

2016 Water Quality Report

(Data For 2015)



MORE THAN 50 YEARS OF CLEAN, SAFE AND RELIABLE WATER.



Mesa Water District (Mesa Water®) is an independent special district that provides water service to 110,000 customers in an 18-square-mile area. Dedicated to satisfying our community's water needs, Mesa Water® serves most of Costa Mesa, parts of Newport Beach, and some unincorporated areas of Orange County, including John Wayne Airport.

Mesa Water was formed in 1960 when four local water providers merged. The agency's combined resources, along with an independent board of directors focused on providing a reliable supply of drinking water to its service area, allowed the District to build and improve its water delivery infrastructure for its customers.

When the District was formed, nearly all of the water provided to its service area was imported from the Colorado River by Metropolitan Water District of Southern California (Metropolitan). As the price of imported water started to rise in the 1970s, the District turned to its own local groundwater supplies. In 1978, the District changed its name to Mesa Consolidated Water District as a tribute to its history. In 2013, the Board updated its name to Mesa Water District, or Mesa Water for short.

DOING OUR PART TO HELP CONSERVE DURING THE DROUGHT

2015 was the driest year on record in California and, as dry conditions continue, some regions throughout the state continue to be severely impacted. On January 17, 2014, Governor Jerry Brown declared a drought emergency, and heightened that declaration to a State of Emergency on April 1, 2015, asking all Californians to voluntarily reduce their water use by 25 percent. In May 2015, conservation became mandatory statewide. While there is no immediate danger of water supply interruptions here in Orange County, we must use our water supplies as efficiently as possible. Southern California is well prepared and in better shape than other parts of the state because we have made infrastructure investments for dry periods like this. Over the past 20 years, more than \$15 billion was invested in water storage and infrastructure improvements that will help sustain us now and ensure reliability in the future. The drought is a serious reminder that we must continue to invest in local water infrastructure and reliability projects.



EASY CONSERVATION TIPS FOR REDUCING WATER USE



Check your sprinkler system for leaks, overspray and broken sprinkler heads and repair promptly:

Saves up to 500 gallons per month.



Use a broom instead of a hose to clean driveways and sidewalks:

Saves up to 150 gallons each time.



Water your plants in the early morning or evening to reduce evaporation and ineffective watering due to wind:

Saves up to 25 gallons each time.

Did you know that water-saving devices are available and some are eligible for rebates? Consider replacing your lawn with drought-tolerant plants, synthetic turf, or permeable hardscape, or add rotating sprinkler nozzles, a weather-based controller, or drip line to enhance the irrigation of your yard. Hundreds of gallons a year can be saved by simply using mulch around plants to reduce evaporation.

Further conservation ideas and rebate information are available at MesaWater.org/conservation. Talk to family and friends about saving water. If everyone does a little, we can all benefit a lot.

Conservation Rules for Mesa Water's service area

- Watering **before 8am or after 5pm** improves efficiency and keeps plants healthy
- A hand-held hose equipped with a fully-functioning automatic water shutoff nozzle is allowed anytime
- No runoff onto sidewalks and driveways
- Leaks, breaks or malfunctions must be fixed immediately
- No washing down hard or paved surfaces
- No watering during and 48 hours after rainfall
- Drinking water in restaurants served only on request
- Hotels must provide option to decline daily linen service

Drought rules apply to residents, businesses and public agencies. For the complete ordinance and list of rules, please visit MesaWater.org/water_conservation_ordinance.

More than Fifty years of clean, safe and reliable water



Mesa Water is one of the most efficient water agencies in Orange County, according to a recent study of nearby water districts. The report compared annual expenditures per capita, that is, the operational costs needed to bring water to the District's customers. Among 10 Orange County water districts, Mesa Water was determined the most efficient water provider.

Groundwater supplies are Mesa Water's primary source of drinking water provided to its service area. The majority is pumped from the upper or clear water basin and

supplemental supplies are produced and treated through the Mesa Water Reliability Facility (MWRF). The facility existed as the CWTF from 2000 to 2010, producing water through an ozone treatment process. To increase its capacity, the facility underwent the MWRF Improvements Project and reopened in late 2012 as the Mesa Water Reliability Facility. The MWRF now has the capacity to treat more water, making it possible for Mesa Water to provide 100 percent of its supplies from local, reliable sources.

Mesa Water is financially stable and responsible, with a AAA rating from both Fitch and Standard & Poor's. The District has been a California Special District's Association *District of Distinction* since the program's inaugural year in 2007. This accreditation recognizes agencies that provide essential public services in a fiscally-responsible manner.

Governed by a publicly-elected, five-member Board of Directors, Mesa Water enjoys strong leadership and high customer satisfaction. Mesa Water's directors are knowledgeable, visionary leaders committed to advocating for customers and consumers, ensuring water resource and infrastructure sustainability, and furthering Mesa Water's long-term viability through its perpetual agency management style. According to a recent survey, over 90 percent of Mesa Water's customers are satisfied with their water quality and customer service. Mesa Water has provided clean, safe, and reliable drinking water to its service area since 1960 with no reportable water quality issues.

QUESTIONS ABOUT YOUR WATER? CONTACT US FOR ANSWERS.

For more information about this report, or if you have questions related to your drinking water, please contact Kay Lee, Water Quality & Compliance Supervisor, at 949.207.5491.

Mesa Water's Board of Directors meets on the second Thursday of each month at 6:00 p.m. at the District's headquarters at 1965 Placentia Avenue in Costa Mesa. Members of the public are encouraged to attend and participate.

For more information please call 949.631.1206 or visit MesaWater.org.

English - This report contains important information about your drinking water. Translate it, or speak with someone who understands it.

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

Chinese - 此份有關你的食水報告,內有重要資料和訊息,請找他人為你翻譯及解釋清楚。

Vietnamese - Chi tiết này thật quan trọng. Xin nhờ người dịch cho quý vị.

Japanese - この報告書には上水道に関する重要な情報が記されており、翻訳を御依頼なされるか、内容をご理解なさっておられる方にお尋ね下さい。

Korean - 이 안내는 매우 중요합니다. 본인을 위해 번역인을 사용하십시오.

Arabic - "هذا التقرير يحتوي على معلومات مهمة تتعلق بمياه الشفة (أو الشرب). ترجم التقرير، أو تكلم مع شخص يستطيع أن يفهم التقرير."

THE QUALITY OF YOUR WATER IS OUR PRIMARY CONCERN

Water Supply Sources

Mesa Water provides water that is a blend of local groundwater supplies. Groundwater, or well water, is pumped from Orange County's natural underground reservoir, or groundwater basin, via Mesa Water's seven wells. The groundwater is layered with sand and gravel and was formed over thousands of years by the Santa Ana River flowing from the San Bernardino Mountains to the Pacific Ocean. It underlies north-central Orange County, from the Los Angeles County border south to Irvine and from Yorba Linda in the east to Huntington Beach in the west. The groundwater basin works as a natural filter and is replenished by water from both the Santa Ana River and imported water purchased from the Metropolitan Water District of Southern California. Mesa Water's groundwater is disinfected with chloramines — a combination of chlorine and ammonia — before it enters the distribution system.

Mesa Water supplements its groundwater with water from the Mesa Water Reliability Facility (MWRF). Source water for the MWRF is pulled from deep below ground. The water is safe to drink prior to treatment, but has an amber tint from ancient redwoods in the groundwater basin. Mesa Water uses nanofiltration technology to remove the color, adding the clear, purified water to its water supply. Mesa Water's backup supply, should it be needed, would be provided by imported water from the Municipal Water District of Orange County (MWDOC). MWDOC delivers water supplies imported by Metropolitan from the Colorado River, distributed via the Colorado River aqueduct. Water from the aqueduct is filtered at Metropolitan's Diemer and Weymouth Filtration Plants, which also use chloramines for disinfection.

Basic Information About Drinking Water Contaminants

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



Contaminants that may be present in source water include:

- **Radioactive contaminants**, which can be naturally-occurring or be the result of oil and gas production or mining activities;
- **Microbial contaminants**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife;
- **Inorganic contaminants**, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, and farming;
- **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, which are by-products of industrial processes and petroleum production, and can also come from gasoline stations, urban stormwater runoff, agricultural application, and septic systems.

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (U.S. EPA) and the State Water Resources Control Board (State Board) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The state allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old. State regulations also establish limits for contaminants in bottled water that must provide the same protection for public health. 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 U.S. EPA's Safe Drinking Water Hotline at 800.426.4791.

INFORMATION THE EPA WOULD LIKE YOU TO KNOW

Drinking Water Fluoridation

Mesa Water provides drinking water that contains naturally-occurring fluoride. Mesa Water does not add fluoride to the water it provides. Mesa Water occasionally supplements its local groundwater supply with water purchased from Metropolitan. In November 2007, Metropolitan began adding fluoride to drinking water. Fluoride levels in drinking water are limited under California state regulations to a maximum dosage of 2 parts per million. Metropolitan adjusts the fluoride level to 0.6 to 1.2 parts per million to achieve an optimal fluoride level of 0.7 parts per million.

For more information about Metropolitan's fluoridation program, please contact:

Metropolitan Water District (Water Quality)
800.354.4420

Additional information about the fluoridation of drinking water is available from:

U.S. Centers for Disease Control and Prevention

800.232.4636
cdc.gov/fluoridation

American Water Works Association
awwa.org



Cryptosporidium

Cryptosporidium is a microscopic organism that, when ingested, can cause diarrhea, fever and other gastrointestinal symptoms. The organism comes from animal and/or human wastes and may be in surface water. Metropolitan tested their source water and treated surface water for *Cryptosporidium* in 2015 but did not detect it. If it ever is detected, *Cryptosporidium* is eliminated by an effective treatment combination including sedimentation, filtration and disinfection.

The U.S. EPA and Centers for Disease Control guidelines on the appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from U.S. EPA's Safe Drinking Water Hotline at 800.426.4791.

About Lead in Tap Water

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. Mesa Water 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: 800.426.4791 or at epa.gov/lead.

HOW TO READ YOUR RESIDENTIAL WATER METER

Your water meter is usually located between the sidewalk and curb under a cement cover. The meter reads straight across, like the odometer on your car. Read only the white numbers (0000). If you are trying to determine if you have a leak, turn off all the water in your home, both indoor and outdoor faucets, and then check the dial for any movement of the low-flow indicator. If there is movement, that indicates a possible leak between the meter and your plumbing system. For additional water saving tips, visit MesaWater.org/conservation.



- 1 Low Flow Indicator** - The low-flow indicator will spin if any water is flowing through the meter.
- 2 Sweep Hand** - Each full revolution of the sweep hand indicates that one cubic foot of water (7.48 gallons) has passed through the meter. The markings at the outer edge of the dial indicate tenths and hundredths of one cubic foot.
- 3 Meter Register** - The meter register is a lot like the odometer on your car. The numbers keep a running total of all the water that has passed through the meter. The register will indicate the cubic feet of water that has passed through the meter.

ISSUES IN WATER QUALITY THAT COULD AFFECT YOUR HEALTH

1,4-dioxane

1,4-dioxane is a chemical contaminant primarily used as an industrial stabilizer to enhance performance of solvents in many manufacturing processes. It is found in foods (shrimp, chicken, tomatoes, etc.) and food additives and ordinary household products (cosmetics, deodorants, and shampoos). The U.S. EPA has classified 1,4-dioxane as a probable human carcinogen. Due to limited data on health effects, there is no federal or state drinking water standard or maximum contaminant level (MCL). The State Board established a Notification Level of 1 part per billion (1 ppb) for 1,4-dioxane. The State Board does not recommend treatment or removal from service at the levels detected in Mesa Water's groundwater.

Mesa Water believes that the 1,4-dioxane found in the groundwater originated from the seawater injection barrier. An industrial discharger was identified as the principal source in the recycled water. This source was eliminated and an additional advanced oxidation treatment step was added to reduce 1,4-dioxane from future injection water.

For more information on 1,4-dioxane or other contaminants go to waterboards.ca.gov/drinking_water/certlic/drinkingwater/14-Dioxane.shtm.

Chloramines

Mesa Water's supply, like Metropolitan's, is treated with chloramines, a combination of chlorine and ammonia, as the drinking water disinfectant. Chloramines are effective in controlling the growth of bacteria and other microorganisms that may cause disease. Chloramines form fewer disinfection byproducts and may have no odor. People who use kidney dialysis machines may want to take special precautions and consult their physician for the appropriate type of water treatment.

Customers who maintain fish ponds, tanks, or aquaria should also make necessary adjustments in water quality treatment, as these disinfectants are toxic to fish.

For further information or if you have any questions about chloramines, please call Kay Lee, Mesa Water's Water Quality & Compliance Supervisor at 949.207.5491.

Immuno-Compromised People

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised people — such as those with cancer who are undergoing chemotherapy, persons who have had organ transplants, people with HIV/AIDS or other immune system disorders, some elderly persons, and infants — can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers.

Unregulated Contaminants

In 2013-2014, Mesa Water conducted sampling under the Unregulated Contaminant Monitoring Rule (UCMR3). The most recent results for the detected contaminants are listed at the bottom of Tables 1, 2 and 3.

To obtain additional information on this testing, please contact Kay Lee at 949.207.5491.

SOURCE WATER ASSESSMENTS

Imported (Metropolitan) Water Assessment

Every five years, Metropolitan is required by the State Board to examine possible sources of drinking water contamination in its State Water Project and Colorado River source waters.

In 2012, Metropolitan submitted to the State Board its updated Watershed Sanitary Surveys for the Colorado River and State Water Project, which include suggestions for how to better protect these source waters. Both source waters are exposed to stormwater runoff, recreational activities, wastewater discharges, wildlife, fires, and other watershed-related factors that could affect water quality.

Water from the Colorado River is considered to be most vulnerable to contamination from recreation, urban and stormwater runoff, increasing urbanization in the watershed, and wastewater. Water supplies from Northern California's State Water Project are most vulnerable to contamination from urban and stormwater runoff, wildlife, agriculture, recreation and wastewater.

U.S. EPA also requires Metropolitan to complete one Source Water Assessment (SWA) that utilizes information collected in the watershed sanitary surveys. Metropolitan completed its SWA in December 2002. The SWA is used to evaluate the vulnerability of water sources to contamination and helps determine whether more protective measures are needed.

A copy of the most recent summary of either Watershed Sanitary Survey or the SWA can be obtained by calling Metropolitan at 800.354.4420.

Groundwater Assessment

An assessment of the drinking water sources for Mesa Water was completed in December 2002 and was updated in 2011. The sources are considered most vulnerable to the following activities: dry cleaners, gas stations, known contaminant plumes, metal plating/finishing/fabricating and plastics/synthetics producers.

A copy of the complete assessment is available at the State Water Resources Control Board, Division of Drinking Water, Santa Ana District, 605 W. Santa Ana Blvd, Bldg #28, Santa Ana, California 92701. You may request a summary of the assessment by contacting Kay Lee, Water Quality & Compliance Supervisor, at 949.207.5491.

2015 METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA TREATED SURFACE WATER

TABLE 1

Constituent	MCL	PHG (MCLG)	Diemer Average	Weymouth Average	Range of Detections	MCL Violation?	Typical Source in Drinking Water
Radiologicals - Tested in 2014							
Alpha Radiation (pCi/L)	15	(0)	ND	ND	ND - 4	No	Erosion of Natural Deposits
Beta Radiation (pCi/L)	50	(0)	5	5	4 - 6	No	Decay of Man-made or Natural Deposits
Uranium (pCi/L)	20	0.43	3	3	2 - 3	No	Erosion of Natural Deposits
Inorganic Constituents Tested in 2015							
Aluminum (ppm)	1	0.6	0.155	0.156	0.073 - 0.240	No	Treatment Process Residue, Natural Deposits
Arsenic (ppb)	10	0.004	2.3	2.1	2.1 - 2.3	No	Erosion of Natural Deposits
Barium (ppm)	1	2	0.125	0.122	0.122 - 0.125	No	Refinery Discharge, Erosion of Natural Deposits
Fluoride (ppm)	Control Range 0.6 - 1.2 ppm Optimal Level 0.7 ppm		0.8	0.8	0.6 - 1.0	No	Water Additive for Dental Health
Secondary Standards * Tested in 2015							
Aluminum (ppb)	200*	600	155	156	73 - 240	No	Treatment Process Residue, Natural Deposits
Chloride (ppm)	500*	n/a	100	100	98 - 102	No	Runoff or Leaching from Natural Deposits
Color (color units)	15*	n/a	1	1	1	No	Runoff or Leaching from Natural Deposits
Odor (threshold odor number)	3*	n/a	2	2	2	No	Naturally-occurring Organic Materials
Specific Conductance (µmho/cm)	1,600*	n/a	1,040	1,040	1,030 - 1,060	No	Substances that form Ions in Water
Sulfate (ppm)	500*	n/a	257	257	252 - 261	No	Runoff or Leaching from Natural Deposits
Total Dissolved Solids (ppm)	1,000*	n/a	663	660	654 - 665	No	Runoff or Leaching from Natural Deposits
Unregulated Constituents - Tested in 2015							
Alkalinity, total (ppm as CaCO ₃)	n/a	n/a	126	126	120 - 131	n/a	Runoff or Leaching from Natural Deposits
Boron (ppm)	n/a	n/a	0.12	0.12	0.12	n/a	Runoff or Leaching from Natural Deposits
Calcium (ppm)	n/a	n/a	78	78	76 - 80	n/a	Runoff or Leaching from Natural Deposits
Hardness, total (ppm as CaCO ₃)	n/a	n/a	303	300	296 - 306	n/a	Runoff or Leaching from Natural Deposits
Hardness, total (grains/gal)	n/a	n/a	17.8	17.6	17.4 - 17.9	n/a	Runoff or Leaching from Natural Deposits
Magnesium (ppm)	n/a	n/a	27	27	26 - 28	n/a	Runoff or Leaching from Natural Deposits
pH (units)	n/a	n/a	8.1	8.1	8.1	n/a	Hydrogen Ion Concentration
Potassium (ppm)	n/a	n/a	4.9	4.9	4.8 - 5	n/a	Runoff or Leaching from Natural Deposits
Sodium (ppm)	n/a	n/a	101	100	97 - 104	n/a	Runoff or Leaching from Natural Deposits
Total Organic Carbon (ppm)	n/a	TT	2.6	2.6	2.3 - 2.8	n/a	Various Natural and Man-made Sources

ppb = parts-per-billion; **ppm** = parts-per-million; **pCi/L** = picoCuries per liter; **µmho/cm** = micromhos per centimeter; **ND** = not detected; **n/a** = not applicable; **MCL** = Maximum Contaminant Level; **(MCLG)** = federal MCL Goal; **PHG** = California Public Health Goal; **TT** = treatment technique *Constituent is regulated by a secondary standard.

Turbidity - combined filter effluent		Turbidity Measurements				TT Violation?	Typical Source in Drinking Water
Metropolitan Water District Filtration Plants	Treatment Technique	Diemer	Weymouth	Range of Detections			
1) Highest single turbidity measurement (NTU)	0.3	0.04	0.05	--	No	Soil Runoff	
2) Percentage of samples less than 0.3 NTU	95%	100%	100%	--	No	Soil Runoff	

Turbidity is a measure of the cloudiness of the water, an indication of particulate matter, some of which might include harmful microorganisms. Low turbidity in Metropolitan's treated water is a good indicator of effective filtration. Filtration is called a "treatment technique" (TT). A treatment technique is a required process intended to reduce the level of constituents in drinking water that is difficult and sometimes impossible to measure directly.

UNREGULATED CONSTITUENTS REQUIRING MONITORING***

Constituent	Notification Level	PHG	Average Amount	Range of Detections	Most Recent Sampling Date
Chlorate (ppb)	800	n/a	67.6	67.6	2013
Chromium, Hexavalent (ppb)**	MCL = 10	0.02	0.06	0.06	2013
Molybdenum, total (ppb)	n/a	n/a	4.5	4.5	2013
Strontium, total (ppb)	n/a	n/a	899	899	2013
Vanadium, total (ppb)	50	n/a	2.9	2.9	2013

** Hexavalent chromium is regulated with an MCL of 10 ppb but was not detected, based on the detection limit for purposes of reporting of 1 ppb. Hexavalent chromium was included as part of the unregulated constituents requiring monitoring. *** UCMR3 testing completed in 2013 - 2014.

2015 MESA WATER DISTRICT GROUNDWATER QUALITY

TABLE 2

Constituent	MCL	PHG (MCLG)	Average Amount	Range of Detections	MCL Violation?	Most Recent Sampling Date	Typical Source in Drinking Water
Radiologicals							
Uranium (pCi/L)	20	0.43	ND	ND - 1.96	No	2015	Erosion of Natural Deposits
Inorganic Constituents							
Arsenic (ppb)	10	0.004	ND	ND - 2.8	No	2015	Erosion of Natural Deposits
Fluoride (ppm)	2	1	0.49	0.29 - 0.80	No	2015	Erosion of Natural Deposits
Nitrate (ppm as N)	10	10	ND	ND - 1.12	No	2015	Fertilizers, Septic Tanks
Nitrate + Nitrite (ppm as N)	10	10	ND	ND - 1.12	No	2015	Fertilizers, Septic Tanks
Secondary Standards*							
Color (color units)	15*	n/a	1	ND - 10	No	2015	Erosion of Natural Deposits
Chloride (ppm)	500*	n/a	66.2	23.9 - 117	No	2015	Erosion of Natural Deposits
Manganese (ppb)	50*	n/a	ND	ND - 39.5	No	2015	Erosion of Natural Deposits
Odor (threshold odor number)	3*	n/a	ND	ND - 4	No	2015	Naturally-occurring Organic Materials
Specific Conductance (µmho/cm)	1,600*	n/a	616	363 - 1,060	No	2015	Erosion of Natural Deposits
Sulfate (ppm)	500*	n/a	49.2	1.9 - 109	No	2015	Erosion of Natural Deposits
Total Dissolved Solids (ppm)	1,000*	n/a	351	206 - 506	No	2015	Erosion of Natural Deposits
Turbidity (NTU)	5*	n/a	0.33	ND - 1.1	No	2015	Erosion of Natural Deposits
Unregulated Constituents							
Alkalinity, total (ppm as CaCO ₃)	n/a	n/a	150	105 - 182	n/a	2015	Erosion of Natural Deposits
Bicarbonate (ppm as HCO ₃)	n/a	n/a	178	129 - 214	n/a	2015	Erosion of Natural Deposits
Boron (ppm)	n/a	n/a	0.21	ND - 0.42	n/a	2015	Erosion of Natural Deposits
Calcium (ppm)	n/a	n/a	36.8	9.6 - 73.1	n/a	2015	Erosion of Natural Deposits
1,4 Dioxane (ppb)	n/a	n/a	1.4	ND - 5	n/a	2015	Treated Wastewater
Hardness, total (ppm as CaCO ₃)	n/a	n/a	122	26.8 - 251	n/a	2015	Erosion of Natural Deposits
Hardness, total (grains/gal)	n/a	n/a	7.1	1.6 - 14.7	n/a	2015	Erosion of Natural Deposits
Magnesium (ppm)	n/a	n/a	7.4	0.7 - 16.7	n/a	2015	Erosion of Natural Deposits
N-Nitrosodimethylamine (NDMA) (ppt)	n/a	3	ND	ND - 2.4	n/a	2015	Treated Wastewater
pH (units)	n/a	n/a	8.15	7.90 - 8.70	n/a	2015	Acidity, hydrogen ions
Potassium (ppm)	n/a	n/a	1.7	1.0 - 2.3	n/a	2015	Erosion of Natural Deposits
Sodium (ppm)	n/a	n/a	78	39 - 150	n/a	2015	Erosion of Natural Deposits
Vanadium (ppb)	n/a	n/a	4.9	ND - 8.1	n/a	2015	Erosion of Natural Deposits

ppb = parts-per-billion; **ppm** = parts-per-million; **ppt** = parts-per-trillion; **pCi/L** = picoCuries per liter; **NTU** = nephelometric turbidity units; **ND** = not detected; **n/a** = not applicable; **MCL** = Maximum Contaminant Level; **(MCLG)** = federal MCL Goal; **PHG** = California Public Health Goal ; **µmho/cm** = micromho per centimeter; *Constituent is regulated by a secondary standard to maintain aesthetic qualities (taste, odor, color).

UNREGULATED CONSTITUENTS REQUIRING MONITORING****

Constituent	Notification Level	PHG	Average Amount	Range of Detections	Most Recent Sampling Date
1,4-Dioxane (ppb)	1	n/a	2.19	ND - 5.42	2014
Chlorate (ppb)	800	n/a	132	61.6 - 328	2014
Chromium, Hexavalent (ppb)**	MCL = 10	0.02	0.29	ND - 0.68	2014
Chromium, total (ppb)***	MCL = 50	MCLG = 100	0.2	ND - 0.5	2014
Molybdenum, total (ppb)	n/a	n/a	4.8	3.3 - 7.2	2014
Strontium, total (ppb)	n/a	n/a	428	120 - 775	2014
Vanadium, total (ppb)	50	n/a	3.7	0.4 - 5.8	2014

Hexavalent chromium is regulated with an MCL of 10 ppb but was not detected, based on the detection limit for purposes of reporting of 1 ppb. Hexavalent chromium was included as part of the unregulated constituents requiring monitoring. *Total chromium is regulated with an MCL of 50 ppb but was not detected, based on the detection limit for purposes of reporting of 10 ppb. Total chromium was included as part of the unregulated constituents requiring monitoring.

****UCMR3 testing completed 2013 - 2014.

2015 MESA WATER DISTRICT DISTRIBUTION SYSTEM WATER QUALITY

TABLE 3

Disinfection Byproducts	MCL (MRDL/ MRDLG)	Average Amount	Range of Detections	MCL Violation?	Typical Source in Drinking Water
Total Trihalomethanes (ppb)	80	32	ND - 37	No	Byproducts of Chlorine Disinfection
Haloacetic Acids (ppb)	60	9	ND - 6.8	No	Byproducts of Chlorine Disinfection
Chlorine Residual (ppm)	(4 / 4)	2.14	0.52 - 3.13	No	Disinfectant Added for Treatment
Aesthetic Quality					
Color (color units)	15*	1	ND - 10	No	Erosion of Natural Deposits
Odor (threshold odor number)	3*	1	ND - 3	No	Erosion of Natural Deposits
Turbidity (NTU)	5*	0.10	0.06 - 0.25	No	Erosion of Natural Deposits

Eight locations in the distribution system are tested quarterly for total trihalomethanes and haloacetic acids; 25 locations are tested monthly for color, odor and turbidity.

MRDL = Maximum Residual Disinfectant Level; **MRDLG** = Maximum Residual Disinfectant Level Goal; **NTU** = nephelometric turbidity units; **ND** = not detected; **PHG** = Public Health Goal; *Constituent is regulated by a secondary standard to maintain aesthetic qualities.

LEAD AND COPPER ACTION LEVELS AT RESIDENTIAL TAPS

	Action Levels (AL)	Public Health Goal	90th Percentile Value	Sites Exceeding AL / Number of Sites	AL Violation?	Typical Source in Drinking Water
Copper (ppm)	1.3	0.3	0.1	0 / 53	No	Corrosion of Household Plumbing
Lead (ppb)	15	0.2	ND	0 / 53	No	Corrosion of Household Plumbing

Every three years, at least 50 residences are tested for lead and copper at-the-tap. The most recent set of samples was collected in 2014. Lead was not detected in any sample. Copper was detected in 12 samples; none exceeded the action level. A regulatory action level is the concentration of a constituent which, if exceeded, triggers treatment or other requirements that a water system must follow.

UNREGULATED CONSTITUENTS REQUIRING MONITORING IN THE DISTRIBUTION SYSTEM****

Constituent	Notification Level	PHG	Average Amount	Range of Detections	Most Recent Sampling Date
Chlorate (ppb)	800	n/a	213	88.1 - 320	2014
Chromium, Hexavalent (ppb)**	MCL = 10	0.02	0.25	0.19 - 0.34	2014
Chromium, total (ppb)***	MCL = 50	MCLG = 100	ND	ND - 0.3	2014
Molybdenum, total (ppb)	n/a	n/a	5.2	3.5 - 6.0	2014
Strontium, total (ppb)	n/a	n/a	534	372 - 614	2014
Vanadium, total (ppb)	50	n/a	3.9	3.7 - 4.0	2014

Hexavalent chromium is regulated with an MCL of 10 ppb but was not detected, based on the detection limit for purposes of reporting of 1 ppb. Hexavalent chromium was included as part of the unregulated constituents requiring monitoring. *Total chromium is regulated with an MCL of 50 ppb but was not detected, based on the detection limit for purposes of reporting of 10 ppb. Total chromium was included as part of the unregulated constituents requiring monitoring. ****UCMR3 testing completed 2013 - 2014.

Table Legend

What are Water Quality Standards?

Drinking water standards established by U.S. EPA and the State Board set limits for substances that may affect consumer health or aesthetic qualities of drinking water. The chart in this report shows the following types of water quality standards:

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

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

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

How are Contaminants Measured?

Water is sampled and tested throughout the year. Contaminants are measured in:

- **parts per million (ppm) or milligrams per liter (mg/L)**
- **parts per billion (ppb) or micrograms per liter (µg/L)**
- **parts per trillion (ppt) or nanograms per liter (ng/L)**

What is a Water Quality Goal?

In addition to mandatory water quality standards, U.S. EPA and the State Board have set voluntary water quality goals for some contaminants. Water

quality goals are often set at such low levels that they are not achievable in practice and are not directly measurable. Nevertheless, these goals provide useful guideposts and direction for water management practices. The chart in this report includes three types of water quality goals:

- **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 U.S. EPA.
- **Maximum Residual Disinfectant Level Goal (MRDLG):** The level of a 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.
- **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.