

2017 ANNUAL WATER QUALITY REPORT PRESENTED BY: LIBERTY UTILITIES

For more information about this report, drinking water or our programs, please call Liberty Utilities, at 1-844-367-2027.

Este informe contiene información muy importante sobre su agua potable. Por favor lea este informe o comuníquese con alguien que pueda traducir la información.



Liberty Utilities Works Hard to Provide Quality Water to You!

Once again we are proud to present our annual water quality report. This edition covers all testing completed from January through December 2017. We are pleased to tell you that our drinking water meets or exceeds all state and federal drinking water standards. We are committed to delivering quality drinking water. We remain vigilant in promoting water conservation and community education while continuing to serve the needs of all of our customers.

Introduction to Liberty Utilities... At Your Service

Liberty Utilities' philosophy places our customers at the center of everything we do. This approach shapes our organization and how we do business. With our local approach to management, service and support, Liberty Utilities takes pride in delivering efficient, dependable services to meet the needs of our customers.

At Liberty Utilities, we work hard every day to be the best utility provider with a focus on being local, responsive, and caring.



Liberty Utilities Involvement in our Communities

As a caring service provider, Liberty Utilities has committed to implementing outreach programs to build relationships with key stakeholders such as customers, regulators, and local governments.

We are part of the communities we serve and our focus is on being local and responsive by building relationships within the communities that we call home.

We regularly support The Phoenix Children's Hospital, The American Cancer Society, our Military and Veterans, as well as participating in local events such as The Summer Feeding Program through the Litchfield Elementary School District (LESDD), Youth Water and Water Conservation Education through our partnership with AZ Project WET, as well as many other local community events.

Liberty Utilities believes in being local and responsive because we care about our communities. When you demonstrate care, you'll inspire others to do the same. Our communities inspire us. We want to inspire others. Our company initiative, known as Liberty Days, allows our employees to volunteer in the communities we serve.

Have you heard of our programs?



Low Income Rate Program Did you know that Liberty Utilities offers alternative residential water rates to low income families? You can receive 30% off of the regular price of your water or wastewater bill. For more information please contact our business office at 1-844-367-2027 or visit us online at www.libertyutilities.com.



E-Bill View your bill online and stop the hassle of paper bills with E-Bill, our paperless billing program. Every month an email is sent to notify you when your bill is available for secure online viewing. E-Bill also allows you to view your account history and print your current and previous bills. Payments can be made each month as a one-time payment or you can set up worry free automatic payments with our SurePay program.



Tours Liberty Utilities offers tours of our Palm Valley Water Reclamation Facility and our Liberty Aquifer Replenishment Facility. In 2017, the Liberty Aquifer Replenishment Facility won Project of the Year from the WaterReuse Association. To schedule a tour please call 623-935-9367.



Free Landscape Survey High water usage? Call our office for a free landscape survey. Our staff will walk your landscaping with you to identify potential leaks and high water use vegetation.

* This is a free program. We do not go into homes or back yards.



SurePay SurePay is a worry-free way to pay your bill on time. Each month on the due date, the amount due will be transferred from your bank account to your Liberty Utilities account. Once set up, you will see that an Electron-ic Fund Transfer has been made, or "EFT" on your bank statement.



Conservation Counts! Water is our most important resource. Without it we would not be here. That is why it is so important that we think about how we use water and use it wisely.

Here are some great ways to get started.

- Find and fix all leaks promptly. Visit our office for a free booklet about leaks.
- Water your yard early in the morning or evening and install drip irrigation and automatic timers.
- When replacing old appliances, look for the WaterSense and Energy Star labels.

For more tips on conserving water, please visit our office or website at <https://arizona.libertyutilities.com/litchfield-park/residential/smart-water-use/index.html>.

Where Does My Water Come From

Liberty Utilities (Litchfield Park Water & Sewer) Corp. drinking water comes from the Western Valley Salt River aquifer. An aquifer is a layer of permeable rock, sand, and gravel that stores the water supplying wells and springs. This particular aquifer is divided into three distinct units: the upper, middle, and lower alluvial units. Liberty Utilities draws the majority of its water from the middle and lower alluvial units located approximately 200 to 600 feet below the surface. From the three well fields, water is pumped either directly into the distribution system or into several multimillion gallon reservoirs. Before entering our system, this high-quality groundwater may undergo arsenic removal treatment then a small amount of chlorine is added so that we will minimize the possibility of bacterial contamination. In 2017, Liberty delivered over 3.681 billion gallons of water to our customers.

Water Source Assessment

In 2003, the Arizona Department of Environmental Quality (ADEQ) completed a source water assessment for 12 of the groundwater wells used by Liberty Utilities (Litchfield Park Water & Sewer) Corp. The Assessment reviewed the adjacent land uses that may pose a potential risk to the sources. These risks include, but are not limited to, gas stations, landfills, dry cleaners, agriculture fields, wastewater treatment plants, and mining activities. Once adjacent land uses were identified, they were ranked as to their potential to affect the water source. The result of the assessment was low risk for all of the 12 groundwater wells, indicating 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. Residents can help protect sources by taking household chemicals to hazardous chemical collection days, practicing good septic maintenance and limiting pesticide and fertilizer use.

Important Health Information

While your drinking water meets the United States Environmental Protection Agency's (EPA) standard for arsenic, it does contain low levels of arsenic. The EPA standard balances the current understanding of arsenic's possible health effects against the cost of removing it from drinking water. The 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.

Nitrates in drinking water at levels above 10 ppm are 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.

In May 2016, the EPA issued a new Health Advisory, lowering the levels of PFOA and PFOS from 400 parts per trillion for PFOA and 200 parts per trillion for PFOS to 70 parts per trillion for PFOA and PFOS combined. In response to the EPA's new Health Advisory, Liberty Utilities has implemented additional treatment on its wells to reduce PFOA/PFOS levels below the new advisory levels. If you would like more information regarding PFOA, PFOS, their health effects, the basis for the EPA's actions, or to see the EPA's health advisory, please visit their website at: <https://www.epa.gov/ground-water-and-drinking-water/drinking-water-health-advisories-pfoa-and-pfos>.

Some people may be more sensitive to contaminants in drinking water than the general public. Immuno-compromised persons such as those undergoing chemotherapy, those who have undergone organ transplants, people with immune system disorders such as HIV/AIDS and others, some elderly, and infants may be at greater risk for infection. These people should ask their health care provider about drinking water. The U.S. EPA CDC (Center for Disease Control and Prevention) guidelines on the appropriate steps to reduce the risk of infection by Cryptosporidium, Giardia and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791.

Substances that Could be in Water

To ensure that tap water is safe to drink, ADEQ prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants do not necessarily indicate that the water poses a health risk. For more information contact the Environmental Protection Agency (EPA) Safe Drinking Water Hotline at (800) 426-4791 or visit their website at www.epa.gov/ground-water-and-drinking-water/safe-drinking-water-hotline. For information on bottled water visit the U.S. Food and Drug Administration's website at www.fda.gov.

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, in some cases, radioactive material, and substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

Microbial Contaminants, such as bacteria and viruses. These may come from septic systems, sewage treatment plants, agricultural livestock operations, or wildlife;

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or the result of urban storm water runoff, industrial or domestic wastewater discharge, mining, farming, or oil and gas production;

Pesticides and Herbicides, which can originate from agriculture, urban storm water runoff, and residential uses;

Organic Chemical Contaminants, both synthetic and volatile organic chemicals are by-products of industrial processes and petroleum production. They may also come from gas stations, urban storm water runoff, and septic systems;

Radioactive Contaminants, which can be naturally occurring or the result of industrial activity such as gas and oil production and mining.



TESTING RESULTS

During the year, Liberty Utilities (Litchfield Park Water & Sewer) Corp., takes weekly, monthly and quarterly water samples in order to determine the presence of any radioactive, biological, inorganic, synthetic organic or volatile organic contaminants. All of the substances listed here tested under the Maximum Contaminant Level (MCL). Liberty Utilities believes it is important you know what was detected and how much of the substance was present. The state allows the monitoring of certain substances less than once a year because the concentrations of these substances do not change frequently.

LEAD AND COPPER—Tested at customer's taps every 3 years. Testing year - 2016

Contaminant	EPA's Action Level (AL)	Ideal Goal (EPA's MCLG)	Lowest to Highest results found	Average of Detected Results	Samples Exceeding AL	Violation	Typical Sources
Copper	90% of homes less than 1.3 ppm	1.3 ppm	ND - 0.166	0.074	0	No	Corrosion of household plumbing systems: erosion of natural deposits
Lead	90% of homes less than 15 ppb	0 ppb	ND-6.6	2.5	0	No	Corrosion of household plumbing systems: erosion of natural deposits

INORGANIC CHEMICALS

Contaminant	Highest Level Allowed (EPA's MCL)	Ideal Goal (EPA's MCLG)	Range of Test Results	Highest Detected Result	Year Tested	Violation	Typical Sources
Arsenic	10 ppb	0 ppb	5 - 8	8	2017	No	Erosion of natural deposits, runoff from orchards and glass and electronic production waste.
Asbestos	7 mfl	7 mfl	ND - 0.2	0.2	2010 & 2013	No	Erosion of natural deposits and runoff from construction materials, including pipes
Barium	2 ppm	2 ppm	0.05 - 0.12	0.12	2016	No	Erosion of natural deposits, discharge from metal refineries and drilling wastes.
Fluoride	4 ppm	4 ppm	0.43 - 1.45	1.45	2016	No	Erosion of natural deposits, water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
Chromium	100 ppb	100 ppb	ND - 10	10	2016	No	Discharge from steel and pulp mills, erosion of natural deposits
Selenium	50 ppb	50 ppb	ND - 11	11	2016	No	Discharge from petroleum and metal refineries, discharge from mines, erosion of natural deposits
Nitrate	10 ppm	10 ppm	4-8	8	2017	No	Erosion of natural deposits, runoff from fertilizer use, leaching from septic tanks, sewage

RADIOACTIVE CONTAMINANTS

Contaminant	Highest Level Allowed (EPA's MCL)	Ideal Goal (EPA's MCLG)	Range of Test Results	Highest Detected Result	Year Tested	Violation	Typical Sources
Gross Alpha	15 pCi/L	0 pCi/L	2 - 6	6	2016	No	Erosion from natural deposits
Uranium	30 ug/L	0 ug/L	1.3 - 5	5	2010	No	Erosion from natural deposits
Combined Radium	5 pCi/L	0 pCi/L	ND	ND	2016	No	Erosion from natural deposits

ORGANIC SYNTHETIC COMPOUND—Tested in 2016

Contaminant	Highest Level Allowed (EPA's MCL)	Ideal Goal (EPA's MCLG)	Range of Test Results	Average or Highest Detected Results	Violation	Typical Sources
Di (2-ethylhexyl) phthalate	6 ppb	0 ppb	ND	ND	No	Discharge from rubber and chemical factories

DISINFECTANTS AND DISINFECTION BYPRODUCTS—Tested in 2017

Contaminant	Highest Level Allowed (EPA's MCL)	Ideal Goal (EPA's MCLG)	Range of Test Results	Highest Detected Result	Violation	Typical Sources
Sodium Hypochlorite (MRDL)	4 mg/L	4 mg/L	1-1	1	No	Water additive used to control microbes
Haloacetic Acids(HAA5s)	60 ppb	NA	<2.0 - 4.4	4.4	No	Byproduct of drinking water chlorination
Total Trihalomethanes (TTHM)	80 ppb	NA	10.5 - 34.9	34.9	No	Byproduct of drinking water chlorination

MICROBIOLOGICAL—Tested in 2017

Contaminant	Highest Level Allowed (EPA's MCL)	Ideal Goal (EPA's MCLG)	Range of Test Results	Highest Month %	Present or Absent	Violation	Typical Sources
Total Coliform	NA	NA	0 - 0	0	Absent	No	Naturally present in the environment

Testing of Unregulated Contaminants

Our utility is committed to protecting public health and meets or surpasses all state and federal health standards for tap water. To help advance the science of drinking water, we have been collecting data for the EPA since the Unregulated Contaminant Monitoring Rule was enacted. Collecting information about the occurrence of these compounds in water supplies is the first step in the EPA's efforts to determine whether they should be regulated.

UNREGULATED CONTAMINANTS—Tested in 2014

Contaminant	Highest Level Allowed (EPA's MCL)	Ideal Goal (EPA's MCLG)	Range of Test Results	Average of Detected Results	Violation	Typical Sources
Sodium (mg/L)	NA	NA	58 - 235	120.2	No	Erosion from natural deposits, leaching
Hardness (grains/gallon)	NA	NA	9.11–15.5	11.09	No	Erosion from natural deposits, leaching

UNREGULATED CONTAMINANTS –Tested in 2014

Contaminant	Minimum Reporting Level	Range of Test Results	Average of Detected Results	Violation	Typical Sources
Chromium (total)	0.2 ppb	2.6–16 ppb	9.3 ppb	No	Naturally occurring element; used in making steel and other alloys.
Molybdenum	1 ppb	1.1–6.6 ppb	3.2 ppb	No	Naturally occurring element found in ores and present in plants, animals and bacteria; commonly used form is molybdenum trioxide used as a chemical reagent.
Strontium	0.3 ppb	490–1,200 ppb	838 ppb	No	Naturally occurring element; historically commercial use of strontium has been in the faceplate glass of cathode-ray tube televisions to block x-ray emissions.
Vanadium	0.2 ppb	8.2–26 ppb	15.9 ppb	No	Associated with altered kidney function indicated by increased blood urea and mild tissue changes.
Chlorate	20 ppb	44–780 ppb	159.3 ppb	No	Agricultural defoliant or desiccant; disinfection byproduct; and used in production of chlorine dioxide.
Chromium-6	0.03 ppb	2.7–16 ppb	9.6 ppb	No	Naturally occurring element; used in making steel and other alloys; Chromium-6 forms are used for chrome plating, dyes and pigments, leather tanning and wood preservation.
1,2,3- Trichloropropane	0.03 ppb	ND*–0.05 ppb	0.0042 ppb	No	Halogenated alkane; used as an ingredient in paint, varnish remover, solvents and degreasing agents.
1,4-dioxane	0.07 ppb	ND*–0.32 ppb	0.097 ppb	No	Cyclic aliphatic ether; used as a solvent or solvent stabilizer in manufacture and processing of paper, cotton, textile products, automotive coolant, cosmetics and shampoos.
Perfluoroheptanoic acid (PFHpA)	0.01 ppb	ND*–0.03 ppb	0.005 ppb	No	Manmade chemical; used in products to make them stain, grease, heat and water resistant.
Perfluorooctanoic acid (PFOA)	0.02 ppb	ND*–0.05 ppb	0.0083 ppb	No	Perfluorinated aliphatic carboxylic acid; used for its emulsifier and surfactant properties in or as fluoropolymers (such as Teflon), fire-fighting foams, cleaners, cosmetics, greases and lubricants, paints, polishes, adhesives and photographic films.
Perfluorooctane sulfonic acid (PFOS)	0.04 ppb	ND*–0.22 ppb	0.0342 ppb	No	Surfactant or emulsifier; used in fire-fighting foam, circuit board etching acids, alkaline cleaners, floor polish, and as a pesticide active ingredient for insect bait traps; U.S. manufacture of PFOS phased out in 2002; however, PFOS is still generated incidentally.
Perfluorohexanesulfonic acid (PFHxS)	0.03 ppb	ND*–0.11 ppb	0.023 ppb	No	Manmade chemical; used in products to make them stain, grease, heat and water resistant.

Definitions

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

MCL (Maximum Contaminant Level): 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): 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.

MRDL (Maximum Residual Disinfectant Level): 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.

NA: Not applicable.

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

pCi/L (picocuries per liter): A measure of radioactivity.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter)

ppm (parts per million): One part substance per million parts water (or millions)



Health effects of listed regulated contaminants

1,2,3-Trichloropropane: Drinking water containing 1,2,3-trichloropropane in excess over many years has been associated with changes in blood chemistry and reduction in red blood cell mass in rates, and has been identified as a possible cancer hazard and may cause liver and kidney damage.

1,4-dioxane: Drinking water containing 1,4-dioxane in excess of 0.03 ppb per day over many years has been associated with liver and kidney toxicity. Drinking water in excess of 300 ppb is a EPA Class B2 probable human carcinogen.

Alpha emitters (gross alpha): Certain minerals are radioactive and may emit forms of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of the maximum contaminant level (MCL) over many years may have an increased risk of getting cancer.

Arsenic: Some people who drink water containing arsenic in excess of MCL over many years could experience skin damage or problems with their circulatory system and may have an increased risk of cancer.

Barium: Some people who drink water containing barium in excess of the MCL over many years could experience an increase in their blood pressure.

Chlorate: Drinking water containing chlorate in excess over many years is associated with enlarged thyroid and mineralization.

Chromium (total): Drinking water containing chromium in excess over many years could experience allergic dermatitis.

Chromium-6: Drinking water containing chromium-6 in excess over many years could experience allergic dermatitis.

Chromium: People who use water containing total chromium in excess of the MCL over many years could experience allergic dermatitis.

Copper: Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.

Di(2-ethylhexyl) phthalate: Reproductive difficulties; liver problems; increased risk of cancer.

Fluoride: Some people who drink water containing fluoride in excess of the MCL over many years could get bone disease, including pain and tenderness of the bones. Fluoride in drinking water at half the MCL or more may cause mottling of children's teeth usually in children less than nine years old. Mottling, also known as dental fluorosis, may include brown staining and/or pitting of the teeth and occurs only in developing teeth before they erupt from the gums.

Haloacetic Acids (HAA5): Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.

Lead and Drinking Water: 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 used in plumbing components. We are 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 at 800-246-4791 or at www.epa.gov/safewater/lead.

Lead: Infants and children who drink water containing lead in excess of the action level could experience delay in physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.

Molybdenum: Drinking water containing molybdenum in excess over many years may experience increased uric acid levels.

Nitrate: Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue-baby syndrome.

Perfluoroheptanoic acid (PFHpA): Drinking water containing PFHpA in excess is associated with body weight reductions, and increased liver, kidney and brain weight relative to body weight.

Perfluorohexanesulfonic acid (PFHxS): Drinking water containing PFHxS in excess is associated with immune and lymphatic system, neurological, reproductive and developmental effects.

Perfluorooctanesulfonic acid (PFOS): Drinking water containing PFOS in excess is associated with decreased body weights, increased liver weights, lowered total cholesterol, lowered triiodothyronine (T3) concentrations, and lowered estradiol levels.

Perfluorooctanoic acid (PFOA): Drinking water containing PFOA in excess is associated with body weight reductions, and increased liver, kidney and brain weight relative to body weight.

Radium: Radium in excess may increase the risk of cancer.

Selenium: Some people who drink water containing selenium in excess experience hair or fingernail loss, numbness in fingers or toes and other circulatory problems.

Sodium Hypochlorite (MRDL): Some infants and young children who drink water containing chlorite in excess of the MCL could experience nervous system effects. Similar effects may occur in fetuses of pregnant women who drink water containing chlorite in excess of the MCL. Some people may experience anemia.

Strontium: Drinking water containing strontium in excess over many years may develop rachitic bone (rickets).

Total Coliform: Not a health threat in itself; it is used to indicate whether other potentially harmful bacteria may be present.

Total Trihalomethanes (TTHM): 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 system and may have an increased risk of getting cancer.

Unregulated Contaminants: Unregulated Contaminants are those for which EPA has not established drinking water standards. We monitor for these substances to assist the EPA in determining the occurrence of unregulated

Uranium: Some people who drink water containing uranium in excess of the MCL over many years may have an increased risk of getting cancer and kidney toxicity.

Vanadium: Drinking water containing vanadium in excess over many years may be associated with altered kidney function indicated by increased blood urea and mild tissue changes.