

Annual Drinking Water Quality Report

TX1750019

RICE WSC

Annual Water Quality Report for the period of January 1 to December 31, 2015

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

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RICE WSC is Purchased Surface Water

Este reporte incluye información importante sobre el agua para tomar. Para asistencia en español, favor de llamar al teléfono ~~(903) 326-5551~~ 903-326-5551.

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 pickup 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>.

Our Water Supply ID# 1750019 in the water loss audit Submitted to the Texas Water Development Board for the time period of Jan. 2015 to Dec. 2015 lose in gallons of 6,690,000 or 2.7% loss.

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
FROM DISTRIBUTION	SW	_____	_____
SW FROM CORSICANA	SW	_____	_____
SW FROM ENNIS	SW	_____	_____

2015 Regulated Contaminants Detected

Lead and Copper

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 margin of safety.

Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Lead and Copper	Date Sampled	MCLG	Action Level (AL)	90th Percentile	# Sites Over AL	Units	Violation	Likely Source of Contamination
Copper	09/03/2013	1.3	1.3	0.112	0	ppm	N	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
Lead	09/03/2013	0	15	1.67	0	ppb	N	Corrosion of household plumbing systems; Erosion of natural deposits.

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.

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)

na: not applicable.

NTU: nephelometric turbidity units (a measure of turbidity)

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

Water Quality Test Results

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.
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)*	2015	23	5.1 - 27	No goal for the total	60	ppb	N	By-product of drinking water disinfection.
Total Trihalomethanes (TTHM)	2015	60	38.2 - 63.1	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
Nitrate [measured as Nitrogen]	2015	1	0.739 - 1.27	10	10	ppm	N	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.

Turbidity and TOC 2015

Navarro Mills										Lake Halbert									
NTU					TOC					NTU					TOC				
Month	Average	Highest	% Compliance	Raw TOC	Tap TOC	% Removal	% Compliance	Month	Average	Highest	% Compliance	Raw TOC	Tap TOC	% Removal	% Compliance				
Jan	0.07	0.16	100	4.39	3.61	17.8	100	Jan	0.06	0.11	100	4.99	3.74	25.1	100				
Feb	0.07	0.10	100	4.70	3.90	17.0	100	Feb	0.07	0.10	100	6.62	5.13	22.5	100				
Mar	0.08	0.14	100	4.74	3.66	22.8	100	Mar	0.07	0.12	100	6.42	4.80	25.2	100				
Apr	0.07	0.13	100	4.84	3.74	22.7	100	Apr	0.09	0.23	100	6.54	4.66	28.7	100				
May	0.06	0.13	100	4.65	3.64	21.7	100	May	0.09	0.27	100	6.72	4.50	33.0	100				
Jun	0.07	0.12	100	5.20	3.17	39.0	112	Jun	0.10	0.21	100	5.89	3.21	45.5	130				
Jul	0.08	0.11	100	5.59	3.73	33.3	100	Jul	0.07	0.11	100	5.45	3.43	37.1	106				
Aug	0.08	0.14	100	5.78	4.14	28.4	113	Aug	0.08	0.18	100	5.12	3.29	35.7	102				
Sep	0.11	0.17	100	5.47	4.11	24.9	96	Sep	0.10	0.21	100	4.82	3.26	32.4	120				
Oct	0.07	0.17	100	4.87	3.70	24.0	93	Oct	0.09	0.26	100	4.77	3.14	34.2	127				
Nov	0.06	0.20	100	4.82	2.94	39.0	111	Nov	0.11	0.26	100	6.03	2.88	52.2	116				
Dec	0.06	0.10	100	4.90	3.05	37.8	108	Dec	0.11	0.29	100	6.17	3.20	48.1	107				
Average	0.07		100	5.00	3.62	27.4	102.8		0.09		100	5.80	3.77	35.0	109.0				
Average Both Plants					NTU	Raw TOC	Tap TOC	% Removal											
Lowest % of compliance for NTU					0.08	5.40	3.69	31.2											
Lowest % of compliance for TOC					100														
Highest NTU					0.29														

Detected Regulated Contaminates for 2015

EP2 Lake Halbert

VOC's	Detected Quantity	MC/L	Date Collected	Analytical Method
Chloroform	42.4 ug/l	N/A	8/6/2015	E524.2 GC/MS
Dibromidchloromethane	14.6 ug/l	N/A	8/6/2015	E524.2 GC/MS
Dibromochloromethane	3.30 ug/l	N/A	8/6/2015	E524.2 GC/MS
Inorganics				
Chloride	13.6 mg/l	300 mg/l	1/28/2015	E300.0 Anions
Fluoride	0.504 mg/l	4 mg/l	1/28/2015	E300.0 Anions
Nitrate (as N)	0.0355	10 mg/l	1/28/2015	E300.0 Anions
Sulfate	61.7 mg/l	300 mg/l	1/28/2015	E300.0 Anions
Total Dissolved Solids	230 mg/l	1000 mg/l	1/28/2015	SM2540C
Inorganics Metals Trace Elements				
Sodium Total	23.5 mg/l	20,000 mg/l	1/28/2015	E200.7 Metals, Trace
E200.8 ICP-MS				
Aluminum Total	0.026 mg/l	0.2 mg/l	1/28/2015	E200.8 IC-MS
Arsenic Total	0.00084 mg/l	0.01 mg/l	1/28/2015	E200.8 IC-MS
Barium Total	0.049 mg/l	2 mg/l	1/28/2015	E200.8 IC-MS
Chromium Total	0.00085 mg/l	0.1 mg/l	1/28/2015	E200.8 IC-MS
Copper Total	.0014 mg/l	1.3 mg/l	1/28/2015	E200.8 IC-MS
Manganese Total	.00037 mg/l	0.05 mg/l	1/28/2015	E200.8 IC-MS
Nickel Total	.00090 mg/l	.1 mg/l	1/28/2015	E200.8 IC-MS
Cyanide Total	0.0863 mg/l	0.2 mg/l	1/28/2015	E355.4 CN

Detected Regulated Contaminates for 2015

EP 1 Navarro Mills

SOC Pesticide	Detected Quantity	MCL	Date Collected	Analytical Method
Atrazine	0.54 ug/l	3 ug/l	1/28/2015	E525.2 GC/MS
VOC's				
Chloroform	56.7 ug/l	N/A	8/6/2015	E524.2 GC/MS
Dibromidchloromethane	15.4 ug/l	N/A	8/6/2015	E524.2 GC/MS
Dibromochloromethane	2.85 ug/l	N/A	8/6/2015	E524.2 GC/MS
Inorganics				
Chloride	10.1 mg/l	300 mg/l	1/28/2015	E300.0 Anions
Fluoride	0.857 mg/l	4 mg/l	1/28/2015	E300.0 Anions
Sulfate	42.5 mg/l	300 mg/l	1/28/2015	E300.0 Anions
Total Dissolved Solids	202 mg/l	1000 mg/l	1/28/2015	SM2540C
Inorganics Metals Trace Elements				
Sodium Total	19.6 mg/l	20,000 mg/l	1/28/2015	E200.7 Metals, Trace
E200.8 ICP-MS				
Aluminum Total	0.029 mg/l	0.2 mg/l	1/28/2015	E200.8 IC-MS
Antimony Total	0.00023 mg/l	0.006 mg/l	1/28/2015	E200.8 IC-MS
Arsenic Total	0.00087 mg/l	0.01 mg/l	1/28/2015	E200.8 IC-MS
Barium Total	0.048 mg/l	2 mg/l	1/28/2015	E200.8 IC-MS
Chromium Total	0.00082 mg/l	0.1 mg/l	1/28/2015	E200.8 IC-MS
Copper Total	.0021 mg/l	1.3 mg/l AL	1/28/2015	E200.8 IC-MS
Manganese Total	.00071 mg/l	0.05 mg/l	1/28/2015	E200.8 IC-MS
Nickel Total	.0013 mg/l	.1 mg/l	1/28/2015	E200.8 IC-MS
Selenium Total	.0011 mg/l	.05 mg/l	1/28/2015	E200.8 IC-MS
Heavy Metals				
Mercury Total	.000269 mg/l	.002 mg/l	1/28/2015	E245.1 Mercury
Cyanide Total	0.156 mg/l	0.2 mg/l	1/28/2015	E355.4 CN

Average Chlorine Residual 2015

Month	Average Residual (mg/L)
January	2.68
February	2.20
March	2.12
April	2.02
May	2.18
June	1.55
July	1.55
August	1.74
September	1.81
October	1.84
November	1.78
December	1.87
2015 Yearly Average	1.95 mg/L

Min reading 0.5 mg/l
Max Reading 4.8 mg/l

TTHM's 2015

Date of Samples	1/28/2015		4/6/2015		7/29/2015		11/12/2015		Average of Quarters
	Address of Sample	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	1st Quarter	2nd Quarter	3rd Quarter	
4501 E HWY 31	28.6	53.6	78.3	80.3	60.2				
2103 W 15th Ave	26.0	37.6	105.0	69.9	59.6				
3500 Northpark	28.5	35.1	89.6	71.0	56.1				
700 E 16th Ave	27.1	37.1	90.8	66.0	55.3				
Average for each quarter	27.6	40.9	90.9	71.8	57.8				

Haa5's 2015

Date of Samples	1/28/2015		4/6/2015		7/29/2015		11/12/2015		Average of Quarters
	Address of Sample	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	1st Quarter	2nd Quarter	3rd Quarter	
4501 E HWY 31	17.9	37.7	55.2	80.8	47.9				
2103 W 15th Ave	15.5	22.9	66.2	62.0	41.7				
3500 Northpark	19.0	22.1	75.5	64.2	45.2				
700 E 16th Ave	15.1	22.1	48.5	25.5	27.8				
Average for each quarter	16.9	26.2	61.4	58.1	40.6				

Regulated Substances

These substances are regulated or are required to be monitored and were detected in Ennis tap water. None of the detected substances exceeded the regulated limits.

Year	Substance	Units	Average	Minimum	Maximum	MCL	MCLG	Possible Source
2015	Atrazine	ppm	0.00017	0.00017	0.00017	0.003	0.003	Runoff from herbicide used on row crops
2015	Antimony	ppm	0.00026	0.00026	0.00026	0.006	0.006	Discharge from petroleum refineries, fire retardants, ceramics, solder
2015	Barium	ppm	0.068	0.068	0.068	2	2	Erosion of natural deposits, discharge from drilling and metal refineries
2015	Chromium	ppm	0.00071	0.00071	0.00071	0.1	0.1	Discharge from steel and pulp mills, erosion of natural deposits
2015	Fluoride	ppm	0.655	0.655	0.655	4	4	Erosion of natural deposits, water additive which promotes strong teeth, discharge from fertilizer and aluminum factories
2015	Nitrate *1	ppm	0.838	0.838	0.838	10	10	Runoff from fertilizer use, leaching from septic tanks, sewage erosion of natural deposits
2015	Cyanide	ppm	0.056	0.056	0.056	0.2	0.2	Discharge from steel/metal factories; discharge from plastic and fertilizer factories
2011	Beta/photon emitters*2	pCi/L	4.5	4.5	4.5	50	0	Decay of natural and man – made deposits
2011	Combined Radium 226&228	pCi/L	1.0	1.0	1.0	5	0	Decay of natural and man – made deposits
2015	Chloramines *3	ppm	3.4	1.8	4.1	MRDL=4	MRDLG=4	Disinfectant used to control microbes
2015	Total Coliform *4	found/not found	1	1	1	*4	0	Naturally present in the environment
2015	Total Haloacetic Acids *5	ppb	12.2	23.70	35.7	60	NA	Byproduct of drinking water disinfection
2015	Total Trihalomethanes *5	ppb	56.5	37.8	71.5	80	NA	Byproduct of drinking water disinfection
2015	Total Organic Carbon (TOC) *8							
2015	Source Water	ppm	5.07	4.49	5.44			Naturally present in the environment
2015	Drinking Water	ppm	3.28	2.80	3.82			Naturally present in the environment
2015	Removal Ratio	%	1.24	1.00	1.77	%Removal*		NA
Year	Substance	Units	Highest Single Measurement		Lowest Monthly % of Samples Meeting Limit		Turbidity Limits	Possible Source
2015	Turbidity *7	NTU	0.10		100		0.3	Soil runoff
Year	Substance *8	Units	Action Level	Number of Sites > Action Level		90th Percentile		Possible Source
2013	Lead	ppb	0.015	1	0.0877	0.000185		Corrosion of household plumbing systems; erosion of natural deposits
2013	Copper	ppm	1.3	1	1.5	0.0109		Corrosion of household plumbing systems, corrosion of natural deposits, leaching from wood preservatives.

*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 quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant you should ask advice from your health care provider. *2 *The MCL for beta particles is 4 mrem/year. EPA considers 50 pCi/L to be the level of concern for beta particles." *3 Systems must complete and submit disinfection data on the Surface Water Monthly Operations Report (SWMOR). On the CCR report, the system must provide disinfection type, minimum, maximum, and average level. *4 Total coliform bacteria are used as indicators of microbial contamination in 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 harder than many disease-causing organisms; therefore, their absence from water is a good indication that the water is microbiologically safe for human consumption. Two or more total coliform found samples in any single month is the MCL. *5 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. *6 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 TCEQ to be removed. *7 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. *8 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 margin of safety. Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow. We collected lead and copper samples in 2013 and while all samples were properly collected and within required parameters we failed to provide the Lead Consumer Notification to the sample sites and the Lead Consumer Certification to the State in a timely fashion which caused an infraction of the rules language. This matter has been fully resolved. "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 (800) 426-4791 or at <http://www.epa.gov/safewater/lead>.

Unregulated and Substances of Interest

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 <http://www.epa.gov/safewater/ucmr/ucmr2/index.html>, or call the Safe Drinking Water Hotline at (800)426-4791.

Year	Substance	Units	Average	Minimum	Maximum	MCL	MCLG	Possible Source
2015	Chloroform	ppm	24.5	7.5	41.0	Not Regulated	Not Regulated	By-product of drinking water disinfection; not regulated individually; included in Total Trihalomethanes
2015	Bromoform	ppm	2.01	<1.0	3.1	Not Regulated	Not Regulated	
2015	Bromodichloromethane	ppm	20.1	15.1	25.2	Not Regulated	Not Regulated	
2015	Dibromochloromethane	ppm	10.5	7.32	13.2	Not Regulated	Not Regulated	
2015	Aluminum	ppm	0.022	0.022	0.022	0.2	0.2	Erosion of natural deposits; residue from some surface water treatment processes
2015	Copper Free	ppm	0.0013	0.0013	0.0013	1.0	1.0	Erosion of natural deposits; leaching from wood preservatives
2015	Magnesium	ppm	2.89	2.89	2.89	NA	NA	Leaching from natural deposits; industrial wastes
2015	Manganese	ppm	0.001	0.001	0.001	0.05	0.05	Erosion of natural deposits; leaching
2015	Sodium	ppm	43.5	43.5	43.5	NA	NA	Naturally occurring element
2015	Zinc	ppm	0.0034	0.0034	0.0034	5.0	5.0	Naturally occurring element
2015	Sulfate	ppm	70.6	70.6	70.6	300	300	Erosion of natural deposits; oil field activity
2015	Metolachlor	ppm	0.0002	0.0002	0.0002	NA	NA	Herbicide runoff
2015	Chloride	ppm	35.2	35.2	35.2	300	300	Naturally occurring element; oil field activity
2015	Nickel	ppm	.002	.002	.002	NA	NA	Erosion of natural deposits; discharge from metal factories
2015	Potassium	ppm	7.68	7.68	7.68	NA	NA	Leaching from natural deposits; industrial waste
2015	Total Dissolved Solids (TDS)	ppm	321	321	321	1000	1000	Runoff/leaching from natural deposits
2015	pH	units	7.5	7.3	7.8	>7.0	>7.0	Measure of corrosivity of water
2015	Total Alkalinity	ppm	94.6	94.6	94.6	NA	NA	Naturally occurring soluble mineral salts
2015	Hardness as CaMg	ppm	122	122	122	NA	NA	Naturally occurring calcium and magnesium