

WILLOW VALLEY



2017
WATER QUALITY
REPORT

epcor.com



Safety. Quality. Community. You'll hear these words spoken often around EPCOR.

Water. It's life.

At EPCOR, we're committed to providing you safe, quality, reliable drinking water every day. It's our mission, and it's an honor. Water fuels our daily routine, quenches our thirst and breathes life into our meals.

But we can't take it for granted. Our water system needs a steward, one who's there behind the scenes 24 hours a day, 7 days a week to manage, maintain and invest in it.

EPCOR takes this responsibility seriously. From daily water quality checks that ensure safety and quality to investing in your water system, we're ensuring that water will be available for years to come, whether your water source is deep underground or from rivers and lakes.

In addition to monitoring the water that comes out of your tap, we're also maintaining and improving the miles of pipelines, water mains, wells and hydrants that make up your water system. We're ensuring that water isn't wasted, and that it's a resource that will be there for the long term.

Because every drop matters.

Sincerely,



Joe Gysel

President, EPCOR USA, Inc.

YOU WANT TO KNOW WHAT'S IN THE WATER YOU'RE DRINKING

As your water service provider, we're committed to ensuring the quality and safety of that water. That's why you are receiving this annual water quality report from us. We hope it will help you understand your community's water a little better and what we're doing to protect it.



WHAT WILL I FIND IN THIS REPORT?

This report complies with state and U.S. Environmental Protection Agency (EPA) drinking water regulations.

In it you'll find information on:

- Where your water comes from
- Protecting your water
- What's in your water

Information in this report is compiled, in part, from analytical data generated by laboratories certified in drinking water analysis.

READ THIS REPORT – AND SHARE IT!

Reading this report and understanding your community's water is the first step. But it's also important to share this information with those who might not receive it directly. If you're a landlord, business, school or hospital, please share this report with water users in your community.

QUESTIONS?

EPCOR Customer Care:
1-800-383-0834
mywater@epcor.com

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.

ABOUT YOUR WATER

WILLOW VALLEY

ABOUT YOUR DISTRICT

- EPCOR provides water service to approximately 1,600 service connections in the Willow Valley district.

WHERE YOUR WATER COMES FROM

- Groundwater pumped from the Lake Mohave Basin

Additional Information About The Groundwater In Your Area

The Lake Mohave Basin is a narrow strip of land bounded by the Colorado River on the west and the Black Mountains to the east. Groundwater is found in the alluvial sand, silt and gravel deposits adjacent to the Colorado River and Lake Mohave and is replenished by the Colorado River.

How We Protect Groundwater Together

Both groundwater and the associated pumping and delivery facilities are part of a complex system that needs not just monitoring, but also maintenance. From pipelines to water mains, wells to hydrants, we're ensuring that the groundwater supply is protected and accessible.

How You Can Help

Properly dispose of hazardous household chemicals on hazardous material collection days and limit your pesticide and fertilizer use. For information on household hazardous material collection days in your area, contact the **Arizona Department of Environmental Quality** at **602-771-2300** or **Earth911.com**.

GETTING INVOLVED

Consulting with the community is important to us. If you have a question, concern or suggestion about your local water system, please contact our Customer Care team at **1-800-383-0834**.

NOTICE OF SOURCE WATER ASSESSMENT

In 2000 and 2003, the Arizona Department of Environmental Quality completed source water assessments for the wells used by Willow Valley-King Street and Willow Valley-Lake Cimarron water systems, respectively. The assessments 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 ADEQ identified the adjacent land uses, they were ranked as to their potential to affect the water sources. The results of the assessments found that there were no adjacent land uses near of any of the wells that posed a risk to ground water quality.

The complete assessments are available for inspection at the Arizona Department of Environmental Quality, 1110 W. Washington, Phoenix, AZ 85007, between the hours of 8 a.m. and 5 p.m. For more information, please contact **ADEQ** at **602-771-2300**.



WHAT YOU CAN EXPECT TO FIND IN YOUR WATER

SOURCES OF DRINKING WATER

The sources of drinking water—both tap water and bottled water—include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over land surfaces or through the ground, it can acquire naturally occurring minerals. In some cases it can also acquire radioactive material and substances resulting from the presence of animals or from human activity.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the 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 at 1-800-426-4791**.

DID YOU KNOW?

- **One-Part-Per-Million** (mg/L or ppm) is equivalent to one inch in 16 miles.
- **One-Part-Per-Billion** (ug/L or ppb) is equivalent to a single 4-inch hamburger in a chain of hamburgers long enough to circle the earth at the equator 2.5 times.
- **One-Part-Per-Trillion** (ng/L or ppt) is equal to a single drop of water being diluted into 20 Olympic-size swimming pools.



SUBSTANCES THAT MAY BE PRESENT IN SOURCE WATER

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

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.

Pesticides and Herbicides, 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 may also come from gas stations, urban stormwater runoff and septic systems.

Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

ENSURING YOUR WATER IS SAFE

To ensure that tap water is safe to drink, the EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. To ensure bottled water is safe to drink, U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water.

WHAT YOU CAN EXPECT TO FIND IN YOUR WATER

SPECIAL HEALTH INFORMATION

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 may be particularly at risk from infections. These people should seek advice about drinking water from their healthcare providers. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbial contaminants are available from the **EPA's Safe Drinking Water Hotline** at **1-800-426-4791**.

Lead

Lead and copper were last monitored in 2017 at 25 residences throughout the community and met the federal lead and copper standards. The 25 houses sampled were representative of the types of houses throughout both systems. If your house was sampled you would have received the analysis results. 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. EPCOR 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**.

HOME WATER TREATMENT UNITS

Failure to perform maintenance on your home water treatment unit can result in poor water quality. If you installed a home water treatment system such as a water softener or reverse osmosis system, please remember to follow the manufacturer's instructions on operation and maintenance. For more information, contact the manufacturer of your treatment system for maintenance instructions or assistance. Additional information about home water treatment systems is available from the **Water Quality Association** at **630-505-0160** or by visiting **wqa.org**.



DID YOU KNOW?

Tap water costs a lot less than what you pay for other beverages. **A gallon of water costs you about 1 penny.** Compare that to the cost of a gallon of these beverages*:

- ◉ Milk = \$3.29/gallon
- ◉ Orange Juice = \$2.55/gallon
- ◉ Beer = \$15.00/gallon
- ◉ Bottled Water = \$1.21/gallon
- ◉ Wine = \$25/gallon



* Costs for milk, orange juice and bottled water obtained from Bureau of Labor Statistics and Beverage Marketing Association reports. Other costs determined by calculating average supermarket pricing for bottles of soda, wine and beer and converting to a gallon.

FREQUENTLY ASKED QUESTIONS

WHAT IS THE WHITE OR COLORED DEPOSIT ON MY DISHES OR FAUCETS?

In most cases, the deposits or sediments left behind after water evaporates are calcium carbonate. The amount of calcium in the water is referred to as hardness. Cleaning with white vinegar can help to dissolve and remove deposits. Using a commercial conditioner, liquid detergents or the “air-dry” option in dishwashers can help to decrease the calcium carbonate found on dishes.

ARE THE DEPOSITS OR HARD WATER HARMFUL?

Hardness and/or the deposits left by hard water don't pose a health concern and may have health benefits. We don't treat drinking water for water hardness that can result in hard water deposits.

WHAT IS THE LEVEL OF HARDNESS IN MY WATER?

The hardness in your water is approximately 45 grains per gallon (gpg).

Degree of water hardness range (gpg)

Soft	Less than 1
Slightly Hard	1 to 3.4
Moderately Hard	3.5 to 6.9
Hard	7 to 10.4
Very Hard	Greater than 10.5

WHY IS MY WATER CLOUDY OR MILKY IN APPEARANCE WHEN IT COMES OUT OF THE TAP?

Water that appears cloudy or milky is typically caused by trapped air (very small air bubbles) in the water. If this occurs, simply let the water stand for a few minutes—the air will dissipate leaving a clear glass of water.

The quality of your water depends on the source water itself as well as factors such as the geology and biology of the area where the water came from. For some elements that are known to have an effect on the aesthetics of the water quality parameters, the EPA has established guidance levels known as secondary maximum contaminant level standards (SMCLs). When levels of these contaminants are found to be above the SMCLs, they may impact the aesthetic quality of the water (e.g., color, taste and odor). Although aesthetic water qualities may vary, your water meets all state and federal regulatory standards and is safe to use for all drinking water purposes. Secondary contaminants include, but are not limited to, manganese, iron and total dissolved solids (TDS).

WHY IS CHLORINE ADDED TO MY DRINKING WATER?

Chlorine is added to your water for your protection and is used as a disinfectant to ensure that harmful organisms, such as bacteria and viruses, are destroyed in the treatment process.

ARE THERE OTHER WAYS TO REMOVE THE CHLORINE TASTE OR SMELL FROM MY WATER?

To remove the taste of chlorine from your water, try these tips:

- ▶ Place water in a glass container in the refrigerator overnight, uncovered. This will let the chlorine dissipate.
- ▶ Bring your water to a rolling boil for five minutes and let it stand to cool.
- ▶ Add a slice of lemon or a few drops of lemon juice to your glass of drinking water.



WILL MY HOME TREATMENT DEVICE REMOVE CHLORINE?

Some home treatment devices can remove chlorine. Once chlorine is removed, the water should be treated like any other beverage product and used as quickly as possible. We recommend that you follow the manufacturer's instructions for maintaining the device to ensure water quality.

DEFINITION OF TERMS

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

GPG (grains per gallon): Used to describe the dissolved hardness minerals contained in water and is a unit of weight that equals 1/7,000 of a pound.

HAA5 (Haloacetic Acids): Consist of Monochloroacetic Acid, Dichloroacetic Acid, Trichloroacetic Acid, Bromoacetic Acid and Dibromoacetic Acid.

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.

MNR: Monitored, not regulated.

MRDL (Maximum Residual Disinfectant Level): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG (Maximum Residual Disinfectant Level Goal): 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: None Detected.

NTU: Nephelometric turbidity units.

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

pCi/L (Picocuries per Liter): Measurement of the natural rate of disintegration of radioactive contaminants in water (also beta particles).



ppm (Parts per Million): One part substance per million parts water (or milligrams per liter).

ppt (Parts per Trillion): One part substance per trillion parts water (or nanograms per liter).

SMCL (Secondary Maximum Contaminant Level): Non-enforceable guidelines regulating contaminants that may cause cosmetic or aesthetic effects in drinking water.

Total Dissolved Solids: An overall indicator of the amount of minerals in water.

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

TTHM (Total Trihalomethanes): Consist of Chloroform, Bromoform, Bromodichloromethane and Dibromochloromethane.

UCMR (Unregulated Contaminant Monitoring Rule): Unregulated substances are measured, but maximum contaminant levels have not been established by the government.

WHAT'S IN YOUR WATER



HOW TO READ YOUR WATER QUALITY TABLE

Below, you'll see an analysis of your drinking water. Here's an example of how to read these tables:

Start here and read across	2016 or year prior	The goal level for that substance	Highest level of substance allowed	Highest amount that was found	Highest and lowest amounts found	Yes means the amount found is below gov't requirements	Where substance usually originates
Substance (units)	Year Sampled	MCLG	MCL	Highest Amount Detected	Range of Detections	Compliance Achieved	Typical Sources

YOUR WATER QUALITY TABLE

The data shown in the tables below are results from commercial laboratories certified in drinking water analysis by the Arizona Department of Health Services.

The table shows what substances were detected in your drinking water during 2017 or the last required sampling period within the last five years.

Regulated Substances Measured in the Water Leaving the Treatment Facility

KING STREET

Substance (units)	Year Sampled	MCLG	MCL	Highest Amount Detected	Range of Detections	Compliance Achieved	Typical Sources
Chlorine Dioxide (ppm)	2017	0.8	0.8	0.76	ND-0.76	YES	Water additive used to control microbes
Chlorite (ppm)	2017	0.8	1.0	0.66	ND - 0.66	YES	Water additive used to control microbes

Regulated Substances Measured in the Distribution System

KING STREET

Substance (units)	Year Sampled	MCLG/MRDLG	MCL/MRDL	Highest Running Annual Average	Range of Detections	Compliance Achieved	Typical Sources
TTHMs (ppb)	2017	NA ¹	80	66	42 - 80 ²	NO ²	By-product of drinking water disinfection
HAA5 (ppb)	2017	NA ¹	60	17	12 - 20	YES	By-product of drinking water disinfection
Chlorine Residual (ppm)	2017	4	4.0	0.51	0.19 - 1.06	YES	Water additive used to control microbes
Chlorite (ppm)	2017	0.8	1.0	NA	ND - 0.38	YES	Water additive used to control microbes

WHAT'S IN YOUR WATER

Tap Water Samples: Lead and Copper Results

KING STREET

Substance (units)	Year Sampled	MCLG	Action Level	Number of Samples	90th Percentile	Number of Samples Above Action Level	Compliance Achieved	Typical Sources
Copper (ppm)	2017	1.3	1.3	20	1.1	1	YES	Corrosion of household plumbing systems; erosion of natural deposits
Lead (ppb)	2017	0	15	20	4.7	0	YES	Corrosion of household plumbing systems; erosion of natural deposits

Unregulated Substances Measured in the Water Leaving the Treatment Facility

KING STREET

Substance (units)	Year Sampled	Range of Detections	Typical Sources
Hardness (grains/gallon)	2015	45	Natural calcium and magnesium content

Regulated Substances Measured in the Water Leaving the Treatment Facility

LAKE CIMARRON

Substance (units)	Year Sampled	MCLG	MCL	Highest Amount Detected	Range of Detections	Compliance Achieved	Typical Sources
Barium (ppm)	2013	2	2	0.04	0.04	YES	Erosion of natural deposits
Fluoride (ppm)	2013	4.0	4.0	0.2	0.2	YES	Erosion of natural deposits
Sodium (ppm)	2013	NA	MNR	160	160	YES	Erosion of natural deposits
Chlorine Dioxide (ppm)	2017	0.8	0.8	0.70	ND - 0.70	YES	Water additive used to control microbes
Chlorite (ppm)	2017	0.8	1.0	0.90	ND - 0.90	YES	Water additive used to control microbes

Regulated Substances Measured in the Distribution System

LAKE CIMARRON

Substance (units)	Year Sampled	MCLG/ MRDLG	MCL/ MRDL	Highest Running Annual Average	Range of Detections	Compliance Achieved	Typical Sources
TTHMs (ppb)	2017	NA ¹	80	90 ²	0.8 - 85 ²	YES	By-product of drinking water disinfection
HAA5 (ppb)	2017	NA ¹	60	24	ND - 15	YES	By-product of drinking water disinfection
Chlorine Residual (ppm)	2017	4	4.0	0.28	0.03 - 0.52	YES	Water additive used to control microbes
Chlorite (ppm)	2017	0.8	1	NA	ND - 0.74	YES	Water additive used to control microbes

WHAT'S IN YOUR WATER

Tap Water Samples: Lead and Copper Results

LAKE CIMARRON

Substance (units)	Year Sampled	MCLG	Action Level	Number of Samples	90th Percentile	Number of Samples Above Action Level	Compliance Achieved	Typical Sources
Copper (ppm)	2017	1.3	1.3	5	0.68	0	YES	Corrosion of household plumbing systems; erosion of natural deposits
Lead (ppb)	2017	0	15	5	1.5	0	YES	Corrosion of household plumbing systems; erosion of natural deposits

Unregulated Substances Measured in the Water Leaving the Treatment Facility

LAKE CIMARRON

Substance (units)	Year Sampled	Range of Detections	Typical Sources
Hardness (grains/gallon)	2015	45	Natural calcium and magnesium content

¹TTHM/HAA5: Although there is no collective MCLG for this contaminant group, there are individual MCLGs for some of the individual contaminants: Trihalomethanes: bromodichloromethane (0.0 mg/L); bromoform (0.0 mg/L); chloroform (0.07 mg/L); dibromochloromethane (0.06 mg/L). Haloacetic acids: dichloroacetic acid (0.0 mg/L); trichloroacetic acid (0.3 mg/L). Monochloroacetic acid, bromoacetic acid and dibromoacetic acid are regulated with this group but have no MCLGs.

²TTHM/HAA5: The standard, maximum contaminant level (MCL), for TTHMs is 80 parts per billion (ppb) and compliance with the standard is determined by averaging all samples collected at each sampling location for the past four quarters (12 months). During the first quarter of 2017, the average level of TTHMs was 86 ppb and 90 ppb at two distribution sample locations and this quarterly average exceeded the MCL. After receiving analytical results indicating elevated levels of TTHMs, EPCOR immediately notified ADEQ and water customers, and took corrective actions to address any potential operational issues. Corrective actions included flushing the distribution system, cleaning storage facilities and

reviewing sampling procedures. EPCOR also conducted a careful and thorough review of disinfection practices and all associated treatment. These efforts were successful in lowering the overall TTHM levels and the standard was met for the remaining (2nd, 3rd, and 4th) quarters in 2017.

ADDITIONAL MONITORING

In addition to the parameters listed in this table, other parameters were monitored for, including regulated pesticides, herbicides, petroleum by-products and metals. None of those parameters were detected in the water. If you have any questions about this report or your drinking water, please call our **Customer Care** team at **1-800-383-0834**.

EPCOR encourages feedback related to the quality of water that is provided to you. Please feel free to submit comments to us directly at mywater@epcor.com. You may also provide feedback to the Arizona Corporation Commission (ACC).



Learn more about your
water at [epcor.com](https://www.epcor.com).

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