

CITY OF FRIENDSWOOD 2016 CONSUMER CONFIDENCE REPORT

2016 Drinking Water Quality Report for the City of Friendswood Phone Number 281-996-3382

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Your Drinking Water Is Safe!

The Consumer Confidence Report (CCR) Regulations were published by the U.S. Environmental Protection Agency (USEPA) on August 19, 1998 and became effective on September 19, 1998. All community water systems are required to deliver their CCR annually by July 1. CCRs are the centerpiece of the public's "right to know" required by the 1996 State Drinking Water Act amendments and must include information on the water source, information on regulated and unregulated contaminants found in drinking water, special health effects language provided by the EPA and information on drinking water violations.

Este informe contiene información muy importante sobre el agua que usted bebe. Tradúzcalo ó hable con alguien que lo entienda bien.

Sources of Drinking Water

The TCEQ completed an assessment of your source water and 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 Michael Haley at 281-996-3387. 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 activities. Contaminants that may be present in the 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 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 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.

Where Do We Get Our Drinking Water?

Our drinking water is purchased from the City of Houston, which delivers to the city of Friendswood, treated water from Lake Livingston and the Trinity River. In addition, we can supply ground water utilizing six water wells drawing their water from the Gulf Coast Aquifer at a depth of six hundred feet or deeper. The TCEQ completed an assessment of your source water and 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 the City of Friendswood Public Works Department at 281-996-3380." 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/sway/Controller/index.jsp?wtrsrc=>. Further details about sources and source water assessments are available in Drinking Water Watch at the following URL: <http://dww.tceq.texas.gov/DWW/>.

Our Drinking Water is Regulated

This report is a summary of the quality of 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 attached pages. We hope this information helps you become more knowledgeable about what is in your drinking water.

ALL Drinking Water May Contain Contaminants

When drinking water meets federal standards there may not be any health 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 the water poses a health risk. "In order to ensure that tap water is safe to drink, the EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water that must provide the same protection for public health." More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (1-800-426-4791).

Secondary Constituents

Contaminants may be found in drinking water that may cause taste, color, and 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 office.

Water Conservation Plan / Water Loss

In addition to a drought contingency plan, the City of Friendswood has adopted a water conservation plan in order to conserve the available water supply and protect the integrity of water supply facilities, with particular regard for domestic water use, sanitation, fire protection, and also to protect and preserve public health, welfare, and safety as well as minimize the adverse impacts of water supply shortage or other water supply emergency conditions. You are asked to conserve water in order to help us achieve our goals. In the water loss audit submitted to the Texas Water Development Board, our system lost an estimated 179,855,155 Gallons or 10.6 percent of a total of 1,883,716,729 gallons. If you have any questions about the water loss audit call 281-996-3380.

Public Participation Opportunities

The City of Friendswood's water system is maintained by the Public Works Department (telephone number 281-996-3382) and is part of the City government. The City Council meets every first Monday of each month at 4:30 p.m. Dates and times are subject to change. The meetings are held at City Hall and are open to the public. For more information about the meetings, call 281-996-3200.

Special Notice

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. 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.

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 water 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>.

Definitions of Terms Used in the Report

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 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.

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 the addition of a disinfectant is necessary for control of microbial.

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

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

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

NA – not applicable.

NTU – Nephelometric Turbidity Units

pCi/L – picocuries per liter (a measure of radioactivity)

ppq – parts per quadrillion, or picograms per liter

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

ppt – parts per trillion, or nanograms per liter

Highest LRAA – Highest locational running average

<Det. Limit - Less than detectable limit

There are a number of ways to save water, and they all start with you:

- When washing dishes by hand, don't let the water run while rinsing. Fill one sink with wash water and the other with rinse water.
- Some refrigerators, air conditioners and ice-makers are cooled with wasted flows of water. Consider upgrading with air-cooled appliances for significant water savings.
- Adjust sprinklers so only your lawn is watered and not the house, sidewalk, or street.
- Run your clothes washer and dishwasher only when they are full. You can save up to 1,000 gallons a month.
- Choose shrubs and groundcovers instead of turf for hard-to-water areas such as steep slopes and isolated strips.
- Use the garbage disposal sparingly. Compost vegetable food waste instead and save gallons every time.
- Plant in the fall when conditions are cooler and rainfall is more plentiful.

The following table contains all of the chemical constituents which have been found in your drinking water. The U.S. EPA requires testing of the water system for at least 97 possible constituents. In some cases, the testing frequency for various constituents can range from one to three years:

INORGANIC CONTAMINANTS	Collection date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Barium (Friendswood) (Houston)	2014 2016	0.177 0.0403	0.05 – 0.177 Single Sample	2	2	ppm	N	Discharge of drilling wastes; discharge from metal refineries; Erosion of natural deposits
Fluoride (Friendswood) (Houston)	2014 2016	0.79 0.19	0.43 – 0.79 single sample	4	4	ppm	N	Erosion of natural deposits; water additives which promote strong teeth; discharge from fertilizer and aluminum factories
Nitrate (Friendswood) (Houston)	2016 2016	0.64 0.78	0.05 – 0.64 Single sample	10	10	ppm	N	Runoff from fertilizer use, leaching from septic tanks, sewage; erosion of natural deposits
Nitrite (Friendswood) (Houston)	2016 2016	0.01	< Det. Limit – 0.01 not analyzed	1	1	ppm	N	Runoff from fertilizer use, leaching from septic tanks, sewage; erosion of natural deposits

SYNTHETIC CONTAMINANTS AND HERBICIDES INCLUDING PESTICIDES	Collection date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Atrazine (Friendswood) (Houston)	2016 2016	<Det. Limit 0.48	<Det. Limit single sample	3	3	ppb	N	Run off from herbicides used on row crops
Simazine (Friendswood) (Houston)	2016 2016	<Det. Limit 0.11	<Det. Limit single sample	4	4	ppb	N	Herbicide runoff

VOLATILE ORGANIC CONTAMINANTS	Collection date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of contamination
Ethylbenzene	2016	<Det. Limit (0.5ppb)	<Det. Limit (0.5ppb)	700	700	ppb	N	Discharge from petroleum refineries
Xylenes	2016	2.2	<Det. Limit -2.2	10000	10000	ppb	N	Discharge from petroleum refineries; discharge from chemical factories

DISINFECTANTS AND DISINFECTANT BY-PRODUCTS	Collection date	Highest Level Detected	Range of Levels Detected	MCGL	MCL	Highest LRAA	Units	Violation	Likely source of contamination
Haloacetic Acids	2016	31.8	11.7-31.8	no goal for	60	24.1	ppb	N	By-product of drinking water chlorination
Total Trihalomethanes	2016	43.4	18.2–34.4	the total	80	25.8	ppb	N	By-product of drinking water chlorination

UNREGULATED CONTAMINANTS DETECTED

Contaminants	Collection date	Average level	Range of levels Detected	MCL	Units	Likely source of contamination
Chloroform (Friendswood) (Houston)	2016	20.55	2.9 – 82.0 single sample	Unregulated	ppb	By-product of drinking water chlorination
Bromoform (Friendswood) (Houston)	2016	13.13	3.0-21.0 single sample	Unregulated	ppb	By-product of drinking water chlorination
Bromodichloromethane (Friendswood) (Houston)	2016	21.1	4.5 – 68.0 single sample	Unregulated	ppb	By-product of drinking water chlorination
Dibromochloromethane (Friendswood) (Houston)	2016	18.6	9.7 – 34.0 single sample	Unregulated	ppb	By-product of drinking water chlorination

DISINFECTION TYPE	Average Level	Minimum level	Maximum level	MRDL	MRDLG	Units	Source
Chloramine Residuals 2016	2.75	0.5	3.50	4	4	ppm	Disinfection used to control microbes

TOTAL COLIFORM BACTERIA are used as indicators of microbial contamination of drinking water because testing of 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 harder than many disease-causing organisms; therefore, their absence from water is a good indication that the water is microbiologically safe for human consumption. 560 samples were submitted for testing last year. It is not unusual to have an occasional positive sample simply because of test sensitivity and/or human error in sampling techniques. Once the system is notified of a positive sample, the system operator immediately collects repeat samples from the original sample point and additional locations up and down stream of that location.

MAXIMUM CONTAMINANT LEVEL GOAL	Total coliform maximum contaminant level	Highest number of positive	Fecal coliform or E-coli Maximum contaminant level	Total number of positive E-coli or fecal coliform	Violation	Likely Source of contamination
0	5% of monthly samples are positive	0	0	0	N	Naturally present in the environment

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	Constituent	Highest Average Measurement	Lowest Monthly % of Samples Meeting Limits	Turbidity Limits	Units	Source
2016 (Houston)	Turbidity	0.09	100	0.3	NTU	Soil runoff

LEAD AND COPPER DEFINITIONS: Action Level Goal (ALG): the level of a contaminant in drinking water which there is no known or expected risk to health. ALGs allow for a margin of safety. Action Level (AL): the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

LEAD AND COPPER	Date Sampled	MCLG	Action Level (AL)	The 90th Percentile	Number Sites Over AL	Units	Violation	Likely Source of Contamination
Lead	2016	0	15.0	9.9	2	ppb	N	Corrosion of household plumbing systems; Corrosion of natural deposits
Copper	2016	1.3	1.3	0.888	0	ppm	N	Corrosion of household plumbing systems; Erosion of natural deposit; Leaching from wood preservatives