

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**.

DEFINITIONS AND UNIT DESCRIPTIONS

AL	Action Level – The concentration level of a contaminant which, if exceeded, requires a water system to treat water or follow other requirements.
ALG	Action Level Goal – The level of a contaminant in drinking water below which there is no 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 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 very detailed study of the water system to identify potential problems and determine (if possible) why an <i>E. coli</i> MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.
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 health risk. MCLGs allow for a margin of safety.
MFL	Million Fibers per Liter (a measure of asbestos)
MRDL	Maximum Residual Disinfection 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 Disinfection Level Goal – The level of a drinking water disinfectant below which there is no known or expected health risk. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
mrem/yr	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	Parts per billion, or micrograms per liter (µg/L), or one ounce in 7,350,000 gallons of water.
ppm	Parts per million, or milligrams per liter (mg/L), or one ounce in 7,350 gallons of water.
ppq	Parts per quadrillion, or picograms per liter (pg/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

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 immuno-compromised 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 provider. Additional guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* are available from the Safe Drinking Water Hotline: **1-800-426-4791**.

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 necessarily 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. For more information on secondary constituents contact H₂O Consulting at **281-861-7265**.

QUESTIONS?

If you would like to talk to a District representative about your Water Quality Report, please call **281-861-7265**. For more information from the U.S. Environmental Protection Agency, you may call the EPA's Safe Drinking Water Hotline at **1-800-426-4791**.

En español: Este reporte incluye información importante sobre el agua para tomar. Para asistencia en español, favor de llamar al telefono **281-861-7265**.

PUBLIC PARTICIPATION OPPORTUNITIES

The Board of Directors of Harris County MUD No. 188 meet at 12:00 PM on the third Wednesday of each month at 3200 SW Freeway, Suite 2600, Houston, TX. You may mail comments to:

Harris County MUD No. 188
Attn.: Board of Directors
5870 Highway 6 North, Suite 215, Houston, TX 77084

Or call **281-861-7265**

ABOUT OUR DRINKING WATER

The Texas Commission on Environmental Quality (TCEQ) has assessed our system and determined that our water **meets or exceeds all federal requirements**. This analysis is based on the data in the attached tables. If your water meets federal standards there may not be any health benefits to purchasing bottled water or point-of-use devices.

WHERE DO WE GET OUR WATER?

Our drinking water is obtained from a combination of water sources and is blended at our water plant. Texas Commission on Environmental Quality completed an assessment of your source water and results indicate that some of our sources are susceptible to certain contaminants. The sampling requirements for your water system are based on this susceptibility and previous sample data. Any detections of these contaminants will be found in this Consumer Confidence Report. If we receive or purchase water from another system, their susceptibility is not included in this report. For more information on source water assessments and protection efforts visit Texas Drinking Water Watch at <http://dww2.tceq.texas.gov/DWW/> or contact H₂O Consulting at **281-861-7265**.

ADDITIONAL HEALTH INFORMATION FOR 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. 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 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 or at <http://www.epa.gov/safewater/lead>.

WATER SOURCES

The sources of drinking water (both tap and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water prior to treatment 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 stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, and farming.
- **Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban stormwater 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 stormwater 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, the U.S. Environmental Protection Agency (EPA) prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Federal Food and Drug Administration Agency regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

HARRIS COUNTY MUNICIPAL UTILITY DISTRICT NO. 188

5870 Highway 6 North, Suite 215 • Houston, TX 77084

281-861-7265



2018 DRINKING WATER QUALITY REPORT



**HARRIS COUNTY
MUNICIPAL UTILITY DISTRICT
NO. 188**

PWD ID#: 1011982

ABOUT THE TABLES

The attached table contains all of the chemical contaminants which have been found in your drinking water. The U.S. EPA requires water systems to test for up to 97 contaminants. All contaminants detected in your water are below state and federal allowed levels. The State of Texas allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Over 93% of our water is provided by WHCRWA. On June 14, 2018 Harris County MUD 162 provided water to Harris County MUD 188 while maintenance was performed at the water plant. Their water quality information is provided below.

HARRIS COUNTY MUD 188 – Lead and Copper (Regulated at the Customer’s Tap)

Year	Contaminant	AL	MCLG	90th Percentile	No. Sites Over AL	Unit of Measure	Violation	Source of Contaminant
2017	Copper	1.3	1.3	0.455	0	ppm	No	Erosion of natural deposits; leaching from wood preservatives; corrosion of household plumbing systems

HARRIS COUNTY MUD 188 – Disinfection Byproducts

Year	Contaminant	Average Level	Range of Detected Levels	MCL	MCLG	Unit of Measure	Violation	Source of Contaminant
2018	Haloacetic Acids (HAA5) ¹	31	20.5–45	60	No Goal	ppb	No	Byproduct of drinking water disinfection
2018	Total Trihalomethanes (TTHM) ¹	24	19–24.4	80	No Goal	ppb	No	Byproduct of drinking water disinfection

HARRIS COUNTY MUD 188 – Inorganic Contaminants

Year	Contaminant	Average Level	Range of Detected Levels	MCL	MCLG	Unit of Measure	Violation	Source of Contaminant
2016	Barium	0.0434	0.0434–0.0434	2	2	ppm	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
2018	Cyanide	110	0–110	200	200	ppb	No	Discharge from plastic and fertilizer factories; discharge from steel/metal factories
2017	Fluoride	0.47	0.47–0.47	4	4	ppm	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
2018	Nitrate (measured as Nitrogen)	0.45	0.45–0.45	10	10	ppm	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
2015	Nitrite (measured as Nitrogen)	0.01	0.01–0.01	1	1	ppm	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

HARRIS COUNTY MUD 188 – Radioactive Contaminants

Year	Contaminant	Average Level	Range of Detected Levels	MCL	MCLG	Unit of Measure	Violation	Source of Contaminant
2014	Beta/Photon Emitters ²	6	6–6	50	0	pCi/L	No	Decay of natural and man-made deposits
2014	Combined Radium 226/228	1	1–1	5	0	pCi/L	No	Erosion of natural deposits

HARRIS COUNTY MUD 188 – Synthetic Organic Contaminants (Including Pesticides and Herbicides)

Year	Contaminant	Average Level	Range of Detected Levels	MCL	MCLG	Unit of Measure	Violation	Source of Contaminant
2018	Atrazine	0.1	0.1–0.1	3	3	ppb	No	Runoff from herbicide used on row crops
2018	Simazine	0.07	0.07–0.07	4	4	ppb	No	Herbicide runoff

HARRIS COUNTY MUD 188 – Disinfectant Residual

Year	Disinfectant	Average Level	Range of Detected Levels	MCL	MCLG	Unit of Measure	Violation	Source of Contaminant
2018	Chloramines	3.22	0.50–4.00	4	4	ppm	No	Water additive used to control microbes

HARRIS COUNTY MUD 162 – Disinfection Byproducts

Year	Contaminant	Average Level	Range of Detected Levels	MCL	MCLG	Unit of Measure	Violation	Source of Contaminant
2018	Haloacetic Acids (HAA5) ¹	29	18.9–42.9	60	No Goal	ppb	No	Byproduct of drinking water disinfection
2018	Total Trihalomethanes (TTHM) ¹	28	23.5–29	80	No Goal	ppb	No	Byproduct of drinking water disinfection

HARRIS COUNTY MUD 162 – Inorganic Contaminants

Year	Contaminant	Average Level	Range of Detected Levels	MCL	MCLG	Unit of Measure	Violation	Source of Contaminant
2016	Barium	0.0504	0.0504–0.0504	2	2	ppm	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
2017	Cyanide	140	140–140	200	200	ppb	No	Discharge from plastic and fertilizer factories; discharge from steel/metal factories
2017	Fluoride	0.44	0.44–0.44	4	4	ppm	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
2018	Nitrate (measured as Nitrogen)	0.43	0.43–0.43	10	10	ppm	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

HARRIS COUNTY MUD 162 – Radioactive Contaminants

Year	Contaminant	Average Level	Range of Detected Levels	MCL	MCLG	Unit of Measure	Violation	Source of Contaminant
2013	Beta/Photon Emitters ²	5	5–5	50	0	pCi/L	No	Decay of natural and man-made deposits
2013	Combined Radium 226/228	1	1–1	5	0	pCi/L	No	Erosion of natural deposits

WHCRWA – Disinfection Byproducts

Year	Contaminant	Average Level	Range of Detected Levels	MCL	MCLG	Unit of Measure	Violation	Source of Contaminant
2018	Haloacetic Acids (HAA5)	17.5	17.5–17.5	60	No Goal	ppb	No	Byproduct of drinking water disinfection
2018	Total Trihalomethanes (TTHM)	27.3	27.3–27.3	80	No Goal	ppb	No	Byproduct of drinking water disinfection

WHCRWA – Inorganic Contaminants (Regulated at the Water Plant)

Year	Contaminant	Average Level	Range of Detected Levels	MCL	MCLG	Unit of Measure	Violation	Source of Contaminant
2018	Arsenic	3.35	0–11	10	0	ppb	No	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
2018	Barium	0.13	0.0424–0.343	2	2	ppm	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
2018	Cyanide	26.25	0–110	200	200	ppb	No	Discharge from plastic and fertilizer factories; discharge from steel/metal factories
2018	Fluoride	0.32	0.11–0.58	4	4	ppm	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
2018	Nitrate (measured as Nitrogen)	0.17	0–0.78	10	10	ppm	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
2015	Nitrite (measured as Nitrogen)	0.03	0.03–0.03	1 ³	1	ppm	No	Natural erosion
2018	Selenium	2.83	0–6.9	50	50	ppb	No	Erosion of natural deposits

WHCRWA – Volatile Organic Contaminants

Year	Contaminant	Average Level	Range of Detected Levels	MCL	MCLG	Unit of Measure	Violation	Source of Contaminant
2018	Xylenes	0.0007875	0–0.0015	10	10	ppm	No	Discharge from petroleum factories

WHCRWA – Radioactive Contaminants (Regulated at the Water Plant)

Year	Contaminant	Average Level	Range of Detected Levels	MCL	MCLG	Unit of Measure	Violation	Source of Contaminant
2018	Combined Radium	1.4	0–3.2	5	0	pCi/L	No	Erosion of natural deposits
2018	Gross Alpha	5.71	0–11	15	0	pCi/L	No	Erosion of natural deposits
2018	Gross Beta ²	3.31	0–7.3	50	0	pCi/L	No	Decay of natural and man-made deposits
2018	Uranium	3.47	0–8.5	30	0	µg/L	No	Erosion of natural deposits

WHCRWA – Synthetic Organic Contaminants (Including Pesticides and Herbicides)

Year	Contaminant	Average Level	Range of Detected Levels	MCL	MCLG	Unit of Measure	Violation	Source of Contaminant
2018	Atrazine	0.2	0–0.33	3	3	ppb	No	Runoff from herbicide used on row crops
2018	Benzo(a)pyrene (PAH)	20	0–40	200	200	ppt	No	Leaching from linings of water storage tanks and distribution lines
2018	Di(2-ethylhexyl)phthalate	0.95	0–1.8	6	6	ppb	No	Discharge from rubber and chemical factories
2018	Simazine	0.11	0–0.14	4	4	ppb	No	Herbicide runoff

WHCRWA – Unregulated Contaminants⁴

Year	Contaminant	Average Level	Range of Detected Levels	MCL	MCLG	Unit of Measure	Violation	Source of Contaminant
2018	Bromodichloromethane	5.55	0–13	NA	NA	ppb	No	Byproduct of drinking water disinfection
2018	Bromoform	1.65	0–5.2	NA	NA	ppb	No	Byproduct of drinking water disinfection
2018	Chloroform	13.84	0–27	NA	NA	ppb	No	Byproduct of drinking water disinfection
2018	Dibromochloromethane	2.16	0–3.9	NA	NA	ppb	No	Byproduct of drinking water disinfection

WHCRWA – Turbidity⁵

Year	Contaminant	Average Level	Range of Detected Levels	MCL	MCLG	Unit of Measure	Violation	Source of Contaminant
2018	Turbidity	0.28	0.08–0.48	1	1	NTU	No	Soil runoff

WHCRWA – Maximum Residual Disinfectant Level

Year	Contaminant	Average Level	Range of Detected Levels	MRDL	MRDLG	Unit of Measure	Violation	Source of Contaminant
2018	Chlorine Residual	3.19	2.53–3.6	4	4	ppm	No	Water additive to control microbes

¹ The value in the Highest Level or Average Detected column is the highest average of all HAA5 and TTHM sample results collected at a location over a year.

² The EPA considers 50 pCi/L to be the level of concern for beta particles.

³ All levels detected were below the MCLs.

⁴ 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.

⁵ Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea and associated headaches.