2018 Annual Drinking Water Quality Report

Consumer Confidence Report (CCR)

Annual Water Quality Report for the period of January 1 to December 31, 2018

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.

Drinking water, including bottled water, may reasonably be expected to contain at least some 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 called the EPA's Safe Drinking Water Hotline at (800) 426 – 4791.

For more information regarding this report contact: City of Haslet Water Department (817) 439 – 5931

Public Participation Opportunities

For opportunities for public participation in decisions that may affect the quality of the water, City Council meets 1st and 3rd Monday of every month at 7:00 pm. Agendas for these meetings are available the Friday before each meeting.

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, 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 provider's 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 Assessments

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 the Consumer Confidents Report. For more information on source water assessments and protection efforts at our system, contact the City of Haslet Water Department (817) 439-5931

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

Water Sources

The City of Haslet purchases water from the City of Fort Worth. The City of Fort Worth provides purchased surface water from Lake Worth, Eagle Mountain Lake, Lake Bridgeport, Richland Chambers Reservoir, Cedar Creek Reservoir, Lake Benbrook and the Clear Fork Trinity River.

In addition to purchased surface water The City of Haslet provides ground water utilizing 2 wells one in the Trinity aquifer and one in the Paluxy aquifer located in the city of Haslet

Source Water Name	Water Source	Type of Water	Report Status	Location
1-N of FM 156	Well Site 1(Trinity)	GW	Y	2105 FM 156 S.
2-N of FM 156	Well Site 2(Paluxy)	GW	Y	2105 FM 156 S.
SW FROM FORT WORTH	CC FROM TX2200012 CITY OF	SW	----	The City has 3 connection points to the city of Fort Worth

Definitions

Definitions	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. ALG's 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 one 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	
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 that is allowed 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
MFL	Million fibers per liter (a measure of asbestos)
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.
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

Disinfectant Residual Information

Disinfectant type	Unit	Year	Average Level	Minimum Level	Maximum Level	MRDL	MRDLG	Violation	Likely source of contamination
Chloramines	ppm	2018	1.44	.50	2.96	4	4	N	Water additive used to control microbes

2018 Regulated Contaminants Detected

Disinfection and Disinfection By- Products	Collection Date	Highest Levels Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Haloacetic Acids (HAA5)	2018	2	2.4 – 2.4	No goal for the total	60	ppb	N	By-product of drinking water disinfection
Total Trihalomethanes (TTHM)	2018	8	8.49 – 8.49	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	2018	0.056	0.056 – 0.056	2	2	ppm	N	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Cyanide	2017	74.8	74.8 - 74.8	200	200	ppb	N	Discharge from plastic and fertilizer factories; Discharge from steel/metal factories.
Fluoride	2018	0.277	0.277 – 0.277	4	4	ppm	N	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Nitrate [measured as Nitrogen]	2018	0.389	0.381 – 0.389	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 Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Beta/Photon emitters	2018	4.5	4.5 – 4.5	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.**								
Uranium	2018	1	1 – 1	0	30	ug/L	N	Erosion of natural deposits.

Lead and Copper

Lead and Copper	Date Sampled	MCLG	Action Level (AL)	90th Percentile	# Sites Over AL	Units	Violation	Likely Source of Contamination
Copper	2017	1.3	1.3	0.22	0	ppm	N	Erosion of Natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
Lead	2017	0	15	3	1	ppb	N	Corrosion of household plumbing systems; Erosion of natural deposits.

Drinking Water Quality Test Results

Compound	Measure	MCL	MCLG	Your water	Violation	Common Sources of Substance
Turbidity	NTU	TT=1 TT= Lowest monthly % of samples ≤ 0.3 NTU	N/A	0.5 99.9%	No	Soil runoff (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.)

Compound	MCL	MCLG	Your water	Range	Violation	Common Sources of Substance
Total Coliforms (including fecal coliform & E. coli)	TT	0	0		No	Coliforms are naturally present in the environment as well as feces; fecal coliforms and E. coli only come from human and animal fecal waste.

Compound	Measure	MCL	MCLG	Your water	Range	Violation	Common Sources of Substance
Beta/photon emitters[1]	pCi/L	50	0	5.6	4.4 to 5.6	No	Decay of natural and man-made deposits
Combined Radium[1]	pCi/L	5	0	2.5	NA	No	Erosion of natural deposits
Uranium[1]	ppb	30	0	1.1	0 to 1.1	No	Erosion of natural deposits
Arsenic	ppb	10	0	1.10	0 to 1.1	No	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Atrazine	ppb	3	3	0.1	0.0 to 0.1	No	Runoff from herbicide used on row crops
Barium	ppm	2	2	0.07	0.05 to 0.07	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Cyanide	ppb	200	200	84.3	0 to 84.3	No	Discharge from plastic and fertilizer factories; discharge from steel and metal factories
Fluoride	ppm	4	4	0.61	0.17 to 0.61	No	Water additive which promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories
Nitrate (as Nitrogen)	ppm	10	10	0.67	0.17 to 0.67	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite (as Nitrogen)	ppm	1	1	0.02	0 to 0.02	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Bromate	ppb	10	0	4.83	0-10.7	No	By-product of drinking water disinfection

Compound	MCL	MCLG	High	Low	Average	Violation	Common Sources of Substance
Total Organic Carbon[3]	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.

[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.

Abbreviations used In tables

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.

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.

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 contaminants.

N/A - not applicable/does not apply

NTU - Nephelometric Turbidity Unit; a measure of water turbidity or clarity

pCi/L - Picocuries per liter; a measure of radioactivity

ppb - Parts per billion or micrograms per liter (µg/L)

ppm - Parts per million or milligrams per liter (mg/L)

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

Unregulated Contaminants

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.

Compound	Measure	MRDL	MRDLG	Your water	Range of Detects	Common Sources of Substance
Chloral Hydrate	ppb	Not regulated	N/A	0.34	0.12 to 0.34	By-product of drinking water disinfection
Bromoform	ppb	Not regulated	0	5.15	0 to 5.15	By-products of drinking water disinfection; not regulated individually; included in Total Trihalomethanes
Bromodichloromethane	ppb	Not regulated	0	7.08	1.99 to 7.08	
Chloroform	ppb	Not regulated	70	8.4	2.43 to 8.40	
Dibromochloromethane	ppb	Not regulated	60	6.94	1.31 to 6.94	
Dibromoacetic Acid	ppb	Not regulated	N/A	4.3	1 to 4.3	By-products of drinking water disinfection; not regulated individually; included in Haloacetic Acids
Dichloroacetic Acid	ppb	Not regulated	0	8.5	3.9 to 8.5	
Monobromoacetic Acid	ppb	Not regulated	N/A	2.3	0 to 2.3	
Monochloroacetic Acid	ppb	Not regulated	70	3.9	1.5 to 3.9	
Trichloroacetic Acid	ppb	Not regulated	20	2.2	0 to 2.2	

Secondary Constituents

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

Compound	Measure	Your water
Bicarbonate	ppm	108 to 144
Calcium	ppm	42 to 52.1
Chloride	ppm	11.8 to 40
Conductivity	µmhos/cm	302 to 471
pH	units	8.6 to 8.7
Magnesium	ppm	3.20 to 8.64
Sodium	ppm	14.8 to 30.3
Sulfate	ppm	26.3 to 36.5
Total Alkalinity as $CaCO_3$	ppm	98.2 to 136
Total Dissolved Solids	ppm	156 to 251
Total Hardness as $CaCO_3$	ppm	118 to 162
Total Hardness in Grains	grains/gallon	7 to 9

Corrosion Control

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

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 2018 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 for 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 a 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&DWWState=TX*.

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-volatile Chemicals
butylated hydroxyanisole
o-toluidine
quinoline

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

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

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.

Coumpound	Measure	Average	Range of Detects	Common Sources of Substance
Manganese	ppb		0 to 1.29	Naturally occurring; used in drinking water and waste-water treatment; used in steel production, fertilizer, batteries and fireworks
HAA5	ppb		2.6 to 18.62	Byproducts of drinking water disinfection
HAA6Br	ppb		0 to 8.88	Byproducts of drinking water disinfection
HAA9	ppb		0 to 22.98	Byproducts of drinking water disinfection

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 Compound
Dichloroacetic Acid	ppb	4.62	2.60 to 7.88	HAA5		HAA9	By-products of drinking water disinfection
Monochloroacetic Acid	ppb	0.24	0 to 6.22	HAA5		HAA9	
Trichloroacetic Acid	ppb	0	0 to 0	HAA5		HAA9	
Monobromoacetic Acid	ppb	0	0 to 0	HAA5	HAA6Br	HAA9	
Dibromoacetic acid	ppb	1.56	0 to 4.52	HAA5	HAA6Br	HAA9	
Bromochloroacetic acid	ppb	2.88	0 to 4.36		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	