Challenges and Opportunities for the Public Water System through The Development and Delivery of the Consumer Confidence Report

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ABSTRACT

The annual regulatory required Consumer Confidence Report (CCR) is a challenging but unique opportunity for a public water supply to educate its consumers about the quality of their drinking water. The City of Houston is challenged each year to provide a large amount of required content for 6 public water systems in a way that is useful and economical for the City and consumers. In 2013 City of Houston Drinking Water Operations (COH DWO) implemented a new combination of delivery methods to reach its consumer population of over 2 million people. The strategy relied primarily on electronic delivery supplemented with mailing printed copies to customers upon request and providing informative posters to public libraries and City Council offices.

COH DWO also developed a unique report design that presents required information in a more reader friendly format and provided an opportunity to educate consumers on additional topics such as water efficient practices in the home, online tools offered by the utility to monitor personal water usage, the consumer's responsibility to maintain their private water lines and directional information on how to care for and find maintenance solutions for private lines. The poster format of the CCR provides a framework for our development of a planned GIS based interactive website that will provide water quality and other pertinent information to consumers based on their location.

2012 Drinking Water Quality Report

City of Houston

Our drinking water meets or exceeds all Federal (EPA) Drinking Water Requirements

Department of Public Works & Engineering

Your Drinking Water

Drinking water is provided by the City of Houston to 6 community public water systems. The Main System (shown on this page) is the largest system serving approximately 95 percent of the people that live within the City of Houston service areas. This system relies mostly on treated surface water. The remaining water systems are depicted on the opposite page. These systems rely on ground water as their source.

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.

In 2012, Houston received 88 percent of its treated drinking water from its surface water treatment plants. Surface water comes from the San Jacinto River through Lake Conroe and Lake Houston, and the Trinity River, through Lake Livingston. The remaining 12 percent came from groundwater wells. These are deep wells with typical depths greater than 750 feet, producing water from the Evangeline and Chicot Aquifers, and are not vulnerable to surface contamination. There is enough water in our distribution system at any given time to fill the Astrodome two and one-half times.

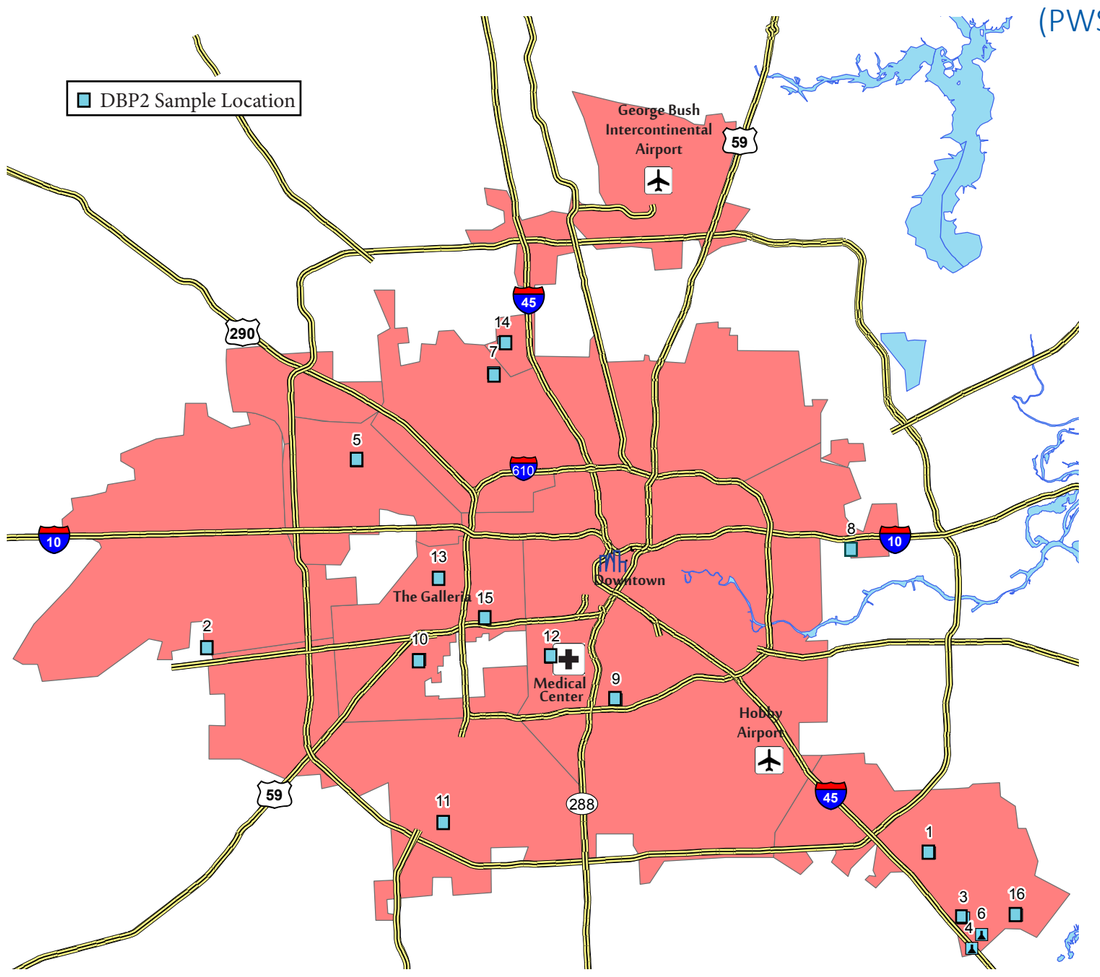
Visit our web site for more information: www.publicworks.houstontx.gov/utilities/drinkingwater.htm.

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.311 para hablar con una persona bilingüe en español.

Main System

(PWS ID 1010013)



Stage 2 Disinfectant Byproducts (DBP2)

The highest locational average for each contaminant is outlined in orange

DPB2 Sample Location	Total Trihalomethanes (units in µg/L) MCL: 80 (LRAA) Avg (LRAA)[1]	Min	Max	Total Haloacetic Acids (Five) (units in µg/L) MCL: 60 (LRAA) Avg (LRAA)[1]	Min	Max
1	24.8	19.6	31.8	14.6	12.4	17.4
2	28.0	25.5	31.6	4.7	0.0	14.2
3	32.2	31.0	33.7	**20.9**	13.6	24.9
4	22.9	18.0	29.3	15.3	10.3	21.7
5	24.1	16.9	36.4	20.8	17.8	26.5
6	29.3	24.8	37.8	17.3	13.9	20.6
7	31.3	28.9	34.3	19.1	13.8	23.7
8	28.3	18.1	38.4	13.8	10.6	18.8
9	24.6	19.5	32.3	15.5	12.4	19.9
10	16.6	12.0	21.1	5.9	1.1	10.6
11	**33.0**	31.0	36.8	15.9	13.2	18.8
12	24.6	17.8	34.3	18.0	13.7	25.5
13	29.7	29.1	30.3	19.6	13.3	24.4
14	29.0	25.0	36.0	8.9	1.3	13.3
15	26.8	19.9	38.1	15.0	13.1	17.7
16	29.8	27.4	32.8	16.2	12.7	20.5

(1) Sampling began in April 2012 therefore only three quarters of samples are available for 2012. The locational average reported here is an average of the three quarters collected in 2012.

DEFINITIONS & ABBREVIATIONS

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 that addition of a disinfectant is necessary for control of microbial contaminants.

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

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

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

NTU - nephelometric turbidity units (a measure of turbidity)
MFL - microfibers per liter
pCi/L - picocuries per liter (a measure of radioactivity)
ppb - parts per billion, or micrograms per liter (µg/L)
ppm - parts per million, or milligrams per liter (mg/L)
ppt - parts per trillion, or nanograms per liter (ng/L)

N/A-Not Applicable ND-Not Detected

HOUSTON'S SUPERIOR DRINKING WATER!

The City of Houston has maintained a SUPERIOR water rating from the Texas Commission on Environmental Quality for over 10 years. A system rated as SUPERIOR meets or exceed all federal and state requirements for:

SUPERIOR PUBLIC WATER SYSTEM THE STATE OF TEXAS

- Production and storage capacity
- System operation and pressure maintenance
- Primary water quality standards (mandatory standards for regulated contaminants)
- Secondary water quality standards (nonenforcable guidelines that address aesthetic and cosmetic aspects of drinking water)

The City also VOLUNTARILY participates in the Partnership for Safe Water Program. This program's goal is to provide an additional measure of safety to Americans by implementing prevention programs where legislation or regulation does not exist. The City of Houston has received 24 awards through this program for its Water Treatment Plants.

The City of Houston and its employees are very proud to deliver superior drinking water that meets or exceeds EPA limits to the citizens of Houston, 24 hours a day, 7 days a week. 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/action/advisories/drinking/drinking_index.cfm.

These features and many others are available to help City of Houston customers manage their water usage and accounts:

Weekly emails & bill projections

See water usage by hour, day, week or month

WATER BUDGETING TOOLS

email and text alerts

To get started visit **www.houstonwater.org** or download the **myHoustonWater** app for iphone and Android.

Contact Us

Questions or concerns about your water? Contact 311.

- Dial 311
- Visit 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.

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/index.html.
To find out more about Drinking Water Operations Education & Outreach group go to:
www.publicworks.houstontx.gov/utilities/conservation.html

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 asbesos-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.
Chromium	Discharge from steel and pulp mills; Erosion of natural deposits.
Combined Radium	Erosion of natural deposits.
Combined Uranium	Erosion of natural deposits.
Copper	Corrosion of household plumbing systems; Erosion of natural deposits.
Di(2-ethylhexyl)phthalate (DEHP)	Discharge from rubber and chemical factories.
E. Coli	Human and animal fecal waste.
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.
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.

2012 Detected Contaminants

Disinfectant & Bacteriological Indicators

	Regulatory Requirements		2012 Detections	
Chloramines (Disinfectant)	MRDLG	MRDL	Chloramine Levels Avg	Max
	< 4.0 ppm	4.0 ppm	1.97 ppm	3.8 ppm
Total Coliform	MCLG	MCL	Total Coliform Detections	
	0 detections	Presence of coliform bacteria in more than 5% of monthly samples.	Highest monthly percentage of Total Coliform positive samples: 0.9%	
E.coli	MCLG	MCL	*E.coli* Detections	
	0 detections	A routine sample and a repeat sample are total coliform positive, and one is also *E.coli* positive.	No MCL Violations. Detected 1 *E.coli* postive result in a routine sample. Associated repeat samples were negative for Total Coliform and E.coli.	
Turbidity	TT (Treatment Technique)		Turbidity Measurements	
	95% or more of samples tested each month less than or equal to 0.3 NTU.		99.8% of samples < 0.3 NTU Highest Single Measurement: 0.39 NTU	

Radioactive Contaminants

Contaminant (units)	Regulatory Limits MCLG	MCL	2012 Detections Min	Avg	Max
Gross Alpha (pCi/L)	0	15	ND	6.7	12.5
Gross Beta (pCi/L)	0	50	ND	2.9	6.9
Combined Radium (pCi/L)	0	5	ND	2.0	3.7
Combined Uranium (ppb) (2011)[2]	0	30	15.9		

Inorganic Contaminants

Arsenic (ppb)[1]	0	10	ND	2.5	6.2
Barium (ppm)	2	2	0.06	0.14	0.21
Fluoride (ppm)	4	4	0.2	0.3	0.5
Nitrate (ppm)	10	10	ND	0.2	1.2
Asbestos (MFL)	7	7	ND		
Lead (ppb)	0	AL = 90% below 15 ppb	90% below 3.72 ppb No sample above 15 ppb		
Copper (ppm)	1.3	AL = 90% below 1.3 ppm	90% below 0.255 ppm One sample above 1.3 ppm at 1.77		

Synthetic & Volatile Organic Contaminants

Atrazine (ppb)	3	3	ND	0.08	0.49
Simazine (ppb)	4	4	ND	0.03	0.29
Xylenes (ppm) (2011)[2]	10	10	ND	0.06	1.10
Hexachlorocyclopentadiene (ppb)	50	50	ND	0.01	0.14

(1) 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.

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.

2012 Drinking Water Quality Report

City of Houston

Department of Public Works & Engineering

Our drinking water meets or exceeds all Federal (EPA) Drinking Water Requirements

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. EPA requires water systems to test for up to 97 contaminants. Most sampling is conducted at each source water entry point into the system. The actual water received by a consumer may be a blend from different sources, depending on the location.

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).

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.

Be aware

Homeowners are responsible for the water and wastewater lines located between their homes and the city mains. Blockages or leaks can occur at any time and can be costly. Water and/or wastewater repair service companies can offer insurance-type coverage for private lines.

Registered Repair Service Companies
American Water Resources of Texas •1-866-273-3526 • www.awroftx.com
HomeServe USA • 1-877-444-7750 • www.yourserviceplans.com/houston

Research on these types of companies should be done individually to meet your needs.
References to specific services is for information purposes and for the convenience of the public.

Be responsible

To protect your lines from damage and blockage keep the following out of your sinks, toilets and drains:

Cooking Greases and Oils · Coffee Grounds and Filters · Shortening · Butter and Margarine · Meat Fats · Paper Towels · Feminine Hygiene Products · Chewing Gum · Hair · Plastics

For more info please visit www.corralthegrease.org

Care for your Lines!

DEFINITIONS & ABBREVIATIONS

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

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

ND • Not Detected

N/A • Not Applicable

MFL - microfibers per liter

ppm • parts per million or milligrams per liter (mg/L)

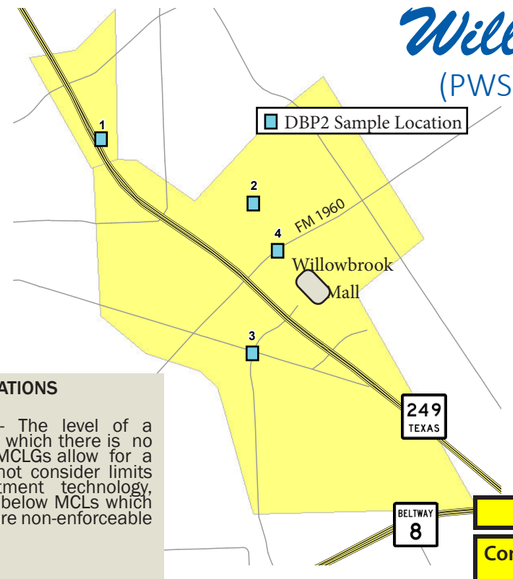
ppb • parts per billion or micrograms per liter (µg/L)

ppt • parts per trillion or nanograms per liter (ng/L)

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

Willowchase

(PWS ID 1011902)



2012 Stage 2 Disinfectant Byproducts (DBP2)

Highest locational average for TTHM and HAA5 are outlined in in Bold Blue.

DBP2 Sample Location	Total Trihalomethanes (units in µg/L) MCL: 80 (LRAA) Locational Average[1]	Min	Max	Total Haloacetic Acids (Five) (units in µg/L) MCL: 60µg (LRAA) Locational Average[1]	Min	Max
1	1.2	1.0	1.3	ND	ND	ND
2	ND	ND	ND	ND	ND	ND
3	ND	ND	ND	ND	ND	ND
4	5.7	ND	11.3	0.8	ND	1.5

(1) Sampling began in April 2012 therefore only three quarters of samples are available for 2012. The locational average reported here is an average of the three quarters collected in 2012.

2012 Detected Contaminants

Contaminants Related to Disinfection & Bacteria

	Regulatory Requirements		2012 Detections	
Chlorine (Disinfectant)	MRDLG: < 4.0 ppm	MRDL: 4.0 ppm	Chlorine Levels Avg: 1.3 ppm	Max: 2.1 ppm
Total Coliform	MCLG: 0 detections	MCL: Presence of coliform bacteria in more than one sample per month.	Total Coliform Detections: Number of Positive Samples Found in 2012: 0	

Radioactive Contaminants

Contaminant (units)	Regulatory Limits MCLG	MCL	2012 Detections Min	Avg	Max
Gross Alpha (pCi/L)	0	15	4.9		
Gross Beta (pCi/L)	0	15	ND		

Inorganic Contaminants

Arsenic (ppb)[1][2] (2011)	0	10	2.5	2.55	2.6
Barium (ppm)[1] (2011)	2	2	0.24	0.27	0.30
Selenium (ppb)[1] (2011)	50	50	3.2	4.5	5.8
Fluoride (ppm)	4	4	0.14	0.15	0.16
Nitrate (ppm)	10	10	0.19	0.21	0.23
Lead (ppb) (2011)[1]	0	AL = 90% below 15 ppb	90% below 1.7 ppb No sample above 15 ppb		
Copper (ppm) (2011)[1]	1.3	AL = 90% below 1.3 ppm	90% below 0.42 ppm No sample above 1.3 ppm		

(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 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.

Utility District 5

(PWS ID 1010348)

2012 Detected Contaminants

Contaminants Related to Disinfection & Bacteria

	Regulatory Requirements		2012 Detections	
Chlorine (Disinfectant)	MRDLG: < 4.0 ppm	MRDL: 4.0 ppm	Chlorine Levels Avg: 1.24 ppm	Max: 1.67 ppm
Total Coliform	MCLG: 0 detections	MCL: Presence of coliform bacteria in more than 5% of monthly samples.	Total Coliform Detections: Highest monthly percentage of Total Coliform positive samples: 2.0%	

Radioactive Contaminants

Contaminant (units)	Regulatory Limits MCLG	MCL	2012 Detections Min	Avg	Max
Gross Alpha (pCi/L)[1] (2011)	0	15	ND	4.2	7.0
Gross Beta (pCi/L)[1] (2011)	0	50	4.2	5.4	6.6
Combined Radium (pCi/L)[1] (2011)	0	5	1.0	1.6	2.8

Inorganic Contaminants

Arsenic (ppb)[1][2] (2011)	0	10	ND	1	3
Barium (ppm)[1] (2011)	2	2	0.23	0.26	0.28
Fluoride (ppm)[1] (2011)	4	4	0.2	0.27	0.4
Lead (ppb)	0	AL = 90% below 15 ppb	90% below 4.09 ppb No sample above 15 ppb		
Copper (ppm)	1.3	AL = 90% below 1.3 ppm	95% below 0.226 ppm No sample above 1.3 ppm		

Volatile Organic Contaminants

Toluene (ppb)[1] (2011)	1	1	ND	0.1	0.5
Xylenes (ppb)[1] (2011)	10	10	ND	0.64	3.2

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

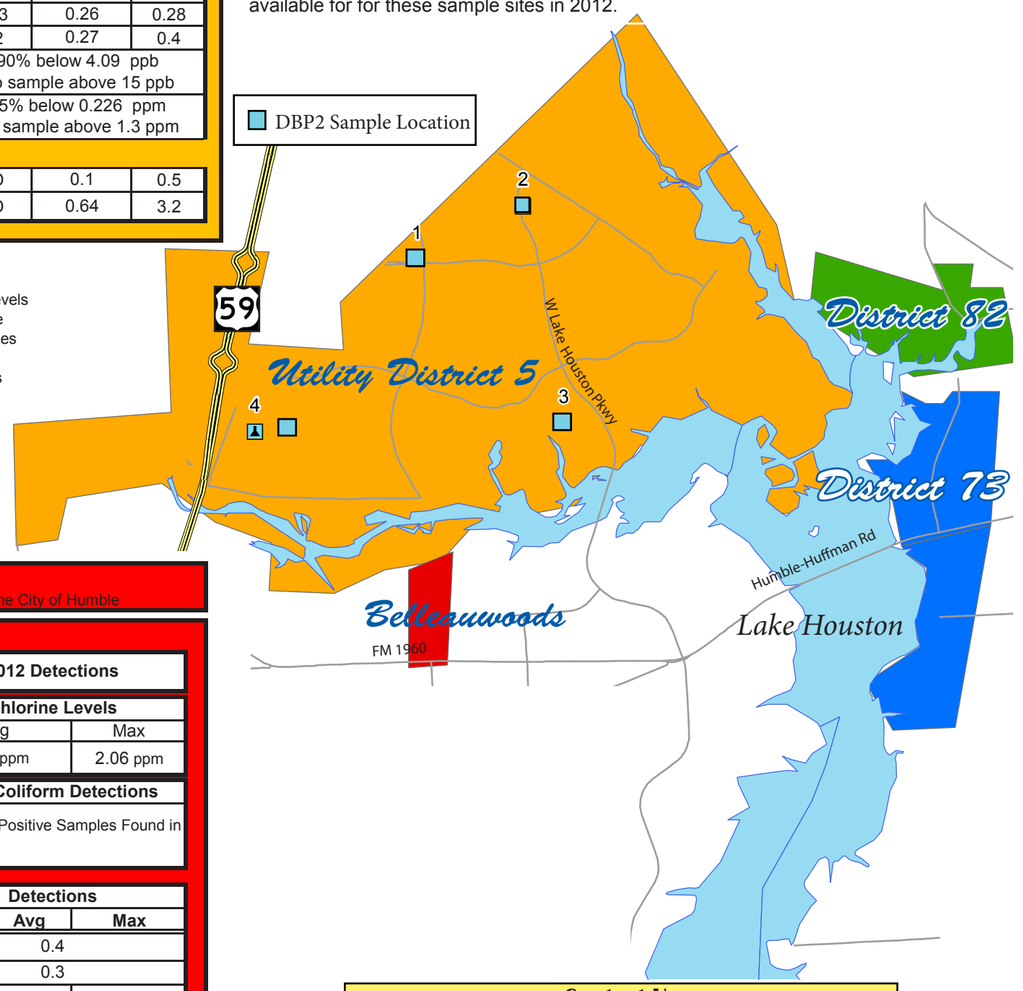
(2) While your drinking water meets EPA's standard for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. EPA continues to research health effects of low levels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

Stage 2 Disinfectant Byproducts (DBP2)

Highest Readings are outlined in bold blue.

DBP2 Sample Location	Total Trihalomethanes (units in µg/L) MCL: 80 (LRAA) Result (LRAA)[1]	Minimum	Maximum	Total Haloacetic Acids (Five) (units in µg/L) MCL: 60 (LRAA) Result (LRAA)1	Minimum	Maximum
1	0.0	only single sample result available for each location in 2012		0.0	only single sample result available for each location in 2012	
2	5.2			1.8		
3	0.0			0.0		
4	0.0			0.0		

(1) The readings reported in this table are based on single samples taken at each location in October 2012. Sampling began in the final quarter of 2012 therefore a Locational Running Annual Average is not available for for these sample sites in 2012.



Belleauwoods

(PWS ID 1011594)

2012 Detected Contaminants

Note: Source water includes onsite groundwater and purchased water from the City of Humble

Disinfectant & Bacteria Indicators

	Regulatory Requirements		2012 Detections	
Chlorine (Disinfectant)	MRDLG: < 4.0 ppm	MRDL: 4.0 ppm	Chlorine Levels Avg: 1.05 ppm	Max: 2.06 ppm
Total Coliform	MCLG: 0 detections	MCL: Presence of coliform bacteria in more than one sample per month.	Total Coliform Detections: Number of Positive Samples Found in 2012: 0	

Inorganic Contaminants

Contaminant (units)	Regulatory Limits MCLG	MCL	Detections Min	Avg	Max
Barium (ppm)	2	2	0.4		
Fluoride (ppm) (2011)[1]	4	4	0.3		
Nitrate (ppm)	10	10	ND	0.1	0.2
Asbestos (MFL)	7	7	ND		
Lead (ppb) (2009)[1]	0	AL = 90% below 15 ppb	90% below 1.3 ppb No sample above 15 ppb		
Copper (ppm) (2009)[1]	1.3	AL = 90% below 1.3 ppm	90% below ppm No sample above 0.16 ppm		

Volatile Organic Contaminants

Ethylbenzene (ppb) (2009)[1]	700	700	0.6		
Xylenes (ppm) (2009)[1]	10	10	0.0035		
Total Haloacetic Acids (HAA5) (ppb)	N/A	60	1.8	2.67	3.5
Total Trihalomethanes (TTHM) (ppb)	N/A	80	ND	2.05	3.95

Unregulated Contaminants

Chloroform (ppb)	N/A	ND	1.6	2.62
Bromodichloromethane (ppb)	N/A	ND	0.23	0.68
Dibromochloromethane (ppb)	N/A	ND	0.15	0.47
Bromoform (ppb)	N/A	ND	0.06	0.18

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

Contact Us

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To find out more about Drinking Water Operations Education & Outreach group go to: www.publicworks.houstontx.gov/utilities/conservation.html

District 82

(PWS ID 1011593)

2012 Detected Contaminants

Contaminants Related to Disinfection & Bacteria

	Regulatory Requirements		2012 Detections	
Chlorine (Disinfectant)	MRDLG: < 4.0 ppm	MRDL: 4.0 ppm	Chlorine Levels Avg: 1.3 ppm	Max: 1.7 ppm
Total Coliform	MCLG: 0 detections	MCL: Presence of coliform bacteria in more than one sample per month.	Total Coliform Detections: Number of Positive Samples Found in 2012: 0	

Radioactive Contaminants

Contaminant (units)	Regulatory Limits MCLG	MCL	Detections Min	Avg	Max
Gross Alpha (pCi/L)[1] (2009)	0	15	2.2		

Inorganic Contaminants

Barium (ppm)[1] (2009)	2	2	0.1		
Fluoride (ppm)	4	4	0.12		
Nitrate (ppm)	10	10	0.16		
Lead (ppb) (2010)[1]	0	AL = 90% below 15 ppb	90% below 2.6 ppb No sample above 15 ppb		
Copper (ppm) (2010)[1]	1.3	AL = 90% below 1.3 ppm	90% below 0.041 ppm No sample above 1.3 ppm		

Volatile Organic Contaminants

Total Haloacetic Acids (HAA5) (ppb) (2010)[1]	N/A	60	2	3	3.9
Total Trihalomethanes (TTHM) (ppb)(2010)[1]	N/A	80	6.8	8	9.1

Unregulated Contaminants

Chloroform (ppb) (2010)(1)	N/A	60	2.8	3.4	3.9

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

District 73

(PWS ID 1011585)

2012 Detected Contaminants

Contaminants Related to Disinfection & Bacteria

	Regulatory Requirements		2012 Detections	
Chlorine (Disinfectant)	MRDLG: < 4.0 ppm	MRDL: 4.0 ppm	Chlorine Levels Avg: 1.50 ppm	Max: 1.98 ppm
Total Coliform	MCLG: 0 detections	MCL: Presence of coliform bacteria in more than one sample per month.	Total Coliform Detections: Number of Positive Samples Found in 2012: 0	

Radioactive Contaminants

Contaminant (units)	Regulatory Limits MCLG	MCL	Detections Min	Avg	Max
Gross Alpha (pCi/L)[1] (2011)	0	15	2.3	3.1	3.8
Gross Beta (pCi/L)[1] (2011)	0	50	ND	ND	ND

Inorganic Contaminants

Barium (ppm)[1] (2011)	2	2	0.23	0.26	0.29
Fluoride (ppm)[1] (2011)	4	4	0.21	0.215	0.22
Nitrate (ppm)	10	10	ND	0.015	0.03
Selenium (ppb)[1] (2011)	50	50	ND	3.5	7
Lead (ppb) (2011)[1]	0	AL = 90% below 15 ppb	90% below 2.9 ppb No sample above 15 ppb		
Copper (ppm) (2011)[1]	1.3	AL = 90% below 1.3 ppm	90% below 0.13 ppm No sample above 1.3 ppm		

Volatile Organic Contaminants

Total Trihalomethanes (TTHM)(ppb)(2010)[1]	N/A	80	ND	2.3	6.9

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

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 http://www.epa.gov/safewater/lead.