

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.

 Disinfection Byproducts: potable water systems add disinfectants, like chlorine, to drinking water to kill or inactivate harmful organisms in a process called 'disinfection' to ensure high quality water for drinking purposes. When disinfectants are used in the treatment of drinking water, disinfectants react with naturally occurring organic matter present in water, resulting in the formation of Disinfection Byproducts such as: trihalomethanes (TTHMs) and haloacetic acids (HAAs).

 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,

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 Ms. Caldwell at the 56th Operational Medical Readiness Squadron, Bioenvironmental Engineering Flight (623-856-7521).



2021 Annual Water Quality Report (Consumer Confidence Report)

Luke AFB, AZ

Water System ID# AZ0407305



ENSURING YOUR WATER IS SAFE: 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.

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. Some people who drink water containing trihalomethanes (TTHMs) in excess of the maximum contaminant level (MCL) over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer. The standard is based on a lifetime exposure. 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 supplied through base groundwater wells from the West Salt River Valley sub-basin within the Phoenix Active Management Area. The water goes through arsenic filtration and then is treated with chlorine to disinfect it. Additionally, Luke AFB receives water from three off-base water providers: Valley Utilities, Liberty Utilities, and EPCOR Utilities-Agua Fria. The off-base water providers also supply groundwater from the West Salt River Valley sub-basin, and EPCOR Utilities also provides 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 present	Presence/Absence	No	2021
Sources	Natural bacteria present in the environment						

Fecal Coliform	# pos	0	0	0 present	Presence/Absence	No	2021
Sources	Human and animal fecal waste						

<u>Inorganic</u>	Units	MCL	MCLG	Level Found	Detection Range	Violation	Sample Year
Arsenic	ppb	10	0	8.5	ND - 8.5	No	2021
Sources	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes						
Fluoride	mg/L	4	4	1.9	1.9	No	2021
Sources	Erosion of natural deposits; Water additive which promotes strong teeth						
Nitrate	ppm	10	10	5.8	5.8	No	2021
Sources	Runoff from fertilizer use; erosion of natural deposits						
Barium	ppm	2	2	0.039	0 - 0.039	No	2021
Sources	Discharge of metal refineries; erosion of natural deposits						

<u>Inorganic</u>	Units	MCL	Level Found	Detection Range	Violation	Sample Year
Chromium	ppb	100	20	20	No	2021
Sources	Erosion of natural deposits ; discharge from steel and pulp mills					
Selenium	ppb	50	5.2	5.2	No	2021
Sources	Discharge from petroleum refineries; erosion of natural deposits					
Sodium	mg/L	3000	110	110	No	2021
Sources	Erosion of natural deposits					

Optional Contaminants

<u>Inorganic</u>	Units	HAL (PFOS+PFOA)	Level Found (PFOS+PFOA)	Detection Range	Violation	Sample Year
PFOS/PFOA Liberty Connection	ppt	70	16.7	7.4 - 9.3	No	2021
PFOS/PFOA Valley Connection	ppt	70	ND	N/A	No	2019
PFOS/PFOA EPCOR Connection	ppt	70	ND	N/A	No	2019
PFOS/PFOA Luke AFB	ppt	70	ND	N/A	No	2020
Sources	Man-made chemicals that include PFOA, PFOS, GenX, and other chemicals					

<u>Disinfectants</u>	Units	MCL	MCLG	RAA	Detection Range	Violation	Sample Year
Chlorine	mg/L	4	4	0.58	0.45 – 0.69	No	2021
Sources	Water additive used to control microbes						

<u>Disinfection Byproducts</u>	Units	MCL (RAA)	MCLG	Highest Running Annual Average	Detection Range	Violation	Sample Year
HAA5	ppb	60	N/A	24	2.2 - 14	No	2021
TTHM	ppb	80	N/A	80	11.5 - 97.8	No	2021
Sources	Byproduct of drinking water disinfection						

<u>Lead & Copper</u>	Date	90 th Percentile	Range	Unit	AL	Sites Over AL
Copper	2019	0.28	ND - 0.6	ppm	1.3	0
Sources	Corrosion of household plumbing systems; erosion of natural deposits					
Lead	2019	<5	ND - 32	ppb	15	1
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	µg/L	30	0	0.8	0.8	No	2016
Sources	Erosion of natural deposits						

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 highest level detected 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, **Detection Range:** 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. Sample results from CY2020 are included in the RAA value until all 4 quarters in 2021 are collected. **90th percentile:** For lead and copper testing. 10% of test results are above this level and 90% are below this level, **HAL: Health Advisory Level** Provides information on contaminants that can cause human health effects and are known or anticipated to occur in drinking water. EPA's health advisories are non-enforceable and non-regulatory.

Abbreviations:

N/A: not applicable. **ppb:** parts per billion, **µg/L:** micrograms per liter, **ppm:** parts per million, **mg/L:** milligrams per liter, **ppt:** parts per trillion; **TTHM:** Total Trihalomethanes, **HAA5:** Haloacetic Acids

VIOLATIONS AND EXCEEDANCES

Luke had no violations or exceedances for CY2021.

Additional CCRs and their water quality table from our off base providers can be found here:
 Valley Utilities: vuwco.com/water-quality
 Liberty Utilities: <https://arizona.libertyutilities.com/avondale/residential/safety/water/water-safety.html>
 EPCOR: <https://www.epcor.com/products-services/water/water-quality/water-quality-reports-usa/Pages/water-quality-reports-agua-fria.aspx>