# Water Quality Report 2018

Presented By

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# Apache Junction Water District

The Apache Junction Water District (AJWD) is pleased to present the annual drinking water quality report (Consumer Confidence Report) for calendar year 2018. This report contains important information about the quality of your drinking water.

Este informe contiene información muy important sobre el agua usted bebe. Debe traducirlo o hablar con alguien que lo entienda bien.

## Why Provide a Water Quality Report?

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

We want our valued customers to be informed about their water quality and its health effects.

If you would like to learn more about our system, how to help protect your drinking water sources, attend any of our regularly scheduled meetings, or any details presented in this report, please contact our office at (480) 982-6030.

## Where Does AJWD Water Come From?

AJWD supplies well water (groundwater) pumped from the Eastern Salt River Sub-Basin Aquifer which flows southwesterly under Apache Junction and its surrounding areas. The groundwater is treatedfor arsenic removal where necessary, disinfected with chlorine, pumped into storage tanks and blended with Colorado River (surface) water. The surface water is transported through the Central Arizona Project (CAP) canal system and filtered and purified at the Superstition Area Water Plant before being introduced into the distribution system.

AJWD can also receive CAP water from the City of Mesa's Brown Road Treatment Plant and delivered through an interconnect for a backup supply of water, if needed.

## Source Water Assessment

In 2004, the Arizona Department of Environmental Quality (ADEQ) completed a source water assessment (SWA) of our water system to identify potential sources of contaminants to our drinking water. In this assessment, ADEQ reviewed the adjacent land use that may pose a potential risk to our water sources.

Based on the SWA, ADEQ has given AJWD a low risk designation for our source water. A low risk designation indicates that most source water protection measures are either already implemented or the hydrogeological setting is such that it protects the source water. This assessment report provides a one time evaluation of our source water.

Superstition Area Water Plant finished taking 24 samples over the last two years to determine the source water BIN classifications following Long Term 2 Enhanced Surface Water Treatment Rule (LT2) monitoring for Schedule 3 Systems. The results of the testing determined that the source water had <0.075 oocysts/L of Cryptosporidium Concentration, making the source water a BIN 1 classification. Further source water assessment documentation can be obtained by contacting ADEQ.

## What Could Be in 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 pickup 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**, which 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 by-products of industrial processes and petroleum production, and also may come from gas stations, urban stormwater runoff, and septic systems.
- **Radioactive contaminants**, which can be naturally occurring or be the result of oil and gas production and mining activities.

## Should I Take Special Precautions for My Health?

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 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.

## Additional Health Information on Contaminants of Concern

- **Nitrate**: 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.
- **Arsenic:** 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. EPA continues to research the 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 serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home in plumbing. AJWD is responsible for providing high quality drinking water, but cannot control the variety of materials used in residential plumbing components. When your water has been sitting for several hours, you can reduce 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 lead in your 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 or at www.epa.gov/safewater/lead.

## Important Information About Your Drinking Water

***Monitoring Requirements Not Met for AJWD***

AJWD is required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards.

During the 4th quarter of 2018 AJWD had an exceedance at one location for the running annual average for Total Trihalomethanes (TTHMs). AJWD monitors TTHMs at four (4) monitoring stations spread across the District. The maximum contaminant level (MCL) for TTHMs is 80 parts per billion (ppb). The MCL is determined by averaging all the samples collected at each sampling location for the past 12 months. The level of the TTHMs detected at one of our sampling locations exceeded the MCL in October 2018. The level of TTHMs averaged at site 03-A for January 2018 to October 2018 was 86.2 ppb. Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer. [4]

The April Monthly Surface Water Report (MSWR) for Turbidity and Residual Disinfectant Concentrations at the surface water plant; and the system Residual Disinfectant Concentrations were not turned in within the 10 days after the end of the monitoring period. Again in May the MSWR were turned in after the 10 days required by ADEQ to turn in the report. This was caused by a computer failure that keeps track of the data. The data was collected and turned into ADEQ after the required reporting date. Your drinking water met all drinking water standards during this time.

Arsenic (AS) samples were collected quarterly in 2018. AJWD collected the 4th Quarter 2018 AS samples on October 3, 2018; but the results were not turned into ADEQ until February 2019. The October sample results were below the Maximum Contaminant Level (MCL) and your water meets drinking water standards. ADEQ requires the results be reported no later than 10 days after the end of the monitoring period.

Since the AS, Sodium, Chlorine Residual Concentration, and Turbidity samples were not turned in within the scheduled reporting dates, it is considered missed monitoring violation. Although this incident was not emergency, as our customers, you have a right to know what happened and what we did to correct the situation.

***What should I do?***

There is nothing you need to do at this time. You do not need to boil your water or take other corrective actions. You may continue to drink the water. If a situation arises where the water is no longer safe to drink, you will be notified within 24 hours. We will announce any emergencies on local television and radio station. We will also post this information on our website at www.ajwaterdistrict.org.

## Definitions and Acronyms

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

**Action Level Goal (ALG)**

**Average (Avg)**

**Locational Running Annual Average (LRAA):** Average of sample analytical results samples taken at a specific monitoring location during the previous 4 calendar quarters.

**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.

**Milligrams per Liter (mg/L)**

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

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

**Not Detected (ND)**

**Parts Per Million (ppm)** or Milligrams per liter (mg/L).

**Parts Per Billion (ppb)**: ppm x 1000

**Pico Curies per Liter (pCi/L)**

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

# Regulated Drinking Water Contaminants

All Following Results Meet Regulatory Standards

| | | | AJWD [1] | City of Mesa [1] | | | |
|---|---|---|---|---|---|---|---|
| | | | | Brown Road WTP | Eastern Zone Wells | Distribution System | |
| **INORGANIC CHEMICALS** | | | | | | | |
| **Parameter** | **MCL** | **MCLG** | **Range** (Highest Level) | **Range** (Avg) | **Range** (Avg) | **Range** (Avg) | **Likely Source in Drinking Water** |
| Arsenic (ppb) | 10 | 0 | 2.4-11.0 (4.9 Avg) | 2.0-2.2 (2.1) | 2.3-9.2 (5.0) | | Erosion of natural deposits; Runoff from orchards |
| Barium (ppb) | 2000 | 2000 | 110-120 (120) | 102-108 (105) | 2.0-46 (15) | | Erosion of natural deposits; Discharge of drilling wastes |
| Chromium, Total (ppb) | 100 | 100 | ND | ND-2.5 (1.2) | 3.1-23 (13) | | Erosion of natural deposits; Discharge from steel mills |
| Fluoride (Naturally Occurring) (ppm) | 4 | 4 | 0.34-0.40 (0.40) | 0.68-0.74 (0.71) | 0.32-1.1 (0.54) | **NA** | Erosion of natural deposits; Discharge from fertilizer factories |
| Nitrate (measured as Nitrogen) (ppm) | 10 | 10 | 0.00-0.73 (0.73) | ND-0.22 (0.11) | 0.8-4.4 (2.2) | | Runoff from fertilizer use; Leaking from septic tanks |
| Selenium (ppb) | 50 | 50 | 3.5-3.6 (3.6) | 0.2-0.3 (0.2) | ND-2.0 (ND) | | Erosion of natural deposits; Discharge from mines |
| Sodium (ppb) | 3000 | 3000 | 94-130 (130) | | | | Erosion of natural deposits |
| **VOLATILE ORGANIC CHEMICALS** | | | | | | | |
| **Parameter** | **MCL** | **MCLG** | **Range** (Avg) | | | | **Likely Source in Drinking Water** |
| Toluene (ppm) | 1 | 1 | ND-.005 (.0017) | | | | Discharge from petroleum factories |
| Xylenes (ppm) | 10 | 10 | ND-.0006 (.0002) | | | | Discharge from petroleum factories or chemical factories |
| **RADIONUCLIDES** | | | | | | | |
| **Parameter** [3] | **MCL** | **MCLG** | **Range** (Highest Level) | **Range** (Avg) | **Range** (Avg) | **Range** (Avg) | **Likely Source in Drinking Water** |
| Alpha Particles (pCi/L) | 15 | 0 | 3.5-3.7 (3.7) | 1.1-2.9 (2.6) | 0.8-3.2 (1.9) | **NA** | Erosion of natural deposits |
| Combined Radium (pCi/L) | 5 | 0 | ND | ND | ND-0.3 (ND) | | Erosion of natural deposits |
| **DISINFECTANTS & DISINFECTION BYPRODUCTS** | | | | | | | |
| **Parameter** | **MCL** | **MCLG** | **Range** (Avg) | **Range** (Avg) | | **Range** (Avg) | **Likely Source in Drinking Water** |
| Free Chlorine Residual (ppm) | 4 | 4 | 0.60-0.85 (0.75) | ND-1.8 (0.94 | | NA | Water additive used to control microbes |
| Chlorine Dioxide (ppb) | 800 | 800 | **NA** | ND-230 (50) | | NA | Water additive used to control microbes |
| Chlorite (ppm) | MCL = 1 | MCLG = 1 | | ND-1.51 (0.33) | **NA** | NA | Byproduct of chlorine dioxide disinfection |
| **Parameter** | **MCL** | **MCLG** | **Range** (Highest Annual Avg) | **Range** (Highest Level) | | **Range** (Highest Level) | **Likely Source in Drinking Water** |
| Haleoacetic Acids (HAA5) (ppb) | LRAA = 60 | NA | 11.6-26.6 (20.7) | ND-30 (22) | | NA | Byproduct of drinking water disinfection |
| Total Trihalomethanes (TTHMs) (ppb) [4] | LRAA = 80 | NA | 51-104 (86.2) | 1.0-80 (57) | | NA | Byproduct of drinking water disinfection |
| **LEAD & COPPER** | | | | | | | |
| **Parameter** [2] | **AL** | **MCLG** | **Range** | | | **Range** [2] (90th Percentile) | **Likely Source in Drinking Water** |
| Lead (ppb) | 15 | 15 | ND-43 (5) (One site exceeded AL) | **NA** | **NA** | ND-42 (3.7) | Erosion; Corrosion of household plumbing systems |
| Copper (ppb) | 1300 | 1300 | 5.1-230 (180) | | | 11-381 (150) | Erosion; Corrosion of household plumbing systems |

| **TURBIDITY** | | | | | |
|---|---|---|---|---|---|
| **Facility** | **MCL** | **MCLG** | **Monthly Measurement %≤0.3 NTU** | **Highest Monthly Measurement** | **Likely Source in Drinking Water** |
| AJWD Superstition Area Water Plant | TT: At least 95% of monthly samples must be ≤0.3 NTU and No value can exceed 1 NTU | | 0 | NA | Naturally present in environment |
| City of Mesa Brown Road Water Treatment Plant | | | 5 | 0.95% | Naturally present in environment |

| **TOTAL COLIFORM BACTERIA** | | | | | |
|---|---|---|---|---|---|
| **System** | **MCL** | **MCLG** | **Highest Monthly #** | **Highest Monthly %** | **Likely Source in Drinking Water** |
| Apache Junction Water District | < 1 Monthly | 0 | 0 | NA | Naturally present in environment |
| City of Mesa Distribution System [2] | < 5% Monthly | 0 | 5 | 0.95% | Naturally present in environment |

**[1]** All samples were taken in 2018 unless noted. **[2]** 2017 Data **[3]** 2016 Data **[4]** TTHMs