2019 Consumer Confidence Report for Public Water System RICE WSC

For more information regarding this report contact:

This is your water quality report for January 1 to December 31, 2019 RICE WSC provides surface water from Navarro Mill Lake, Lake Halbert Name Ada Garza and Lake Bardwell Located in Navarro and Ellis Counties. Phone 903-326-5551 Este reporte incluye información importante sobre el agua para tomar. Para asistencia en español, f avor de llamar al telefono (903) 326-5551. **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. 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. Action Level Goal (ALG): Regulatory compliance with some MCLs are based on running annual average of monthly samples. Avg: 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 fou nd in our water system. 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 Level 2 Assessment: has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions. 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 t Maximum Contaminant Level or MCL: echnology. 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 micro bial contaminants. Maximum residual disinfectant level goal or MRDL. 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 disi nfectants to control microbial contaminants. MFL million fibers per liter (a measure of asbestos) millirems per year (a measure of radiation absorbed by the body) mrem: not applicable. na: NTU nephelometric turbidity units (a measure of turbidity)

picocuries per liter (a measure of radioactivity)

pCi/L

Definitions and Abbreviations

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 EPAs 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 dis charges, 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 concer ns. 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 i mmunocompromised persons such as those undergoing chemotherapy for cancer; persons who have undergone organ transplants; those who are undergoing trea tment 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 m aterials and components associated with service lines and home plumbing. We are responsible for providing high quality drinking water, but we cannot control the v ariety 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 tes ted. 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.

In the water loss audit submitted to the Texas Water Development board for the period of Jan-Dec 2019, our system lost an estimated 19,628,980 gallons of water or 7.0%.

Information about Source Water

RICE WSC purchases water from CITY OF CORSICANA. CITY OF CORSICANA provides purchase surface water from Navarro Mills Lake and Lake Halbert Located in Navarro County..

RICE WSC purchases water from CITY OF ENNIS. CITY OF ENNIS provides purchase surface water from Lake Bardwell located in Ellis County.

'TCEQ completed a Source Water Susceptibility for all drinking water systems that own their sources. This report describes the susceptibility and types of constituents that may come into contact with the drinking water source based on human activities and natural conditions. The system(s) from which we purchase our water received the assessment report. For more information on source water assessment and protection efforts at our system contact Ada Garza 903-326-5551.

Lead and Copper	Date Sampled	MCLG	Action Level (AL)	90th Percentile	# Sites Over AL	Units	Violation	Likely Source of Contamination
Copper	2019	1.3	1.3	0.0616	0	ppm	N	Erosion of natural deposits; Leaching from wo od preservatives; Corrosion of household plu mbing systems.
Lead	2019	<.005	15	2.43	0	ppm	N	Erosion of natural deposits; Leaching from wo od preservatives; Corrosion of household plu mbing systems.

2019 Water Quality Test Results

Disinfection By-Products	Collection Date	Highest Level Dete cted	Range of Individua I Samples	MCLG	MCL	Units	Violation	Likely Source of Contamination
Haloacetic Acids (HAA5)	2019	32	8.1 - 45.1	No goal for the to	60	ppb	N	By-product of drinking water disinfection.

[&]quot;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 (TT HM)	2019	53	36.3 - 64.7	No goal for the to 80 tal	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 Dete cted	Range of Individua I Samples	MCLG	MCL	Units	Violation	Likely Source of Contamination
Nitrate [measured as Nitrog en]	2019	0.101	0.0531 - 0.101	10	10	ppm		Runoff from fertilizer use; Leaching from septic ta nks, sewage; Erosion of natural deposits.

Disinfectant Residual

Disinfectant Residual	Year Average Leve		Range of Levels D etected	MRDL	MRDLG	Unit of Measu re	Violation (Y/N)	Source in Drinking Water	
DLQOR	2019	2.13	.8-3.6	4	4	mg/L	ppm	Water additive used to control microbes.	

Average Chlorine Residual 2019

Month	Average Residual (mg/L)					
January	2.41					
February	2.58					
March	2.65					
April	2.25					
May	2.22					
June	1.79					
July	1.66					
August	2.27					
September	2.35					
October	2.25					
November	2.23					
December	2.13					
2019 Yearly Average	2.23 mg/L					

Min reading

0.6 mg/l

Max Reading

3.4 mg/l

Detected Regulated Contaminates for 2019										
EP2 Lake Halbert										
SOC Pesticide	Detected Quantity	MCL	Date Collected	Analytical Method						
Atrazine	0.2 ug/l	N/A	1/10/2019	E525.2 GC/MS						
VOC¹s	Detected Quantity	MC/L	Date Collected	Analytical Method						
Cholroform	39.5 ug/l	N/A	7/29/2019	E524.2 GC/MS						
Bromodichloromethane	11.8 ug/l	N/A	7/29/2019	E524.2 GC/MS						
Dibromochloromethane	1.44 ug/l	N/A	7/29/2019	E524.2 GC/MS						
Inorganics										
Chloride	10.5 mg/l	300.0 mg/l	1/10/2019	E300.0 Anions						
Fluoride	0.463 mg/l	4.0 mg/l	1/10/2019	E300.0 Anions						
Nitrate (as N)	0.526 mg/l	10.0 mg/l	1/10/2019	E300.0 Anions						
Sulfate	41.6 mg/l	300.0 mg/l	1/10/2019	E300.0 Anions						
Total Dissolved Solids	168 mg/l	1000.0 mg/l	1/10/2019	SM2540C						
Inorganics Metals Trace Elements										
Calcium Total	33.3 mg/l	N/A	1/10/2019	E200.7 Metals, Trace						
Potassium Total	4.07 mg/l	N/A	1/10/2019	E200.7 Metals, Trace						
Magnesium Total	2.56 mg/l	N/A	1/10/2019	E200.7 Metals, Trace						
Sodium Total	15.5 mg/l	N/A	1/10/2019	E200.7 Metals, Trace						
E200.8 ICP-MS										
Aluminum Total	0.027 mg/l	0.2 mg/l	1/10/2019	E200.8 IC-MS						
Barium Total	0.047 mg/l	2.0 mg/l	1/10/2019	E200.8 IC-MS						
Copper Total	.0029 mg/l	1.3 mg/l	1/10/2019	E200.8 IC-MS						
Cyanide Total	0.0530 mg/l	0.2 mg/l	1/10/2019	E355.4 CN						

DEFINITIONS

ug/l	parts per billion or micrograms per liter
mg/l	parts per million or milligrams per liter

Detected Regulated Contaminates for 2019

1 Navarro Mills				
SOC Pesticide	Detected Quantity	MCL	Date Collected	Analytical Method
Atrazine	0.1 ug/l	N/A	1/10/2019	E525.2 GC/MS
VOC's				
Cholroform	26.4 ug/l	N/A	9/25/2019	E524.2 GC/MS
Bromodichloromethane	19.4 ug/l	N/A	9/25/2019	E524.2 GC/MS
Dibromochloromethane	7.44ug/l	N/A	9/25/2019	E524.2 GC/MS
Inorganics				
Chloride	10.3 mg/l	300.0 mg/l	1/10/2019	E300.0 Anions
Fluoride	0.542 mg/l	4.0 mg/l	1/10/2019	E300.0 Anions
Nitrate (as N)	0.629 mg/l	10.0 mg/l	1/10/2019	E300.0 Anions
Sulfate	42.0 mg/l	300.0 mg/l	1/10/2019	E300.0 Anions
Total Dissolved Solids	233 mg/l	1000.0 mg/l	1/10/2019	SM2540C
Inorganics				
Metals Trace Elements				
Calcium	45.2 mg/l	20,000.0 mg/l	1/10/2019	E200.7 Metals, Tra
Magnesium	2.46 mg/l	20,000.0 mg/l	1/10/2019	E200.7 Metals, Tra
Potassium	3.51 mg/l	20,000.0 mg/l	1/10/2019	E200.7 Metals, Tra
Sodium Total	15.6 mg/l	20,000.0 mg/l	1/10/2019	E200.7 Metals, Tra
E200.8 ICP-MS				
Aluminum Total	0.033 mg/l	0.2 mg/l	1/10/2019	E200.8 IC-MS
Barium Total	0.041 mg/l	2.0 mg/l	1/10/2019	E200.8 IC-MS
Copper Total	.0025 mg/l	1.3 mg/l AL	1/10/2019	E200.8 IC-MS
Manganese Total	.0028 mg/l	0.05 mg/l	1/10/2019	E200.8 IC-MS
Nickel Total	.0012 mg/l	.1 mg/l	1/10/2019	E200.8 IC-MS

DEFINITIONS

ug/l	parts per billion or micrograms per liter
mg/l	parts per million or milligrams per liter

						Turbio	dity and TOC	2019							
			Navar	ro Mills							Lake	Halbert			
		NTU				TOC				NTU				тос	
Month	Average	Highest	% Compliance	Raw TOC	Tap TOC	% Removal	% Compliance	Month	Average	Highest	% Compliance	Raw TOC	Tap TOC	% Removal	% Compliance
Jan	0.08	0.17	100	4.79	3.25	32.2	129	Jan	0.06	0.16	100	4.6	3.11	32.4	129
Feb	0.08	0.11	100	3.87	2.48	35.9	239	Feb	0.06	0.13	100	4.86	2.86	41.2	118
Mar	0.10	0.14	100	3.54	2.66	24.9	166	Mar	0.06	0.16	100	4.89	3.12	36.2	103
Apr	0.1	0.15	100	3.59	2.86	20.3	136	Apr	0.08	0.20	100	4.78	3.05	36.2	103
May	0.12	0.25	100	4.14	2.99	27.8	111	May	0.07	0.17	100	4.89	3.16	35.4	99
Jun	0.11	0.22	100	4.14	2.82	31.9	116	Jun	0.07	0.45	100	4.98	2.94	41.0	117
Jul	0.11	0.20	100	4.21	2.94	30.2	105	Jul	0.06	0.11	100	4.87	3.27	32.9	105
Aug	0.1	0.15	100	3.85	2.73	29.1	116	Aug	0.04	0.11	100	4.20	2.54	39.5	113
Sep	0.08	0.16	100	3.56	2.84	20.2	116	Sep	0.04	0.10	100	3.59	2.33	35.1	140
Oct	0.08	0.14	100	3.96	2.94	25.8	103	Oct	0.04	0.09	100	3.73	2.40	35.7	143
Nov	0.06	0.11	100	3.86	2.94	23.8	136	Nov	0.04	0.09	100	3.75	2.52	32.8	131
Dec	0.07	0.13	100	3.65	2.87	21.4	122	Dec	0.04	0.08	100	3.44	2.41	29.9	120
Average	0.09			3.93	2.86	26.9	132.9		0.06			4.38	2.81	35.7	118.4
			NTU	Raw TOC	Tap TOC	% Removal		TOC % cor	 npliance is b	ased on co	 mpliance with th	TCFO rules	s on TOC		
Average Both Plants 0.07 4.16 2.83 31.3 removal. Plants must meet or 0															
									uarterly ave						

TTHM's 2019

Date of Samples	1/10/2019	4/4/2019	7/29/2019	10/14/2019	
Address of Sample	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Average of Quarters
4501 E HWY 31	49.3	54.6	80.4	48.1	58.1
2103 W 15th Ave	50.6	50.6	70.9	49.1	55.3
3500 Northpark	48.9	51.4	71.7	50.0	55.5
700 E 16th Ave	49.4	53.0	73.8	51.3	56.9
Average for each quarter	49.6	52.4	74.2	49.6	56.4

Haa5's 2019

Date of Samples	1/10/2019	4/4/2019	7/29/2019	10/14/2019	
Address of Sample	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Average of Quarters
4501 E HWY 31	34.6	23.3	36.9	24.9	29.9
2103 W 15th Ave	34.7	24.1	32.3	22.1	28.3
3500 Northpark	34.2	25.4	28.8	20.6	27.3
700 E 16th Ave	22.5	25.2	32.9	21.8	25.6
Average for each guarter	31.5	24.5	32.7	22.4	27.8

Year	Substance	Units	Average		Maximum		rected subst		
Tear	Substance	Units	Average	Minimum	Maximum	MCL		MCLG	Possible Source
2019	Barium	ppm	0.045	0.045	0.045	2		2	Erosion of natural deposits, discharge from drilling and metal refineries
2019	Arsenic	ppm	0.0012	0.0012	0.0012	0.010		0	Erosion of natural deposits, runoff from orchards, glass and electronic production
2019	Atrazine	ppb	0.2	0,2	0.2	3		3	Runoff from herbicide used on row crops
2019	Fluoride	ppm	0.207	0.207	0.207	4		4	Erosion of natural deposits, water additive which promotes strong teeth, discharge from fertilizer and aluminum factories
2019	Nitrate (measured as Nitrogen) *1	ppm	0.103	0.103	0.103	10		10	Runoff from fertilizer, septic tanks, sewage, natural deposits
2017	Beta/photon emitters*2	pCi/L	6.5	6.5	6.5	50		0	Decay of natural and man – made deposits
2017	Combined Radium 226/228	pCi/L	1.5	1.5	1.5	5		0	Erosion of natural deposits
2019	Chloramines *3	ppm	3.22	2.72	3.52	MRDL=	4	MRDLG=4	Disinfectant used to control microbes
2019	Total Haloacetic Acids (HAA5) *4	ppb	13	8.3	17	60	No	o goal for the total	Byproduct of drinking water disinfection
2019	Total Trihalomethanes (TTHM) '4	ppb	39	24.3	48.5	80	No	goal for the total	Byproduct of drinking water disinfection
Total Orga	anic Carbon (TOC) *5								
2019	Source Water	ppm	3,81	3,35	4.12		30 118		Naturally present in the environment
2019	Drinking Water	ppm	2.92	2.0	2.47			. Keringal	Naturally present in the environment
2019	Removal Ratio	%	2.03	1.13	3.06	%Remova	r		NA.
Turbidity '	*6								
Year	Substance	Units	Highest Single Measurement		Lowest Monthly % Sample: Meeting Li			Turbidity Limits	Possible Source
2019	Turbidity	NTU	0.06		100			0.3	Soil runoff
Lead and	Copper *7					-			
Year	Substance	Units	Action Level (AL)	Number of Sites AL	MCLG	90th Percer	ntile		Possible Source
2019	Lead	ppb	15	0	0	<0.0010			Corrosion of household plumbing systems: erosion of natural deposits
2019	Copper	ppm	1.3	0	1.3	0.042			Corrosion of household plumbing systems, corrosion of natural deposits, leaching from wood preservatives.
Coliform E	Bacteria *8								
Year	Total Bacteriological Samples Collected	Maximu Contamin Level Go	nant Maxim	m Highe um of Po	st No. or I	E.coli por imum iminant	otal No. of sitive E.coli or Fecal Coliform		Possible Source

Notes: "1 Nitrate Advisory - Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age, High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise guickly for short penods of time because of rainfall or agnorulutral activity. If you are carring for an infant, you should ask advice from your health care provider. "2 EPA considers 50 pC/LL to be the level of concern for bebs particles." It Systems must complete and submit disinfection at an infant, you should ask advice from your health care provider. "2 EPA considers 50 pC/LL to be the level of concern for bebs particles." It Systems must complete and submit disinfection and an on the Surface Water Monthly Operations. Report, 169 worth on the CPC report, the system must provide distinfection type, minimum, maximum, and average level. "4 Not all sample results may have been used for calculating the Highest Level Detected because some results may be part of an evaluation to determine where compliance sampling should occur in the future. '5 Total organic carbon (TOC) 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. Removal ratio is the percent of TOC removed by the treatment process divided by the percent of TOC required by TCCQ to be removed. '6 Turbidity has no health effects. However, turbidity, can interfer with disinfection and provide a medium for microbidity 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. 'T Definitions: 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 margi Notes: *1 Nitrate Advisory - Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome

Naturally present in the environment

2019

Unregulated, and secondary drinking water standards
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

Year	pa.gov/safewater/ucmr/ucmr2/ii Substance	Units	Average	Minimum	Maximum	MCL	MCLG	Possible Source	
2019	Chloroform	ppb	13.3	8.42	18.2	Not Regulated	Not Regulated		
2019	Bromoform	dad	1.7	0	2.16	100	100	By-product of drinking water disinfection	
2019	Bromochloromethane	ppb	14.8	9.1	17.2	Not Regulated	Not Regulated	not regulated individually	
2019	Dibromochloromethane	ppb	9.7	5.77	11.4	Not Regulated	Not Regulated	included in Total Trihalomethanes	
2019	Aluminum	mgg	0.025	0.025	0.025	0.05	0.05	Abundant naturally occurring element	
2019	Chloride	ppm	22.1	22.1	22.1	300	Not Regulated	Chlorides may get into surface water from several sources including: rocks containing chlorides, agricultural run-off, waste water from industries, oil well wastes, and effluent waste water from waste water treatment plants.	
2019	Hardness as Ca/Mg	ppm	104	104	104	NA.	NA	Naturally occurring calcium and magnesium	
2019	pH	ppm	7.54	7.32	7.84	>7.0	>7.0	Measure of corrosiveness of water	
2019	Sodium	ppm	17.4	17.4	17.4	NA.	NA	Erosion of natural deposits, by-product of oil field activity	
2019	Calcium	ppm	37.9	37.9	37.9	NA:	NA	Abundant naturally occurring element	
2019	Magnesium	ppm	2.24	2.24	2.24	NA.	NA	Abundant naturally occurring element	
2019	Suifate	ppm	26.4	26.4	26,4	300	300	Naturally occurring; common industrial by- product by-product of oil field activity	
2019	Total Alkalinity as CaCO3	ppm	120	89	154	NA.	NA	Naturally occurring soluble mineral salts	
2019	Total Dissolved Solids	ppm	151	151	151	1000	1000	Total dissolved mineral constituents in water	

Source Water Monitoring: The Long Term 2 Enhanced Surface Water Treatment Rule (LT2 Rule) requires public water systems that use surface water to monitor their source water (influent water prior to treatment) for Cryptospondium, Giardia. E., coli, and turbidity for 24 month period beginning in October of 2016. Definitions: ND= Analyte not detected in sample. PQL= Practical Quantitation Limit- the

Year	Substance	Units	Average	Minimum	Maximum	MCL	MCLG	Possible Source
2018	Turbidity	NTU	15.95	7.43	30	NA	NA.	Soil runoff
2018	Cryptosporidium	oocysts/L	ND	ND	ND	NA	NA.	Septic tanks and animal waste
2018	Giardia	cysts/L	ND	ND	ND	NA .	NA.	Septic tanks and animal waste
2018	E Coli	MPN/100ml	5 BPOL	0 BPQL	12.1 BPQL	NA.	NA.	Septic tanks and animal waste