



2009 Annual Drinking Water Report

City of Horseshoe Bay

Consumer Confidence Report

E-mail: city@horseshoe-bay-tx.gov Phone: (830) 598-8741 Web Page: horseshoe-bay-tx.gov

We are pleased to present a summary of the quality of the water provided to you during the past year. The Safe Drinking Water Act (SDWA) requires that cities issue an annual "Consumer Confidence" report to customers in addition to other notices that may be required by law. This report details where our water comes from, what it contains, and the risks our water testing and treatment are designed to prevent. The Texas Commission on Environmental Quality (TCEQ) has assessed your system and has determined the water is safe to drink. The analysis was made by using the data in the attached tables. Since your water meets federal and state water quality standards there may not be any health based benefits to purchasing bottled water or point of use devices. The City of Horseshoe Bay is committed to providing you with a safe and reliable water supply.

INFORMED CONSUMERS ARE OUR BEST ALLIES

in maintaining safe drinking water. We encourage public interest and participation in our community's decisions affecting drinking water. City Council Meetings are held monthly on the third Tuesday at 3:00 PM at the City Council Chambers. Contact the City office (830) 598-8741 to confirm dates of the City Council Meetings. The public is always welcome. More information is available on the World Wide Web at www.waterdata.com, or at the City's Web page at www.horseshoe-bay-tx.gov.

NOTICE FOR PERSONS WITH VULNERABILITY TO PARTICULAR MICROBIAL CONTAMINANTS

Some people may be more vulnerable to microbial contaminants, such as Cryptosporidium in drinking water than is 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. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium are available from the Safe Drinking Water Hotline (800-426-4791).

WHERE DO WE GET OUR DRINKING WATER?

Our drinking water is obtained from surface water sources. It comes from LAKE LYNDON B. JOHNSON. 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 will be found in this report. If we receive or purchase water from another system, their susceptibility is not included in this assessment. For more information on source water assessments and protection efforts at our system, please contact us.

OUR DRINKING WATER IS REGULATED

by the Texas Commission on Environmental Quality (TCEQ) and they have determined that the City's water quality meets all of the requirements as stated in the Federal Drinking Water Standards.

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.

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, secondary constituents are not required to be reported in this document but they may greatly affect the appearance and taste of your water.

NEW CENTRAL WATER TREATMENT PLANT

Construction on the new Central Water Treatment plant began in November 2004. This project replaced the aging and out of date facility with a new cutting edge membrane treatment technology providing a higher level of water quality and dependability. The new facility has been supplying treated water since March 2006 with final completion of the facility accepted in November of 2006. The facility is designed to exceed current as well as future pending regulations. This facility will be expandable from four to eight million gallons per day by adding modular membrane units without the need for major construction expense.

Este informe incluye informacion importante sobre el agua potable. Si tiene preguntas o comentarios sobre este informe en espanol, favor de llmar al tel. (830) 598-8741 para hablar con una persona bilingue en espanol.

ABOUT THE FOLLOWING PAGES

The pages 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.

DEFINITIONS

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.

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

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

ABBREVIATIONS

- MFL** - million fibers per liter (a measure of asbestos) **pCi/L** - picocuries per liter (a measure of radioactivity)
- ppm** - parts per million, or milligrams per liter (mg/L) **ppb** - parts per billion, or micrograms per liter (µg/L)
- ppt** - parts per trillion, or nanograms per liter **ppq** - parts per quadrillion, or picograms per liter
- NTU** - Nephelometric Turbidity Units (amount of particulates in water; a measure of clarity of water)

TOTAL ORGANIC CARBON

Total organic carbon (TOC) 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 (TTHMs) and haloacetic acids (HAA5) which are reported elsewhere in this report.

Year	Contaminant	Average Level	Minimum Level	Maximum Level	Unit of Measure	Source of Contaminant
2009	Source Water	4.75	4.07	5.43	ppm	Naturally present in the environment
2009	Drinking Water	4.23	3.63	4.88	ppm	Naturally present in the environment

MAXIMUM DISINFECTION RESIDUALS

Year	Disinfectant	Average Level	Minimum Level	Maximum Level	MRDL	MRDLG	Unit of Measure	Source of Chemical
2009	Free Chlorine/ Chloramines	1.61	0.5	3.9	4.0	<4.0	ppm	Disinfectant used to control microbes

MICROBIAL TESTING: TOTAL COLIFORM NOT DETECTED

Total coliform bacteria are used as indicators of microbial contamination of the drinking water because testing for them is easy. While not disease-causing organisms themselves, they are often found in association with other microbes that are capable of causing disease. Coliform bacteria are more hardy than many disease-causing organisms; therefore, their absence from water is a good indication that the water is microbiologically safe for human consumption.

Year	Contaminant	Highest Monthly Number of Positive Samples	MCL	Unit of Measure	Source of Contaminant
2009	Total Coliform Bacteria	1	*	Presence	Naturally present in the environment.

* Two or more coliform found sample in any single month.

FECAL COLIFORM NOT DETECTED

INORGANIC CONTAMINANTS

Year	Contaminant	Average Level	Minimum Level	Maximum Level	MCL	MCLG	Unit of Measure	Source of Contaminant
2005	Barium	.0686	0.0668	0.0705	2	2	ppm	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
2005	Chromium	1.09	1.05	1.13	100	100	ppb	Discharge from steel and pulp mills, erosion of natural deposits
2009	Fluoride	0.51	0.24	0.77	4	4	ppm	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
2009	Nitrate	0.09	0.08	0.11	10	10	ppm	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
2005	Gross Beta Emitters	1.95	0	3.9	50	0	pCi/L	Decay of natural and man-made deposits.

ORGANIC CONTAMINANTS TESTING WAIVED NOT REPORTED, OR NONE DETECTED

DISINFECTION BYPRODUCTS

Year	Contaminant	Average Level	Minimum Level	Maximum Level	MCL	Unit of Measure	Source of Contaminant
2009	Total Haloacetic Acids	17.9	2.9	42.6	60	ppb	Byproduct of drinking water disinfection.
2009	Total Trihalomethanes	33.7	18.1	76.2	80	ppb	Byproduct of drinking water disinfection.

UNREGULATED INITIAL DISTRIBUTION SYSTEM EVALUATION FOR DISTRIBUTION BYPRODUCTS

This evaluation is sampling required by EPA to determine the range of total trihalomethane and haloacetic acid in the system for future regulation for compliance, and may have been collected under non-standard conditions. EPA also required the data to be reported here.

Year	Contaminant	Average Level	Minimum Level	Maximum Level	MCL	Unit of Measure	Source of Contaminant
2009	Total Haloacetic Acids	17.9	2.9	42.6	60	ppb	Byproduct of drinking water disinfection.
2009	Total Trihalomethanes	33.7	18.1	76.2	80	ppb	Byproduct of drinking water disinfection.

UNREGULATED CONTAMINANTS

Bromoform, chloroform, dichlorobromoethane, and dibromochloromethane are disinfection byproducts. There is no maximum level of contaminate for these chemicals from the entry point to distribution.

Year	Contaminant	Average Level	Minimum Level	Maximum Level	Unit of Measure	Source of Contaminant
2009	Chloroform	10.15	5.3	15	ppb	Byproduct of drinking water disinfection.
2009	Bromoform	1.15	0.6	1.7	ppb	Byproduct of drinking water disinfection.
2009	Bromodichloromethane	11.15	6.3	16	ppb	Byproduct of drinking water disinfection.
2009	Dibromochloromethane	5.55	3.4	7.7	ppb	Byproduct of drinking water disinfection.

LEAD AND COPPER

Year	Contaminant	The 90th Percentile	Number of Sites Exceeding Action Level	Action Level	Unit of Measure	Source of Contaminant
2009	Lead	3.3	0	15	ppb	Corrosion of household plumbing systems; erosion of natural deposits.
2009	Copper	0.12	0	1.3	ppm	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.

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 % of Monthly Samples Meeting Limits	Turbidity Limits	Unit of Measure	Source of Contaminant
2008	Turbidity	0.40	99.00	0.3	NTU	Soil runoff.

SECONDARY AND OTHER NOT REGULATED CONSTITUENTS

(No associated adverse health effects)

Year	Constituent	Average Level	Minimum Level	Maximum Level	Limit	Unit of Measure	Source of Constituent
2005	Aluminum	.033	.011	.055	.05	ppm	Abundant naturally occurring element.
2009	Bicarbonate	171	171	171	NA	ppm	Corrosion of carbonate rocks such as limestone.
2005	Calcium	44.0	43.6	44.4	NA	ppm	Abundant naturally occurring element.
2009	Chloride	43.5	40	47	300	ppm	Abundant naturally occurring element; used in water purification; byproduct of oil field activity
2005	Copper	0.009	0.01	0.017	NA	ppm	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.
2006	Lead	0.001	0	.002	NA	ppm	Corrosion of household plumbing systems; erosion of natural deposits.
2008	Magnesium	16.6	16.1	17.1	NA	ppm	Abundant naturally occurring element.
2005	Nickel	.002	.002	.002	NA	ppm	Erosion of Natural Deposits.
2009	pH	7.2	6.8	7.5	>7.0	units	Measure of corrosivity of water.
2009	Sodium	19.9	19.2	20.7	NA	ppm	Erosion of natural deposits; byproduct of oil field activity.
2009	Sulfate	31.5	23	40	300	ppm	Naturally occurring; common industrial byproduct; byproduct of oil field activity.
2009	Total Alkalinity as CaCO ₃	140	140	140	NA	ppm	Naturally occurring soluble mineral salts.
2009	Total Dissolved Solids	267	238	296	1000	ppm	Total dissolved mineral constituents in water.
2005	Total Hardness as CaCO ₃	178	175	181	NA	ppm	Naturally occurring calcium.
2005	Zinc	.136	.008	.264	5	ppb	Moderately abundant naturally occurring element; used in the metal industry.

WATER SYSTEM USAGE DATA (2009 CALENDER YEAR)

Water Produced: 632 million gallons	Water Produced (acre-feet) 1,940
Maximum Month: July (94.7 million gallons)	Minimum Month: December (32.4 million gallons)
Maximum Day: July 3rd (3.831 million gallons)	Average Day: (1.76 million gallons)
No. of Service Connections: 3,168 (Dec 2009)	Estimated Population Served: 6,526 (Dec 2009)
Percentage of Water going for Outdoors Uses: 69%	Percentage of Water Entering Sewer: 31%

WATER CONSERVATION TIPS - Water conserved not only saves money on your utility bill, but it also helps delay the need for costly future expansion of the water system infrastructure capacity need to meet high peak irrigation demands.

- Check your toilet for leaks. Put dye tablets or food coloring into the tank. If color appears in the bowl without flushing, there's a leak that should be repaired.
- Put a layer of mulch around trees and plants.
- Water during the cool parts of the day.
- Don't water the lawn on rainy days.
- Conduct a landscape irrigation audit on your system.
- Water twice weekly. The goal is to provide 1" of water depth weekly.
- Ensure spray is not running off from targeted area.
- Install a smart controller to automatically reduce irrigation when not required.
- Additional tips available on City's website