

2015 WATER QUALITY REPORT

Consumer Confidence Report for the period of January 1 to December 31, 2015



CITY OF HORSESHOE BAY
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This report is intended to provide you with important information about your drinking water and the efforts made by the water system to provide safe drinking water.

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 at (800) 426-4791.

For more information regarding this report contact:

Jeff Koska, Utilities Director

Office: 830-598-9981

Email: city@horseshoe-bay-tx.gov

Este informe contiene información importante sobre el origen y la calidad de su agua potable. Para información en Español llame 830-598-8741.

The source of drinking water used by the City of Horseshoe Bay is
Surface Water from Lake Lyndon B. Johnson (LBJ).

Information about Source Water Assessments

A Source Water Susceptibility Assessment for your drinking water was completed by the Texas Commission on Environmental Quality (TCEQ). This information describes the susceptibility and types of constituents that may come into contact with your drinking water source based on human activities and natural conditions. The information contained in the assessment allows us to focus source water protection strategies. Results indicate that some of your 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 may be found in this Consumer Confidence Report. For more information on source water assessments and protection efforts at our system, contact Jeff Koska, Utilities Director.

- For more information about your sources of water, please refer to the Source Water Assessment Viewer available at the following URL:
<https://www.tceq.texas.gov/gis/swaview>
- Further details about sources and source water assessments are available in Drinking Water Watch at the following URL: <http://dww2.tceq.texas.gov/DWW/>

SPECIAL NOTICE

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 include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm water 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 storm water runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.
- Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the Environmental Protection Agency (EPA) prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health

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 the water department at (830) 598-8741.

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; persons 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 providers. Additional guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* are available from the Safe Drinking Water Hotline (800) 426-4791.

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. We are 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 2 minutes before using water for drinking or cooking. If you are concerned about the lead in your water, you may wish to have your water tested. For information on lead testing call (830) 593-9983. 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 <http://www.epa.gov/safewater/lead>.

Definitions *(The following tables contain scientific terms and measures used in this report, some of which may require explanation.)*

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.	
AL	Action Level	The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.	
AVG	Average	Regulatory compliance with some MCLs are based on running annual average of monthly samples.	
LRAA	Locational Running Annual Average	Locational Running Annual Average. Average of sample analytical results for samples taken at a particular monitoring location during the previous four (4) calendar quarters.	
NTU	Nephelometric Turbidity Units	A measure of turbidity.	
mg/L ppm	Milligrams per liter or parts per million – or one ounce in 7,350 gallons of water.	ug/L ppb	Micrograms per liter or parts per billion – or one ounce in 7,350,000 gallons of water.
MAX	Maximum	MIN	Minimum
na	Not Applicable	YEAR	Collection Date; the year in which sample(s) were collected.
pCi/L	Picocuries per liter (measure of radioactivity)	TTHM	Total Trihalomethanes

WATER QUALITY TEST RESULTS

2015 REGULATED CONTAMINANTS DETECTED

Coliform Bacteria

E.Coli or Fecal Coliform Bacteria – Not Detected

Date of Detection	MCLG	MCL/month	Highest Number of Positives/mo.	Violation	Likely Source of Contamination
6/1/15-6/31/15 10/1/15-10/31/15	0	1	1 1	No No	Naturally present in the environment

Lead and Copper - Testing Required Every 3 Years

Year	Contaminant (Unit)	90 th Percentile	Action Level (AL)	# Sites Over AL	MCLG	Violation	Likely Source of Contamination
2015	Copper (ppm)	0.327	1.3	0	<1.3	NO	Erosion of natural deposits; leaching from wood preservatives; corrosion of household plumbing systems.
2015	Lead (ppm)	0.00302	0.015	0	0	NO	Corrosion of household plumbing systems, erosion of natural deposits.

Maximum Residual Disinfectant Level

Year	Disinfectant (Unit)	AVG Level	MIN Level	MAX Level	MRDLG	MRDL	Likely Source of Chemical
2015	Free Chlorine / Chloramines (ppm)	3.78	1.6	5.0	<4.0	4.0	Disinfectant used to control microbes

Disinfectants and Disinfection By-Products

Year	Disinfectants and Disinfection By-Products (Unit)	Highest Locational Running Annual Average (LRAA)	Range of Levels Detected	MCL	Violation	Likely Source of Contamination
2015	Haloacetic Acids (HAA5) (ppb)	36	15.5 - 57.9	60	NO	By-product of drinking water disinfection.
2015	Total Trihalomethanes (TTHM) (ppb)	68	41.4 - 91.6	80	NO	By-product of drinking water disinfection.

Inorganic Contaminants

Year	Contaminant (Unit)	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Violation	Likely Source of Contamination
2015	Cyanide (ppm)	0.15	0.05 - 0.15	<.2	.2	NO	Discharge from plastics and fertilizer factories; discharge from steel/metal factories.
2015	Barium (ppm)	0.697	0.678 - 0.697	<2	2	NO	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
2015	Fluoride (ppm)	0.71	0.24 - 0.71	<4	4.0	NO	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
2015	Nitrate - (Measured as Nitrogen) (ppm)	0.08	0.06 - 0.08	<10	10	NO	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.

Synthetic Organic Contaminants Including Pesticides and Herbicides

Year	Contaminant (Unit)	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Violation	Likely Source of Contamination
2015	Atrazine (ppb)	0.11	0 - 0.11	3	3	NO	Runoff from herbicide used on row crops.
2015	Di (2-ethylhexy) phthalate (ppb)	0.73	0 - 0.73	0	6	NO	Discharge from rubber and chemical factories.

2015 UNREGULATED CONSTITUENTS DETECTED

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.

Secondary Constituents and Other Unregulated Constituents

Year	Constituent (Unit)	AVG Level	MIN Level	MAX Level	Limit	Likely Source of Contamination
2015	Aluminum (ppm)	0.095	0.0278	0.161	0.2	Abundant naturally occurring element.
2015	Bicarbonate ((ppm)	177	173	181	na	Corrosion of carbonate rocks such as limestone.
2015	Calcium (ppm)	36.9	35.8	38	No MCL	The fifth most abundant metal in the Earth's crust; it occurs naturally in limestone, gypsum, and fluorite.
2015	Chloride (ppm)	54.5	53	56	300	A chemical compound of chlorine used in water purification.
2015	Magnesium (ppm)	24.3	21.9	21.9	No MCL	The eighth most abundant metal in the Earth's crust; it occurs naturally in deposits of magnesite, dolomite, and other minerals.
2015	Manganese (ppm)	0.004	<0.001	0.0057	0.05	Occurs naturally in the environment as solids in soils and small particles in water.
2015	Nickel (ppm)	0.0011	0.0011	0.0011	0.1	Erosion of natural deposits.
2015	pH (ppm)	7.8	7	8.1	No MCL	Measure of corrosivity of water.
2015	Potassium (ppm)	4.57	4.55	4.58	No MCL	
2015	Sodium (ppm)	27.1	27	27.2	No MCL	Erosion of natural deposits.
2015	Sulfate (ppm)	34	28	40	300	Naturally occurring; low to moderate concentrations of both chloride and sulfate ions add palatability to water.
2015	Total Alkalinity (ppm)	149.5	125	173	No MCL	Naturally occurring soluble mineral salts.
2015	Total Dissolved Solids (ppm)	279	272	286	1000	Total dissolved mineral constituents in water.
2015	Total Hardness Calcium and Magnesium (ppm)	192	189	195	No MCL	Two of the principal elements making up the earth's crust; its compounds, when dissolved, make the water hard. The presence of calcium and magnesium in water is a factor contributing to the formation of scale and insoluble soap curds which are a means of clearly identifying hard water.
	ppm conversion to grains/gal	11.216	11.041	14.391		

Turbidity is a measurement of the cloudiness of the water caused by suspended particles. We monitor it because it is a good indicator of water quality and the effectiveness of our filtration.

Year	Turbidity	Limit Treatment Technique	Level Detected	Violation	Likely Source of Contamination
2015	Highest Single Measurement	1 NTU	0.29	NO	Soil runoff
2015	Lowest Monthly % Meeting Limit	0.30 NTU	100%	NO	Soil runoff

Radioactive Contaminants

Year	Radioactive Contaminants	Highest Level Detected	Range of Levels Detected	MCL G	MCL	Violation	Likely Source of Contamination
2010	Beta/photon emitters (pCi/L)	4.2	0 - 4.2	0	50	NO	Decay of natural and man-made deposits.

Reporting Violations for 2015

Consumer Confidence Report Reporting Violation – We failed to provide to you, our drinking water customers, an annual report that adequately informed you about the quality of our drinking water and the risks from exposure to contaminants detected in our drinking water. During 2015 the City receive a reporting violation for an inactive web link to the City's 2014 Water Quality Report. The error was due to an upgrade the City's website and was immediately corrected once the City was notified of the issue. The City has implemented additional controls to ensure all web links are active.

Lead & Copper Reporting Violation – We failed to provide results of lead tap water monitoring to the customers at the location water was tested. These were suppose to be provided no later than 30 days after learning the results. The violation was resolved by immediate delivery of the results upon notification and we returned to compliance. This violation was not a result of exceeding any regulatory maximum contaminant level.

2015 WATER SYSTEM USAGE DATA

Water Produced in 2015:	585,159,000 million gallons (MG) or 1795.787 acre/ft
Maximum Month:	August - 97.308 MG
Minimum Month:	February - 24.404 MG
Maximum Day:	August 2nd - 4.627MG
Average Day:	1.599 MG
Water Loss:	3.5%
Water Going Toward Outside Use:	62.8%
Water Entering Sewer:	33.7%