2019 Consumer Confidence Report for Public Water System CITY OF GRANITE SHOALS

This is your water quality report for January 1 to December 31, 2019

CITY OF GRANITE SHOALS provides surface water Lake Lyndon B. Johnson located in Burnet County.

For more information regarding this report contact:

Name Peggy Smith

Phone 830-598-2424

Este reporte incluye información importante sobre el agua para tomar. Para asistencia en español, favor de llamar al telefono (830)598-2424.

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.
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 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.	1		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	2019	1.3	1.3	0.07	0	ppm	N	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems
Lead	2019	0	15	1.2	0	ppb	N	Corrosion of household plumbing systems; Erosion of natural deposits.

2019 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)	2019	105	21.8 - 90.9	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)	2019	143	53 - 135	No goal for the total	80	ppb	Y	By-product of drinking water disinfection.

'* 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	2019	0.0775	0.0775 - 0.0775	2	2	ppm	N	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Cyanide	01/23/2018	220	220 - 220	200	200	ppb	N	Discharge from plastic and fertilizer factories; Discharge from steel/metal factories.
Fluoride	2019	0.2	0.18 - 0.18	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]	2019	0.41	0.41 - 0.41	10	10	ppm	N	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.

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	2019	2.64	1.28 – 3.81	4	4	ppm	N	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

Violation Notices are a required component of this report. Violation Explanations consist of the required regulatory language for the Violation Type and the explanation of the actions of the system for each Violation Type are indicated by "What We Did".

Haloacetic Acids (HAA5)

Mandatory Language: Some people who drink water containing Haloacetic Acids in excess of the MCL over many years may have an increased risk of getting cancer.
System Notes: Samples for Haloacetic Acids (HAA5) are collected quarterly by a 3rd party contracted by TCEQ and analyzed by the Texas State Department of Health Services Lab.

Violation Type	Violation Begin	Violation End	Violation Explanation
MCL, LRAA	01/01/2019	03/31/2019	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. What We Did: We increased monitoring of sample sites and increased flushing of the system. We also requested on-site assessment to assist in review of the violations. The MCL, LRAA is a Locational Running Annual Average of the sample site for the last 4 quarters of analysis. The LRAA may remain above the MCL for several quarters even though the actual sample values are less than the MCL.
MCL, LRAA	04/01/2019	06/30/2019	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. What We Did: We increased monitoring of sample sites and increased flushing of the system. In June, we made several changes in the levels of chemical treatment for disinfection as well as authority levels of setting the chemical treatment for disinfection. The MCL, LRAA is a Locational Running Annual Average of the sample site for the last 4 quarters of analysis. The LRAA may remain above the MCL for several quarters even though the actual sample values are less than the MCL.

Haloacetic Acids (HAA5) continued			
MCL, LRAA	07/01/2019	09/30/2019	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. What We Did: Sample values for HAA5 analysis were below the MCL for this quarter. Chemical treatment levels for disinfection continue to be monitored and assessed based upon analysis and assessment sample report received from TCEQ. The MCL, LRAA is a Locational Running Annual Average of the sample site for the last 4 quarters of analysis. The LRAA may remain above the MCL for several quarters even though the actual sample values are less than the MCL.

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
FAILURE SUBMIT OEL REPORT FOR TTHM	12/27/2019	12/20/2019	We failed to submit our operational evaluation level (OEL) report to our regulator. The report is needed to determine best treatment practices necessary to minimize possible future exceedances of TTHM. What We Did: We have submitted the required report. TCEQ responded they have received the report.
MCL, LRAA	01/01/2019	03/31/2019	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. What We Did: We increased monitoring of sample sites and increased flushing of the system. We also requested on-site assessment to assist in review of the violations. The MCL, LRAA is a Locational Running Annual Average of the sample site for the last 4 quarters of analysis. The LRAA may remain above the MCL for several quarters even though the actual sample values are less than the MCL.
MCL, LRAA	04/01/2019	06/30/2019	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. What We Did: We increased monitoring of sample sites and increased flushing of the system. We also requested on-site assessment to assist in review of the violations. The MCL, LRAA is a Locational Running Annual Average of the sample site for the last 4 quarters of analysis. The LRAA may remain above the MCL for several quarters even though the actual sample values are less than the MCL.
MCL, LRAA	07/01/2019	09/30/2019	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. What We Did: Sample values for TTHM analysis were below the MCL for this quarter. Chemical treatment levels for disinfection continue to be monitored and assessed based upon analysis and assessment sample report received from TCEQ. The MCL, LRAA is a Locational Running Annual Average of the sample site for the last 4 quarters of analysis. The LRAA may remain above the MCL for several quarters even though the actual sample values are less than the MCL.
MCL, LRAA	10/01/2019	12/31/2019	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. What We Did: Sample values for TTHM analysis were below the MCL for this quarter. Chemical treatment levels for disinfection continue to be monitored and assessed based upon analysis and assessment sample report received from TCEQ. The MCL, LRAA is a Locational Running Annual Average of the sample site for the last 4 quarters of analysis. The LRAA may remain above the MCL for several quarters even though the actual sample values are less than the MCL.

Interim Enhanced SWTR

The Interim Enhanced Surface Water Treatment Rule improves control of microbial contaminants, particularly Cryptosporidium, in systems using surface water, or ground water under the direct influence of surface water. The rule builds upon the treatment technique requirements of the Surface Water Treatment Rule.

Violation Type	Violation Begin	Violation End	Violation Explanation
MONITORING, ROUTINE (IESWTR/LT1), MAJOR	09/01/2019	09/30/2019	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 completed all monitoring and analysis as required for regulatory and process control of our drinking water process. At no time was the quality of our water in question. Our Surface Water Monthly Operating Report failed to reach the TCEQ offices for processing. We sent the report by the 10th of the month following the reported month as required. We have resent the report. This was an administrative error.
MONITORING, ROUTINE (IESWTR/LT1), MAJOR	10/01/2019	10/31/2019	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 completed all monitoring and analysis as required for regulatory and process control of our drinking water process. At no time was the quality of our water in question. Our Surface Water Monthly Operating Report failed to reach the TCEQ offices for processing. We sent the report by the 10th of the month following the reported month as required. We have resent the report. This was an administrative error.
MONITORING, ROUTINE (IESWTR/LT1), MAJOR	11/01/2019	11/30/2019	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 completed all monitoring and analysis as required for regulatory and process control of our drinking water process. At no time was the quality of our water in question. Our Surface Water Monthly Operating Report failed to reach the TCEQ offices for processing. We sent the report by the 10th of the month following the reported month as required. We have resent the report. This was an administrative error.
MONITORING, ROUTINE (IESWTR/LT1), MAJOR	12/01/2019	12/31/2019	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 completed all monitoring and analysis as required for regulatory and process control of our drinking water process. At no time was the quality of our water in question. Our Surface Water Monthly Operating Report failed to reach the TCEQ offices for processing. We sent the report by the 10th of the month following the reported month as required. We have resent the report. This was an administrative error.

Violations

Lead and Copper Rule

The Lead and Copper Rule protects public health by minimizing lead and copper levels in drinking water, primarily by reducing water corrosivity. Lead and copper enter drinking water mainly from corrosion of lead and copper containing plumbing materials.

Violation Type	Violation Begin	Violation End	Violation Explanation
LEAD CONSUMER NOTICE (LCR)	12/30/2016	03/08/2019	We failed to provide the results of lead tap water monitoring to the consumers at the location water was tested. These were supposed to be provided no later than 30 days after learning the results. What We Did: We sampled for Lead and Copper in September 2016. We failed to provide results to customers within 30 days. Results were received by TCEQ. We have provided notices to customers and this notice serves as public notice.
LEAD CONSUMER NOTICE (LCR)	12/30/2019	2019	We failed to provide the results of lead tap water monitoring to the consumers at the location water was tested. These were supposed to be provided no later than 30 days after learning the results. What We Did: We sampled for Lead and Copper in September 2019. We failed to provide results to customers within 30 days. Results were received by TCEQ. We have provided notices to customers and this notice serves as public notice.

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
LEVEL 2 ASSESSMENT, 2ND LEVEL 1(RTCR)	01/20/2019	2019	We failed to properly complete a Level 2 Assessment in our water system. What We Did: TCEQ representatives were on site to conduct a Level 2 Assessment. Level 1 and Level 2 Assessments were conducted by TCEQ representatives. We have filed the Level 1 and Level 2 Assessment Reports with the TCEQ. These assessments were triggered by having more than 1 Total Coliform Positive in 2 consecutive months. All repeat samples were negative for Total Coliform. No samples were Fecal Coliform positive.

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	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 notified you of this violation on the 2018 Consumer Confidence Report. We sent in the Certificate of Delivery for the 2018 Consumer Confidence Report to TCEQ. 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. We have submitted the documentation to the Public Notice Section of TCEQ and closed this violation and this document will serve as public notification.
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 notified you of this violation on the 2018 Consumer Confidence Report. We sent in the Certificate of Delivery for the 2018 Consumer Confidence Report to TCEQ. 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. We have submitted documentation to close this violation and this notice will serve as public notification.
PUBLIC NOTICE RULE LINKED TO VIOLATION	02/15/2019	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 failed to submit Public Notice to the Public Notice Section of TCEQ. We sent public notification to our customers in a timely manner but failed to send notice of delivery to all TCEQ departments of record in timely manner. We have submitted the documentation to close this violation and this document will serve as public notification.
PUBLIC NOTICE RULE LINKED TO VIOLATION	06/22/2019	2019	We failed to adequately notify you, our drinking water consumers, about a violation of the drinking water regulations. What We Did: We failed to submit Public Notice to the Public Notice Section of TCEQ. We sent public notification to our customers in a timely manner but failed to send notice of delivery to all TCEQ departments of record in timely manner. We have submitted the documentation to close this violation and this document will serve as public notification.
PUBLIC NOTICE RULE LINKED TO VIOLATION	07/01/2019	2019	We failed to adequately notify you, our drinking water consumers, about a violation of the drinking water regulations. What We Did: We failed to submit Public Notice to the Public Notice Section of TCEQ. We sent public notification to our customers in a timely manner but failed to send notice of delivery to all TCEQ departments of record in timely manner. We have submitted the documentation to close this violation and this document will serve as public notification.

Total Organic Carbon

Total organic carbon has no health effects. However, total organic carbon provides a medium for the formation of disinfection byproducts. These byproducts include Trihalomethanes (THMs) and haloacetic acids (HAAs). Drinking water containing these byproducts in excess of the MCL may lead to adverse health effects, liver or kidney problems, or nervous system effects, and may lead to an increased risk of cancer.

Violation Type	Violation Begin	Violation End	Violation Explanation
MONITORING, ROUTINE (DBP), MAJOR	07/01/2019	09/30/2019	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 completed all monitoring and analysis as required for regulatory and process control of our drinking water process. At no time was the quality of our water in question. Our Surface Water Monthly Operating Report failed to reach the TCEQ offices for processing. We sent the report by the 10th of the month following the reported month as required. We have resent the report. This was an administrative error.

Violations

Surface Water Treatment Rule (SWTR)

The Surface Water Treatment Rule seeks to prevent waterborne diseases caused by viruses, Legionella, and Giardia lamblia. The rule requires that water systems filter and disinfect water from surface water sources to reduce the occurrence of unsafe levels of these microbes.

Violation Type	Violation Begin	Violation End	Violation Explanation
MONITORING, RTN/RPT MAJOR (SWTR-FILTER)	09/01/2019	09/30/2019	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: Our Surface Water Monthly Operating Report failed to reach the TCEQ offices for processing. We sent the report by the 10th of the month following the reported month as required. We have resent the report.
MONITORING, RTN/RPT MAJOR (SWTR-FILTER)	10/01/2019	10/31/2019	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: Our Surface Water Monthly Operating Report failed to reach the TCEQ offices for processing. We sent the report by the 10th of the month following the reported month as required. We have resent the report.
MONITORING, RTN/RPT MAJOR (SWTR-FILTER)	11/01/2019	11/30/2019	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: Our Surface Water Monthly Operating Report failed to reach the TCEQ offices for processing. We sent the report by the 10th of the month following the reported month as required. We have resent the report.
MONITORING, RTN/RPT MAJOR (SWTR-FILTER)	12/01/2019	12/31/2019	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: Our Surface Water Monthly Operating Report failed to reach the TCEQ offices for processing. We sent the report by the 10th of the month following the reported month as required. We have resent the report.