



2013 CITY OF EL MIRAGE WATER QUALITY REPORT

PUBLIC WATER SYSTEM: AZ04-07-091

The City of El Mirage is pleased to present its' Annual Water Quality Report for calendar year 2013. This report explains how drinking water provided by the City of El Mirage is of the highest quality. Included is a listing of results from multiple water quality tests, as well as an explanation of where the water comes from, how to interpret the data, and useful conservation tips.

Drinking Water Sources

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells.



The City of El Mirage Water System source water is supplied solely by groundwater and retrieved through the pumping of wells. There are nine wells that recover water from the Agua Fria Aquifer.

As water travels over the surface of the land or through the ground the ground acts as a natural filtration system, dissolving naturally occurring minerals and other unwanted materials. While this helps eliminate some contaminants in the water, there is still a need for additional water treatment measures to address unwanted substances from the presence of animals or human activity

Drinking Water Contaminants

(A) Microbial contaminants, such as viruses and bacteria that may be from sewage treatment plants, septic systems, agricultural livestock operations, or wildlife.

(B) 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.

(C) Pesticides and herbicides that may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.

(D) Organic chemical contaminants, including synthetic and volatile organics, which are by-products of industrial processes and petroleum production. They can also come from gas stations, urban storm water runoff and septic systems.

(E) Radioactive contaminants that can be naturally-occurring or can be the result of oil and gas production and mining activities.

Special Information for Immune-compromised People

Some people may be more vulnerable to contaminants in drinking water than the general population. Immune-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, persons 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. To receive a copy off 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 other microbial contaminants call the EPA *Safe Drinking Water Hotline* at (800-426-4791).

Source Water Assessment Summary

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**. Low risk indicates that source water protection measures are implemented. Source Water Assessments are on file with the ADEQ and are available for public review. Source Water Assessment is available and a copy may be obtained by contacting the Arizona Source Water Coordinator at (602) 771-4641.

El Mirage Drinking Water Quality

The following tables show regulated substances, volatile organic compounds, synthetic organic compounds, inorganic compounds, radio chemicals, disinfection byproducts, disinfectants and microbiology that were required to be tested. The table contains the name of each contaminate, of the regulated substances, that were detected at low levels in El Mirage drinking water. The table will indicate if sampling occurred in the distribution system or at the well site, the amount detected (low to high), the highest level allowed by regulation, the ideal goals for public health, and the typical sources of the type of contamination. Certain substances are required to be monitored less than one time per year because concentrations of these substances are not expected to vary significantly from year to year. All detected contaminates in El Mirage Water, were **below the maximum contaminate level** as specified by the **National Primary Drinking Water Regulations**. Because the detected contaminates were below the MCL, there were no violations for El Mirage drinking water which insures that the quality of the water is safe and poses no health risks.

Definitions and Acronyms

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

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

(CFU) Colony Forming Units: A measure of microbial quantity.

(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.

(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.

(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.

(MRDLG) Maximum Residual Disinfectant 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.

(NA) Not applicable

(ND) Non-Detect: Not detected in sample.

(PCi/L) Picocuries per liter: A measure of the radioactivity in water.

(PPM) Parts per million or milligrams per liter (mg/l)

(PPB) Parts per billion or micrograms per liter (ug/l)

(PPT) Parts per trillion or Nanograms per liter

(RAA) Running Annual Average of 12 consecutive months

(EPDS) Entry Point to Distribution System: The point where the water from the well enters the distribution system

WATER QUALITY DATA

Microbiological	Violation Y or N	Number of Samples Present	Absent (A) or Present (P)	MCL	MCLG	Sample Month & Year	Likely Source of Contamination
Total Coliform Bacteria 40 Monthly Samples Distribution System	N	0	A	0	0	01/2013 Through 12/2013	Naturally Present in Environment
Disinfectants	Violation Y or N	Running Annual Average (RAA)	Range of All Samples (L-H)	MRDL	MRDLG	Sample Month & Year	Likely Source of Contamination
Chlorine (ppm) 40 Monthly Samples Distribution System	N	0.86	0.80 – 1.07	4	4	01/2013 Through 12/2013	Water additive used to control microbes
Disinfection By-Products	Violation Y or N		Range of All Samples (L-H)	MCL	MCLG	Sample Month & Year	Likely Source of Contamination
Haloacetic Acids (ppb) (HAA5) 2 Annual Sample Distribution System	N	ND	ND	60	N/A	06/2013	Byproduct of drinking water disinfection
Total Trihalomethanes (ppb) (TTHM) 2 Annual Samples Distribution System	N	5.7	2.2 – 5.7	80	N/A	06/2013	Byproduct of drinking water disinfection
Lead & Copper	Violation Y or N	90 th Percentile	Range of All Samples (L-H)	AL	ALG	Sample Month & Year	Likely Source of Contamination
Copper (ppm) Tri-annual samples 32 Residential Homes	N	0.29	0.01 - 0.34	AL = 1.3	ALG = 1.3	06/2013	Corrosion of household plumbing systems; erosion of natural deposits
Lead (ppb) Tri-annual samples 32 Residential Homes	N	1.4	ND – 1.4	AL = 15	0	06/2013	Corrosion of household plumbing systems; erosion of natural deposits
Radionuclides 3 Samples Tri-annual 9 Wells	Violation Y or N	Highest Level Detected	Range of All Samples (L-H)	MCL	MCLG	Sample Month & Year	Likely Source of Contamination
Alpha emitters (pCi/L)	N	1.1 ± 1.0	ND -1.1 ± 1.0	15	0	11/2013	Erosion of natural deposits
Combined Radium 226 & 228 (pCi/L)	N	0.5 ± 0.1	ND – 0.5 ± 0.1	5	0	11/2013	Erosion of natural deposits
Uranium (pCi/L)	N	4.4 ± 0.9	1.0 ± 0.5 - 4.4 ± 0.9	30	0	11/2013	Erosion of natural deposits
Inorganic Chemicals (IOC) 15 Contaminates Tri-annually 4 Wells 5 Wells Exempt until 2016	Violation Y or N	Highest Level Detected	Range of All Samples (L-H)	MCL	MCLG	Sample Month & Year	Likely Source of Contamination
Arsenic (ppb)	N	7.2	6.4 – 7.2	10	0	04/2013	Erosion of natural deposits, runoff from orchards, runoff from glass and electronics production wastes
Barium (ppm)	N	0.04	ND – 0.04	2	2	04/2013	Discharge of drilling wastes; discharge from metal refineries; Erosion of natural deposits
Chromium (ppb)	N	17	8.0 - 17	100	100	04/2013	Discharge from steel and pulp mills; Erosion of natural deposits

Fluoride (ppm)	N	1.25	0.22 – 1.25	4	4	04/2013	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate (ppm) 1 sample is required annually 9 Wells	N	5.99	1.10 – 5.99	10	10	04/2013	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Synthetic Organic Chemicals (SOC) 37 Contaminates twice tri-annually 9 Wells	Violation Y or N	Highest Level Detected	Range of All Samples (L-H)	MCL	MCLG	Sample Month & Year	Likely Source of Contamination
2,4-D (ppb) EPDS # 001	N	0.3	ND – 0.3	70	70	07/2013	Runoff from herbicide used on row crops
Dibromochloropropane (ppt) EPDS # 001	N	0.3	ND – 0.3	200	0	07/2013	Runoff/leaching from soil fumigant used on soybeans, cotton, pineapples, and orchards
Volatile Organic Chemicals (VOC) are sampled annually at 6 Wells for 22 contaminants, 3 Wells are Exempt until 2016. VOCs were non-detect for 2013. Asbestos and nitrites are sampled every 9 years neither contaminate were detected for 2013							

Additional Health Information

Arsenic - While your drinking water meets EPA's standard for arsenic and is less than the MCL, it does contain low levels of arsenic. 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.

Lead - If present, elevated levels of lead can cause health 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 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 elevated lead levels in your home's 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: <http://www.epa.gov/safewater/lead>.

Nitrate - Nitrate in drinking water at levels above 10 ppm is a health risk for infants 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 above 5 ppm, you should ask for advice from your healthcare provider.

FREQUENTLY ASKED QUESTIONS

Why is my drinking water cloudy?

Drinking water delivered through a municipal system can sometimes look "milky" or "cloudy." This cloudiness often occurs when air becomes trapped in the water. While this may impact the water's appearance, it does not affect the water's safety and will not harm household plumbing systems. Air can be introduced in many ways, including the groundwater pumping process, water pipeline maintenance, or the process of bringing cold groundwater to the warmer surface. Because water pipelines are pressurized, air remains trapped in the water until you open the faucet and release the pressure.

Why does my drinking water smell like sewer when I turn on the faucet?

If you turn on the faucet to use your water and it smells like sewer gas, this smell is probably not from the tap water but rather from your drain. Sewer smells will occur if the U-shaped trap under your drain is not working properly, either from a leak or if the water in the trap evaporates. Drains also collect lots of bacteria and other matter that over time may emit unpleasant odors. To determine the source of the odor fill a clean glass from the affected faucet and then move to another room or go outside, and then smell the water. If the odor is detected in the water from the glass, please contact us for assistance. If the odor is not detected, the smell is probably coming from your drain and you may use a drain cleaner or try a cup of bleach in the drain over overnight. If the odor continues call a plumber.

For more information about this report, or any questions relating to your drinking water, please contact Jamie McCullough, Environmental Compliance Coordinator, at 623-935-6405 or visit our website at: www.cityofelmirage.org

Hard copies of this report will be available by June 30, 2014 at City Hall and Customer Service

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