

**Our Drinking Water Meets or Exceeds All Federal (EPA) Drinking Water Requirements. The City of Sugar Land Public Water System has been rated Superior.**

#### **Mission Statement**

The Utilities Department takes pride in maintaining a tradition of producing cost effective, superior quality water, vigilantly maintaining the City's expanding water and wastewater infrastructure, and providing responsive and efficient customer-oriented service.

# 2008 Water Quality Report

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## **Director's Message**

The City of Sugar Land is pleased to present its Annual Water Quality Report for 2008. This report contains important information regarding the safety and quality of the drinking water we deliver to your tap. As in past years, the water we supplied to our customers in 2008 met or exceeded all drinking water standards.

These stringent standards for our water quality are set by the U.S. Environmental Protection Agency (EPA) and the Texas Department of Environmental Quality (TCEQ). City staff maintain a vigilant eye on your water quality throughout its journey to your tap. Our employees and TCEQ staff take over 100 water quality samples each week throughout the treatment processes and distribution systems. We test for more than 200 substances, including bacteria, metals, minerals, volatile and semi-volatile organic compounds, disinfection byproducts and radiological compounds to ensure

your drinking water safety and quality. In standing with our tradition of superior quality water, the results of 2008 were excellent, with no violations of any standards. As a result of these efforts, the City received a "Total Coliform Rule Program Award" from the TCEQ and maintained its rating as a Superior public water system.

The City strives to produce high quality water for its customers through intensive attention to our treatment processes, vigilant monitoring of our distribution system, and extensive testing and quality assurance practices. Our water facilities are operated by TCEQ licensed operators, and our employees receive regular and rigorous training. Maintaining a safe, high quality water supply is one of the City's foremost priorities. As the City continues along its mandated path toward including surface water into our drinking water supply, please be assured we will continue

to exercise vigilance and all possible effort to continue providing the quality of water our customers have come to expect. At the same time, we are committed to doing our utmost to provide a superior product in a manner that emphasizes the City's philosophy of fiscal responsibility.

I hope that you will take a few moments to read this important report. We have great confidence in the water delivered to our customers, and we want you to have the same confidence. Please contact us if you have any questions or concerns about your water quality or the efforts and programs of the Utilities Department.

— **SuEllen Staggs,**  
*Director of Utilities*





# WATER QUALITY OVERVIEW

## WATER QUALITY

The Texas Commission on Environmental Quality is responsible for overseeing the state's environmental areas, which includes the City of Sugar Land's water quality. The TCEQ collects and analyzes samples for metals, minerals, volatile and semi-volatile organic compounds, chlorine byproduct compounds and radiological compounds. The TCEQ has rated Sugar Land as having a "Superior" water system, its highest rating.

In addition to TCEQ-required daily process control samples taken at the water plants and system entry points, the City of Sugar Land performs over 80 bacteriological tests monthly in its distribution system, and collects quality assurance/quality control samples at least once a week and voluntarily tests its groundwater wells twice a year.

## WATER SOURCE

The City currently draws 100% of its drinking water from 15 permitted wells at 5 separate groundwater plants. These are deep wells with an average depth greater than 1200 feet, producing water from the Chicot and Evangeline aquifers. A Source Water Susceptibility Assessment for your drinking water source(s) is currently being updated by the Texas Commission on Environmental Quality and will be provided to us this year. The report will describe the susceptibility and types of constituents that may come into contact with your drinking water source based on human activities and natural conditions. Any detection of these contaminants will be found in this report. For more information on source water assessments and protection efforts, please call the Utilities Department at 281-275-2450.



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

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 infection. These people should seek advice about drinking water from their health care providers. The EPA/Centers for Disease Control and Prevention (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline 1-800-426-4791.

## Abbreviations

**MCL:** Maximum Contaminant Level  
**MCLG:** Maximum Contaminant Level Goal  
**AL:** Action Level  
**pCi/L:** Pico Curie per Liter; measure of radioactivity  
**ppm:** Parts per million or milligrams per liter (mg/L)  
**ppb:** Parts per billion, or micrograms per liter (µg/L)

## Inorganic Contaminants

For each constituent, the Average, Minimum and Maximum Level Columns represent the City's water testing results.

YEAR	CONSTITUENT	AVERAGE LEVEL	MINIMUM LEVEL	MAXIMUM LEVEL	MCL	MCLG	UNIT OF MEASURE	SOURCE OF CONTAMINANT
2008	Arsenic*	1	0	3	10	0	ppb	Erosion of natural deposits, runoff from orchards; runoff from glass and electronic production wastes.
2008	Barium	0.207	0.178	0.262	2	2	ppm	Erosion of natural deposits; discharge of drilling wastes; discharge from metal refineries.
2008	Fluoride	0.7	0.48	0.92	4	4	ppm	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
2008	Nitrate	0.06	0.01	0.12	10	10	ppm	Runoff from fertilizer use; leaching from septic tanks, sewage, erosion of natural deposits
2008	Selenium	9.5	0	38.9	50	50	ppb	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines.
2008	Combined Radium 226 & 228	0.36	0	0.59	5	0	pCi/L	Erosion of natural deposits.
2008	Gross Beta Emitters	2.97	0	4.5	50	0	pCi/L	Decay of natural and man-made deposits.
2008	Gross Alpha	5.53	1.2	9.2	15	0	pCi/L	Erosion of natural deposits.

\* The arsenic value was effective January 23, 2006. In the event of a violation, you will be notified.

**Organic Contaminants:** TESTING WAIVED, NOT REPORTED, OR NONE DETECTED

## Maximum Residual Disinfectant Level

YEAR	DISINFECTANT	AVERAGE LEVEL	MINIMUM LEVEL	MAXIMUM LEVEL	MRDL	MRDLG	UNIT OF MEASURE	SOURCE OF DISINFECTANT
2008	Chlorine Residual, Free	1.46	0.9	1.98	4	4	ppm	Disinfectant used to control microbes.

**Disinfection Byproducts:** NOT REPORTED OR NONE DETECTED

**Unregulated Initial Distribution System Evaluation of Disinfection Byproducts:** WAIVED OR NOT YET SAMPLED

## Lead and Copper

The 90th percentile score for lead and copper indicates the measure, in parts per billion, that 90% of the homes sampled are at or below.

YEAR	CONSTITUENT	THE 90th PERCENTILE	NUMBER OF SITES EXCEEDING ACTION LEVEL	ACTION LEVEL	UNIT OF MEASURE	SOURCE OF CONTAMINANT
2007	Lead	3.9	0	15	ppb	Corrosion of household plumbing systems; erosion of natural deposits.
2007	Copper	0.628	0	1.3	ppm	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.

**NOT REQUIRED:** Turbidity **NOT DETECTED IN REPORTED MONTHLY TESTS:** Total Coliform, Fecal Coliform Bacteria  
**Unregulated Contaminants:** NOT REPORTED OR NONE DETECTED

The City has participated in the second cycle of the (2008) Unregulated Contaminant Monitoring Regulation (UCMR2). Our sampling did not show any positive results for contaminants tested by the USEPA. Data is available for your review at 111 Gillingham Lane, Sugar Land, Texas 77478.

## Definitions

### Action Level (AL)

The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

### Constituent

Federally regulated or monitored analyte.

### Maximum Contaminant Level (MCL)

The highest permissible level of a contaminant in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

### Maximum Contaminant Level Goal (MCLG)

The level of a contaminant in drinking water below which there is no known or expected health risk. MCLGs allow for a margin of safety.

### Maximum Residual Disinfectant Level (MRDL)

The highest level of disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminant.

### 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 contamination.

### Treatment Technique (TT)

A required process intended to reduce the level of a contaminant in drinking water.

# DRINKING WATER AND YOUR HEALTH

## SECONDARY CONSTITUENTS

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 concerns.** Therefore, secondaries are not required to be reported in this document but they may greatly affect the appearance and taste of your water. Secondary constituent information is available on the Public Works and Utilities Departments pages of the City's Web site, [www.sugarlandtx.gov](http://www.sugarlandtx.gov). From the left menu, cursor over "Water Services" and click on "Water Quality Report."

## OTHER WATER SOURCES

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 before treatment include: microbes, inorganic contaminants, pesticides, herbicides, radioactive contaminants and organic chemical contaminants.

## Definitions of Contaminants

### Microbial contaminants

Viruses and bacteria which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.

### Inorganic contaminants

Salts and metals which can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.

### Pesticides and Herbicides

These may come from a variety of sources such as agriculture, urban storm water runoff and residential uses.

### Organic Chemical contaminants

Synthetic and volatile organic chemicals which are by-products of industrial processes and petroleum production; can also come from gas stations, urban storm water runoff and septic systems.

### Radioactive contaminants

Naturally occurring or the result of oil and gas production and mining activities.

## DRINKING WATER AND YOUR HEALTH

*Notice from the EPA*

All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. Contaminants may be found in drinking water that may cause taste, color, or odor problems. 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 and the TCEQ enforce regulations that limit the amount of certain contaminants in water provided by public water systems. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline 1-800-426-4791.

## IS CRYPTOSPORIDIUM OR GIARDIA IN OUR WATER SUPPLY?

Neither *Cryptosporidium* or *Giardia* is found in deep wells such as the City of Sugar Land's which are protected from surface water contamination.

*Cryptosporidium* and *Giardia* are waterborne pathogenic organisms. Both are naturally present in the intestines of most mammals including humans, and are passed into the environment through urban runoff or sewage disposal system failure. Exposure to *Cryptosporidium* or *Giardia* can lead to symptoms such as diarrhea, abdominal discomfort, fever, weight loss, malabsorption, or anemia. Although not life-threatening to healthy adults, *Cryptosporidium* and *Giardia* can be fatal to infants, the elderly, pregnant women, and immunocompromised persons.

For more information about *Cryptosporidium* and *Giardia* and other microbial contaminants, contact the EPA's Safe Drinking Water Hotline at 1-800-426-4791.

# CITY OF SUGAR LAND PUBLIC WATER SYSTEM

## Your Water System

1.

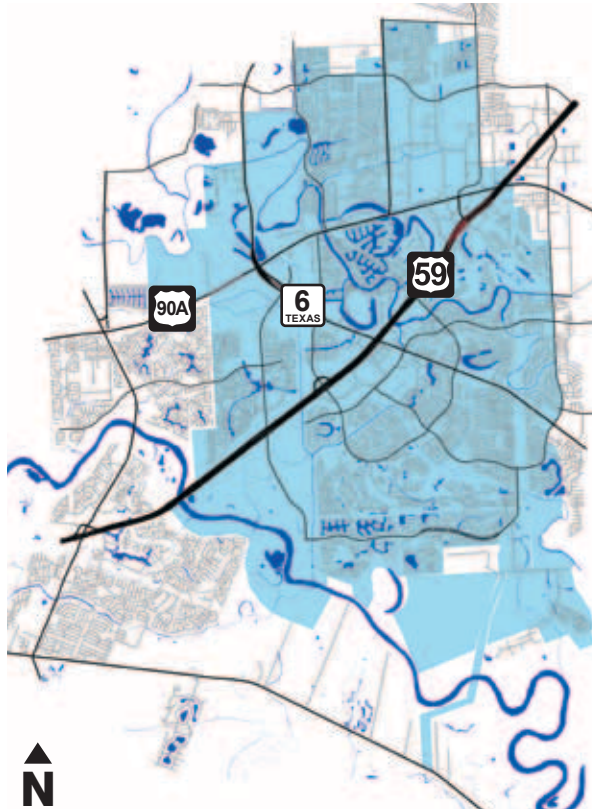
Our water comes from high-quality groundwater sources, and is pumped from deep wells into one of our groundwater plants.

2.

Even though our groundwater is already of excellent quality, chlorine is added at our water plants to protect the finished water against microbial contaminants as it travels through the water system. At the same plants, a fluoride supplement is added to help prevent tooth decay. Corrosion inhibitors are also added to reduce corrosion of metal components within the homeowner's private plumbing system.

3.

Your water then travels to your residence or place of business where you are provided with top quality and absolutely safe, superior-rated water.



## UNREGULATED CONTAMINANTS

Unregulated contaminants are those for which the EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist the EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

## UPCOMING PUBLIC EVENTS

As the City moves toward using surface water, we will hold several events to involve the public in this conversion process. The City welcomes feedback from its customers. We suggest you contact our Utilities Department directly to discuss any concerns or questions you have regarding your water. We also welcome you to attend our regularly scheduled City Council meetings. We will use the feedback from these public tests to help us fine-tune our treatment goals. Please call 281-275-2450 for more information on these events.

The water system described in this report serves customers within Sugar Land's corporate city limits.

# SURFACE WATER: THE FUTURE IS NOW

As reliable water supply becomes increasingly important to the state's future, Sugar Land is beginning to reap the rewards of the carefully laid plans of the past.

As the population of Texas continues to expand, demand for water is eroding our previous image of infinite supplies available for the taking. The future of water supply in Texas will be marked by a need for smart strategies to ensure ample supplies. The City of Sugar Land is continually planning to meet these future challenges. By proactively addressing future challenges now, we will continue to guarantee our customers a safe, reliable water supply.

Beginning in 2013, the City will partially convert its water supply to surface water from Oyster Creek. Because Sugar Land has planned for

<b>City of Sugar Land Water Production &amp; Distribution Profile</b>	
<b>Annual system demand:</b>	5.5 billion gallons
<b>Maximum peak daily demand:</b>	31.0 million gallons
<b>System capacity:</b>	39.1 million gallons/day
<b>Daily average demand:</b>	14.9 million gallons
<b>Daily average demand per capita:</b>	189 gallons
<b>Number of wells:</b>	15
<b>Average well depth:</b>	1,250 ft.
<b>Ground storage capacity:</b>	9.67 million gal.
<b>Elevated storage facilities:</b>	5 towers/4.5 million gallons
<b>Miles of distribution line:</b>	383
<b>Number of water meters:</b>	25,061
<b>Number of fire hydrants:</b>	3,454
<b>Number of valves:</b>	4,698
<b>Supply ground water source:</b>	Chicot, Evangeline Aquifers

this conversion for over a decade, we are confident we will be able to meet this mandated transition in a fiscally responsible manner that continues to guarantee high quality water for our customers. The City will meet

our cost and quality goals through integrated strategies, combining state of the art treatment facilities, vigilant attention to quality assurance, and the implementation of a series of cost-saving supplemental projects. Additionally, the City is introducing new elements of its comprehensive water conservation program. This will provide our community members with further resources and opportunities to participate in voluntary programs aimed at making wise use of our precious resource.

The future will undoubtedly bring further challenges as population continues to grow. With a continuing focus on forward-thinking planning, the City stands ready to meet those challenges and maintain the high standard our customers have come to expect.

## CUSTOMER SERVICE IS OUR NUMBER ONE PRIORITY

We take pride in the water that is provided to our customers and we are continually striving to improve our service to you.

To accomplish this goal... we need your help. Any time you find your water quality or service response is below your expectations, please contact us at 281-275-2450. We will respond promptly and professionally.

To learn about future public meetings concerning our drinking water or to request to schedule one, please call us at 281-275-2450.

## EN ESPAÑOL

Este informe incluye información importante sobre el agua potable.

Si tiene preguntas o comentarios sobre éste informe en español, favor de llamar al tel. 281-275-2450 para hablar con una persona bilingüe en español.



**CITY OF SUGAR LAND**

Utilities Department  
111 Gillingham  
Sugar Land, TX 77478

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