

# 2014 DRINKING WATER QUALITY REPORT



**CITY OF HOUSTON**

**DEPARTMENT OF PUBLIC WORKS AND ENGINEERING**



**En Español**

Este informe incluye información importante sobre el agua potable. Si tiene preguntas o comentarios sobre éste informe, favor de llamar al tel.311 para hablar con una persona bilingüe en español.

# ABOUT THIS REPORT

This Report lists all of the federally regulated or monitored contaminants which have been found in your drinking water. The U.S. Environmental Protection Agency (EPA) requires water systems to test for up to 97 contaminants. If a contaminant was reported in a prior year's report, but is not detected in this report year's samples, that contaminant has been removed from the list.

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. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (1-800-426-4791).

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 and through the ground, it dissolves naturally-occurring minerals, and in some cases, radioactive material. It can also 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.

**The City of Houston 6 Community Public Water Systems** are shown on the map here. Use the map and table of contents to see calendar year 2014 sample results for your area of interest.

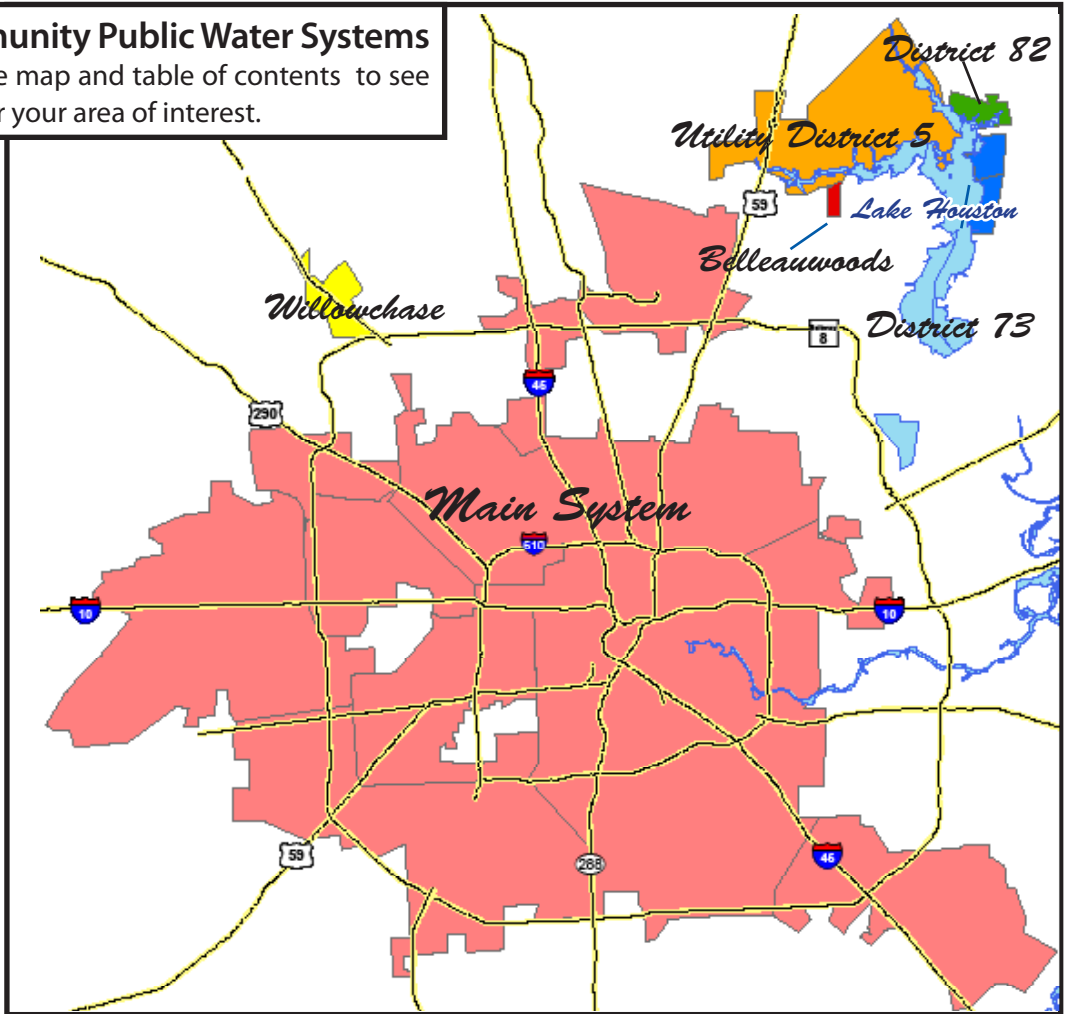


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**Special Notice for the ELDERLY, INFANTS, CANCER PATIENTS,** people with HIV/AIDS or other immune problems: You may be more vulnerable than the general population to certain microbial contaminants, such as *Cryptosporidium*, in drinking water. Infants, some elderly, or immunocompromised persons such as those undergoing chemotherapy for cancer; 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* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791.

# DEFINITIONS & ABBREVIATIONS

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## **AL**

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

## **LRAA**

Locational Running Annual Average - The average of results taken at a specific monitoring location during the previous four calendar quarters

## **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. Since MCLGs do not consider limits of detection and available treatment technology, sometimes they are set at a level below MCLs which water systems cannot meet. MCLGs are non-enforceable public health goals.

## **MCL**

Maximum Contaminant Level - The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to maximum contaminant level goals as feasible using the best available treatment technology.

## **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.

## **MRDL**

Maximum Residual Disinfectant Level - The highest level of a disinfectant allowed in drinking water. There is convincing evidence the addition of a disinfectant is necessary for control of microbial contaminants.

**N/A** - Not Applicable

**ND** - Not Detected

**NTU** - nephelometric turbidity units  
(a measure of turbidity)

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

**ppm** - parts per million,  
or milligrams per liter (mg/L)

**ppb** - parts per billion,  
or micrograms per liter (µg/L)

**ppt** - parts per trillion,  
or nanograms per liter (ng/L)

## **TT**

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

## **Contact Us**

Questions or concerns about your water? **Contact 311.**

- Call 311
- Visit [www.houstontx.gov/311](http://www.houstontx.gov/311)
- Download the 311 app for iPhone and Android



**311 is Houston's non-emergency service center.**

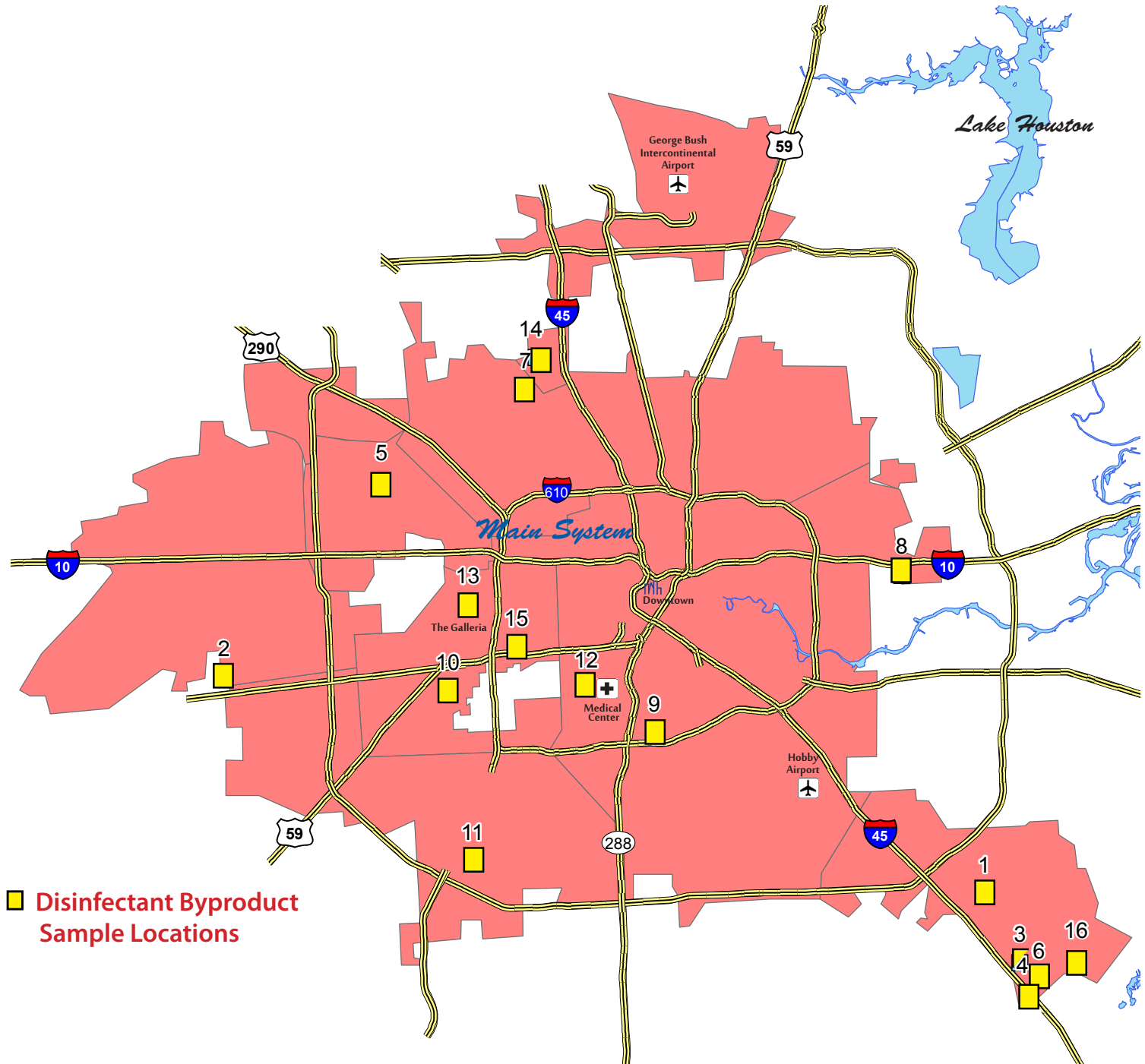
Customers may use 311 to notify us of any problems they may be experiencing and a water quality investigator will be dispatched within twenty-four hours to respond to and resolve the problem.

# MAIN SYSTEM

Public Water System ID 1010013

In 2014, the Main System produced an average of 446 million gallons of water every day: 91% from surface water treatment plants and 9% from groundwater plants.

- Surface water comes from the San Jacinto River through Lake Conroe and Lake Houston, and the Trinity River, through Lake Livingston and is treated at one of the system's three large surface water treatment plants.
- Groundwater is produced from the Evangeline and Chicot Aquifers by wells with depths greater than 750 feet.



# MAIN SYSTEM

## 2014 Sample Results

### System Disinfection Parameters

	Regulatory Requirements		2014 Detections	
Chloramines (Disinfectant)	<b>MRDLG</b>	<b>MRDL</b>	<b>Chloramine Levels</b>	
	< 4.0 ppm	4.0 ppm	<b>Avg</b> 2.2	<b>Max</b> 4.0
Total Coliform*	<b>MCLG</b>	<b>MCL</b>	<b>Total Coliform Detections</b>	
	0 detections	Presence of coliform bacteria in more than 5% of monthly samples	Highest monthly percentage of positive samples: 1.8%	
E.coli	<b>MCLG</b>	<b>MCL</b>	<b>E.coli Detections</b>	
	0 detections	A routine sample and repeat sample are Total Coliform positive, and one is also <i>E.coli</i> positive.	No MCL violations. Detected <i>E.coli</i> positive results in 2 routine samples, however repeat samples were all negative for <i>E.coli</i> and Total Coliform.	
Turbidity	<b>TT (Treatment Technique)</b>		<b>Turbidity Measurements</b>	
	95% or more of sample tested each month less than or equal to 0.3 NTU		Lowest monthly percentage of samples less than or equal to 0.3 NTU: 100% Highest Single Measurement: 0.3 NTU	

\*Coliforms are bacteria naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present. When coliform is detected the system is required to follow-up with additional sampling to confirm the integrity of the water or determine if there is a problem. All follow-up samples indicated the water was safe and free of coliform.

### Disinfectant Byproduct Results

Sample Location	Haloacetic Acids (ppb)			Total Trihalomethanes (ppb)		
	Min	Avg	Max	Min	Avg	Max
1	17.4	27.5	39.8	20.8	33.6	42.8
2	14.1	23.7	36.0	19.3	28.2	34.0
3	19.0	27.0	31.9	9.8	25.9	33.9
4	12.6	26.6	46.8	24.9	33.0	40.9
5	19.2	28.5	36.5	19.2	29.8	36.5
6	15.6	26.2	39.7	17.4	30.9	38.3
7	20.5	25.6	29.7	25.4	29.1	32.5
8	14.2	26.6	38.9	17.7	29.2	36.2
9	19.2	30.2	50.0	24.6	32.0	39.1
10	2.6	10.5	25.1	6.3	14.5	23.2
11	18.6	26.9	32.2	26.2	30.5	36.9
12	18.2	32.1	50.1	29.9	35.1	41.0
13	14.4	27.5	35.7	18.7	30.8	35.1
14	16.5	29.3	39.8	28.9	35.5	45.6
15	18.3	27.9	34.0	9.2	29.2	43.4
16	11.1	24.3	40.2	24.1	33.3	41.8

\*Compliance is based on locational running annual average (LRAA). The highest LRAA for Haloacetic Acids and Total Trihalomethanes is highlighted yellow.

# MAIN SYSTEM

## 2014 Sample Results

Regulatory Requirements	2014 Detections
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### Inorganic Contaminant Results

Contaminant (units)	MCLG	MCL	Min	Avg	Max
Arsenic (ppb) <sup>(1)</sup>	0	10	ND	1.4	4.4
Barium (ppm)	2	2	0.0	0.1	0.2
Cyanide (ppb)	200	200	ND	7	80
Selenium (ppb)	50	50	ND	1.0	11
Fluoride (ppm)	4	4	ND	0.27	0.43
Nitrate (ppm)	10	10	0.0	0.2	0.8
Lead (ppb) 2012 <sup>(2)</sup>	0	AL = 90% below 15 ppb	90% below 3.72 ppb No sample above 15 ppb		
Copper (ppm) 2012 <sup>(2)</sup>	1.3	AL = 90% below 1.3 ppm	90% below 0.255 ppm One sample above 1.3 ppm at 1.77 ppm		

### Synthetic & Volatile Organic Contaminant Results

Atrazine (ppb)	3	3	ND	0.2	0.6
Hexachlorocyclopentadiene (ppb)	50	50	ND	0.0	0.2
Ethylbenzene (ppb)	700	700	ND	0	0.6
Simazine (ppb)	4	4	ND	0.0	0.1
Xylenes (ppm)	10	10	ND	0.001	0.004

### Radiological Contaminant Results

Gross Alpha (pCi/L)	0	15	2.3	8.0	14.5
Gross Beta (pCi/L)	0	50	ND	2.6	7.2
Combined Radium (pCi/L)	0	5	ND	2.0	5.3
Combined Uranium (ppb)	0	30	ND	4.4	11.4

(1) Arsenic - While your drinking water meets EPA's standard for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. 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.

(2) Detected contaminants within the past five years - subject to reduced monitoring requirements.

(3) Combined Radium - Compliance for combined radium is based on a running annual average. A system is in compliance if the running annual average at each entry point remains below the MCL of 5 pCi/L. One reading was detected above 5pCi/L in 2014; however the running average for all entry points in the system remained below the MCL.

### Unregulated Contaminants

Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. Unregulated contaminants detected during 2014 are reported in the table below. For additional information and data visit <http://water.epa.gov/lawsregs/rulesregs/sdwa/ucmr> or call the Safe Drinking Water Hotline at (800) 426-4791.

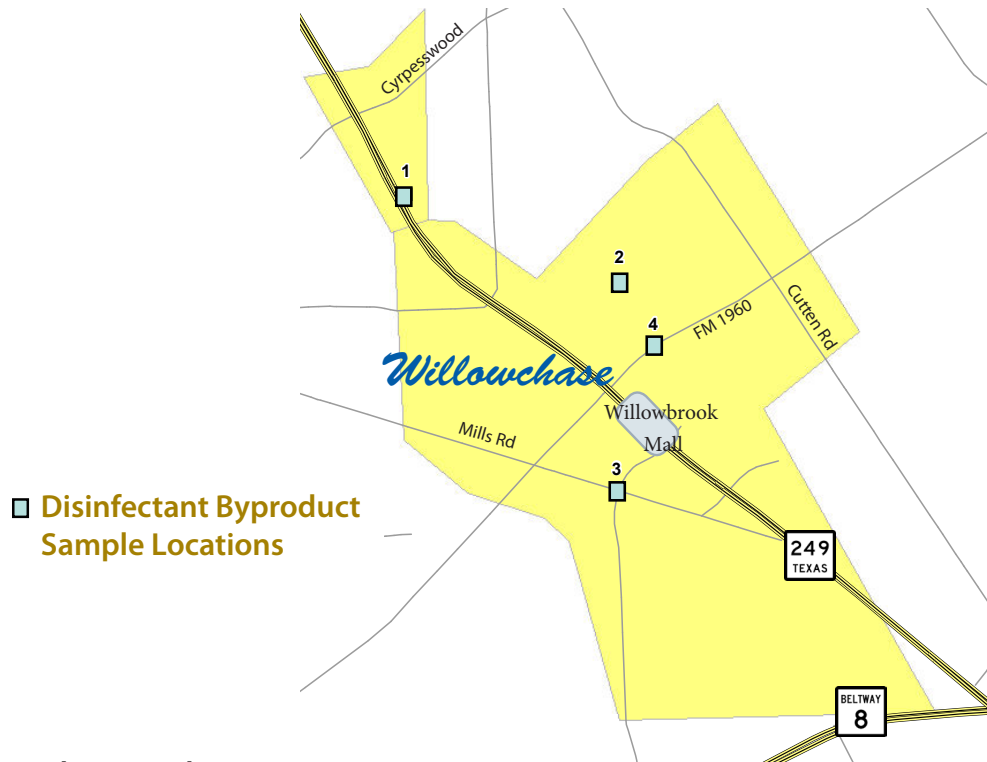
### Unregulated Contaminants

Contaminant (Units)	Min	Avg	Max
Chromium (µg/L)	ND	0.3	6.0
Molybdenum (µg/L)	ND	1	8
Strontium (µg/L)	ND	183	650
Vanadium (µg/L)	ND	1	13

# WILLOWCHASE

Public Water System ID 1011902

The Willowchase water system provides water to approximately 13,500 people and relies solely on groundwater. Groundwater treatment plants receive water from 5 area wells. These wells draw water from the Evangeline and Chicot Aquifers, with typical depths greater than 750 feet. In 2014 this system provided an average of 2.2 million gallons per day to customers!



## Disinfectant Byproduct Results

Sample Location	Haloacetic Acids (ppb)			Total Trihalomethanes (ppb)		
	Min	Avg	Max	Min	Avg	Max
1	0.0	3.6	14.3	0.0	1.6	4.5
2	0.0	2.0	7.9	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0
4	0.0	4.0	16.0	0.0	2.5	10.0

\*Compliance is based on locational running annual average (LRAA). The highest LRAA for Haloacetic Acids and Total Trihalomethanes is highlighted yellow.

## System Disinfection Parameters

	Regulatory Requirements		2014 Detections	
Chlorine (Disinfectant)	MRDLG	MRDL	Chloramine Levels	
	< 4.0 ppm	4.0 ppm	Average	Maximum
			1.3	1.7
Total Coliform	MCLG	MCL	Total Coliform Detections	
	0 (zero) detections	Presence of coliform bacteria in more than 5% of monthly samples	0 (zero) samples were found positive for coliform bacteria in 2014.	

# WILLOWCHASE

## 2014 Sample Results

### Inorganic Contaminant Results

Contaminant (units)	Regulatory Requirements		2014 Detections		
	MCLG	MCL	Min	Avg	Max
Arsenic (ppb) 2011 <sup>(1)(2)</sup>	0	10	2.50	2.55	2.60
Barium (ppm) 2011 <sup>(1)</sup>	2	2	0.24	0.27	0.30
Selenium (ppb) 2011 <sup>(1)</sup>	50	50	3.2	4.5	5.8
Fluoride (ppm)	4	4	0.12		
Nitrate (ppm)	10	10	0.20	0.21	0.23
Lead (ppb)	0	AL = 90% below 15 ppb	90% below 1.8 ppb No sample above 15 ppb		
Copper (ppm)	1.3	AL = 90% below 1.3 ppm	90% below 0.17 ppm No sample above 1.3 ppm		

### Radiological Contaminant Results

Gross Alpha (pCi/L) 2012 <sup>(1)</sup>	0	15	4.9
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(1) Detected contaminants within the past five years - subject to reduced monitoring requirements.

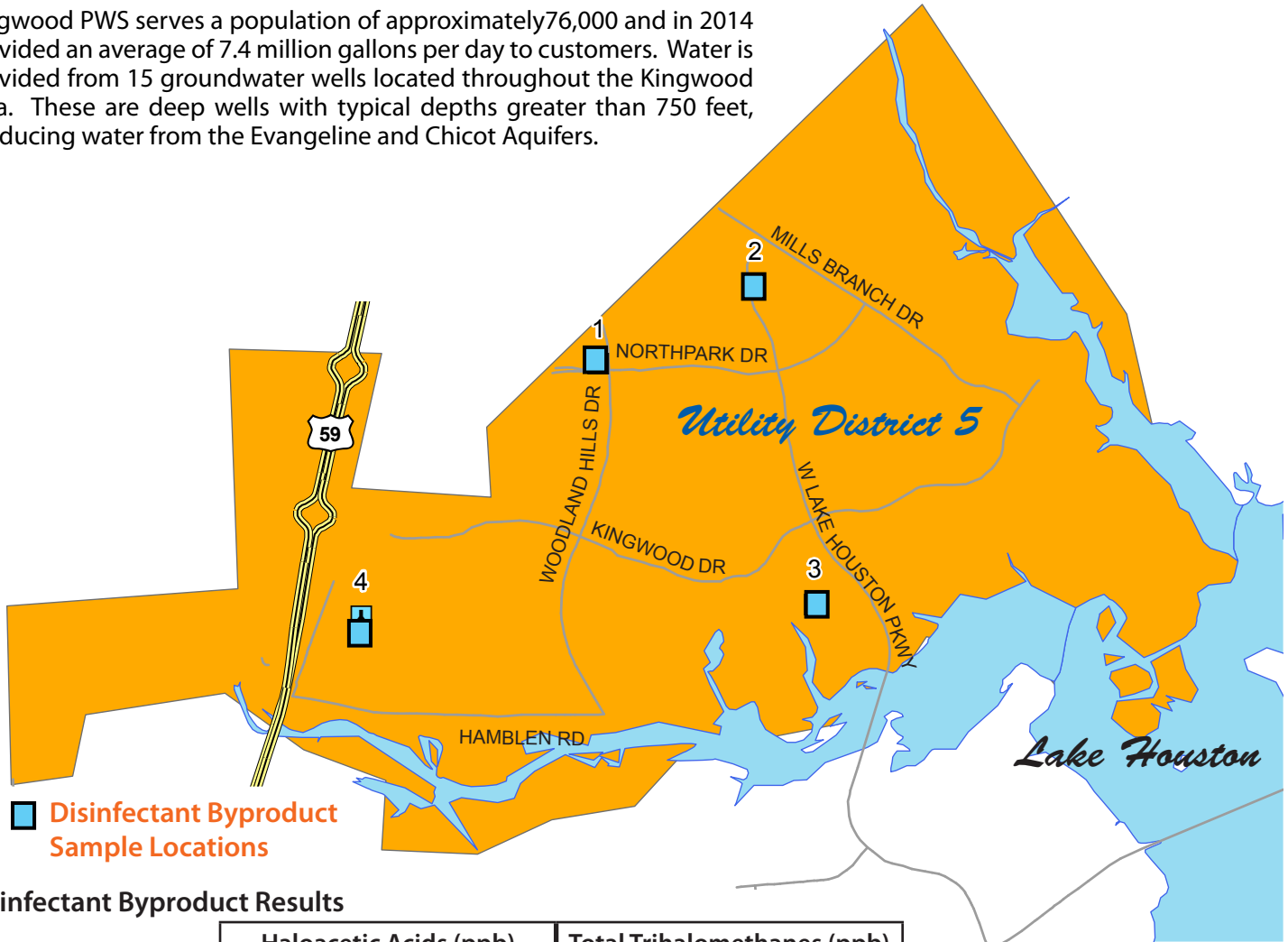
(2) While your drinking water meets EPA's standard for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. EPA continues to research the health effects of low 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.



# KINGWOOD (UTILITY DISTRICT 5)

Public Water System ID 1010348

Kingwood PWS serves a population of approximately 76,000 and in 2014 provided an average of 7.4 million gallons per day to customers. Water is provided from 15 groundwater wells located throughout the Kingwood area. These are deep wells with typical depths greater than 750 feet, producing water from the Evangeline and Chicot Aquifers.



**■ Disinfectant Byproduct Sample Locations**

## Disinfectant Byproduct Results

<b>Haloacetic Acids (ppb)</b>	<b>Total Trihalomethanes (ppb)</b>
MCL*: 60 ppb	MCL*: 80 ppb

Sample Location	Min	Avg	Max	Min	Avg	Max
1	ND	ND	ND	ND	ND	ND
2	1.8	2.3	2.9	3.5	7.4	13.1
3	ND	ND	ND	ND	ND	ND
4	ND	ND	ND	ND	ND	ND

\*Compliance is based on locational running annual average (LRAA). The highest LRAA for Haloacetic Acids and Total Trihalomethanes is highlighted yellow.

## System Disinfection Parameters

	Regulatory Requirements		2014 Detections	
Chlorine (Disinfectant)	MRDLG	MRDL	Chloramine Levels	
	< 4.0 ppm	4.0 ppm	Average	Maximum
			1.3	2.4
Total Coliform*	MCLG	MCL	Total Coliform Detections	
	0 (zero) detections	Presence of coliform bacteria in more than 5% of monthly samples	Highest Monthly Percentage of positive samples: 2.0%	

\*Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present. When coliform is detected the system is required to follow-up with additional sampling to confirm the integrity of the water or determine if there is a problem. All follow-up samples indicated that the water was safe and free of coliform.

Regulatory Requirements	2014 Detections
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**Inorganic Contaminant Results**

Contaminant (units)	MCLG	MCL	Min	Avg	Max
Arsenic (ppb) <sup>(1)</sup>	0	10	ND	1.4	2.6
Barium (ppm)	2	2	0.26	0.27	0.28
Fluoride (ppm)	4	4	0.1	0.3	0.5
Nitrate (ppm)	10	10	ND	0.010	0.05
Lead (ppb) <sup>(2)</sup>	0	AL = 90% below 15 ppb	all lead samples were non-detect in 2014		
Copper (ppm) <sup>(2)</sup>	1.3	AL = 90% below 1.3 ppm	95% below 0.029 ppm No sample above 1.3 ppm		

**Radiological Contaminant Results**

Gross Alpha (pCi/L)	0	15	2.5	2.7	2.8
Uranium (ppb)	0	30	ND	0.8	1.5

(1) Arsenic - While your drinking water meets EPA's standard for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. 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.

(2) In 2014 The Kingwood System completed required sampling for lead and copper analysis, allowing the system to return to compliance with the Texas Commission on Environmental Quality (TCEQ) Lead and Copper Monitoring requirements. Thirty samples were collected for lead and copper in September 2014. No lead was detected in any of the samples. Copper detections met Federal and TCEQ standards for drinking water.

In February 2014, the Kingwood System notified customers of a Lead and Copper Monitoring violation for failure to collect the required number of samples for lead and copper analysis in 2012 and 2013. The violation was for failure to meet the sample schedule set by the TCEQ, and was not related to the level of lead and copper detected in the drinking water. The system returned to compliance when the required samples were collected in September 2014 and all results met Federal and TCEQ standards.

**Unregulated Contaminants**

Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. Any unregulated contaminants detected in 2014 are reported in the table below. For additional information and data visit <http://water.epa.gov/lawsregs/rulesregs/sdwa/ucmr> or call the Safe Drinking Water Hotline at (800) 426-4791.

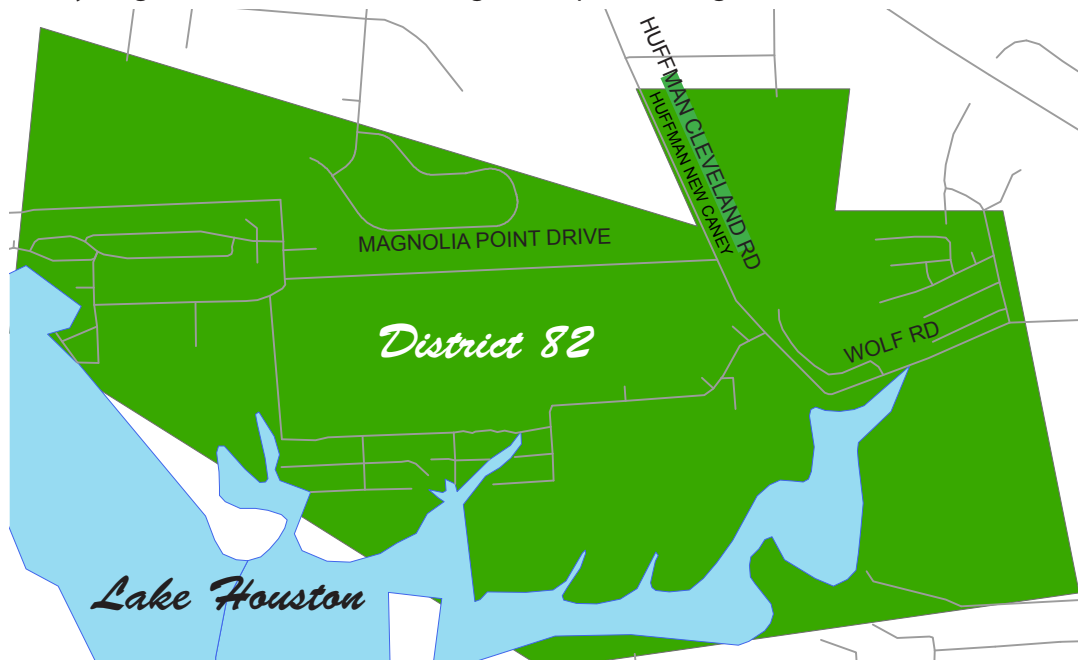
**Unregulated Contaminants**

Contaminant (Units)	Min	Avg	Max
Chromium (µg/L)	0	0	1.2
Molybdenum (µg/L)	0	1.9	4.4
Strontium (µg/L)	0	191	350
Vanadium (µg/L)	0	0.5	2.1

# DISTRICT 82

Public Water System ID 1011593

District 82 produced an average of 40 thousand gallons of water per day in 2014. This system provides for approximately 550 people and relies solely on groundwater from the Evangeline aquifer through 2 wells located in the area.



## System Disinfection Parameters

	Regulatory Requirements		2014 Detections	
Chlorine (Disinfectant)	<b>MRDLG</b>	<b>MRDL</b>	<b>Chloramine Levels</b>	
	< 4.0 ppm	4.0 ppm	Average	Maximum
			1.2	1.8
Total Coliform	<b>MCLG</b>	<b>MCL</b>	<b>Total Coliform Detections</b>	
	0 (zero) detections	Presence of coliform bacteria in more than one sample per month	0 (zero) samples were found positive for coliform bacteria in 2014.	

## Disinfectant Byproducts

	Regulatory Requirements		2014 Detections		
	MRDLG	MRDL	Min	Avg	Max
Total Haloacetic Acids 2013 <sup>(1)</sup>	0	60	1.2	1.5	1.8
Total Trihalomethanes 2013 <sup>(1)</sup>	0	80	4.9	5.4	5.8

## Inorganic Contaminant Results

Contaminant (units)	MCLG	MCL	Min	Avg	Max
Barium (ppm) 2009 <sup>(1)</sup>	2	2	0.1		
Fluoride (ppm) 2012 <sup>(1)</sup>	4	4	0.1		
Nitrate (ppm)	10	10	0.2		
Lead (ppb) 2010 <sup>(1)</sup>	0	AL = 90% below 15 ppb	90% below 2.6 ppb No sample above 15 ppb		
Copper (ppm) 2010 <sup>(1)</sup>	1.3	AL = 90% below 1.3 ppm	90% below 0.041 ppm No sample above 1.3 ppm		

## Radiological Contaminant Results

Gross Alpha (pCi/L) 2009 <sup>(1)</sup>	0	15	2.2		
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(1) Detected contaminants within the past five years - subject to reduced monitoring requirements.

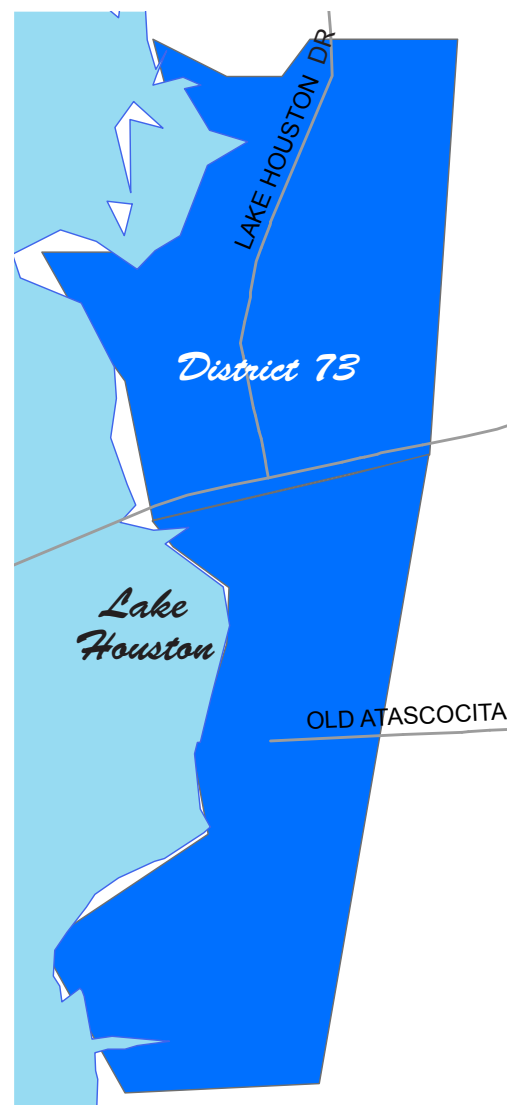
# DISTRICT 73

Public Water System ID 1011593

District 73 serves approximately 4,000 people, and provided 330 thousand gallons per day to customers, on average, in 2014. Tis system receives its water from 4 groundwater wells located throughout the area. These are deep wells with typical depths greater than 750 feet, producing water from the Evangeline and Chicot aquifers.

## System Disinfection Parameters

	Regulatory Requirements		2014 Detections	
Chlorine (Disinfectant)	<b>MRDLG</b>	<b>MRDL</b>	<b>Chloramine Levels</b>	
	< 4.0 ppm	4.0 ppm	Average	Maximum
			1.1	1.8
Total Coliform	<b>MCLG</b>	<b>MCL</b>	<b>Total Coliform Detections</b>	
	0 (zero) detections	Presence of coliform bacteria in more than one sample per month	0 (zero) samples were found positive for coliform bacteria in 2014.	



## Radiological Contaminant Results

Gross Alpha (pCi/L)	0	15	6.5
Combined Radium (pCi/L)	0	5	0.53
Combined Uranium (ppb)	0	30	3.5

## Inorganic Contaminant Results

Contaminant (units)	MCLG	MCL	Min	Avg	Max
Arsenic (ppb) <sup>(1)</sup>	0	10	2.6		
Barium (ppm)	2	2	0.3		
Fluoride (ppm)	4	4	0.16	0.17	0.17
Nitrate (ppm)	10	10	ND	0.02	0.03
Lead (ppb)	0	AL = 90% below 15 ppb	90% below 3.3 ppb No sample above 15 ppb		
Copper (ppm)	1.3	AL = 90% below 1.3 ppm	90% below 0.18 ppm No sample above 1.3 ppm		

(1) Arsenic - While your drinking water meets EPA's standard for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. 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.

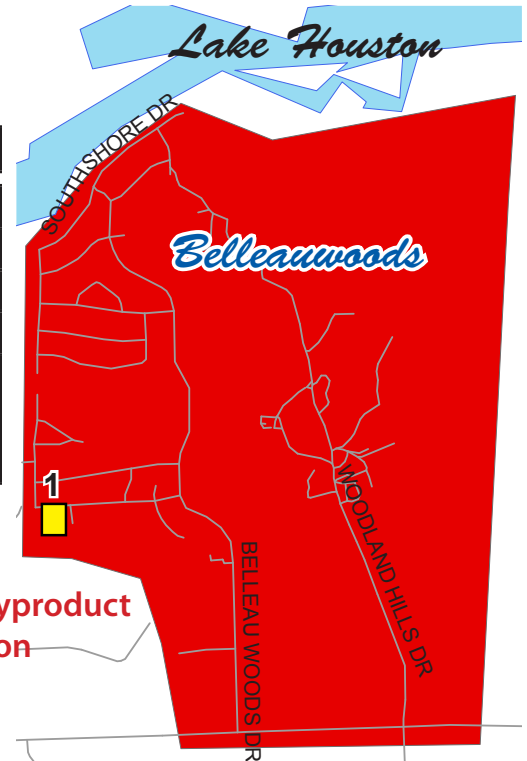
# BELLEAUWOODS

Public Water System ID 1011594

The Belleauwoods water system serves approximately 800 people and provided an average of 240 thousand gallons per day to customers in 2014. Source water for Belleauwoods includes purchased water from the City of Humble and groundwater from 2 wells located in the area. These are deep wells with typical depths greater than 750 feet, producing water from the Evangeline aquifer.

## System Disinfection Parameters

	Regulatory Requirements		2014 Detections	
Chlorine (Disinfectant)	<b>MRDLG</b>	<b>MRDL</b>	<b>Chloramine Levels</b>	
	< 4.0 ppm	4.0 ppm	Average 1.1	Maximum 3.5
Total Coliform	<b>MCLG</b>	<b>MCL</b>	<b>Total Coliform Detections</b>	
	0 (zero) detections	Presence of coliform bacteria in more than one sample per month	1 sample was found positive for coliform bacteria in 2014.	



■ Disinfectant Byproduct Sample Location

## Disinfectant Byproduct Results

Sample Location	Haloacetic Acids (ppb)			Total Trihalomethanes (ppb)		
	Min	Avg	Max	Min	Avg	Max
1	ND	8	20	5	10	21

\*Compliance is based on locational running annual average (LRAA). The highest LRAA for Haloacetic Acids and Total Trihalomethanes is highlighted yellow.

## Inorganic Contaminant Results

Contaminant (units)	Regulatory Requirements		2014 Detections		
	MCLG	MCL	Min	Avg	Max
Barium (ppm) 2012 <sup>(1)</sup>	2	2	0.4		
Fluoride (ppm)	4	4	0.2		
Nitrate (ppm)	10	10	0.4	0.5	0.7
Selenium (ppb) 2012 <sup>(1)</sup>	50	50	3.5		
Lead (ppb) 2009 <sup>(1)</sup>	0	AL = 90% below 15 ppb	90% below 1.3 ppb No sample above 15 ppb		
Copper (ppm) 2009 <sup>(1)</sup>	1.3	AL = 90% below 1.3 ppm	90% below 0.16 ppm No sample above 1.3 ppm		

## Volatile Organic Contaminant Results

Contaminant (units)	MCLG	MCL	Detections
Ethylbenzene (ppb)	700	700	0.9
Toluene (ppm)	1	1	0.6
Xylenes (ppm)	10	10	3.8

(1) Detected contaminants within the past five years - subject to reduced monitoring requirements.

# CONTAMINANT SOURCES

CONTAMINANT	SOURCES
Arsenic	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes.
Asbestos	Erosion of natural deposits; corrosion of asbestos-cement water lines.
Atrazine	Runoff from herbicide used on row crops.
Barium	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Chlorine and Chloramines	Water additives used to control microbes.
Combined Radium	Erosion of natural deposits.
Combined Uranium	Erosion of natural deposits.
Copper	Corrosion of household plumbing systems; Erosion of natural deposits.
Ethylbenzene	Discharge from petroleum refineries.
Fluoride	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Gross Alpha	Erosion of natural deposits.
Gross Beta	Decay of natural and man-made deposits.

CONTAMINANT	SOURCES
Hexachlorocyclopentadiene (HEX)	Discharge from chemical factories manufacturing pesticides, flame retardants, resins, dyes, pharmaceuticals, plastics, etc.
Lead	Corrosion of household plumbing systems; Erosion of natural deposits.
Nitrate / Nitrate	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Selenium	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines.
Simazine	Herbicide runoff.
Toluene	Discharge from petroleum, plastics, paint, and pharmaceutical manufacturing.
Total Haloacetic Acids (HAAs)	By-product of drinking water disinfection.
Total Trihalomethanes (TTHMs)	By-product of drinking water disinfection.
Total Coliform	Naturally present in the environment.
Turbidity	Soil runoff.
Xylenes	Discharge from petroleum factories; Discharge from chemical factories.

## Special Information on Lead in Drinking Water:

Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure. 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. The City of Houston 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).

The EPA has set limits for drinking water quality based on scientific studies and calculated risks.

For more information regarding the EPA limits, please visit:

<http://water.epa.gov/lawsregs/rulesregs/sdwa/currentregulations.cfm>.

For more information on EPA calculated risks and scientific studies visit:

<http://water.epa.gov/scitech/drinkingwater/dws/ccl/index.cfm>.

### Public Participation Opportunities

Information on City Council meetings is available on the website for the Office of the City Secretary at:

[www.houstontx.gov/citysec/](http://www.houstontx.gov/citysec/)

To find out more about Drinking Water Operations Education & Outreach group go to:

[www.publicworks.houstontx.gov/pud/conservation.html](http://www.publicworks.houstontx.gov/pud/conservation.html)

**This Report is available online at:**

[www.publicworks.houstontx.gov/wq2014](http://www.publicworks.houstontx.gov/wq2014)

**Past year's Water Quality Reports may be found online at:**

[www.publicworks.houstontx.gov/pud/consumer-confidence.html](http://www.publicworks.houstontx.gov/pud/consumer-confidence.html)