Annual Drinking Water Quality Report 2019

SAGINAW, TX

Annual Water Quality Report for the period of January 1 to December 31, 2019. This report is intended to provide you with important information about your drinking water and the efforts made by the water system to provide safe drinking water.

CITY OF SAGINAW water supply is Purchased Surface Water.

City Council Meets the 1st & 3rd Tuesday each month at 6:00 pm, , discussion of water issues or concerns are welcome.

For more information regarding this report contact:
Randy Newsom at
817-230-0448

Este reporte incluye información importante sobre el agua para tomar. Para asistencia en español, favor de llamar al telefono 817-232-4640

INFORMATION ABOUT SOURCE WATER ASSESSMENTS

The TCEQ has completed a Source Water Assessment for all drinking water systems that own their sources. The report describes the susceptibility and types of constituents that may come into contact with your drinking water source based on human activities and natural conditions. The system(s) from which we purchase our water received the assessment report. For more information on source water assessments and protection efforts at our system, contact Randy Newsom at (817-230-0448).

For more information about your sources of water, please refer to the Source Water Assessment Viewer available at the following URL: http://www.tceq.texas.gov/gis/swaview

Further details about sources and source-water assessments are available in Drinking Water Watch at the following URL: http://dww2.tceq.texas.gov/DWW/

The City of Saginaw purchases 100% of our drinking water from the City of Fort Worth. All treatment processes are completed by the City of Fort Worth at the treatment plant.

The City of Saginaw only monitors chlorine levels throughout our distribution system to ensure the residual never drops below the minimum of 0.5 mg/l. During the calendar year 2019 our average daily chlorine residual was 1.93 mg/L.

City of Saginaw Data for calendar year 2018

Disinfectant Residual Table

Disinfectant	Year	Average Level	Range of Levels Detected	MRDL	MRDLG	Unit of Measure	Violation (YIN)	Likely Source of Contamination
Chloramines	2019	1.93 mg/L	0 - 5mg/L	4	4	mg/L	N	Water additive used to control microbes.

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	0 positive monthly sample	0	0	0	N	Naturally present in the environment

City of Saginaw Data: 2016 Regulated Contaminants Detected

Definitions: 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 (AL)	90th Percentile	# Sites Over AL	Units	Violation	Likely Source of Contamination
Lead	2019	0	15	4.3	0	ppb	N	Corrosion of household plumbing systems; Erosion of natural deposits.
Copper	2019	1.3	1.3	0.51	0	ppm	N	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing.

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)	2019	9	4.2 - 12.6	No goal for the total	60	ppb	N	By-product of drinking water disinfection.
Total Trihalomethanes (TTHM)	2019	9	4.41- 13.6	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**
Nitrate [measured as Nitrogen]	2019	0.315	0.315 - 0.315	10	10	ppm	N	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.

The Texas Water Development Board requires the City of Saginaw to conduct an annual water audit report. This report determines the amount of water loss that a system had throughout the year. The city submitted the 2019 report for the time period of January through December 2019. Our system lost an estimated 124,789,381 gallons of water. This loss is calculated by using events such as main breaks, theft, meter inaccuracies, Fire Department use and system maintenance. Using this data, the City of Saginaw had a 11.1% loss for the year. The city strives to have a 10% loss or lower on an annual basis. With better tracking methods, system inspections and monitoring, the city hopes to lower water loss each year. If you have any questions about the water audit, please call 817-230-0448.

UCMR 4: Fort Worth's testing detected only four of the 30 compounds included in the fourth round of unregulated contaminant monitoring. The detections were one metal and the three haloacetic acid disinfection byproduct groups.

Compound	Measure	Average	Range of Detects	Common Sources of Substance
Manganese	ppb	0.93	0.40 to 4.19	Naturally occurring; used in drinking water and waste- water treatment; used in steel production, fertilizer, batteries and fireworks
HAA5	ppb	3.94	1.27 to 5.11	Byproducts of drinking water disinfection
HAA6Br	ppb	3.16	1.71 to 4.05	
HAA9	ppb	6.26	2.98 to 7.47	

Haloacetic Acid Groups: This table includes all of the compounds that comprise each of the haloacetic acid groups. Compounds that are not detected are usually not listed in the charts in this report; however, those undetected are listed below to provide complete information on the compounds that comprise each of the three groups in the table above.

Compound	Measure	Average	Range of Detects	HAA5	HAA6Br	HAA9	Common Sources of Substance
Dichloroacetic Acid	ppb	3.10	1.27 to 4.91	HAA5		HAA9	By-products of drinking water disinfection
Monochloroacetic Acid	ppb	0	0 to 0	HAA5		HAA9	
Trichloroacetic Acid	ppb	0	0 to 0	HAA5		HAA9	
Monobromoacetic Acid	ppb	0	0 to 0	HAA5	HAA6Br	HAA9	
Dibromoacetic acid	ppb	0.84	0 to 1.75	HAA5	HAA6Br	HAA9	
Bromochloroacetic acid	ppb	2.32	1.71 to 2.76		HAA6Br	HAA9	
Bromodichloroacetic acid	ppb	0	0 to 0		HAA6Br	HAA9	
Chlorodibromoacetic acid	ppb	0	0 to 0		HAA6Br	HAA9	
Tribromoacetic acid	ppb	0	0 to 0		HAA6Br	HAA9	

DEFINITIONS

AL (Action Level): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

MRDL (Maximum Residual Disinfectant Level): 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.

MRDLG (Maximum Residual Disinfectant Level Goal): 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 contamination.

MCLG (Maximum Contaminant Level Goal): 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.

MCL (Maximum Contaminant Level): 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.

mg/L: Not defined here but is used in the report

NA: Not applicable

ND: Not detected

pCi/L: Not defined here but is used in the report

TT (Treatment Technique): A required process intended to reduce the level of a contaminant in drinking water.

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water.

WTP: Water Treatment Plant

TOC: Total Organic Carbon

HAA: Haloacetic Acids

TTHM: Total Trihalomethanes

LRAA: Local Running Annual Average

µmhos/cm: Not defined here but is used in the report

SOURCES OF 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, the 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 immuno-compromised 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.

Microorganism testing shows low detections in raw water
Tarrant Regional Water District monitors the raw water at all intake sites for Cryptosporidium, Giardia Lamblia and viruses. The source is human and animal fecal waste in the watershed. The 2019 sampling showed low level detections of Cryptosporidium, Giardia Lamblia and viruses in some but not all of the water supply sources. Viruses are treated through disinfection processes. Cryptosporidium and Giardia Lamblia are removed through disinfection and/or filtration.

TCEQ assesses raw water supplies susceptibility
Fort Worth uses surface water from Lake Worth, Eagle Mountain Lake, Lake Bridgeport, Richland Chambers Reservoir, Cedar Creek Reservoir, Lake Benbrook and the Clear Fork Trinity River.

Fort Worth owns Lake Worth. The U.S. Army Corps of Engineers is responsible for Benbrook Lake. The other four lakes are owned and operated by Tarrant Regional Water District.

The Texas Commission on Environmental Quality completed an assessment of Fort Worth's source waters. TCEQ classified the risk to our source waters as high for most contaminants.

High susceptibility means there are activities near the source water or watershed make it very likely that chemical constituents may come into contact with the source water. It does not mean that there are any health risks present.

Tarrant Regional Water District, from which Fort Worth purchases its water, received the assessment reports.

For more information on source water assessments and protection efforts at our system, contact Stacy Walters at 817-392-8203.

Further details about the source-water assessments are available in the Texas Commission on Environmental Quality's Drinking Water Watch database at http://dww2.tceq.texas.gov/DWW/JSP/SWAP.jsp?tinwsys_is_number=5802&tinwsys_st_code=TX&wsnumber=TX2200012%20%20%20%20&DWWState=TX

Emergency Interconnection

In accordance with the requirements of 290.272. Content of the Report. (g) (6) "Systems that use an interconnect or emergency source to augment the drinking water supply during the calendar year of the report must provide the source of the water, the length of time used, an explanation of why it was used, and whom to call for the water quality information."

The Trinity River Authority of Texas-Tarrant Water Supply Project supplied water to Fort Worth through an emergency interconnection. The water was supplied from Jan. 15 through Jan. 18 and Feb. 26 through Feb. 28, as repayment for water supplied to TRA in a previous year for a pipeline rupture.

Wholesale customers in the Centerport area of Fort Worth may have received some of this water.

Wholesale customers should use their own phone number and not a Fort Worth number for customers to call. Fort Worth's water quality report is available online at www.fortworthtexas.gov/tapwater.

SW From Fort Worth CC From TX2200012 City of / SW (Type of Water)

Contaminant	Measure	MCL	MCLG	Your Water	Range of Levels Detected	Violation	Likely Sources of Contaminant
Beta Particles & Photon emitters[1]	pCi/L	0	0	5.6	4.4 - 5.6	No	Decay of natural and man-made deposits of certain minerals that are radioactive and may emit forms of radiation known as photons and beta radiation
Combined Radium 226/228[1]	pCi/L	0	0	2.5	NA	No	Erosion of natural deposits
Uranium	mg/L	30	0	1.1	0 - 1.1	No	Erosion of natural deposits
Because Fort Worth historically has had low levels of radionuclides in it's water, TCEQ requires this monitoring occur only once every six years. The test results shown above are from 2017. the next monitoring will occur in 2023.							
Arsenic	ppb	10	0	1.50	0 - 1.50	No	Erosion of natural deposits; runoff from orchards, runoff from glass and electronics production wastes
Atrazine	ppb	3	3	0.1	0.0 - 0.1	No	Runoff from herbicide used on row crops
Barium	ppm	2	2	0.06	0.05 - 0.06	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Cyanide	ppb	200	200	126	74.8 - 126	No	Discharge from plastic and fertilizer factories; discharge from steel/metal factories
Fluoride	ppm	4	4	0.54	0.15 - 0.54	No	Water additive that promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories
Nitrate (measured as Nitrogen)	ppm	10	10	0.58	0.18 - 0.58	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite (measured as Nitrogen)	ppm	1	1	0.02	0.01 - 0.02	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Bromate	ppb	10	0	4.35	0 - 14.8	No	By-product of drinking water disinfection
Haloacetic Acids	ppb	60	N/A	13.9	3.5 - 12.9	No	By-product of drinking water disinfection
Total Trihalomethanes	ppb	80	N/A	19.0	2.44 - 29.2	No	By-product of drinking water disinfection

Contaminant	Measure	MCL	MCLG	Highest / Average Level Detected	Range of Levels Detected	Violation	Likely Sources of Contaminant
Turbidity[2]	NTU	1.0	N/A	0.5	N/A	No	Soil Runoff
		% of samples <0.3		99.9%		No	

Compound		MCL	MCLG	High	Low	Average	Violation	Likely Sources of Contaminant
Total Organic Carbon[3]	ppm	TT = % Removal	N/A	1	1	1	No	Naturally occurring

It is used to determine disinfection by-product precursors. Fort Worth was in compliance with all monitoring and treatment technique requirements for disinfection by-product precursors. A removal ratio of 1 in SUVA calculations is considered passing.

Contaminant	Measure	MRDL	MRDLG	Range of Levels Detected	Range of Levels Detected	Violation	Likely Sources of Contaminant
Chloramines[4]	ppm	4.0	4.0	3.37	0.89 - 4.40	No	Water additive to control microbes

Contaminant	Measure	MCL	MCLG	Highest No. of Positive	Range of Levels Detected	Violation	Likely Sources of Contaminant
Total Coliform Bacteria	% of positive samples	5.0% of monthly samples are positive	0	1	0.0 – 1%	No	Coliforms are naturally present in the environment as well as feces; fecal coliform and E. coli only come from human and animal fecal waste
Fecal Coliform or *E. Coli* bacteria	% of positive samples	5.0% of monthly samples are positive	0	0	0.0 - 0.0	No	Coliforms are naturally present in the environment as well as feces; fecal coliform and E. coli only come from human and animal fecal waste

Unregulated Contaminants[6]

Compound	Measure	MRDL	MRDLG	Average	Range of Detect	Common Sources of Substance in Drinking Water
Chloral Hydrate	ppb	NOT REGULATED	N/A	0.33	0.23 - 0.43	By-product of drinking water disinfection
Bromoform	ppb	NOT REGULATED	0	1.07	1.02 - 4.09	By-product of drinking water disinfection; not regulated individually; included in Total Trihalomethanes
Bromodichloromethane	ppb	NOT REGULATED	0	3.97	1.12 - 8.94	
Chloroform	ppb	NOT REGULATED	70	3.68	1.32 - 8.11	
Dibromochloromethane	ppb	NOT REGULATED	60	3.68	1.01 - 10.4	
Dibromoacetic Acid	ppb	NOT REGULATED	NA	1.41	1.00 - 3.20	By-product of drinking water disinfection; not regulated individually; included in Haloacetic Acids
Dichloroacetic Acid	ppb	NOT REGULATED	0	4.78	2.40 - 9.20	
Monobromoacetic Acid	ppb	NOT REGULATED	NA	0.02	1.00 - 1.00	
Monochloroacetic Acid	ppb	NOT REGULATED	70	0.61	1.00 - 2.50	
Trichloroacetic Acid	ppb	NOT REGULATED	20	0.09	1.00 - 2.00	

Secondary Constituents

These items do not relate to public health but rather to the aesthetic effects. These items are often important to the industry.

Item	Measure	Your Water
Bicarbonate	ppm	128 - 149
Calcium	ppm	42.4 - 60.7
Chloride	ppm	19.5 - 35.1
Conductivity	µmhos/cm	403 - 482
pH	units	8.1 - 8.4
Magnesium	ppm	4.64 - 8.30
Sodium	ppm	15.1 - 26.8
Sulfate	ppm	23.4 - 44.3
Total Alkalinity as CaCO3	ppm	128 - 150
Total Dissolved Solids	ppm	192 - 266
Total Hardness as CaCO3	ppm	138 - 178
Total Hardness in Grains	Grains/Gallon	8 - 10

UCMR 4: Fort Worth's testing detected only four of the 30 compounds included in the fourth round of unregulated contaminant monitoring. The detections were one metal and the three haloacetic acid disinfection byproduct groups.

Compound	Measure	Average	Range of Detects	Common Sources of Substance
Manganese	ppb	0.93	0.40 to 4.19	Naturally occurring; used in drinking water and waste- water treatment; used in steel production, fertilizer, batteries and fireworks
HAA5	ppb	3.94	1.27 to 5.11	Byproducts of drinking water disinfection
HAA6Br	ppb	3.16	1.71 to 4.05	
HAA9	ppb	6.26	2.98 to 7.47	

UCMR NOTE: This is data for one quarter of testing for samples collected in March 2019. The first three quarters of data were collected in 2018 and were provided in last year's report. Additional Information: www.epa.gov/dwucmr.

UCMR 4 COMPOUNDS NOT DETECTED

Cyanotoxins
Total misrocystin
microcystin-LA
microcystin-LF
microcystin-LR
microcystin-LY
microcystin-RR
microcystin-YR
nodularin
anatoxin-a
cylindrospermopsin

Metals
Germanium

Semi-volotaile Chemicals
butylated hydroxyanisole
o-toluidine
quinoline

Alcohols
1-butanol
2-methoxyethanol
2-propen-1-ol

Pesticides and Pesticide Manufacturing Byproduct
alpha-hexachlorocyclohexane
chlorpyrifos
dimenthipin
ethoprop
oxyfluorfen
profenofos
tebuconazole
total permethrin (cis-& trans-)
trbufos

1. Because Fort Worth historically has had low levels of radionuclides in its water, TCEQ requires this monitoring occur only once every six years. The test results shown above are from 2017. The next monitoring will occur in 2023.
2. Turbidity is a measure of the cloudiness of water. It is monitored because it is a good indicator of the effectiveness of the filtration system. Fort Worth had a highest single result of 0.6 NTU. 99.8% of the turbidity readings were below 0.3 NTU.
3. Total Organic Carbon is used to determine disinfection by-product precursors. Fort Worth was in compliance with all monitoring and treatment technique requirements for disinfection by-product precursors. A removal ratio of 1 in SUVA calculations is considered passing.
4. MRDL and MRDLG are Maximum Residual Disinfection Level and Maximum Residual Disinfection Level Goal, respectively. The chloramine levels reported are quarterly averages.
5. Fort Worth Water is on a reduced monitoring schedule for lead and copper and will perform testing again in 2019. The 2016 levels were calculated from the 90th percentile, which means that 90% of the samples were at or below this value. EPA considers the 90th percentile value the same as an "average" value for other contaminants. Lead and copper are regulated by a Treatment Technique that requires systems to control the corrosiveness of the water. If more than 10% of tap water samples exceed the action level, water systems must take additional steps.
6. Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted

CORROSION CONTROL: To meet requirements of the Lead and Copper Rule, Fort Worth achieves corrosion control through pH adjustment.

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CITY OF SAGINAW UNREGULATED CONTAMINENTS

UCMR 4

Compound	Measure	Average	Range of Detects	Common Sources of Substance
Manganese	ppb	1.38	0.66 - 2.1	Naturally occuring; used in drinking water and wastewater treatment; used in steel production, fertilizer, batteries and fireworks
HAA5	ppb	6.38	4.3 - 7.7	Byproducts of drinking water disinfection
HAA6Br	ppb	7.05	5.35 - 8.38	Byproducts of drinking water disinfection
Haa9	ppb	11.09	7.95 - 13.28	Byproducts of drinking water disinfection
UCMR NOTE : This is data for one quarter of testing for samples collected in November & December 2019.				
UCMR 4 COMPOUNDS NOT DETECTED				
Metals		**Alcohols**		**Pesticides and Pesticide Manufacturing Byproduct**
Germanium		1-butanol		alpha-hexachlorocyclohexane
Semi-volotaile Chemicals		2-methoxyethanol		chlorpyrifos
butylated hydroxyanisole		2-propen-1-ol		dimenthipin
o-toluidine				ethoprop
quinoline				oxyfluorfen
				profenofos
				tebuconazole
				total permethrin
				tribufos