



City of Friendswood

Phone Number 281-996-3382

2012 Water Quality Report

CITY OF FRIENDSWOOD 2012 CONSUMER CONFIDENCE REPORT

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 1st. 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 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. Our surface water plant receives its raw 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. A Source Water Susceptibility Assessment for your drinking water sources is currently being updated by 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 our source water protection strategies. 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?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 type of problems are not necessarily cause for health concerns. For more information on taste, odor, or color of drinking water, please contact our office.

Water Conservation Plan

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.

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 using 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

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.



City of Friendswood Texas

City of Friendswood Public Works Building
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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 CONTAMINANT	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Barium	2011	0.311	0.05-0.311	2	2	ppm	N	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Fluoride	2012	0.87	0.25-0.87	4	4	ppm	N	Erosion of natural deposits; Water additives which promote strong teeth; Discharge from fertilizer and aluminum factories
Nitrate	2012	0.73	0.02-0.73	10	10	ppm	N	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Nitrite	2012	0.03	0.02-0.03	1	1	ppm	N	Erosion of natural deposits; Water additives which promote strong teeth; Discharge from fertilizer and aluminum factories
Selenium	2011	3.6	0-3.6	50	50	ppm	N	Runoff from fertilizer use, leaching from septic Tanks, sewage; Erosion of natural deposits

RADIOACTIVE CONTAMINANT	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Gross beta Emitter	2011	5.3	0.0-5.3	0	50	pCi/L	N	Decay of natural and man-made deposits

SYNTHETIC ORGANIC CONTAMINANT INCLUDING PESTICIDES & HERBICIDES	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Atrazine	2012	0.41	0.1-0.41	3	3	ppb	N	Runoff from herbicide used on row crops
Simazine	2012	0.16	0-0.16	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	2011	1.4	0.8-1.4	700	700	ppb	N	Discharge from petroleum refineries
Xylenes	2012	1.4	0-1.4	10000	10000	ppb	N	Discharge from petroleum factories, Discharge from chemical factories

DISINFECTANTS AND VOLATILE DISINFECTION BY	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Haloacetic Acids (HAA5)*	2012	70.6	4.6-70.6	No goal for the total	60	ppb	N	By-product of drinking water chlorination
Total Trihalomethanes (TTHm)*	2012	120	23.3-120	No goal for the total	80	ppb	N	By-product of drinking water chlorination

2012 UNREGULATED CONTAMINANTS DETECTED:

CONTAMINANTS	Collection Date	Average Level Detected	Range of Levels Detected	MCL	Units	Likely Source of Contamination
Chloroform	2012	12.35	5.7-19	Unregulated	ppb	By-product of drinking water disinfection
Bromoform	2012	12.00	4.0-20	Unregulated	ppb	By-product of drinking water disinfection
Bromodichloromethane	2012	12.05	6.1-18	Unregulated	ppb	By-product of drinking water disinfection
Dibromochloromethane	2012	17.50	8.0-27	Unregulated	ppb	By-product of drinking water disinfection

DISINFECTANT TYPE	Average Level	Minimum Level	Maximum Level	MRDL	MRDLG	Units	Source
Chloramines Residual	2.58	0.5	3.5	4	4	ppm	Disinfectant used to control microbes

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. 532 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	1	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	Measurement	Samples Meeting Limits	Turbidity Limits	Units	Source
2012	Turbidity	0.25	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	2010	0	15	10.5	3	ppb	N	Corrosion of household plumbing systems; Erosion of natural deposit
Copper	2010	1.3	1.3	0.97	0	ppm	N	Corrosion of household plumbing systems, Erosion of natural deposit, Leaching from wood preservatives

SECONDARY AND OTHER CONSTITUENTS NOT REGULATED:

YEAR	Constituent	Average Level	Range of Detects (Low-High)	Secondary Limits	Units	Source
2011	Calcium	29.18	17.1-43.3	NA	ppm	Abundant naturally occurring element
2011	Chloride	82.2	36-252	300	ppm	Abundant naturally occurring element; Used in water purification; By-product of oil field activity
2011	Iron	0.14	0.022-0.39	0.3	ppm	Abundant naturally occurring element
2011	Magnesium	5.3	3.46-9.73	NA	ppm	Abundant naturally occurring element
2001	Manganese	0.02	0.0011-0.0547	0.05	ppm	Abundant naturally occurring element
2011	Sodium	87.8	29-189	NA	ppm	Erosion of natural deposits. By-product of oil field activity
2011	Zinc	0.031	0.007-0.084	5	ppm	Moderately abundant naturally occurring element used in the metal industry
2011	Sulfate	12.2	2-50	300	ppm	Naturally occurring, common industrial by-product; By-product of oil field activity.
2011	Total Hardness	94.6	56.9-148	NA	ppm	Naturally occurring calcium
2012	PH	7.8	6.5-8.5	>7	units	Measure of corrosivity of water