DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 7TH BOMB WING (AFGSC)
DYESS AIR FORCE BASE TEXAS

20 June 2018

MEMORANDUM FOR ALL DYESS PERSONNEL

FROM: 7 BW/CC

SUBJECT: Dyess Air Force Base Drinking Water Consumer Confidence Report

1. The attached report is your Consumer Confidence Report for the 2017 calendar year. This report provides data from the City of Abilene, as well as Dyess AFB on the measured levels of wanted and unwanted substances in our drinking water. Throughout this report, you will find information on the source of our water, and the possible contaminate sources.

2. The 7th Civil Engineer Squadron Water/Fuels Maintenance Element and 7th Aerospace Medicine Squadron Bioenvironmental Engineering Flight are continually testing the water, to ensure that it is of the highest quality. Their efforts ensure the proper amounts of chlorine and fluoride are in our drinking water. This provides water that is free of harmful bacteria and promotes the development of strong and healthy teeth in our children. Furthermore, the routine quality assurance checks by these entities ensure our water is safe for consumption.

3. You can be assured that the water you drink at Dyess is safe and free from health hazards.

4. If you have any questions or concerns, my point of contact is Maj. Patrick Morris of the Bioenvironmental Engineering Flight and he can be reached at 325-696-2325.

PARKER.BRANDON.D.1144938891
Digitally signed by PARKER.BRANDON.D.1144938891
Date: 2018.06.20 11:02:23 -05'00'

BRANDON D. PARKER, Col, USAF
Commander

Attachment:
2017 Dyess AFB Drinking Water Consumer Confidence Report

Annual Drinking Water Quality Report

TX2210013 DYESS AIR FORCE BASE

Annual Water Quality Report for the period of January 1 to December 31, 2017

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.

DYESS AIR FORCE BASE is Purchased Surface Water

For more information regarding this report contact:

Bioenvironmental Engineering Flight

Phone: 325-696-2325

Este reporte incluye información importante sobre el agua para tomar. Para asistencia en español, favor de llamar al telefono (325) 696-2325.

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 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. Dyess AFB is 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

A Source Water Susceptibility Assessment for your drinking water source(s) is currently being updated by the Texas Commission on Environmental Quality. This information 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 information contained in the assessment allows us to focus source water protection strategies.

Our drinking water is obtained from the following surface water sources: Lake O.H. Ivie, Lake Fort Phantom Hill, and Hubbard Creek Lake.

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://dww.tceq.texas.gov/DWW

Source Water Name		Type of Water	Report Status	Location
SW FROM CITY OF ABILENE	CC FROM TX2210001 CITY OF	SW	Active	Taylor County

Water Quality Test Results

Definitions:	The following tables contain scientific terms and measures, some of which may require explanation.
Avg:	Regulatory compliance with some MCLs are based on running annual average of monthly samples.
Maximum Contaminant Level or MCL:	The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
Maximum Contaminant Level Goal or MCLG:	The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
Maximum residual disinfectant level or MRDL:	The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
Maximum residual disinfectant level goal or MRDLG:	The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
MFL	million fibers per liter (a measure of asbestos)
na:	not applicable.
NTU	nephelometric turbidity units (a measure of turbidity)
pCi/L	picocuries per liter (a measure of radioactivity)
ppb:	parts per billion or micrograms per liter (µg/L) - or one ounce in 7,350,000 gallons of water.
ppm:	parts per million or milligrams per liter (mg/L) - 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.

2017 Regulated Contaminants Detected

Lead and Copper

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
Copper[2]	2017	1.3	1.3	0.57	0	ppm	N	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
Lead[2]	2017	0	15	1	0	ppb	N	Corrosion of household plumbing systems; Erosion of natural deposits.

[1] City of Abilene Data
[2] Dyess AFB Data

Note: Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver of kidney damage. People with Wilson's Disease should consult their personal doctor.

Bacteriological

Type of Contaminant	Year of Range	Total # of Positive Samples	MCL	MCLG	Fecal Coliform or E. Coli Maximum	Total No. of Positive E. Coli or Fecal	Violation (Y/N)	Source of Contaminant
Total Coliform[2]	2017	3	1 positive monthly sample	0	0	0	N	Naturally present in environment. Animal or human waste.

[1] City of Abilene Data
[2] Dyess AFB Data

Disinfectant Residual

Disinfectant	Year of Range	Average Level	Minimum Level	Maximum Level	MRDL	MRDLG	Unit of Measure	Violation (Y/N)	Source of Contaminant
Chloramine Residual[2]	2017	1.66	0.70	2.50	4	4	ppm	N	Water additive used to control microbes.

[1] City of Abilene Data
[2] Dyess AFB Data

Regulated Contaminants

Type of Contaminant	Year of Range	Contaminant (unit of measure)	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Violation	Source of Contaminant
Inorganic Contaminants	2017	Arsenic[1] (ppb)	0	0	10	0	N	Erosion of natural deposits
	2017	Barium[1] (ppm)	0.126	0.102-0.126	2	2	N	Discharge from plastic and fertilizer factories; Discharge from steel/metal factories.
	2017	Cyanide[1] (ppb)	170	24.7-170	200	200	N	Discharge from plastic and fertilizer factories; Discharge from steel/metal factories.
	2017	Fluoride[2] (ppm)	1.99	0.30-1.99	4	4.0	N	Erosion of natural deposits; water additive for strong teeth; discharge from fertilizer and aluminum factories.
	2017	Nitrate[2] (ppm)	0.29	0.228-0.29	10	10	N	Erosion of natural deposits; runoff from fertilizer use; leaching from septic tanks or sewage.
	2015	Nitrite[2] (ppm)	0.05	0.04-0.05	1	1	N	Erosion of natural deposits; runoff from fertilizer use; leaching from septic tanks or sewage.
	2017	Selenium[1] (ppb)	4	<3.0-4.0	50.0	50	N	Erosion from natural deposits; discharge from petroleum refineries.
Radioactive Contaminants	2014	Beta/proton Emitters[1] (pCi/L)	11.5	11.5-11.5	0	50	N	Erosion of natural deposits; decay of natural and man-made deposits.
	2017	Radium[1] 228 (pCi/L)	<1.0	<1.0	0	5	N	Naturally present in environment.
Disinfection Byproducts	2017	Total Haloacetic Acids[2] (ppb)	25	8.50-28.30	No goal for the total	60	N	Byproduct of drinking water disinfection.
	2017	Total Trihalomethanes[2] (ppb)	33	22.6-37.4	No goal for the total	80	N	Byproduct of drinking water disinfection.
	2017	Chlorite[1] (ppm)	0.92	<0.01-0.92	0.8	1	N	Byproduct of drinking water disinfection.

[1] City of Abilene Data
[2] Dyess AFB Data

Unregulated Contaminants

Type of Contaminant	Year of Range	Contaminant (unit of measure)	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Violation	Source of Contaminant
Unregulated Contaminants	2017	Chloroform[2] (ppb)	3.10	1.22-3.10	na	na	na	Byproduct of drinking water disinfection.
	2017	Bromoform[2] (ppb)	19.80	10.20-19.80	na	na	na	Byproduct of drinking water disinfection.
	2017	Bromodichloromethane[2] (ppb)	7.28	3.38	na	na	na	Byproduct of drinking water disinfection.
	2017	Dibromochloromethane[2] (ppb)	12.10	7.08-12.10	na	na	na	Byproduct of drinking water disinfection.
	2017	Bromochloroacetic Acid[2]	8.70	3.20-8.70	na	na	na	Byproduct of drinking water disinfection.
	2017	Dibromoacetic Acid[2]	22.2	6.20-8.70	na	na	na	Byproduct of drinking water disinfection.
	2017	Dichloroacetic Acid[2]	5.10	2.0-5.10	na	na	na	Byproduct of drinking water disinfection.

[1] City of Abilene Data
[2] Dyess AFB Data
Note: Unregulated contaminants are those for which the 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 regulations are warranted.

Secondary and Other Constituents Not Regulated

Type of Contaminant	Year of Range	Contaminant (unit of measure)	Average Level	Minimum Level	Maximum Level	Secondary Limit	Source of Contaminant
Secondary and Other Constituents Not Regulated	2017	Aluminum[1] (ppm)	0.024	<0.02	0.029	0.05	Naturally present in environment.
	2017	Bicarbonate[1] (ppm)	146	135	155	na	Corrosion of carbonate rocks such as limestone.
	2017	Calcium[1] (ppm)	64.5	55.1	83.1	na	Naturally present in environment.
	2017	Chloride[1] (ppm)	114	87	166	300	Naturally present in environment.
	2017	Copper[1] (ppm)	<0.002	<0.002	0.002	1.0	Corrosion of household plumbing, erosion from natural deposits; leaching from wood preservatives.
	2017	Magnesium[1] (ppm)	18.5	10.8	33.7	na	Naturally present in environment.

[1] City of Abilene Data
[2] Dyess AFB Data

Secondary and Other Constituents Not Regulated cont'd

Type of Contaminant	Year of Range	Contaminant (unit of measure)	Average Level	Minimum Level	Maximum Level	Secondary Limit	Source of Contaminant
Secondary and Other Constituents Not Regulated	2017	Manganese[1] (ppm)	0.019	0.0169	0.0232	0.05	Naturally present in environment.
	2017	Nickel[1] (ppm)	0.034	0.0029	0.0036	na	Erosion of natural deposits.
	2017	pH[2] (units)	8.10	6.43	8.20	>7.7	Measure of corrosivity of water. Influences disinfection process.
	2017	Sodium[1] (ppm)	67.8	52.3	98.8	na	Erosion of natural deposits; byproduct of oil field activity.
	2017	Sulfate[1] (ppm)	115	63	212	300	Naturally occurring; common industrial byproduct; byproduct of oil field activity.
	2017	Total Alkalinity as $CaCO_3$[1] (ppm)	120	111	127	na	Naturally occurring soluble mineral salts.
	2017	Total Dissolved Solids[1] (ppm)	485	366	717	1000	Total dissolved mineral constituents in water. Naturally present in environment.
	2017	Total Hardness as $CaCO_3$[1] (ppm)	237	182	346	na	Naturally occurring soluble mineral salts.
	2017	Conductivity[1] (umhos/cm)	915	698	1340	na	Physical property of water.
	2017	Potassium[1] (mg/L)	7.47	6.53	7.95	na	Naturally present in environment.
	2017	Zinc[1] (mg/L)	<0.005	<0.005	<0.005	na	Naturally present in environment.

[1] City of Abilene Data
[2] Dyess AFB Data

Asbestos

Year	Contaminant	Average Level	Minimum Level	Maximum Level	MFL	Source of Contaminant
2012	Asbestos[2]	ND	ND	ND	7	Construction materials. Naturally present in environment.

[1] City of Abilene Data
[2] Dyess AFB Data

Turbidity

Year	Highest Single Level Detected	Lowest Monthly % of Samples Meeting Limits	Limit (Treatment Technique)	Lowest Monthly % meeting limit	Violation (Y/N)	Source of Contaminant
2017	0.28[1]	100.00%	1	0.3	N	Soil runoff.

[1] City of Abilene Data
[2] Dyess AFB Data

Total Organic Carbon

Year	Contaminant Source	Average Level	Minimum Level	Maximum Level	Unit of Measure	Source of Contaminant
2017	Source Water[1]	6.7	5.40	9.10	ppm	Naturally present in the environment.
2017	Drinking Water[1]	3.90	2.30	5.60	ppm	Naturally present in the environment.

[1] City of Abilene Data
[2] Dyess AFB Data

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

Violation Type	Violation Begin	Violation End	Violation Explanation
LEAD CONSUMER NOTICE (LCR)	12/30/2017	03/26/2018	We failed to provide the results of lead tap water monitoring to the consumers at the location water was tested. These were supposed to be provided no later than 30 days after learning the results.

Additional Information

Level 1 Assessment not due to an MCL violation

Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessment(s) to identify problems and to correct any problems that were found during these assessments.

During the past year we were required to conduct **one** Level 1 assessment. **One** Level 1 assessment was completed. In addition, we were required to take **0** corrective actions and completed **0** of these actions.

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 7TH BOMB WING (AFGSC)
DYESS AIR FORCE BASE TEXAS

Routine Monitoring Violation Lead and Copper Rule

Dyess Air Force Base/ PWS TX2210013 failed to provide the results of lead tap water monitoring to the consumers at the location water was tested. These were supposed to be provided no later than 30 days after learning the results for the monitoring period of 1 June 2017 – 30 September 2017**.** This monitoring is required by the Texas Commission on Environmental Quality's "Drinking Water Standards" and the federal "Safe Drinking Water Act," Public Law 95-523.

The Lead and Copper Rule protects public health by minimizing lead and copper levels in drinking water, primarily by reducing water corrosivity. Lead and copper enter drinking water mainly from corrosion of lead and copper containing plumbing materials.

If you have any questions regarding this violation, you may contact Maj. Patrick Morris at 325-696-2325.