



**2016 Annual Drinking Water Quality & Consumer Confidence Report
(For Calendar Year 2015)
City of Prescott Water System 13-045**



**Public Works
Utilities Division
Water Operations**

A NOTE FROM WATER OPERATIONS

As your water provider, we serve more than water. We provide value, public health, reliability, and peace of mind. Our job is to ensure that your safe supply of water keeps flowing not only today, but well into the future. It's all part of our service commitment to you and everyone in our community. The 2016 Water Quality Report is a comprehensive report issued by the City of Prescott Water Operations. This annual report identifies the sources of Prescott's drinking water, provides water quality information, and summarizes analytical tests of the City's drinking water supply for Calendar Year 2015. During 2015, water from the City system met or exceeded all applicable federal and state drinking water health standards.

APPLICABLE FEDERAL AND STATE REQUIREMENTS

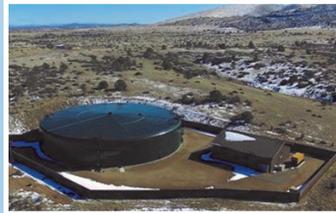
The United States Environmental Protection Agency (EPA) and the Arizona Department of Environmental Quality (ADEQ) require purveyors of drinking water to annually report the quality of the water they deliver. The City of Prescott safeguards its water supplies, and once again is pleased to report compliance with prescribed maximum contaminant levels and other water quality standards. The City regularly conducts testing beyond the minimum regulatory requirements to further assure the safety of our drinking water.



Secured Well Housing



Well Pump



Water Storage Tank



*Booster Pumps
for Distribution*



*Clean Water
To Your Tap*

CITY OF PRESCOTT - SOURCE OF WATER

Groundwater is the sole source of potable water in the City of Prescott. The City produces its water from seven production wells within the Prescott Active Management Area (AMA) which are drilled into the confined deep Lower Volcanic Unit of the aquifer underlying the Little Chino Sub-Basin. The water is pumped from the ground through one of the city's seven wells and then treated prior to entering the drinking water distribution system. The water is of excellent quality with a safe production capability of up to 12 million gallons per day (MGD). The wells are pumped in different combinations to meet daily demand. The annual average daily demand is 5.7 MGD. In 2015, the City of Prescott produced (pumped) 6,471 acre-feet of water from the wells and delivered this water to approximately 23,610 customers through 523 miles of pipeline and 27 water storage tanks throughout its service area.

Is My Water Treated? YES.

As the City of Prescott is fortunate to draw from high quality aquifers, the water requires minimal treatment. Water Operations selects a combination of two treatment processes appropriate to reduce the contaminants found in our groundwater. These two processes are disinfection with the use of Chlorine and Arsenic Treatment. These processes ensure the delivery of potable water not only at safe levels, but water quality that surpasses state and federal regulations.



ARSENIC INFORMATION

In 2015, the City implemented an approved ADEQ Blending Plan to manage arsenic levels in the City's water system. A Blending Plan is a process that combines water from various wells "blending" the water from the wells with the lowest detected levels of arsenic. This process allows the City to meet daily demands while keeping the levels of arsenic below action level regulatory requirements. Currently, the City has one well not included in the Blending Plan however, that specific well does have its own arsenic treatment system which also maintains arsenic levels below the federal action level standards. The City of Prescott also treats its water with chlorine to prevent the development of bacterial contamination that could occur in the water storage and distribution systems.

LEAD & COPPER INFORMATION

"The Lead and Copper Rule was developed to protect the public health by minimizing lead and copper levels in drinking water. The rule includes identifying residences or sampling locations with lead service lines, lead interior plumbing, or copper pipes with lead solder. If water is too corrosive, it can cause lead and copper to leach out of the plumbing materials and fixtures and enter the drinking water."

"Lead (Pb) & Copper (Cu) Monitoring & Reporting establishes an Action Level of 0.015 mg/L (15 ppb) for lead (Pb) and 1.3 mg/L (1.3 ppm) for copper (Cu) based on the 90th percentile level of tap water samples."

www.azdeq.gov

City of Prescott - Lead and Copper Results for 2013

Water Samples Collected from homes qualified per ADEQ standards in Prescott, AZ						
Parameter	Violation Y or N	AL	Number of Samples Over the AL	90th Percentile	Unit	Date
Lead & Copper						
Lead Results - Homes	N	15	0	<0.00200	ppb	2013
Copper Results - Homes	N	1.3	0	0.0753	ppm	2013

AL: Action Level - The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements which a water system must follow.
PPM: Parts Per Million – or milligrams per liter (mg/L) **PPB:** Parts Per Billion – or micrograms per liter (µg/L)

Why 2013 Results? Water Samples to test for Lead and Copper levels are collected and sent to a EPA approved testing lab by the City of Prescott to determine the lead and copper levels in the City's tap water. This sampling effort is required by both the EPA and ADEQ and is being accomplished through the cooperation of City of Prescott residents. **The City of Prescott's public water system is considered medium size (serving a population under 50,000) and monitoring is reduced as the levels of lead and copper have not exceeded the action level for three consecutive years.** As the City is allowed reduced monitoring to every three years, the number of collection sites are also reduced from 60 collection sites to 30 collection sites. Sampling Sites are determined by year of home and water system history.

City of Prescott - Lead and Copper Results for 2016

In 2016, Water Operations will conduct the Lead & Copper Water Sampling in the City following ADEQ regulatory procedures. The results of the 2016 testing will be reported in the 2017 Annual Water Quality & Consumer Confidence Report for Calendar year 2016. Due to the heightened awareness of Lead & Copper in recent news, the City will post the results of the 2016 Lead & Copper water sample testing on the City's website in the Fall of 2016. <http://www.prescott-az.gov/services/water/water-general.php>

PROTECTING OUR WATER SUPPLY

All sources of drinking water contain some naturally occurring contaminants. A contaminant is any physical, chemical, biological or radiological substance or matter in the water. At low levels, these contaminants generally are not harmful in our drinking water. Removing all contaminants would be extremely expensive, and in most cases, would not provide increased protection of public health. A few naturally occurring minerals may actually improve the taste of drinking water and may even have nutritional value at low levels.

CONTAMINANTS THAT MAY BE PRESENT IN SOURCE WATER INCLUDE:

- ◆ 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 that can be naturally occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.
- ◆ Pesticides and herbicides which may come from a variety of sources such as agriculture, urban storm water runoff or residential uses.
- ◆ Organic chemical contaminants, including synthetic and volatile organic chemicals that are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff and septic systems.
- ◆ Radioactive contaminants, such as Radon, that can be naturally-occurring or the result of oil and gas production or mining activities.

Note: In order to ensure that tap water is safe to drink, the EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. United States Food and Drug Administration regulations establish limits for contaminants in bottled water.

ABBREVIATIONS & DEFINITIONS

AL =	Action Level - The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements which a water system must follow.
MCL =	Maximum Contaminant Level - The highest level of a contaminant allowed by the EPA in drinking water. MCLs are set as close to 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.
MRDLG =	Maximum Residual Disinfectant Level Goal - The level of drinking water disinfectant below which there is no known or expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contamination.
MRDL =	Maximum Residual Disinfectant Level - The highest level of a disinfectant (chlorine) allowed in drinking water. There is convincing scientific evidence that the addition of a disinfectant is required for the control of microbial contaminants.
NA =	Not Applicable - Sampling was not completed by regulation or was not required.
ND =	Not Detected - Concentration too low to be detected
NTU =	Nephelometric Turbidity Units - A measure of water clarity
pCi/L =	Picocuries per liter - A measure of the radioactivity in water
PPM =	Parts Per Million - Or milligrams per liter (mg/L)
PPB =	Parts Per Billion - Or micrograms per liter (µg/L), 1000 ppb = 1 ppm One ppm is approximately equal to one drop of food coloring in 13 gallons of water. One ppb approximately equal to one drop of water in a small backyard swimming pool (13,000 gallons).
ADEQ =	Arizona Department of Environmental Quality
EPA =	US Environmental Protection Agency

WATER QUALITY DATA REPORT FOR CITY OF PRESCOTT

Primary Drinking Water Standards - Mandatory Health-Related Levels Established by EPA and ADEQ						
Water Samples Collected from homes qualified per ADEQ standards in Prescott, AZ						
Parameter	Violation Y or N	AL	Number of Samples Over the AL	90th Percentile	Unit	Date
Lead & Copper						
Lead Results - Homes	N	15	0	<0.00200	ppb	2013
Copper Results - Homes	N	1.3	0	0.0753	ppm	2013

Regulated Substances - Measured from the Water Leaving the Treatment Facilities						
Parameter	MCL	MCLG	Highest Level	Range	Unit	Date
RadioChemical Monitoring			Highest Detected Level	Range		
Gross Alpha	15	0	0.8 - 09/ 0.3 - 0.2	0.3 - 0.8/0.2 - 0.9	PCi/L	2015
Combined Radium	5	0	< 0.7	< 0.4 - 0.7	PCi/L	2015
Uranium 234	30	<30	0.00173	0.00173+/-0.00013	ug/l	2015
Uranium 235	30	<30	0.125	0.125+/-0.002	ug/l	2015
Uranium 238	30	<30	17.1	17.1+/-1.7	ug/l	2015
Regulated Inorganic Compounds			Highest Detected Level	Range		
Antimony	6	2	<5	<5	ppb	2015
Arsenic	10	0	8.8	3.6 - 8.8	ppb	2015
Barium	2	2	0.037	,0.005 - 0.037	ppm	2015
Chromium	0.1	0.1	0.007	< 0.002 - 0.007	ppm	2015
Fluoride	4	4	0.5	< 0.5	ppm	2015
Nitrate (as N)	10	10	1.69	0.990 - 1.69	ppm	2015
Nitrite	1	1	< 0.02	< 0.02	ppm	2015
Selenium	5	2	0.001	0.001	ppm	2015
Disinfection Byproduct Monitoring			Highest Detected level	Range		
Total Trihalomethane (TTHM)	80	0	10.3	4.48 - 10.3	ppb	2014
Haloacetic Acids (HAA5)	60	NA	1.7	< 0.001 - 1.7	ppb	2014
Maximum Residual Disinfection Level (MRDL)			Highest Detected level	Range		
Chlorine	4	0.2 - 1.0	0.58	0.37 - 0.58	ppm	2014
Biological Monitoring			Entire Distribution System	Likely Source in Drinking Water	Unit	Date
Total Coliform - tested monthly	0	Highest monthly percentage of positive Coliform samples: 1 in 53		Naturally present in the environment	Absent or Present	2014

Unregulated Sampling Results						
Parameter	MCL	Highest Detected level		Range	Unit	Date
UCMR3 - Metals						
Chromium	NA	8.3		1.9 - 8.3	ug/l	2015
Strontium	NA	370		280 - 370	ug/l	2015
Vanadium	NA	16		6.7 - 16.0	ug/l	2015
UCMR3 - Cr6						
Hexavalent Chromium	NA	8.3		1.9 - 8.3	ug/l	2015
UCMR3 - Anions						
Chlorate	NA	30		ND - 30	ug/l	2015

PERSONS WITH SENSITIVE IMMUNE SYSTEMS

All 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 a health risk. Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised individuals, such as those undergoing chemotherapy or other treatments, 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 from their health care providers about drinking water.



LEAD ADVISORY 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. The City of Prescott 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 <http://water.epa.gov/drink/info/lead/index.cfm>

NITRATES *Nitrates* are inorganic substances that are monitored due to run off from fertilizer use. 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." The City of Prescott nitrates levels are well below the maximum contaminant level at 1.69 ppm. (See chart on Page 5) Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, and detected nitrate levels are above 5 ppm, you should ask advice from your health care provider. For more information on nitrates: <http://www.epa.gov/nitratefaqs>

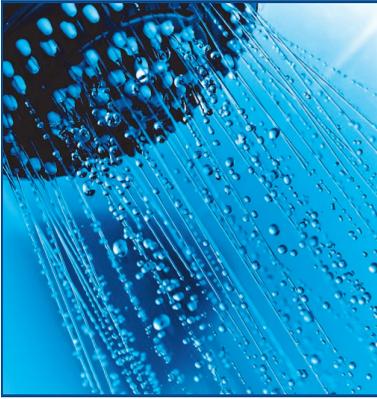
MONITORING FOR CRYPTOSPORIDIUM *Cryptosporidium* is an emerging pathogen resistant to chlorination and can appear even in high quality water supplies. New regulations from the EPA require water systems to monitor *Cryptosporidium* and adopt a range of treatment options based on source water *Cryptosporidium* concentrations. The City of Prescott has not detected or had any occurrence of *Cryptosporidium*.

RADON *Radon* is a gas that has no color, odor, or taste and comes from the natural radioactive breakdown of uranium in the ground. Radon is only a concern if your drinking water comes from underground, such as a well that pumps water from an aquifer, though not all water from underground sources contains radon. Although there is currently no federally-enforced drinking water standard for Radon, the City of Prescott does monitor Radio Chemicals: Gross Alpha and Combined Radium (See Page 5) and surpasses mandatory health levels established by the EPA and ADEQ. For more information on Radon: <https://www.epa.gov/radon>

WATER QUALITY TABLE INFORMATION *The Water Quality Table on Page 5* contains the most recent analysis for regulated testing. The frequency of sample collection is determined by state and federal regulations and based on many different parameters such as type of water source, number of people served, as well as past and current analyses of the contaminant to be tested. This explains why some data may be more than one year old. The City of Prescott is required to test for unregulated contaminants. The data generated by these tests will be used by the EPA to evaluate and prioritize contaminants on the Drinking Water Contaminant Candidate List. None of the unregulated contaminants tested have been detected in the City's drinking water. If you would like to learn more about the monitoring results, please contact Water Operations at (928) 777-1118.

FREQUENTLY ASKED WATER TOPICS & QUESTIONS

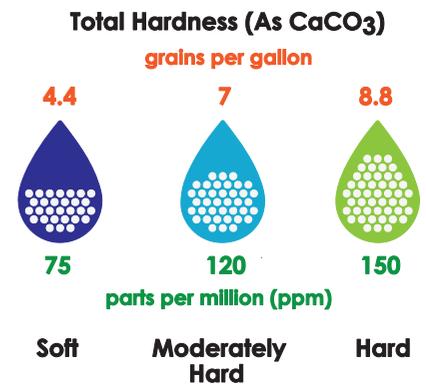
WATER PRESSURE: The most common question regarding water is about water pressure to the house. Low water pressure to the home can be caused by: Mineral deposit build-up in the home's pipes, clogged



aerators in faucets, and even an aging water heater. If a water heater is not regularly maintained per factory specifications, the plastic pipe inside a water heater can disintegrate; causing pieces of plastic plug fixtures to clog water lines. Another common cause is the setting or the age of a water pressure regulator valve (PRV). A previous home owner may have had a regulator set to limit the force of water diverted from the municipal supply line. A PRV has a shelf life. A plumber can assist you to check the setting or assess the condition of the PRV. A failing PRV will cause low or high water pressure. Installing a PRV for each property ensures that the pressure coming from the municipal supply line is reduced to an acceptable pressure. If the PRV is placed at the meter, instead of just at the entrance to the building, then the regulator will also act to protect the

supply line to the house and many parts of the property's irrigation system. An added benefit of regulating the pressure to the irrigation system is that it will help reduce misting, thereby increasing the efficiency of the irrigation system - saving water and money.

WATER HARDNESS: Water hardness is the amount of dissolved calcium and magnesium salts in water. Calcium and magnesium enter water mainly through the weathering of rocks. The more calcium and magnesium in water, the harder the water. Water hardness is usually expressed in parts per million (ppm) or grains per gallon of dissolved calcium and magnesium carbonate. The City's water is considered moderately hard, averaging 113 to 127 ppm, which equals 6.6 to 7.4 grains per gallon. In hard water, soap reacts with the calcium (which is relatively high in hard water) to form "soap scum". As a result, more soap or detergent is needed to get things clean, be it your hands, hair, or your laundry. This happens because calcium and magnesium react strongly with negatively-charged chemicals like soap to form insoluble compounds.



SHOULD I GET A WATER FILTRATION SYSTEM? As Prescott's water quality meets or surpasses all federal and state standards, home filtration systems are not necessary. However, if you choose to purchase a filtration system for aesthetic or medical reasons, keep the following in mind: Find out if the filter you are considering is capable of removing substances that concern you. Look for filters that have been certified by NSF International (an independent testing group) and Underwriters Laboratory (UL) and follow the manufacturer's maintenance instructions carefully for usage and filter replacement frequency guidelines.



WHY IS MY WATER CLOUDY? Oxygen in the water: Sometimes water fresh from the tap appears cloudy.



Within a minute or two, the cloudiness rises toward the top of a glass and before long the whole glass is crystal clear. This is caused by excess oxygen escaping from the water. Changes in water temperature and pressure can cause the oxygen dissolved in it to reach a supersaturated state where more oxygen is in the water than it can hold. When the water passes through a faucet, the disturbance is enough to release the excess oxygen out of the water, forming microscopic bubbles. The bubbles are so tiny that it takes them a long time to rise through the water. No harm will come from using oxygenated water, and you need not take any corrective action if you experience it.

Where to Learn More about Your Drinking Water

Specific information about this report can be obtained by contacting:

- ◆ **City of Prescott Water Operations Staff**

Office Location: 1481 Sundog Ranch Road

Phone: (928) 777-1118 Email: water.operations@prescott-az.gov

Hours of Operation: 7:00 a.m. to 3:30 p.m. Monday—Friday

City of Prescott Website: <http://www.prescott-az.gov/services/water/water-general.php>

- ◆ **Environmental Protection Agency Safe Drinking Water Hotline** (800) 426-4791

Website: <http://water.epa.gov/drink/index.cfm>

- ◆ **Arizona Department of Environmental Quality** (800) 234-5677

Website: www.azdeq.gov/environ/water/index.html

- ◆ Water related topics are discussed at City Council meetings and in other forums in which the public can participate. Meeting notices are published in the local newspaper and posted at **City Hall, 201 S. Cortez Street, Prescott, Arizona**. Opportunities for public participation in decisions that affect water quality will be announced through the City of Prescott Calendar of Events. Follow this



Public Works - Utilities Division - Water Operations

1481 Sundog Ranch Road

Prescott, AZ 86301

We are on the Web! www.prescott-az.gov

