## 2016 ANNUAL DRINKING WATER QUALITY REPORT

TX1290021

## NORTH KAUFMAN WATER SUPPLY CORPORATION

about your drinking water and the efforts made by the water system to provide safe drinking water. Annual Water Quality Report for the period of January 1 to December 31, 2016. This report is intended to provide you with important information

For more information regarding this report contact:

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Este reporte incluye informacion importante sobre el aqua para tomar. Para asistencia en espanol, favor de llamar al telefono (972)-962-7614.

North Kaufman WSC Board Meetings are held the third Monday of each month at 7 pm at 3891 N. Hwy. 34, Kaufman, TX.

North Kaufman WSC is a Purchased Surface Water

#### Sources of Drinking Water

substances resulting from the presence of animals or from human activity. the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up The sources of drinking water (both tap and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over

obtained by calling the EPAs Safe Drinking Water Hotline at (800)-426-4791. contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of

Contaminants that may be present in source water include:

- operations, and wildlife. Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock
- domestic wastewater discharges, oil and gas production, mining, or farming. Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses
- petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems. Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and
- Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities

public water systems. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health. 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

health concerns. For more information on taste, odor, or color of drinking water, please contact the system's business office. Contaminants may be found in drinking water that may cause taste, color, or odor problems. These types of problems are not necessarily causes for

lessen the risk of infection by Cryptosporidium are available from the Safe Drinking Water Hotline (800)-426-4791. infections. You should seek advice about drinking water from your physician or health care providers. Additional guidelines on appropriate means to those who are undergoing treatment with steroids; and people with HIV/AIDS or other immune system disorders, can be particularly at risk from some elderly, or immunocompromised persons such as those undergoing chemotherapy for cancer; persons who have undergone organ transplants; You may be more vulnerable than the general population to certain microbial contaminants, such as Cryptosporidium, in drinking water. Infants,

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 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 water, but we cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can primarily from materials and components associated with service lines and home plumbing. We are responsible for providing high quality drinking If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is 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

A Source Water Susceptibility Assessment for your drinking water source(s) is currently being updated by the Texas Commission on Environmental human activities and natural conditions. The information contained in the assessment allows us to focus source water protection strategies. Quality. This information describes the susceptibility and types of constituents that may come into contact with your drinking water source based on

For more information about your sources of water, please refer to the Source Water Watch at the following URL: http://gis3.tceq.state.tx.us/swav/Controller/index.jsp?wtrsrc=

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

SW from City of Terrell CC from TX1290006 City of	SW from City of Kaufman	Source Water Name
CC from TX1290006 City of	SW from City of Kaufman CC from TX1290003 City of	
SW	SW	Type of Water
Active	Active	Report Status
Lake Lavon, Lake Tawakoni	Lake Lavon	Location

## 2016 Regulated Contaminants Detected

#### Lead and Copper

#### Definitions:

margin of safety. 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

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

Corrosion of household plumbing systems; Erosion of natural deposits.	Z	ppb	01	1.7	15	0	2016	Lead
Erosion of natural deposits; leaching from wood preservatives; Corrosion of household plumbing systems.	z	ppm	-	0.51	1.3	1.3	2016	Copper
Violation Like Contamination Source	Violation	Units	# Sites Over AL	90 <sup>th</sup> Percentile	Action Level (AL) 90th Percentile #Sites Over AL	d MCLG	Date Sampled	Lead and Copper

#### Water Quality Test Results

Max Contaminant Level Goal (MCGL):	Level 1 Assessment:	Max Containment Level (MCL):	Avg:	Definitions:
The level of a contaminant in drinking water below which there is no known or expected risk to health. MCGLs allow for a margin of safety.	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.	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.	Regulatory compliance with some MCLs are based on running annual average of monthly samples.	The following tables contain scientific terms and measures, some of which may require explanation.

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.

## Water Quality Test Results (continued)

Max residual disinfectant level (MRDL): addition of a disinfectant is necessary for control of microbial contaminants. The highest level of a disinfectant allowed in drinking water. There is convincing evidence that

Max residual disinfectant level goal (MRDLG): The level of a drinking water disinfectant below which there is no know 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).

Not applicable.

Millirems per year (a measure of radiation absorbed by the body).

Nephelometric turbidity units (a measure of turbidity).

Picocuries per liter or parts per billion or one ounce in 7,350,000 gallons of water.

Milligrams per liter or parts per million or one ounce in 7,350 gallons of water.

A required process intended to reduce the level of a contaminant in drinking water.

Parts per trillion, or nanograms per liter (ng/L).

Parts per quadrillion, or pictograms per liter (pg/L).

ppq:

ppt:

ppm:

Treatment Technique or TT:

pCi/L:

NTU:

mrem:

Na:

#### Regulated Contaminants

By-product of drinking water disinfection.	7	ppb	80	No goal for the total	16.6-37.5	29	2016	Total Trihalomethanes
By-product of drinking water disinfection.	. 2	ppb	60	No goal for the total	12.6-22.8	17	2016	Haloacetic Acids (HAA5)
Likely Contamination Source	Violation	Units	MCL	MCLG	Range of Levels Detected	Highest Level Detected	Collection Date	Disinfectants and Disinfection By- Products

Runoff from fertilizer use; Leasening from septic tanks, sewage; Erosion of natural denosits.	z	ppm	10	10	0.29029	0.29	2016	Nitrate (measured as Nitrogen)
Like Source of Contamination	Violation	Units	MCL	MCLG	Range of Levels Detected	Highest Level Detected	Collection Date	Inorganic Contaminants

#### Violations Table

#### 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 corrosiveness. Lead and copper enter drinking water mainly from corrosion of lead and copper containing plumbing materials.

Follow-up or Routine Tap M/R (LCR)	Violation Type
10/1/2015	Violation Begin
9/28/2016	Violation End
We failed to test our drinking water for the contaminant and period indicated. Because of this failure, we cannot be sure of the quality of our drinking water for the period indicated.	Violation Explanation

## City of Kaufman's Consumer Confidence Report For Year 2016

#### Coliform Bacteria

the state of the s	0 1 positive monthly sample 0 0 0 No Naturally present in the environment.	Maximum Contaminant Total Coliform Highest No. of Contaminant Level Goal Maximum Contaminant Level Positive Level Coliform Samples Violation Likely Source of Contamination
ator that other, potentially harmful, bacteria may be present	nment	Likely Source of Contamination

#### Regulated Contaminants

Distintection By-Products  Indection By-Products  aloacetic Acids (HAA5)  aloa	Erosion of natural deposits.	N <sub>o</sub>	pCi/L	5	0	0-0	Levels lower than detect level	5/2/2016	Radium
Designet Level   Description   Designet Level   Description   Designet Level   Description   Descr		No	pCi/L	15	0	0-0	Levels lower than detect level	5/2/2016	Gross alpha excluding radon and uranium
Detected   Detected   Detected   Detected   Detected   Detected   Detected   Detected   MCLG   MCL   Units   Violation   Infection By-Products   Detected   Detected   No goal for   60   ppb   No   Infection   Detected   Detected   No goal for   80   ppb   No   No   Detected   No goal for   80   ppb   No   No   Detected   No goal for   80   ppb   No   No   Detected   Detected   No goal for   80   ppb   No   No   No   Detected   No goal for   80   ppb   No   No   No   Detected	Decay of natural and man-made deposits.	No	pCi/L	50	0	5.6 - 5.6	5.6	5/2/2016	Beta/photon emitters
Distiniectants and   Distiniectants   MicLig   MicLi		Violation	Units	MCL	MCLG	Range of Levels Detected	Highest Level Detected	Collection Date	Radioactive Contaminants
Distinientants and precition by-Products         Collection page (CALAS)         Collection page (CALAS)         Collection page (CALAS)         Macual page (CALAS)	le. High nitrate levels in drinking water can cause blue baby syrioronite. Nitrate levels may inse om your health care provider.	nonths of ag	s than six mould a	ants of les an infant y	Ith risk for infa are caring for a	e 10 ppm is a hearal activity. If you a	ater at levels abov ainfall or agricultu	n drinking wa because of ra	NITRATE ADVISORY: Nitrate in quickly for short periods of time
Distiniectants and positive stants are positive stants and positive stants and positive stants are positive stants and positive stants and positive stants are positive stants and positive stants and positive stants are positive stants. The positive stants are positive stants and positive stants are positive stants and positive stants. The positive stants are positive stants and positive stants are positive stants. The positive stants are positive stants and positive stants are positive stants. The positive stants are positive stants and positive stants are positive stants. The positive stants are positive stants are positive stants. The positive stants are positive stants are positive stants. The positive stants are positive stants are positive stants. The positive sta	Discharge from electronics, glass, and leaching from ore-processing sites; drug factories.	No	ppb	2	0.5	0-0	Levels lower than detect level	2016	Thallium
Distinection By-Products         Date Date         Collection Rection By-Products         MCLG         MCLG         MCLG         Units         Violation           aloacetic Acids (HAA5)         2016         16.9         9.2-17.5         No goal for the total         60         ppb         No           aloacetic Acids (HAA5)         2016         44.2         1.1-46.3         No goal for the total         80         ppb         No           Bromate         2016         6         0.0-6.0         5         10         ppb         No           Not all sample results may have been used for calculating the Highest Level Detected because some results may be pa         Detected         Detected         MCLG         MCL         Units         Violation           Antimony         2016         Levels lower than detectivel         0-0         6         6         ppb         No           Beryllium         2016         Levels lower than detectivel         0-0         0         4         4         ppb         No           Cadmium         2016         1.2         0.052-1.20         100         100         ppb         No           Cadmium         2016         1.2         0.52-1.20         100         100         ppb         No <t< td=""><td>Discharge from petroleum and metal refineries, erosion of natural deposits, discharge from the firm times.</td><td>No</td><td>ppb</td><td>50</td><td>50</td><td>1.4 - 3.4</td><td>3.4</td><td>2016</td><td>Selenium</td></t<>	Discharge from petroleum and metal refineries, erosion of natural deposits, discharge from the firm times.	No	ppb	50	50	1.4 - 3.4	3.4	2016	Selenium
Distinientants and position interestrants and position py-Products         Collection page of Levels (PAAS)         MCLG	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits.	No	ppm	10	10	0.05 - 0.79	0.79	2016	Nitrate (measured as Nitrogen)
Distinientants and position intertants (TTHM)         Date position position intertant position position intertants (TTHM)         Date position position position intertant position intertant position posi		No	ppb	2	2	0-0	Levels lower than detect level	2016	Mercury
Distinientants and position intection By-Products         Date Date Detected         Range of Levels with the total between the total the total between the total the	Erosion of natural deposits; water additive which promotes strong teem, discharge from remitizer and aluminum factories.	No	ppm	4	4	0.13 - 0.93	0.93	2016	Fluoride
Distinient clarits and products         Collection Date         Highest Level Detected Detected         Mode of Levels Would Detected Would Detected Would Detected Would Detected Detected Security (HAA5)         Date of Detected Det	Discharge from steel and pulp mills; erosion of natural deposits.	No	ppb	100	100	0.52 - 1.20	1.2	2016	Chromium
Distinient clarits and products         Collection Date         Highest Level Petected Petected         Range of Levels WCLG         MCLG         MCL MITS         Units         Violation           alloacetic Acids (HAA5)         2016         16.9         9.2-17.5         No goal for the total         60         ppb         No           alloacetic Acids (HAA5)         2016         44.2         1.1-46.3         No goal for the total         80         ppb         No           Bromate         2016         6         0.0 - 6.0         5         10         ppb         No           Not all sample results may have been used for calculating the Highest Level Detected because some results may be paragraic Contaminants         Date         Potected         Potected         MCLG         MCL         Units         Violation           Antimony         2016         Levels lower than detectlevel         0 - 0         6         6         ppb         No           Barium         2016         0.061         0.042 - 0.061         2         ppm         No           Bervillium         2016         0.061         0.042 - 0.061         2         ppm         No	Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runon from waste batteries and paints.	No	ppb	5	5	0-0	Levels lower than detect level	2016	Cadmium
Date Detected MCLG MCLG Units Violation Infection By-Products Date Detected MCLG MCLG Units Violation Infection By-Products Date Detected MCLG MCLG Units Violation Infection By-Products Date Detected No goal for the total No goal for the total No goal for Street No goal for Street No goal for No goal for Street No goal for No go	Discharge from metal refinenes and coal-burning ractories, discharge from metal refinences and coal-burning ractories, discharge from the first from	No	ppb	4	4	0-0	Levels lower than detect level	2016	Beryllium
Infection By-Products  Date  Detected  No goal for the total  Detected  Detec	Discharge of drilling wastes; discharge from metal relinieres, erosion or natural deposits.	No	ppm	2	2	0.042 - 0.061	0.061	2016	Barium
Infection By-Products Infection By-Products Date Detected	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes.	No	ppb	10	0	0.0 - 0.9	0.9	2016	Arsenic
Infection By-Products  Date Detected No goal for the total No goal for the t	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder; and test addition.	N <sub>O</sub>	ppb	6	6	0-0	Levels lower than detect level	2016	Antimony
Distinectants and Collection Highest Level Charles of Levels MCLG MCL Units Violation  Products Date Detected Detected MCLG MCL Units Violation  Detected Detected MCLG MCL Units Violation  No goal for 60 ppb No By-product of drink the total No goal for 60 ppb No By-product of drink the total the	Likely Source of Contamination	Violation	Units	MCT	MCLG	Range of Levels Detected	Highest Level Detected	Collection Date	Inorganic Contaminants
Collection         Highest Level Date         Kange of Levels         MCLG         MCL         Units         Violation           2016         16.9         9.2-17.5         No goal for the total         60         ppb         No         By-product of drink           2016         44.2         1.1-46.3         No goal for the total         80         ppb         No         By-product of drink           2016         6         0.0-6.0         5         10         ppb         No         By-product of drink	art of an evaluation to determine where compliance sampling should occur in the ruture.	s may be pa	some result	because:	evel Detected	ting the Highest L	n used for calcula	ay have bee	NOTE: Not all sample results m
Collection Highest Level Kange of Levels MCLG MCL Units Violation  Date Detected Detected No goal for the total 2016 16.9 9.2-17.5 the total 2016 44.2 1.1-46.3 the total 2016 No goal for the total 2016 No goal for the total 2016 No goal for 80 ppb No By-product of drinking water disinfection 2016 No goal for 80 ppb No By-product of drinking water disinfection 2016 No goal for 80 ppb No By-product of drinking water disinfection 2016 No goal for 80 ppb No By-product of drinking water disinfection 2016 No goal for 80 ppb No By-product of drinking water disinfection 2016 No goal for 80 ppb No By-product of drinking water disinfection 2016 No goal for 80 ppb No By-product of drinking water disinfection 2016 No goal for 80 ppb No By-product of drinking water disinfection 2016 No goal for 80 ppb No By-product of drinking water disinfection 2016 No goal for 80 ppb No By-product of drinking water disinfection 2016 No goal for 80 ppb No By-product of drinking water disinfection 2016 No goal for 80 ppb No By-product of drinking water disinfection 2016 No goal for 80 ppb No By-product of drinking water disinfection 2016 No goal for 80 ppb No By-product of drinking water disinfection 2016 No goal for 80 ppb No By-product of drinking water disinfection 2016 No goal for 80 ppb No By-product of drinking water disinfection 2016 No goal for 80 ppb No By-product of drinking water disinfection 2016 No goal for 80 ppb No By-product of drinking water disinfection 2016 No goal for 80 ppb No By-product of drinking water disinfection 2016 No goal for 80 ppb No By-product of drinking water disinfection 2016 No goal for 80 ppb No By-product of drinking water disinfection 2016 No goal for 80 ppb No goal	By-product of drinking water ozonation.	No	ppb	10	5	0.0 - 6.0	6	2016	Bromate
Collection righest Level kange or Levels MCLG MCLG Units Violation  Date Detected No goal for 60 ppb No By-product of drinking water disinfection ppd No By-product of drinking water dispersion ppd No By-product of drinking water dispersion ppd No By-product of drinking water disper	By-product of drinking water disinfection.	No	ppb	80	No goal for the total	1.1-46.3	44.2	2016	Total Trihalomethanes (TTHM)
Collection Highest Levels Kange or Levels  Date Detected Detected MCLG MCL Units Violation	By-product of drinking water disinfection.	No	ppb	60	No goal for the total	9.2-17.5	16.9	2016	Total Haloacetic Acids (HAA5)
	Likely Source of Contamination	Violation	Units	MCL	MCLG	Range of Levels Detected	Highest Level Detected	Collection Date	Disinfectants and Disinfection By-Products

Synthetic organic contaminants	Collection	Highest Level	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
2, 4, 5 - TP (Silvex)	2016	Levels lower than detect level	0-0	50	50	ppb	No	Residue of banned herbicide.
2,4-D	2016	Levels lower than detect level	0-0	70	70	ppb	No	Runoff from herbicide used on row crops.
Alachlor	2016	Levels lower than	0-0	0	2	ppb	No	Runoff from herbicide used on row crops.
Atrazine	2016	0.61	0.31 - 0.61	3	3	ppb	No	Runoff from herbicide used on row crops.
Benzo (a) pyrene	2016	Levels lower than detect level	0-0	0	200	ppt	No	Leaching from linings of water storage tanks and distribution lines.
Carbofuran	2016	Levels lower than detect level	0-0	40	40	ppb	No	Leaching of soil fumigant used on rice and alfalfa.
Chlordane	2016	Levels lower than detect level	0-0	0	2	ppb	No	Residue of banned termiticide.
Dalapon	2016	Levels lower than detect level	0 - 0	200	200	ppb	No	Runoff from herbicide used on rights of way.
Di (2-ethylhexyl) adipate	2016	Levels lower than detect level	0-0	400	400	ppb	No	Discharge from chemical factories.
Di (2-ethylhexyl) phthalate	2016	Levels lower than detect level	0 - 0	0	6	ppb	No	Discharge from rubber and chemical factories.
Dibromochloropropane (DBCP)	2016	Levels lower than detect level	0-0	0	0	ppt	No	Runoff / leaching from soil furnigant used on soybeans, cotton, pineapples, and orchards.
Dinoseb	2016	Levels lower than detect level	0-0	7	7	ppb	No	Runoff from herbicide used on soybeans and vegetables.
Endrin	2016	Levels lower than detect level	0-0	2	2	ppb	No	Residue of banned insecticide.
Ethylene dibromide	2016	Levels lower than detect level	0-0	0	50	ppt	No	Discharge from petroleium refineries.
Heptachlor	2016	Levels lower than detect level	0-0	0	400	ppt	No	Residue of banned termiticide.
Heptachlor epoxide	2016	Levels lower than detect level	0-0	0	200	ppt	No	Breakdown of heptachlor.
Hexachlorobenzene	2016	Levels lower than detect level	0-0	0	_	ppb	N <sub>O</sub>	Discharge from metal refineries and agricultural chemical factories.
Hexachlorocyclopentadiene	2016	Levels lower than detect level	0-0	50	50	ppb	No	Discharge from chemical factories.
Lindane	2016	Levels lower than detect level	0-0	200	200	ppt	No	Runoff / leaching from insecticide used on cattle, lumber, and gardens.
Methoxychlor	2016	Levels lower than detect level	0-0	40	40	ppb	No	Runoff / leaching from insecticide used on fruits, vegetables, alfalfa, and livestock.
Oxamyi [Vydate]	2016	Levels lower than detect level	0-0	200	200	ppb	No	Runoff / leaching from insecticide used on apples, potatoes, and tomatoes.
Pentachlorophenol	2016	Levels lower than detect level	0-0	0	_	ppb	No	Discharge from wood preserving factories.
Simazine	2016	Levels lower than detect level	0-0	4	4	ppb	No	Herbicide runoff.
Toxaphene	2016	Levels lower than	0-0	0	ω	ppb	N <sub>o</sub>	Runoff / leaching from insecticide used on cotton and cattle.

mical factories	Discharge from industrial chemical factories	Z	200	100	3	>	Levels lower than		
mical factories.	Discharge from industrial chemical factories	No	ppb	75	75	0-0	Levels lower than detect level	2016	p - Dichlorobenzene
mical factories.	Discharge from industrial chemical factories	No	ppb	600	600	0-0	Levels lower than detect level	2016	o - Dichlorobenzene
mical factories.	Discharge from industrial chemical factories	No	ppb	70	70	0-0	Levels lower than detect level	2016	cis - 1, 2 - Dichloroethylene
Discharge from petroleum factories; discharge from chemical factories.	Discharge from petroleum fact	No	ppm	10	10	0-0	Levels lower than detect level	2016	Xylenes
/C piping; discharge from plastics factories.	Leaching from PVC piping; dis	No	ppb	2	0	0-0	Levels lower than detect level	2016	Vinyl Chloride
sing sites and other factories.	Discharge from metal degreasing sites and other factories.	No	ppb	5	0	0-0	Levels lower than detect level	2016	Trichloroethylene
tories.	Discharge from petroleum factories	No	ppm	_	1	0 - 0	Levels lower than detect level	2016	Toluene
dry cleaners.	Discharge from factories and dry cleaners	No	ppb	On .	0	0-0	Levels lower than detect level	2016	Tetrachloroethylene
Discharge from rubber and plastic factories; leaching from landfills.	Discharge from rubber and pla	No	ppb	100	100	0-0	Levels lower than detect level	2016	Styrene
ineries.	Discharge from petroleum refineries	No	ppb	700	0	0-0	Levels lower than detect level	2016	Ethylbenzene
al and chemical factories.	Discharge from pharmaceutical and chemical factories.	No	ppb	5	0	0-0	Levels lower than detect level	2016	Dichloromethane
agricultural chemical factories.	Discharge from chemical and agricultural chemical factories	No	ppb	100	100	0-0	Levels lower than detect level	2016	Chlorobenzene
nemical plants and other industrial activities.	Discharge from chemical plant	No	ppb	თ	0	0-0	Levels lower than detect level	2016	Carbon Tetrachloride
Discharge from factories; leaching from gas storage tanks and landfills.	Discharge from factories; leach	No	ppb	5	0	0-0	Levels lower than detect level	2016	Benzene
nical factories.	Discharge from industrial chemical factories	No	ppb	5	0	0-0	Levels lower than detect level	2016	1, 2 - Dichloropropane
nical factories.	Discharge from industrial chemical factories	No	ppb	5	0	0 - 0	Levels lower than detect level	2016	1, 2 - Dichloroethane
g factories.	Discharge from textile-finishing factories	No	ppb	70	70	0-0	Levels lower than detect level	2016	1, 2, 4 - Trichlorobenzene
nical factories.	Discharge from industrial chemical factories	No	ppb	7	7	0-0	Levels lower than detect level	2016	1, 1 - Dichloroethylene
nical factories.	Discharge from industrial chemical factories	No	ppb	on	ω	0 - 0	Levels lower than detect level	2016	1, 1, 2 - Trichloroethane
sing sites and other factories.	Discharge from metal degreasing sites and other factories.	No	ppb	200	200	0-0	Levels lower than detect level	2016	1, 1, 1 - Trichloroethane
Likely Source of Contamination		Violation	Units	MCL	MCLG	Range of Levels Detected	Highest Level Detected	Collection Date	Volatile Organic Contaminants

#### Turbidity

	Soil runoff	No	96.20%	0.3 NTU	Lowest monthly percentage (%) meeting limit
	Soil runoff	No	0.78	1 NTU	Highest single measurement
Likely Source of Contamination		Violation	Level Detected	Limit (Treatment Technique)	

## Maximum Residual Disinfectant Level

Disinfectant	ppm	N/A	1.0	0.115	0	0	2016	Chlorite
Disinfectant		0.8	0.8	0	0	0	2016	Chlorine Dioxide
Disinfectant used to control microbes.	ppm	<4.0	4.0	2.82	1.4	2.61	2016	Chlorine Residual
Source of Chemical		MIRDLG	MRDL	Highest Result of Single Sample	Lowest Result of Single Sample	Average Level of Quarterly Data	Year	Chemical Used

#### Total Organic Carbon

the transfer does not be a specific to the second to be a second t						
	NA	% removal *	25.7 - 63.9	63.9%	2016	Removal Ratio
	Naturally present in the environment	ppm	1.37 - 2.80	2.8	2016	Drinking Water
	Naturally present in the environment.	ppm	3.14 4.23	4.23	2016	Source Water
Likely Source of Confamination		Units	Range of Levels Detected	Highest Level Detected	Collection Date	

NOTE: Total organic carbon (TOC) has no health effects. The disinfectant can combine with TOC to form disinfection by-products. Disinfection is necessary to ensure that water does not have unacceptable levels of pathogens. By-products of disinfection include trihalomethanes (THMs) and haloacetic acids (HAA) which are reported elsewhere in this report.

\*Removal ratio is the percent of TOC removed by the treatment process divided by the percent of TOC required by TCEQ to be removed.

#### Lead and Copper

2016 1.3 2.208 0 ppm No Erosion of natura 2016 1.5 1.62 0 ppb No Corrosion of hou	ns, especially for pregnant women and young children. Lead in drinking water is primarily from	ious health problem	Callica ser	of lead can	ant playated levels	BIEAD: If prese	OB NOTEN IN	ADDITIONAL HEALTH INFORMATION FOR LEAD. If present elevated levels of lead can cause serious health problems, especially	_
2016 1.3 2.208 0 ppm No	Corrosion of household plumbing systems; erosion of natural deposits.	No	ppb	0	1.62	15	2016	Lead	
IT Sampled Action Level (AL) Sum Percentile AL Utilits Vibration	Erosion of natural deposits, leaching from wood preservatives; corrosion of household plumbing systems.	No	ppm	0	2.208	1.3	2016	Copper	
Date #Sites Over	Likely Source of Contamination	Violation	r Units	# Sites Ove	90th Percentile	Action Level (AL)	Date Sampled	Lead and Copper	

materials and components associated with service lines and home plumbing. [City of Kaufman] is responsible for providing high quality drinking water, but 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

#### Cryptosporidium And Giardia

Cigirala	Ciardia	Cryptospondium		Contaminants
2010	3016	2010	2040	Collection Date
	0	c		Highest Level Detected
	0-0		0 0	Range of Levels Detected
	(Oo) Cysts/L	(00) 03000	(On) Cysts/I	Units
	Human and animal fecal waste.	I Uligit did dililidi loodi mooo:	Human and animal facal waste	Likely Source of Contamination

#### **Unregulated Contaminants**

Contaminants	Collection	Highest Level Detected	Range of Levels Detected	Units	Likely Source of Contamination
Chloroform	2016	24.8	8.8-47.7	ppb	By-product of drinking water disinfection.
Bromoform	2016	<1.00	<1.0-1.2	ppb	By-product of drinking water disinfection.
Bromodichloromethane	2016	10.2	11-17.5	ppb	By-product of drinking water disinfection.
Dibromochloromethane	2016	4.94	5.7-10.1	ppb	By-product of drinking water disinfection.
NOTE: Bromoform chloroform	dichlorobra	momethane and dibromochloromethane are disinfection by-products. There is no maximum contain	ethane are disinfection by-pro	oducts. There is no	maximum contaminant level for these chemicals at the entry point to distribution.

#### Secondary and Other Constituents Not Regulated (No associated adverse health effects

	Collection	Highest Level			
Contaminants	Date	Detected	Range of Levels Detected	Units	Likely Source of Contamination
Calcium	2016	85.2	30.7 - 85.2	ppm	Abundant naturally occurring element.
Chloride	2016	70.3	15.2 - 70.3	ppm	Abundant naturally occurring element, used in water purification; by-product of oil fleid activity.
Hardness as Ca/Mg	2016	238	159 - 238	ppm	Naturally occurring calcium and magnesium.
iron	2016	0.02	0.00 - 0.02	ppm	Erosion of natural deposits; iron or steel water delivery equipment or facilities:
Magnesium	2016	6.65	5.85 - 6.65	ppm	Abundant naturally occurring element.
Manganese	2016	0.017	0.0005 - 0.017	ppm	Abundant naturally occurring element.
Nickel	2016	0.0041	0.0025 - 0.0041	ppm	Erosion of natural deposits.
Н	2016	9.00	7.1-9.0	units	Measure of corrosivity of water:
Sodium	2016	77.4	26.8 - 77.4	ppm	Erosion of natural deposits; by-product of oil field activity.
Sulfate	2016	144	69 - 144	ppm	Naturally occurring; common industrial by-product; by-product of oil field activity.
Total Alkalinity as CaCO3	2016	117	60 - 117	ppm	Naturally occurring soluble mineral salts.
Total Dissolved Solids	2016	556	194 - 556	ppm	Total dissolved mineral constituents in water.
Total Hardness as CaCO3	2016	268	80 - 268	ppm	Naturally occurring calcium.
Zinc	2016	0.013	0.000 - 0.013	ppm	Moderately abundant naturally occurring element used in the metal industry.

# Nortin Texas Municipal Water District Tawakoni WTP Consumer Confidence Report For Year 2016

#### Coliform Bacteria

Likely Source of Contamination  Naturally present in the environment.
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**NOTE:** Reported monthly tests found no tecal coliform may be present.

#### Regulated Contaminants

Disinfectants and Disinfection By- Products	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Total Haloacetic Acids (HAA5)	2016	Cust.#	Cust.#	No goal for the total	60	ppb	No	By-product of drinking water chlorination.
Total Trihalomethanes (TThm)	2016	Cust.#	Cust.#	23.8	80	ppb	No	By-product of drinking water chlorination.
Bromate	2016	Cust.#	Cust.#	5	10	ppb	No	By-product of drinking water ozanation.
NOTE: Not all sample results	may have be	een used for calcu	lating the Highest	Level Detecte	ed because	e some res	ılts may be	NOTE: Not all sample results may have been used for calculating the Highest Level Detected because some results may be part of an evaluation to determine where compliance sampling should occur
Inorganic Contaminants	Collection	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Antimony	2016	Levels lower than detect level	0-0	6	6	ppb	No	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder; and test addition.
Arsenic	2016	Levels lower than detect level	0-0	0	10	ppb	No	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes.
Barium	2016	0.056	0.056 - 0.056	2	2	ppm	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
Beryllium	2016	Levels lower than detect level	0-0	4	4	ppb	No	Discharge from metal refineries and coal-burning factories; discharge from electrical, aerospace, and defense industries.
Cadmium	2016	Levels lower than detect level	0-0	Ŋ	5	ppb	No	Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries and paints.
Chromium	2016	0.89	0-0.89	100	100	ppb	No	Discharge from steel and pulp mills; erosion of natural deposits.
Fluoride	2016	0.36	0 - 0.36	4	4	ppm	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from tertilizer and aluminum factories.
Mercury	2016	Levels lower han detect level	0-0	2	2	ppb	No	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland.
Nitrate (manage)	2016	0.546	0.278 - 0.546	10	10	ppm	No	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits.
Nitrate Advisory: Nitrate in d	trinking water	r at levels above ecause of rainfall	10 ppm is a health or agricultural acti	risk for infants	s of less th	nan six mor an infant y	ths of age.	(niesaured as ninger).  Nitrate Advisory: Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant you should ask advice from your health care provider.
Selenium	2016	Levels lower than detect level	0-0	50	50	ppb	No	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines.
Thallium	2016	Levels lower than detect level	0-0	0.5	2	ppb	No	Discharge from electronics, glass, and leaching from ore-processing sites; drug factories.
Radioactive Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Beta/photon emitters	5/28/2015	Levels lower than detect level	0-0	0	4	mrem/yr	S S	Decay of natural and man-made deposits.
Gross alpha excluding radon and uranium	5/28/2015	Levels lower than detect level	0-0	0	15	pCi/L	S.	Erosion of natural deposits.
Radium-228	5/28/2015	Levels lower than detect level	0-0	0	5	pCi/L	S.	Erosion of natural deposits.
Synthetic organic contaminants including pesticides and herbicides	Collection Date	Highest Level Detected	Range of Levels Detacted	мсье	MCL	Units	Violation	Likely Source of Contamination
2, 4, 5 - TP (Silvex)	2015	Levels lower than	0-0	50	50	ppb	N <sub>o</sub>	Residue of banned herbicide.

Carbon Tetrachloride	Benzene	1, 2 - Dichloropropane	1, 2 - Dichloroethane	1, 2, 4 - Trichlorobenzene	1, 1 - Dichloroethylene	1, 1, 2 - Trichloroethane		Volatile Organic Contaminants Co	Toxaphene	Simazine	Pentachlorophenol	Oxamyl [Vydate]	Methoxychlor	Lindane	Hexachlorocyclopentadiene	Hexachlorobenzene	Heptachlor epoxide	Heptachlor	Ethylene dibromide	Endrin		Dibromochloropropane (DBCP)	Di (2-ethylhexyl) phthalate	Di (2-ethylhexyl) adipate	Dalapon	Chlordane 2	Carbofuran 2	Benzo (a) pyrene	Atrazine 2	Alachior 2	7,4-0
2016	2016	2016	2016	2016	2016 L	2016 L	2016	Collection	2015 L	2015 L	2015 L	2015 L	2015 L	2015 L	2015 L	2015 L	2015 L	2015 L	2015	2015	2015	2015 L	2015 Le	2015	2015 Le	2015 Le	2015 Le	2015 Le	2015 Le	2015 Le	detect level
Levels lower than detect level	Levels lower than detect level	Levels lower than detect level	Levels lower than detect level	Levels lower than detect level	Levels lower than detect level	Levels lower than detect level	Levels lower than detect level	Highest Level Detected	Levels lower than detect level	Levels lower than detect level	Levels lower than detect level	Levels lower than detect level	Levels lower than detect level	Levels lower than detect level	Levels lower than detect level	Levels lower than detect level	Levels lower than detect level	Levels lower than detect level	Levels lower than detect level	Levels lower than detect level	Levels lower than detect level	Levels lower than detect level	Levels lower than detect level	Levels lower than detect level	Levels lower than detect level	Levels lower than detect level	Levels lower than detect level	Levels lower than detect level	_evels lower than detect level	Levels lower than detect level	detect level
0-0	0-0	0-0	0-0	0-0	0-0	0-0	0-0	Range of Levels Detected	0-0	0-0	0-0	0-0	0-0	0-0	0-0	0-0	0-0	0-0	0-0	0-0	0-0	0-0	0-0	0-0	0-0	0-0	0-0	0-0	.1212	0-0	
0	0	0	0	70	7	w	200	MCLG	0	4	0	200	40	200	50	0	0	0	0	2	7	0	0	400	200	0	40	0	ယ	0	3
55	5	5	55	70	7	ري ن	200	MCL	ω	4	-	200	40	200	50	1	200	400	50	2	7	0	ō	400	200	2	40	200	ဒ	2	
ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	Units	ppb	ppb	ppb	ppb	ppb	ppt	ppb	ppb	ppt	ppt	ppt	ppb	ppb	ppt	ppb	ppb	ppb	ppb	ppb	ppt	ppb	ppb	
No	20	N <sub>o</sub>	N <sub>O</sub>	N <sub>o</sub>	Z o	No.	No.	Violation	No	No	No	No	No	No	No	No	No	S S	No	No	No	No	No	No	No	No	No	No	No.	No	100000
Discharge from chemical plants and other industrial activities.	Discharge from factories; leaching from gas storage tanks and landfills.	Discharge from industrial chemical factories.	Discharge from industrial chemical factories.	Discharge from textile-finishing factories.	Discharge from industrial chemical factories.	Discharge from industrial chemical factories.	Discharge from metal degreasing sites and other factories.	Likely Source of Contamination	Runoff / leaching from insecticide used on cotton and cattle.	Herbicide runoff.	Discharge from wood preserving factories.	Runoff / leaching from insecticide used on apples, potatoes, and tomatoes.	Runoff / leaching from insecticide used on fruits, vegetables, alfalfa, and livestock.	Runoff / leaching from insecticide used on cattle, lumber, and gardens.	Discharge from chemical factories.	Discharge from metal refineries and agricultural chemical factories.	Breakdown of heptachlor.	Residue of banned termiticide.	Discharge from petroleium refineries.	Residue of banned insecticide.	Runoff from herbicide used on soybeans and vegetables.	Runoff / leaching from soil furnigant used on soybeans, cotton, pincapples, and orchards.	Discharge from rubber and chemical factories.	Discharge from chemical factories.	Runoff from herbicide used on rights of way.	Residue of banned termiticide.	Leaching of soil furnigant used on rice and alfalfa.	Leaching from linings of water storage tanks and distribution lines.	Runoff from herbicide used on row crops.	Runoff from herbicide used on row crops.	

100 100	۰	+	+
75 75	_	ppb	ppb
600 600		ppb	ppb No
70 70		ppb	ppb No
10 10		ppm	ppm No
0 2		ppb	ppb
0 5		ppb	ppb No
1	-	ppm	pm No
0 5	-	ppb	Pb No
100 100	ъ	ppb	pb No
0 700	ъ	ppb	Pb No
0 5	ъ	ppb	pb No
100	Б	ppb	pb No

#### Turbidity

	Limit (Treatment Technique)	Level Detected	Violation	Likely Source of Contamination	
Highest single measurement	1 NTU	0.13	No	Soil runoff.	
Lowest monthly percentage (%) meeting limit	0.3 NTU	100.00%	No	Soil runoff.	
NOTE: Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate th	n interfere with disinfection and	provide a medium for	microbial	growth. Turbidity may indicate the presence of disease-causing organisms. These	
organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches,	ause symptoms such as nausea	a, cramps, diarrhea, a	nd associa	ated headaches.	

### Maximum Residual Disinfectant Level

Disinfectant.	ppm	NIA	1.0	0.08	0	0.02	2016	Chlorite
Disinfectant.	ppm	0.8	0.8	0.23	0	0.005	2016	Chlorine Dioxide
Disinfectant used to control microbes.	ppm	<4.0	4.0	Cust.#	Cust.#	Cust.#	2016	Chlorine Residual (Chloramines)
Source of Chemical	Units	MRDLG	MRDL	Maximum	Minimum Level	Average Level	Year	Disinfectant Type

#### Total Organic Carbon

Removal Ratio 2016 59.0% 46.3-59.0% % removal NOTE: Total organic carbon (TOC) has no health effects. The disinfectant can combine with TOC to form disinfection by-products. Disinfection is necessary to ensure that water does not have unacceptable	m disinfection by-prod	n combine with TOC to for	ealth effects. The disinfectant ca	2016	NOTE: Total organic carbon
Naturally present in the environment.		1.80-2.74	2.74	2016	Drinking Water
Naturally present in the environment.	ppm	4.93-6.08	6.08	2016	Source Water
Likely Source of Contamination	Units	Range of Levels Detected	Detected	Date	
			Highest Level	Collection	

levels of pathogens. By-products of disinfection include trihalomethanes (THMs) and haloacetic acids (HAA) which are reported elsewhere in this report.

\* Removal ratio is the percent of TOC removed by the treatment process divided by the percent of TOC required by TCEQ to be removed.

#### Lead and Copper

By-product of drinking water disinfection. Action Level = 1.3	ppm	1.3	1.3	0 - 0.059	0.059	2016	Copper
Corrosion of customer plumbing. Action Level = .015	ppm	0.015	0.015	Levels lower than detect level	Levels lower than detect level	2016	Lead
Likely Source of Contamination	Units	MCL	MCLG	Range of Levels Detected	Highest Level Detected	Collection Date	Contaminants

ADDITIONAL HEALTH INFORMATION FOR LEAD: 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. The NTMWD is responsible for providing high quality drinking water, but 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.

#### **Unregulated Contaminants**

no maximum contaminant level for these chemicals at the entry point to distribution.	r-products. There is r	ethane are disinfection by	NOTE: Bromoform, chloroform, dichlorobromomethane, and dibromochloromethane are disinfection by-products. There is no maximum contaminant level	n, dichlorobro	NOTE: Bromoform, chloroform
By-product of drinking water disinfection.	ppb	2.98 - 2.98	2.98	2016	Dibromochloromethane
By-product of drinking water disinfection.	ppb	6.42 - 6.42	6.42	2016	Bromodichloromethane
By-product of drinking water disinfection.	ppb	Levels lower than	Levels lower than detect level	2016	Bromoform
By-product of drinking water disinfection.	ppb	14.4 - 14.4	14.4	2016	Chloroform
Likely Source of Contamination	Units	Range of Levels Detected	Highest Level Detected	Collection Date	Contaminants

## Secondary and Other Constituents Not Regulated

Contaminants	Collection	Highest Level Detected	Range of Levels Detected	Units	Likely Source of Contamination
Bicarbonate	2016	62.9	62.9 - 62.9	ppm	Corrosion of carbonate rocks such as limestone.
Calcium	2016	56.5	35.6 - 56.5	ppm	Abundant naturally occurring element.
Chloride	2016	13.4	8.54 - 13.4	ppm	Abundant naturally occurring element; used in water purification; by-product of oil field activity.
Hardness as Ca/Mg	2016	78.6	52.1 - 78.6	ppm	Naturally occurring calcium and magnesium.
Iron	2016	0.0388	0.0388 - 0.0388	ppm	Erosion of natural deposits; iron or steel water delivery equipment or facilities.
Magnesium	2016	3.17	2.21 - 3.17	ppm	Abundant naturally occurring element.
Manganese	2016	0.023	0.004 - 0.023	ppm	Abundant naturally occurring element.
Nickel	2016	0.004	0.002 - 0.004	ppm	Erosion of natural deposits.
PH	2016	8.20	7.4-8.2	units	Measure of corrosivity of water.
Sodium	2016	15.6	11.0 - 15.6	ppm	Erosion of natural deposits; by-product of oil field activity.
Sulfate	2016	78.5	57.1 - 78.5	ppm	Naturally occurring; common industrial by-product; by-product of oil field activity.
Total Alkalinity as CaCO3	2016	71	55.3 - 71.0	ppm	Naturally occurring soluble mineral salts,
Total Dissolved Solids	2016	220	150 - 220	ppm	Total dissolved mineral constituents in water.
Total Hardness as CaCO3	2016	149	97.9 - 149.0	ppm	Naturally occurring calcium.
Zinc	2016	0.006	0-0.006	ppm	Moderately abundant naturally occurring element used in the metal industry.

#### Crypto/Giardia

				sured in the raw wat	NOTE: Crypto/Giardia measured in the raw water
Naturally occurring in the environment	(Oo)cysts/L	0	0	2016	Giardia
Naturally occurring in the environment	(Oo)cysts/L	0	0	2016	Crytosporidia
Likely Source of Contamination	Units	Range of Levels Detected	Highest Level Detected	Collection Date	Contaminants