

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 that 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 can also come from gas stations, urban stormwater 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, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

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, you should ask for advice from your health care provider.

While your drinking water meets EPA's standard for arsenic, 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 search the health effects of low levels of arsenic,

search 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.

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 plumbing. Luke AFB 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. 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.

HOW CAN I GET INVOLVED?

Protection of drinking water is everyone's responsibility. You can help protect your community's drinking water source in several ways; some examples are:

Eliminate excess use of lawn and garden fertilizers and pesticides - they contain hazardous chemicals that can reach your drinking water source

Dispose of chemicals properly

Organize a storm drain stenciling project with your local government or water supplier.



For more information please contact SSgt Echeverria at the 56th Aerospace Medicine Squadron, Bioenvironmental Engineering Flight (623-856-7521).



2017 Annual Water Quality Report (Consumer Confidence Report)

Luke AFB, AZ

Water System ID# AZ0407305



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. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

WHERE DOES MY WATER COME FROM?

Your drinking water source is groundwater supplied through wells from the West Salt River Valley sub-basin within the Phoenix Active Management Area. The water is filtered and treated with chlorine to disinfect. In 2017, Luke AFB made connections with three off-base water providers. The water supplied by Valley, Liberty Utilities, and EPCOR comes from the West Salt River Valley sub-basin and EPCOR is a mixture of groundwater blended with surface water from Lake Pleasant.

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.

GENERAL INFORMATION

We are pleased to present this year's Annual Water Quality Report (Consumer Confidence Report) as required by the Safe Drinking Water Act (SDWA). This report is designed to provide details about where your water comes from, what it contains, and how it compares to standards set by regulatory agencies. This report is a snapshot of last year's water quality. We are committed to providing you with information because informed customers are our best allies.

IS MY WATER SAFE?

The Luke Air Force Base potable water is deemed safe, by EPA standards. 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. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (1-800-426-4791).

Table of Detected Contaminants

| <u>Microbial</u> | Units | MCL | MCLG | Level Found | Detection Range | Violation | Sample Year |
|------------------|---|-----|------|-------------|-----------------|-----------|-------------|
| Total Coliform | # pos | 5% | 0 | 0 positive | N/A | No | 2017 |
| Sources | Natural bacteria present in the environment | | | | | | |
| Fecal Coliform | # pos | | 0 | 0 positive | N/A | No | 2017 |
| Sources | Human and animal fecal waste | | | | | | |

| <u>Inorganic</u> | Units | MCL | MCLG | Level Found | Detection Range | Violation | Sample Year |
|-------------------------|---|-----|------|-------------|-----------------|-----------|-------------|
| Arsenic | ppb | 10 | 0 | 7.1 | 2-7.1 | No | 2017 |
| Sources | Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes | | | | | | |
| Fluoride | ppm | 4 | 4 | 0.5200 | 0.52 | No | 2017 |
| Sources | Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories | | | | | | |
| Nitrate + Nitrite (ASN) | ppm | 10 | 10 | 5.01 | 4.35-5.01 | No | 2017 |

| <u>Disinfectants</u> | Units | MCL | MCLG | RAA | Detection Range | Violation | Sample Year |
|----------------------|---|-----|------|------|-----------------|-----------|-------------|
| Chlorine | mg/L | 4 | 4 | 0.57 | 0.37-0.76 | No | 2017 |
| Sources | Water additive used to control microbes | | | | | | |

| <u>Disinfection Byproducts</u> | Units | MCL | MCLG | Level Found | Detection Range | Violation | Sample Year |
|--------------------------------|--|-----|------|-------------|-----------------|-----------|-------------|
| HAA5 | ppb | 60 | N/A | 8.5 | ND-8.5 | No | 2017 |
| TTHM | ppb | 60 | N/A | 3.55 | 1-7.6 | No | 2017 |
| Sources | Byproduct of drinking water disinfection | | | | | | |

| <u>Lead & Copper</u> | Date | 90 th Percentile | Range | Unit | AL | Sites Over AL |
|--------------------------|--|-----------------------------|-------|------|-----|---------------|
| Copper | 2016 | 0.082 | N/A | ppm | 1.3 | 0 |
| Sources | Corrosion of household plumbing systems; erosion of natural deposits | | | | | |
| Lead | 2016 | <10 | 0 | ppb | 15 | 0 |
| Sources | Corrosion of household plumbing systems; erosion of natural deposits | | | | | |

| <u>Radionuclides</u> | Units | MCL | MCLG | Level Found | Detection Range | Violation | Sample Year |
|----------------------|-----------------------------|-----|------|-------------|-----------------|-----------|-------------|
| Uranium 238 | Ug/L | 30 | 0 | 0.8 | N/A | No | 2016 |
| Sources | Erosion of natural deposits | | | | | | |

Optional Contaminants

| <u>Inorganic</u> | Units | MCL | MCLG | Level Found | Detection Range | Violation | Sample Year |
|------------------|--|------|------|-------------|-----------------|-----------|-------------|
| Chromium | ppb | 100 | 100 | 26 | N/A | No | 2017 |
| Sources | Discharge from steel and pulp mills; Erosion of natural deposits | | | | | | |
| Nitrate | ppm | 10 | 10 | 5.01 | 4.35-5.01 | No | 2017 |
| Sources | Runoff from fertilizer use; leaching from septic tank sewage; erosion of natural deposits | | | | | | |
| Selenium | ppb | 500 | 50 | 3.9 | 0.52 | No | 2017 |
| Sources | Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines | | | | | | |
| Sodium | ppm | 3000 | N/A | 103 | N/A | No | 2017 |

Definitions:

AL: Action Level, or the concentration of a contaminant which, when exceeded, triggers treatment or other requirements which a water system must follow, **Level Found:** is the average of all test results for a particular contaminant, **MCL:** Maximum Contaminant Level, or 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, or 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, **ND:** Non-detect, levels found were lower than detection limits, **Range of Detections:** Shows the lowest and highest levels found during a testing period, if only one sample was taken, then this number equals the Level Found, **RAA:** Running Annual Average, or the average of sample analytical results for samples taken during the previous four calendar quarters. **90th percentile:** For lead and copper testing. 10% of test results are above this level and 90% are below this level.

Abbreviations:

N/A: not applicable. **PPB:** parts per billion or micrograms per liter, **PPM:** parts per million or milligrams per liter,

The state has reduced monitoring for certain contaminants to less often than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Records with a sample year more than one year old are still considered representative.

VIOLATIONS AND EXCEEDANCES

Some people who drink water containing fluoride in excess of the MCL (Primary: 4.0 mg/L, Secondary 2.0 mg/L) can increase your risk of developing bone disease. In 2017 our water exceeded the secondary MCL for fluoride which is 2.0 mg/L. This is an aesthetic issue that can cause cosmetic dental problems that might affect children under nine years of age. We sent a notice warning you of the problem when it occurred and offered to provide alternative water to children at that time. We have installed filters in the Youth Center and CDC to lower the fluoride levels below the secondary standard.

In 2017, we had a violation from ADEQ, this violation was for not reporting sampling results for synthetic organic compounds (SOC) during the sampling period 2013-2015. All required samples were taken and the water was within compliance when these violation occurred. However, the results were not reported to ADEQ in time; the violations have been corrected and are now in compliance.

Additional CCRs from our off base providers can be found here:

Valley Utilities: yuwco.com/water-quality

Liberty Utilities: https://arizona.libertyutilities.com/uploads/RR_CCR_17.pdf

EPCOR: <https://www.epcor.com/products-services/water/water-quality/water-quality-reports-usa/wqreports/wq-report-aqua-fria-2017.PDF>

