

2018 Consumer Confidence Report for Public Water System CITY OF REDWATER, TEXAS

This is your water quality report for January 1 to December 31, 2018.

The City of Redwater, Texas provides Purchased Water from Texarkana Water Utilities. Texarkana Water Utilities provides surface water from Lake Wright Patman / Millwood Lake located in Bowie, Cass and Little River Counties.

For more information regarding this report contact Tom Townsend, Public Works Director at (903) 277-7352.

REDWATER WATER & SEWER DEPARTMENT
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Public Water System ID # 0190008

Este reporte incluye información importante sobre el agua para tomar. Para asistencia en español, favor de llamar al telefono (903) 671-2775.

Definitions and Abbreviations

Definitions and Abbreviations	The following tables contain scientific terms and measures, some of which may require explanation.
Action Level:	The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which 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 MCLs are based on running annual average of monthly samples.
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.
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.
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.
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)
mrem:	millirems per year (a measure of radiation absorbed by the body)
na:	not applicable.
NTU	nephelometric turbidity units (a measure of turbidity)
pCi/L	picrouries 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.
ppq	parts per quadrillion, or picograms per liter (pg/L)
ppt	parts per trillion, or nanograms per liter (ng/L)
Treatment Technique or TT:	A required process intended to reduce the level of a contaminant in drinking water.

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>.

Information about Source Water

CITY OF REDWATER purchases water from TEXARKANA WATER UTILITIES. TEXARKANA WATER UTILITIES provides purchase surface water from **LAKE WRIGHT PATMAN / MILLWOOD LAKE** located in **BOWIE, CASS AND LITTLE RIVER COUNTIES**.

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	0.00%	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	0.32	100%	≤0.3 in 95% of samples	NTU	Soil runoff
	Millwood	0.29	100%			

Cryptosporidium

Cryptosporidium is a tiny intestinal parasite found naturally in the environment. It is spread by human and animal waste. If ingested, cryptosporidium may cause cryptosporidiosis, an abdominal infection (symptoms include nausea, diarrhea, and abdominal cramps). Some ways cryptosporidium can be spread include drinking contaminated water, eating contaminated food that is raw or undercooked, exposure to the feces of animals or infected individuals (i.e. changing diapers without washing hands afterward), or exposure to contaminated surfaces. Not everyone exposed to the organism becomes ill. During 2018, Texarkana tested for cryptosporidium in both untreated and treated water. It has only been found in the untreated water supply. **Cryptosporidium has not been found in Texarkana's treated drinking water.** Texarkana works to protect the watershed from contamination and optimizes the treatment process. Although Texarkana's water treatment process removes cryptosporidium, immuno-compromised persons should consult their physician regarding appropriate precautions to avoid infection.

Contaminant	Location	Average Level Detected	Range of Detected Level	Unit of Measure	Source of Contaminant
Cryptosporidium	Wright Patman untreated water	0.1	0.1 - 0.1	oocysts/L	Human and animal fecal waste

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Inorganic Contaminants

Contaminant	Reporting Agency	Average Level Detected	Range of Detected Level	MCL	MCLG	Unit of Measure	Source of Contaminant
Nitrate (as Nitrogen)	TCEQ	0.167	0.0336 - 0.3	10	10	ppm	Runoff from fertilizer use; leaking from septic tanks, sewage; erosion of natural deposits
	ADH	0.1	0.1 - 0.1				
Barium	TCEQ	0.034	0.014 - 0.054	2	2	ppm	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
	ADH	0.0162	0.0142 - 0.0182				
Fluoride	TCEQ	0.0379	0.0218 - 0.0539	4	4	ppm	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.

Organic Contaminants

2,4-D	ADH	0.29	0.29 - 0.29	70	70	ppb	Runoff from herbicide used on row crops.
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Radioactive Contaminants (2016 Sample Results)

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	CITY OF REDWATER, TEXAS	0.00118	0	0.015	ppm	Corrosion of household plumbing systems; erosion of natural deposits
Copper		0.0802	0	1.3	ppm	

Disinfectants

Contaminant	Location	Annual Average	Range of Detected Level	MRDL	MRDLG	Unit of Measure	Source of Contaminant
Chlorine (total)	CITY OF REDWATER, TEXAS	2.79	1.4-3.8	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)	CITY OF REDWATER, TEXAS	0.036	0.0273-0.0456	80	N/A	ppb	By-product of drinking water disinfection
Haloacetic Acid (HAA5)	CITY OF REDWATER, TEXAS	0.0272	0.0186-0.0362	60	0	ppb	By-product of drinking water disinfection

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	Level Detected Range	Avg Level Detected	Unit of Measure	MCLG	Source of Contaminant
Chloroform	TCEQ	26.2 - 33.5	29.85	ppb	70	By-products of drinking water disinfection
	ADH	28.6 - 28.6	28.60			
Bromodichloromethane	TCEQ	9.45 - 12.1	10.78	ppb	0	
	ADH	10.8 - 10.8	10.80			
Dibromochloromethane	TCEQ	2.87 - 3.69	3.28	ppb	60	
	ADH	2.47	2.47			
Acetone	TCEQ	6.16 - 6.88	6.52	ppb	6000	Used in manufacture of plastic, fibers, cosmetics, photographic film and many other kinds of consumer goods.
Methyl ethyl ketone	TCEQ	0.89 - 1.02	1.00	ppb	None	A solvent used in the synthetic rubber industry, in the production of paraffin wax and in household products such as lacquers, varnishes, paint remover and glues.

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.

TWU - Texarkana Water Utilities

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 **TOM TOWNSEND, PUBLIC WORKS DIRECTOR (903) 671-2775**.

Lead and Copper	Date Sampled	MCLG	Action Level (AL)	90th Percentile	# Sites Over AL	Units	Violation	Likely Source of Contamination
Copper	08/01/2017	1.3	1.3	0.0802	0	ppm	N	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
Lead	08/01/2017	0	15	1.18	0	ppb	N	Corrosion of household plumbing systems; Erosion of natural deposits.

2018 Water Quality Test Results

Disinfection By-Products	Collection Date	Highest Level Detected	Range of Individual Samples	MCLG	MCL	Units	Violation	Likely Source of Contamination
Haloacetic Acids (HAA5)	2018	28	15.2 - 37	No goal for the total	60	ppb	N	By-product of drinking water disinfection.

* The value in the Highest Level or Average Detected column is the highest average of all HAA5 sample results collected at a location over a year'

Total Trihalomethanes (TTHM)	2018	42	25.7 - 50.1	No goal for the total	80	ppb	N	By-product of drinking water disinfection.
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* The value in the Highest Level or Average Detected column is the highest average of all TTHM sample results collected at a location over a year'

Inorganic Contaminants	Collection Date	Highest Level Detected	Range of Individual Samples	MCLG	MCL	Units	Violation	Likely Source of Contamination
Barium	03/08/2016	0.031	0.031 - 0.031	2	2	ppm	N	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Fluoride	08/19/2014	0.308	0.308 - 0.308	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]	2018	0.153	0.153 - 0.153	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 Individual Samples	MCLG	MCL	Units	Violation	Likely Source of Contamination

Combined Radium 226/228	01/20/2015	1.5	1.5 - 1.5	0	5	pCi/L	N	Erosion of natural deposits.
Synthetic organic contaminants including pesticides and herbicides	Collection Date	Highest Level Detected	Range of Individual Samples	MCLG	MCL	Units	Violation	Likely Source of Contamination
Di (2-ethylhexyl) phthalate	04/13/2016	0.5	0.5 - 0.5	0	6	ppb	N	Discharge from rubber and chemical factories.

Disinfectant Residual

' A blank disinfectant residual table has been added to the CCR template, you will need to add data to the fields. Your data can be taken off the Disinfectant Level Quarterly Operating Reports (DLQOR).'

Disinfectant Residual	Year	Average Level	Range of Levels Detected	MRDL	MRDLG	Unit of Measure	Violation (Y/N)	Source in Drinking Water
Chlorine (total)	2018	2.79	1.4-3.8	4	4	ppm	ppm	Water additive used to control microbes.

Violations

Public Notification Rule			
The Public Notification Rule helps to ensure that consumers will always know if there is a problem with their drinking water. These notices immediately alert consumers if there is a serious problem with their drinking water (e.g., a boil water emergency).			
Violation Type	Violation Begin	Violation End	Violation Explanation
PUBLIC NOTICE RULE LINKED TO VIOLATION	08/19/2014	04/03/2019	We failed to adequately notify you, our drinking water consumers, about a violation of the drinking water regulations.
PUBLIC NOTICE RULE LINKED TO VIOLATION	07/16/2015	04/03/2019	We failed to adequately notify you, our drinking water consumers, about a violation of the drinking water regulations.
PUBLIC NOTICE RULE LINKED TO VIOLATION	07/11/2016	04/03/2019	We failed to adequately notify you, our drinking water consumers, about a violation of the drinking water regulations.