



2007 Annual Drinking Water Quality Report For City of El Mirage

Public Water System Name: El Mirage Water System
Public Water System Number: AZ04-07-091

El Mirage is pleased to present to you this year's water quality report. Our constant goal is to provide you with a safe and dependable supply of drinking water.

General Information About Drinking Water

All 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 the water poses a health risk. Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons 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 of infections. These people should seek advice about drinking water from their health care providers. For more information about contaminants and potential health effects, or to receive a copy of the U.S. Environmental Protection Agency (EPA) and the U.S. Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and microbiological contaminants call the EPA 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. Contaminants that may be present in source water include:

- **Microbial contaminants**, such as viruses and bacteria that 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, or farming.
- **Pesticides and herbicides** that 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 byproducts of industrial processes and petroleum production, and also may come from gas stations, urban stormwater runoff, and septic systems.

- **Radioactive contaminants**, that can be naturally occurring or be the result of oil and gas production and mining activities.

DID YOU KNOW: Stormwater runoff can affect the quality of your drinking water by polluting the untreated water bodies and naturally soaking in to the ground? Stormwater picks up debris, chemicals, dirt and other pollutants and flows into the stormwater sewer system which discharges into the Agua Fria River. Please recycle or properly dispose of household chemicals, clean up pet waste, yard waste and trash. The City of El Mirage has an annual Household Hazardous Waste Collection and a semi-annual Bulk Trash Collection so you can properly dispose of trash and chemicals. For more information go to <http://www.azstorm.org/>



Frequently Asked Questions

What is the hardness of my water?

The range for hardness was 60 ppm to 150 ppm with an average of 89.12 ppm or 3 grains per gallon.

Why does my water have a foul odor?

The odor is not coming from your water, but from the P drain lines beneath sinks, tub and showers. The problem is dirt, grime, mold; etc passing through the tailpipe on its way to the sewer causing a thick layer of slime which is bacteria. This bacterium creates the odor. Using household bleach poured into each drain will help neutralize any bacteria that may be present. If problems persist, pipes can be taken apart and cleaned or replaced or it could be a serious plumbing flaw. As a last result, a plumbing professional can quickly diagnose and fix the problem. To make sure it is not the water, take a clean glass jar and lid, fill the jar about 3 quarters full cap immediately, step into another room remove the lid and smell the water.

Why is my water cloudy?

Typically milky, cloudy water is the result of air in the water distribution system. The cloudiness is formed by millions of tiny air bubbles that disappear in a matter of 2-3 minutes. As the bubbles surface to the top, the water becomes clear.

HOT TIP: Put food coloring in your toilet tank. If it seeps into the toilet bowl, you have a leak. You can save 600 gallons a month when it is repaired.

In order to ensure that tap water is safe to drink, the Arizona Department of Environmental Quality prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration regulations establish limits for contaminants in bottled water

Terms and Abbreviations

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

<u>Definition Drinking Water Terms</u>	<u>Definition Unit Descriptions</u>
MCLG: Maximum Contaminant Level Goal: 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.	ppm: Parts per million, or milligrams per liter (mg/L)
MCL: Maximum Contaminant Level: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.	ppb: Parts per billion, or micrograms per liter (ug/L)
TT: Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.	% positive samples/month : Percent of samples taken monthly that were positive
AL: Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.	NA : Not applicable
Variations and Exemptions: State or EPA permission not to meet an MCL or a treatment technique under certain conditions.	ND : Not detected
MRDLG: Maximum residual disinfection level goal. 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.	NR : Monitoring not required, but recommended
MRDL: Maximum residual disinfectant level. 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.	90th percentile : Position in a data set which 90% of data points are below position and 10% of data set are above position
MNR: Monitored Not Regulated	Present : positive sample
MPL: State Assigned Maximum Permissible Level	Absent : negative sample
RAA: Running Annual Average of 12 consecutive months	pCi/L : unit of radioactivity

Water Quality Data



The City routinely monitor for contaminants in your drinking water according to Federal and State laws. The State of Arizona requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year, or the system is not considered vulnerable to this type of contamination. 2007 was a major monitoring year for El Mirage Water System. All samples are tested at a Certified Laboratory.

The City routinely monitors for Total Coliform Bacteria and Chlorine levels at 40 different sampling locations thru out the city every month.

August 2, 2007 the percent of positive samples exceeded the 5 percent of monthly sample allowed by State Regulations. 35 % of 40 monthly samples were positive for Total Coliform Bacteria, but negative for Fecal coliform or E. Coli bacteria. Total Coliform Bacteria are indicator organisms that can reveal if the bacteria are harmful or not harmful. Most Coliform bacteria is not harmful, however Fecal coliform and E. Coli can cause illness.

Subsequent samples on August 8, 2007 were negative to Total Coliform Bacteria. All other monthly samples have been negative for Total Coliform. It was determined that sampling procedure errors may have lead to the positive samples. A Public Notice was sent out to all water customers on October 8, 2007, which exceeded the 30 days required by AAC.18-4-105(B).

Microbiological Contaminants

Contaminant	MCL	MCLG	Unit	Result	Violation (Yes or No)	Sample Date	Likely Source of Contamination
Total Coliform Bacteria for Systems that collect >40 samples per month	No more than 5% of monthly samples can be positive	0	Absent or Present	Present 35%	Yes	08/02/07	Naturally present in the environment
Fecal coliform and E. Coli	A routine sample & a repeat sample are total coliform positive, & one is also fecal coliform or <i>E. coli</i> positive	0	Absent or Present	Absent	No	08/02/07	Human and animal fecal waste

Disinfectants

	MRDL	MRDLG	Units	Level Detected	Violation (Yes or No)	Sample Date/Year	Source
Chlorine	4	4	ppm	0.77	NO	RAA	Water additive used to control microbes

For your information, we have compiled a list in the tables below showing what substances were detected in our drinking water during 2007, **but below the maximum contamination level (MCL) and Action Level (AL).**

Lead and Copper

Contaminant	AL	ALG	Units	90 th Percentile	Number of Sites over AL	Violation (Yes or No)	Sample Date/Year	Likely Source of Contamination
Copper	1.3	1.3	ppm	0.189	30	NO	2007	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead	0.015	0	ppm	< 0.002	30	NO	2007	Corrosion of household plumbing systems, erosion of natural deposits

Radionuclides

Contaminant	MCL	MCLG	Units	Level Detected	Violation (Yes or No)	Sample Date	Likely Source of Contamination
Alpha emitters	15	0	pCi/l	2.4	NO	10/23/2007	Erosion of natural deposits
Combined radium	5	0	pCi/l	2.2	NO	8/27/2007	Erosion of natural deposits
Uranium	30	0	ppb	4.9	NO	10/24/2007	Erosion of natural deposits

Disinfection Byproducts

Contaminant	MCL	MCLG	Units	Average	Range	Highest RAA	Violation (Yes or No)	Sample Date/Year	Likely Source of Contamination
Haloacetic Acids (HAA)	0.060	N/A	ppm	< 0.0020	< 0.0020 < 0.0020	< 0.0020	NO	06/27/2007	By-product of drinking water disinfection
Total Trihalomethanes (TTHM)	0.080	N/A	ppm	0.0035	0.0024 0.0046	0.0035	NO	06/27/2007	By-product of drinking water disinfection

Inorganic Contaminants

Contaminant	MCL	MCLG	Units	Level Detected	Violation (Yes or No)	Sample Date	Likely Source of Contamination
Arsenic	0.01	0	ppm	0.0079	NO	1/10/2007	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium	2	2	ppm	0.03	NO	5/1/2007	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chromium	0.1	0.1	ppm	0.015	NO	1/10/2007	Discharge from steel and pulp mills; erosion of natural deposits
Fluoride	4	4	ppm	1.34	NO	6/21/2007	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate (as Nitrogen)	10	10	ppm	3.32	NO	5/1/2007	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

Synthetic Organic Contaminants, Including Pesticides and Herbicides

Contaminant	MCL	MCLG	Units	Level Detected	Violation (Yes or No)	Sample Date	Likely Source of Contamination
Di (2-ethylhexyl) phthalate	0.006	0	ppm	0.0013	NO	3/19/2007	Discharge from rubber and chemical factories
Dibromochloropropane	0.0002	0	ppm	0.00002	NO	8/27/2007	Runoff/leaching from soil fumigant used on soybeans, cotton, pineapples, and orchards

Volatile Organic Contaminants

Contaminant	MCL	MCLG	Units	Level Detected/Range	Violation (Yes or No)	Sample Date	Likely Source of Contamination
Xylenes	10	10	ppm	0.0215	NO	6/7/2007	Discharge from petroleum factories; discharge from chemical factories

Unregulated Contaminants

Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. El Mirage tested for Unregulated Contaminants in 2001 and none were detected.

Health Effects Information



Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods-of-time because of rainfall or agricultural activity. If you are caring for an infant, and detected nitrate levels are above 5 ppm, you should ask advice from your health care provider.

If **arsenic** is less than the MCL, your drinking water meets EPA's standards. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. 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.

Infants and young children are typically more vulnerable to **lead** in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested. Flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the EPA *Safe Drinking Water Hotline* at 1-800-426-4791.

HOT TIP: Use a broom instead of a hose to clean your driveway and sidewalk and save 80 gallons every time. For more water-saving tips go to wateruseitwisely.com

Our Water Source Assessment



The City of El Mirage Water System is supplied solely by groundwater. There are 8 wells that recover water from the Agua Fria Aquifer.

Based on a mandate set forth in the 1996 amendments to the Safe Drinking Water Act, Arizona Department of Environmental Quality (ADEQ) evaluated each water source used by public water systems in Arizona. The quality of ground water, in El Mirage, being drawn was assessed along with land use activities and hydrogeology and showed no risk of contamination from pollutants. ADEQ gave the City of El Mirage Water System wells a **low risk designation**.

Source Water Assessments are on file with the Arizona Department of Environmental Quality are available for public review. If a Source Water Assessment is available, you may obtain a copy of it by contacting the Arizona Source Water Coordinator at (602) 771-4641.

You as a citizen of El Mirage can have a voice in the decisions made regarding the El Mirage drinking water system. You can attend and participate in City Council meetings. The City Council meets on the second and fourth Thursday of each month at the Municipal Court located at 14010 North El Mirage Road.

Esta es información importante. Si no la pueden leer, necesitan que alguien se la traduzca.

Please contact **Jamie McCullough** at (623) 876-4252 to learn more about what you can do to help protect your drinking water sources, any questions about the annual drinking water quality report and learn more about our system. We want you, our valued customers, to be informed about the services we provide and the quality water we deliver to you every day.

