HOUSTON PUBLIC WORKS

2017

WATER QUALITY REPORT

Houston Water Quality Report | January - December 2017

The City of Houston delivers drinking water of the highest quality through six community public water systems:

Houston Main System
Willowchase
Kingwood Utility District 5
District 82
District 73
Belleauwoods

The U.S. Environmental Protection Agency (EPA) requires that all drinking water suppliers provide a Drinking Water Quality Report to their customers on an annual basis.

Este reporte incluye información importante sobre el agua para tomar. Para asistencia en español, favor de llamar al 311.

Bảng Báo Cáo Chất Lượng Nước hàng năm này cung cấp thông tin về nước uống. Để được trợ giúp bằng tiếng Việt, xin vui lòng gọi số 311.

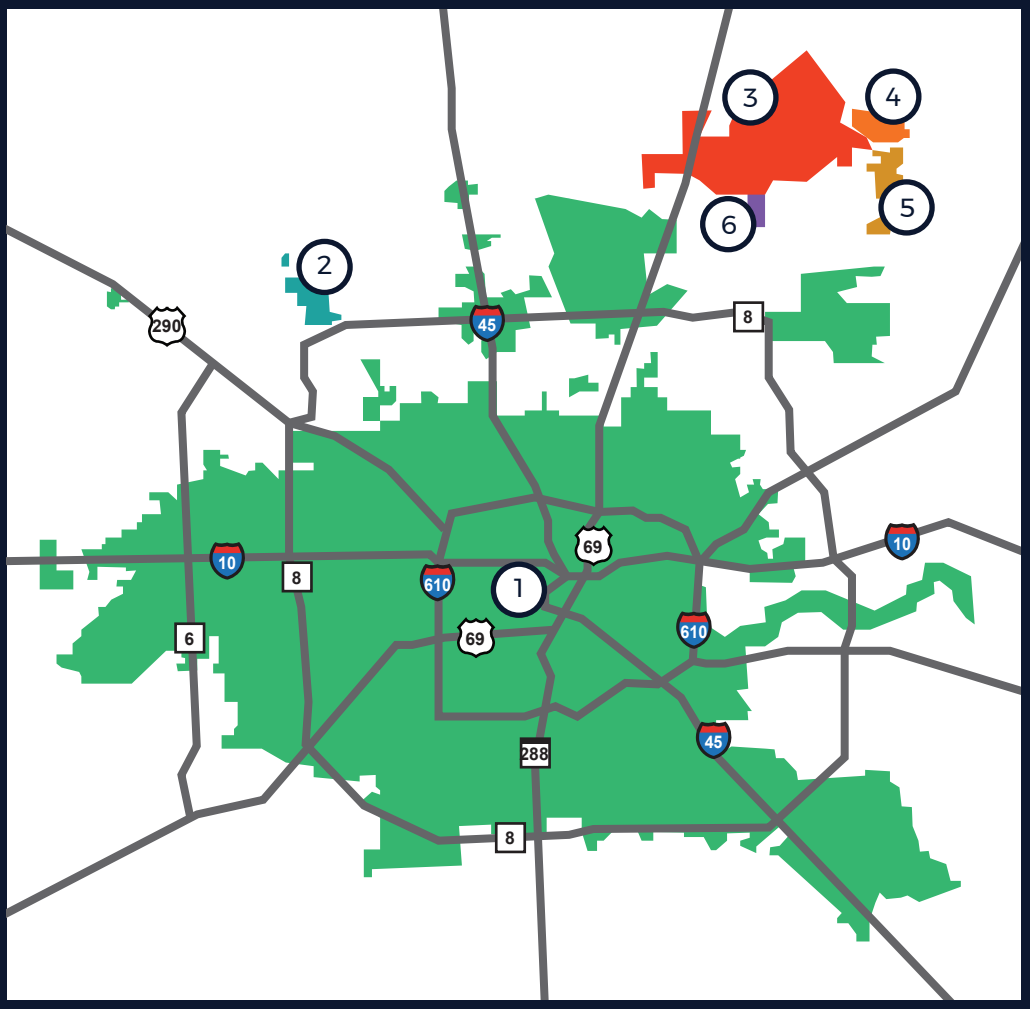
Ce rapport annuel sur la Qualité de l'Eau fournit des informations sur l'eau potable. Pour de l'assistance en français, appelez le 311.

تقرير جودة المياه يحتوي على معلومات تخص مياه الشرب. للمساعدة باللغة العربية، الرجاء الاتصال ب 311.

這份「水質年度報告」提供飲用水方面的資訊。如需中文協助, 請撥 311.

City of Houston Public Water Systems

1. Main System | TX1010013
2. Willowchase | TX1011902
3. Kingwood | TX1010348
4. District 82 | TX1011593
5. District 73| TX1011585
6. Belleauwoods | TX1011594



PUBLIC PARTICIPATION

There are many opportunities for public participation. Information on Houston City Council meetings is available at: houstontx.gov/citysec. To find out more about Houston Water Education & Outreach visit: publicworks.houstontx.gov/pud/conservation.html.

WATER SOURCES

Customers of Houston Water Main System receive their drinking water from three water purification plants and 40 ground water plants. 16 additional groundwater plants provide for the remaining 5 Houston Water Systems. The City of Houston treats the water according to federal and state standards to remove any possible harmful contaminants.

The sources of drinking water nationwide 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 can be polluted by animals or human activity. Contaminants that may be present in the source water include: microbial contaminants, such as viruses and bacteria; inorganic contaminants, such as salts and metals; pesticides and herbicides, which may come from agriculture, storm water run-off, and residential uses; organic chemicals, from industrial or petroleum use; and naturally-occurring radioactive materials.

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 concerns with taste, odor or color of drinking water, contact 311 or email waterquality@houstontx.gov.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (800-426-4791).

UNREGULATED CONTAMINANTS

Unregulated contaminants do not have EPA established drinking water standards. The purpose of monitoring these contaminants is to assist the EPA in determining if future regulation is warranted. For more information visit epa.gov/dwucmr.

SPECIAL NOTICE

Some people may be more vulnerable 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.

These people should seek advice about drinking water from a 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 (800-426-4791).

LEAD

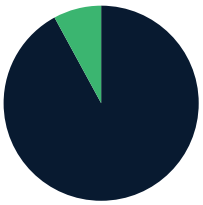
If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. City of Houston is responsible for providing high quality drinking 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 two 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 (800-426-4791) or at epa.gov/safewater/lead.

WATER LOSS

The Infrastructure Leak Index (ILI) measures the efficiency of water loss control efforts. It is calculated by taking the real losses (water lost due to leaks) and dividing them by the unavoidable real losses, the theoretical level of minimum leakage calculated by American Water Works Association Standards. In 2017, Houston Water's ILI was 8.69.

Main System | TX1010013

88% Surface Water
12% Groundwater



Average Water Produced Daily
446 Million Gallons

Customers
2.3 Million

Groundwater Source:
104 wells (Evangeline & Chicot Aquifers) at depths greater than 750 feet

Surface Water Source:
San Jacinto River (Lake Conroe & Lake Houston); Trinity River (Lake Livingston)

Parameter/Substance (units) (Sampled in 2017 unless noted)	Highest Level Allowed (EPA's MCL)	Ideal Goal (EPA's MCL)	2017 Detections		
			Minimum	Average	Maximum
Monitored at Water Plants					
Arsenic (ppb)[1]	10	0	ND	1.9	5.7
Atrazine (ppb)	3	3	ND	0.12	0.91
Barium (ppm)	2	2	0.05	0.17	0.40
Total Chromium (ppb)	100	100	ND	0.4	10.1
Combined Radium (pCi/L)	5	0	ND	1	3
Combined Uranium (ppb)	30	0	ND	3	17
Cyanide (ppb)	200	200	ND	10	100
Di(2-Ethylhexyl) Phthalate (ppb)	6	0	ND	0.1	1.4
Endrin (ppb)	2	2	ND	0.00	0.01
Ethylbenzene (ppb)	700	700	ND	0.2	2.2
Fluoride (ppm)	4	4	ND	0.31	0.51
Gross Alpha (pCi/L)	15	0	ND	3.2	10.0
Gross Beta (pCi/L)	50	0	ND	1.9	8.7
Nitrate (ppm)	10	10	ND	0.25	0.95
Selenium (ppb)	50	50	ND	1.7	10.0
Simazine (ppb)	4	4	ND	0.1	0.2
Toluene (ppm)	1	1	ND	0.0	1.0
Turbidity (NTU)	(TT) 95% of monthly samples ≤ 0.3 NTU	NA	Lowest Monthly Percentage ≤ 0.3 NTU: 100% Highest Single Measurement: 0.3 NTU		
Xylenes (ppm)	10	10	ND	0.001	0.013
Monitored in Distribution System					
Chloramines (Disinfectant)	4.0 (MRDL)	<4.0 (MRDLG)	ND	1.8	3.7
Haloacetic Acids (ppb)	Yearly Average (LRAA) <60	NA	Highest LRAA: 31.8 ppb Individual sample results range from <6.0 ppb (not detected) to 44.0 ppb.		
Total Trihalomethanes (ppb)	Yearly Average (LRAA) <80	NA	Highest LRAA: 37.8 ppb Individual sample results range from 2.8 ppb to 47.4 ppb		

Main System | TX1010013

Parameter/Substance (units) (Sampled in 2017 unless noted)	Highest Level Allowed (EPA's MCL)	Ideal Goal (EPA's MCL)	2017 Detections		
			Minimum	Average	Maximum
Monitored at Customer Tap					
Copper (ppm) 2016[2]	AL = 90% below 1.3 ppm (TT)	1.3	90% below 0.261 ppm One sample above 1.3 ppm at 1.92 ppm		
Lead (ppb) 2016[2]	AL = 90% below 15 ppb (TT)	0	90% below 4 ppb One sample above 15 ppb at 26 ppb		
Secondary Standards					
Parameter/Substance (units)	Recommended Levels (SMCL)		Minimum	Average	Maximum
Sulfate (ppm)	250		5	21	48
Chloride (ppm)	250		27	46	170
Iron (ppm)	0.3		ND	0.10	1.52
Manganese (ppm)	0.05		ND	0.009	0.047
pH	6.5 - 8.5		6.9	7.6	8.4
Total Dissolved Solids (ppm)	500		139	2.79	512
Total Hardness as CaCO3 (ppm)	NA		49	135	219
Zinc (ppm)	5		ND	0.015	0.147
Unregulated Contaminants 2013 - 2014					
Unregulated Contaminant (units)	Minimum		Average		Maximum
1,4-Dioxane (ppb)	ND		0.006		0.091
Bromochloromethane (ppb)	ND		0.001		0.120
Chlorate (ppb)	ND		31		515
Chromium (ppb)	ND		0.62		6.00
Cobalt (ppb)	ND		0.01		2.10
Hexavalent Chromium (ppb)	ND		0.7		6.7
Molybdenum (ppb)	ND		2		8
Strontium (ppb)	69		183		650
Vanadium (ppb)	ND		1.1		16

Table Key					
NA = Not applicable	**ppm** = Parts per million or milligrams per liter (mg/L)	**ppb** = Parts per billion or micrograms per liter (µg/L)	**pCi/L** = Pico Curies per liter (a measure of radioactivity)	**NTU** = Nephelometric Turbidity Units
ND = Not detected				

AL Action Level - The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.
TT Treatment Technique - A required process intended to reduce the level of a contaminant in drinking water.
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.
LRAA Locational Running Annual Average - The average of results taken at a specific monitoring location during the previous four quarters.

Notes 1 Arsenic - Houston's Main drinking water contains low levels of arsenic, but is below the state and federal action levels. EPA's standard balances arsenic's possible health effects against the costs of removing it 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 Subject to reduced monitoring requirements. Detected contaminant within the past five years, in the year indicated.

Samples taken in the Houston Main Public Water System (TX1010013) during October, November, and December 2017 were in compliance & met drinking water standards for bacteria; however, chlorine disinfectant residual levels during these months were below the TCEQ-required minimum standards in more than 5% of the samples taken. During the month of January less than 5% of samples detected chloramine levels below the state-required minimum, and the system returned to compliance on February 1, 2018.

Willowchase | TX1011902

Average Water Produced Daily
2.2
Million Gallons

Customers
13,500

Groundwater Source:
5 wells (Evangeline & Chicot Aquifers) at depths greater than 750 feet

Parameter/Substance (units) (Sampled in 2017 unless noted)	Highest Level Allowed (EPA's MCL)	Ideal Goal (EPA's MCL)	2017 Detections		
			Minimum	Average	Maximum
Monitored at Water Plants					
Arsenic (ppb)	10	0	2.8	2.9	2.9
Barium (ppm)	2	2	0.22	0.25	0.28
Combined Uranium (ppb)	30	0	3.0	4.4	5.7
Fluoride (ppm)	4	4	0.1	0.1	0.1
Gross Alpha (pCi/L)	15	0	2.0	3.0	4.0
Gross Beta (pCi/L)	50	0	ND	2.2	4.4
Nitrate (ppm)	10	10	0.19	0.21	0.23
Selenium (ppb)	50	50	4.5	5.7	6.8
Monitored at Distribution System					
Chlorine (Disinfectant)	4.0 (MRDL)	<4.0 (MRDLG)	0.5	1.2	1.7
Total Trihalomethanes (ppb)	Yearly Average (LRAA) <80	NA	Highest LRAA: 3.2 ppb. Individual sample results range from <4.0 ppb (not detected) to 12.7 ppb		
Monitored at Customer Tap					
Lead (ppb) 2015[1]	AL = 90% below 15 ppm (TT)	0	90% below 0 ppb No sample above 15 ppb		
Copper (ppm) 2015[1]	AL = 90% below 1.3 ppm (TT)	1.3	90% below 0.162 ppm No sample above 1.3 ppm		

Secondary Standards

Parameter/Substance (units)	Recommended Levels (SMCL)	Detection		
		Minimum	Average	Maximum
Chloride (ppm)	250	50	55	59
pH	6.5 - 8.5	7.5	7.5	7.6
Total Dissolved Solids (ppm)	500	290	299	304
Total Hardness as CaCO3 (ppm)	NA	172	176	179
Sulfate (ppm)	250	6.0	6.3	7.0

Table Key

NA = Not applicable

ND = Not detected

ppm = Parts per million or milligrams per liter (mg/L)

ppb = Parts per billion or micrograms per liter (µg/L)

pCi/L = Pico Curies per liter (a measure of radioactivity)

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

Notes
1 Subject to reduced monitoring requirements. Detected contaminant within the past five years, in the year indicated.

Kingwood | TX1010348

Average Water Produced Daily
7.7
Million Gallons

Customers
78,000

Groundwater Source:
16 wells (Evangeline & Chicot Aquifers) at depths greater than 750 feet

Parameter/Substance (units) (Sampled in 2017 unless noted)	Highest Level Allowed (EPA's MCL)	Ideal Goal (EPA's MCL)	2017 Detections		
			Minimum	Average	Maximum
Monitored at Water Plants					
Arsenic (ppb)	10	0	ND	1.1	2.8
Barium (ppm)	2	2	0.24	0.27	0.29
Fluoride (ppm)	4	4	0.13	0.25	0.53
Nitrate (ppm)	10	10	ND	0.01	0.04
Gross Alpha (pCi/L)	15	0	ND	2.6	5.6
Gross Beta (pCi/L)	50	0	ND	0.9	4.4
Combined Uranium (ppb)	30	0	ND	0.4	2.1
Combined Radium (pCi/L)	5	0	ND	0.34	1.01
Di(2-Ethylhexyl) Pthalate (ppb)	6	0	ND	1.4	2.7
Monitored in Distribution System					
Chlorine (Disinfectant)	4.0 (MRDL)	<4.0 (MRDLG)	1.0	1.4	2.5
Haloacetic Acids (ppb)	Yearly Average (LRAA) <60	NA	Highest LRAA: 2.7 ppb. Individual sample results range from <6.0 ppb (not detected) to 3.7 ppb.		
Total Trihalomethanes (ppb)	Yearly Average (LRAA) <80	NA	Highest LRAA: 6.8 ppb. Individual sample results range from <6.0 ppb (not detected) to 14.3 ppb.		
Coliform[2]	Presence of coliform bacteria in more than 5% of monthly samples	0 (zero) detections	8.0% of monthly samples tested positive for coliform in July 2017[2] and 3.95% in August 2017		
Monitored at Customer Tap					
Lead (ppb) 2015[1]	AL = 90% below 15 ppm (TT)	0	90% below 0 ppb. No sample above 15 ppb		
Copper (ppm) 2015[1]	AL = 90% below 1.3 ppm (TT)	1.3	90% below 0.245 ppm. No sample above 1.3 ppm		

Secondary Standards				
Parameter/Substance (units)	Recommended Levels (SMCL)	Minimum	Average	Maximum
Chloride (ppm)	250	21	23	27
Iron (ppm)	0.3	ND	0.08	0.13
Manganese (ppm)	0.05	0.01	0.02	0.05
pH	6.5 - 8.5	7.5	7.7	7.9
Total Dissolved Solids (ppm)	500	186	209	236
Total Hardness as CaCO3 (ppm)	NA	106	121	138

Unregulated Contaminant (units)	Minimum	Average	Unregulated Contaminant (units)	Minimum	Average	Maximum
Chromium (ppb) 2014[1]	ND	0.0	Strontium (ppb) 2014 (1)	ND	191	350
Hexavalent Chromium (ppb) 2013[1]	ND	0.3	Vanadium (ppb) 2013 (1)	ND	0.5	2.1
Molybdenum (ppb) 2014[1]	ND	1.9				

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NA = Not applicable	**ppm** = Parts per million or milligrams per liter (mg/L)	**ppb** = Parts per billion or micrograms per liter (µg/L)	**pCi/L** = Pico Curies per liter (a measure of radioactivity)
ND = Not detected			

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

Notes
1 Subject to reduced monitoring requirements. Detected contaminant within the past five years, in the year indicated.
2 Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct an assessment to identify problems and to correct any problems that were found during the assessment.

District 82 | TX1011593

Average Water Produced Daily
70,000
Gallons

Customers
740

Groundwater Source:
2 wells (Evangeline Aquifers) at depths greater than 750 feet

Parameter/Substance (units) (Sampled in 2017 unless noted)	Highest Level Allowed (EPA's MCL)	Ideal Goal (EPA's MCL)	2017 Detections		
			Minimum	Average	Maximum
Monitored at Water Plants					
Barium (ppm) 2015[1]	2	2	0.2		
Fluoride (ppm) 2015[1]	4	4	0.1		
Nitrate (ppm)	10	10	0.16		
Monitored in Distribution System					
Chlorine (Disinfectant)	4.0 (MRDL)	<4.0 (MRDLG)	0.75	1.44	1.95
Haloacetic Acids (ppb)	Yearly Average (LRAA) <60	NA	2017 results - Location1 (DBP2-01): 1.1 ppb. Location 2 (DBP2-02): 1.8 ppb		
Total Trihalomethanes (ppb)	Yearly Average (LRAA) <80	NA	2017 results - Location1 (DBP2-01): ND Location 2 (DBP2-02): 10.4 ppb		
Coliform[2]	Presence of coliform bacteria in more than 1 sample per month. 2 samples tested positive for coliform in February 2017[2].				
Monitored at Customer Tap					
Lead (ppb) 2016[1]	AL = 90% below 15 ppb (TT)	0	90% below 4.0 ppb. No sample above 15 ppb		
Copper (ppm) 2016[1]	AL = 90% below 1.3 ppm (TT)	1.3	90% below 0.231 ppm. No sample above 1.3 ppm		

Secondary Standards		
Parameter/Substance (units)	Recommended Levels (SMCL)	Detection
Chloride (ppm) 2015[1]	250	15
pH 2015[1]	6.5 - 8.5	7.9
Total Dissolved Solids (ppm) 2015[1]	500	168
Total Hardness as CaCO3 (ppm) 2015[1]	NA	110

Table Key

NA = Not applicable

ND = Not detected

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ppb = Parts per billion or micrograms per liter (µg/L)

pCi/L = Pico Curies per liter (a measure of radioactivity)

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

Notes

1 Subject to reduced monitoring requirements. Detected contaminant within the past five years, in the year indicated.

2 Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct an assessment to identify problems and to correct any problems that were found during the assessment. During the past year we were required to conduct one Level 1 assessment in February 2017. The Level 1 assessment was completed, and no corrective actions were required as a result of the assessment.

District 73 | TX1011585

Average Water Produced Daily
330,000
Gallons

Customers
4,400

Groundwater Source:
2 wells (Evangeline Aquifer) at depths greater than 750 feet

Parameter/Substance (units) (Sampled in 2017 unless noted)	Highest Level Allowed (EPA's MCL)	Ideal Goal (EPA's MCL)	2017 Detections		
			Minimum	Average	Maximum
Monitored at Water Plants					
Arsenic (ppb)	10	0	2.2		
Barium (ppm)	2	2	0.26		
Fluoride (ppm)	4	4	0.17	0.19	0.20
Nitrate (ppm)	10	10	0.01	0.03	0.04
Selenium (ppb)	50	50	4.0		
Gross Alpha (pCi/L)	15	0	2.0	3.0	4.0
Gross Beta (pCi/L)	50	0	ND	2.7	5.4
Combined Uranium (ppb)	30	0	1.7	2.4	3.1
Monitored in Distribution System					
Chlorine (Disinfectant)	4.0 (MRDL)	<4.0 (MRDLG)	1.06	1.45	1.95
Monitored at Customer Tap					
Lead (ppb)	AL = 90% below 15 ppb (TT)	0	90% below 3.31 ppb. One sample above 15 ppb at 20.9 ppb		
Copper (ppm)	AL = 90% below 1.3 ppm (TT)	1.3	90% below 0.126ppm. No sample above 1.3 ppm		

Secondary Standards				
Parameter/Substance (units)	Recommended Levels (SMCL)	Detection		
Chloride (ppm)	250	19	21	23
Iron (ppm)	0.3	0.05		
pH	6.5 - 8.5	7.6	7.9	8.1
Sulfate (ppm)	250	4	4.5	5
Total Dissolved Solids (ppm)	500	188	190	191
Total Hardness as CaCO3 (ppm)	NA	94.9		

Table Key				
	NA = Not applicable	**ppm** = Parts per million or milligrams per liter (mg/L)	**ppb** = Parts per billion or micrograms per liter (µg/L)	**pCi/L** = Pico Curies per liter (a measure of radioactivity)
	ND = Not detected			

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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.

Belleauwoods | TX1011594

Average Water Produced Daily
170,000
Gallons

Customers
800

Water Sources:
96% Purchased Water from City of Humble, TX 1010014 (Surface and Groundwater)

4% Groundwater from Belleauwoods Wells (1 wells at depths greater than 750 ft. - Evangeline Aquifer)

Parameter/Substance (units) (Sampled in 2017 unless noted)	Highest Level Allowed (EPA's MCL)	Ideal Goal (EPA's MCL)	2017 Detections		
			Minimum	Average	Maximum
Monitored at Water Plants					
Barium (ppm) 2015[1]	2	2	0.3		
Nitrate (ppm)	10	10	0.56		
Selenium (ppb) 2015[1]	50	50	3.3		
Monitored in Distribution System					
Chlorine (Disinfectant)	4.0 (MRDL)	<4.0 (MRDLG)	0.52	1.16	1.95
Haloacetic Acids (ppb)	Yearly Average (LRAA) <60	NA	Highest LRAA: 11.6 ppb. Individual sample results range from 5.2 ppb to 10.5 ppb.		
Total Trihalomethanes (ppb)	Yearly Average (LRAA) <80	NA	Highest LRAA: 17.9 ppb. Individual sample results range from 6.2 ppb to 13.1 ppb.		
Monitored at Customer Tap					
Lead (ppb) 2016[1]	AL = 90% below 15 ppb (TT)	0	90% below 2.0 ppb No sample above 15 ppb		
Copper (ppm) 2016[1]	AL = 90% below 1.3 ppm (TT)	1.3	90% below 0.184 ppm No sample above 1.3 ppm		

Secondary Standards		
Parameter/Substance (units)	Recommended Levels (SMCL)	Detection (results based on a single sample)
Chloride (ppm) 2014[1]	250	53
Iron (ppm) 2015[1]	0.3	0.27
Manganese (ppm) 2015[1]	0.05	0.07
pH 2014[1]	6.5 - 8.5	7.3
Total Dissolved Solids (ppm) 2014[1]	500	251
Total Hardness as CaCO3 (ppm) 2015[1]	NA	134

Table Key				
	NA = Not applicable	**ppm** = Parts per million or milligrams per liter (mg/L)	**ppb** = Parts per billion or micrograms per liter (µg/L)	**pCi/L** = Pico Curies per liter (a measure of radioactivity)
	ND = Not detected			

AL Action Level - The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.
TT Treatment Technique - A required process intended to reduce the level of a contaminant in drinking water.
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.
LRAA Locational Running Annual Average - The average of results taken at a specific monitoring location during the previous four quarters.

Notes
1 Subject to reduced monitoring requirements. Detected contaminant within the past five years, in the year indicated.

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
Cyanide	Discharge from steel/metal factories; discharge from plastic and fertilizer factories
Di(2-Ethylhexyl) Phthalate (ppb)	Discharge from rubber and chemical factories
Ethylbenzene	Discharge from petroleum refineries
Endrin	Residue of banned insecticide
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
Lead	Corrosion of household plumbing systems; Erosion of natural deposits
Nitrate / Nitrite	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
Turbidity	Soil runoff
Xylenes	Discharge from petroleum factories; Discharge from chemical factories

Level 1 Assessment A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria were found.
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.
SMCL Secondary Maximum Contaminant Limit - National Secondary Drinking Water Standards are non-enforceable guidelines regulating contaminants that may
cause cosmetic effects or aesthetic effects in drinking water. The EPA recommends secondary standards but does not require systems to comply with these limits.

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