

2018 Consumer Confidence Report for Public Water System CITY OF GRANITE SHOALS

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

For more information regarding this report contact:

CITY OF GRANITE SHOALS provides surface water and ground water from **Lake LBJ** located in **Burnet County**..

Name: Peggy Smith

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Este reporte incluye información importante sobre el agua para tomar. Para asistencia en español, favor de llamar al telefono (830) 580-2424.

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	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.
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

'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 Peggy Smith at 830-598-2424.

Coliform Bacteria

Maximum Contaminant Level Goal	Total Coliform Maximum Contaminant Level	Highest No. of Positive	Fecal Coliform or E. Coli Maximum Contaminant Level	Total No. of Positive E. Coli or Fecal Coliform Samples	Violation	Likely Source of Contamination
0	1 positive monthly sample.	4		0	N	Naturally present in the environment.

Lead and Copper	Date Sampled	MCLG	Action Level (AL)	90th Percentile	# Sites Over AL	Units	Violation	Likely Source of Contamination
Copper	2016	1.3	1.3	0.075	0	ppm	N	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
Lead	2016	0	15	2.4	1	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	77	18.7 - 159	No goal for the total	60	ppb	Y	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	102	28 - 198	No goal for the total	80	ppb	Y	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	2018	0.0623	0.0623 - 0.0623	2	2	ppm	N	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.

Cyanide	2018	220	220 - 220	200	200	ppb	N	Discharge from plastic and fertilizer factories; Discharge from steel/metal factories.
Fluoride	2018	0.2	0.22 - 0.22	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	0.13	0.13 - 0.13	10	10	ppm	N	Runoff from fertilizer use; Leaching from septic tanks, sewage; 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
Atrazine	2018	0.14	0.14 - 0.14	3	3	ppb	N	Runoff from herbicide used on row crops.
Dalapon	2018	2.6	0 - 2.6	200	200	ppb	N	Runoff from herbicide used on rights of way.

Disinfectant Residual

Disinfectant Residual	Year	Average Level	Range of Levels Detected	MRDL	MRDLG	Unit of Measure	Violation (Y/N)	Source in Drinking Water
Chlorine, Total	2018	2.7	0.5 – 7.3	4	4	ppm	ppm	Water additive used to control microbes.

Turbidity

	Level Detected	Limit (Treatment Technique)	Violation	Likely Source of Contamination
Highest single measurement	0.1 NTU	1 NTU	N	Soil runoff.
Lowest monthly % meeting limit	100%	0.3 NTU	N	Soil runoff.

Information Statement: Turbidity is a measurement of the cloudiness of the water caused by suspended particles. We monitor it because it is a good indicator of water quality and the effectiveness of our filtration system and disinfectants.

Total Organic Carbon

The percentage of Total Organic Carbon (TOC) removal was measured each month and the system met all TOC removal requirements set, unless a TOC violation is noted in the violations section.

Violations

Haloacetic Acids (HAA5)

Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.

Violation Type	Violation Begin	Violation End	Violation Explanation
MCL, LRAA	10/01/2018	12/31/2018	<p>Water samples showed that the amount of this contaminant in our drinking water was above its standard (called a maximum contaminant level and abbreviated MCL) for the period indicated.</p> <p>What We Did: Increased flushing of water lines to reduce the disinfection byproducts and increased monitoring of sample sites for disinfection levels. An increased amount of naturally occurring organic matter has been noted in the surface water. Daily monitoring for disinfection levels is performed and monitored at the treatment plant and disinfection points in the water system. Many factors contribute to the level to TTHMs in the water system including dissolved organics, water age, and water temperature. The TTHM and HAA5 samples collected on a quarterly basis reflect the chemical concentrations of these groups of volatile organic compounds on one day out of the quarter. This sample value is used to determine the compliance values. As the compliance value is based upon a locational running annual average, this value may place the system over the MCL until several quarters of normal sample analysis result in a lower average. TCEQ requires the City to notify customers each quarter until the LRAA is less than the MCL.</p>

Total Trihalomethanes (TTHM)

Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

Violation Type	Violation Begin	Violation End	Violation Explanation
MCL, LRAA	07/01/2018	09/30/2018	<p>Water samples showed that the amount of this contaminant in our drinking water was above its standard (called a maximum contaminant level and abbreviated MCL) for the period indicated.</p> <p>What We Did: Increased flushing of water lines to reduce the disinfection byproducts and increased monitoring of sample sites for disinfection levels. An increased amount of naturally occurring organic matter has been noted in the surface water. Daily monitoring for disinfection levels is performed and monitored at the treatment plant and disinfection points in the water system. Many factors contribute to the level to TTHMs in the water system including dissolved organics, water age, and water temperature. The TTHM and HAA5 samples collected on a quarterly basis reflect the chemical concentrations of these groups of volatile organic compounds on one day out of the quarter. This sample value is used to determine the compliance values. As the compliance value is based upon a locational running annual average, this value may place the system over the MCL until several quarters of normal sample analysis result in a lower average. TCEQ requires the City to notify customers each quarter until the LRAA is less than the MCL.</p>
MCL, LRAA	10/01/2018	12/31/2018	<p>Water samples showed that the amount of this contaminant in our drinking water was above its standard (called a maximum contaminant level and abbreviated MCL) for the period indicated.</p> <p>What We Did: Increased flushing of water lines to reduce the disinfection byproducts and increased monitoring of sample sites for disinfection levels. Our water was influenced by an overwhelming increase in turbidity and organic material in this period from increased inflows. We have increased monitoring and adjusted treatment procedures due to the changing characteristics of our water source. We continue to test and monitor the system and flush dead end mains to maintain the distribution system. The TTHM and HAA5 samples collected on a quarterly basis reflect the chemical concentrations of these groups of volatile organic compounds on one day out of the quarter. This sample value is used to determine the compliance values. As the compliance value is based upon a locational running annual average, this value may place the system over the MCL until several quarters of normal sample analysis result in a lower average. TCEQ requires the City to notify customers each quarter until the LRAA is less than the MCL.</p>

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	06/10/2016	10/04/2018	We failed to adequately notify you, our drinking water consumers, about a violation of the drinking water regulation What We Did: We sent public notification to our customers in a timely manner but, we failed to send notice of delivery to all TCEQ departments of record a timely manner.
PUBLIC NOTICE RULE LINKED TO VIOLATION	05/01/2017	03/06/2019	We failed to adequately notify you, our drinking water consumers, about a violation of the drinking water regulations. What We Did: We sent public notification to our customers in a timely manner, but we failed to send notice of delivery to all TCEQ departments of record in a timely manner.
PUBLIC NOTICE RULE LINKED TO VIOLATION	11/16/2018	03/12/2019	We failed to adequately notify you, our drinking water consumers, about a violation of the drinking water regulations. What We Did: We sent public notification to our customers in a timely manner but, we failed to send notice of delivery to all TCEQ departments of record a timely manner.

Revised Total Coliform Rule (RTCR)			
The Revised Total Coliform Rule (RTCR) seeks to prevent waterborne diseases caused by E. coli. E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Human pathogens in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a greater health risk for infants, young children,			
Violation Type	Violation Begin	Violation End	Violation Explanation
MONITORING, ROUTINE, MINOR (RTCR)	06/01/2018	06/30/2018	We failed to test our drinking water for the contaminant and period indicated. Because of this failure, we cannot be sure of the quality of our drinking water during the period indicated. What We Did: We collected six samples in June 2018 for Coliform analysis. All systems were required to file a new monitoring plan based on the Revised Total Coliform Rule (RTCR). In evaluating our system for this new plan, we discovered we were collecting more samples than was required by the rule, TAC 290.109, and in the new plan submitted we made the adjustment to collect the correct number for our system which was six samples per month instead of seven. By filing the new plan with TCEQ, it was our understanding that we were in compliance by collecting six samples per month. TCEQ notified us of non-compliance as their data still reflected seven samples required, and the filing of the new plan did not change our current requirement for seven samples per month. We had collected six samples in June 2018. This means we received a violation of the TCR rule for June 2018. We discussed this issue in length with the TCEQ Compliance Inspector in April 2017 to determine the steps required to make the number of sample sites change to the regulatory number and the steps we needed to take to ensure we would be in compliance with regulatory rules. To date, our system remains listed as seven samples being the compliance value instead of the six samples as listed per population guidance in TAC 290.109.