

2016 Annual Drinking Water Quality Report

TX0840021

GALVESTON COUNTY MUD 12

Annual Water Quality Report for the period of January 1 to December 31, 2016
This report is intended to provide you with important information about your drinking water and the efforts made by the water system to provide safe drinking water.

For more information regarding this report contact:

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Phone: 409-935-6111

Date: Third Monday of each month at 6:00 p.m
Location: MUD #12 Building- 2929 Highway 6, Bayou Vista, TX 77563

GALVESTON COUNTY MUD #12 is Purchased Surface Water

Este reporte incluye información importante sobre el agua para tomar. Para asistencia en español, favor de llamar al telefono (409) 935 -6111.

Sources of Drinking Water

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 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>.

Information about Source Water Assessments

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 detection of these contaminants may be found in this Consumer Confidence Report. For more information on source water assessments and protection efforts at our system, contact Randy Ward @ 409-935-6111.

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 - 3035 HWY 6 | GW | Active | Chicot Aquifer |
| SW FROM GCWA TX CITY | CC FROM TX0840153 GULF | Active | Brazos River-Begins in Stonewall County-travels 840 miles to Brazoria County-Gulf of Mexico |

2016 Regulated Contaminants Detected

Lead and Copper

Definitions: 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.

| Lead and Copper | Date Sampled | MCLG | Action Level (AL) | 90th Percentile | # Sites Over AL | Units | Violation | Likely Source of Contamination |
|-----------------|--------------|------|-------------------|-----------------|-----------------|-------|-----------|---|
| Copper | 09/16/2013 | 1.3 | 1.3 | 0.054 | 0 | ppm | N | Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems. |

The most recent 2013 testing results did not detect any lead in the system.

Water Quality Test Results

Definitions:

The following tables contain scientific terms and measures, some of which may require explanation.

| | |
|--|--|
| Avg: | Regulatory compliance with some MCLs are based on running annual average of monthly samples. |
| Maximum Contaminant Level or MCL: | 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. |
| 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 or MCLG: | 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. |
| 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 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. |
| 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. |
| MFL | million fibers per liter (a measure of asbestos) |
| na: | not applicable. |
| mrem: | millirems per year (a measure of radiation absorbed by the body) |
| 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. |
| Treatment Technique or TT: | A required process intended to reduce the level of a contaminant in drinking water. |
| ppt | parts per trillion, or nanograms per liter (ng/L) |
| ppq | parts per quadrillion, or picograms per liter (pg/L) |

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) | 2016 | 16 | 8.2 - 16.9 | No goal for the total | 60 | ppb | N | By-product of drinking water disinfection. |
| Total Trihalomethanes (TTHM) | 2016 | 48 | 26.8 - 53.6 | 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 |
| Barium | 2016 | 0.0932 | 0.0932 - 0.0932 | 2 | 2 | ppm | N | Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits. |
| Cyanide | 05/02/2014 | 30 | 30 - 30 | 200 | 200 | ppb | N | Discharge from plastic and fertilizer factories; Discharge from steel/metal factories. |
| Fluoride | 2016 | 0.2 | 0.2 - 0.2 | 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] | 2016 | 0.49 | 0.49 - 0.49 | 10 | 10 | 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/positron emitters | 2016 | 4.1 | 4.1 - 4.1 | 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.

| 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 | 2016 | 0.22 | 0.22 - 0.22 | 3 | 3 | ppb | N | Runoff from herbicide used on row crops. |

Violations Table

| Lead and Copper Rule | | | |
|---|-----------------|---------------|---|
| Violation Type | Violation Begin | Violation End | Violation Explanation |
| The Lead and Copper Rule protects public health by minimizing lead and copper levels in drinking water, primarily by reducing water corrosivity. Lead and copper enter drinking water mainly from corrosion of lead and copper containing plumbing materials. | | | |
| FOLLOW-UP OR ROUTINE TAP M/R (LCR) | 10/01/2011 | 2016 | We failed to test our drinking water for the contaminant and period indicated. Because of this failure, we cannot be sure of the quality of our drinking water during the period indicated. |
| FOLLOW-UP OR ROUTINE TAP M/R (LCR) | 10/01/2016 | 2016 | We failed to test our drinking water for the contaminant and period indicated. Because of this failure, we cannot be sure of the quality of our drinking water during the period indicated. |

| Revised Total Coliform Rule (RTCR) | | | |
|--|-----------------|---------------|--|
| Violation Type | Violation Begin | Violation End | Violation Explanation |
| E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Human pathogens in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a greater health risk for infants, young children, the elderly, and people with severely-compromised immune systems. | | | |
| MONITORING, ROUTINE, MAJOR (RTCR) | 09/01/2016 | 09/30/2016 | We failed to collect all required routine samples of our drinking water for the contaminant and period indicated. Because of this failure, we cannot be sure of the quality of our drinking water during the period indicated. |

| Disinfectants | Year | Average Level | Minimum Level | Maximum Level | MRDL | MRDLG | Unit of Measure | Violation (Y/N) | Likely Source of Contamination |
|---------------|------|---------------|---------------|---------------|------|-------|-----------------|-----------------|--|
| Chloramine | 2016 | 2.27 | 1.55 | 2.78 | 4 | 4 | Mg/L | N | Water additive used to control microbes. |

Gulf Coast Water Authority- Regulated Contaminants

| Disinfectants and Disinfection By-Products | Collection Date | Highest Level Detected | Range of Levels Detected | MCLG | MCL | Units | Violation | Likely Source of Contamination |
|--|-----------------|------------------------|--------------------------|-----------------------|-----|-------|-----------|--|
| Chlorite | 2016 | 0.4 | 0 - 0.4 | 0.8 | 1 | ppm | N | By-product of drinking water disinfection. |
| Haloacetic Acids (HAA5) | 2016 | 13 | 13.4 - 13.4 | No goal for the total | 60 | ppb | N | By-product of drinking water disinfection. |
| Total Trihalomethanes (TTHM) | 2016 | 40 | 39.5 - 39.5 | 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 |
| Barium | 2016 | 0.087 | 0.087 - 0.087 | 2 | 2 | ppm | N | Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits. |
| Fluoride | 2016 | 0.2 | 0.18 - 0.18 | 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] | 2016 | 1 | 0.54 - 0.54 | 10 | 10 | 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 |
| Combined Radium 226/228 | 03/21/2012 | 1 | 1 - 1 | 0 | 5 | pCi/L | N | Erosion of natural deposits. |