

Unregulated Initial Distribution System Evaluation for Disinfection Byproducts

This evaluation is a 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.

Year	Detected Constituent	Measured Concentration	Minimum	Maximum	MCL	Unit of Measure	Source of Constituent
2007	Total Haloacetic acids	16.7	16.1	17.3	NA	ppb	Byproduct of drinking water disinfection.
2007	Total Trihalomethanes	69.1	66.1	72	NA	ppb	Byproduct of drinking water disinfection.

Unregulated Contaminants
There is no maximum contaminant level for these chemicals at the entry point to distribution.

Year	Detected Constituent	Measured Concentration	No. of Analysis	Unit of Measure	Source of Constituent
2007	Chloroform	19.83	1	ppb	Byproduct of drinking water disinfection.
2007	Bromoform	1.74	1	ppb	Byproduct of drinking water disinfection.
2007	Bromodichloromethane	22.23	1	ppb	Byproduct of drinking water disinfection.
2007	Dibromochloromethane	15.23	1	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 4 times per day through grab samples and continuously through automatic on-line individual filter turbidity monitors.

Year	Detected Constituent	Highest Single Measurement	Lowest Monthly % of Samples Meeting Limits	Turbidity Limits	Unit of Measure	Source of Constituent
2007	Turbidity	0.1	100	0.3	NTU	Soil runoff.

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 Concentration	Minimum Concentration	Maximum Concentration	Unit of Measure	Source of Constituent
2007	Drinking Water	1.4	1.1	2.0	ppm	Naturally occurring; no health effects directly associated

Total Coliform Reported monthly tests found no total coliform bacteria.
E.coli Reported monthly tests found no *E.coli* bacteria

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.

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.

National Primary Drinking Water Regulation Compliance

This report was prepared with technical assistance from the Guadalupe-Blanco River Authority. GBRA will be happy to answer any questions about the Glenwood Water System or its water quality and treatment process. Please contact us at 830-379-5822 or through our website at www.gbra.org. Water quality data for community water systems throughout the United States is available at www.epa.gov/safewater/dwinfo/index.html.

WATER QUALITY '07

Guadalupe-Blanco River Authority

Glenwood Subdivision

EXCELLENCE IN WATER QUALITY

GBRA Main Office 830-379-5822

Dear Customer:

The Guadalupe-Blanco River Authority (GBRA) is pleased to provide you with this 2007 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 Guadalupe-Blanco River Authority water treatment plant, 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 Guadalupe-Blanco River Authority 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 GBRA 830-379-5822 from 8 a.m. - 5 p.m., Monday through Friday. Inquiries about public participation and policy decisions should be directed to the Western Canyon Division Manager's office at 830-885-2639.

The GBRA Board of Directors meets every third Wednesday of the month at 10:00 a.m. at 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. 830-379-5822 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?

Glenwood Subdivision receives its water from waters well which pump from the Trinity aquifer and from Canyon Lake via the GBRA Western Canyon Water Treatment Plant. The water system is operated by the Guadalupe-Blanco River Authority (GBRA).

The 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 are 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, please contact us.

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 Glenwood storage tanks and delivered through its distribution system to you.

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.

Table I - Test results for the GBRA Glenwood Subdivision (Sampled in distribution system)

Inorganics Contaminants (source water)

Year	Detected Constituent	Measured Concentration	Number of Analyses Performed	MCL	MCLG	Unit of Measure	Source of Constituent
2006	Barium	0.029	1	2	2	ppm	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
2006	Chromium	3.5	1	100	100	ppb	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines.
2004	Combined Radium	1.3	1	5	0	pCi/L	Erosion of natural deposits.
2006	Gross beta emitters	0.3	1	50	0	pCi/L	Decay of natural and man-made deposits.
2006	Gross alpha	3.9	1	15	0	pCi/L	Erosion of natural deposits.
2006	Fluoride	0.26	1	4	4	ppm	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
2007	Nitrate	0.55	1	10	10	ppm	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	Unit of Measure	Source of Constituent
2007	Chlorine	1.52	0.65 - 2.6	4	ppm	Disinfectant used to control microbes.

The EPA Long Term 2 Enhanced Surface Water Treatment Rule (LT2 Rule) requires that water treatment plants monitor the source water (water prior to treatment plant) for *Cryptosporidium*, turbidity and *E.coli*. *Cryptosporidium* is a microbial pathogen that may be found in water contaminated with feces. Monitoring results will be used to determine whether additional treatment is required and to refine the relationship established between *E.coli* and *Cryptosporidium* levels in the source water. Although treatment plant filters remove *Cryptosporidium*, filters cannot guarantee 100% removal nor can the analysis determine if the organisms are alive and capable of causing cryptosporidiosis, an abdominal infection causing nausea, vomiting, diarrhea and abdominal cramps that may occur after ingestion of contaminated water. Bimonthly sampling of Canyon Reservoir, the source water for the Western Canyon Water Treatment Plant, began in October 2006 and will continue until September 2008. The following table summarizes the source water data collected in 2007.

Year	Analysis of Source Water Prior to Treatment	No. of Analyses	Mean	Range of Analyses	Units
2007	<i>Cryptosporidium</i>	24	<1	0	Oocyst per Liter
2007	<i>E.coli</i>	24	1.3*	<1.0 - 50.0	Most Probable Number
2007	Turbidity	24	4.16	0.449 - 16.4	NTU

* Geometric mean

Total Coliform NOT DETECTED

E.coli NOT DETECTED

Secondary and Other Constituents Not Regulated (No associated adverse health effects)

Year	Constituent	Measured Concentration	Number of Analyses	Secondary Unit	Unit of Measure	Source of Constituent
2006	Bicarbonate	282	1	NA	ppm	Corrosion of carbonate rocks such as limestone.
2006	Calcium	95.1	1	NA	ppm	Abundant naturally occurring element.
2006	Chloride	9.0	1	300	ppm	Abundant naturally occurring element; used in water purification; byproduct of oil field activity.
2006	Magnesium	20.1	1	NA	ppm	Abundant naturally occurring element.
2006	pH	7.8	1	7	units	Measure of corrosivity of water.
2006	Sodium	7.0	1	NA	ppm	Erosion of natural deposits; byproduct of oil field activity.
2006	Sulfate	7.0	1	300	ppm	Naturally occurring; common industrial byproduct; byproduct of oil field activity.
2006	Total Alkalinity as CaCO3	282	1	NA	ppm	Naturally occurring soluble mineral salts.
2006	Total Dissolved Solids	317	1	1000	ppm	Total dissolved mineral constituents in water.
2006	Hardness as CaCO3	320	1	NA	ppm	Naturally occurring calcium.
2006	Zinc	0.019	1	5	ppm	Moderately abundant naturally occurring element; used in the metal industry.
2006	Copper	0.003	1	1	ppm	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservative.

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 every 15 minutes through grab samples and continuously through automatic on-line individual filter turbidity monitors.

Year	Detected Constituent	Highest Single Measurement	Lowest Monthly % of Samples Meeting Limits	Turbidity Limits	Unit of Measure	Source of Constituent
2007	Turbidity	0.10	100	0.3	NTU	Soil runoff.

Lead and Copper at household tap/Analyzed every 3 years

Year	Contaminant	The 90th Percentile	Number of Sites Exceeding Action Level	Action Level	Unit of Measure	Source of Constituent
2007	Lead	8.3	0	15	ppb	Corrosion of household plumbing systems; erosion of natural deposits.
2007	Copper	0.211	0	1.3	ppm	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.

Table II - Test results for the GBRA-Western Canyon Water treatment plant (Sampled at the GBRA Western Canyon Water Treatment plant).

Inorganics Contaminants (source water)

Year	Detected Constituent	Measured Concentration	Number of Analyses Performed	MCL	MCLG	Unit of Measure	Source of Constituent
2006	Barium	0.024	1	2	2	ppm	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
2007	Fluoride	0.19	1	4	4	ppm	Erosion of natural deposits; water additive which promotes strong teeth; runoff from fertilizer use.
2007	Nitrate	0.38	1	10	10	ppm	Runoff from fertilizer use; leaching from septic tanks; treated wastewater effluent; erosion of natural deposits.
2006	Selenium	5.1	1	50	50	ppb	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines.

Maximum Residual Disinfectant Level

Year	Constituent	Average	Range of Detects (Low - High)	MRDL	Unit of Measure	Source of Constituent
2007	Chlorine	0.86	0.44 - 1.44	4	ppm	Disinfectant used to control microbes.

Disinfection Byproducts

Year	Detected Constituent	Measured Concentration	No. of Analyses	MCL	Unit of Measure	Source of Constituent
2007	Total Haloacetic acids	19.9	1	60	ppb	Byproduct of drinking water disinfection.
2007	Total Trihalomethanes	54.3	1	80	ppb	Byproduct of drinking water disinfection.