

WATER QUALITY 2019

Guadalupe-Blanco River Authority

Cordillera Ranch

PWS# 1300048

EXCELLENCE IN WATER QUALITY



Dear Customer,

The Guadalupe-Blanco River Authority (GBRA) is pleased to provide you with the 2019 Water Quality Report (January 1-December 31, 2019). 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, meets or exceeds all federal and state water quality standards.



The tables on 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. An electronic copy of this report can be found at: www.gbra.org/documents/publications/ccrs/2019/Cordillera.pdf

Customer Views Welcome

The GBRA strongly supports the national primary 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 the GBRA Division Manager at 830-885-2639 from 8 am – 5 pm, Monday through Friday. Inquiries about public participation and policy decisions should be directed to the GBRA Division Manager at 830-885-2639.

The GBRA Board of Directors meets every third Wednesday of the month at 10:00 am in the GBRA River Annex located at 905 Nolan St., Seguin, Texas and all meetings are open to the public.

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. 512-398-3461 para hablar con una personal bilingüe en español durante las horas regulares de oficina (8 am – 5 pm).

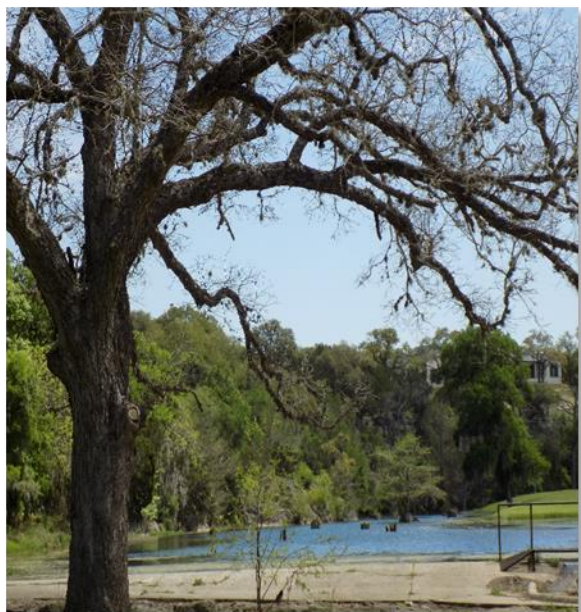
CONSERVE WATER/SAVE WATER!

Water Saving Tips: Reduce indoor water usage by 40-50% by installing low-flush toilets and low flow fixtures
Water lawns once a week rather than a short period every day
Fix leaks and stop the dripping faucets
American Water Works Drip calculator to estimate water waste:
<https://drinktap.org/Water-Info/Water-Conservation/Drip-Calculator>

Information about your 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>.

This is an alert about your drinking water and a cosmetic dental problem that might affect children under nine years of age. At low levels, fluoride can help prevent cavities, but children drinking water containing more than 2 milligrams per liter (mg/L) of fluoride may develop cosmetic discoloration of their permanent teeth (dental fluorosis). The drinking water provided by Cordillera Ranch has a fluoride concentration of 2.33 mg/L.

Dental fluorosis, in its moderate or severe forms, may result in a brown staining and/or pitting of the permanent teeth. This problem occurs only in developing teeth, before they erupt from the gums. Children under nine should be provided with alternative sources of drinking water or water that has been treated to remove the fluoride to avoid the possibility of staining and pitting of their permanent teeth. You may also want to contact your dentist about proper use by young children of fluoride-containing products. Older children and adults may safely drink the water.

For more information, please call the GBRA Division Manager at 830-885-2639. Some home water treatment units are also available to remove fluoride from drinking water. To learn more about available home water treatment units, you may call NSF International at 1-877-8-NSF-HELP.



Where Do We Get Our Drinking Water?

Cordillera Ranch received its water from a water well which pumps from the Trinity aquifer and from Canyon Reservoir via the GBRA Western Canyon Water Treatment Plant. The water system is operated by the Guadalupe-Blanco River Authority.

TCEQ 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 is based on this susceptibility and previous sample data. Any detections of these contaminants will be found in this Consumer Confidence Report. For more information on source water assessments and protection efforts at our system contact the GBRA Division Manager at 830-885-2639.

Trained operators monitor and test the water, including the addition of chlorine, to ensure that our water meets or exceeds all state and federal drinking water standards. The treated water is delivered to the Cordillera Ranch water storage tank and delivered through its distribution system to you. For information on the treatment of your drinking water and water quality protection efforts, contact GBRA Division Manager at the GBRA Western Canyon Water Treatment Plant at 830-885-2639.

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 Contaminant" column shows where the substance usually originates. In the water loss audit submitted to the Texas Water Development Board for the time period of January 2019-December 2019, our system lost an estimated 4,611,798 gallons of water. If you have any questions about the water loss audit please call the GBRA Division Manager at 830-885-2639.

DEFINITIONS and ABBREVIATIONS

Action Level (AL) – the concentration of a contaminant which, if exceeded, triggers treatment or other requirements that 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.

Avg – Regulatory compliance with some MCL's are based on running annual average of monthly samples.

Maximum Contaminant Level (MCL) – the highest level of the contaminant allowed in drinking water. MCL's are set as close to the MCLG's 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. MCLG's allow for a margin of safety.

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.

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

NA – Not Applicable

ND – Not Detected

NTU's – Nephelometric Turbidity Units

pCi/L - picocuries per liter (a measure of radioactivity)

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

ppb – parts per billion (ug/L)

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

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.

Water Quality 2019

TABLE I - Test results for the GBRA Cordillera Ranch (sampled in distribution system)

Inorganic Contaminants (source water)

Year	Detected Constituent	Measured Concentration	Number of Analyses	MCL	Violation	Units of Measure	Source of Constituent
2019	Barium	0.0273	1	2	N	ppm	Discharge of drilling wastes; erosion of natural deposits.
2012	Combined Radium	2.3	1	5	N	pCi/L	Erosion of natural deposits
2018	Fluoride	2.33	1	4	N	ppm	Erosion of natural deposits; water additive which promotes strong teeth; runoff from
2019	Nitrate	0.39	1	10	N	ppm	Runoff from fertilizer use; leaching from septic tanks; treated wastewater effluent; erosion of natural deposits.
2018	Beta/photon emitters	5.8	1	50	N	pCi/L	Decay of natural and man made deposits.
2018	Gross alpha excluding radon and uranium	4.5	1	15	N	pCi/L	Erosion of natural deposits

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Dental fluorosis, in its moderate or severe forms, may result in a brown staining and/or pitting of the permanent teeth. This problem occurs only in developing teeth, before they erupt from the gums. Children under nine should be provided with alternative sources of drinking water or water that has been treated to remove the fluoride to avoid the possibility of staining and pitting of their permanent teeth. You may also want to contact your dentist about proper use by young children of fluoride-containing products. Older children and adults may safely drink the water.

Drinking water containing more than 4 mg/L of fluoride (the U.S. Environmental Protection Agency's drinking water standard) can increase your risk of developing bone disease. Your drinking water does not contain more than 4 mg/L of fluoride, but we're required to notify you when we discover that the fluoride levels in your drinking water exceed 2 mg/L because of this cosmetic dental problem.

Maximum Residual Disinfectant Level

Year	Constituent	Average	Range of Detects (Low - High)	MRDL	Violation	Unit of Measure	Source of Constituent
2019	Chlorine	1.06	0.34-184	4	N	ppm	Disinfectant used to control microbes.

Disinfection Byproducts

Year	Constituent	Measured Concentration	Range	No. of Analysis	MCL	Violation	Unit of Measure	Source of Contaminant
2019	Total Haloacetic Acids	3	0-2.9	4	60	N	ppb	Byproduct of drinking water disinfection.
2019	Total Trihalomethanes	28	4.5-16.9	4	80	N	ppb	Byproduct of drinking water disinfection.

Microbiological Contaminants

Year	Constituent	Highest Monthly Number of Positive Samples	MCL	Violation	Unit of Measure	Source of Constituent
2019	TOTAL COLIFORM	Not Detected	*	N	Presence/	Naturally present in the environment.
2019	<i>E.coli</i>	Not Detected	*	N	Absence	

* Two or more "coliform present" samples in any single month

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, their absence from water is a good indication that the water is microbiologically safe for human consumption.

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
2018	Bicarbonate	349	1	NA	ppm	Corrosion of carbonate rocks such as limestone.
2016	Calcium	718	1	NA	ppm	Abundant naturally occurring element
2018	Chloride	32	1	300	ppm	Abundant naturally occurring element, used in water purification, byproduct of oil field activity.
2016	Hardness as CaCO3	373	1	NA	ppm	Naturally occurring calcium.
2016	Magnesium	47.1	1	NA	ppm	Abundant naturally occurring element.
2012	pH	7.9	1	7	units	Measure of corrosivity of water.
2016	Nickel	0.0019	1	0.1	ppm	Erosion of natural deposits.
2016	Sodium	48.7	1	NA	ppm	Erosion of natural deposits. Byproduct of oil field activity.
2016	Zinc	0.0161	1	5	ppm	Moderately abundant naturally-occurring element; used in the metal industry.
2018	Sulfate	110	1	300	ppm	Naturally occurring; common industrial byproduct; byproduct of oil field activity.
2018	Total Alkalinity as CaCO3	286	1	NA	ppm	Naturally occurring soluble mineral salts.
2018	Total Dissolved Solids	498	1	1000	ppm	Total dissolved mineral constituents in water.

Lead and Copper

Year	Detected Constituent	The 90th Percentile	Number of Sites Exceeding Action Levels	MCLG	Action Level	Unit of Measure	Violation	Source of Constituent
2017	Lead	2	0	0	15	ppb	N	Corrosion of household plumbing systems; erosion of natural deposits
2017	Copper	0.19	0	1.3	1.3	ppm	N	Corrosion of household plumbing systems; erosion of natural deposits

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.epa.gov/safewater/lead>.

Water Quality 2019

**TABLE II - Test results for the GBRA-Western Canyon Water Treatment Plant
(sampled at the GBRA Western Canyon Water Treatment Plant)**

GBRA Cordillera Ranch purchases water from GBRA Western Canyon Water Supply. GBRA Western Canyon Water Supply provides purchased water from Canyon Lake located in Comal County.

Inorganic Contaminants (source water)

Year	Detected Constituent	Measured Concentration	Number of Analyses	MCL	MCLG	Units of Measure	Violation	Source of Constituent
2019	Barium	0.0302	1	2	2	ppm	N	Discharge of drilling wastes; erosion of natural deposits.
2019	Fluoride	0.2	1	4	4	ppm	N	Erosion of natural deposits; water additive which promotes strong teeth; runoff from fertilizer use.
2019	Nitrate	0.41	1	10	10	ppm	N	Runoff from fertilizer use; leaching from septic tanks; treated wastewater effluent; erosion of natural deposits.

Maximum Residual Disinfectant Level

Year	Constituent	Average	Range of Detects (Low -High)	MRDL	Violation	Unit of Measure	Source of Constituent
2019	Chlorine	0.83	0.53-1.21	4	N	ppm	Disinfectant used to control microbes.

Disinfectant Byproducts

Year	Constituent	Measured Concentration	Range	No. of Analyses	MCL	Violation	Unit of Measure	Source of Constituent
2019	Total Trihalomethanes	52	51.5-51.5	1	80	N	ppb	Byproduct of drinking water disinfection.
2019	Total Haloacetic Acids	12	12.3-12.3	1	60	N	ppb	Byproduct of drinking water disinfection.

Turbidity

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.

Year	Detected Constituent	Highest Single Measurement	Limit (Treatment Technique)	Lowest Monthly % of Samples Meeting Limits	Turbidity Limits	Violation	Unit of Measure	Source of Constituent
2019	Turbidity	0.3	1	100	1	N	NTU	Organic particles.

Microbiological Contaminants

Year	Constituent	Highest Monthly Number of Positive Samples	MCL	Violation	Unit of Measure	Source of Constituent
2019	TOTAL COLIFORM	Not Detected	*	N	Presence/	Naturally present in the environment.
2019	<i>E.coli</i>	Not Detected	*	N	Absence	

* Two or more "coliform present" samples in any single month

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, their absence from water is a good indication that the water is microbiologically safe for human consumption.

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	pH	8.4	1	7	units	Measure of corrosivity of water.
2019	Total Alkalinity as CaCO3	149	1	NA	ppm	Naturally occurring soluble mineral salts.
2018	Bicarbonate	182	1	NA	ppm	Corrosion of carbonate rocks such as limestone.
2018	Chloride	23	1	300	ppm	Abundant naturally occurring element, used in water purification, byproduct of oil field activity.
2018	Sulfate	22	1	300	ppm	Naturally occurring; common industrial byproduct; byproduct of oil field activity.
2018	Total Dissolved Solids	222	1	1000	ppm	Total dissolved mineral constituents in water.
2018	Calcium	43.7	1	NA	ppm	naturally occurring element
2018	Hardness as CaCO3	183	1	NA	ppm	Naturally occurring calcium.
2018	Magnesium	18	1	NA	ppm	Abundant naturally occurring element.
2018	Nickel	0.0014	1	0.1	ppm	Erosion of natural deposits.
2018	Potassium	1.99	1	N/A	ppm	naturally occurring element
2018	Sodium	10.9	1	NA	ppm	Erosion of natural deposits. Byproduct of oil field activity.