

*Annual*  
**WATER  
QUALITY  
REPORT**  
*Reporting Year 2012*



Presented By \_\_\_\_\_  
City of Pearland

PWS ID#: TX0200008

Este reporte incluye información importante sobre el agua para tomar.  
Para asistencia en español, favor de llamar al telefono (281) 652-1900.

## There When You Need Us

We are once again proud to present our annual water quality report covering all testing performed between January 1 and December 31, 2012. Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal standards. We continually strive to adopt new methods for delivering the best quality drinking water to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting the goals of source water protection, water conservation, and community education while continuing to serve the needs of all our water users.

Please remember that we are always available to assist you should you ever have any questions or concerns about your water.

## Opt in for Citizen Alerts

The City of Pearland uses a Citizen Alerts system to communicate with thousands of businesses and residents in minutes in an emergency. To sign up to receive alerts, visit [cityofpearland.com/alerts](http://cityofpearland.com/alerts) to self-register by providing the contact information you prefer. Messages can be sent to residents on any communication path desired – cell phone, home phone, email, text messaging, fax, pager, PDA, and more – ensuring that residents receive life-saving emergency information and important public service announcements in minutes.

Through the system, the City alerts residents about severe weather, fires, floods, toxic environmental issues, interruptions in water or sewer services, and other emergencies. In addition, the City of Pearland uses the system to notify residents who opt in for City Council agenda items, traffic alerts, general city news, and more.

## Lead in Home Plumbing

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 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 [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).

## Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

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 can acquire naturally occurring minerals, in some cases, radioactive material, and substances resulting from the presence of animals or from human activity. Substances 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, or wildlife; **Inorganic Contaminants**, such as salts and metals, which can be naturally occurring or may result from urban stormwater 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 stormwater runoff, and residential uses; **Organic Chemical Contaminants**, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production and which may also come from gas stations, urban stormwater runoff, and septic systems; **Radioactive Contaminants**, which can be naturally occurring or may be the result of oil and gas production and mining activities.

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 our business office. For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

## QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please call Tracy Sambrano, Superintendent Water Production, at (281) 652-1799.

## Violation Information

### Pearland – E. coli

Fecal coliforms and E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, and people with severely compromised immune systems.

Violation Type	Violation Begin	Violation End
MONITOR GWR TRIGGERED/ADDITIONAL, MAJOR	04/01/2012	04/30/2012

### Violation Explanation

We failed to collect follow-up samples within 24 hours of learning of the total coliform positive sample. These needed to be tested for fecal indicators from all sources that were being used at the time the positive sample was collected.

### Pearland – Ground Water Rule

The Ground Water Rule specifies the appropriate use of disinfection while addressing other components of ground water systems to ensure public health protection.

FAILURE TO NOTIFY OTHER PWS	06/13/2011, 06/16/2011	2012
-----------------------------	------------------------	------

### Violation Explanation

We failed to notify a water system about the presence of total coliform or fecal contamination. The water system needed the notification because it affects them as well as us.

### Pearland – Public Notification Rule

The Public Notification Rule helps to ensure that consumers will always know if there is a problem with their drinking water. These notices immediately alert consumers if there is a serious problem with their drinking water (e.g., a boil water emergency).

PUBLIC NOTICE RULE LINKED TO VIOLATION	08/10/2012	2012
--	------------	------

### Violation Explanation

We failed to adequately notify you, our drinking water consumers, about violation of the drinking water regulations.

### Pearland – Total Coliform

Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems.

MONITORING (TCR), ROUTINE MINOR	12/01/2012	12/31/2012
---------------------------------	------------	------------

### Violation Explanation

We failed to complete all the required tests of our drinking water for the contaminant and period indicated.

### Clear Brook MUD Violation – Total Coliform

Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems.

MONITORING (TCR), ROUTINE MINOR	11/01/2012	11/30/2012
---------------------------------	------------	------------

### Violation Explanation

We failed to complete all the required tests of our drinking water for the contaminant and period indicated.

## Where Does My Water Come From?

The City of Pearland water production customers are fortunate because we enjoy an abundant water supply from two sources. The water wells draw water from the Chico and Evangelist aquifers. Our second source is water purchased from the City of Houston. Combined, our treatment facilities provide roughly 3 billion gallons of clean drinking water every year. Our water supply is part of the Gulf Coast Watershed. To learn more about our watershed on the Internet, go to the U.S. EPA Surf Your Watershed page at [www.epa.gov/surf](http://www.epa.gov/surf).

## Important Health Information

While your drinking water meets the U.S. EPA's standard for arsenic, it does contain low levels of arsenic. The U.S. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. The U.S. EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory 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; those 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 provider. Additional guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* are available from the Safe Drinking Water Hotline at (800) 426-4791.

## Sampling Results

During the past year, we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants. The table below shows only those contaminants that were detected in the water. The state requires us to monitor for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

REGULATED SUBSTANCES													
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	City of Pearland		City of Houston		Clear Brook City MUD		MUD 2		VIOLATION	TYPICAL SOURCE
				AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH		
<b>Alpha Emitters</b> (pCi/L)	2012	15	0	3.6	3.6–3.6	12.5	0–12.5	2.1 <sup>1</sup>	0–2.1 <sup>1</sup>	NA	NA	No	Erosion of natural deposits
<b>Arsenic</b> (ppb)	2012	10	0	4.8	4.8–4.8	6.2	0–6.2	NA	NA	NA	NA	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
<b>Asbestos</b> (MFL)	2012	7	7	0.1952	0.1952–0.1952	NA	NA	NA	NA	NA	NA	No	Decay of asbestos cement water mains; Erosion of natural deposits
<b>Atrazine</b> (ppb)	2012	3	3	NA	NA	0.49	0–0.49	0.36	0–0.36	NA	NA	No	Runoff from herbicide used on row crops
<b>Barium</b> (ppm)	2012	2	2	0.208	0.208–0.208	0.208	0.0552–0.208	0.136 <sup>1</sup>	0.0998–0.136 <sup>1</sup>	NA	NA	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
<b>Beta/Photon Emitters<sup>2</sup></b> (pCi/L)	2012	50	0	NA	NA	6.9	0–6.9	NA	NA	NA	NA	No	Decay of natural and man-made deposits
<b>Combined Radium</b> (pCi/L)	2011	5	0	3.7	1.4–3.7	3.7 <sup>3</sup>	0–3.7 <sup>3</sup>	2.1	1.0–2.1	NA	NA	No	Erosion of natural deposits
<b>Dalapon</b> (ppb)	2012	200	200	NA	NA	NA	NA	1.1	0–1.1	NA	NA	No	Runoff from herbicide used on rights of way
<b>Dichloromethane</b> (ppb)	2012	5	0	NA	NA	1	0–1.0	NA	NA	NA	NA	No	Discharge from pharmaceutical and chemical factories
<b>Fluoride</b> (ppm)	2012	4	4	2.8	0.66–2.83	0.5	0.22–0.5	2.45 <sup>1</sup>	0.87–2.45 <sup>1</sup>	NA	NA	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
<b>Haloacetic Acids [HAA]–Stage 1</b> (ppb)	2012	60	NA	NA	NA	NA	NA	16	10.3–35.9	NA	NA	No	By-product of drinking water disinfection
<b>Haloacetic Acids [HAA]–Stage 2</b> (ppb)	2012	60	NA	6	0–42.7	15	0–72.1	NA	NA	NA	NA	No	By-product of drinking water disinfection
<b>Hexachlorocyclopentadiene</b> (ppb)	2012	50	50	NA	NA	0.14	0–0.14	NA	NA	NA	NA	No	Discharge from chemical factories
<b>Nitrate</b> (ppm)	2012	10	10	0.57	0.0–1.0	1	0–1.23	0.37	0.01–0.37	NA	NA	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
<b>Nitrite</b> (ppm)	2012	1	1	0.03	0.0–0.03	NA	NA	0.02	0–0.02	NA	NA	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
<b>Simazine</b> (ppb)	2012	4	4	NA	NA	0.29	0–0.29	0.13	0–0.13	NA	NA	No	Herbicide runoff

## REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	City of Pearland				City of Houston		Clear Brook City MUD		MUD 2		VIOLATION	TYPICAL SOURCE
		MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH		
<b>TTHMs [Total Trihalomethanes]–Stage 1</b> (ppb)	2012	80	NA	NA	NA	NA	NA	24	20.1–52	NA	NA	No	By-product of drinking water disinfection
<b>TTHMs [Total Trihalomethanes]–Stage 2</b> (ppb)	2012	80	NA	5	0–34.8	21	0–75.8	NA	NA	2	0–3.3	No	By-product of drinking water disinfection
<b>Total Coliform Bacteria</b> (% positive samples)	2012	More than 5% positive monthly samples	0	0.007	NA	0.031	NA	0.062	NA	NA	NA	No	Naturally present in the environment
<b>Turbidity</b> <sup>4</sup> (NTU)	2012	TT	NA	NA	NA	0.39	0.3–0.39	NA	NA	NA	NA	No	Soil runoff
<b>Turbidity</b> (Lowest monthly percent of samples meeting limit)	2012	TT	NA	NA	NA	99.35	NA	NA	NA	NA	NA	No	Soil runoff
<b>Uranium</b> (ppb)	2011	30	0	NA	NA	15.9	15.9–15.9	NA	NA	NA	NA	No	Erosion of natural deposits

Tap water samples were collected for lead and copper analyses from sample sites throughout the communities

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	City of Pearland				City of Houston		Clear Brook City MUD		MUD 2		VIOLATION	TYPICAL SOURCE
		AL	MCLG	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL/TOTAL SITES	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL/TOTAL SITES	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL/TOTAL SITES	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL/TOTAL SITES		
<b>Copper</b> (ppm)	2012	1.3	1.3	0.467	0/50	0.255	1/50	0.811 <sup>5</sup>	1/30 <sup>5</sup>	0.493 <sup>1</sup>	0/20 <sup>1</sup>	No	Corrosion of household plumbing systems; Erosion of natural deposits
<b>Lead</b> (ppb)	2012	15	0	2.3	0/50	3.72	0/50	4.5 <sup>5</sup>	1/30 <sup>5</sup>	1.19 <sup>1</sup>	0/20 <sup>1</sup>	No	Corrosion of household plumbing systems; Erosion of natural deposits

## Definitions

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

**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.

**MFL (million fibers per liter):** A measure of the presence of asbestos fibers that are longer than 10 micrometers.

**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.

**NA:** Not applicable.

**NTU (Nephelometric Turbidity Units):** Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

**pCi/L (picocuries per liter):** A measure of radioactivity.

**ppb (parts per billion):** One part substance per billion parts water (or micrograms per liter).

**ppm (parts per million):** One part substance per million parts water (or milligrams per liter).

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

<sup>1</sup> Sampled in 2011.

<sup>2</sup> The MCL for beta particles is 4 mrem/year. The U.S. EPA considers 50 pCi/L to be the level of concern for beta particles.

<sup>3</sup> Sampled in 2012.

<sup>4</sup> Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of the filtration system.

<sup>5</sup> Sampled in 2010.