

Haloacetic Acids (HAA5)

Year	Detected Constituent	Average of all Sampling Points	Range of Detected Levels	MCL	MCLG	Unit of Measure	Source of Constituent
2016	Total Haloacetic Acids	25.2	14.7 - 34.6	60	0	ppb	Byproduct of drinking water disinfection.

Total Coliform

Total Coliform bacteria are used as indicators of microbial contamination of drinking water because testing for them is easy. While not disease-causing organisms themselves, they are often found in association with other microbes that are capable of causing disease. Coliform bacteria are more hardy than many disease-causing organisms; therefore, their absence from water is a good indication that the water is microbiologically safe for human consumption.

Total Coliform REPORTED MONTHLY TESTS FOUND NO COLIFORM BACTERIA
 E.coli REPORTED MONTHLY TESTS FOUND NO E.coli BACTERIA

Water Loss for the Calhoun County Rural Water Supply System.
9.639 MG (million gallons) for the year or 11.95%

Secondary and Other Constituents Not Regulated - No associated adverse health effects.

Year	Constituent	Measured Concentration	Number of Analyses	Secondary Limit	Unit of Measure	Source of Constituent
2016	Aluminum	34	1	50	ppb	Abundant naturally occurring element.
2016	Bicarbonate	172	1	NA	ppm	Corrosion of carbonate rocks such as limestone.
2016	Calcium	62.3	1	NA	ppm	Abundant naturally occurring element.
2016	Chloride	44	1	300	ppm	Abundant naturally occurring element; used in water purification; byproduct of oil field activity.
2016	Copper	0.0379	1	NA	ppm	Corrosion of household plumbing systems; erosion from natural deposits; leeching from wood preservatives.
2016	Hardness as Ca/Mg	207	1	NA	ppm	Naturally occurring calcium and magnesium.
2016	Magnesium	12.5	1	NA	ppm	Abundant naturally occurring element.
2016	pH	7.3	1	7	units	Measure of corrosivity of water.
2016	Nickel	0.0019	1	0.1	ppm	
2016	Sodium	25.4	2	NA	ppm	Erosion of natural deposits; byproduct of oil field activity.
2016	Zinc	ND	1	5	ppm	
2016	Sulfate	69	1	300	ppm	Naturally occurring; common industrial byproduct; byproduct of oil field activity.
2016	Total Alkalinity as CaCO3	141	1	NA	ppm	Naturally occurring soluble mineral salts.
2016	Total Dissolved Solids	321	1	1000	ppm	Total dissolved mineral constituents in water.
2016	Iron	ND	1	NA	ppm	Abundant naturally occurring element.
2016	Cyanide	ND	1	NA	ppm	
2016	Potassium	4.23	1	NA	ppm	

Required Additional Health Information

In order to ensure that tap water is safe to drink, the USEPA 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 that must provide the same protection for public health.

All 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 (1-800-426-4791).

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 radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

National Primary Drinking Water Regulation Compliance

Contaminants that may be present in source water include:

(A) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife;

(B) Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;

(C) Pesticides and herbicides, which may come from a variety of sources such as agriculture, stormwater runoff, and residential uses;

(D) Organic chemical contaminants, including synthetic and volatile organics, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff and septic systems;

(E) Radioactive contaminants, which can be naturally-occurring or the result of oil and gas production and mining activities.

This report was prepared with technical assistance from the Guadalupe-Blanco River Authority. GBRA will be happy to answer any questions about your water supply or the water quality and treatment process. Please contact us at 361-552-9751 or through our website at www.gbra.org. Water quality data for community water systems throughout the United States is available at www.waterdata.com.



Main Office: 933 East Court Street ~ Seguin, Texas 78155

flowing solutions

WATER QUALITY '16

Calhoun County Rural Water Supply System

Public Water Supply No. 0290007

EXCELLENCE IN WATER QUALITY

GBRA Water Treatment Plant 361-552-9751

Dear Customer:

The Guadalupe-Blanco River Authority (GBRA) is pleased to provide you with this 2016 Water Quality Report. We take all possible precautions to safeguard your water supply and hope you will be encouraged to learn about the high quality of water provided to you.

The federal Safe Drinking Water Act (SDWA) requires water utilities to issue an annual report to customers, in addition to other notices that may be required by law. This report explains where your drinking water comes from, what it contains, and the health risks our water testing and treatment are designed to prevent.

We are committed to providing you with information about your water supply because informed customers are our best allies in supporting improvements needed to maintain the highest drinking water standards.

We are proud to report that the Texas Commission on Environmental Quality (TCEQ) has assessed our system and determined that your drinking water, provided by the GBRA Port Lavaca Water Treatment Plant near Port Lavaca, Texas, meets or exceeds all federal and state established water quality standards.

The tables in this report list all substances that were detected in our treated water, and the highest level at which they were detected. The tables also reflect the highest levels allowed by federal regulatory agencies. Please read this information carefully and if you have questions, call the numbers listed in this report.

Customer Views Welcome

The GBRA strongly supports the national primary drinking water regulation compliance process. If you are interested in learning more about the water department, water quality, or participating in the decision-making process, there are a number of opportunities available.

Questions about water quality can be answered by calling 361-552-9751 from 8 a.m. - 5 p.m., Monday through Friday. Inquiries about public participation and policy decisions should be directed to GBRA Port Lavaca Water Treatment Plant, P.O. Box 146, Port Lavaca, Texas 77979.

En Español

Este informe incluye información importante sobre el agua potable. Si tiene preguntas o comentarios sobre este informe en Español, favor de llamar al tel. 361-552-9751 para hablar con una persona bilingüe en español durante las horas regulares de oficina (8 a.m. - 5 p.m.).

Special Notice for the ELDERLY, INFANTS, CANCER PATIENTS, people with HIV/AIDS OR OTHER IMMUNE PROBLEMS:

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants, can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers.

United States Environmental Protection Agency (USEPA) and the Center for Disease Control and Prevention (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the USEPA's Safe Drinking Water Hotline (1-800-426-4791).

Where Do We Get Our Drinking Water?

The Calhoun County Rural Water Supply System receives its water from surface water treated at the Port Lavaca Water Treatment Plant, operated by the Guadalupe-Blanco River Authority (GBRA).

A Source Water Susceptibility Assessment for your drinking water source(s) is currently being updated by TCEQ. This information describes the susceptibility and types of constituents that may come into contact with your drinking water source based on human activities and natural conditions. The information contained in the assessment allows us to focus source water protection strategies. For more information about your sources of water, please refer to the Source Water Assessment Viewer available at the following URL: <https://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/>.

Trained operators monitor and test the water, including the addition of fluoride and chloramines, to ensure that our water meets or exceeds all state and federal drinking water standards. The treated water is delivered to the utility's ground storage and delivered through its distribution system to you. For information on the treatment of your drinking water and water quality protection efforts contact the GBRA Port Lavaca Water Treatment Plant at 361-552-9751.

What We Found

The following tables list the contaminants that have been found in your drinking water. USEPA requires water systems to test for more than 97 contaminants. The column marked "Highest Level at Any Sampling Point" shows the highest test results during the year. The "Source of Constituent" column shows where this substance usually originates.

DEFINITIONS:

Maximum Contaminant Level (MCL) - the highest level of the contaminant allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Contaminant Level Goal (MCLG) - 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.

Action Level (AL) - the concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

NTU - Nephelometric Turbidity Units.

ppm - parts per million, or milligrams per liter (mg/L).

ppb - parts per billion, or micrograms per liter (ug/L).

MRDL - Maximum Residual Disinfection Level.

ND - Not Detected

NA - Not Applicable

TABLE I - Test results for the GBRA water supply to the Calhoun County Rural Water Supply System (Sampled at the GBRA Port Lavaca Water Treatment Plant)

Inorganics

Year	Detected Constituent	Measured Concentration	Number of Analyses Performed	MCL	MCLG	Unit of Measure	Source of Constituent
2016	Fluoride	0.58	1	4	4	ppm	Erosion of natural deposits; water additive which promotes strong teeth; runoff from fertilizer use.
2016	Barium	0.0738	1	2	2	ppm	Discharge of drilling wastes; erosion of natural deposits.
2016	Nitrate	0.02	2	10	10	ppm	Runoff from fertilizer use; leaching from septic tanks; treated wastewater effluent; erosion of natural deposits.
2016	Chromium	ND	1	100	100	ppb	Discharge from steel and pulp mills; erosion of natural deposits.
2011	Gross Beta Emitters	4.8	1	50	0	pCi/l	Decay of mineral and man-made deposits.

Organics

Year	Detected Constituent	Measured Concentration	Number of Analyses Performed	MCL	MCLG	Unit of Measure	Source of Constituent
2016	Atrazine	ND	1	3	3	ppb	Runoff from herbicide used on row crops.

Unregulated Contaminants

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. Any unregulated contaminants detected are reported in the following table. For additional information and data visit <https://www.epa.gov/dwucmr>, or call the Safe Drinking Water Hotline at (800) 426-4791.

Year	Constituent	Average Concentration	Range of Detected Levels	Reason for Monitoring
Trihalomethanes				
2016	Chloroform	26.2	12.0 - 41.7	Monitoring helps EPA to determine where certain contaminants occur and whether it needs to regulate those contaminants.
2016	Bromoform	26.6	1.6 - 3.2	
2016	Bromodichlormethane	18.4	17.7 - 34.6	
2016	Chlorodibromomethane	2.275	15.4 - 23.6	
Haloacetic Acids				
2016	Chloroacetic acid	1.75	ND - 7.0	Monitoring helps EPA to determine where certain contaminants occur and whether it needs to regulate those contaminants.
2016	Dichloroacetic acid	16.975	8.9 - 24.7	
2016	Trichloroacetic Acid	8.3	3.7 - 11.8	
2016	Bromoacetic acid	ND	ND - ND	
2016	Dibromoacetic acid	3.875	2.7 - 5.4	
2016	Bromochloroacetic acid	9.65	7.0 - 13.0	

Disinfection Byproducts

Year	Constituent	Average Concentration	Minimum Concentration	Maximum Concentration	MCL	Unit of Measure	Source of Constituent
2016	Total Haloacetic Acids	30.9	16.3	48.9	60	ppb	Byproduct of drinking water disinfection.
2016	Total Trihalomethanes	73.475	49.8	96.7	80	ppb	Byproduct of drinking water disinfection.

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. Turbidity is measured 6 times per day through grab samples and continuously through automatic on-line individual filter turbidity monitors.

Turbidity

Year	Detected Constituent	Highest Single Measurement	Lowest Monthly % of Samples Meeting Limits	Turbidity Limits	Unit of Measure	Source of Constituent
2016	Turbidity	0.16	100	0.3	NTU	Organic particles.

Disinfection Residuals

Year	Constituent	Highest Average	Range of Detects (Low - High)	MRDL	MCLG	Unit of Measure	Source of Constituent
2016	Chloramines	3.442	0.7 - 4.9	4	4	ppm	Disinfectant used to control microbes.

Total Organic Carbon

Total organic carbon (TOC) sampled from source water has no health effects. The disinfectant can combine with TOC to form disinfection byproducts. Disinfection is necessary to ensure that water does not have unacceptable levels of pathogens. Byproducts of disinfection include trihalomethanes (THMs) and haloacetic acids (HAA) which are reported elsewhere in this report.

Year	Constituent	Average Measurement	Minimum	Maximum	Unit of Measure	Source of Constituent
2016	Source Water TOC	4.69	2.36	7.87	ppm	Naturally occurring; no health effects directly associated with it.
2016	Drinking Water	2.69	1.63	4.02	ppm	Naturally occurring; no health effects directly associated with it.
2016	Removal Ratio	2.002	1.39	2.56	%	NA

Total Coliform

Total Coliform bacteria are used as indicators of microbial contamination of drinking water because testing for them is easy. While not disease-causing organisms themselves, they are often found in association with other microbes that are capable of causing disease. Coliform bacteria are more hardy than many disease-causing organisms; therefore, their absence from water is a good indication that the water is microbiologically safe for human consumption.

2016 Total Coliform REPORTED MONTHLY TESTS FOUND NO COLIFORM BACTERIA

2016 E.coli REPORTED MONTHLY TESTS FOUND NO E.coli BACTERIA

TABLE II - Tests results for GBRA water supply to Calhoun County Rural Water Supply System customers (As sampled in the customer distribution system)

Inorganics

Year	Detected Constituent	Measured Concentration	Number of Analyses Performed	MCL	MCLG	Unit of Measure	Source of Constituent
1999	Gross Alpha	1	1	15	0	pCi/L	Erosion of natural deposits.
2004	Gross Beta	3.2	1	50	0	pCi/L	Decay of mineral and man-made deposits.
2016	Nitrogen, Nitrate	0.02 - 0.03	2	10	10	ppm	Runoff from fertilizer use; leeching from septic tanks; treated waste water effluent; erosion of natural deposits.
*Average							

Lead and Copper (Analyzed every 3 years)

Year	Constituent	The 90th Percentile	Number of Sites Exceeding Action Level	Action Level	Unit of Measure	Source of Constituent
2016	Lead	3	0	15	ppb	Corrosion of household plumbing systems; erosion of natural deposits. Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.
2016	Copper	0.16	1	1.3	ppm	

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 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.gov/safewater/lead>.

Maximum Residual Disinfectant Level

Year	Disinfectant	Average Concentration	Minimum Concentration	Maximum Concentration	MRDL	Unit of Measure	Source of Constituent
2016	Chloramine Residual	2.8	1.1	5.2	4	ppm	Disinfectant used to control microbes.

Unregulated Initial Distribution System Evaluation for Disinfection Byproducts

This evaluation is sampling required by EPA to determine the range of total trihalomethanes and haloacetic acids in the system for future regulations. The samples are not used for compliance, and may have been collected under non-standard conditions. EPA also requires the data to be reported here.

Trihalomethanes (THM)

Year	Detected Constituent	Average of all Sampling Points	Range of Detected Levels	MCL	MCLG	Unit of Measure	Source of Constituent
2016	Total Trihalomethanes	69.7	38.2 - 98.7	80	0	ppb	Byproduct of drinking water chlorination.