



ANNUAL  
WATER  
QUALITY  
REPORT

*Water testing performed in 2007*



PWS ID#: TX0310002

## Meeting the Challenge

We are once again proud to present to you our annual water quality report. This edition covers all testing completed from January 1 through December 31, 2007. Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal drinking water standards. We continually strive to adopt new and better methods for delivering the best quality drinking water to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting the challenges of source water protection, water conservation, and community education while continuing to serve the needs of all our water users.

Please share with us your thoughts about the information in this report. After all, well-informed customers are our best allies.

## 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 U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

## Source Water Assessment

TCEQ completed an assessment of our source water and results indicate that some of the sources are susceptible to certain contaminants. The sampling requirements for your water system are based on the water's susceptibility to contaminants and previous sample data. Any detection of these contaminants will be found in this Consumer Confidence Report. For more information on source water assessments and protection efforts in our system, contact the laboratory at (956) 430-6163.

## Community Participation

A five-member board appointed by the city commission governs the Harlingen Waterworks System. All members of the community are invited to participate in our public forum and to voice their concerns about their drinking water. The Harlingen Waterworks Board of Trustees meet once a month on the third Thursday of every month in the second floor boardroom of the administrative offices located at 134 East Van Buren, Harlingen, Texas. For a copy of the meeting schedule or agenda, please call (956) 430-6157 or access the Harlingen Waterworks Web page at [www.hwws.com](http://www.hwws.com).

## Where Does My Water Come From?

The City of Harlingen Waterworks System obtains its supply of potable water from the Rio Grande River. The supply is considered surface water. At the Harlingen diversion point, the water travels through a series of canals and is deposited into our holding reservoirs located at each of the two water treatment plants. The water stays in these lakes until it is processed for drinking. Combined, our two treatment facilities provided roughly 3.7 billion gallons of clean drinking water last year.

## 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.

## Questions?

For more information about this report, or for any questions relating to your drinking water, please call the laboratory at (956) 430-6163.

## 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 and, 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 laboratory at (956) 430-6163. For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

## How Is My Water Treated and Purified?

The treatment process consists of a series of steps. First, raw water is drawn from our holding reservoir and sent to the rapid mix, which mixes chlorine, chlorine dioxide, and aluminum sulfate into the water. The water then travels to the flocculation chamber where the addition of these substances causes small particles to adhere to one another (called floc) making them heavy enough to settle to the bottom of the chamber. The water then travels to clarification basins where the heavy particles and the sediment are removed. From there it travels to a filtration system where it is filtered through layers of fine coal and silicate sand. As smaller, suspended particles are removed, turbidity disappears and clear water emerges. The water is then sent to sanitized, underground reservoirs where chlorine is again added as a precaution against any contaminants that may still be present before the water is pumped to water towers and into your home or business. (We carefully monitor the amount of chlorine, adding the smallest quantity necessary to protect the safety of your water without compromising taste.)

## Lead and Drinking Water

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. Harlingen Waterworks System 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).

## Sampling Results

During the past year we have taken hundreds of water samples in order 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. Although all of the substances listed here are under the Maximum Contaminant Level (MCL), we feel it is important that you know exactly what was detected and how much of the substance was present 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.

### REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
<b>Barium</b> (ppm)	2002	2	2	0.094	0.0910–0.0940	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
<b>Beta/Photon Emitters<sup>1</sup></b> (pCi/L)	2005	50	0	7	6.7–7.0	No	Decay of natural and man-made deposits
<b>Chloramines</b> (ppm)	2007	[4]	[4]	3.4	0.5–5.2	No	Water additive used to control microbes
<b>Chlorine Dioxide</b> (ppb)	2007	800	800	20	10–190	No	Water additive used to control microbes
<b>Chlorite</b> (ppm)	2007	1	0.8	0.37	0.05–0.61	No	By-product of drinking water disinfection
<b>Fluoride</b> (ppm)	2007	4	4	0.39	0.38–0.39	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
<b>Haloacetic Acids [HAA]</b> (ppb)	2007	60	0	10.3	8.1–12.4	No	By-product of drinking water disinfection
<b>Nitrate</b> (ppm)	2007	10	10	0.20	ND–0.20	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
<b>Selenium</b> (ppb)	2002	50	50	2.9	2.5–2.9	No	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines
<b>TTHMs [Total Trihalomethanes]</b> (ppb)	2007	80	0	52.8	34.2–70.2	No	By-product of drinking water chlorination
<b>Total Organic Carbon</b> (% removal)	2007	TT	NA	66	31–66	No	Naturally present in the environment
<b>Turbidity</b> (NTU)	2007	TT	NA	0.30	0.04–0.30	No	Soil runoff
<b>Turbidity</b> (Lowest monthly percent of samples meeting limit)	2007	TT	NA	100	NA	No	Soil runoff

Tap water samples were collected from 30 sample sites throughout the community

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	ACTION LEVEL	MCLG	AMOUNT DETECTED (90TH% TILE)	SITES ABOVE ACTION LEVEL	VIOLATION	TYPICAL SOURCE
<b>Copper</b> (ppm)	2007	1.3	1.3	0.0556	0	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
<b>Lead</b> (ppb)	2007	15	0	1.8	0	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)	2007	12.0	NA	By-product of drinking water chlorination
<b>Bromoform</b> (ppb)	2007	17.81	NA	By-product of drinking water chlorination
<b>Chloroform</b> (ppb)	2007	4.15	NA	By-product of drinking water chlorination
<b>Dibromochloromethane</b> (ppb)	2007	19.43	NA	By-product of drinking water chlorination
<b>Sulfate</b> (ppm)	2007	297	296–297	Natural contaminant

## OTHER SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Bicarbonate (ppm)	2007	94	87–94	Corrosion of carbonate rocks such as limestone
Chloride (ppm)	2007	225	223–225	Naturally occurring
Hardness as Ca/Mg	2007	319	318–319	Naturally occurring
Total Alkalinity (ppm)	2007	94	87–94	Naturally occurring
Total Dissolved Solids (ppm)	2007	860	859–860	Total dissolved mineral constituents in water
pH	2007	7.68	7.46–7.68	Measure of corrosivity of water

<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 unregulated contaminant monitoring is to assist the U.S. 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 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

**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.