City of Quinlan

2022
Annual Drinking
Water Quality
Report

City of Quinlan

Purchased Surface Water System
TX 1160007

2022 Consumer Confidence Report for Public Water System CITY OF QUINLAN

This is your water quality report for January 1 to December 31, 2022

CITY OF QUINLAN provides surface water and ground water from **Cash SUD TX 1160018 located in Quinlan, TX and from Combined Consumers WSC, TX 1160052**

For more information regarding this report contact:

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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)
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 Quinlan purchases water from Cash SUD, Cash SUD provides purchase surface water from Lake Tawakoni, which supplies Cumby, Lone Oak, and Cash areas south of Interstate 30.Cash SUD also has a second source of water they purchase from North Texas Municipal Water District (NTMWD) which treats the raw water from Lake Lavon, and services< this water supplies the Southeast Caddo Mills, Quinlan, and Union Valley areas south of 30. City of Quinlan also purchases water from Combined Consumer WSC which is obtained from Lake Tawakoni.

'No Source Water Assessment for your drinking water source(s) has been conducted by the TCEQ for your water system. The report describes the susceptibility and the types of constituents that may come into contact with your drinking water source based on human activities and natural conditions. The information in this assessment allows us to focus our source water protection strategies.

Lead and Copper	Date Sampled	MCLG	Action Level (AL)	90th Percentile	# Sites Over AL	Units	Violation	Likely Source of Contamination
Copper	09/30/2021	1.3	1.3	0.17	0	ppm	N	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
Lead	09/30/2021	0	15	2	0	ppb	N	Corrosion of household plumbing systems; Erosion of natural deposits.

2022 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)	2022	13	3.3 - 21.7	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)	2022	37	18.8 - 50.3	No goal for the total	80	ppb	N	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
Nitrate [measured as Nitrogen]	2022	1	0.69 - 0.883	10	10	ppm	N	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Nitrite [measured as Nitrogen]	06/10/2021	0.145	0.136 - 0.145	1	1	ppm	N	Runoff from fertilizer use; Leaching from septic tanks, sewage; 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
Chloramine	2022	2.03	0.31-3.98	4	4	ppm	N	Water additive used to control microbes.

Violations: 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)	01/01/2022	01/03/2022	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.

Cash Special Utility District PWS ID 1160018 Information:

Source Water Assessment: The TCEQ completed an assessment of your source water and results indicate that some of your sources are susceptible to certain 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 Clay Hodges, General Manager, at (903) 883-2695.

INORGANIC CONTAMINANTS								
CONTAMINANT (UNIT OF MEASURE)	YEAR	CASH SUD		NTMWD		MCL	MCLG	SOURCE OF CONTAMINANT
		HIGHEST	RANGE	HIGHEST	RANGE			
Arsenic (ppb)	2022	ND	N/A	ND	N/A	0.01	0	Erosion of natural deposits; runoff from orchards; runoff from glass & electronic production wastes
Barium (ppm)	2022	0.057[1]	N/A	0.061	0.060-0.061	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Bromate (ppb)	2022	N/A	N/A	4.9	4.9-4.9	5	10	By-product of drinking water ozonation
Chromium (ppb)	2022	.0011[1]	N/A	ND	N/A	0.1	0.1	Discharge from steel and pulp mills; erosion of natural deposits
Cyanide (ppb)	2022	ND	N/A	ND	N/A	100	100	Discharge from steel/metal factories; Discharge from plastics and fertilizer factories
Fluoride (ppm)	2022	0.18[1]	N/A	0.688	0.278-0.688	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate (measured as Nitrogen) (ppm)	2022	0.58	0.292-0.58	0.439	0.158-0.439	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Beta/photon emitters (pCi/L)	2022	N/A	N/A	4.7	4.7-4.7	50	0	Decay of natural & man-made deposits

ORGANIC CONTAMINANTS								
CONTAMINANT (UNIT OF MEASURE)	YEAR	CASH SUD		NTMWD		MCL	MCLG	SOURCE OF CONTAMINANT
		HIGHEST	RANGE	HIGHEST	RANGE			
Atrazine (ppb)	2022	0.3[1]	N/A	0.12	0.10-0.12	3	3	Runoff from herbicide used on row crops
Di(2-ethylhexyl) phthalate (ppb)	2022	ND[1]	N/A	ND	N/A	6	6	Discharge from rubber & chemical factories
Simazine (ppb)	2022	ND[1]	N/A	ND	N/A	4	4	Runoff from herbicide used on row crops

LEAD & COPPER					
CONTAMINANT (UNIT OF MEASURE)	YEAR	CASH SUD		AL	SOURCE OF CONTAMINANT
		90th Percentile	Sites Above AL		
Lead (ppm)	2021	0.00204	0	0.015	Corrosion of household plumbing systems; erosion of natural deposits
Copper (ppm)	2021	0.321	0	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

MAXIMUM RESIDUAL DISINFECTANT LEVEL								
CONTAMINANT (UNIT OF MEASURE)	YEAR	CASH SUD		NTMWD		MRDL	MRDLG	SOURCE OF CONTAMINANT
		HIGHEST	RANGE	HIGHEST	RANGE			
Chlorine Residual (ppm)	2022	4.0	0.7 – 4.0	N/A	N/A	4.0	< 4.0	Disinfectant used to control microbes
Chlorine Dioxide (ppm)	2022	ND	N/A	0.27	0.0-0.27	0.8	0.8	Disinfectant
Chlorine (ppm)	2022	ND	N/A	0.72	0.0-0.72	1.0	N/A	Disinfectant

TURBIDITY							
CONTAMINANT (UNIT OF MEASURE)	YEAR	HIGHEST SINGLE MEASUREMENT		LOWEST MONTHLY % OF SAMPLES MEETING LIMIT		TURBIDITY LIMITS	SOURCE OF CONTAMINANT
		CASH SUD	NTMWD	CASH SUD	NTMWD		
Turbidity (NTU)	2022	0.25	0.4	100%	99.50%	0.3	Soil Runoff

TOTAL ORGANIC CARBON								
CONTAMINANT (UNIT OF MEASURE)	YEAR	CASH SUD		NTMWD		MCL	MCLG	SOURCE OF CONTAMINANT
		HIGHEST	RANGE	HIGHEST	RANGE			
Source Water	2022	6.01	4.44 - 6.01	**	N/A	N/A	N/A	Naturally present in the environment
Drinking Water	2022	3.86	2.19 - 3.86	**	N/A	N/A	N/A	
Removal Ratio*	2022	1.55	0.79 - 1.55	**	N/A	N/A	N/A	N/A

* Removal ratio is the percent of TOC removed by the treatment process divided by the percent of TOC required by TCEQ to be removed. NOTE: Total organic carbon (TOC) has no health effects. The disinfectant can combine with TOC to form disinfection byproducts. Byproducts of disinfection include trihalomethanes (THM) and haloacetic acids (HAA), which are reported elsewhere in this report.

**The percentage of Total Organic Carbon (TOC) removal was measured each month and the system met all TOC removal requirements set.

MICROBIOLOGICAL CONTAMINANTS					
YEAR	CONTAMINANT (UNIT OF MEASURE)	LEVEL DETECTED CASH SUD	MCL	MCLG	SOURCE OF CONTAMINANT
2022	Total Coliform Bacteria (# positive monthly samples)	0	1 POSITIVE SAMPLE/ MONTH	0	Naturally present in the environment

DISINFECTION BYPRODUCTS								
CONTAMINANT (UNIT OF MEASURE)	YEAR	CASH SUD		NTMWD		MCL	MCLG	SOURCE OF CONTAMINANT
		HIGHEST	RANGE	HIGHEST	RANGE			
Total Haloacetic Acids (ppb)	2022	20.9	12.5 - 20.9	N/A	N/A	60	N/A	Byproduct of drinking water disinfection
Total Trihalomethanes (ppb)	2022	35.2	23.2 - 35.2	N/A	N/A	80	N/A	

INORGANIC CONTAMINANTS								
CONTAMINANT (UNIT OF MEASURE)	YEAR	CASH SUD		NTMWD		MCL	MCLG	SOURCE OF CONTAMINANT
		HIGHEST	RANGE	HIGHEST	RANGE			
Bromodichloromethane (ppb)	2022	10.9	7.64 - 10.9	N/A	N/A	N/A	N/A	Byproduct of drinking water disinfection
Bromoform (ppb)	2022	<1.00	ND - <1.00	N/A	N/A	N/A	N/A	
Chloroform (ppb)	2022	22.2	12.7 - 22.2	N/A	N/A	N/A	N/A	
Dibromochloromethane (ppb)	2022	3.81	2.54 - 3.81	N/A	N/A	N/A	N/A	

NOTE: Bromoform, chloroform, dichlorobromomethane, and dibromochloromethane are disinfection by-products. There is no MCL for these chemicals at the entry point to distribution.

INORGANIC CONTAMINANTS							
CONTAMINANT (UNIT OF MEASURE)	YEAR	CASH SUD		NTMWD		SECONDARY LIMIT	SOURCE OF CONTAMINANT
		HIGHEST	RANGE	HIGHEST	RANGE		
Calcium (ppm)	2022	21.7[1]	N/A	69.8	32.2-69.8	N/A	Abundant naturally occurring element
Chloride (ppm)	2022	45.8[1]	N/A	107	30-107	N/A	Abundant naturally occurring element; used in water purification; byproduct of oil field activity.
Magnesium (ppm)	2022	2.95[1]	N/A	9.70	9.61-9.70	N/A	Abundant naturally occurring element.
Manganese (ppm)	2022	0.013[1]	N/A	0.159	0.004-0.159	N/A	Abundant naturally occurring element.
Nickel (ppm)	2022	0.0033[1]	N/A	0.0098	.0069-.0098	N/A	Erosion of natural deposits
pH (units)	2022	8.15	7.81 - 8.15	9.2	7.0-9.2	6.5 - 8.5	Measure of corrosivity of water
Potassium (ppm)	2022	4.25[1]	N/A	N/A	N/A	N/A	Runoff/leaching from natural deposits
Sodium (ppm)	2022	30.3[1]	N/A	95.4	26.5-95.4	N/A	Erosion of natural deposits; byproduct of oil field activity
Specific Conductance (micromohos) (µS/cm)	2020	307[1]	N/A	N/A	N/A	1600	Substances that form ions when in water; seawater influence
Sulfate (ppm)	2022	13.8[1]	N/A	171	84.2-171	250	Naturally occurring; common industrial byproduct; byproduct of oil field activity.
Total Alkalinity as CaCO3 (ppm)	2022	120	52.9 - 120	139	69-139	N/A	Naturally occurring soluble mineral salts.
Total Dissolved Solids (ppm)	2022	168[1]	N/A	492	269-492	1000	Total dissolved mineral constituents in water.
Total Hardness as CaCO3 (ppm)	2022	66.2[1]	N/A	194	90-194	N/A	Naturally occurring calcium

[1] Result is a single sample

The state allows us to monitor for some contaminants less than once per year because the concentration of these contaminants do not change frequently. Some of our data, though accurate, is more than one year old.

Combined Consumers:

Lead and Copper 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. Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Lead and Copper	Date Sampled	MCLG	Action Level	90th Percentile	# Sites Over AL	Units	Violation	Likely Source of Contamination
Copper	2021	1.3	1.3	0.208	0	ppm	N	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
Lead	2021	0	15	2.72	0	ppb	N	Corrosion of household plumbing systems; Erosion of natural deposits.

Turbidity Turbidity is a measurement of the cloudiness of the water caused by suspended particles.

	Limit (Treatment Technique)	Level Detected	Violation	Likely Source of Contamination
Highest single measurement	1 NTU	0.9 NTU	N	Soil runoff.
Lowest monthly % meeting limit	0.3 NTU	100 %	N	Soil runoff.

Regulated Contaminants

Disinfectants and Disinfection By-Products	*Collection Date*	*Highest Level Detected*	*Range of Levels Detected*	*MCLG*	*MCL*	*Units*	*Violation*	*Likely Source of Contamination*
Haloacetic Acids (HAA5)*	2022	28	14.3-32.3	No goal for the total	60	ppb	N	By-product of drinking water disinfection.
Total Trihalomethanes (TTHM)	2022	21	15.2-25.4	No goal for the total	80	ppb	N	By-product of drinking water disinfection.
Inorganic Contaminants	***Collection Date***	***Highest Level Detected***	***Range of Levels Detected***	***MCLG***	***MCL***	***Units***	***Violation***	***Likely Source of Contamination***
Barium	2022	0.062	0.062 - 0.062	2	2	ppm	N	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Cyanide	2022	61.4	61.4 - 61.4	200	200	ppm	N	Discharge from plastic and fertilizer factories. Discharge from steel/metal factories.
Fluoride	2022	0.1	0.116-0.116	4	4.0	ppm	N	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and
Nitrate measured as Nitrogen]	2022	0.21	0.21 – 0.21	10	10	ppm	N	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Nitrate measured as Nitrogen]	2022	0.113	0.113 – 0.113	10	10	ppm	N	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.

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.

Disinfectant	*Year*	*Average Level*	*Range of Levels Detected*	*MRDL*	*MRDLG*	*Unit of Measure*	*Violation*	*Likely Source of Contamination*
CL@Gas Chlorine	2022	*2.81*	*1.0 – 5.0*	*4*	*4*	*ppm*	*N*	*Water additives used to control microbes.*

Radioactive Contaminants

Radioactive Contaminants	*Collection Date*	*Highest Level Detected*	*Range of Individual Samples*	*MCLG*	*MCL*	*Units*	*Violation*	*Likely Source of Contamination*
Combined Radium 226/228	2022	*1.5*	*1.5 – 1.5*	*0*	*5*	*pCi/L*	*N*	*Erosion of natural deposits*

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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 asbestos)

na: not applicable.

NTU nephelometric turbidity units (a measure of turbidity)

pCi/L picocuries per liter (a measure of radioactivity

pCi/L picocuries per liter (a measure of radioactivity)

ppb: micrograms per liter or parts per billion - or one in 7,350,000 gallons of water.

ounce

ppm: milligrams per liter or parts per million - or one ounce in 7,350 gallons of water.

ppt parts per trillion, or nanograms per liter (ng/L)

ppq parts per quadrillion, or picograms per liter (pg/L)

Treatment Technique or TT A required process intended to reduce the level of a contaminant in drinking water