

# Annual Drinking Water Quality Report

TX1120021

SHIRLEY WSC

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.

SHIRLEY WSC is Ground Water

For more information regarding this report contact:

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Phone - 903-485-5811

Board Meeting: July 13, 2017 at 7:30am at Shirley Water  
Supply office

Este reporte incluye información importante sobre el agua para tomar. Para asistencia en español, favor de llamar al telefono 903-485-5811.

## 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 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 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>

The TCEQ completed an assessment of your source water and results indicate that some of your sources have susceptibility to contaminants. The sampling requirements for your water system are based on this susceptibility and previous sample data. Any detections of these contaminants may be found in this Consumer Confidence Report. For more information on source water assessments and protection efforts at our system, contact Howard Birchfield.

Shirley Water Supply Corporations water source is Carrizo-Wilcox Aquifer.

Source Water Name	Type of Water	Report Status	Location
2 - FM 2081 / CR 3425	FM 2081 / CR 3425	Y	Well #2, Spinks
5 - 0.8 MI SW OF FM 514 / FM 2031	0.8 MI SW OF FM 514 / FM 2031	Y	Well #5, Groves
6 - CR 3400	CR 3400	Y	Well #6, Lyle
7 - CR 1194 / CR 1195	CR 1194 / CR 1195	Y	Well #7, Cossette
8 - CR 3400	CR 3400	Y	Well #8, Hillside Bay
9 - CR 1195		Y	Well #9, Belcher
PLANT 4 - CR 1194 / E OF FM 2081	CR 1194 / E OF FM 2081	Y	Well #3, Durch
PLANT 4 - CR 1194 / E OF FM 2081	CR 1194 / E OF FM 2081	Y	Well #4, McConathy

## 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)

The TCEQ completed an assessment of your source water, and results indicate that some of your sources have susceptibility to contaminants. The sampling requirements of your water system are based on this susceptibility and previous sample data. Any detections of these contaminants may be found in this Consumer Confidence Report. For more information on source water assessments and protection efforts at our system, contact Howard Birchfield.

#### Regulated Contaminants

<b>Disinfectants and Disinfection By-Products</b>	<b>Collection Date</b>	<b>Highest Level Detected</b>	<b>Range of Levels Detected</b>	<b>MCLG</b>	<b>MCL</b>	<b>Units</b>	<b>Violation</b>	<b>Likely Source of Contamination</b>
Haloacetic Acids (HAA5)	2016	13	11.7 - 14.1	No goal for the total	60	ppb	N	By-product of drinking water disinfection.
Total Trihalomethanes (TTHM)	2016	43	42.1 - 43.3	No goal for the total	80	ppb	N	By-product of drinking water disinfection.
<b>Inorganic Contaminants</b>	<b>Collection Date</b>	<b>Highest Level Detected</b>	<b>Range of Levels Detected</b>	<b>MCLG</b>	<b>MCL</b>	<b>Units</b>	<b>Violation</b>	<b>Likely Source of Contamination</b>
Barium	2016	0.015	0.013 - 0.015	2	2	ppm	N	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Chromium	2016	0.51	0 - 0.51	100	100	ppb	N	Discharge from steel and pulp mills; Erosion of natural deposits.
Fluoride	2016	0.28	0.28 - 0.28	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	0.212	0.042 - 0.212	10	10	ppm	N	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Selenium	2016	1.4	0 - 1.4	50	50	ppb	N	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines.
<b>Radioactive Contaminants</b>	<b>Collection Date</b>	<b>Highest Level Detected</b>	<b>Range of Levels Detected</b>	<b>MCLG</b>	<b>MCL</b>	<b>Units</b>	<b>Violation</b>	<b>Likely Source of Contamination</b>
Combined Radium 226/228	07/05/2012	1	1 - 1	0	5	pCi/L	N	Erosion of natural deposits.
<b>Volatile Organic Contaminants</b>	<b>Collection Date</b>	<b>Highest Level Detected</b>	<b>Range of Levels Detected</b>	<b>MCLG</b>	<b>MCL</b>	<b>Units</b>	<b>Violation</b>	<b>Likely Source of Contamination</b>
Xylenes	2016	0.00107	0 - 0.00107	10	10	ppm	N	Discharge from petroleum factories; Discharge from chemical factories.

<u>Chemicals Used</u>	<u>Collection Date</u>	<u>Average Level</u>	<u>Lowest Level</u>	<u>Highest Level</u>	<u>Unit of Measure</u>	<u>Violation</u>	<u>Source of Chemical</u>
Chlorine	2016	1.37	.06	1.9	.02-4.0 mg/L	N	Gas Chlorine

For the time period of Jan – Dec. 2016, our system lost an estimated 4,437,400 gallons of water, 7.21% of water pumped. If you have any questions about the water loss audit please contact Howard Birchfield, 903-485-5811.