

The background features a close-up of water splashing from a faucet, with a bowl of fresh fruit (raspberries, blackberries, and red grapes) in the lower-left corner. The overall color palette is dominated by blues and greens, with a white circular graphic element on the right side.

# ANNUAL WATER QUALITY REPORT

WATER TESTING  
PERFORMED IN 2015



*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) 580-8780 para hablar con una persona bilingüe en español.

PWS ID#: TX1080008

## Meeting the Challenge

Once again we are proud to present our annual drinking water report, covering all drinking water testing performed between January 1 and December 31, 2015. 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 your homes and businesses. 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 of our water users.

Please remember that we are always available to assist you, should you ever have any questions or concerns about your water. 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) 580-8780.

## 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 invited to participate in our public forum and voice your concerns about your drinking water. We will meet Friday, July 15, 2016 at 5:30 p.m. at City Hall located at 1201 E. 8th Street.

## 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.

## Our Lead and Copper Rule Violation

During the latter part of 2013, we failed to provide the Lead and Copper sampling results within 30 days to 30 customers that gave access to water sampling sites as per new regulations. A note of importance is that all Lead and Copper sampling results were in compliance with EPA and TCEQ regulations and these results were subsequently mailed to the 30 customers.

## 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 per day [mgd]) and the North Water Treatment Plant (17.5 mgd). Our raw water source is the Rio Grande River; 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.

In the water loss audit submitted to the Texas Water Development Board for the period of January-December 2015, our system lost an estimated 292,271,026 gallons of water, or 8%. This number included water used through fire hydrants and during the routine flushing of our water pipes that is unmetered. If you have any questions about the water loss audit, please call (956) 580-8780.

## Water Conservation

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 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.

## 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](http://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!

## 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](http://www.epa.gov/safewater/lead).

## Source Water Assessment

The TCEQ completed an assessment of our source water and results indicate that some of our 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 Confidence Report. For more information on source water assessments and protection efforts at our system, contact Filemon Olvera, Water Plant Supervisor, at (956) 580-8780.

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

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

## 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.

### DRINKING WATER WATCH

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

## Sampling Results

During the past year, we have taken hundreds of water samples to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants. The table below shows only those contaminants that were detected in the water. The state requires us to monitor 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.

We participated in the 3rd stage of the 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 EPA needs to introduce new regulatory standards to improve drinking water quality.

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

On December 25, 2015, the City of Mission coordinated the delivery of potable water from the City of McAllen to facilitate the repair of a large water line repair.

### REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Arsenic (ppb)	2015	10	NA	2.5	2.2–2.5	No	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium (ppm)	2015	2	2	0.107	0.105–0.107	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Beta/Photon Emitters <sup>1</sup> (pCi/L)	2011	50	0	5.4	5.4–5.4	No	Decay of natural and man-made deposits
Chloramines (ppm)	2015	[4]	[4]	2.2	1.08–4.25	No	Water additive used to control microbes
Chlorite (ppm)	2015	1	0.8	0.8	0.14–0.8	No	By-product of drinking water disinfection
Combined Radium (pCi/L)	2011	5	0	1	1–1	No	Erosion of natural deposits
Cyanide (ppb)	2015	200	200	20	0–20	No	Discharge from steel/metal factories; Discharge from plastic and fertilizer factories
Fluoride (ppm)	2015	4	4	0.35	0.35–0.35	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAA] (ppb)	2015	60	NA	19	11.3–24.2	No	By-product of drinking water disinfection
Nitrate (ppm)	2015	10	10	0.83	0.08–0.83	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Selenium (ppb)	2015	50	50	5.7	3.7–5.7	No	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines
TTHMs [Total Trihalomethanes] (ppb)	2015	80	NA	58	26.7–92.9	No	By-product of drinking water disinfection
Total Coliform Bacteria (% positive samples)	2015	More than 5% positive monthly samples	0	1.2	NA	No	Naturally present in the environment
Turbidity <sup>2</sup> (NTU)	2015	TT	NA	0.29	0.11–0.29	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2015	TT = 95% of samples < or = 0.3 NTU	NA	100	NA	No	Soil runoff

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
Copper (ppm)	2013	1.3	1.3	0.114	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits

## UNREGULATED CONTAMINANT MONITORING RULE PART 3 (UCMR3)

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH
1,4-Dioxane (ppb)	2015	0.335	0.327–0.335
Chlorate (ppb)	2015	191	122–191
Chromium Total (ppb)	2015	2.84	ND–2.84
Hexavalent Chromium (ppb)	2015	1.67	0.144–1.67
Molybdenum Total (ppb)	2015	6.91	5.07–6.91
Stontium Total (ppb)	2015	1,710	1,420–1,710
Vanadium Total (ppb)	2015	3.64	2.40–3.64

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

<sup>2</sup> Turbidity 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.

**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.

**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.