



## Consumer Confidence Report for Calendar Year 2017

Este informe contiene información muy importante sobre el agua usted bebe.  
Tradúscalo ó hable con alguien que lo entienda bien.

Public Water System ID Number	Public Water System Name		
AZ04-13001	Freeport-McMoRan Bagdad Town System		
Contact Name and Title	Phone Number	E-mail Address	
Trika Graham – Environmental Scientist II	928.633.6084	tgraham@fmi.com	
<p>We want our valued customers to be informed about their water quality. If you would like to learn more about public participation or to attend any of our regularly scheduled meetings, please contact <b>Kristopher Garcia</b> at <b>928.633.3191</b> for additional opportunity and meeting dates and times.</p>			

**Freeport-McMoRan Bagdad Inc. (FMBI)** is committed to providing a safe supply of drinking water to our customers. We issue this report by July 1<sup>st</sup> of every year describing the quality of your drinking water to comply with state and U.S. Environmental Protection Agency (EPA) regulations. Much of the language used is mandated by regulations. This report provides valuable information about your drinking water, including information about its source and quality.

If you would like more information on the quality of your drinking water, have questions regarding this report, or require additional copies, please contact Kristopher Garcia, at (928) 633-3191. FMBI recommends that customers serving more than one housing unit post a copy of this report in a conspicuous place. We are pleased to report that Bagdad’s water meets or exceeds all drinking water standards set by the state and federal government for 2017.

### Drinking Water Sources

The sources of drinking water (both tap 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.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

<b>Our water source(s):</b>	<p>Our major water source is Francis Creek Springs located fifteen miles northwest of the town of Bagdad. This source, because of its approved encasements, is considered “groundwater” by the Arizona Department of Environmental Quality (ADEQ). We have six groundwater wells that provide additional water and range from 400 to 700 feet in depth. Four of the wells are located three to six miles northeast of Bagdad. The wells can be operated independently or together with the Francis Creek source to provide water to the town and mine. The remaining two wells are located one mile east of Sycamore Mobile Home Park. The wells can be operated independently or together with the Francis Creek source and the other wells to provide water to the mobile home park.</p>
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**Drinking Water Contaminants** that may be present in source water include the following:

**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 that 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:** Such as agriculture, urban storm water runoff, and residential uses that may come from a variety of sources

**Organic Chemical Contaminants:** Such as synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and also may come from gas stations, urban storm water runoff, and septic systems.

**Radioactive Contaminants:** That can be naturally occurring or be the result of oil and gas production and mining activities.

### **Vulnerable Population**

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. 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 from 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.EPA and the U.S. Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and microbial contaminants call the EPA *Safe Drinking Water Hotline* at 1-800-426-4791.

### **Source Water Assessment**

The Source Water Assessment (SWA) Program, developed and implemented by ADEQ under EPA guidance, was created to promote community awareness of water quality issues and to encourage the protection of drinking water sources at the community level. ADEQ gathers information on drinking water sources – including wells, surface water intakes, and springs – and evaluates the extent to which the water source is vulnerable to natural or man-made contamination from sources such as gas stations, landfills, dry cleaners, agriculture fields, waste water treatment plants, and mining activities. ADEQ has evaluated the source water areas in Yavapai County including the source waters for the FMBI drinking water system. The SWA for the FMBI drinking water system has been designated as low risk. A low risk designation indicates that most source water protection measures are either already implemented, or the hydrogeology is such that the source water protection measures will have little impact on protection.

The complete SWA report is available for inspection at the ADEQ, 1110 W. Washington, Phoenix, Arizona 85007, between the hours of 8:00 am and 5:00 pm. Further source water assessment documentation can be obtained by contacting ADEQ, 602-771-4641 or visit ADEQ's Source Water Assessment Protection Unit website at:

[www.azdeq.gov/enviro/water/dw/swap.html](http://www.azdeq.gov/enviro/water/dw/swap.html).

## Definitions

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

**Action Level (AL):** The concentration of a contaminant which, if exceeded, triggers treatment, or other requirements

**Maximum Contaminant Level (MCL):** The highest level of a contaminant that is allowed in 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

**Maximum Residual Disinfectant Level (MRDL):** The level of disinfectant added for water treatment that may not be exceeded at the consumer's tap

**Maximum Residual Disinfectant Level Goal (MRDLG):** The level of disinfectant added for treatment at which no known or anticipated adverse effect on health of persons would occur

**Not Applicable (NA):** Sampling was not completed by regulation or was not required

**Not Detected (ND or <):** Not detectable at reporting limit  
**Million fibers per liter (MFL)**

**Picocuries per liter (pCi/L):** Measure of the radioactivity in water

**ppm:** Parts per million or Milligrams per liter (mg/L)

**ppb:** Parts per billion or  
Micrograms per liter ( $\mu\text{g/L}$ )                      ppm x 1000 = ppb

## Lead Informational Statement:

Lead, in drinking water, is primarily from materials and components associated with service lines and home plumbing. If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Freeport-McMoRan Bagdad Town System 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. 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 [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).

## Water Quality Data – Regulated Contaminants

NOTE: The ADEQ Monitoring Assistance Program (MAP) tested for regulated volatile organic contaminants (VOCs) in March 2017 and none were detected. The ADEQ MAP tested for synthetic organic contaminants (SOCs) and Aroclor contaminants in March 2017 and none were detected.

The data in the attached tables are from water samples that have been analyzed by independent laboratories certified by the Arizona Department of Health Services. The analytic results shown on the following tables are for the period of January 1, 2017 through December 31, 2017 (or the last frequency test date within the last five years, in compliance with applicable regulations).

**EPDS # 2: Sycamore Mobile Home Park Tank**

Disinfectants	MCL Violation Y or N	Running Annual Average (RAA)	Range of All Samples (Low-High)	MRDL	MRDLG	Sample Month & Year	Likely Source of Contamination
Chlorine/Chloramine (ppm)	N	1.06	0.45-2.0	4	4	December 2017	Water additive used to control microbes
Disinfection By-Products	MCL Violation Y or N	Running Annual Average (RAA) OR Highest Level Detected	Range of All Samples (Low-High)	MCL	MCLG	Sample Month & Year	Likely Source of Contamination
Total Trihalomethanes (TTHM) (ppb)	N	15.4	10.8 - 20	80	N/A	July 2017	Byproduct of drinking water disinfection
Lead & Copper	MCL Violation Y or N	90 <sup>th</sup> Percentile	Number of Samples Exceeds AL	AL	ALG	Sample Month & Year	Likely Source of Contamination
Copper (ppm)	N	> AL = 0 90th percentile (entire water system) = 0.08	0	1.3	1.3	June 2015	Corrosion of household plumbing systems; erosion of natural deposits
Lead (ppb)	N	>AL = 0 90th percentile (entire water system) = 1.5	0	15	0	June 2015	Corrosion of household plumbing systems; erosion of natural deposits
Radionuclides	MCL Violation Y or N	Running Annual Average (RAA) OR Highest Level Detected	Range of All Samples (Low-High)	MCL	MCLG	Sample Month & Year	Likely Source of Contamination
Alpha Emitters (pCi/L)	N	ND	ND	15	0	March 2017	Erosion of natural deposits
Inorganic Chemicals (IOC)	MCL Violation Y or N	Running Annual Average (RAA) OR Highest Level Detected	Range of All Samples (Low-High)	MCL	MCLG	Sample Month & Year	Likely Source of Contamination
Arsenic <sup>1</sup> (ppb)	N	7.1	6-7.1	10	0	November 2017	Erosion of natural deposits, runoff from orchards, runoff from glass and electronics production wastes
Nitrate (ppm)	N	1.1	1.1	10	10	March 2017	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

<sup>1</sup> **Arsenic** is a mineral known to cause cancer in humans at high concentration and is linked to other health effects, such as skin damage and circulatory problems. If arsenic is less than or equal to 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, and continues to research the health effects of low levels of arsenic.

**EPDS # 3: Francis Creek Chlorinator Post-Chlorination**

Disinfectants	MCL Violation Y or N	Running Annual Average (RAA)	Range of All Samples (Low-High)	MRDL	MRDLG	Sample Month & Year	Likely Source of Contamination
Chlorine/Chloramine (ppm)	N	0.81	0.32-1.3	4	4	December 2017	Water additive used to control microbes
Disinfection By-Products	MCL Violation Y or N	Running Annual Average (RAA) OR Highest Level Detected	Range of All Samples (Low-High)	MCL	MCLG	Sample Month & Year	Likely Source of Contamination
Total Trihalomethanes (TTHM) (ppb)	N	15.4	10.8 - 20	80	N/A	July 2017	Byproduct of drinking water disinfection
Lead & Copper	MCL Violation Y or N	90 <sup>th</sup> Percentile	Number of Samples Exceeds AL	AL	ALG	Sample Month & Year	Likely Source of Contamination
Copper (ppm)	N	> AL = 0 90th percentile (entire water system) = 0.08	0	1.3	1.3	June 2015	Corrosion of household plumbing systems; erosion of natural deposits
Lead (ppb)	N	>AL = 0 90th percentile (entire water system) = 1.5	0	15	0	June 2015	Corrosion of household plumbing systems; erosion of natural deposits
Radionuclides	MCL Violation Y or N	Running Annual Average (RAA) OR Highest Level Detected	Range of All Samples (Low-High)	MCL	MCLG	Sample Month & Year	Likely Source of Contamination
Alpha Emitters (pCi/L)	N	3.1 +/- 0.76	3.1 +/- 0.76	15	0	March 2017	Erosion of natural deposits
Inorganic Chemicals (IOC)	MCL Violation Y or N	Running Annual Average (RAA) OR Highest Level Detected	Range of All Samples (Low-High)	MCL	MCLG	Sample Month & Year	Likely Source of Contamination
Arsenic <sup>1</sup> (ppb)	N	6.7	6-6.7	10	0	November 2017	Erosion of natural deposits, runoff from orchards, runoff from glass and electronics production wastes
Nitrate (ppm)	N	1.2	1.2	10	10	March 2017	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

<sup>1</sup> **Arsenic** is a mineral known to cause cancer in humans at high concentration and is linked to other health effects, such as skin damage and circulatory problems. If arsenic is less than or equal to 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, and continues to research the health effects of low levels of arsenic.

#### EPDS # 4: Tungstona RO Plant post Chlorination

Disinfectants	MCL Violation Y or N	Running Annual Average (RAA)	Range of All Samples (Low-High)	MRDL	MRDLG	Sample Month & Year	Likely Source of Contamination
Chlorine/Chloramine (ppm)	N	0.81	0.32-1.3	4	4	December 2017	Water additive used to control microbes
Disinfection By-Products	MCL Violation Y or N	Running Annual Average (RAA) OR Highest Level Detected	Range of All Samples (Low-High)	MCL	MCLG	Sample Month & Year	Likely Source of Contamination
Total Trihalomethanes (TTHM) (ppb)	N	15.4	10.8 - 20	80	N/A	July 2017	Byproduct of drinking water disinfection
Lead & Copper	MCL Violation Y or N	90 <sup>th</sup> Percentile	Number of Samples Exceeds AL	AL	ALG	Sample Month & Year	Likely Source of Contamination
Copper (ppm)	N	> AL = 0 90th percentile (entire water system) = 0.08	0	1.3	1.3	June 2015	Corrosion of household plumbing systems; erosion of natural deposits
Lead (ppb)	N	>AL = 0 90th percentile (entire water system) = 1.5	0	15	0	June 2015	Corrosion of household plumbing systems; erosion of natural deposits
Radionuclides	MCL Violation Y or N	Running Annual Average (RAA) OR Highest Level Detected	Range of All Samples (Low-High)	MCL	MCLG	Sample Month & Year	Likely Source of Contamination
Alpha Emitters (pCi/L)	N	ND	ND	15	0	March 2017	Erosion of natural deposits
Inorganic Chemicals (IOC)	MCL Violation Y or N	Running Annual Average (RAA) OR Highest Level Detected	Range of All Samples (Low-High)	MCL	MCLG	Sample Month & Year	Likely Source of Contamination
Arsenic <sup>1</sup> (ppb)	N	6.2	1-6.2	10	0	November 2017	Erosion of natural deposits, runoff from orchards, runoff from glass and electronics production wastes
Nitrate (ppm)	N	0.32	0.32	10	10	March 2017	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

<sup>1</sup> Arsenic is a mineral known to cause cancer in humans at high concentration and is linked to other health effects, such as skin damage and circulatory problems. If arsenic is less than or equal to 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, and continues to research the health effects of low levels of arsenic.

**NOTE: The Environmental Protection Agency requires monitoring of over 80 drinking water constituents but consistent with the regulations, only detected constituents are reported in the CCR. For a complete list of all constituents monitored please contact ADEQ. Some constituents are monitored less frequently than once per year because their concentrations do not change frequently or they are not likely to be detected. Nevertheless, all data presented in the tables above are from the most recent testing required by applicable regulations, and all are representative of the quality of your drinking water.**

**Violation Summary**

<b>Violation Type</b>	<b>Explanation, Health Effects</b>	<b>Time Period</b>	<b>Corrective Actions</b>
None	NA	NA	NA

We at FMBI are dedicated to providing top quality water to every tap. We ask that all our customers help us protect and conserve our precious water sources, which are the heart of our community, our way of life, and our children's future.