2016

Annual Drinking Water Quality Report

(Consumer Confidence Report)

City of Harker Heights
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Annual Drinking Water Quality Report

This report for the period of January 1 through December 31, 2016, identifies our water source and the quality of water that is provided to the citizens of Harker Heights. It is to be made available to all citizens of Harker Heights annually, based on the right-to-know provisions in the 1996 Amendments to the Safe Drinking Water Act. The City of Harker Heights supports passage of this regulation in order to assure our customers that our water meets and exceeds all federal (EPA) standards.

Our main concern is to provide the citizens of Harker Heights with high-quality potable water and to deliver an uninterrupted flow of water and adequate pressure in the required quantities while protecting your health and welfare.

The City of Harker Heights is recognized as a Superior Water System by the Texas Commission on Environmental Quality (TCEQ) – the highest rating available – and we want our residents to know that the water is safe to drink. **Our Drinking Water Meets or Exceeds All Federal (EPA) Drinking Water Requirements.** 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. 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 attached pages. We hope this information helps you become more knowledgeable about what's in your drinking water.

This report will be forwarded to the TCEQ.

For More Information Concerning This Report

Contact…

Mark Hyde
Public Works Director
City of Harker Heights
254-953-5649
mhyde@ci.harker-heights.tx.us

Or visit our web site at
www.ci.harker-heights.tx.us

For Public Participation Opportunities…

The City Council governing the City of Harker Heights meets on the second and fourth Tuesday of each month at 5:00 pm at City Hall, located at 305 Miller's Crossing Harker Heights, Texas.

The Water District is governed by a Board of Directors. To participate in meetings call the District Office at 254-501-9243

For More Water Quality Information…

Bell County WCID #1
P. O. Box 43
Killeen, TX 76540-0043
254-501-9243
www.wcid1.org

Texas Commission on Environmental Quality
www.tceq.com

EPA Safe Drinking Water Hotline
800-426-4791
www.epa.gov/OW

En Español…

Este reporte incluye información importante sobre el agua para tomar. Para assistencia en español, favor de llamar al telefono (254)953-5600-para hablar con una persona bilingüe en español.

Overview of Water Environment

In 1997, the City entered into an agreement with WCID #1 to increase its daily treated water maximum use from 3.506 million gallons per day (MGD) to 9.0 MGD. Based on the 2006 Water Master Plan, a daily treated water maximum of 11.07 MGD is projected for the year 2020. On May 22, 2007, the City Council authorized a resolution to participate in a minor plant upgrade at the WCID #1 Lake Belton Water Treatment Plant that increased the City of Harker Heights daily treated water maximum to 13.5 MGD. On March 26, 2013, the City Council authorized a resolution to purchase 2.0 MGD of water treatment plant capacity in the proposed WCID #1 Lake Stillhouse Hollow Water Treatment Plant. On April 1, 2006, the City signed a water supply agreement with the Brazos River Authority to increase our raw water supply in Lake Belton from 5,265 acre-feet (1,715,605,515 gallons) to 8,500 acre-feet (2,769,725,000 gallons). On June 1, 2006, the City signed a water supply agreement with the Brazos River Authority for 300 acre-feet (97,755,000 gallons) of raw water in Lake Stillhouse Hollow. The execution of these agreements insures Harker Heights will have an adequate supply of water well into the future.

The 2006 Water Master Plan provides a recommended capital improvements plan for water system infrastructure for the 20 year study period. The totals for the projects are prioritized as follows:
Priority 1 Capital Improvement Projects (0-5 years): Seven projects totaling $7,266,300.
Priority 2 Capital Improvement Projects (5-10 years): Six projects totaling $3,128,700.
Priority 3 Capital Improvement Projects (10-20 years): Four projects totaling $2,171,050.

In 2016, the City used 1,510,068,000 gallons of water, with an average of 4.1 million gallons running through approximately 187 miles of water mains each day. The City can also store approximately 6.0 million gallons of water at a given time. The City's per capita use for 2016 was 140 gallons per day.

Be assured that the City of Harker Heights is prepared and is able to provide its citizens with a high quality of potable water while protecting health and welfare for many years to come.

Where does our drinking water come from?

CURRENTLY ALL OF THE CITY'S DRINKING WATER COMES FROM LAKE BELTON, A SURFACE WATER SUPPLY. This lake is used both for flood control and conservation (water supply). Belton Lake has a capacity of 887,000 acre-feet of water, 372,000 acre-feet of that amount is reserved for water supply. The Texas Commission on Environmental Quality (TCEQ) has completed a Source Water Susceptibility assessment report for all drinking water systems that own their own sources. The report describes the susceptibility and types of constituents that may come into contact with the drinking water source based on human activities and natural conditions. The information contained in the assessment allows us to focus source water protection strategies. The Bell County Water Control & Improvement District No. 1 from which the City of Harker Heights purchases water received the assessment report. For more information on source water assessments and protection efforts at our system, please contact the City of Harker Heights Public Works Department at (254) 953-5649.
For more information about your sources of water, please refer to the Source Water Assessment Viewer available at the following URL: http://gis3.tceq.state.tx.us/swav/Controller/Index.jsp?wtsrc=
Further details about sources and source-water assessments are available in Drinking Water Watch at:
http://dww.tceq.texas.gov/DWW

Source Water Name	Type of Water	Report Status	Location
SW FROM WCID 1 CC FROM TX0140016 BELL	SW		

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.

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

Acre-foot: Amount of water that covers an acre of land to a depth of one foot. 1 acre-foot = 325,851 Gallons.

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

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 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).

Information On *Cryptosporidium & Giardia Results*

Cryptosporidium and Giardia are naturally present in bodies of water throughout the world. Surface water supplies are particularly vulnerable if they receive runoff from human or animal waste. The WCID #1 conducted their Long Term 2 (LT2) Enhanced Surface Water Treatment Rule compliance testing. Monitoring for Cryptosporidium and Giardia began in April 2015 and ended in March 2017. Of the 18 samples taken, **no microbial pathogens were found**. For more information regarding cryptosporidium or giardia, please contact the TCEQ at (512)-239-3465 or the EPA at (800)-426-4791.

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. Contact the EPA's Safe Drinking Water Hotline at (800-426-4791) for more information about contaminants and potential health effects.

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 City of Harker Heights Public Works Department at (254)-953-5649.

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, agriculture 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.

About the Attached Table

The attached table lists 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 up to 97 contaminants.

Important Definitions

Maximum Contaminant Level (MCL) – 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.

Level 1 Assessment – A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.

Level 2 Assessment – A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an e-coli MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

Maximum Contaminant Level Goal (MCLG) – 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.

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 contaminants.

Maximum residual disinfectant level (MRDL) – 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.

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

Action Level Goal (ALG) – The level of a contaminant in drinking water below which there is no known or expected risk to health. ALGs allow for a margin of safety.

Avg – Regulatory compliance with some MCLs are based on running annual average of monthly samples.

Definitions – the following tables contain scientific terms and measures, some of which may require explanation.

ND – The contaminant was Not Detected.

NTU – Nephelometric Turbidity Units (a measure of turbidity).

MFL – million fibers per liter (a measure of asbestos).

na – not applicable

pCi/l – picoCuries per liter (a measure of radioactivity).

mrem – Millirems per year (a measure of radiation absorbed by the body).

ppm – parts per million, or milligrams per liter (mg/l), or one ounce in 7,350 gallons of water.

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

ppb – parts per billion, or micrograms per liter (µg/l), or one ounce in 7,350,000 gallons of water.

ppt – parts per trillion, or nanograms per liter (ng/L).

ppq – parts per quadrillion, or picograms per liter (pg/L).

Turbidity

Year	Contaminant	Highest Single Measurement	Lowest Monthly % of Samples Meeting Limits	Turbidity Limits	Unit of Measure	Source of Contaminant
2016	Turbidity	0.29	100	0.3	NTU	Soil runoff

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. 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.

Inorganic Contaminants

Year or Range	Violation	Contaminant	Highest Level Detected	Range of Levels Detected	MCL	MCLG	Unit of Measure	Source of Contaminant
2016	N	Antimony	Less than detection limit		6	6	ppb	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder; test addition.
2016	N	Arsenic	Less than detection limit		10	0	ppb	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes.
2016	N	Barium	0.06	0.06-0.06	2	2	ppm	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
2016	N	Chromium	Less than detection limit		100	100	ppb	Discharge from steel and pulp mills; erosion of natural deposits.
2016	N	Fluoride	0.19	0.19 – 0.19	4	4	ppm	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
2016	N	*Nitrate	0.75	0.66 – 0.75	10	10	ppm	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.

*****Nitrate Advisory – Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for periods of time because of rainfall or agriculture activity. If you are caring for an infant you should ask for advice from your health care provider.

Radioactive Contaminants

Collection Date	Contaminant	Maximum Level	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
4/28/2015	Beta/photon emitters	5.2	4.4 – 5.2	0	50	pCi/L	N	Decay of natural and man-made deposits

Synthetic Organic Contaminants Including Pesticides

Year or Range	Contaminant	Average Level	Minimum Level	Maximum Level	MCL	MCLG	Unit of Measure	Violation	Source of Contaminant
2016	Atrazine	0.34	0.29	0.37	3	3	ppb	N	Runoff from herbicide used on row crops.
2016	DI (2-ethylhexyl) phthalate	<.60	<.60	<.60	6	0	ppb	N	Discharge from rubber and chemical factories

Maximum Residual Disinfectant Level

Year	Disinfectant	Average Level	Minimum Level	Maximum Level	MRDL	MRDLG	Unit of Measure	Source of Disinfectant
2016	Chloramine Residual	2.19	1.9	2.9	4	4	ppm	Disinfectant used to control microbes.

Regulated Contaminants

Year	Disinfectants and Disinfection By-Products	Running Annual Average	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
2016	Total Haloacetic Acids (HAA5)	35	23.8 – 54.8	No goal for the total	60	ppb	N	By-product of drinking water disinfection
2016	Total Trihalomethanes (TTHM)	48	34.8 – 59.5	No goal for the total	80	ppb	N	By-product of drinking water disinfection

Unregulated Contaminants

Year or Range	Contaminant	Average Level	Minimum Level	Maximum Level	Unit of Measure	Source of Contaminant
2016	Chloroform	24.49	17.2	33.5	ppb	By product of drinking water disinfection.
2016	Bromoform	<1.0	<1.0	<1.0	ppb	By product of drinking water disinfection.
2016	Bromodichloromethane	17.12	13.7	20	ppb	By product of drinking water disinfection.
2016	Dibromochloromethane	6.04	3.9	7.5	ppb	By product of drinking water disinfection.

Lead and Copper

Date Sampled	Contaminant	MCLG	Action Level (AL)	90th Percentile	# of Sites over AL	Units	Violation	Likely Source of Contamination
6/30/2016	Copper	1.3	1.3	0.069	0	ppm	N	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
6/30/2016	Lead	0	15	2.8	0	ppb	N	Corrosion of household plumbing systems; Erosion of natural deposits

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 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 http://www.epa.gov/safewater/lead.

Coliform Bacteria

Total coliform bacteria are used as indicators of microbial contamination of 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 hardier than many disease-causing organisms; therefore, their absence from water is a good indication that the water is microbiologically safe for human consumption.
The City of Harker Heights collected 360 bacteriological samples for 2016. Of the 360 samples, two tested positive for total coliform. The two total coliform positive sites were resampled. Samples were also taken within five connections upstream and downstream from each total coliform positive site. The three repeat samples for each site tested **negative** for total coliform bacteria. The City of Harker Heights conducted a Level 1 Assessment of the water system and submitted the assessment report to the TCEQ.

Maximum Contaminant Level Goal	Total Coliform Maximum Contaminant Level	Highest No. of Positive	Fecal Coliform or E. Coli Maximum Contaminant Level	Total No. of Positive E. Coli or Fecal Coliform Samples	Violation	Likely Source of Contamination
0	1 positive monthly sample.	2	0	0	N	Naturally present in the environment.

Fecal Coliform: REPORTED MONTHLY TESTS FOUND NO FECAL COLIFORM BACTERIA.

Secondary and Other Constituents Not Regulated

(No associated adverse health effects)

Year or Range	Constituent	Average Level	Minimum Level	Maximum Level	Secondary Limit	Unit of Measure	Source of Contaminant
2016	Bicarbonate	184.67	184	185	NA	MG/L	Corrosion of carbonate rocks such as limestone.
2016	Calcium	56.67	56.3	57.3	NA	ppm	Abundant naturally occurring element.
2016	Chloride	24	23	25	300	ppm	Abundant naturally occurring element; used in water purification; byproduct of oil field activity.
2016	Magnesium	8.98	8.95	9.01	NA	MG/L	Abundant naturally occurring element.
2016	Manganese	0.0024	0.0024	0.024	0.05	MG/L	Abundant naturally occurring element.
2016	Nickel	0.0023	0.0022	0.0024	NA	MG/L	Abundant naturally occurring element.
2012	pH	7.1	7.1	7.2	>7.0	units	Measure of corrosivity of water.
2016	Sodium	11.93	11.8	12.1	NA	MG/L	Erosion of natural deposits; byproduct of oil field activity.
2016	Sulfate	26	26	27	300	MG/L	Naturally occurring; common industrial byproduct; byproduct of oil field activity.
2016	Total Alkalinity	139.27	127	152	NA	MG/L	Naturally occurring soluble mineral salts.

2016	Total Dissolved Solids	248.67	248	250	1000	MG/L	Total dissolved mineral constituents in water.
2013	Total Hardness as Ca/Mg	140.33	139	141	NA	MG/L	Naturally occurring calcium and magnesium.

You can protect the water after it reaches you.
When the water reaches your home, it is clean and meets or exceeds all state and federal water quality requirements. But without proper precautions, water can be contaminated if a sudden pressure drop in the pipe causes contaminated water to be pulled from your home or yard into your plumbing. If this happens, you could contaminate the water in your home and possibly your neighbor's homes.

How can I protect water quality once it reaches my home?

- Do not leave a garden hose connected to a faucet with the other end submerged in a swimming pool, bucket, dog's bath water … anything.
- Keep an air gap between your kitchen or bathroom faucet and the water in the sink. Do not attach a hose to your indoor faucet with the other end submerged in the sink or tub.
- Do not allow garden hoses to be connected directly to pressurized tanks that contain pesticides, herbicides or toxic materials of any kind. Insist that an air gap be maintained between the water source and tank when the tank is being filled.
- Do not leave your kitchen sink spray nozzle submerged in the sink.
- If you have the typical, older-style toilet that fills from the bottom, be cautious about putting toilet bowl cleaners in the tank. If the water pressure drops and the fill valve in the toilet tank is leaking, water from the tank can be drawn back into the water lines, especially if there is a faucet open in the house at the time.
- If you have an automatic irrigation system, make sure that you have a backflow prevention device and that it is working properly.
- **Texas State law requires residential irrigation back flow prevention devices to be tested when they are installed. Back flow prevention devices in commercial areas will be retested every year and residential back flow prevention devices will be tested every five years with a copy of the certification provided to the City of Harker Heights. Certification must be conducted by state certified testers.**

WATER CONSERVATION

- Leaks can account for, on average, 10,000 gallons of water wasted in the home every year, which is enough to fill a backyard swimming pool.
- The amount of water leaked from U.S. homes could exceed more than 1 trillion gallons per year. That's equivalent to the annual water use of Los Angeles, Chicago, and Miami combined.
- Ten percent of homes have leaks that waste 90 gallons or more per day.
- Common types of leaks found in the home include leaking toilet flappers, dripping faucets, and other leaking valves. All are easily correctable.
- Fixing easily corrected household water leaks can save homeowners more than 10 percent on their water bills.
- Keep your home leak-free by repairing dripping faucets, toilet valves, and showerheads. In most cases, fixture replacement parts do not require a major investment and can be installed by do-it-yourselfers.

Notes

The City of
Harker Heights
The Bright Star of Central Texas

Harker Heights, Texas 76548
305 Miller's Crossing
City of Harker Heights