



2018

Drinking Water Quality

Consumer Confidence Report

Public Water System AZ04-13011

Freeport-McMoRan Bagdad Town System

THE TOWN OF
BAGDAD
A • R • I • Z • O • N • A

About this Report

Freeport-McMoRan Bagdad Inc. (FMBI) is committed to providing a safe supply of drinking water to our customers. We issue this report by July 1st 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.

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 governments for 2018.

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.



Our Water Sources

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. These wells can be operated independently or together with the Francis Creek source and the other wells to provide water to the mobile home park.

[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, wastewater 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/environ/water/dw/swap.html

[Drinking Water Contaminants](#)

To ensure that Bagdad's tap water is safe to drink, your water undergoes an assortment of tests for contaminants which are regulated by the US EPA and Arizona Department of Environmental Quality. These substances are discussed below:

[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](#): which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses

[Organic Chemical Contaminants](#): Such as synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and 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.



Escherichia Coli

[Important Information for Immuno-Compromised Citizens](#)



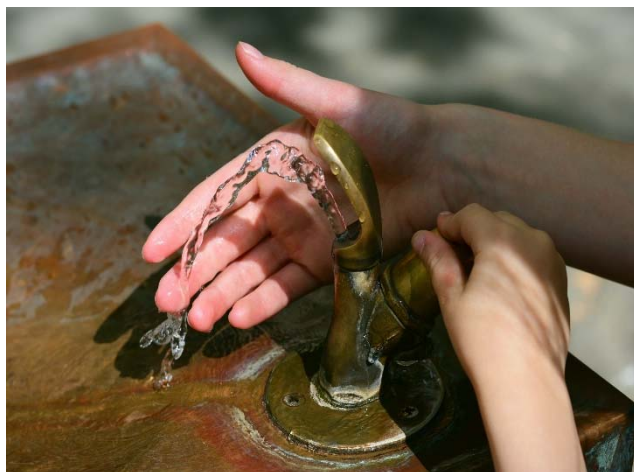
Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. Some people may be more vulnerable to contaminants in drinking water than the general 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.

[Lead Information 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



[Violation Summary \(for MCL, MRDL, AL, TT, or Monitoring & Reporting Requirements\)](#)

Violation Type	Explanation, Health Effects	Time Period	Corrective Actions
Reporting Failure	Did not distribute results of lead sampling in timely manner. No health effects.	3 months	Distributed results to homeowners of sampling locations and achieved compliance status.

Definitions and Abbreviations

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

Level 1 Assessment: A study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in the water system.

Level 2 Assessment: A very detailed study of the water system to identify potential problems and determine (if possible) why an E. coli MCL violation has occurred and/or why total coliform bacteria have been found in the water system on multiple occasions.

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

Maximum Contaminant Level (MCL): 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.

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.

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.

Minimum Reporting Limit (MRL): The smallest measured concentration of a substance that can be reliably measured by a given analytical method.

Millirems per year (MREM): A measure of radiation absorbed by the body.

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

Not Detected (ND or <): Not detectable at reporting limit.

Nephelometric Turbidity Units (NTU): A measure of water clarity.

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

ppb: Parts per billion or Micrograms per liter (µg/L).

ppm x 1000 = ppb

Whom Do I Contact with Questions about Bagdad's Drinking Water?

If you would like more information on the quality of your drinking water, have questions regarding this report, or require additional copies, please contact Christina M Grijalva, Environmental Scientist II, at 928-633-6667.

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 Kristopher Garcia, Utilities Supervisor, at 928-633-3191 for additional opportunities and meeting dates and times.

Your Drinking Water Data - Regulated Contaminants

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, 2018 through December 31, 2018 (or the last frequency test date within the last five years, in compliance with applicable regulations).

NOTE: The ADEQ Monitoring Assistance Program (MAP) tested for regulated volatile organic compounds (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.

EPDS # 2: SYCAMORE MOBILE HOME PARK TANK

Microbiological (RTCR)	TT Violation Y or N	Number of Positive Samples	Positive Sample(s) Month & Year	MCL	MCLG	Likely Source of Contamination	
E. Coli	N	0	N/A	0	0	Human and animal fecal waste	
Fecal Indicator (coliphage, enterococci and/or E. coli)	N	0	N/A	0	0	Human and animal fecal waste	
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	1.31	0.8-1.8	4	4	12/2018	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
Haloacetic Acids (HAA5) (ppb)	No	<2	<2	60	N/A	07/2018	Byproduct of drinking water disinfection
Total Trihalomethanes (TTHM) (ppb)	No	9.3	9.3	80	N/A	07/2018	Byproduct of drinking water disinfection
Lead & Copper	MCL Violation Y or N	90 th Percentile	Number of Samples Exceeds AL	AL	ALG	Sample Month & Year	Likely Source of Contamination
Copper (ppm)	N	0.075	0	1.3	1.3	06/2018	Corrosion of household plumbing systems; erosion of natural deposits
Lead (ppb)	N	<0.0050	0	15	0	06/2018	Corrosion of household plumbing systems; 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 ¹ (ppb)	N	6.85	6.0-7.6	10	0	11/2018	Erosion of natural deposits, runoff from orchards, runoff from glass and electronics production wastes
Nitrate ² (ppm)	N	1.19	1.19	10	10	04/2018	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Sodium (ppm)	N	18.18	18.18	N/A	N/A	04/2018	Erosion of natural deposits

¹ **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.

² **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.

EPDS # 3: FRANCIS CREEK CHLORINATOR POST-CHLORINATION

Microbiological (RTCR)	TT Violation Y or N	Number of Positive Samples	Positive Sample(s) Month & Year	MCL	MCLG	Likely Source of Contamination	
E. Coli	N	0	N/A	0	0	Human and animal fecal waste	
Fecal Indicator (coliphage, enterococci and/or E. coli)	N	0	N/A	0	0	Human and animal fecal waste	
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	1.15	0.5-2.3	4	4	12/2018	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
Haloacetic Acids (HAA5) (ppb)	No	3	3	60	N/A	07/2018	Byproduct of drinking water disinfection
Total Trihalomethanes (TTHM) (ppb)	No	13.1	13.1	80	N/A	07/2018	Byproduct of drinking water disinfection
Lead & Copper	MCL Violation Y or N	90 th Percentile	Number of Samples Exceeds AL	AL	ALG	Sample Month & Year	Likely Source of Contamination
Copper (ppm)	N	0.075	0	1.3	1.3	06/2018	Corrosion of household plumbing systems; erosion of natural deposits
Lead (ppb)	N	<0.0050	0	15	0	06/2018	Corrosion of household plumbing systems; 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 ¹ (ppb)	N	6.05	5.2-6.7	10	0	11/2018	Erosion of natural deposits, runoff from orchards, runoff from glass and electronics production wastes
Nitrate ² (ppm)	N	1.19	1.19	10	10	04/2018	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Sodium (ppm)	N	18.16	18.16	NA/	N/A	04/2018	Erosion of natural deposits

¹ **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.

² **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.

EPDS # 4: TUNGSTONA RO PLANT POST CHLORINATION

Microbiological (RTCR)	TT Violation Y or N	Number of Positive Samples	Positive Sample(s) Month & Year	MCL	MCLG	Likely Source of Contamination	
E. Coli	N	0	N/A	0	0	Human and animal fecal waste	
Fecal Indicator (coliphage, enterococci and/or E. coli)	N	0	N/A	0	0	Human and animal fecal waste	
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	1.15	0.5-2.3	4	4	12/2018	Water additive used to control microbes
Disinfection By-Products	MCL Violation Y or N	Running Annual Average (RAA) <u>OR</u> Highest Level Detected	Range of All Samples (Low-High)	MCL	MCLG	Sample Month & Year	Likely Source of Contamination
Haloacetic Acids (HAA5) (ppb)	No	3	3	60	N/A	07/2018	Byproduct of drinking water disinfection
Total Trihalomethanes (TTHM) (ppb)	No	13.1	13.1	80	N/A	07/2018	Byproduct of drinking water disinfection
Lead & Copper	MCL Violation Y or N	90 th Percentile	Number of Samples Exceeds AL	AL	ALG	Sample Month & Year	Likely Source of Contamination
Copper (ppm)	N	0.075	0	1.3	1.3	06/2018	Corrosion of household plumbing systems; erosion of natural deposits
Lead (ppb)	N	<0.0050	0	15	0	06/2018	Corrosion of household plumbing systems; erosion of natural deposits
Inorganic Chemicals (IOC)	MCL Violation Y or N	Running Annual Average (RAA) <u>OR</u> Highest Level Detected	Range of All Samples (Low-High)	MCL	MCLG	Sample Month & Year	Likely Source of Contamination
Arsenic ¹ (ppb)	N	6.73	5.7-7.4	10	0	11/2018	Erosion of natural deposits, runoff from orchards, runoff from glass and electronics production wastes
Nitrate ² (ppm)	N	0.58	0.58	10	10	04/2018	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Sodium (ppm)	N	17.47	17.49	N/A	N/A	04/2018	Erosion of natural deposits

¹ **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.

² **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.

Please share this information with other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.