

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, 2023 to December 31, 2023

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: First and Third Thursday of the Month, 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, 2023, and December 31, 2023. City of Keene's distribution system experienced a Total Real loss of 16,296,956 Gallons of the total system input volume 210,926,023.

2023 Consumer Confidence Report for Public Water System CITY OF KEENE

This is your water quality report for January 1 to December 31, 2023

CITY OF KEENE provides surface water and ground water from **Lake Granbury, as well as the Paluxy and Trinity aquifers located in Johnson County.**

For more information regarding this report contact:

Name: Brandon Finley

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 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)

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 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

CITY OF KEENE purchases water from JOHNSON COUNTY SUD. JOHNSON COUNTY SUD provides purchase surface water from Lake Granbury , as well as the 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:

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: Brandon Finley – (682-317-2086)

Lead and Copper	Date Sampled	MCLG	Action Level (AL)	90th Percentile	# Sites Over AL	Units	Violation	Likely Source of Contamination
Copper	2023	1.3	1.3	0.188	0	ppm	N	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems
Lead	2023	0	15	1.5	0	ppb	N	Corrosion of household plumbing systems; Erosion of natural deposits.

2023 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)	2023	17	0 - 20.3	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)	2023	34	0 - 34.5	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	2023	0.045	0.04 - 0.045	2	2	ppm	N	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Chromium	2023	1.5	0 - 1.5	100	100	ppb	N	Discharge from steel and pulp mills; Erosion of natural deposits.
Cyanide	2023	131	0 - 131	200	200	ppb	N	Discharge from plastic and fertilizer factories; Discharge from steel/metal factories.
Fluoride	2023	1.23	0.629 - 1.23	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]	2023	1	0 - 0.593	10	10	ppm	N	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Nitrite [measured as Nitrogen]	2023	0.412	0 - 0.412	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
Combined Radium 226/228	04/10/2019	1.5	1.5 - 1.5	0	5	pCi/L	N	Erosion of natural deposits.

Disinfectant Residual

Disinfectant Residual	Year	Average Level	Range of Levels Detected	MRDL	MRDLG	Unit of Measure	Violation (Y/N)	Source in Drinking Water
Chloramines	2023	2.25	.51-4.55	4	4	ppm	N	Water additive used to control microbes.

Purchased water from Johnson County Special Utility District 2023 Water Quality Results

Disinfection By-Products	Collection Date	Highest Level Detected	Range of Individual Samples	MCLG	MCL	Units	Violation	Likely Source of Contamination
Haloacetic Acids (HAA5)	2023	14	1.4 - 16.2	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)	2023	38	4.62 - 49.7	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	10/27/2022	0.063	0.027 - 0.063	2	2	ppm	N	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Cyanide	2023	43.9	0 - 43.9	200	200	ppb	N	Discharge from plastic and fertilizer factories; Discharge from steel/metal factories.
Fluoride	2023	1.96	0.272 - 1.96	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]	2023	1	0 - 0.678	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	2023	1.5	1.5 - 1.5	0	5	pCi/L	N	Erosion of natural deposits.
Gross alpha excluding radon and uranium	2023	3.1	0 - 3.1	0	15	pCi/L	N	Erosion of natural deposits.

Disinfectant Residual

Disinfectant Residual	Year	Average Level	Range of Levels Detected	MRDL	MRDLG	Unit of Measure	Violation (Y/N)	Source in Drinking Water
Chloramines/Free Cl2	2023	2.26	1.00-3.94	4	4	ppm	N	Water additive used to control microbes.

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

Substance	Unit of Measure	Year	Highest Single Measurement	Lowest Monthly % of Samples	Turbidity Limits	MCL	Violation (Y/N)	Source in Drinking Water
Turbidity	NTU	2023	.43	100%	.300	ppm	N	Soil Runoff

PFAS are widely used, long lasting chemicals, components of which break down very slowly over time. Because of their widespread use and their persistence in the environment, many PFAS are found in the blood of people and animals all over the world and are present at low levels in a variety of food products and in the environment. PFAS are found in water, air, fish, and soil at locations across the nation and the globe. Scientific studies have shown that exposure to some PFAS in the environment may be linked to harmful health effects in humans and animals. The City of Keene has conducted early testing for PFAS in two water sources and the results show we are below the MRL (Maximum Recommended limit).

WELL # 6 Raw Entry Point				Well #11 Raw Entry Point			
Parameter	Results	Units	MRL	Parameter	Results	Units	MRL
PFBA	<0.00464	Ug/L	0.0464	PFBA	<0.00455	Ug/L	<u>0.00455</u>
PFMPA	<0.00371	Ug/L	0.00371	PFMPA	<0.00364	Ug/L	<u>0.00364</u>
PFPeA	<0.00278	Ug/L	0.00278	PEPeA	<0.00273	Ug/L	<u>0.00273</u>
PFBS	<0.00278	Ug/L	0.00278	PFBS	<0.00273	Ug/L	<u>0.00273</u>
PFMBA	<0.00278	Ug/L	0.00278	PFMBA	<0.00273	Ug/L	<u>0.00273</u>
PFEESA	<0.00278	Ug/L	0.00278	PFEESA	<0.00273	Ug/L	<u>0.00273</u>
NFDHA	<0.0185	Ug/L	0.0185	NFDHA	<0.0182	Ug/L	<u>.0182</u>
4:2FTS	<0.00278	Ug/L	0.00278	4:2FTS	<0.00273	Ug/L	<u>0.00273</u>
PFHxA	<0.00278	Ug/L	0.00278	PFHxA	<0.00273	Ug/L	<u>0.00273</u>
PFPeS	<.00371	Ug/L	0.00371	PFPeS	<0.00364	Ug/L	<u>0.00364</u>
HFPO-DA	<0.00464	Ug/L	0.0464	HFPO-DA	<0.00455	Ug/L	<u>0.00455</u>
PFHpA	<0.00278	Ug/L	0.00278	PFHpA	<0.00273	Ug/L	<u>0.00273</u>
PFHxS	<0.00278	Ug/L	0.00278	PFHxS	<0.00273	Ug/L	<u>0.00273</u>
ADONA	<0.00278	Ug/L	0.00278	ADONA	<0.00273	Ug/L	<u>0.00273</u>

6:2FTS	<0.00371	Ug/L	0.00371	6:2FTS	<0.00364	Ug/L	<u>0.00364</u>
PFOA	<0.00371	Ug/L	0.00371	PFOA	<0.00364	Ug/L	<u>0.00364</u>
PFHpS	<0.00278	Ug/L	0.00278	PFHpS	<0.00273	Ug/L	<u>0.00273</u>
PFNA	<0.00371	Ug/L	0.00371	PFNA	<0.00364	Ug/L	<u>0.00364</u>
PFOS	<0.00371	Ug/L	0.00371	PFOS	<0.00364	Ug/L	<u>0.00364</u>
9CI-PF3ONS	<0.00185	Ug/L	0.0185	9CI-PF3ONS	<0.0182	Ug/L	<u>.0182</u>
8:2FTS	<0.00464	Ug/L	0.0464	8:2FTS	<0.00455	Ug/L	<u>0.00455</u>
PFDA	<0.00278 ug	Ug/L	0.00278	PFDA	<0.00273	Ug/L	<u>0.00273</u>
PFUnA	<0.00185	Ug/L	0.0185	PFUnA	<0.0182	Ug/L	<u>.0182</u>
11CI-PF3OUdS	<0.00464	Ug/L	0.0464	11CI-PF3OUdS	<0.00455	Ug/L	<u>0.00455</u>
PFDaA	<0.00278 ug	Ug/L	0.00278	PFDaA	<0.00273	Ug/L	<u>0.00273</u>