
- L** Values are from blended Well 57 and raw well values from other wells in area. Well 57 is blended on site with Mills water to improve Total Dissolved Solids. Gross Beta results are from unblended Well 57 data only. Trichloroethylene data includes Well 56 results after de-aeration tank taken in 2011.
- M** The turbidity level of the combined filter effluent at the Mills and Skinner Filtration plants shall be less than or equal to 0.3 NTU in 95% of the measurements taken each month and shall not exceed 1 NTU at any time. For Perris and Hemet Filtration plants, the turbidity level of the combined filter effluent shall be less than or equal to 0.1 NTU in 95% of the measurements taken each month and shall not exceed 1 NTU at any time. Turbidity is a measure of the cloudiness of the water and is an indicator of treatment performance.
- N** Aluminum has both primary (1,000 ppb) and secondary (200 ppb) standards (MCLs). The aluminum MCLs are determined by the Running Annual Average (RAA) therefore values above these MCLs are acceptable so long as the RAA complies with these MCLs.
- O** While your drinking water meets the federal and state standard for arsenic, some of our sources do contain low levels of arsenic. The arsenic standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. The U.S. Environmental Protection Agency continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.
- P** MWD began fluoride treatment of water at Mills and Skinner Filtration plants in 2007. Fluoride is not added to the water in the East Valley Area.
- Q** The MCL for manganese is based on the annual average, so values above the MCL are acceptable so long as the average complies with the MCL.
- R** Turbidity is a measure of the cloudiness of the water and is an indicator of treatment performance. Secondary standards were based either on the treatment plant effluent or raw well water.
- S** Water hardness, measured in grains per gallon as calcium carbonate, is characterized by the following scale: 0 – 4.4 is soft, 4.4 – 8.8 is moderately hard, 8.8 – 17.5 is hard and greater than 17.5 is very hard.

Your 2013 Water Quality

PUBLIC MEETINGS

EMWD's Board of Directors meetings are generally held on the 1st and 3rd Wednesdays of each month beginning at 9:00 a.m.

If you wish to attend a meeting, please call the Board Secretary during normal business hours at (951) 928-3777, ext. 4235 to confirm meeting dates or check the Board Meeting Calendar online at www.emwd.org/BoardMeetings.

For more information on this report, contact: Water Quality (951) 928-3777, ext. 6337 or visit www.emwd.org/WaterQuality

Consumer Confidence Report
Issued July 2014

One part per **million** (ppm) is like
1 second in **11.5 days** | **1 teaspoon** in **1302 gallons** | **1 drop** in **13.6 gallons**



One part per **billion** (ppb) is like
1 second in **31.7 years** | **1 teaspoon** in **1.3 million gallons** | **1 drop** in **13,563 gallons** |
½ teaspoon in an **Olympic sized swimming pool**



One part per **trillion** (ppt) is like
1 second in **31,710 years** | **1 teaspoon** in **1.3 billion gallons** | **1 drop** in **13,563,368 gallons**



EMWD 2014 Drought Status Stage 2: Supply Alert

Reduce water use by 20%.

Follow Stage 2 water use efficiency requirements.

Reduce sprinkler irrigation by one day per week.

For more details, visit www.emwd.org/wscp

