

Turbidity

Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea and associated headaches.

Year	Contaminant	Highest Single Measurement	Lowest Monthly % of Sampling Meeting Limits	Turbidity Limits	Unit of Measure	Source of Contaminant
2009	Turbidity	0.3	100	0.3	NTU	Soil Runoff.

Total Organic Carbon

Total organic carbon (TOC) has no health effects. The disinfectant can combine with TOC to form disinfection byproducts. Disinfection is necessary to ensure that water does not have unacceptable levels of pathogens. Byproducts of disinfection include trihalomethanes (THMs) and haloacetic acids (HAA) which are reported elsewhere in this report.

Year	Contaminant	Average Level	Minimum Level	Maximum Level	Unit of Measure	Source of Contaminant
2009	Source Water	7.49	5.61	9.24	ppm	Naturally present in the environment.
2009	Drinking Water	4.61	3.47	5.37	ppm	Naturally present in the environment.
2009	Removal Ratio	1.31	0.81	1.98	% Removal*	NA

*Removal ratio is the percent of TOC removed by the treatment process divided by the percent of TOC required by TCEQ to be removed.

Secondary and Other Constituents Not Regulated

(No associated adverse health effects).

Year	Constituent	Average Level	Minimum Level	Maximum Level	Secondary Limit	Unit of Measure	Source of Constituent
2009	Bicarbonate	121	108	134	NA	ppm	Corrosion of carbonate rocks such as limestone.
2009	Chloride	199	197	201	300	ppm	Abundant naturally occurring element; used in water purification; byproduct of oil field activity.
2009	pH	7.4	7.4	7.5	> 7.0	SU	Measure of corrosivity of water.
2009	Sulfate	301	295	307	300	ppm	Naturally occurring; common industrial byproduct; byproduct of oil field activity.
2009	Total Alkalinity as CaCO ₃	99	88	110	NA	ppm	Naturally occurring soluble mineral salts.
2009	Total Dissolved Solids	847	819	875	1000	ppm	Total dissolved mineral constituents in water.
2009	Sodium	117	114	120	NA	ppm	Naturally present in the environment.

Definitions and Abbreviations

Maximum Contaminant Level (MCL) – The highest permissible level of a contaminant in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Contaminant Level Goal (MCLG) – The level of a contaminant in drinking water below which there is no known or expected health risk. MCLGs allow for a margin of safety.

Maximum Residual Disinfectant Level (MRDL) – The highest level of disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG) – 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 contamination.

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

NTU – Nephelometric Turbidity Units.

pci/L – Picocuries per liter - Unit of measure of the radioactivity in water.

ppm – Parts per million, or milligrams per liter (mg/L).

ppb – Parts per billion, or micrograms per liter (µg/L).

SU – Standard units.



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2009 ANNUAL DRINKING WATER QUALITY REPORT
(Consumer Confidence Report)

Our Drinking Water Meets or Exceeds All Federal (EPA) Drinking Water Requirements

This report is a summary of the quality of the water we provide our customers. The analysis was made by using the data from the most recent U.S. Environmental Protection Agency (EPA) required tests and is presented in the following report. We hope this information helps you become more knowledgeable about what's in your drinking water.

El informe contiene informacion importante sobre la calidad del agua en su comunidad. Traduzcalo o hable con alguien que lo entienda bien.

HARLINGEN WATERWORKS SYSTEM
P.O. Box 1950
Harlingen, Texas 78551-1950

Special notice for the ELDERLY, INFANTS, CANCER PATIENTS, people with HIV/AIDS or other immune problems:

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The EPA/Centers for Disease Control and Prevention (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline at (1-800-426-4791).

Public Participation Opportunities

A five-member board appointed by the Harlingen 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 Board Room 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.

Where Do We Get Our Drinking Water?

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 4.7 billion gallons of clean drinking water last year.

Water Sources

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 dissolves naturally-occurring minerals, and in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water before treatment include: microbes, inorganic contaminants, pesticides, herbicides, radioactive contaminants, and organic chemical contaminants.

All Drinking Water May Contain Contaminants

When drinking water meets federal standards there may not be any health based benefits to purchasing bottled water or point of use devices. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (1-800-426-4791).

Secondary Constituents

Many constituents (such as calcium, sodium, or iron) which are often found in drinking water, can cause taste, color, and odor problems. The taste and odor constituents are called secondary constituents and are regulated by the State of Texas, not the EPA. These constituents are not causes for health concern. Therefore, secondaries are not required to be reported in this document but they may greatly affect the appearance and taste of your water.

About the Following Pages

The sections that follow list all of the federally regulated or monitored contaminants which have been found in your drinking water. The U.S. EPA requires water systems to test for up to 97 contaminants.

Questions?

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

Lead / Copper “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.”

Inorganic Contaminants

Year	Contaminant	Average Level	Minimum Level	Maximum Level	MCL	MCLG	Unit of Measure	Source of Contaminant
2009	Fluoride	0.44	0.42	0.46	4	4	ppm	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
2009	Nitrate	0.22	0.08	0.35	10	10	ppm	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
2005	Gross beta emitters	6.8	6.7	7.0	50	0	pci/L	Decay of natural and man-made deposits.

Organic Contaminants TESTING WAIVED, NOT REPORTED, OR NONE DETECTED.

Maximum Residual Disinfectant Level

Systems must complete and submit disinfection data on the Surface Water Monthly Operations Report (SWMOR). On the CCR report, the system must provide disinfectant type, minimum, maximum and average levels.

Year	Disinfectant	Average Level	Minimum Level	Maximum Level	MRDL	MRDLG	Unit of Measure	Source of Chemical
2009	Chloramine	3.3	1.0	5.6	4.0	< 4.0	ppm	Disinfectant used to control microbes.

Disinfection Byproducts

Year	Contaminant	Average Level	Minimum Level	Maximum Level	MCL	Unit of Measure	Source of Contaminant
2009	Total Haloacetic Acids	16.1	11.1	36.4	60	ppb	Byproduct of drinking water disinfection.
2009	Total Trihalomethanes	51.5	32.8	103	80	ppb	Byproduct of drinking water disinfection.

Unregulated Contaminants - Bromoform, chloroform, dichlorobromomethane, and dibromochloromethane are disinfection byproducts. There is no maximum contaminant level for these chemicals at the entry point to distribution.

Year	Contaminant	Average Level	Minimum Level	Maximum Level	Unit of Measure	Source of Contaminant
2009	Chloroform	2.8	2.5	3.1	ppb	Byproduct of drinking water disinfection.
2009	Bromoform	7.0	4.0	9.9	ppb	Byproduct of drinking water disinfection.
2009	Dichlorobromomethane	6.9	5.5	5.3	ppb	Byproduct of drinking water disinfection.
2009	Dibromochloromethane	11.0	8.0	14.0	ppb	Byproduct of drinking water disinfection.
2009	N-Nitrosodimethylamine (NDMA)	0.0057	< 0.0021	0.0329	ppb	Byproduct of industrial waste.

Lead and Copper

Year	Contaminant	The 90th Percentile	Number of Sites Exceeding Action Level	Action Level	Unit of Measure	Source of Contaminant
2009	Lead	2.2	0	15	ppb	Corrosion of household plumbing systems; erosion of natural deposits.
2009	Copper	0.052	0	1.3	ppm	Corrosion of household plumbing systems; erosion of natural deposits.

Total Coliform – REPORTED MONTHLY TESTS FOUND NO COLIFORM BACTERIA.

Fecal Coliform – REPORTED MONTHLY TESTS FOUND NO COLIFORM BACTERIA.