

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.
Avg	Regulatory compliance with some MCLs are based on running annual average of monthly samples
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	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**.

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. 172 meet at 9:00 AM on the third Wednesday of each month at Houston National Golf Club, 16500 Houston National Blvd., Houston, Texas. You may mail comments to:

Harris County MUD No. 172
Attn.: Board of Directors
5870 Highway 6 North, Suite 215
Houston, TX 77084

Or call **281-861-7265**

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 before 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.

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 bottle water or point-of-use devices.

WHERE DO WE GET OUR WATER?

Our drinking water is obtained from a combination of water sources. Surface water from WHCRWA and groundwater from the Chicot aquifer are 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/>.

2016 DRINKING WATER QUALITY REPORT

HARRIS COUNTY MUNICIPAL UTILITY DISTRICT NO. 172
5870 Highway 6 North, Suite 215 • Houston, TX 77084
281-861-7265



HARRIS COUNTY
MUNICIPAL UTILITY DISTRICT
NO. 172

PWD ID#: 1012970

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**.

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**.

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>.

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 contaminants¹ less than once per year because the concentrations of these contaminants do not change frequently. In June of 2016 Harris County MUD 172 purchased water from Harris County MUD 500 for one day. In November 2016 and December 2016 Harris County MUD 172 purchased water from Harris County MUD 155. Harris County MUD 172 received over 95% of our water from WHCRWA in 2016. Their water quality information are listed in the tables below.

HARRIS COUNTY MUD 172 – Inorganic Contaminants									
Year	Contaminant	Average Level	Minimum Level	Maximum Level	MCL	MCLG	Unit of Measure	Violation	Source of Contaminant
2015	Barium	0.0924	0.0924	0.0924	2	2	ppm	No	Erosion of natural deposits; Discharge of drilling wastes; Discharge from metal refineries.
2014	Cyanide	170	170	170	200	200	ppb	No	Discharge from plastic and fertilizer factories; Discharge from steel/metal factories.
2015	Fluoride	0.28	0.28	0.28	4	4	ppm	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
2016	Nitrate (measured as Nitrogen)	0.88	0.81	0.88	10	10	ppm	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
2015	Beta/Photon Emitters ²	4.6	4.6	4.6	50	0	pCi/L ²	No	Decay of natural and man-made deposits.
2015	Combined Radium 226/228	1.5	1.5	1.5	5	0	pCi/L	No	Erosion of natural deposits.
2015	Uranium	1.1	1.1	1.1	30	0	µg/L	No	Erosion of natural deposits.

HARRIS COUNTY MUD 172 – Synthetic Organic Contaminants									
Year	Contaminant	Average Level	Minimum Level	Maximum Level	MCL	MCLG	Unit of Measure	Violation	Source of Contaminant
2016	Atrazine	0.12	0.12	0.12	3	3	ppb	No	Runoff from herbicide used on row crops.
2016	Simazine	0.12	0.13	0.13	4	4	ppm	No	Herbicide runoff.

HARRIS COUNTY MUD 172 – Disinfection Byproducts									
Year	Contaminant	Average Level	Minimum Level	Maximum Level	MCL	MCLG	Unit of Measure	Violation	Source of Contaminant
2016	Total Haloacetic Acids (HAA5) ¹	26.3	11.4	44.4	60	No Goal	ppb	No	Byproduct of drinking disinfection.
2016	Total Trihalomethanes (TTHM) ¹	24.6	14.9	35	80	No Goal	ppb	No	Byproduct of drinking disinfection.

HARRIS COUNTY MUD 172 – Lead & Copper – Regulated at the Customer's Tap									
Year	Contaminant	The 90th Percentile	Action Level	No. of Sites Exceeding Action Levels	MCLG	Unit of Measure	Violation	Source of Contaminant	
2014	Copper	0.084	1.3	0	1.3	ppm	No	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.	
2014	Lead	0	15	0	0	ppb	No	Corrosion of household plumbing systems; Erosion of natural deposits.	

HARRIS COUNTY MUD 172 – Maximum Residual Disinfectant Level									
Year	Disinfectant	Average Level	Minimum Level	Maximum Level	MCL	MCLG	Unit of Measure	Violation	Source of Contaminant
2016	Chloramine Residual	2.77	0.52	4.0	4	4	ppm	No	Water additive used to control microbes.

HARRIS COUNTY MUD 172 – Secondary and Other Not Regulated Constituents (No associated adverse health effects)									
Year	Constituent	Average Level	Minimum Level	Maximum Level	Secondary Limit	Unit of Measure	Violation	Source of Contaminant	
2015	Chloride	50	50	50	300	ppm	No	Abundant naturally occurring element; Used in water purification.	
2015	Magnesium	3.94	3.94	3.94	NA	ppm	No	Abundant naturally occurring element.	
2015	Manganese	0.0068	0.0068	0.0068	0.05	ppm	No	Abundant naturally occurring element.	
2015	Nickel	0.0017	0.0017	0.0017	NA	ppm	No	Erosion of natural deposits.	
2015	Sodium	43.8	43.8	43.8	NA	ppm	No	Erosion of natural deposits.	
2015	Sulfate	31	31	31	300	ppm	No	Naturally occurring.	
2015	Total Alkalinity as CaCO ₃	101	101	101	NA	ppm	No	Naturally occurring soluble mineral salts.	
2015	Total Dissolved Solids	245	245	245	1,000	ppm	No	Total dissolved mineral constituents in water.	
2015	Total Hardness as CaCO ₃	97.1	97.1	97.1	NA	ppm	No	Naturally occurring calcium.	

HARRIS COUNTY MUD 155 – Inorganic Contaminants									
Year	Contaminant	Average Level	Minimum Level	Maximum Level	MCL	MCLG	Unit of Measure	Violation	Source of Contaminant
2016	Barium	0.042	0.042	0.042	2	2	ppm	No	Erosion of natural deposits; Discharge of drilling wastes; Discharge from metal refineries.
2014	Cyanide	140	140	140	200	200	ppb	No	Discharge from plastic and fertilizer factories; Discharge from steel/metal factories.
2014	Fluoride	0.29	0.29	0.29	4	4	ppm	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
2016	Nitrate (measured as Nitrogen)	0.85	0.85	0.85	10	10	ppm	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
2014	Combined Radium 226/228	1	1	1	5	0	pCi/L	No	Erosion of natural deposits.

HARRIS COUNTY MUD 155 – Synthetic Organic Contaminants									
Year	Contaminant	Average Level	Minimum Level	Maximum Level	MCL	MCLG	Unit of Measure	Violation	Source of Contaminant
2016	Atrazine	0.15	0.15	0.15	3	3	ppb	No	Runoff from herbicide used on row crops.
2016	Simazine	0.16	0.16	0.16	4	4	ppb	No	Herbicide runoff.

HARRIS COUNTY MUD 155 – Disinfection Byproducts									
Year	Contaminant	Average Level	Minimum Level	Maximum Level	MCL	MCLG	Unit of Measure	Violation	Source of Contaminant
2016	Total Haloacetic Acids (HAA5) ¹	21.2	10.5	31.3	60	No Goal	ppb	No	Byproduct of drinking disinfection.
2016	Total Trihalomethanes (TTHM) ¹	16.0	10.2	22.8	80	No Goal	ppb	No	Byproduct of drinking disinfection.

HARRIS COUNTY MUD 500 – Inorganic Contaminants									
Year	Contaminant	Average Level	Minimum Level	Maximum Level	MCL	MCLG	Unit of Measure	Violation	Source of Contaminant
2016	Nitrate (measured as Nitrogen)	0.78	0.78	0.78	10	10	ppm	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.

HARRIS COUNTY MUD 500 – Disinfection Byproducts									
Year	Contaminant	Average Level	Minimum Level	Maximum Level	MCL	MCLG	Unit of Measure	Violation	Source of Contaminant
2016	Total Haloacetic Acids (HAA5) ¹	28.18	19.7	37.2	60	No Goal	ppb	No	Byproduct of drinking disinfection.
2016	Total Trihalomethanes (TTHM) ¹	29	21.6	35	80	No Goal	ppb	No	Byproduct of drinking disinfection.

WHCRWA – Synthetic Organic Contaminants									
Year	Contaminant	Average Level	Minimum Level	Maximum Level	MCL	MCLG	Unit of Measure	Violation	Source of Contaminant
2016	Atrazine	0.396	0.21	0.77	3	3	ppb	No	Runoff from herbicide used on row crops.

WHCRWA – Unregulated Contaminants									
Year	Contaminant	Average Level	Minimum Level	Maximum Level	MCL	MCLG	Unit of Measure	Violation	Source of Contaminant
2016	Bromodichloromethane ^{1,3}	6.3	1.5	9.2	NA	NA	ppb	No	Byproduct of drinking water disinfection.
2016	Chloroform ^{1,4}	16.33	11	20	NA	NA	ppb	No	Byproduct of drinking water disinfection.
2016	Dibromochloromethane ^{1,4}	1.53	0	2.8	NA	NA	ppb	No	Byproduct of drinking water disinfection.

WHCRWA – Inorganic Contaminants (Regulated at the Water Plant)									
Year	Contaminant	Average Level	Minimum Level	Maximum Level	MCL	MCLG	Unit of Measure	Violation	Source of Contaminant
2016	Barium	0.06	0.06	0.06	2	2	ppm	No	Erosion of natural deposits; Discharge of drilling wastes; Discharge from metal refineries.
2016	Fluoride	0.33	0	0.33	4	4	ppm	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
2016	Nitrate	0.23	0.01	0.85	10	10	ppm	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
2016	Nitrite	0.03	0.03	0.03	1	1	ppm	No	Natural erosion.

WHCRWA – Disinfection Byproducts									
Year	Contaminant	Average Level	Minimum Level	Maximum Level	MCL	MCLG	Unit of Measure	Violation	Source of Contaminant
2015	Total Haloacetic Acids (HAA5) ¹	20.5	20.5	20.5	60	No Goal	ppb	No	Byproduct of drinking disinfection.
2015	Total Trihalomethanes (TTHM) ¹	32.4	32.4	32.4	80	No Goal	ppb	No	Byproduct of drinking disinfection.

¹ Not all samples results may have been used for calculating the Highest Level Detected because some results may be part of an evaluation to determine where compliance sampling should occur in the future. Compliance is determined by annual average.

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

³ Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist the EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

⁴ Availability of Unregulated Contaminant Monitoring Rule Data (UCMR): We participated in gathering data under the UCMR in order to assist EPA in determining the occurrence of possible drinking water contaminants. If any unregulated contaminants were detected, they are shown in the tables elsewhere in this report. This data may also be found on the EPA's website at <http://www.epa.gov/safewater/data/ncod.html>, or you can call the Safe Drinking Water Hotline at 1-800-426-4791.