



# Annual Drinking Water Quality Report

TX0190021

RIVERBEND WATER RESOURCES DISTRICT

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:

Name Eli Hunt

Phone 903-831-0091

RIVERBEND WATER RESOURCES DISTRICT is Purchased Surface Water

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

## 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

A Source Water Susceptibility Assessment for your drinking water source(s) is currently being updated by the Texas Commission on Environmental Quality. 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:  
<http://gis3.tceq.state.tx.us/swav/Controller/index.jsp?wtrsrc=>

Further details about sources and source-water assessments are available in Drinking Water Watch at the following URL: <http://dww.tceq.texas.gov/DWW>

Source Water Name	Type of Water	Report Status	Location
SW I/C FROM CITY OF TEXARKANA 0190004CC FROM TX0190004 CITY OF	SW	_____	_____

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	32	21.4 - 27.2	No goal for the total	60	ppb	N	By-product of drinking water disinfection.
Total Trihalomethanes (TTHM)	2016	51	29 - 59.2	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	01/11/2012	0.0128	0.0128 - 0.0128	2	2	ppm	N	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Chromium	01/11/2012	0.303	0.303 - 0.303	100	100	ppb	N	Discharge from steel and pulp mills; Erosion of natural deposits.
Fluoride	01/11/2012	0.06	0.06 - 0.06	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	0.196	0.196 - 0.196	10	10	ppm	N	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Thallium	01/11/2012	0.076	0.076 - 0.076	0.5	2	ppb	N	Discharge from electronics, glass, and Leaching from ore-processing sites; drug factories.

**Microbiological Contaminants**

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.

Contaminant	Highest Monthly % of positive samples	MCL	Unit of Measure	Source of Contaminant
Total Coliform Bacteria	There were no positive TCR detections for this system in this CCR	Presence of coliform bacteria in 5% of monthly samples	Presence	Naturally present in the environment

**Turbidity**

Turbidity is a measure of the cloudiness of the water. It is used to indicate water quality and filtration effectiveness (e.g., whether disease-causing organisms are present). Higher turbidity levels are often associated with higher levels of disease-causing microorganisms such as viruses, parasites and some bacteria. These organisms can cause symptoms such as nausea, cramps, diarrhea and associated headaches.

Contaminant	Location	Highest Single Measurement	Lowest Monthly % of Samples Meeting Limits	Turbidity Limits	Unit of Measure	Source of Contaminant
Turbidity	Wright Patman	0.31	100%	≤0.3 in 95% of samples	NTU	Soil runoff
	Millwood	0.31	100%			

**Inorganic Contaminants**

Contaminant	Reporting Agency	Average Level Detected	Range of Detected Level	MCL	MCLG	Unit of Measure	Source of Contaminant
Nitrate (as Nitrogen)	TCEQ	0.04	0.04 - 0.04	10	10	ppm	Runoff from fertilizer use; leaking from septic tanks, sewage; erosion of natural deposits
Arsenic	TCEQ	0.81	0.81 - 0.81	10	0	ppb	Erosion of natural deposits; runoff from orchards, runoff from glass and electronics production wastes
Cyanide	TCEQ	16.7	0.0 - 16.7	200	200	ppb	Discharge from steel/metal factories; discharge from plastics and fertilizer factories
Chromium	TCEQ	0.72	0.0 - 0.72	100	100	ppb	Discharge from steel and pulp mills; erosion of natural deposits

**Organic Contaminants**

Atrazine	TCEQ	0.44	0.0 - 0.44	3	3	ppb	Runoff from herbicide used on row crops.
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**Radioactive Contaminants**

Combined Radium (226 + 228)	ADH	1.5	1.5 - 1.5	5	0	pCi/L	Erosion of natural deposits
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**Lead & Copper Tap Monitoring**

Contaminant	Location	The 90th Percentile	Number of Sites Exceeding Action Level	Action Level	Unit of Measure	Source of Contaminant
Lead	Riverbend Water Resources District	0	0	0.015	ppm	Corrosion of household plumbing systems; erosion of natural deposits
Copper		0	0	1.3	ppm	

**Disinfectants**

Contaminant	Location	Annual Average	Range of Detected Level	MRDL	MRDLG	Unit of Measure	Source of Contaminant
Chlorine (total)	Riverbend Water Resources District	1.67	0.48-1.81	4	4	ppm	Disinfectant used to control microbes

**Disinfection By-Products**

Contaminant	Location	Highest Locational Running Annual Average	Range of Detected Level	MCL	MCLG	Unit of Measure	Source of Contaminant
Total Trihalomethane (TTHM)	Riverbend Water Resources District	43.4	29-59.2	80	N/A	ppb	By-product of drinking water disinfection
Haloacetic Acid (HAA5)	Riverbend Water Resources District	23.18	21.4-27.2	60	0	ppb	By-product of drinking water disinfection

  

Contaminant	Location	Highest Quarterly Distribution Average	Range of Detected Level	MCL	MCLG	Unit of Measure	Source of Contaminant
Chlorite	Texas	310.41	<0.10 - 677	1000	800	ppb	By-product of drinking water disinfection.
	Arkansas	64.77	<20 - 283				

**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 the EPA in determining the occurrence of unregulated contaminants in drinking water and whether further regulation is warranted. MCLs (Maximum Contaminant Levels) and MCLGs (Maximum Contaminant Level Goals) have not been established for all unregulated contaminants.

Contaminant	Reporting Agency	Range of Detected Level	Average Level Detected	Unit of Measure	MCLG	Source of Contaminant
Chloroform	TCEQ	36.3 - 42.9	39.6	ppb	70	By-products of drinking water disinfection
	ADH	35.2 - 35.2	35.2			
Bromodichloromethane	TCEQ	10.5 - 10.9	10.7	ppb	0	
	ADH	12.5 - 12.5	12.5			
Dibromochloromethane	TCEQ	2.04 - 2.53	2.29	ppb	60	
	ADH	5.48 - 5.48	5.48			
Acetone	TCEQ	9.68 - 13.7	11.69	ppb	6000	Used in manufacture of plastic, fibers, cosmetics, photographic film and many other kinds of consumer goods.

**DEFINITIONS**

TCEQ - Texas Commission on Environmental Quality

ADH - Arkansas Department of Health

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

Maximum Contaminant Level (MCL) - the highest level of a contaminant that is allowed in drinking water.

Maximum Contaminant Level Goal (MCLG) - unenforceable public health goal; 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.

Maximum Residual Disinfectant Level (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 (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.

NA - not applicable

Nephelometric Turbidity Unit (NTU) - a unit of measurement for the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

Parts per million (ppm) - a unit of measurement for detected levels of contaminants in drinking water. One part per million corresponds to one minute in two years or a single penny in \$10,000.

Parts per billion (ppb) - a unit of measurement for detected levels of contaminants in drinking water. One part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.