

2013 Water Quality Report



mesa·az

Water Resources Department

Providing Quality Water For Over A Century

For more than 100 years, the City of Mesa has been committed to providing its customers with water that meets more than 100 state and federal drinking water standards. When you turn on your tap be assured that your water is clean, safe and meets all state and federal drinking water standards.

The purpose of the annual water quality report is to provide valuable information about your drinking water. Please take a few minutes to read the report and direct any questions or comments to the City of Mesa Water Quality Department and state or federal agencies that can best assist you. Contact information is provided for you in this report.

Source Water Assessment

In 2004, the Arizona Department of Environmental Quality (ADEQ) completed a source water assessment of Mesa's wells and one surface water treatment plant. ADEQ reviewed adjacent land uses and ranked them as to their potential to affect the water source. These risks include, but are not limited to, gas stations, landfills, dry cleaners, agricultural fields, wastewater treatment plants, and mining operations. The result of Mesa's assessment was high risk. However, this does not mean the drinking water is compromised, only that at least one high-risk activity was identified.

The complete assessment can be reviewed at ADEQ, 1110 W. Washington, Phoenix, Arizona 85007, between 8 a.m. and 5 p.m. You can request an electronic copy via e-mail at dml@azdeq.gov. For more information visit ADEQ's Source Water Assessment and Protection Unit Web site at <http://www.azdeq.gov/environ/water/assessment/index.html>.

Contaminant Information

Both tap water and bottled water may realistically be expected to contain at least small amounts of some contaminants. However, the presence of contaminants does not necessarily indicate that water poses a health risk to you and your family. The EPA prescribes enforceable regulations that limit the amount of certain contaminants allowed in water provided by public water systems. Bottled water is regulated by the U.S. Food and Drug Administration (FDA) as a food product and is required to meet standards equivalent to those the EPA sets for tap water.



There are several ways contaminants can enter the drinking water supply. They also come from many different sources. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals. It can also pick up substances resulting from animals or human activity. Contaminants that may be present in source water include:

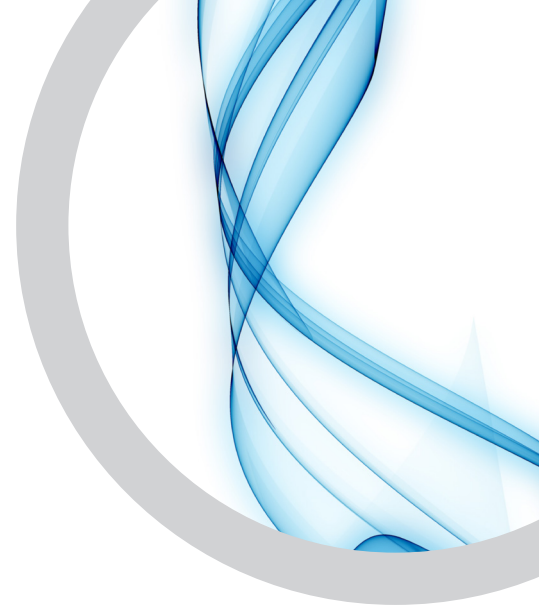
- **Microbial contaminants**, such as viruses and bacteria that may come from improperly operated sewage treatment plants, septic systems, agricultural livestock operations, recreational activities and wildlife.
- **Inorganic contaminants**, such as salts and metals, which can be naturally occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- **Disinfection byproducts** are chemical compounds that form during the water treatment process. Natural organic material and minerals in the water combine with the disinfectants used to kill pathogenic microorganisms to form trihalomethanes and haloacetic acids. Some people who drink water containing trihalomethanes in excess of the Maximum Contaminant Level (MCL) over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.
- **Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- **Organic chemical contaminants**, including synthetic and volatile organic chemicals that are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.
- **Radioactive contaminants**, which can be naturally occurring or be the result of oil and gas production and mining activities.
- **Radon** - All City of Mesa water sources have been analyzed for radon. Results range from non-detectable to 917 Picocuries per liter (pCi/L), with an average level of 385 pCi/L. The EPA is working on a radon rule that will establish a MCL. Because radon is primarily an airborne contaminant, the proposed MCL is 300 pCi/L for communities with no air quality program, and 4,000 pCi/L if there is a radon reduction program in place.



Health Effects Language

- **Trichloroethylene (TCE)** - Some people who drink water containing trichloroethylene in excess of the MCL over many years could experience problems with their liver and may have an increased risk of getting cancer.
- **Dibromochloropropane (DBCP)** - Some people who drink water containing DBCP in excess of the MCL over many years could experience reproductive problems and may have an increased risk of getting cancer.
- **Arsenic** - Mesa's drinking water contains low levels of arsenic, a naturally occurring mineral. Beginning in January 2006, allowable arsenic levels were reduced from 50 parts per billion (ppb) to 10 ppb. The EPA determined this standard by balancing the current understanding of arsenic's possible health effects against the costs of removing it from drinking water. The EPA continues to research the health effects of low-level exposure to arsenic. Some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.
- **Lead and Copper** - 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. The City of Mesa is responsible for providing high quality drinking water, but cannot control the variety of materials used in home 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 two minutes before using water for drinking or cooking. Never use the hot water for drinking or cooking purposes as it has a greater chance of higher lead and copper levels. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://water.epa.gov/drink/info/lead/index.cfm>.

Mesa monitored for lead and copper in 2012 at 54 residences throughout the community. The action levels established by EPA are 1.3 mg/L for copper and 0.015 mg/L for lead. Compliance with this requirement is based on 90 percent of the samples being below the action levels. From the samples taken, the 90th percentile value for copper was 0.096 mg/L and for lead 0.005 mg/L.



Taking Special Precautions

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised people such as persons undergoing chemotherapy, people who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA and Centers for Disease Control 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 (800) 426-4791 or at <http://water.epa.gov/drink/hotline/index.cfm>.

Definitions

To help you understand the terms and abbreviations used in this report, we have provided the following definitions:

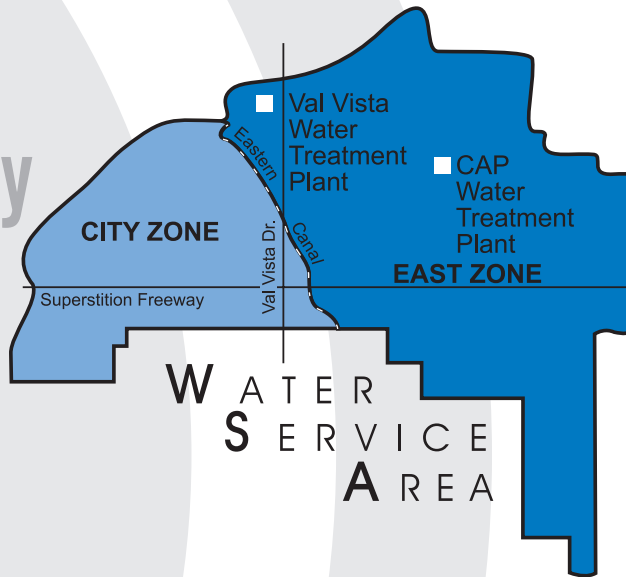
- **Action Level (AL)** – the concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a community water system shall follow.
- **Grains Per Gallon (gpg)** – unit of water hardness used for setting water softeners.
- **Maximum Contaminant Level (MCL)** – the highest level of a contaminant allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
- **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 allow for a margin of safety.
- **Milligrams Per Liter (mg/L)** – one milligram per liter corresponds to one drop in 13 gallons.
- **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 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.
- **Million Fibers Per Liter (MFL)** – measure of the presence of asbestos fibers that are longer than 10 micrometers in one liter of water.



- **Nephelometric Turbidity Units (NTU)** – a measure of the clarity of water.
- **Not Applicable (NA)** – does not apply to regulations or sample results.
- **Not Detected (ND)** – contaminants not detected.
- **Picocuries Per Liter (pCi/L)** – a measurement of radioactivity in water.
- **Treatment Technique (TT)** – a required process to reduce the level of a contaminant in drinking water.
- **WTP** – water treatment plant.



2013 Water Quality Data



Mesa's Water Sources

Mesa relies on three drinking water sources:

1. Salt and Verde River water from Salt River Project (SRP) that supplies the City Zone (CZ)
2. Colorado River water from Central Arizona Project (CAP) that supplies the East Zone (EZ)
3. 30 wells that supply water throughout the entire City (GW)

The Eastern Canal is the dividing line between the City Zone and the East Zone. The canal runs diagonally southeast from Gilbert and McDowell roads to Greenfield and Baseline roads. In 2012, 59 percent of the water used in Mesa came from CAP, 31 percent from SRP, and the remaining 10 percent from the City's wells.

The table on the next page lists drinking water contaminants detected in calendar year 2012 and data from the most recent testing done in accordance with the Safe Drinking Water Act. The presence of contaminants does not indicate that the water poses a health threat.



2012 Water Quality Data

INORGANIC CHEMICALS								
Parameter (value in mg/L unless noted)	MCL	MCLG	City Zone		East Zone		Groundwater	
			Average	Range*	Average	Range*	Average	Range*
Arsenic	0.010	0	ND	NA	0.001	ND - 0.002	0.007	ND - 0.012
Barium	2.0	2.0	0.032	NA	0.111	0.099 - 0.123	0.022	0.002 - 0.085
Calcium	**	**	51	46 - 59	75	NA	35	30 - 40
Chloride	**	**	260	56 - 356	89.9	89.7 - 90.0	103	9.5 - 290
Chromium	0.1	0.1	ND	NA	0.004	ND - 0.015	0.008	0.002 - 0.018
Copper	AL = 1.3	1.3	0.073	0.016 - 0.293	0.045	0.008 - 0.234	0.022	0.002 - 0.076
Fluoride	4.0	4.0	0.54	0.31 - 0.97	0.64	0.29 - 0.85	0.40	ND - 1.10
Hardness (gpg)	**	**	12	10.5 - 14.0	17.1	15.9 - 18.0	10.1	1.1 - 22.6
Lead	AL = 0.015	0.015	0.002	ND - 0.023	0.002	ND - 0.029	0.0008	ND - 0.002
Nickel	NA	NA	2.1	NA	0.004	0.001 - 0.013	0.001	ND - 0.009
Nitrate	10.0	10.0	0.04	ND - 0.27	0.23	NA	2.01	0.30 - 6.6
pH	**	**	NA	7.6 - 8.0	NA	6.98 - 7.69	NA	7.06 - 8.22
Selenium	0.05	0.05	ND	NA	0.002	ND - 0.003	0.0004	ND - 0.001
Sodium	**	**	50	NA	73	NA	129	53 - 233
Sulfate	**	**	55	42 - 152	230	NA	53	25 - 250
Total Dissolved Solids	**	**	419	416 - 422	379	256 - 500	707	666 - 772
RADIONUCLIDES								
Gross Alpha (pCi/L)	5	0	ND	NA	3.6	NA	2.84	ND - 7.7
Radium Combined (pCi/L)	5	0	ND	NA	ND	NA	0.00968	ND - 0.3
Radon (pCi/L)	4000	0	ND	NA	ND	NA	385	ND - 917
DISINFECTION BYPRODUCTS								
Chlorite	1.0	0.8	0.30	ND - 0.70	0.26	0.13 - 0.40	NA	NA
Haloacetic Acids	0.06	NA	0.009	ND - 0.026	0.014	ND - 0.036	NA	NA
Total Trihalomethanes (TTHM)	0.080	0.060	0.032	ND - 0.065	0.037	ND - 0.066	0.0001	ND - 0.0029
ORGANIC CHEMICALS								
Dibromochloropropane (DBCP)	0.0002	0	ND	NA	ND	NA	0.000002	ND - 0.000035
Trichloroethylene (TCE)	0.005	0	ND	NA	ND	NA	0.00003	ND - 0.0005
MICROBIOLOGICAL								
Total Coliforms	MCL: No more than 5% of monthly samples may be total coliform positive			MCLG	Yearly Average	Monthly Range		
				0%	0.15 %	0 - 1.3 %		
OTHER								
Turbidity (NTU)	TT: No value can exceed 1 NTU and at least 95% of monthly samples must be less than or equal to 0.3 NTU MCLG: NA			City Zone		East Zone		
				Val Vista WTP		Brown Road WTP		
				100% of monthly measurements were less than or equal to 0.3 NTU.		100% of monthly measurements were less than or equal to 0.3 NTU.		
				Highest measurement = 0.3 NTU		Highest measurement = 0.13 NTU		
DISINFECTANTS								
Parameter (value in mg/L unless noted)	MRDL	MRDLG	City Zone		East Zone		Groundwater	
			Average	Range*	Average	Range*	Average	Range*
Chlorine Dioxide	0.80	0.80	0.22	ND - 0.61	0.03	ND - 0.21	NA	NA
Chlorine Residual	4.0	4.0	0.80	ND - 2.0	0.86	ND - 1.85	0.73	ND - 1.77

*If range is NA, there was only one sample collected for that parameter.
 **This parameter is not regulated, so there are no MCLs or MCLGs.

How You Can Get Involved

If you wish to provide input on water-related issues, the Mesa City Council meets at 5:45 p.m. the first and third Monday of each month in Council Chambers, located at 57 E. First St., unless otherwise noted. For a complete meeting schedule, visit www.mesaaz.gov.

For More Information

Online water quality report – www.mesaaz.gov

City of Mesa Water Quality Services (480) 644-6461

- E-mail address – water.quality@mesaaz.gov
- City of Mesa home page – www.mesaaz.gov

Maricopa County Environmental Services Department
(602) 506-6666

AZ Department of Environmental Quality (ADEQ)
(602) 771-2300

Environmental Protection Agency (EPA)
(800) 426-4791

If you would like a copy of this report emailed or mailed, please contact the City of Mesa Water Quality Services.

En Español

Si quiere recibir esta información en español, por favor llame a Lucy Lopez y pídale que le mande el folleto sobre el agua de la Ciudad de Mesa. Puede comunicarse con ella por llamar al (480) 644-3683.

