

# 2016 Annual Drinking Water Quality Report For Ash Fork Water Service Public Water System Number: AZ04 -13-008

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

We are 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 storm water 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 storm water 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 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.

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 that must provide the same protection for public health.

## Our Water Source(s)

Ash Fork Water Service maintains 2-groundwater wells, located approx. 1.5 miles south of Ash Fork. This ground water is drawn from a regional aquifer comprised of the Tapeats Sandstone and in some cases the Martin Limestone. This water bearing strata is at a depth of 960' to 1270' below land surface and produces a *calcium-sodium bicarbonate* water type.

Source Water Assessments 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.

## Source Water Assessment Findings

*Due to the occurrence of our ground water in highly fractured sedimentary rock formation within the region, we were found to be "Hydro-geologically Sensitive" to potential contamination due to releases of pollutants at the surface or subsurface.*

*While found to be Hydro-geologically Sensitive, we were found to be at "Low-Risk" for source water contamination.*

The Source Water Assessment Report provides a screening-level evaluation of potential contamination that **could** occur. It does not mean that the contamination **has or will** occur. We can use this information to evaluate the need to improve our current water treatment capabilities and prepare for future contamination threats. This can help us ensure that quality finished water is delivered to your homes. In addition, the source water assessment results provide a starting point for developing a source water protection plan.

You may contact the Ash Fork Water Service Manager, Lewis Hume at (928) 637-2774 to learn more about what you can do to help protect your drinking water sources, any questions about the annual drinking water quality report, to learn more about our system, or to attend scheduled public meetings. We want you, **Our Valued Customers**, to be informed about the services we provide and the quality water we deliver to you every day.

*Regular meetings are held on the 3<sup>rd</sup> Wednesday of each month at 7:00 PM in the LLC Building, Escalante Rm., 450 West Lewis Ave. Ash Fork, AZ. There is no meeting in December and the August meeting is held on the first Monday at 8:00 PM as this is the Annual Meeting and Election of the Board of Directors.*

*Some account holders may have voting rights.”*

**Terms and Abbreviations**

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

- **Parts per million (ppm) or Milligrams per liter (mg/L)** - one part per million corresponds to one minute in two years or a single penny in \$10,000.
- **Parts per billion (ppb) or Micrograms per liter (µg/L)**- one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.
- **Parts per trillion (ppt) or Nanograms per liter (nanograms/L)** - one part per trillion corresponds to one minute in 2,000,000 years, or a single penny in \$10,000,000,000.
- **Parts per quadrillion (ppq) or Picograms per liter (picograms/L)** - one part per quadrillion corresponds to one minute in 2,000,000,000 years or one penny in \$10,000,000,000,000.
- **Picocuries per liter (pCi/L)** - picocuries per liter is a measure of the radioactivity in water.

- **Action Level (AL)** - the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
- **Action Level Goal (ALG)** - The “Goal” is the level of a contaminant in drinking water below which there is no known or expected risk to health. The ALG allows for a margin of safety.
- **Treatment Technique (TT)** - A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.
- **Maximum Contaminant Level Goal (MCLG)** - The “Goal” is 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 Contaminant Level (MCL)**- The “Maximum Allowed” is 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 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.
- **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.
- **Running Annual Average (RAA)**: An average of monitoring results for the previous 12 calendar months.

❖ **Remember-Parts per million (ppm) equals Milligrams per liter (mg/L)**  
 $ppm = mg/L$

**Water Quality Data**

We 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. Some of our data, though representative, may be more than one year old.

These tables show the results of our monitoring for the period of January 1 to December 31, 2016 unless otherwise noted.

**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 1 positive monthly sample	0	Absent or Present	28-tests for 2016	No (Absent)	2- each month	Naturally present in the environment

**Disinfectants**

	MRDL	MRDLG	Units	Level Detected & Range	Violation (Yes or No)	Sample Date/Year	Source
Chlorine	4	4	ppm	.15 to .47	No	RAA	Water additive used to control microbes

### Radionuclides

Contaminant	MCL	MCLG	Units	Level Detected & Range	Violation (Yes or No)	Sample Date	Likely Source of Contamination
Alpha emitters	15	0	pCi/l	3.0+/-0.4	No	5/2016	Erosion of natural deposits
Radium 228	5	0	pCi/l	1.2+/-0.3	No	5/2016	Erosion of natural deposits

### Lead and Copper

Contaminant	AL	ALG	Units	90 <sup>th</sup> Percentile	Number of Sites over AL	Violation (Yes or No)	Sample Date/Year	Likely Source of Contamination
Copper	1.3	1.3	ppm	0.102	None	No	8/2015	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead	15	0	ppb	<0.0010	None	No	8/2015	Corrosion of household plumbing systems, 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	Mg/l			0.0022	No	9/2016	By-product of drinking water disinfection
Total Trihalomethanes (TTHM)	0.080	N/A	Mg/l			<0.0020	No	9/2016	By-product of drinking water disinfection

### Inorganic Contaminants

Contaminant	MCL	MCLG	Units	Level Detected/ Range	Violation (Yes or No)	Sample Date	Likely Source of Contamination
Antimony	0.006	0.006	mg/l	<0.001	No	5/2016	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
Arsenic AF #1 AF #2	0.010	NA	mg/l	0.0090 .0093RAA	No No	12/2015 12/2016	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Asbestos	7	7	MFL	<0.2	No	6/2004	Decay of asbestos cement water mains; erosion of natural deposits
Barium	2	2	ppm	0.041	No	5/2016	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Beryllium	0.004	0.004	mg/l	<0.001	No	5/2016	Discharge from metal refineries and coal-burning factories; discharge from electrical, aerospace, and defense industries
Cadmium	0.005	0.005	mg/l	<0.0005	No	5/2016	Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries and paints
Chromium	0.1	0.1	mg/l	0.0014	No	5/2016	Discharge from steel and pulp mills; erosion of natural deposits
Cyanide	0.2	0.2	mg/l	<0.025	No	5/2016	Discharge from steel/metal factories; discharge from plastic and fertilizer factories
Fluoride	4	4	ppm	0.34	No	5/2016	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Mercury (inorganic)	0.002	0.002	mg/l	<0.0002	No	5/2016	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland
Nitrate (as Nitrogen) AF #1 AF#2	10	10	ppm	2.8 2.9	No	5/2016	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite (as Nitrogen)	1	1	ppm	<0.05	No	9/2013	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Selenium	0.05	0.05	mg/l	<0.005	No	9/2013	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
Thallium	0.002	0.0005	mg/l	<0.001	No	5/2016	Leaching from ore-processing sites; discharge from electronics, glass, and drug factories

### Other Useful Data

Contaminant	Secondary Standard	Units	Level Detected/ Range	Violation (Yes or No)	Sample Date	Likely Source
Calcium		ppm	51	N/A	10/2008	
Chloride		ppm	40	N/A	11/2007	
Potassium		ppm	1.4	N/A	9/2001	
Hardness total		ppm	210 168 212	N/A	9/2001 11/2007 10/2008	Water hardness is caused by the polyvalent metallic ions dissolved in water (principally Calcium & Magnesium) 0-75 Soft 75-150 Moderately Hard 150-300 Hard >300 Very Hard
Iron	0.3	ppm	0	N/A	9/2001	
Magnesium		ppm	20	N/A	10/2008	
Manganese	0.05		.001	N/A	9/2001	
pH	6.5 – 8.5	ppm	7.6	N/A	10/2008	
Sodium	N/A	mg/l	51	N/A	5/2016	
Sulfate	250	mg/l	77.2	N/A	10/2008	Levels in excess of 250 mg/L may have a laxative effect on user.
Total Dissolved Solids	500	mg/l	338	N/A	10/2008	Water in excess of 500 mg/l may have an unpalatable salty taste.
Zinc	5	ppm	0.02	N/A	9/2001	

### Health Effects Information About the Above Tables

**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.

### Violations

The following violations were received by our water system or were ongoing in the calendar year 2016

Type/Description	Compliance Period
"NO" violations to report for the 2016 calendar year	Calendar Year 2016

#### Information on Arsenic

In order to provide a solution for the higher than allowed (above the MCL), Arsenic condition at Ash Fork ground Water Well #2, Ash Fork Water Service has taken the following steps:

- Completed rate adjustment to provide sufficient revenue for O&M of new plant, new rates also have in place a "Surcharge" to offset capital cost of Treatment Plant. Surcharge will expire and be remove from rates when the Arsenic Treatment Plant debt is payed-off.
- Obtained low-interest rate financing for Treatment Plant purchase from Water Infrastructure Finance Authority of AZ. ½ of the financed amount requires no pay back.
- Bid process opened on May 9, 2017 and will close on June 9, 2017 for the arsenic treatment plant. We have had considerable interest in the project.
- We anticipate having the plant in operation by early Fall. I would expect to see the surcharge fee on your water bill by late 2017.

Arsenic test results for 2016 ranged from a low of 8.8 PPB to a high of 10.5 PPB. This is consistent with other years of data. Arsenic test result patterns, show that our aquifer produces water quality that ranges from 9 PPM to 12 PPM Arsenic levels, and moves up and down within that range.

All water currently being produced for the system is from Ash Fork Well #1. We have already started making some modifications to the pump house and interior piping @ AF#2.

Most recent Arsenic test results from Ash Fork #1.show 9-PPB Arsenic

Even with this small Arsenic condition, *all* of us in the Ash Fork area are very fortunate to have such good, clean Drinking water! Drink It Up!

An explanation of the violation(s) in the above table, the steps taken to resolve the violation(s) and any required health effects information are required to be included with this report.