



DEPARTMENT OF THE NAVY
NAVAL AIR STATION
JOINT RESERVE BASE
FORT WORTH, TX 76127-6200

IN REPLY REFER TO

5090
Ser PW015
2 June 2014

Texas Commission on Environmental Quality
PDWS - Mail Code 155
ATTN: CCR
12100 Park 35 Circle
Austin, TX 78753

Ladies and Gentlemen,

SUBJECT: 2013 CONSUMER CONFIDENCE REPORT AND CERTIFICATION
OF DELIVERY LETTER

The subject forms are submitted for Naval Air Station Fort Worth, Joint Reserve Base. The 2013 Consumer Confidence Report is being made available to all personnel onboard the installation.

My point of contact for any questions concerning this subject is Mr. Robert Myer at (817) 782-6474.

Sincerely,

A handwritten signature in black ink, appearing to read "C. A. Shellerud".

C. A. SHELLERUD
Public Works Officer
By Direction of the Commander

**2013 Annual Drinking
Water Quality Report**
(Consumer Confidence Report)
Reporting period Jan. 1 to Dec. 31, 2013

NAVAL AIR STATION FORT WORTH JOINT RESERVE BASE TX2200332

Phone Number: (817) 782-7446
LCDR Craig A. Shellerud

SPECIAL NOTICE

**Required language for ALL community
public water systems:**

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

**Public Participation
Opportunities**

Date: None Scheduled

Time:

Location:

Phone Number: (817) 392-4477

To learn about future public meetings (concerning your drinking water), or to request to schedule one, please call us.

**OUR DRINKING WATER
IS REGULATED**

This report is a summary of the quality of water we provide our customers. The analysis was made by using the data from the most recent U.S. Environmental Protection Agency (EPA) required tests and is presented in the attached pages. We hope this information helps you become more knowledgeable about what is in your drinking water.

Source 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.

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.

En Espanol

Este informe incluye informacion importante sobre el agua potable. Si tiene preguntas o comentarios sobre este informe en espanol, favor de llamar at tel. (817) 782-7815 para hablar con una persona bilingue en espanol.

Where do we get our drinking water?

The source of drinking water used by NAVAL AIR STATION FORT WORTH JOINT RESERVE BASE is Purchased Surface Water. A Source Water Susceptibility Assessment for your drinking water 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 normal conditions. The information contained in this assessment allows us to focus source water protection strategies. Some of this source water assessment information is available on the Texas Drinking Water Watch at <http://dww.tceq.state.tx.us/DWW/>. For more information on source water assessments and protection efforts at our system, please contact us.

ALL drinking water may contain contaminants

When drinking water meets federal standards, there may not be health benefits to purchasing bottled water or point of use devices. Drinking water, including bottled water, may reasonably be expected to contain 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 EPA's Safe Drinking Water Hotline at (800) 426-4791.

Secondary Constituents

Many constituents (such as calcium, sodium, or iron) which are often found in drinking water, can cause taste, odor, and color problems. The taste and odor constituents are called secondary constituents and are regulated by the State of Texas, not the EPA. These constituents are not causes for health concerns. Therefore, secondaries are not required to be reported in this document, but they may greatly affect the appearance and taste of your drinking water.

Abbreviations

- NTU – Nephelometric Turbidity Units
- MFL – million fibers per liter (a measure of asbestos)
- pCi/L – picocuries per liter (a measure of radioactivity)
- ppm – parts per million, or milligrams per liter (mg/L)
- ppb – parts per billion, or micrograms per liter
- ppt – parts per trillion, or nanograms per liter
- ppq – parts per quadrillion, or pictograms per liter

Definitions

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. MCLG's allow a margin of safety.

Maximum Contaminant Level or MCL:

The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's as feasible using best available treatment technology.

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. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Avg:

Regulatory compliance with some MCL's are based on running annual average of monthly samples.

ppm:

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

ppb:

Micrograms per liter or parts per billion – or one ounce in 7,350,000 gallons of water

na:

Not applicable

Definitions:

The following tables contain scientific terms and measures, some of which may require explanation.

Inorganic Contaminants

Year or Range	Contaminant	Average Level	Minimum Level	Maximum Level	MCL	MCLG	Unit of Measure	Source of Contamination
2013	Fluoride	0.65	0.23	0.65	4	4	ppm	Water additive which promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories
2013	Nitrate	0.28	0.26	0.28	10	10	ppm	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
2013	Nitrite	0.03	0.01	0.03	1	1	ppm	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
2013	Bromate	0.08	0	0.80	10	0	ppb	Byproduct of drinking water disinfection
2013	Alpha particles(2)	2.8	0	2.8	15	N/A	pCi/L	Erosion of natural deposits
2013	Gross Beta Emitters ¹	7.5	0	7.5	50	N/A	pCi/L	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
2013	Radium 228(2)	1.1	0	1.1	5	0	pCi/L	Erosion of natural deposits
2013	Arsenic	4.48	1.33	4.48	10	0	ppb	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
2013	Barium	0.06	0.05	0.06	2	2	ppm	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
2013	Chromium (Total)	2.12	1.28	2.12	100	100	ppb	Discharge from steel and pulp mills, erosion of natural deposits
2013	Selenium	3.98	2.92	3.98	50	50	ppb	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines

The MCL for beta particles is 4 mrem/year. EPA considers 50 pCi/L to be the level of concern for beta particles.

Organic Contaminants

Year	Disinfectant	Actual Level	Minimum Level	Maximum Level	MCL	MCLG	Unit of Measure	Likely Source of Contamination
2006	Dalapon	0	0	0	200	200	ppb	Runoff from herbicides used on rights of way

Maximum Residual Disinfectant Level

Year	Disinfectant	Actual Level	Minimum Level	Maximum Level	MRDL	MRDLG	Unit of Measure	Source of Disinfectant
2013	Chloramine Residual	2.93	1.10	7.40	4	4	ppm	Water additive used to control microbes

Regulated Contaminants

Disinfectant Byproducts

Year	Disinfectants and Disinfectant Byproducts	Highest Level	Range of Levels	MCL	MCLG	Units	Violation	Likely Source of Disinfectant
2013	Haloacetic Acids (HAA5)	7.0	0.0 – 7.0	60	N/A	ppb	No	Byproduct of drinking water chlorination
2013	Total Trihalomethanes (TTHM)	21.0	1.2 – 21.0	80	N/A	ppb	No	Byproduct of drinking water chlorination

Lead and Copper

Year	Contaminant	The 90th Percentile	Number of Sites Exceeding Action Level	Action Level	Unit of Measure	Violation	Source of Contamination
2013	Lead	6.59	1	15	ppb	N	Corrosion of household plumbing systems; erosion of natural deposits
2013	Copper	1.04	2	1.3	ppb	N	Corrosion of household plumbing systems; erosion of natural deposits; leaching of wood preservatives

"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. This water supply 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>."

Turbidity

Year	Contaminant	Highest Single Measurement	Lowest Monthly % of Samples Meeting Limits	Turbidity Limits	Unit of Measure	Source of Contaminant
2013	Turbidity ²	0.38	99.4	0.3	NTU	Soil runoff

² Turbidity is measure of the cloudiness of water. It is monitored because it is a good indicator of the effectiveness of the filtration system. Turbidity has no health effects. However, turbidity can 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 cramps, nausea, diarrhea, and associated headaches.

Total Coliform – REPORTED MONTHLY, TESTING FOUND NO COLIFORM BACTERIA

Fecal Coliform – REPORTED MONTHLY, TESTING FOUND NO FECAL COLIFORM BACTERIA

Total Organic Carbon

Year	Contaminant	High Measurement	Low Measurement	Average Measurement	MCL	MCLG	Common Sources of Substance
2013	Total Organic Carbon ³	1	1	1	TT=% removal	N/A	Naturally occurring

³Total Organic Carbon is used to determine disinfection byproduct precursors. Fort Worth was in compliance with all monitoring and treatment technique requirements for disinfection byproduct precursors.

Violations

Year	Violation Type	Violation Begin	Violation End	Violation Explanation
2013	LEAD CONSUMER NOTICE (LCR)	12/31/2013	05/13/2014	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. Those consumers have since been notified of those results and the violation has been closed.

Secondary and Other Constituents Not Regulated

(No associated adverse health effects)

Year or Range	Constituent	Average Level	Minimum Level	Maximum Level	Secondary Limit	Unit of Measure	Source of Constituent
2013	Bicarbonate	101	88	114	N/A	ppm	Corrosion of carbonate rocks such as limestone.
2013	Calcium	36.5	31	42	N/A	ppm	Abundant naturally occurring element
2013	Chloride	18	10	26	300	ppm	Abundant naturally occurring element; used in water purifications; byproduct of oil field activity
2013	Conductivity	624	264	360	N/A	umhos/cm	Measure of conductivity in water activity
2013	pH	8	7.7	8.3	>7.0	units	Measure of corrosivity of water
2013	Magnesium	4.5	3	6	N/A	ppm	Abundant naturally occurring element
2013	Sodium	22	17	27	N/A	ppm	Erosion of natural deposits; byproduct of oil field activity
2013	Sulfate	29	22	36	N/A	ppm	Naturally occurring element; common industrial byproduct; byproduct of oil field activity
2013	Total Alkalinity as CaCO ₃	101	88	114	N/A	ppm	Naturally occurring soluble mineral salts
2013	Total Dissolved Solids	197	150	244	N/A	ppm	Total dissolved mineral constituents in water
2013	Total Hardness as CaCO ₃	107	92	122	N/A	ppm	Naturally occurring calcium
2013	Total Hardness in Grains	6	5	7	N/A	grains/gallon	Naturally occurring elements

Unregulated Contaminants

Year	Contaminant	2013 Range of Detects	2013 Level	Unit of Measure	MCL	MCLG	Common Sources of Substance
2013	Chloral Hydrate	0.3 – 0.68	0.68	ppb	Not Regulated	None	Byproduct of drinking water disinfection
2013	Bromoform	0 – 2.8	2.8	ppb	Not Regulated	None	
	Bromodichloromethane	1.4 – 9.6	9.6	ppb	Not Regulated	None	Byproducts of drinking water disinfection; not regulated individually; included in Total Trihalomethanes
	Chloroform	2 – 14.2	14.2	ppb	Not Regulated	70	
	Dibromochloromethane	0.0 – 6.9	6.9	ppb	Not Regulated	60	
2013	Monochloroacetic Acid	0 – 3.8	3.8	ppb	Not Regulated	70	
	Dichloroacetic Acid	3.5 – 7.3	8.1	ppb	Not Regulated	None	
	Trichloroacetic Acid	0 – 1.6	7.4	ppb	Not Regulated	20	Byproducts of drinking water disinfection; not regulated individually; included in Haloacetic Acids
	Monobromoacetic Acid	1.5 – 2.7	9.4	ppb	Not Regulated	None	
	Dibromoacetic Acid	0.0 – 1.8	1.3	ppb	Not Regulated	None	

“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 or unregulated contaminants in drinking water and whether future regulation is warranted. Any unregulated contaminants detected are reported in the table above. For additional information and data, visit <http://www.epa.gov/safewater/ucmr/ucmr2/index.html> or call the Safe Drinking Water Hotline at (800) 426-4791.”

Data gathering to determine if more regulation needed

Water utilities in the United States monitor for more than 100 contaminants and must meet 91 regulations for water safety and quality. But should other contaminants be regulated? The 1996 Safe Drinking Water Act amendments require that once every five years EPA issue a new list of no more than 30 unregulated contaminants to be monitored by public water systems. This monitoring provides a basis for future regulatory actions to protect public health. The first Unregulated Contaminant Monitoring Rule (UCMR 1) was published on Sept. 17, 1999, the second (UCMR 2) was published on Jan. 4, 2007, and the third (UCMR 3) was published on May 2, 2012. Fort Worth did not detect any of the contaminants in the UCMR 1 and UCMR 2 testing. The third unregulated Contaminant Monitoring Rule includes assessment for 21 chemical contaminants, 7 hormones and two viruses. The virus testing was limited to small groundwater systems that do not disinfect. UCMR benefits the environment and public health by providing EPA and other interested parties with scientifically valid data on the occurrence of these contaminants in drinking water. Health information is necessary to know whether these contaminants pose a health risk. Public water systems will sample for these contaminants for four consecutive quarters from 2013 to 2015. Fort Worth’s sampling occurred from June 2013 through March 2014. The results shown are for the first three quarters of sampling. The final quarter’s results will appear in next year’s annual water quality report.

Additional Information:

Water.epa.gov/lawsregs/sdwa/ucmr/ucmr3/index.cfm

UCMR 3 – Fort Worth’s testing detected only six of the 21 chemical contaminants and none of the 7 hormones.

Year	Contaminant	Range of Detects	2013 Level	Unit of Measure	MRL	Common Sources of Substance
2013	Bromochloromethane (Halon 1011)	0 – 0.25	0.25	ppb	0.06	Used as a fire-extinguishing fluid, an explosive suppressant, and as a solvent in the manufacturing of pesticides
2013	Vanadium	0.56 – 1.6	1.6	ppb	0.2	Naturally-occurring element metal; used as vanadium pentoxide which is a chemical intermediate and a catalyst
2013	Molybdenum	1.6 – 2.5	2.5	ppb	1	Naturally-occurring element found in ores and present in plants, animals and bacterial; commonly used form molybdenum trioxide used as a chemical reagent
2013	Strontium	260 – 330	330	ppb	0.3	Naturally-occurring element; historically, commercial use of strontium has been in the faceplate class of cathode-ray tube televisions to block x-ray emissions
2013	Chromium (1)	0 – 0.4	0.4	ppb	0.2	Naturally-occurring element; used in making steel and other alloys; chromium -3 or -6 forms are used for chrome plating, dyes and pigments, leather tanning, and wood preservation
2013	Chromium -6	0 – 0.14	0.14	ppb	0.03	
2013	Chlorate	0-720	720	ppb	20	Agricultural defoliant or desiccant; disinfection byproduct; and used in production of chlorine dioxide

(1) Total Chromium, the sum of chromium in all its valence states, is already regulated in drinking water. As part of UCMR 3, EPA requires testing for Total Chromium in the same samples used to test for Chromium 6, which is on the UCMR 3 list. The value differs from what is listed in the table on Page 3 because of different sampling periods. The MCL for EPA’s current total chromium regulation was determined based upon the health effects of Chromium 6.

UCMR 3 contaminants not detected

Chemicals

- 2,3-trichloropropane
- 3-butadiene
- chloromethane (methyl chloride)
- 1-dichloroethane
- chloromethane
- chlorodifluoromethane (HCFC-22)
- 4-dioxane
- cobalt
- perfluorooctanesulfonic acid (PFOS)
- perfluorooctanoic acid (PFOA)
- perfluorononanoic acid (PFNA)
- perfluorohexanesulfonic acid (PFHxS)
- perfluoroheptanoic acid (PFHpA)
- perfluorobutanesulfonic acid (PFBS)

Hormones

- 17-estradiol
- 17-ethynylestradiol
- estriol
- equilin
- estrone
- testosterone
- 4-androstene-3,17-dione