

ANNUAL WATER QUALITY REPORT

WATER TESTING PERFORMED IN 2017



Presented By
City of Mission

Este informe incluye información importante sobre el agua potable. Si tiene preguntas o comentarios sobre este informe en español, favor de llamar al tel. (956) 584-4310 para hablar con una persona bilingüe en español.

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Quality First

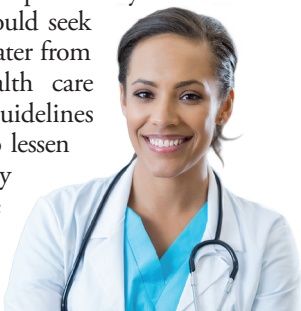
Once again we are pleased to present our annual water quality report. As in years past, we are committed to delivering the best-quality drinking water possible. To that end, we remain vigilant in meeting the challenges of new regulations, source water protection, water conservation, and community outreach and education, while continuing to serve the needs of all of our water users. Thank you for allowing us the opportunity to serve you and your family.

We encourage you to share your thoughts with us on the information contained in this report. After all, well-informed customers are our best allies.

For more information about this report, or for any questions relating to your drinking water, please call Filemon Olvera, Water Treatment Plant Supervisor, at (956) 584-4310.

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, which 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 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 which may also come from gas stations, urban storm-water 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 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.

Testing For *Cryptosporidium*

Cryptosporidium is a microbial parasite found in surface water throughout the U.S. Although filtration removes *Cryptosporidium*, the most commonly used filtration methods cannot guarantee 100 percent removal. Monitoring of source water indicates the presence of these organisms. One *Cryptosporidium* oocyst was reported from our North raw water intake supplied by an irrigation canal. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immunocompromised people are at greater risk of developing life-threatening illness. We encourage immunocompromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. *Cryptosporidium* must be ingested to cause disease, and it may be spread through means other than drinking water.

Source Water Assessment

The TCEQ completed an assessment of your source water, and results indicate that some of your sources are susceptible to certain contaminants. The sampling requirements for our water system are based on this susceptibility and previous sample data. Any detection of these contaminants may be found in this Consumer Confident Report. For more information on source water assessments and protection efforts at our system, contact Filemon Olvera, Water Treatment Plant Supervisor, at (956) 584-4310.

For more information about your sources of water, please refer to the Source Water Assessment Viewer available at the following URL: www.tceq.texas.gov/gis/swview.

Further details about sources and source water assessments are available in Drinking Water Watch at the following URL: <http://dww2.tceq.texas.gov/DWW/>.

SOURCE WATER NAME	TYPE OF WATER	REPORT STATUS	LOCATION
Mission City Reservoir	SW	Active	4th Street and 514 Perkins Ave
North Plant Reservoir	SW	Active	2801 N. Holland

Water treatment is a complex, time-consuming process.

How Is My Water Treated and Purified?

The treatment process consists of a series of steps. First, raw water is drawn from our water source and sent to the reservoir where copper sulfate (algae control) is added. Gravity then causes the raw water to flow to the raw water pump intake, where we add powdered activated carbon (taste and odor control). Then the water is pumped to the water treatment plant. The water then goes to a rapid mixer where aluminum sulfate and polymer are added. Chlorine dioxide is added for disinfection. The addition of these substances causes small particles to adhere to one another (called floc), making them heavy enough to settle into a basin from which sediment is removed.

At this point, the water is filtered through layers of anthracite coal and sand. As smaller, suspended particles are removed, turbidity disappears and clear water emerges. Chlorine and ammonium sulfate are added as a precaution against any bacteria that may still be present. (We carefully monitor the amount of chlorine added, adding the smallest quantity necessary to protect the safety of your water without compromising aesthetics). Finally, polyphosphate, a corrosion inhibitor (to protect distribution system pipes) is added before the water is pumped to sanitized, underground reservoirs, water towers, and into your home or business.

Where Does My Water Come From?

The City of Mission Water Systems consists of two water treatment plants: the South Water Treatment Plant (8.0 million gallons/day [mgd]) and the North Water Treatment Plant (17.5 mgd). Our raw water source is the Rio Grande River, and the raw water is delivered from the river to the reservoirs via irrigation canals. Combined, our water treatment facilities can treat and purify 25.5 mgd of clean drinking water.

Water Conservation and Drought Contingency Plan

The City of Mission implemented a Water Conservation and Drought Contingency Plan to manage and provide an adequate water supply to meet the future needs of our customers. The purpose of this plan is to establish procedures to identify, classify, and manage an effective and efficient water supply during high water demand or water-shortage emergency. Excessive demand on the water treatment plants and/or continually falling treated-water reservoir levels, which do not refill overnight to a specific level, will trigger four stages of the water conservation plan. These stages range from Stage 1 (voluntary stage) to Stage 5 (water rationing). Utility customers in the City of Mission are currently in a voluntary water conservation Stage 1 at the time this report is published and are encouraged to limit their daily water usage by using good management practices for water conservation. Utility customers will be notified before a stage level change. At such time, customers may incur a surcharge fee based on individual customer's water-usage history for Stages 3, 4, and 5. Fines that may exceed \$400.00 may be imposed for any violations of any stage of the water conservation plan and, depending on the severity of the violation, the customer's water service may be terminated.

Lead in Home Plumbing

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. This water supply 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.

Level 1 Assessment Update

Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms, indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessment(s) to identify problems and to correct any problems that were found during these assessments.

During the past year we were required to conduct and complete one Level 1 assessment. The Level 1 assessment submitted to TCEQ included corrective action we took to comply with the RTCR Level 1 assessment.

Tips To Prevent Storm Water Pollution



1. Remember to turn off your sprinklers when it rains to avoid water runoff; during winter, runoff can freeze, causing slippery conditions.
2. Bag your pets' waste. Leaving pet waste on the ground increases public health risks by allowing harmful bacteria and nutrients to wash into the storm drains and eventually into local water bodies.
3. Don't apply pesticides, fertilizers, or herbicides before it rains. Contrary to popular belief, the rain won't help to soak these chemicals into the ground; it will only help create polluted runoff into our local creeks.
4. Select native and adapted plants and grasses that are drought and pest resistant. Native plants require less water, fertilizers, and pesticides. Learn more about native and adapted plants at www.txsmartscape.com.
5. Reduce the amount of paved area and increase the amount of vegetated area in your yard.
6. If you change your car's oil, don't dump it on the ground or in the storm drain. Dispose of it properly at an oil recycling center.
7. Check your car, boat, or motorcycle for leaks. Clean up spilled fluids with an absorbent material; don't rinse the spills into the storm drains.
8. Don't get rid of grass clippings and other yard waste by dumping it or sweeping it into the storm drain; this will deplete the oxygen for aquatic life. Instead, compost your yard waste.
9. When washing your car at home, wash with only water or use biodegradable soap, and wash it on a lawn or other unpaved surface. Better yet, take your car to a professional car wash.
10. Don't get rid of old or unused paint by throwing it down the storm drain; dispose of paint and other household hazardous waste at recycling facilities.
11. Don't pump your pool water into the storm drain; pool chemicals can be hazardous to our creeks' habitats. Whenever possible, drain your pool into the sanitary sewer system where the water can be treated.
12. Don't Mess with Texas! Throw litter away in a garbage can, not out your window. Recycle what you can!

FOG (fats, oils, and grease)

You may not be aware of it, but every time you pour fat, oil, or grease (FOG) down your sink (e.g., bacon grease), you are contributing to a costly problem in the sewer collection system. FOG coats the inner walls of the plumbing in your house as well as the walls of underground piping throughout the community. Over time, these greasy materials build up and form blockages in pipes, which can lead to wastewater backing up into parks, yards, streets, and storm drains. These backups allow FOG to contaminate local waters, including drinking water. Exposure to untreated wastewater is a public health hazard. FOG discharged into septic systems and drain fields can also cause malfunctions, resulting in more frequent tank pump-outs and other expenses.

Communities spend billions of dollars every year to unplug or replace grease-blocked pipes, repair pump stations, and clean up costly and illegal wastewater spills. Here are some tips that you and your family can follow to help maintain a well-run system now and in the future:

NEVER:

- Pour fats, oil, or grease down the house or storm drains.
- Dispose of food scraps by flushing them.
- Use the toilet as a waste basket.

ALWAYS:

- Scrape and collect fat, oil, and grease into a waste container such as an empty coffee can, and dispose of it with your garbage.
- Place food scraps in waste containers or garbage bags for disposal with solid wastes.
- Place a wastebasket in each bathroom for solid wastes like disposable diapers, creams and lotions, and personal hygiene products, including nonbiodegradable wipes.**



***Disposable wipes appear to have become a common household product. However, it has created problems in communities around the Rio Grande Valley and the City of Mission. Wipes used for changing diapers, personal hygiene, housecleaning, and more cause major problems when flushed down toilets. Though many of these products are labeled “flushable” or “septic safe,” they are not. Specifically, the wipes don’t break down the way toilet paper does, disposable wipes clog homeowner and municipal sewer pipes and put stress on community wastewater collection and treatment equipment. Thus, our City spends thousands on premature equipment repair and replacement. Wipes snag on any imperfection in sewer pipes, catch passing debris and grease, and create a “fabric ball” that will grow to plug sewer lines and damage our wastewater treatment plant pumps. We urge you to “think before you flush” and join us in controlling our cost to deliver affordable water/wastewater rates for all.*

Emergency/Supplemental Water Sources

On August 4, 2017, the City of Mission coordinated the delivery of potable water from the City of McAllen Public Water System (telephone: 956-681-1700) to supplement our water pressure and facilitate water line repairs.

Water Conservation Tips

You can play a role in conserving water and saving yourself money in the process by becoming conscious of the amount of water your household is using and by looking for ways to use less whenever you can. It is not hard to conserve water. Here are a few tips:

- Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So, get a run for your money and load it to capacity.
- Turn off the tap when brushing your teeth.
- Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year.
- Check your toilets for leaks by putting a few drops of food coloring in the tank. Watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from an invisible toilet leak. Fix it and you can save more than 30,000 gallons a year.
- Use your water meter to detect hidden leaks. Simply turn off all taps and water using appliances. Then check the meter after 15 minutes. If it moved, you have a leak.

Community Participation

You are invited to participate in our public forum and voice your concerns about your drinking water. We will meet Friday, July 20, 2018, at 5:30 p.m. at City Hall, located at 1201 E. 8th Street.

Water Loss Audit

In the water loss audit submitted to the Texas Water Development Board during the year covered by this report, our system lost an estimated 581,527,703 gallons of water or 11 percent. If you have any questions about the water loss audit, please call (956) 580-8780.

Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule. The information in the data tables shows only those substances that were detected between January 1 and December 31, 2017. Remember that detecting a substance does not necessarily mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels. The State recommends monitoring for certain substances less 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.

The percentage of Total Organic Carbon (TOC) removal was measured each month and the system met all TOC removal requirements.

REGULATED SUBSTANCES							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Alpha Emitters (pCi/L)	2017	15	0	3.6	0–3.6	No	Erosion of natural deposits
Barium (ppm)	2017	2	2	0.107	0.102–0.107	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Beta/Photon Emitters ¹ (pCi/L)	2017	50	0	7.1	5.7–7.1	No	Decay of natural and man-made deposits
Chloramines (ppm)	2017	[4]	[4]	2.75	1.30–4.4	No	Water additive used to control microbes
Chlorite (ppm)	2017	1	0.8	0.82	0.01–0.82	No	By-product of drinking water disinfection
Combined Radium (pCi/L)	2017	5	0	1.5	1.5–1.5	No	Erosion of natural deposits
Fluoride (ppm)	2017	4	4	0.63	0.49–0.63	No	Erosion of natural deposits; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAA] (ppb)	2017	60	NA	17.4	10.8–17.4	No	By-product of drinking water disinfection
Nitrate (ppm)	2017	10	10	0.45	0.14–0.45	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [Total Trihalomethanes] (ppb)	2017	80	NA	37	15.1–41.6	No	By-product of drinking water disinfection
Total Coliform Bacteria (positive samples)	2017	TT	NA	5	NA	No	Naturally present in the environment
Turbidity ² (NTU)	2017	TT	NA	0.28	0.06–0.28	No	Soil runoff
Turbidity (lowest monthly percent of samples meeting limit)	2017	TT = 95% of samples meet the limit	NA	100	NA	No	Soil runoff
Uranium (ppb)	2017	30	0	2.3	1.5–2.3	No	Erosion of natural deposits
Tap Water Samples Collected for Copper and Lead 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
Copper (ppm)	2017	1.3	1.3	0.18	0/120	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2017	15	0	0	1/120	No	Corrosion of household plumbing systems; Erosion of natural deposits

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

²Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of the filtration system.

Definitions

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

Level 1 Assessment: A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.

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 the highest 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.

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

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).

TT (Treatment Technique): A required process intended to reduce the level of a contaminant in drinking water.