

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 1-844-367-2030.
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 United Way, The American Cancer Society, Nuestra Casa Women's Shelter, the Santa Cruz Training Program, as well as supporting our local schools and students by participating in the Back to School Blitz, Career Day, Thanksgiving and Christmas for families who need a hand, and providing scholarships to our graduates. We also organize and provide various workshops to assist our customers.

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 15% off of the regular price of your water or wastewater bill. For more information please contact our business office at 1-844-367-2030 or visit us online at www.libertyutilities.com.



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.



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.



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 Electronic 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/rio-rico/residential/smart-water-use/index.html>.

Where Does My Water Come From

Liberty Utilities (Rio Rico Water & Sewer) Corp. serves water to a population of approximately 16,378. The water is obtained from six wells that pump it from deep aquifers which are part of a larger area known as the Older Alluvium. Our wells pump water from depths of 250 to 650 feet below the earth's surface.

A small amount of chlorine is added at each well site to protect the integrity of the water quality throughout the water system piping. While pure water is made up of hydrogen and oxygen, this life giving liquid also contains many naturally occurring minerals, and unfortunately, may contain human caused contaminants. This is why we routinely test the water.

Water Source Assessment

In 2003, the Arizona Department of Environmental Quality (ADEQ) completed a source water assessment for 4 of the 6 groundwater wells currently being used by Rio Rico Utilities. 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 4 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 U.S. EPA's standard for arsenic, it does contain low levels of arsenic. The U.S. EPA's 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 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.

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.

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 or at www.epa.gov/safewater/lead.



TESTING RESULTS

During the year, Liberty Utilities (Rio Rico 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 contaminants. All of the substances listed here are 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.

Table 1–Rio Rico (PWS# 04-12011)

INORGANIC CHEMICALS

Contaminant	Highest Level Allowed (EPA's MCL)	Ideal Goal (EPA's MCLG)	Range of Test Results	Violation	Date Sampled	Typical Sources
Arsenic	10 ppb	0 ppb	2.2–2.6 ppb	No	2016	Erosion of natural deposits, runoff from orchards and glass and electronic production waste.
Barium	2 ppm	2 ppm	ND–0.070 ppm	No	2016	Erosion of natural deposits, discharge from metal refineries and drilling wastes.
Chlorine	4 ppm	4 ppm	0.43 - 1.99 ppm	No	2017	Water additive used to control microbes
Nitrate	10 ppm	10 ppm	0.88 - 2.3 ppm	No	2017	Erosion of natural deposits, runoff from fertilizer use, leaching from septic tanks, sewage

COPPER AND LEAD–Tested at customer's taps every 3 years.

Contaminant	EPA's Action Level (AL)	Ideal Goal (EPA's MCLG)	Lowest and Highest results found	90% of all samples	Samples Exceeding the AL	Violation	Date Sampled	Typical Sources
Lead	90% of homes less than 15 ppb	0 ppb	<0.5–4.0 ppb	2.6 ppb	0	No	2016	Corrosion of household plumbing systems: erosion of natural deposits
Copper	90% of homes less than 1.3 ppm	1.3 ppm	0.013–0.21 ppm	0.17 ppm	0	No	2016	Corrosion of household plumbing systems: erosion of natural deposits

VOLATILE ORGANIC CONTAMINANTS

Contaminant	Highest Level Allowed (EPA's MCL)	Ideal Goal (EPA's MCLG)	Range of Test Results	Violation	Date Sampled	Typical Sources
Total Xylenes	10 ppm	10 ppm	<0.0015 - 0.0045 ppm	No	2017	Discharge from petroleum or chemical factories

RADIOACTIVE CONTAMINANTS

Contaminant	Highest Level Allowed (EPA's MCL)	Ideal Goal (EPA's MCLG)	Range of Test Results	Violation	Date Sampled	Typical Sources
Gross Alpha	15 pCi/L	0 pCi/L	<1.0 – 1.3+/-2.5 pCi/L	No	2016	Erosion from natural deposits
Combined Uranium	30 µg/L	0 µg/L	2.1+/-0.6 – 15.9+/-1.6 µg/L	No	2016	Erosion from natural deposits

DISINFECTANTS AND DISINFECTION BYPRODUCTS

Contaminant	Highest Level Allowed (EPA's MCL)	Ideal Goal (EPA's MCLG)	Range of Test Results	Annual Average	Violation	Date Sampled	Typical Sources
5 Haloacetic Acids (HAA5s)	60 ppb	0 ppb	<2.0 – <2.0 ppb	<2.0 ppb	No	2017	Byproduct of drinking water chlorination
Total Trihalomethanes (TTHM)	80 ppb	0 ppb	1.4 - 7 ppb	4.2 ppb	No	2017	Byproduct of drinking water chlorination

Microbiological

Contaminant	Highest Level Allowed (EPA's MCL)	Ideal Goal (EPA's MCLG)	Number of Samples Present	Absent (A) Present (P)	Violation	Date Sampled	Typical Sources
Total Coliform Bacteria	TT	N/A	1	A	No	Monthly in 2017	Naturally present in the environment
E.Coli	*	0	0	A	No	Monthly in 2017	Human and animal fecal waste

TT - Treatment Technique triggers: (Systems that collect ≥40 samples/month) - exceeds 5% total coliform - positive samples for the month; (Systems that collected <40 samples/month) - 2 or more total coliform positive samples in the same month.

*** Routine and repeat samples are total coliform- and either is E. coli positive or system fails to take repeat samples following E.Coli positive routine sample or system fails to analyze total coliform -positive repeat sample for E.coli.**

UNREGULATED CONTAMINANTS

Contaminant	Minimum Reporting Level	Range of Test Results	Average of detected results	Violation	Date Sampled	Typical Sources
Sodium	NA	NA	23-32 ppm	No	2016	Erosion from natural deposits, leaching
Chromium	0.2 ug/L	0.2-1 ug/L	0.47 ug/L	No	2014	Naturally occurring element; used in making steel and other alloys
Molybdenum	1.0 ug/L	1-2.3 ug/L	1.38 ug/L	No	2014	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 ug/L	330-720 ug/L	466.52 ug/L	No	2014	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 ug/L	3.4-4.8 ug/L	4.20 ug/L	No	2014	Naturally occurring elemental metal; used as vanadium pentoxide which is a chemical intermediate and a catalyst
Chromium, Hexavalent	0.03 ug/L	0.06-1ug/L	0.39 ug/L	No	2014	Naturally occurring element; used in making steel and other alloys; used for chrome plating, dyes and pigments, leather tanning, and wood preservation.
1,4-Dioxane	0.07 ug/L	0.16-0.45 ug/L	0.27 ug/L	No	2014	Cyclic aliphatic ether; used as a solvent or solvent stabilizer in manufacture and processing of paper, cotton, textile products, automotive coolant, cosmetics and shampoos.

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.

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 milligrams per liter)

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



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.

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 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.

Chlorine: Some people who use water containing chlorine well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chlorine well in excess of the MRDL could experience stomach discomfort.

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

Chromium-6: Drinking water containing chromium in excess 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.

E. coli: E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Human pathogens in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a greater health risk for infants, young children, the elderly and people with severely-compromised immune systems.

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: 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.

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

Total Coliform: Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system.

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.

Total Xylenes: Some people who drink water containing xylenes in excess for the MCL over many years could experience damage to their nervous system.

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.



Liberty Utilities®