

The City of Keene Annual Drinking Water Report

(Also known as the Consumer Confidence Report)

Water System Identification Number – TX 1260008

Annual Water Quality Report for the period of January 1, 2021 to December 31, 2021**

The City of Keene produces water from multiple wells in the Trinity Aquifer located throughout the City and purchases treated water from Johnson County S.U.D. who treats surface water from Lake Granbury and receives some production from wells in the Trinity Aquifer.

For more information regarding this report, contact: City Manager, at 817-641-3336 ext. 100

Este informe incluye información sobre el agua potable. Para asistencia en español, llame al teléfono 817-641-3336 ext. 100

PUBLIC PARTICIPATION OPPORTUNITIES AT WATER BOARD MEETINGS

Meetings: Held every two weeks on Thursday Time: 6:00 pm

Location: City Hall at 1000 N. Old Betsy, Cleburne, Texas 76031

Water Loss

City of Keene's water loss audit period between January 1, 2021, and December 31, 2021. City of Keene's distribution system loss of 13,378,606 Gallons of the total system input volume 187,327,399.

2021 Consumer Confidence Report for Public Water System CITY OF KEENE

This is your water quality report for January 1 to December 31, 2021

CITY OF KEENE provides surface water and ground water from Lake Granbury Paluxy and Trinty Aquifers located in Johnson County.

For more information regarding this report contact:

Name _____Justin Hollenbach_____

Phone _____682-317-2086_____

Este reporte incluye información importante sobre el agua para tomar. Para asistencia en español, favor de llamar al telefono (817) 641-3336.

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.

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 whv total coliform bacteria have been found in our water svstem on multiole 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)

Definitions and Abbreviations

ppb:	micrograms per liter or parts per billion
ppm:	milligrams per liter or parts per million
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

CITY OF KEENE purchases water from JOHNSON COUNTY SUD. JOHNSON COUNTY SUD provides purchase surface water from Lake Granbury Paluxy and Trinity aquifer located in Johnson County.

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 **Justin Hollenbach, (682-317-2086)**

Lead and Copper	Date Sampled	MCLG	Action Level (AL)	90th Percentile	# Sites Over AL	Units	Violation	Likely Source of Contamination
Copper	09/19/2020	1.3	1.3	0.114	0	ppm	N	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems
Lead	09/19/2020	0	15	2.26	1	ppb	N	Corrosion of household plumbing systems; Erosion of natural deposits.

2021 Water Quality Test Results

Disinfection By-Products	Collection Date	Highest Level Detected	Range of Individual Samples	MCLG	MCL	Units	Violation	Likely Source of Contamination
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Haloacetic Acids (HAA5)	2021	17	0 - 27.6	No goal for the total	60	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 HAA5 sample results collected at a location over a year

Total Trihalomethanes (TTHM)	2021	24	0 - 33.1	No goal for the total	80	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 Detected	Range of Individual Samples	MCLG	MCL	Units	Violation	Likely Source of Contamination
Barium	10/14/2020	0.056	0.056 - 0.056	2	2	ppm	N	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Chromium	10/14/2020	5	5 - 5	100	100	ppb	N	Discharge from steel and pulp mills; Erosion of natural deposits.
Cyanide	10/14/2020	32.9	32.9 - 32.9	200	200	ppb	N	Discharge from plastic and fertilizer factories; Discharge from steel/metal factories.
Fluoride	2021	0.665	0.614 - 0.665	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]	2021	1	0.0104 - 0.601	10	10	ppm	N	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Nitrite [measured as Nitrogen]	2021	0.306	0 - 0.306	1	1	ppm	N	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.

Radioactive Contaminants	Collection Date	Highest Level Detected	Range of Individual Samples	MCLG	MCL	Units	Violation	Likely Source of Contamination
Beta/photon emitters	04/10/2019	4.8	0 - 4.8	0	50	pCi/L*	N	Decay of natural and man-made deposits.

*EPA considers 50 pCi/L to be the level of concern for beta particles.

Combined Radium 226/228	04/10/2019	1.5	1.5 - 1.5	0	5	pCi/L	N	Erosion of natural deposits.
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Volatile Organic Contaminants	Collection Date	Highest Level Detected	Range of Individual Samples	MCLG	MCL	Units	Violation	Likely Source of Contamination
Xylenes	2021	0.0012	0 - 0.0012	10	10	ppm	N	Discharge from petroleum factories; Discharge from chemical factories.

Disinfectant Residual

Disinfectant Residual	Year	Average Level	Range of Levels Detected	MRDL	MRDLG	Unit of Measure	Source in Drinking Water
Chloramines	2021	2.41	.50-5.0	4	4	ppm	Water additive used to control microbes.

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)	12/30/2020	07/15/2021	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.

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	10/02/2021	2021	We failed to adequately notify you, our drinking water consumers, about a violation of the drinking water regulations. (Monitoring, routine DBP, major), Chlorine. Comp Prd Begin Date 04-01-2020 Comp Prd End Date 06-30-2020.

Purchased water from Johnson County Special Utility District 2021 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)	2021	20	<1.00 - 27.2	No goal for the total	60	ppb	N	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)	2021	45.8	2.63 - 45.8	No goal for the total	80	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 Detected	Range of Individual Samples	MCLG	MCL	Units	Violation	Likely Source of Contamination
Barium	05/21/2019	0.046	0.024 - 0.046	2	2	ppm	N	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Chromium	05/21/2019	1.7	1.3 - 1.7	.1	.1	ppb	N	Discharge from steel and pulp mills; Erosion of natural deposits.
Fluoride	2021	1.59	1.59 - 1.59	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]	2021	1	0.0336 - 0.767	10	10	ppm	N	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.

Radioactive Contaminants	Collection Date	Highest Level Detected	Range of Individual Samples	MCLG	MCL	Units	Violation	Likely Source of Contamination
Combined Radium 226/228	11/07/2017	1.5	1.5 - 1.5	0	5	pCi/L	N	Erosion of natural deposits.

Volatile Organic Contaminants	Collection Date	Highest Level Detected	Range of Individual Samples	MCLG	MCL	Units	Violation	Likely Source of Contamination
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Ethylbenzene	2021	7.23	0 - 7.23	700	700	ppb	N	Discharge from petroleum refineries.
Xylenes	2021	0.0379	0 - 0.0379	1	1	ppm	N	Discharge from petroleum factories; Discharge from chemical factories.

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	Source in Drinking Water
Chloramines Free Chlorine	2021	2.65	0.44 – 3.95	4	4	ppm	Water additive used to control microbes.

Turbidity is a measure of the clarity of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. During the reporting year, samples taken to measure turbidity met water quality standards.

Substance	Unit of Measure	Year	Highest Single Measurement	Lowest Monthly % of Samples	Turbidity Limits	MCL	Typical Source
Turbidity	NTU	2021	0.346	96.6%	0.3	TT	Soil runoff