



# ANNUAL WATER QUALITY REPORT

WATER TESTING PERFORMED IN 2016

*Presented By*  
**AQUA**  
WATER SUPPLY CORPORATION  
Safe ♦ Reliable ♦ Sustainable

Este reporte incluye información importante sobre el agua para tomar. Para asistencia en español, favor de llamar al teléfono (512) 303-3943.

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## We've Come a Long Way

Once again we are proud to present our annual water quality report covering the period between January 1 and December 31, 2016. In a matter of only a few decades, drinking water has become exponentially safer and more reliable than at any other point in human history. Our exceptional staff continues to work hard every day—at any hour—to deliver the highest-quality drinking water without interruption. Although the challenges ahead are many, we feel that by relentlessly investing in customer outreach and education, new treatment technologies, system upgrades, and training, the payoff will be reliable, high-quality tap water delivered to you and your family.

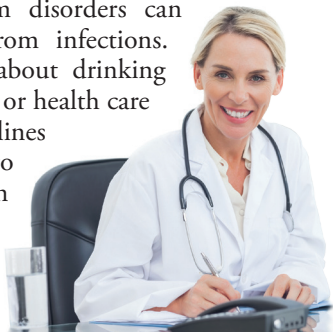
## Where Does My Water Come From?

Aqua Water Supply Corporation provides service to approximately 19,600 active meters. Our drinking water is obtained exclusively from groundwater sources; it comes from the Carrizo-Wilcox Aquifer. Water is supplied through approximately 18,000 miles of pipeline in a 993-square-mile area. Aqua Water Supply Corporation is capable of producing 23.3 million gallons of water per day from 29 groundwater wells and has the capacity to store 14.5 million gallons of water in elevated and ground storage tanks.

We participate in collecting data under the Unregulated Contaminant Monitoring Rule (UCMR) in order to assist the U.S. EPA in determining the occurrence of possible drinking water contaminants. If any unregulated contaminants were detected, they are shown in the tables located in this report. This data may also be found on the U.S. EPA's Web site at [www.epa.gov/safewater](http://www.epa.gov/safewater), or you can call the Safe Drinking Water Hotline at (800) 426-4791.

## Important Health Information

You may be more vulnerable than the general population to certain microbial contaminants, such as *Cryptosporidium*, in drinking water. Infants, some elderly, or immunocompromised persons such as those undergoing chemotherapy for cancer; those who have undergone organ transplants; those who are undergoing treatment with steroids; and people with HIV/AIDS or other immune system disorders can be particularly at risk from infections. You should seek advice about drinking water from your physician or health care provider. Additional guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* are available from the Safe Drinking Water Hotline at (800) 426-4791.



## Substances That Could Be in Water

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

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 can acquire naturally occurring minerals, in some cases, radioactive material, and substances resulting from the presence of animals or from human activity. Substances 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, 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**, 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 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.

Contaminants may be found in drinking water that may cause taste, color, or odor problems. These types of problems are not necessarily causes for health concerns. For more information on the taste, odor, or color of drinking water, please contact our business office. For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

## Protecting Your Water

Bacteria are a natural and important part of our world. There are around 40 trillion bacteria living in each of us; without them, we would not be able to live healthy lives. Coliform bacteria are common in the environment and are generally not harmful themselves. The presence of this bacterial form in drinking water is a concern, however, because it indicates that the water may be contaminated with other organisms that can cause disease.

In 2016, the U.S. EPA passed a new regulation called the Revised Total Coliform Rule, which requires additional steps that water systems must take in order to ensure the integrity of the drinking water distribution system by monitoring for the presence of bacteria like total coliform and *E. coli*. The rule requires more stringent standards than the previous regulation, and it requires water systems that may be vulnerable to contamination to have in place procedures that will minimize the incidence of contamination. Water systems that exceed a specified frequency of total coliform occurrences are required to conduct an assessment of their system and correct any problems quickly. The U.S. EPA anticipates greater public health protection under the new regulation due to its more preventive approach to identifying and fixing problems that may affect public health.

Though we have been fortunate to have the highest-quality drinking water, our goal is to eliminate all potential pathways of contamination into our distribution system, and this new rule helps us to accomplish that goal.

## Naturally Occurring Bacteria

The simple fact is, bacteria and other microorganisms inhabit our world. They can be found all around us: in our food, on our skin, in our bodies, and in the air, soil, and water. Some are harmful to us and some are not. Coliform bacteria are common in the environment and are generally not harmful themselves. The presence of this bacterial form in drinking water is a concern because it indicates that the water may be contaminated with other organisms that can cause disease. Throughout the year, we tested many water samples for coliform bacteria. In that time, none of the samples came back positive for the bacteria.

Federal regulations require that public water that tests positive for coliform bacteria must be further analyzed for fecal coliform bacteria. Fecal coliform are present only in human and animal waste. Because these bacteria can cause illness, it is unacceptable for fecal coliform to be present in water at any concentration. Our tests indicate no fecal coliform is present in our water.

## Water Main Flushing

Distribution mains (pipes) convey water to homes, businesses, and hydrants in your neighborhood. The water entering distribution mains is of very high quality; however, water quality can deteriorate in areas of the distribution mains over time.

Water main flushing is the process of cleaning the interior of water distribution mains by sending a rapid flow of water through the mains.



Flushing maintains water quality in several ways. For example, flushing removes sediments like iron and manganese. Although iron and manganese do not themselves pose health concerns, they can affect the taste, clarity, and color of the water. Additionally, sediments can shield microorganisms from the disinfecting power of chlorine, contributing to the growth of microorganisms within distribution mains. Flushing helps remove stale water and ensures the presence of fresh water with sufficient dissolved oxygen and disinfectant levels, and an acceptable taste and smell.

During flushing operations in your neighborhood, some short-term deterioration of water quality, though uncommon, is possible. You should avoid tap water for household uses at such times. If you do use the tap, allow your cold water to run for a few minutes at full velocity before use, and avoid using hot water, to prevent sediment accumulation in your hot water tank.

Please contact us if you have any questions or if you would like more information on our water main flushing schedule.

## Source Water Assessment

The Texas Commission on Environmental Quality (TCEQ) completed an assessment of your source water, and results indicate that some of our sources are susceptible to certain contaminants. The sampling requirements for your source water system are based on this susceptibility and on previous data. Any detection of these contaminants will be reported in this Consumer Confidence Report. More information about your source water assessment and protection can be found at [www.epa.gov/safewater/protect](http://www.epa.gov/safewater/protect), or contact Steve Dunn at (512) 581-0705.

## QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please call Steve Dunn, Production Manager, at (512) 581-0705.



## Benefits of Chlorination

**D**isinfection, a chemical process used to control disease-causing microorganisms by killing or inactivating them, is unquestionably the most important step in drinking water treatment. By far the most common method of disinfection in North America is chlorination.

Before communities began routinely treating drinking water with chlorine (starting with Chicago and Jersey City in 1908), cholera, typhoid fever, dysentery, and hepatitis A killed thousands of U.S. residents annually. Drinking water chlorination and filtration have helped to virtually eliminate these diseases in the U.S. Significant strides in public health are directly linked to the adoption of drinking water chlorination. In fact, the filtration of drinking water plus the use of chlorine is probably the most significant public health advancement in human history.

How chlorination works:

**Potent Germicide Reduction** in the level of many disease-causing microorganisms in drinking water to almost immeasurable levels.

**Taste and Odor Reduction** of many disagreeable tastes and odors like foul-smelling algae secretions, sulfides, and odors from decaying vegetation.



**Biological Growth Elimination** of slime bacteria, molds, and algae that commonly grow in water supply reservoirs, on the walls of water mains, and in storage tanks.

**Chemical Removal** of hydrogen sulfide (which has a rotten egg odor), ammonia, and other nitrogenous compounds that have unpleasant tastes and hinder disinfection. It also helps to remove iron and manganese from raw water.

## Lead in Home Plumbing

**I**f 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. This water supply is responsible for providing high-quality drinking water, but we 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).

## Community Participation

**Y**ou are invited to participate in our public forum and voice your concerns about your drinking water at our monthly Board of Directors meetings. These meetings are held the 1st Monday of each month at 1:00 p.m. at the Aqua Water Supply Corporation main building.

## Water Loss Audit

**I**n the water loss audit submitted to the Texas Water Development Board during the year covered by this report, our system lost an estimated 642 million gallons of water. The amount lost includes required line flushing, firefighting exercises, leaks, main breaks, theft, etc. If you have any questions about the water loss audit, please call (512) 303-3943.



### What type of container is best for storing water?

Consumer Reports has consistently advised that glass or BPA-free plastics such as polyethylene are the safest choices. To be on the safe side, do not use any container with markings on the recycle symbol showing "7 PC" (code for BPA). You could also consider using stainless steel or aluminum with BPA-free liners.

### How much emergency water should I keep?

Typically, 1 gallon per person per day is recommended. For a family of four, that would be 12 gallons for 3 days. Humans can survive without food for 1 month, but can survive only 1 week without water.

### How long can I store drinking water?

The disinfectant in drinking water will eventually dissipate, even in a closed container. If that container housed bacteria before it was filled with tap water, the bacteria may continue to grow once the disinfectant has dissipated. Some experts believe that water could be stored up to six months before needing to be replaced. Refrigeration will help slow the bacterial growth.

## Test Results

Our water is monitored for many different kinds of contaminants on a very strict sampling schedule. The information below represents only those substances that were detected; our goal is to keep all detects below their respective maximum allowed levels. The State recommends monitoring for certain substances less often than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

We participated in the 3rd stage of the U.S. EPA's Unregulated Contaminant Monitoring Rule (UCMR3) program by performing additional tests on our drinking water. UCMR3 benefits the environment and public health by providing the EPA with data on the occurrence of contaminants suspected to be in drinking water, in order to determine if the EPA needs to introduce new regulatory standards to improve drinking water quality. Contact us for more information on this program.

### REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
<b>Alpha Emitters</b> (pCi/L)	2011–2015	15	0	2.8	ND–2.8	No	Erosion of natural deposits
<b>Barium</b> (ppm)	2014–2016	2	2	0.16	0.0104–0.16	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
<b>Beta/Photon Emitters<sup>1</sup></b> (pCi/L)	2011–2015	50	0	6.8	ND–6.8	No	Decay of natural and man-made deposits
<b>Chlorine</b> (ppm)	2016	[4]	[4]	1.83 (average)	0.61–4.40	No	Water additive used to control microbes
<b>Combined Radium</b> (pCi/L)	2011–2015	5	0	4.5	1.0–4.5	No	Erosion of natural deposits
<b>Fluoride</b> (ppm)	2014 and 2015	4	4	0.92	0.1–0.92	No	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories
<b>Haloacetic Acids [HAAs]</b> (ppb)	2016	60	NA	11.1 (average)	3.7–19.2	No	By-product of drinking water disinfection
<b>Nitrate</b> (ppm)	2016	10	10	0.17	0.01–0.17	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
<b>TTHMs [Total Trihalomethanes]</b> (ppb)	2016	80	NA	58.6 (average)	24.0–79.5	No	By-product of drinking water disinfection

Tap water samples were collected for lead and copper analyses from sample sites throughout the community.

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL/ TOTAL SITES	VIOLATION	TYPICAL SOURCE
<b>Copper</b> (ppm)	2014	1.3	1.3	0.2	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits
<b>Lead</b> (ppb)	2014	15	0	2.5	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits

### UNREGULATED SUBSTANCES<sup>2</sup>

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
<b>Bromodichloromethane</b> (ppb)	2014–2016	2.21 (average)	ND–3.8	By-product of drinking water disinfection
<b>Bromoform</b> (ppb)	2014–2016	1.99 (average)	ND–4.5	By-product of drinking water disinfection
<b>Chloroform</b> (ppb)	2014–2016	1.76 (average)	ND–2.8	By-product of drinking water disinfection
<b>Dibromochloromethane</b> (ppb)	2014–2016	3.01 (average)	ND–6.6	By-product of drinking water disinfection

## UNREGULATED CONTAMINANT MONITORING RULE - PART 3 (UCMR3) <sup>2</sup>

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH
Chlorate–Distribution Points (ppb)	2015	20.9 (average)	0–31.3
Chlorate–Entry Points (ppb)	2015	20.8 (average)	0–29.5
Cobalt, Total–Entry Points (ppb)	2015	1.13 (average)	0–2.51
Hexavalent Chromium–Distribution Points (ppb)	2015	0.0384 (average)	0–0.123
Hexavalent Chromium–Entry Points (ppb)	2015	0.0428 (average)	0–0.133
Strontium, Total–Distribution Points (ppb)	2015	949 (average)	62.6–4150
Strontium, Total–Entry Points (ppb)	2015	952 (average)	63.5–4,210
Vanadium, Total–Distribution Points (ppb)	2015	0.317 (average)	0–1.6
Vanadium, Total–Entry Points (ppb)	2015	0.301 (average)	0–1.41

<sup>1</sup> The MCL for beta particles is 4 mrem/year. The U.S. EPA considers 50 pCi/L to be the level of concern for beta particles.

<sup>2</sup> Unregulated contaminants are those for which the U.S. EPA has not established drinking water standards. The purpose of monitoring unregulated contaminants is to assist the EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

## Definitions

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

**LRAA (Locational Running Annual Average):** The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters. Amount Detected values for TTHMs and HAAs are reported as LRAAs.

**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.

**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 (Not detected):** Indicates that the substance was not found by laboratory analysis.

**pCi/L (picocuries per liter):** A measure of radioactivity.

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

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