

# 2013 Water Quality Report

Town of Gilbert, Public Works

Gilbert, Arizona

## Is my water safe?

We are pleased to present this year's Annual Water Quality Report (Consumer Confidence Report) as required by the Safe Drinking Water Act (SDWA). This report is designed to provide details about where your water comes from, what it contains, and how it compares to standards set by regulatory agencies. This report is a snapshot of last year's water quality. We are committed to providing you with information because informed customers are our best allies.



Keep Your Kids  
in Sight  
or  
You will be  
in for a Fright

## 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).

## Where does my water come from?

Surface water is the primary water source for the Town of Gilbert. Surface water is supplied via a canal system from the Salt River Project (SRP) and Central Arizona Project (CAP). SRP manages several dams and reservoirs on the Salt and Verde rivers. Water collected from these rivers into reservoirs is released into SRP canals. CAP's 336 mile long system carries Colorado River water from Lake Havasu, through Phoenix, to south of Tucson.

## Source water assessment and its availability

In 2004, 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 the Town of 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, the Town 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 Town Clerk's Office, Town of Gilbert or visit the ADEQ's SWA Unit website at <http://www.azdeq.gov/envirom/water/dw/swap.html> for more information.



## Water Treatment

The Town of Gilbert has two drinking water treatment plants and several groundwater wells which produce the Town's drinking water:

### **North Water Treatment Plant (NWTP):**

Called the North Water Plant due to its location in the north side of town. The plant is situated on the eastern canal receiving water from SRP (mixture of Salt River and Verde River and groundwater wells). Water delivered from the NWTP is treated using the conventional methods of coagulation, flocculation, sedimentation, and filtration with 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 (SVWTP):**

Called Santan Vista because of the stunning view of the Santan Mountains from the control room. This plant is receiving water from the Central Arizona Project (CAP) Colorado River watershed. From the CAP turnout, water is brought to the plant through approximately 14 miles of 48" ductile iron pipeline. This plant was built and operates in partnership with the City of Chandler. The initial capacity for this plant is 24 MGD; 12 MGD for the Town of Gilbert and 12 MGD for the City of Chandler. This plant is treating the water using ballasted flocculation and filtration and disinfecting the water with chlorine.

### **Groundwater:**

Groundwater is pumped from 18 wells located throughout the town. Groundwater is used to meet water demand during peak times and during canal and water treatment plant scheduled maintenance. Groundwater can be pumped directly into the distribution system or can be used to fill a 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. In total, the Town of Gilbert can produce approximately 92 MGD and has a storage capacity of just over 45 MG which can more than meet the demands from the community which has grown to over 220,000 residents.

## Why 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 stormwater 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 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 can also come from gas stations, urban stormwater 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.



## Our Commitment to water Quality

The Town of Gilbert 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. The town of Gilbert has a state certified laboratory which analyzes daily process, distribution and regulatory compliance samples. Each month, the Water Quality staff collects 150 bacteriological samples to monitor the chlorine disinfectant level in the distribution system and to test for the presence of any 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 a few things we've been working on to achieve these goals:

### + Improved Laboratory Testing

We continue to improve our water quality testing program with the addition of more parameters during our in-house monitoring at our state-certified laboratory.

### + Improved Process Monitoring

By adding an innovative real-time monitoring tool, we are now able to track the inactivation of Giardia, Cryptosporidium and other microorganisms during the treatment and disinfection of your water.

### + Maintenance Management System

A computer based system is in place to assist us in caring for and managing the town's assets and infrastructure. The system automates tracking of preventative maintenance tasks to ensure we get the longest life out of our equipment – providing fiscally responsible oversight of our system.

### + Emergency Preparedness

In collaboration with the fire department, we are in the process of developing a Continuity of Operations plan which will facilitate a smooth transition for all aspects of water operations after any type of emergency event.

### + Exceeding Standards

As a part of our ongoing efforts to meet and exceed new regulations, we have employed several strategies to decrease the formation of disinfection by-products in our water. These efforts include adapting existing infrastructure with aeration systems, optimizing our water use, and minimizing water age. For more information on drinking water in the Town of Gilbert, visit us online at <http://gilbertaz.gov/departments/public-works/water>.

## How can I get involved?

The Gilbert Town Council consists of a mayor and six council members who serve four year terms. Unless otherwise noted, the council meets every other Thursday at 7 p.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.

<http://www.gilbertaz.gov/council>

## Unregulated Contaminant Monitoring

This year the Town of Gilbert participated in the third round of unregulated contaminant monitoring as required by the 1996 amendments to the federal Safe Drinking Water Act. Under this rule, the U.S. Environmental Protection Agency is required once every five years to issue a new list of up to 30 unregulated contaminants for which public water systems must monitor. The intent of this rule is to provide baseline occurrence data that the EPA can combine with toxicological research to make decisions about potential future drinking water regulations.

In 2013, 30 unregulated compounds were surveyed in accordance with this program. They consisted of seven volatile organic compounds, one synthetic organic compound, six metals, one oxyhalide ion, six perfluorinated compounds, seven hormones and two viruses. Information regarding the compounds detected can be found in the additional monitoring section of this report. For more information on UCMR3 testing and compounds, visit

<http://www.drinktap.org/home/water-information/water-quality/ucmr3.aspx>

## Water Conservation Tips

Did you know that the average U.S. household uses approximately 400 gallons of water per day or 100 gallons per person per day? Luckily, there are many low-cost and no-cost ways to conserve water. Small changes can make a big difference – try one today and soon it will become second nature.

- Take short showers - a 5 minute shower uses 4 to 5 gallons of water compared to up to 50 gallons for a bath.
- Shut off water while brushing your teeth, washing your hair and shaving and save up to 500 gallons a month.
- Use a water-efficient showerhead. They're inexpensive, easy to install, and can save you up to 750 gallons a month.
- Run your clothes washer and dishwasher only when they are full. You can save up to 1,000 gallons a month.
- Water plants only when necessary.
- Fix leaky toilets and faucets. Faucet washers are inexpensive and take only a few minutes to replace. To check your toilet for a leak, place a few drops of food coloring in the tank and wait. If it seeps into the toilet bowl without flushing, you have a leak. Fixing it or replacing it with a new, more efficient model can save up to 1,000 gallons a month.
- Adjust sprinklers so only your lawn is watered. Apply water only as fast as the soil can absorb it and during the cooler parts of the day to reduce evaporation.
- Teach your kids about water conservation to ensure a future generation that uses water wisely. Make it a family effort to reduce next month's water bill!

Visit [www.epa.gov/watersense](http://www.epa.gov/watersense) for more information.

### Additional information for Lead.

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. Town of 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. 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://www.epa.gov/safewater/lead>.

### Additional information for 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.

### Additional information for 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 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.



The Canal's  
not a Pool

## Water Quality Data Table

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of contaminants in water provided by public water systems. The table below lists all of the drinking water contaminants that we 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 this table is from testing done in the calendar year of the report. 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 this table 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 on the last page of this report.

Contaminants	MCLG or	MCL, TT, or	Your	Range		Sample		Typical Source
	MRDLG	MRDL	Water Avg	Low	High	Date	Violation	
<b>Disinfectants &amp; Disinfectant By-Products</b>								
<i>(There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants)</i>								
Haloacetic Acids (HAA5) (ppb)	N/A	60**	17	13	25	2013	No	By-product of drinking water disinfection
Bromate (ppb)	0	10	0.7	ND	4.3	2013	No	By-product of drinking water disinfection
Chlorine (as Cl <sub>2</sub> ) (ppm)	4	4	0.93	0.21	2.13	2013	No	Water additive used to control microbes
Total Organic Carbon(% Removal)	N/A	TT*	23.3	17.0	32.0	2013	No	Naturally present in the environment
TTHMs [Total Trihalomethanes] (ppb)	N/A	80**	50	27	75	2013	No	By-product of drinking water disinfection
*Removal ratio is the percent of TOC removed by the treatment process divided by the percent of TOC required by the Arizona Department of Environmental Quality and Maricopa County to be removed.								
**Compliance based on local running annual average, not the highest individual result.								
Total organic carbon (TOC) has no health effects. The disinfectant can combine with TOC to form disinfection byproducts. Disinfection is necessary to ensure that water does not have unacceptable levels of pathogens. Byproducts of disinfection with chlorine include trihalomethanes (THMs) and haloacetic acids (HAA). Byproducts of disinfection with ozone include Bromate (ppb).								

## Inorganic Contaminants

Contaminants	MCLG or	MCL, TT, or	Your	Range		Sample		Typical Source
	MRDLG	MRDL	Water Avg	Low	High	Date	Violation	
Arsenic (ppb)	0	10	4	ND	8.3	2013	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Barium (ppm)	2	2	0.05	0.022	0.11	2013	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chromium (ppb)	100	100	6.25	ND	26	2013	No	Discharge from steel and pulp mills; Erosion of natural deposits
Fluoride (ppm)	4	4	0.623	0.36	0.81	2013	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Nitrate [measured as Nitrogen] (ppm)	10	10	2.95	ND	6.8	2013	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits

## Inorganic Contaminants

Contaminants	MCLG	AL	Your	Sample Date	No. Samples	Exceeds AL	Typical Source
			Water Avg		Exceeding AL		
Copper - action level at consumer taps (ppm)	1.3	1.3	0.099	2013	0	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead - action level at consumer taps (ppb)	0	15	2.5	2013	0	No	Corrosion of household plumbing systems; Erosion of natural deposits

## Microbiological Contaminants

Contaminants	MCLG or	MCL, TT, or	Your	Range		Sample		Typical Source
	MRDLG	MRDL	Water Avg	Low	High	Date	Violation	
Total Coliform (% positive samples/month)	0	5	0.1	0	0.7	2013	No	Naturally present in the environment
Fecal coliform/E. coli - in the distribution system (positive samples)	0	0	0	N/A	N/A	2013	No	Human and animal fecal waste

A violation occurs when a routine sample and a repeat sample, in any given month, are total coliform positive, and one is also fecal coliform or E. coli positive.

Contaminants	MCL	TT Requirement	% of samples < 0.3	Highest Level detected	Data From Year	Violation	Typical Source
Turbidity (NTU)	1.0	<0.3 95% of the time	99.96	0.7	2013	No	Soil runoff

99.96% of the samples were below the TT value of 0.3. A value less than 95% constitutes a TT violation. The highest single measurement was 0.7. Any measurement in excess of 1 is a violation unless otherwise approved by the state.

## Radioactive Contaminants

Contaminants	MCLG or	MCL, TT, or	Your	Range		Sample		Typical Source
	MRDLG	MRDL	Water Avg	Low	High	Date	Violation	
Alpha emitters (pCi/L)	0	15	3.8	0.8	7.5	2013	No	Erosion of natural deposits
Radium (combined 226/228) (pCi/L)	0	5	0.38	ND	3.2	2013	No	Erosion of natural deposits
Uranium (ug/L)	0	30	3.6	0.7	6.1	2013	No	Erosion of natural deposits

## Additional Monitoring

As part of an on-going evaluation program the EPA has required us to monitor some additional contaminants/chemicals. Information collected through the monitoring of these contaminants/chemicals will help to ensure that future decisions on drinking water standards are based on sound science.

Name	Reported Level	Range		Typical Source
		Low	High	
Chlorate (ppb)	33.9	N/A	100	Disinfection byproduct, agricultural defoliant
Chromium-6 (hexavalent chromium) (ppb)*	6	N/A	17	Discharge from steel and pulp mills; Erosion of natural deposits
Molybdenum (ppb)	2.2	N/A	4.8	Erosion of natural deposits
Strontium (ppb)	740	87	1300	Erosion of natural deposits
Vanadium (ppb)	8.6	1.9	19	Erosion of natural deposits

\*Chromium-6 is currently regulated at 100ppb as a component of total chromium.



## Unit Descriptions

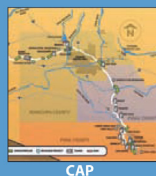
<b>Term:</b>	<b>Definition:</b>
ug/L	ug/L : Number of micrograms of substance in one liter of water
ppm	ppm: parts per million, or milligrams per liter (mg/L)
ppb	ppb: parts per billion, or micrograms per liter (µg/L)
pCi/L	pCi/L: picocuries per liter (a measure of radioactivity)
NTU of the water.	NTU: Nephelometric Turbidity Units. Turbidity is a measure of the cloudiness  We monitor it because it is a good indicator of the effectiveness of our filtration system.
positive samples	positive samples/yr: The number of positive samples taken that year
% positive samples/month	% positive samples/month: Percent of samples taken monthly that were positive
NA	NA: not applicable
ND	ND: Not detected
NR	NR: Monitoring not required, but recommended.

## Important Drinking Water Definitions

<b>Term:</b>	<b>Definition:</b>
MCLG	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.
MCL	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.
TT	TT: Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.
AL	AL: Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
Variances and Exemptions	Variances and Exemptions: State or EPA permission not to meet an MCL or a treatment technique under certain conditions.
MRDLG	MRDLG: Maximum residual disinfection 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.
MRDL	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.
MNR	MNR: Monitored Not Regulated
MPL	MPL: State Assigned Maximum Permissible Level

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<http://www.gilbertaz.gov/utilities>