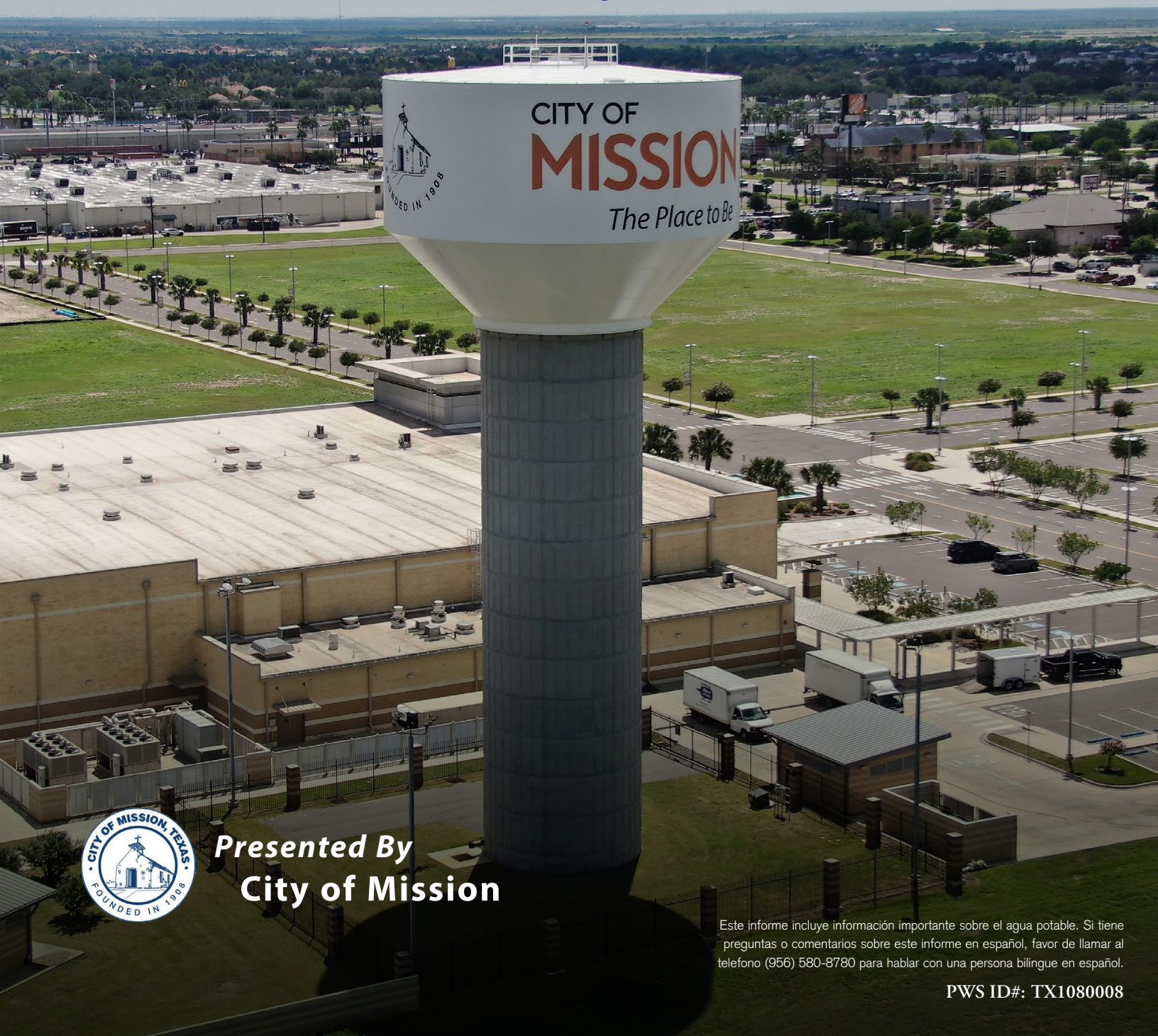
ANNUAL WATER QUALITY REPORT

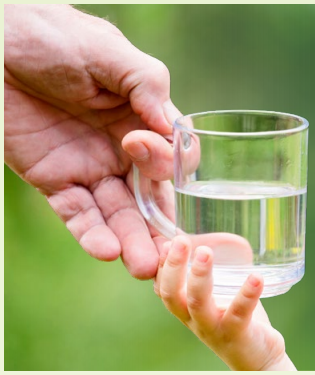
Reporting Year 2022



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 telefono (956) 580-8780 para hablar con una persona bilingue en español.

PWS ID#: TX1080008



Our Mission Continues

We are once again pleased to present our annual water quality report covering all testing performed between January 1 and December 31, 2022. Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal standards. We continually strive to adopt new methods for delivering the best-quality drinking water to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting the goals of source water protection, water conservation, and community education while continuing to serve the needs of all our water users. Please remember that we are always available should you ever have any questions or concerns about your water.

Count on Us

Delivering high-quality drinking water to our customers involves far more than just pushing water through pipes. Water treatment is a complex, time-consuming process. Because tap water is highly regulated by state and federal laws, water treatment plant and system operators must be licensed and are required to commit to long-term, on-the-job training before becoming fully qualified. Our licensed water professionals have a basic understanding of a wide range of subjects, including mathematics, biology, chemistry, and physics. Some of the tasks they complete on a regular basis include:

- Operating and maintaining equipment to purify and clarify water.
- Monitoring and inspecting machinery, meters, gauges, and operating conditions.
- Conducting tests and inspections on water and evaluating the results.
- Maintaining optimal water chemistry.
- Applying data to formulas that determine treatment requirements, flow levels, and concentration levels.
- Documenting and reporting test results and system operations to regulatory agencies.
- Serving our community through customer support, education, and outreach.

So the next time you turn on your faucet, think of the skilled professionals who stand behind each drop.

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.

Community Participation

You are encouraged to visit the City of Mission's website, https://missiontexas.us/news-events/, to participate in community events.

Water Treatment Process

The treatment process consists of a series of steps. First, raw water is drawn from our source and sent to the reservoir, where copper sulfate is added for algae control. Gravity then causes the raw water to flow to the pump intake, where we add powdered activated carbon for taste and odor control. The water is pumped to the water treatment plant and 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 (called floc) to adhere to one another, 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 and water towers and into your home or business.

Where Does My Water Come From?

The City of Mission water system consists of two water treatment plants: the South Water Treatment Plant, which can produce 8.0 million gallons per day (mgd), and the North Water Treatment Plant, which has a capacity of 17.5 mgd. Our raw water source is the Rio Grande, and the raw water is delivered to reservoirs via irrigation canals. Combined, our water treatment facilities can treat and purify 25.5 mgd of clean drinking water.

Questions?

For more information about this report, or for any questions relating to your drinking water, please call J. P. Terrazas, Assistant City Manager, at (956) 580-8780.

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 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 which 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 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.

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 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 two 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 at (800) 426-4791 or at www.epa.gov/safewater/lead.

Water Conservation and Drought Contingency Plan

The City of Mission has implemented a Water Conservation and Drought Contingency Plan (WCDCP) 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 emergencies. Excessive demand on the water treatment plants or continually falling treated-water reservoir levels, which do not refill overnight to a specific level, will trigger six stages of the water conservation plan. These range from Stage 1 (voluntary) to Stage 6 (water allocating). Currently, Mission utility customers are in Stage 2 (moderate water shortage conditions) and must limit their daily water usage by using good management practices for water conservation. Utility customers will be notified before any stage level change. At such time, customers may incur a surcharge based on individual usage history for Stages 3, 4, 5, and 6. Fines that may exceed $200 may be imposed for any violation of any stage of the WCDCP and, depending on the severity of the violation, the customer's water service may be terminated.

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 10.83 percent, or 529.6 million gallons of water. 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, and the water we deliver must meet specific health standards. Here, we only show those substances that were detected in our water (a complete list of all our analytical results is available upon request). Remember that detecting a substance does not mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels.

The percentage of total organic carbon (TOC) removal was measured each month, and the system met all TOC removal requirements set (unless a TOC violation is noted in the Violation column).

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.

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	2	2–2	No	Erosion of natural deposits
Arsenic (ppb)	2022	10	0	3	3–3.1	No	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium (ppm)	2022	2	2	0.101	0.101–0.101	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Beta/Photon Emitters (pCi/L)	2017	50[1]	0	7.1	7.1–7.1	No	Decay of natural and human-made deposits
Chloramines (ppm)	2020	[4]	[4]	2.67	1.06–4.41	No	Water additive used to control microbes
Chlorite (ppm)	2022	1	0.8	0.87	0.0153–0.87	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
Cyanide (ppb)	2022	200	200	50	40–200	No	Discharge from steel/metal factories; Discharge from plastic and fertilizer factories
Fluoride (ppm)	2022	4	4	0.6	0.52–0.58	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAAs]–Stage 2 (ppb)	2022	60	NA	21[2]	9.9–30.5	No	By-product of drinking water disinfection
Nitrate (ppm)	2022	10	10	1	0. 49–0.64	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Selenium (ppb)	2022	50	50	10	7.2–8.1	No	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines
TTHMs [total trihalomethanes]–Stage 2 (ppb)	2022	80	NA	59[2]	15.9–72.5	No	By-product of drinking water disinfection
Turbidity[3] (NTU)	2021	TT	NA	0.29	0.05–0.29	No	Soil runoff
Turbidity (lowest monthly percent of samples meeting limit)	2021	TT = 95% of samples meet the limit	NA	100	NA	No	Soil runoff
Uranium (ppb)	2017	30	0	2.3	2.3–2.3	No	Erosion of natural deposits

Definitions

90th %ile: The levels reported for lead and copper represent the 90th percentile of the total number of sites tested. The 90th percentile is equal to or greater than 90% of our lead and copper detections.

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

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.

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 %ILE)	SITES ABOVE AL/ TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2020	1.3	1.3	0.079	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2020	15	0	1.4	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits

[1] The MCL for beta particles is 4 millirems per year. U.S. EPA considers 50 pCi/L to be the level of concern for beta particles.
[2] Highest locational running annual average.
[3] Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of water quality and the effectiveness of our filtration system and disinfectants.

Tips to Prevent Stormwater 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 soak these chemicals into the ground; it will only 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, fertilizer, and pesticide. 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 drain.

8. Don't get rid of grass clippings and other yard waste by dumping or sweeping it into the storm drain; this will deplete oxygen for aquatic life. Instead, compost your yard waste.

9. When washing your car at home, wash with only water or 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!

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 water system are based on this susceptibility and previous sample data. Any detections of these contaminants will be found in this Consumer Confidence Report.

It is important to understand that this susceptibility rating does not imply poor water quality, only the system's potential to become contaminated within the assessment area. For more information on source water assessments and protection efforts at our system, contact Mr. J. P. Terrazas, Assistant City Manager, at (956) 580-8780.

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