

Gilbert

Water Quality Report



2019



What is a Water Quality Report?

Gilbert is excited to present the 2019 annual drinking water quality report. This report is designed to provide details about where your water comes from, what it contains, and how it compares to the standards set by the Environmental Protection Agency's (EPA) under the Safe Drinking Water Act (SDWA). This report is a snapshot of your water quality in Gilbert in 2019, and discloses information on any contaminants detected in your water. This report is also an opportunity to tell the story of Gilbert water's activities, programs and process improvements.

• Where does my water come from?

Gilbert's water comes from a combination of several surface water and groundwater sources. Surface water is supplied to Gilbert's two water treatment plants by an extensive canal network from the Salt River Project (SRP) and the Central Arizona Project (CAP). SRP manages a series of dams and reservoirs along the Salt River and Verde River watersheds, storing water for times of low rainfall and drought. Water collected in these reservoirs is released into SRP canals. CAP operates and maintains a 336 mile long canal system which carries Colorado River water from Lake Havasu, through Phoenix, to south of Tucson.



Gilbert's Water Sources

AT A GLANCE

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SURFACE WATER TREATMENT PLANTS

16

WATER STORAGE RESERVOIRS

18

GROUNDWATER WELLS

Water Treatment

MAKING CLEAN WATER



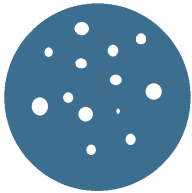
Source water

Delivered through SRP and CAP canals to one of Gilbert's two surface water treatment plants



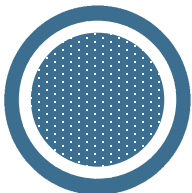
Coagulation and Flocculation

Water treatment chemicals are added to encourage suspended material in the water to sink and be removed in settling basins



Ozone

Ozone gas is added to remove organic material and eliminate compounds in the water that cause undesirable taste or odors



Filtration

Water passes through a filter to remove any remaining solids and impurities



Chlorination

Chlorine is added to the water as a disinfectant to kill any remaining microorganisms and pathogens



Fluoridation

Fluoride is added to a level of 0.7 parts per million. For more information on fluoride see page 8 of this report.



pH adjustment

The pH of your water is adjusted to balance the level of scale formation with corrosion protection in the distribution system and in your home



Storage Reservoirs

Water is stored in reservoirs around Gilbert to ensure sufficient supply for fire flows and to meet peak daytime demands

• North Water Treatment Plant

Called the North Water Treatment Plant (NWTP) due to its location in northern Gilbert, this plant is situated on the eastern canal and receives water from SRP. The SRP canal delivers a mixture of water from the Salt River, the Verde River and groundwater wells to the plant where it is then treated using conventional treatment methods of coagulation, flocculation, sedimentation, and filtration with ozonation and chlorine disinfection. The NWTP can produce as much as 45 million gallons of water per day (MGD) and has a 16 million gallon (MG) reservoir for onsite water storage.

• Santan Vista Water Treatment Plant

Called Santan Vista because of the stunning view of the San Tan Mountains from the control room, this plant receives water from the Central Arizona Project (CAP) canal system, which diverts water from the Colorado River watershed. From the CAP canal turnout, water is brought to the plant through 14 miles of 48" diameter ductile iron pipeline. This plant was built and operates in partnership with the City of Chandler which uses 24 MGD of Santan Vista's 48 MGD production capacity. The Santan Vista water treatment plant operates using ballasted flocculation and filtration with ozone and on-site generation of sodium hypochlorite for disinfection.

• Groundwater

Groundwater is used in Gilbert to supplement the surface water supplies to meet water demand during times of high water use and during canal and water treatment plant scheduled maintenance. Groundwater is pumped from any number of the 18 wells located throughout Gilbert where it can be put directly into the distribution system or can be used to fill a water storage reservoir. At some well sites, ion exchange or adsorptive media are used to reduce the concentration of inorganic contaminants native to the groundwater to below EPA maximum contaminant levels (MCLs) prior to delivery.

Water Distribution

MAINTAINING INFRASTRUCTURE

• How does Gilbert deliver water?

Gilbert's water distribution system is comprised of over 1,300 miles of underground piping ranging in size from 4-inches in diameter to 48-inches in diameter. Gilbert's underground piping network is essential to ensure the safe delivery of water to all water customers. Gilbert serves various types of customers including; private homes, industrial facilities, commercial properties and institutional establishments. Gilbert's water distribution piping network is designed to maintain a positive pressure and typically operates between 50 and 80 psi (pounds per square inch). Positive pressure is needed to ensure treated drinking water reaches all parts of Gilbert's underground piping network. Gilbert's water distribution division works hard to ensure that every Gilbert customer and resident has access to this water, and to do so they operate, inspect, repair and replace these critical components of our drinking water infrastructure:

• Source water assessment and its availability

In 2004, the Arizona Department of Environmental Quality (ADEQ) completed a Source Water Assessment (SWA) for the 12 groundwater wells (at the time of the assessment) and one water treatment plant used by Gilbert. The assessment reviewed and evaluated adjacent land uses to the aforementioned locations that may pose a potential risk to water, and the quality thereof, served to the community from those sources. These risks may include, but are not limited to, gas stations, landfills, dry cleaners, and agriculture fields.

The result of the SWA led to the identification of 10 sources with a low risk susceptibility and three sources identified as high risk. Those sites receiving a high risk designation are located in proximity to a gas station, agriculture field, and an industrial park. None of the locations, including those with a low risk assessment, have detected contamination; however, Gilbert remains vigilant in their monitoring to ensure the best water quality is served to our community. Residents can help protect source water by taking hazardous household chemicals to hazardous material collection sites and by limiting the amount of pesticide and fertilizer use in the home. The SWA is available to the public by request from the Clerk's Office, or visit the ADEQ's SWA Unit website at azdeq.gov/environ/water/dw/swap.html for more information.



13,525 Fire Hydrants

- Inspected annually to make sure they're always in working order.
- Fully serviced every 5 years to protect the lifespan of our critical infrastructure



1,400 Miles of Pipe

- Gilbert experiences 0.87 main breaks per 100 miles of distribution system pipe, well below the national average of 11 breaks per 100 miles.
- Water main breaks can be caused by construction activities, or by natural environmental changes including extreme temperature fluctuations as well as the age and condition of the pipe.



87,506 Water Meters

- Gilbert's water meter department reads all meters monthly, and replaces over 5,000 meters every year.
- Gilbert's water meter testing program ensures that water meters accurately record consumption. Each water meter must be accurate within +/- 1.5% to pass.



36,536 System Valves

- Gilbert's water department maintains valves by exercising them on a regular basis. This year, over 11,900 valves were exercised by opening and closing them with a valve key.
- Valves range in size from 4 to 48 inches in diameter. A 48 inch valve takes a full 450 revolutions of a valve key in order to open or close the valve.

Painful water bill?

Schedule a free water checkup and we'll diagnose the problem.

Water checkups are performed by a trained Water Conservation Specialist who evaluates the irrigation system, checks for water leaks, and offers customized recommendations for increased water savings at your residence or business.



 | gilbertaz.gov/watercheckup

Residential customers

- **Eliminate leaks.**
Use the Smart Home Water Guide to find and fix leaks in your home.
smarthomewaterguide.org
- **Water your landscape efficiently**
Up to 70% of water use is outdoors. Find out how much water your plants need.
gilbertaz.gov/wisewatering
- **Take a FREE landscape class**
Learn how to optimize your irrigation system.
gilbertaz.gov/waterworkshops
- **Hire a Smartscape trained landscape professional.**
Find a Smartscape landscaper.
smartscape.org/directory
- **Is your water bill too high and you're not sure why?**
Request a FREE water efficiency checkup.
gilbertaz.gov/watercheckup
- **Learn how to use water efficiently around your home.**
[Visit gilbertaz.gov/water](http://gilbertaz.gov/water)

Businesses, schools, churches, and HOAs

- **Join the HOA Water Budget Program**
Visit gilbertaz.gov/HOA-Irrigation to reduce water use and maintain an attractive landscape.
- **Become a Water Wise Gilbert organization**
Visit gilbertaz.gov/waterwise to save your business water and money.

Please note that in order to be flexible and provide continued service to our customers during the current COVID-19 pandemic, some of our in-person services may be performed virtually or in a limited capacity. Thank you for your understanding.



Want to hear more from Gilbert's water division?

SIGN UP FOR OUR WATER CONSERVATION EMAILS AT gilbertaz.gov/water

- **Are there contaminants in my drinking water?**

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 water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's (EPA) Safe Drinking Water Hotline (800-426-4791).

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.: microbial contaminants, such as viruses and bacteria, that 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 by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems; and 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, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

- **Do I need to take special precautions?**

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

- **How can I get involved?**

The Gilbert Town Council consists of the mayor and six council members who serve four year terms. Unless otherwise noted, the council meets the first and third Tuesday at 6:30p.m. in the Gilbert Municipal Center, 50 E. Civic Center Drive. Council agendas are posted on this website at least 24 hours prior to meeting time at gilbertaz.gov/council.

Your Water Quality

TESTING AND MONITORING

In order to ensure that tap water is safe to drink, the EPA prescribes regulations which limit the amount of contaminants in water provided by public water systems. The following tables list all of the drinking water contaminants that were detected during the

calendar year of this report. Although many more contaminants were tested, only those substances listed below were found in your water. All sources of drinking water contain some naturally occurring contaminants. At low levels, these substances are generally 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 have nutritional value at low levels. Unless otherwise noted, the data presented in these tables are from testing done in 2019. The EPA or the State requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not vary significantly from year to year, or the system is not considered vulnerable to this type of contamination. As such, some of our data, though representative, may be more than one year old. In these tables you will find terms and abbreviations that might not be familiar to you. To help you better understand these terms, we have provided the definitions.

Definitions

Action Level (AL)

The concentration of a contaminant which, if exceeded, triggers treatment or other requirements

Maximum Contaminant Level (MCL)

The highest level of a contaminant that is allowed in drinking water

Maximum Contaminant Level Goal (MCLG)

The level of a contaminant in drinking water below which there is no known or expected risk to health

Not Applicable (NA)

does not apply

Not Detected (ND)

Concentration too low to be detected

Nephelometric Turbidity Units (NTU)

a measure of the clarity of water

Picocuries per liter (pCi/L)

a measure of the radioactivity in water

Parts Per Million (ppm)

milligrams per liter drinking water.(mg/L)

Parts Per Billion (ppb)

micrograms per liter ($\mu\text{g/L}$), 1000 ppb = 1 ppm

Running Annual Average (RAA)

Average value of a contaminant at a location in a year

Treatment Technique (TT)

A required process intended to reduce the level of a

Legend



Erosion of natural deposits



Naturally present in the environment



Byproduct or discharge from metal processing facilities



Byproduct from drinking water disinfection



Drinking water additive



Runoff from fertilizers



Corrosion of house-hold plumbing systems



















Runoff from herbicide






Discharge from dry cleaners

• 2019 Water Quality Testing Results

Contaminant	Units	Violation	Range (Low - High)	Average	MCL	MCLG	Likely source
Alpha emitters	pCi/L	No	ND - 6.7 ± 0.5	2.69	15	0	
Arsenic	ppb	No	ND - 10*	6.9	10	0	
Barium	ppm	No	ND - 0.11	0.04	2	2	
Bromate	ppb	No	ND - 29*	6.5	10	0	
Chlorine	ppm	No	0.20 - 2.08	0.86	4	4	
Chromium (total)	ppb	No	ND - 16	8.3	100	100	
Dalapon	ppb	No	ND - 1.1	0.09	200	200	
Fluoride	ppm	No	0.36 - 0.94	0.67	4	4	
Haloacetic Acids (HAA5)	ppb	No	1.8 - 30	13	60	NA	
Nitrate	ppm	No	0.15 - 7.5	3.6	10	10	
Tetrachloroethylene (PCE)	ppb	No	ND - 0.74	0.05	5	0	
Total Coliform	% positive	No	0 - 3.6	0.45	5	0	
Total Trihalomethanes	ppb	No	2 - 67	31	80	NA	
Total Organic Carbon	% removal	No	11 - 55	28	TT (15 - 25%)	NA	
Uranium	ppb	No	ND - 3.4 ± 0.8	1.84	30	0	
2,4-D	ppb	No	ND - 0.65	0.11	70	70	

*Compliance is based on a local running average, not the highest individual result.

Contaminant	Units	Violation	% < 0.3 NTU	Maximum	Requirement	MCL	Likely source
Turbidity	NTU	No	99.9%	0.37	> 95%	1.0	

Contaminant	Units	Violation	90th percentile	Number over AL	AL	AL Goal	Likely source
Copper	ppm	No	0.17	0	1.3	NA	
Lead	ppb	No	2.1	0	15	0	

• Additional Monitoring

In addition to sampling and testing your water as required by state, county and federal regulations, Gilbert's water division performs additional monitoring daily to ensure that the water treatment plants are operating efficiently, and to ensure the highest level of quality for your water. The following table shows the results of some of this additional monitoring. The compounds listed in this table do not have maximum contaminant levels enforceable by the EPA, and are used to characterize the aesthetic quality of the water.

Analyte	Units	Average	Range (Low - High)
pH	NA	7.79	7.33 - 8.39
Alkalinity	ppm	133	110 - 197
Conductivity	µs/cm	980	405 - 1807
TDS	ppm	657	271 - 1210
Total Hardness	ppm	174	103 - 232
Total Hardness	grains/gallon	10	6 - 13.5
Iron	ppb	ND	ND

Additional information

WATER QUALITY SUBSTANCES

- **Nitrate**

Nitrate in drinking water at levels above 10ppm 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 a short period 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.

- **Arsenic**

While your drinking water meets EPA's standard for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. 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

- **Fluoride**

In Gilbert, voters have mandated that fluoride be added to the water supply at our two water treatment plants. These water treatment plants have maintained a target level of 0.7ppm which is consistent with the United States Department of Health and Human Services most recent recommendations.

- **Lead**

Lead, in drinking water, is primarily from materials and components associated with service lines and home plumbing. If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Gilbert 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. 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







- **2019 Unregulated Contaminant Monitoring**

Unregulated contaminants are substances for which EPA has not established drinking water standards. Gilbert monitors for these substances to assist the EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. In this round of unregulated contaminant monitoring, Gilbert tested for:

From June of 2019 through January of 2020 Gilbert has been testing for these unregulated substances. Any

- 10 cyanotoxins
- 2 metals
- 8 pesticides and 1 pesticide manufacturing byproduct
- 3 disinfection byproduct groups
- 3 alcohols
- 3 semivolatile organic chemicals

detected substances in are reported in the following table. If the EPA determines that regulation is warranted for any of the monitored substances, Gilbert will take whatever steps that are necessary to comply with the new requirements

Contaminant	Units	Range (Low - High)	Average	MCL	Likely source
Bromide	ppm	0.7 - 0.91	0.78	None	
Germanium	ppb	ND - 1.8	0.46	None	
Haloacetic Acids (HAA6Br)	ppb	ND - 26	14	60*	
Haloacetic Acids (HAA9)	ppb	ND - 41	24	60*	
Manganese	ppb	ND - 10	1.45	None	
Total Organic Carbon	ppm	2.8 - 4.8	3.7	None	

* The MCL for the five currently regulated Haloacetic Acids (HAA5) is 60ppb. HAA6Br and HAA9 contain all of the contaminants in the HAA5 group, plus several other unregulated Haloacetic Acids.



Water Quality

CLEAN AND SAFE

Gilbert's commitment to quality

Gilbert's Water Quality staff collects and analyzes the drinking water you receive at your home or business. These tests ensure that your water meets health and safety standards set by the state and federal government. Gilbert has a state certified laboratory which analyzes daily process, distribution and regulatory compliance samples. Each month, the Water Quality staff collects bacteriological samples from 150 designated water quality sampling stations across Gilbert to monitor the chlorine disinfectant level in the distribution system and to test for the presence of the microbial activity in the water. Our staff works diligently to ensure compliance with all drinking water regulations and to supply safe, high quality drinking water at a reasonable cost. Here are some of the ways that Gilbert's Water Quality department ensures that your water meets the highest standards:



Continuous Monitoring

- In addition to the instruments in our laboratories, Gilbert uses 95 online instruments to monitor water quality parameters every second to continuously analyze your water.
- These online instruments are located at Gilbert's two surface water treatment plants, as well as across the 18 well sites and 14 water storage reservoirs in Gilbert.
- Gilbert's two surface water treatment plants are staffed 24 hours a day, 365 days per year to ensure that your water is clean, safe and reliable.

Compliance Testing

- Gilbert's Water Quality Department operates a state-certified compliance laboratory which is used to ensure your water meets rigorous state and federal water quality regulations.
- Samples are collected from the water treatment plants, well sites and dedicated Water Quality sample stations across Gilbert and tested to ensure quality, safety and compliance.
- For specialized testing, samples are also sent to a certified drinking water testing laboratory for in-depth analysis.

Process Control

- In addition to all of the testing required by the state and federal government, your water undergoes rigorous additional monitoring to ensure the highest quality water.
- This additional monitoring includes frequent testing for bacteriological contaminants, inorganic contaminants, trace metals and organic materials.
- This testing is used to optimize surface water treatment plant operations to adjust to changes in incoming water quality and guarantee safe drinking water is produced.



GILBERT



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