

# HARRIS COUNTY M.U.D. No. 23

PWS ID # 1010649

## 2017 Annual Drinking Water Quality Report

Phone No: 281-350-0895

This is your water quality report from January 1 to December 31, 2017.

### *En Español*

*Este reporte incluye informacion importante sobre el agua para tomar. Para asistencia en espanol, por favor llame al telefono 281-350-0895.*

### **OUR DRINKING WATER IS SAFE**

This report is a summary of the quality of the water we provide to our customers. The analysis was made by using the data from the most recent U.S. Environmental Agency (USEPA) required tests and is presented in the following tables. We hope this information helps you become more knowledgeable about your drinking water.

**Public Participation Opportunities** concerning your water system may be made at regularly scheduled meetings on the second Thursday of each month at 6:30 p.m., 7314 Shady Mill Drive, Houston, Texas, or you may contact Doug Jeffrey at TNG Utility Corp., phone # 281-350-0895, with any questions or concerns you may have.

### **Where do we get your drinking water?**

Our drinking water is obtained from both groundwater and surface water sources. The groundwater comes from water-bearing sands known as the Evangeline Aquifer. The surface water portion is obtained from the City of Houston.

The TCEQ completed an assessment of your source water and results indicate that some of your 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 may be found in this Consumer Confident Report. For more information on source water assessments and protection efforts at our system, contact Phillip Dautrich at 281-350-0895.

**Water Sources:** Other sources of drinking water (both tap water and bottled water) can 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 include: (i) microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife; (ii) 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, or farming; (iii) pesticides and herbicides, which might

have a variety of sources such as agriculture, urban storm water runoff, and residential uses; (iv) 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; and (v) radioactive contaminants, which can be naturally-occurring or the result of oil and gas production and mining activities.

### **A 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; 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* are available from the Safe Drinking Water Hotline (800-426-4791).

EPA website: [www.epa.gov/safewater](http://www.epa.gov/safewater)

### **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 USEPA's Safe Drinking Water Hotline at (800-426-4791).

In order to ensure that the tap water is safe to drink, the USEPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water that must provide the same protection for public health.



TNG UTILITY CORP.

THE NEXT GENERATION OF  
WATER AND WASTEWATER UTILITY SERVICES

## About the Following Table

The following table contains all of the federally regulated or monitored chemical constituents which have been found in your drinking water. USEPA requires water systems to test up to 97 constituents. The data presented in the report is from the most recent testing done in accordance with the regulations.

## Abbreviations and Definitions

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

**Maximum Contaminant Level (MCL)** - The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's as feasible using the best available treatment technology.

**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.

**Maximum Contaminant Level Goal (MCLG)** - The level of contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for a margin of safety.

**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 an E. coli MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

**Maximum Residual Disinfectant Level (MRDL)** - The highest level of disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

**Maximum Residual Disinfectant Level Goal (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 use of disinfectants to control microbial contamination.

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

**Action Level (AL)** - 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 no known or expected risk to health. ALGs allow for a margin of safety.

**MFL:** million fibers per liter (a measure of asbestos)

**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.

**pCi/l** - pico curies per liter (a measure of radioactivity)

**N/A** - not applicable

**mrem** - millirems per year (a measure of radiation absorbed by the body)

**NTU** - nephelometric turbidity units ( a measure of turbidity)

**ppt** - parts per trillion, or nanograms per liter (ng/L)

**ppq** - parts per quadrillion, or picograms per liter (pg/L)

## Harris County M.U.D. No. 23 - 2017 Drinking Water Quality Report Data

### Inorganic Contaminants:

| Collection Date | Constituent                       | Highest Level Detected | Range of Detected Levels | MCL | MCLG | Unit of Measure | Violation | Source of Contaminant  |
|-----------------|-----------------------------------|------------------------|--------------------------|-----|------|-----------------|-----------|--|
| 2017            | Arsenic                           | 3.5                    | 2.1-3.5                  | 10  | 0    | ppb             | No        | Erosion of natural deposits; Runoff from orchards<br>Runoff from glass and electronics production wastes.                  |
| 2017            | Barium                            | 0.204                  | 0.176 - 0.204            | 2   | 2    | ppm             | No        | Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.                                |
| 2017            | Fluoride                          | 1.12                   | 0.63 - 1.12              | 4   | 4    | ppm             | No        | Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories. |
| 2017            | Nitrate<br>[measured as nitrogen] | 0.16                   | 0.0 - 0.16               | 10  | 10   | ppm             | No        | Runoff from fertilizer use; leaching from septic tanks, sewage; Erosion of natural deposits.                               |
| 2017            | Nitrite<br>[measured as nitrogen] | 0.29                   | 0.00 - 0.29              | 1   | 1    | ppm             | No        | Runoff from fertilizer use; leaching from septic tanks, sewage; Erosion of natural deposits.                               |
| 2017            | Selenium                          | 6.1                    | 0 - 6.1                  | 50  | 50   | ppb             | No        | Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines.                          |

### Radionuclide Constituents:

| Year    | Constituent                             | Highest Detected Level at any Sampling Point | Range of Detected Levels | MCL | MCLG | Unit of Measure | Violation | Source of Contaminant                   |
|---------|---|--|--------------------------|-----|------|-----------------|-----------|---|
| 6/21/16 | Combined Radium 226 & 228               | 2.83   | 2.51 - 2.83              | 0   | 5    | pCi/l           | No        | Erosion of natural deposits.            |
| 6/21/16 | Gross Alpha excluding Radon and Uranium | 12.7   | 9-12.7                   | 0   | 15   | pCi/l           | No        | Erosion of natural deposits.            |
| 6/21/16 | Beta/positron emitters                  | 6.7  | 4.8-6.7                  | 0   | 50   | pCi/L*          | No        | Decay of natural and man-made deposits. |
| 6/21/16 | Uranium                                 | 4.7  | 1.3-4.7                  | 0   | 30   | ppb             | No        | Erosion of natural deposits.            |

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

**Lead and Copper:** These samples are taken from the customer taps. Action Level Goal (ALG): 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. Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

| Date Sampled | Constituent | The 90th Percentile | Number of Sites Exceeding Action Level | Action Level | MCLG | Unit of Measure | Violation | Source of Contaminant   |
|--------------|-------------|---------------------|--|--------------|------|-----------------|-----------|---|
| 8/3/2016     | Lead        | 0                   | 1                                      | 15           | 0    | ppb             | No        | Corrosion of household plumbing systems; Natural erosion.                                   |
| 8/3/2016     | Copper      | 0.088               | 0                                      | 1.3          | 1.3  | ppm             | No        | Corrosion of household plumbing systems; Natural erosion. Leaching from wood preservatives. |

The 90th percentile of the Lead/ Copper analysis means the top 10% (highest sample results) of all samples collected.

## Harris County M.U.D. No. 23 - 2017 Drinking Water Quality Report Data Continuation

### Disinfection Byproducts:

| Collection Date | Constituent                   | Highest Level Detected | Range of Detected Levels (low - high) | MCL | MCLG | Unit of Measure | Violation | Source of Contamination                   |
|-----------------|-------------------------------|------------------------|---------------------------------------|-----|------|-----------------|-----------|---|
| 2017            | Total Haloacetic Acids (HAA5) | 19                     | 0 - 12.5                              | 60  | N/A  | ppb             | No        | Byproduct of drinking water disinfection. |

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

### Disinfectant Residuals:

| Year | Constituent | Average Level | Range of Detected Level (low - high) | MCL | MCLG | Unit of Measure | Violation | Source of Constituent                   |
|------|-------------|---------------|--------------------------------------|-----|------|-----------------|-----------|---|
| 2016 | Chloramine  | 1.76          | .7700 - 4.00                         | 4   | 4    | ppm             | No        | Disinfectants used to control microbes. |

**Unregulated Contaminants :** Unregulated contaminants are those for which the 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 regulations are warranted.

| Year | Constituent          | Average Level | Range of Detected Level (low - high) | Unit of Measure | Source of Constituent                     |
|------|----------------------|---------------|--------------------------------------|-----------------|---|
| 2017 | Chloroform           | 4.6           | ND - 4.6                             | ppb             | Byproduct of drinking water disinfection. |
| 2017 | Bromoform            | 1.45          | ND - 1.45                            | ppb             | Byproduct of drinking water disinfection. |
| 2017 | Bromodichloromethane | 3.42          | ND - 3.42                            | ppb             | Byproduct of drinking water disinfection. |

### *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 USEPA. These constituents are not causes for health concerns, but may greatly affect the appearance and taste of your water. For more information call TNG at 281-350-0895.

**Secondary and Other Non-Regulated Constituents:** - No associated adverse health effects with the following:

| Year | Constituent            | Average Level | Range of Detected Levels (low - high) | Secondary Limit | Unit of Measure | Source of Constituent   |
|------|------------------------|---------------|---------------------------------------|-----------------|-----------------|---|
| 2017 | Iron                   | 0.225         | 0 - 0.225                             | .3              | ppm             | Erosion of natural deposits; iron or steel water delivery equipment or facilities.  |
| 2017 | Manganese              | 0.00845       | 0- 0.0087                             | .05             | ppm             | Abundant naturally occurring element.   |
| 2017 | Chloride               | 53.5          | 0-54                                  | 300             | ppm             | Abundant naturally occurring element.   |
| 2017 | Sulfate                | 18            | 0-21                                  | 300             | ppm             | Abundant naturally occurring element.   |
| 2017 | Total Dissolved Solids | 294           | 0-305                                 | 1000            | ppm             | Erosion of natural deposits.  |
| 2017 | Fluoride               | .875          | 0-1.12                                | 2.0             | ppm             | Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories |

**Total Coliform:** MONTHLY TESTS FOUND NO COLIFORM BACTERIA

**Organics:** TESTING WAIVED, NOT REPORTED, OR NONE DETECTED

**Fecal Coliform:** MONTHLY TESTS FOUND NO FECAL COLIFORM BACTERIA

**Turbidity:** TESTING WAIVED, NOT REPORTED, OR NONE DETECTED

### **Recommended Additional Health Information for Lead in Drinking Water -**

*"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. This water supply is responsible for providing high quality drinking water, but cannot control the variety of materials used in home 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 by an approved laboratory. 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>."*



**Information about Source Water Assessments**

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://dww2.tceq.texas.gov/DWW>

| Source Water Name              | Type of Water | Report Status | Location      |
|--------------------------------|---------------|---------------|---------------|
| 1 - 7314 SHADY MILL DR         | Ground water  | Active        | Harris County |
| 2 - 7510 WOODLAND WEST         | Ground water  | Active        | Harris County |
| GW AND SW FROM CITY OF HOUSTON | Surface water | Active        | Harris County |

*Harris County M.U.D. 23 purchases surface water from City of Houston, mandated under Harris Galveston Subsidence District from Lake Houston, Trinity River Canal and Lynchburg Reservoir located in Harris County and below is the constituents levels for the water they supply. For more water quality information call the City of Houston Public Works and Engineering Department at 832-395-2500*

|                                |      |    |        |                       |    |     |   |  |
|--------------------------------|------|----|--------|-----------------------|----|-----|---|--|
| <b>Haloacetic Acids (HAA5)</b> | 2017 | 32 | 0 - 44 | 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'

|                                     |      |    |            |                       |    |     |   |  |
|-------------------------------------|------|----|------------|-----------------------|----|-----|---|--|
| <b>Total Trihalomethanes (TTHM)</b> | 2017 | 38 | 2.8 - 47.4 | No goal for the total | 80 | ppb | N | By-product of drinking water disinfection. |
|-------------------------------------|------|----|------------|-----------------------|----|-----|---|--|

\* 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 or Average Detected | Range of Individual Samples | MCLG | MCL | Units | Violation | Likely Source of Contamination  |
|------------------------|-----------------|-----------------------------------|-----------------------------|------|-----|-------|-----------|---|
| <b>Arsenic</b>         | 2017            | 6                                 | 0 - 5.7                     | 0    | 10  | ppb   | N         | Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes. |

While your drinking water meets EPA standards 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.

|                                       |      |       |                |     |     |     |   |  |
|---------------------------------------|------|-------|----------------|-----|-----|-----|---|--|
| <b>Barium</b>                         | 2017 | 0.398 | 0.0446 - 0.398 | 2   | 2   | ppm | N | Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.                                |
| <b>Chromium</b>                       | 2017 | 10.1  | 0 - 10.1       | 100 | 100 | ppb | N | Discharge from steel and pulp mills; Erosion of natural deposits.  |
| <b>Cyanide</b>                        | 2017 | 100   | 0 - 100        | 200 | 200 | ppb | N | Discharge from plastic and fertilizer factories; Discharge from steel/metal factories.                                     |
| <b>Fluoride</b>                       | 2017 | 0.5   | 0 - 0.51       | 4   | 4.0 | ppm | N | Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories. |
| <b>Nitrate [measured as Nitrogen]</b> | 2017 | 1     | 0 - 0.95       | 10  | 10  | ppm | N | Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.                               |
| <b>Selenium</b>                       | 2017 | 10    | 0 - 10         | 50  | 50  | ppb | N | Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines.                          |

| Radioactive Contaminants | Collection Date | Highest Level or Average Detected | Range of Individual Samples | MCLG | MCL | Units   | Violation | Likely Source of Contamination          |
|--------------------------|-----------------|-----------------------------------|-----------------------------|------|-----|---------|-----------|---|
| Beta/photon emitters     | 2017            | 8.7                               | 0 - 8.7                     | 0    | 4   | mrem/yr | 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                 | 2017 | 2.99 | 0 - 2.99 | 0 | 5  | pCi/L | N | Erosion of natural deposits. |
| Gross alpha excluding radon and uranium | 2017 | 5    | 0 - 16   | 0 | 15 | pCi/L | N | Erosion of natural deposits. |
| Uranium                                 | 2017 | 2    | 0 - 16.9 | 0 | 30 | ug/l  | N | Erosion of natural deposits. |

| Synthetic organic contaminants including pesticides and herbicides | Collection Date | Highest Level or Average Detected | Range of Individual Samples | MCLG | MCL | Units | Violation | Likely Source of Contamination                |
|--|-----------------|-----------------------------------|-----------------------------|------|-----|-------|-----------|---|
| Atrazine   | 2017            | 1                                 | 0 - 0.91                    | 3    | 3   | ppb   | N         | Runoff from herbicide used on row crops.      |
| Di (2-ethylhexyl) phthalate  | 2017            | 1                                 | 0 - 1.4                     | 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   | 2017            | 0.2                               | 0 - 0.2                     | 4    | 4   | ppb   | N         | Herbicide runoff.                             |

| Volatile Organic Contaminants | Collection Date | Highest Level or Average Detected | Range of Individual Samples | 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 factories.                                    |
| Xylenes                       | 2017            | 0.013                             | 0 - 0.013                   | 10   | 10  | ppm   | N         | Discharge from petroleum factories; Discharge from chemical factories. |