

2018 Annual Drinking Water Quality Report

(Consumer Confidence Report)

HARRIS COUNTY MUNICIPAL UTILITY DISTRICT NO. 148
PWS ID No. TX1010938 Phone No: 281-895-8547

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.

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 at (800) 426-4791.

Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.
- Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health. Contaminants may be found in drinking water that may cause taste, color, or odor problems. These types of problems are not necessarily causes for health concerns. For more information on taste, odor, or color of drinking water, please contact the system's business office. 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; persons 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 providers. Additional guidelines on appropriate means to lessen the risk of infection by

Cryptosporidium are available from the Safe Drinking Water Hotline (800-426-4791). 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. We are responsible for providing high quality drinking water, but we 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 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>.

In the Water Loss Audit submitted to the Texas Water Development Board for the time period of January – December 2018, our system lost an estimated 24,235,663 gallons of water. Overall, our system accounted for approximately 89.09 % of the water produced during that period. If you have any questions about the water loss audit, please call 281.895.8547.

Public Participation Opportunities	<i>En Español</i>
<p>Date: 2nd Tuesday of Each Month</p> <p>Time: 2:30 PM</p> <p>Location: 12402 Greensbrook Forest Dr Houston, Texas 77044</p> <p>Phone No: 281-895-8547</p> <p>To learn about future public meetings (concerning your drinking water), or to request to schedule one, please call us.</p>	<p>Este reporte incluye información sobre el agua para tomar. Para asistencia en español, favor de llamar al telefono. (281)895-8547.</p> <p>The TCEQ has completed a Source Water Assessment for all drinking water systems that own their sources. The report describes the susceptibility and types of constituents that may come in contact with your drinking water source based on human activities and natural conditions. The system(s) from which we purchase our water received the assessment report. For more information on source water assessments and protection efforts at our system, contact the system's business office.</p>

Information about Source Water Assessments

TCEQ completed an assessment of your source water and results indicate that our sources have a low susceptibility to contaminants. The sampling requirements for your water system are based on this susceptibility and previous sample data. Any detections of these contaminants may be found in this Consumer Confidence Report. For more information on source water assessments and protection efforts are our system, contact 281-895-8547.

For more information about your sources of water, please refer to the Source Water Assessment Viewer available at the following URL:
<http://www.tceq.texas.gov/gis/swaview>.

Further details about sources and source water assessments are available in Drinking Water Watch at the following URL:
<http://dww.tceq.texas.gov/DWW/>.

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 concern. Therefore, secondaries are not required to be reported in this document, but they may greatly affect the appearance and taste of your water.

About The Following Pages

The pages that follow list all 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.

Water Quality Test Results

Definitions and Abbreviations:

Action Level:	The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
Action Level Goal (ALG):	The level of a contaminant in drinking water below which there is not known or expected risk to health. ALGs allow for a margin of safety.
Avg:	Regulatory compliance with some MCLs are based on running annual average of monthly samples.
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 have been found in our water system.
Level 2 Assessment:	A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why and E. coli MCL violation has occurred and/or why total coliform bacterial have been found in our water system on multiple occasions.
Maximum Contaminant Level Goal or MCLG:	The level on contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
Maximum Contaminant Level or MCL:	The highest level of contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
Maximum residual disinfectant level goal or 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 contaminants.
Maximum residual disinfectant level or MRDL:	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.
ppm:	Milligrams per liter or parts per million – or one ounce in 7,350 gallons of water.
ppb:	Micrograms per liter or parts per billion – or one ounce in 7,350,000 gallons of water.
na:	Not applicable.
TCR:	Total coliform rule
MFL	Million fibers per liter (a measure of asbestos)
mrem:	millirems per year (a measure of radiation absorbed by the body)
na:	Not applicable.
NTU	Nephelometric turbidity units (a measure of turbidity)
pCi/L	picocuries per liter (a measure of radioactivity)
ppb:	micrograms per liter or parts per billion – or one ounce in 7,350,000 gallons of water
ppm:	milligrams per liter or parts per million – or one ounce in 7,350 gallons of water
ppt:	parts per trillion, or nanograms per liter (ng/L)

ppq:
Treatment Technique or TT:

parts per quadrillion, or pictograms per liter (pg/L) ppt parts per trillion, or nanograms per liter (ng/L)
A required process intended to reduce the level of a contaminant in drinking water.

Lead and Copper

Lead and Copper	Date Sampled	MCLG	Action Level (AL)	90 th Percentile	# Sites Over AL	Units	Violation	Likely Source of Contamination
Copper	9/7/17	1.3	1.3	0.0482	0	ppm	N	Erosion of natural deposits; leaching from wood preservatives; corrosion of household plumbing systems
Lead	9/7/17	0	15	3.33	0	ppb	N	Corrosion of household plumbing systems; Erosion of natural deposits.

“Required Additional Health Information of 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 the service lines and home building. This water supply is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.”

Regulated Contaminants

Disinfectants and Disinfection By-Products	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Haloacetic Acids (HAA5)*	2018	17	16.5 – 16.5	No goal for the total	60	ppb	N	By-product of drinking water disinfection.
Total Trihalomethanes	2018	17	17.4 - 17.4	No goal for the total	80	ppb	N	By-product of drinking water disinfection.

Inorganic Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Arsenic	5/20/10	4	4-4	0	10	ppb	N	Erosion of natural deposits, Runoff from orchards; Runoff from glass and electronics production wastes.
Barium	12/5/16	0.0621	0.0621 – 0.0621	2	2	ppm	N	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Cyanide	5/31/17	20	20-20	200	200	ppb	N	Discharge from plastic and fertilizer factories; Discharge from steel/metal factories.
Fluoride	5/31/17	0.11	0.11 – 0.11	4	4.0	ppm	N	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate [measured as Nitrogen]	2018	0.1	0.1– 0.1	10	10	ppm	N	Runoff from fertilizer use; Leaching from septic tanks; sewage; Erosion of natural deposits.
Nitrite [measured as Nitrogen]	7/6/15	0.06	0.06 – 0.06	1	1	ppm	N	Runoff from fertilizer use; Leaching from septic tanks; sewage; Erosion of natural deposits.

Radioactive Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Beta/photon emitters	2018	6.5	6.5 – 6.5	0	50	pCi/L*	N	Decay of natural and man-made deposits

*EPA considers 50 pCi/L to be the level of concern for beta particles.

Combined Radium 226/228	3/27/12	1	1 – 1	0	5	pCi/L	N	Erosion of natural deposits
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Disinfectant Residual

Disinfectant	Year	Average Level	Range of Levels Detected	MRDL	MRDLG	Unit of Measure	Violation (Y/N)	Likely Source of Contamination
Chlorine (Total)	2018	2.09	1.0-3.2	4	4	ppm		Water additive used to control microbes.

***** In 2018, Harris County Municipal Utility District No. 148 purchased water through an open interconnect from City of Houston. The following tables contain all of the chemical contaminants which have been found in their water.**

Coliform Bacteria

Maximum Contaminant Level Goal	Total Coliform Maximum Contaminant Level	Highest Number of Positive Samples	Fecal Coliform or E. Coli Maximum Contaminant Level	Total No. of Positive E. Coli or Fecal Coliform Samples	Violation	Likely Source of Contamination
0	5% of monthly samples are positive	2.6	Fecal Coliform or E. Coli MCL: A routine sample and a repeat sample are total coliform positive, and one is also fecal coliform or E. coli positive.	1	N	Naturally present in the environment

Lead and Copper

Lead and Copper	Date Sampled	MCLG	Action Level (AL)	90 th Percentile	# Sites Over AL	Units	Violation	Likely Source of Contamination
Copper	6/17/16	1.3	1.3	0.261	1	ppm	N	Erosion of natural deposits; leaching from wood preservatives; corrosion of household plumbing systems
Lead	6/17/16	0	15	4	1	ppb	N	Corrosion of household plumbing systems; Erosion of natural deposits.

Regulated Contaminants

Disinfectants and Disinfection By-Products	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Haloacetic Acids (HAA5)	2018	29	0 – 60.5	No goal for the total	60	ppb	N	By-product of drinking water disinfection.

* The value in the Highest Level or Average Detected column is the highest average of all HAA5 sample results collected at a location over a year.

Total Trihalomethanes (TTHM)	2018	31	0 - 46.2	No goal for the total	80	ppb	N	By-product of drinking water disinfection.
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* The value in the Highest Level or Average Detected column is the highest average of all TTHM sample results collected at a location over a year.

Inorganic Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Arsenic	2018	11	0 – 11	0	10	ppb	N	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes.
Barium	2018	0.343	0.0424 – 0.343	2	2	ppm	N	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chromium	2017	10.1	0-10.1	100	100	ppb	N	Discharge from steel and pulp mills; Erosion of natural deposits.

Cyanide	2018	110	0 - 110	200	200	ppb	N	Discharge from plastic and fertilizer factories; Discharge from steel / metal factories.
Fluoride	2018	0.6	0.11 – 0.58	4	4.0	ppm	N	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate (measured as Nitrogen)	2018	1	0 – 0.78	10	10	ppm	N	Runoff from fertilizer use; leaching from septic tanks, sewage, erosion of natural deposits
Selenium	2018	6.9	0 – 6.9	50	50	ppb	N	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines.

Radioactive Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Beta/photon emitters	2018	7.3	0 – 7.3	0	50	pCi/L*	N	Decay of natural and man-made deposits.

*EPA considers 50 pCi/L to be the level of concern for beta particles.

Combined Radium 226/228	2018	3.2	0-3.2	0	5	pCi/L	N	Erosion of natural deposits.
Gross alpha excluding radon and uranium	2018	16.7	0 – 16.7	0	15	pCi/L	N	Erosion of natural deposits.
Uranium	2018	8.5	0 - 8.5	0	30	ug/l	N	Erosion of natural deposits.

Synthetic organic contaminants including pesticides and herbicides	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Atrazine	2018	0.33	0 – 0.33	3	3	ppb	N	Runoff from herbicide used on row crops.
Benzo(a) pyrene	2018	40	0 – 40	0	200	ppt	N	Leaching from linings of water storage tanks and distribution lines.
Di (2-ethylhexyl) phthalate	2018	2	0 – 1.8	0	6	ppb	N	Discharge from rubber and chemical factories.
Endrin	2017	0.01	0-0.01	2	2	ppb	N	Residue of banned insecticide.
Simazine	2018	0.14	0 – 0.14	4	4	ppb	N	Herbicide runoff.

Volatile Organic Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Ethylbenzene	2017	2.2	0-2.2	700	700	ppb	N	Discharge from petroleum refineries.
Toluene	2017	0.001	0-0.001	1	1	ppm	N	Discharge from petroleum refineries.
Xylenes	2018	0.0015	0 – 0.0015	10	10	ppm	N	Discharge from petroleum factories; Discharge from chemical factories

Turbidity

	Limit (Treatment Technique)	Level Detected	Violation	Likely Source of Contamination
Highest single measurement	0.48 NTU	1 NTU	N	Soil Runoff
Lowest monthly % meeting limit	0.3 NTU	98%	N	Soil Runoff

Information Statement: Turbidity is a measurement of the cloudiness of the water caused by suspended particles. We monitor it because it is a good indicator of water Quality and the effectiveness of our filtration.

Total Organic Carbon

The percentage of Total Organic Carbon (TOC) removal was measured each month and the system met all TOC removal requirements set, unless a TOC violation is noted in the violation section.

