



# **2019 ANNUAL WATER QUALITY REPORT**

## **JANUARY 1 - DECEMBER 31, 2019**

Welcome, Sahuarita Water Company (SWC) is pleased to present to you our annual Water Quality Report for 2019. Every year, SWC invests in the water system and its employees to ensure that drinking water delivered to your home meets or exceeds Safe Drinking Water Standards. The data presented in this report are from the most recent testing done in accordance with Pima County, State of Arizona, and United States Environmental Protection Agency (USEPA) regulations.

This report is designed to help you, the water user, make informed decisions regarding your drinking water. We hope you will find this Water Quality Report informative and above all, we want to maintain your confidence in our efforts to provide you with safe drinking water.

### **This Report Contains Information About:**

- Your drinking water source
- General information about drinking water and expected drinking water contaminants
- Water treatment
- Recommendations for “At-Risk” populations
- Technical and regulatory terms and abbreviations
- Detected contaminants table
- Detailed information on detected contaminants
- Drinking water rule violations
- Where to get more information
- The Unregulated Contaminant Monitoring Rule



## Your Drinking Water Source

Sahuarita Water is a private water company who has been providing water service to residents of Rancho Sahuarita and Rancho Resort since 2000. Current service extends to over 17,000 residents living in about 6,000 homes. SWC also provides water to the Marketplace, Sahuarita Unified School District and Town of Sahuarita Municipal Complex.

SWC's water supply is 100% ground water and comes from three deep wells located in the Rancho Sahuarita area. This water is drawn from the Tucson Basin aquifer, a part of the Santa Cruz River Watershed. In our region, water is withdrawn from the aquifer by private wells, municipal, agricultural and industrial users.

The source water assessment completed by ADEQ in 2003 provided our system with a low-risk designation. Based on the information currently available on the hydrogeologic settings of and the adjacent land uses that are in the specific proximity of the drinking water source(s) of this public water system, the department has given a low risk designation for the degree to which this public water system drinking water source(s) are protected. A low risk designation indicates 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.

**Further source water assessment documentation can be obtained by contacting ADEQ Records Center to obtain a copy: <http://www.azdeq.gov/records-center>**

## The Purpose of Report

This Annual Water Quality Report, also known as a Consumer Confidence Report, is intended to provide you with accurate and understandable information on the quality of the water delivered by Sahuarita Water Co. (PWSIDAZ0410-312) and to characterize the risks, if any, from exposure to contaminants detected in your drinking water.

## Questions

For more information regarding this annual report or for information about your drinking water, contact Sahuarita Water Company at 520-399-1105. While we do not hold regular meetings, you are welcome to call SWC with your questions or concerns about your water quality.

## Español

Spanish (Español):  
Este informe contiene información muy importante sobre la calidad de su agua potable. Tradúzcalo o hable con alguien que lo entienda bien. Para obtener mas información de este reporte, llame al (520) 399-1105.

## Recommendations for “At-Risk” Populations

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, persons with HIV, AIDS, or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. United States Environmental Protection Agency and Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791)



## General Information

### About Drinking Water

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 that the water poses a health risk. The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells.

As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. 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, and wildlife.

**Inorganic contaminants**, such as salts and metals, which 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, and residential uses.

**Organic chemical contaminants**, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and also may come from gas stations, urban storm water runoff, and septic systems.

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

In order to ensure that tap water is safe to drink, the Arizona Department of Environmental Quality (ADEQ) regulates the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

## Water Quality Data

### Terms and Abbreviations

To help you understand the terms and abbreviations used in this report, we have provided the following definitions:

**Action Level** - "Action Level" means the concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a community water system shall follow.

**Maximum Contaminant Level (MCL)** - "Maximum Contaminant Level" or "MCL" means 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.

**Maximum Contaminant Level Goal (MCLG)** - "Maximum Contaminant Level Goal" or "MCLG" means 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.

**Maximum Residual Disinfectant Level (MRDL)** - "Maximum Residual Disinfectant Level" or "MRDL" means 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.

**Maximum Residual Disinfectant Level Goal (MRDLG)** - "Maximum Residual Disinfectant Level Goal" or "MRDLG" means 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.

**Parts Per Billion (ppb)** - One ppb equals one microgram per liter. For example, one part per billion equals 6 tablespoons of water in Sahuarita Lake.

**Parts Per Million (ppm)** - One ppm equals one milligram per liter or 1,000 times more than a ppb. One part per million equals one M&M® in a ton of M&Ms®.

**Picocuries Per Liter (pCi/L)** - The measure of radioactivity in water specifically, the quantity of radioactive material in one liter of water which produces 2.22 nuclear disintegrations per minute.

**Entry Point into the Distribution System (EPDS)** - All water sources are monitored at the EPDS. This point is after any required treatment but before the first customer service.



# Detailed Water Quality Data

Inorganic Contaminants							
	Sample Date	Running Annual Average (RAA) or Highest Level Detected	Range	MCL	MCLG	Violation	Major Sources
<b>Arsenic</b>	2019	8.5 ppb	8.1-8.9	10.0 ppb	None	No	Erosion of natural deposits
<b>Sodium</b>	1/7/19	57	N/A	None	None	Unregulated	Erosion of natural deposits
<b>Fluoride</b>	1/7/19	0.75 ppm	N/A	4.0 ppm	2.0 ppm	No	Erosion of natural deposits
<b>Nitrate</b>	1/7/19	2.0 ppm	N/A	10 ppm	10 ppm	No	Erosion of natural deposits;Runoff from fertilizer use; Leaching from septic tanks, sewage
Disinfectants							
	Sample Date	Running Annual Average (RAA) or Highest Level Detected	Range	MCL	MCLG	Violation	Major Sources
<b>Chlorine</b>	Continuous	0.74 ppm	0.52-0.93	MRDL= 4	MRDLG = 4	No	Water additive used to control microbes
Disinfection By-Products							
	Sample Date	Running Annual Average (RAA) or Highest Level Detected	Range	MCL	MCLG	Violation	Major Sources
<b>Trihalomethanes</b>	6/20/19 8/9/19	5 ppb	1.5 - 5 ppb	80 ppb	80 ppb	No	By-product of drinking water chlorination.
<b>Haloacetic Acids</b>	6/20/19 8/9/19	<2 ppb	N/A	60 ppb	60 ppb	No	By-product of drinking water chlorination.
Radiochemical Contaminants							
<b>Combined Uranium</b>	1/11/16	2.7 ppb	N/A	30.0 ppb	0 ppb	No	Erosion of Natural Deposits
<b>Alpha Emitters</b>	1/11/16	4.0 pCi/L	N/A	15.0 pCi/L	0 pCi/L	No	Erosion of Natural Deposits
Microbiological Contaminants							
	Months with Coliform Detections	# of Positive Samples for Month	Total # of Samples Collected per Month	MCL	MCLG	Violation	Major Sources
<b>Total Coliform</b>	None	0	20	No more than one positive monthly	0	No	Naturally present in the environment
Lead and Copper							
	Sample Date	Maximum Results	90th Percentile Value	Action Level MCL Not Applicable	MCLG	Violation	Major Sources
<b>Lead</b>	7/10-16/2019	0.92 ppb	<0.50 ppb	15 ppb	0 ppb	No	Corrosion of household plumbing
<b>Copper</b>	7/10-16/2019	0.033 ppm	0.21 ppm	1.3 ppm	1.3 ppm	No	Corrosion of household plumbing

SWC routinely monitors for contaminants in your drinking water in accordance with Federal and State laws. The State of Arizona requires SWC to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year, or the system is not considered vulnerable to this type of contamination.

In 2019, Sahuarita Water Company collected 195 samples for analysis of total coliform bacteria. In addition, samples were collected for analysis of organic and inorganic contaminants as well as lead and copper. As a result of diligent operation and monitoring of the water system, there were no violations in 2019.

## Detailed Information on Detected Contaminants

**Arsenic** — Arsenic occurs naturally in rocks and soil, water, air and plants and animals. It can be further released into the environment through natural activities such as volcanic action, erosion of rocks, and forest fires, or through human actions. Approximately 90 percent of industrial arsenic in the U.S. is currently used as a wood preservative, but arsenic is also used in paints, dyes, metals, drugs, soaps and semi-conductors. Agricultural applications, mining, and smelting also contribute to arsenic releases in the environment. Higher levels of arsenic tend to be found more in ground water sources than in surface water sources (i.e., lakes and rivers) of drinking water. Compared to the rest of the United States, western states have more systems with arsenic levels greater than 10 ppb.

In 2006, USEPA reduced the drinking water standards (MCL) for arsenic from 50 ppb to 10 ppb, and now requires all water utilities to meet this reduced standard. While your drinking water meets USEPA's standard for arsenic, it does contain low levels of arsenic. USEPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. USEPA 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. Some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.

**Combined Uranium** - Uranium is a radioactive element. Small amounts occur naturally in rocks and soils. Some people who drink water containing uranium in excess of USEPA's standard over many years may have an increased risk of getting cancer.

**Alpha Emitters** — Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of USEPA's standard over many years may have an increased risk of getting cancer.

**Copper** — Copper is a metal found in natural deposits as ores containing other elements. It is widely used in household plumbing materials. Since copper contamination generally occurs from corrosion of household copper pipes, it cannot be directly detected or removed by the water system. Instead, USEPA is requiring water systems to control the corrosiveness of their water if the level of copper at home taps exceeds an Action Level.

**Fluoride** — Although SWC does not, many communities add fluoride to their drinking water to promote dental health. Each community makes its own decision about

whether or not to add fluoride. USEPA has set an enforceable drinking water standard for fluoride of 4 ppm (some people who drink water containing fluoride in excess of this level over many years could get bone disease, including pain and tenderness of the bones). USEPA has also set a secondary fluoride standard of 2 ppm to protect against dental fluorosis. Dental fluorosis, in its moderate or severe forms, may result in a brown staining and/or pitting of the permanent teeth. This problem occurs only in developing teeth, before they erupt from the gums. Children under nine should not drink water that has more than 2 ppm of fluoride.

**Lead** — Lead, a metal found in natural deposits, is commonly used in household plumbing materials and water service lines. The greatest exposure to lead is swallowing or breathing in lead paint chips and dust. But lead in drinking water can also cause a variety of adverse health effects. In babies and children, exposure to lead in drinking water above the action level can result in delays in physical and mental development, along with slight deficits in attention span and learning abilities. In adults, it can cause increases in blood pressure. Adults who drink this water over many years could develop kidney problems or high blood pressure.

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. Sahuarita Water Company 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](http://www.epa.gov/safewater/lead).

**Nitrate** — Nitrates and nitrites are nitrogen-oxygen chemical units which combines with various organic and inorganic compounds. Once taken into the body, nitrates are converted into nitrites. The greatest use of nitrates is as a fertilizer.

The water delivered to you by SWC is well within drinking water standards. As part of our public education efforts, we have provided the health effects from drinking water that does not meet standards. Short-term health effects: Excessive levels of nitrate in drinking water have caused serious illness and sometimes death. The serious illness in infants is due to the conversion of nitrate to nitrite by the



body, which can interfere with the oxygen-carrying capacity of the child's blood. This can be an acute condition in which health deteriorates rapidly over a period of days. Symptoms include shortness of breath and blueness of the skin. Long-term health effects: Nitrates and nitrites have the potential to cause the following effects from a lifetime exposure at levels above the MCL: diuresis, increased starchy deposits and hemorrhaging of the spleen.

**Total Coliforms** — Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, bacteria may be present.

## Unregulated Contaminant Monitoring Rule (UCMR4)

In 2019 Sahuarita Water Company participated in unregulated contaminant monitoring as required by the Federal Safe Drinking Water Act. Unregulated contaminants are those for which the USEPA has not established drinking water standards. The results are monitored to assist the USEPA in determining the occurrence and concentrations of these contaminants in drinking water and whether future regulation is warranted. If the USEPA determines that a regulation is warranted for a certain contaminant, SWC will take whatever steps necessary to comply with the new requirement.

The presence of a contaminant does not necessarily equate to a health risk. It is the concentration of the contaminant that is the deciding factor in determining whether there are health implications.

2019 Data					
Detected contaminant	Units	Lowest Level	Highest Level	Average	Source
Germanium	ppb	0.7	0.7	0.7	Erosion of natural deposits
Haloacetic Acids (HAA)					By-product of drinking water chlorination
HAA5	ppb	0.331	0.946	0.6385	By-product of drinking water chlorination
HAA6Br	ppb	0.331	1.017	0.674	By-product of drinking water chlorination
HAA9	ppb	0.331	1.282	0.8065	By-product of drinking water chlorination
Bromide	ppb	84.8	138	116.26	Erosion of natural deposits

For more information on UCMR testing, visit: <https://www.epa.gov/dwucmr#ucmr>