

2016 CONSUMER CONFIDENCE REPORT

Travis AFB, CA

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2016 Consumer Confidence Report

Water Quality Report

The Travis Air Force Base, California, Bioenvironmental Engineering Flight's goal is to ensure the Travis community is provided a reliable drinking water supply and we are pleased to present to you this 2016 drinking water quality report. This report is a snapshot of last year's water quality and it includes a summary about the water provided to Travis, where it came from, what it contained and how it compares to California standards.

Water sources

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. It can pick up substances resulting from the presence of animals or from human activity.

Travis purchases water from a California State Water Project that originates in Lake Oroville and flows through the Sacramento River to the North Bay Aqueduct pumping facility then to the water treatment plant located on the base. The treatment plant additionally receives surface water from the Solano Project, which provides water from Lake Berryessa transported by the Putah South Canal to the terminal reservoir.

If the Travis water treatment plant is down for maintenance, water is obtained from groundwater wells located at Cypress Lakes Golf Course a few miles north of the base. Water from both sources is then disinfected and fluoridated. Surface water source water assessments were completed in 2001, 2002 and 2006 while a groundwater well source assessments was completed in 2016. For more information, call the BEE flight at 707-423-5490.

Contaminant summary report (see below)

The Contaminant Summary Report lists the drinking water contaminants detected from Jan. 1, 2016, to Dec. 31, 2016. The presence of contaminants does not necessarily indicate that the water poses a health risk. The State Water Resource Control Board allows Travis to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not change frequently. However, some of the representative water quality data are more than a year old. Contaminants that may be present in source water include:

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

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency and the SWRCB prescribe regulations that limit the amount of certain contaminants in water that is provided by public water systems in California. These regulations also establish limits for contaminants in bottled water that provide the same protection for public health purposes.

Terms used in this report

- **Maximum Contaminant Level:** The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the public health goal or maximum contaminant level goal as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.
- **Maximum Contaminant Level Goal:** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. EPA.
- **Public Health Goal:** The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California EPA.
- **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.
- **Primary Drinking Water Standards:** MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements and water treatment requirements.
- **Secondary Drinking Water Standards:** MCLs for contaminants that affect taste, odor, or appearance of the drinking water. Contaminants with SDWSs do not affect the health at the MCL levels.
- **Treatment Technique:** A required process intended to reduce the level of a contaminant in drinking water.
- **Regulatory Action Level:** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.
- **Variations and Exemptions:** Department permission to exceed an MCL or not comply with a treatment technique under certain conditions.

Table 1: Contaminant Summary Report

This table below summarizes the drinking water contaminants that were detected in the period
January 1, 2016 - December 31, 2016

REGULATED CONTAMINANTS WITH PRIMARY MCLs				Travis Water Treatment Plant			Groundwater				
Substance or Constituent	Units	MCL	PHG (MCLG)	Level Detected	Range of Detections	Year of Sampling	Level Detected	Range of Detection	Year of Sampling	Violation	Typical Source
Copper	ppm	(AL=1.3)	0.3	ND	ND	2016	ND	ND	2015	No	Erosion of natural deposits; leaching from wood preservatives
Aluminum	ppm	1	0.6	ND	ND	2016	0.056	ND-0.17	2015	No	Erosion of natural deposits; residual from water treatment process
Fluoride ¹ - added	ppm	2	1	0.8	0 - 1.3	2016	0.84	0.08-1.4	2015	No	Water additive which promotes strong teeth
Lead	ppb	(AL=15)	0.2	ND	ND	2015	ND	ND	2015	No	Discharges from industrial manufacturers; erosion of natural deposits
Nitrate (as nitrate, NO3)	ppm	45	45	ND	ND	2016	2.4	1.9-3.2	2016	No	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Nitrite (as nitrogen, N)	ppm	1	1	ND	ND	2016	ND	ND	2016	No	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Turbidity ²	NTU	1	N/A	0.21	≤ 0.3	2016	N/A	N/A	N/A	No	Soil run-off
Total Organic Carbon ^{3,4}	ppm	TT=RAA > 1	N/A	100% of samples ≥ 1	1.6-2.5	2016	N/A	N/A	N/A	No	Decay of natural organic matter
Alpha Particle Activity	pCi/L	15	0	ND	3.92-3.92	2016	ND	ND	2013	No	Erosion of natural deposits
Radium 226	pCi/L	5	0.05	ND	ND	2016	ND	ND	2013	No	Erosion of natural deposits
Radium 228	pCi/L	5	0.019	ND	ND	2016	ND	ND	2013	No	Erosion of natural deposits
Uranium	pCi/L	20	0.43	ND	ND	2016	ND	ND	2013	No	Erosion of natural deposits
REGULATED CONTAMINANTS WITH SECONDARY MCLs											
Constituent	Units	MCL	PHG (MCLG)	Level Detected	Range of Detections	Year of Sampling	Level Detected	Range of Detection	Year of Sampling	Violation	Typical Source
Aluminum	ppb	200	none	ND	ND	2015	56.6	ND - 170	2015	No	Erosion of natural deposits; residue from some surface water treatment processes
Chloride	ppm	500	none	12	9.0-48	2015	34.6	28-38	2015	No	Runoff/leaching from natural deposits; seawater influence
Manganese	ppb	50	none	ND	ND	2015	ND	ND	2015	No	Leaching from natural deposits
Odor	units	3	none	2	1.0 - 2.0	2015	ND	ND	2015	No	Naturally-occurring organic materials
Specific Conductance	uS/cm	1600	none	380	316 - 588	2015	643	640-650	2015	No	Substances that form ions when in water; seawater influence
Sulfate	ppm	500	none	58	11 - 91	2015	51.3	48-56	2015	No	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids	ppm	1000	none	210	198-368	2015	373.3	360 - 380	2015	No	Runoff/leaching from natural deposits
MICROBIOLOGICAL CONTAMINANTS											
Contaminants	Units	MCL		MCLG	No. of Detections		Year of Sampling		Violation	Typical Source	
Total Coliform Bacteria	N/A	> 1 positive monthly sample		0	0		2016		No	Naturally present in the environment	
Fecal Coliform Bacteria	N/A	1 positive and 1 repeat positive		0	0		2016		No	Human and animal fecal waste	
DISINFECTION BYPRODUCTS, DISINFECTANT RESIDUALS, AND PRECURSORS *(TTHM Violation Description See Below)											
Substance	Units	MCL		MCLG	Highest LRAA	Range	Year of Sampling		Violation	Typical Source	
Total Trihalomethanes (TTHM)	ppb	80		N/A	65	ND-93	2016		No	By-product of drinking water disinfection	
Haloacetic Acids	ppb	60		N/A	19	29-May	2016		No		
DETECTION OF LEAD AND COPPER IN TAPS											
Metals	Units	AL	PHG	No. of Samples		90th Percentile Detected	Year of Sampling		Violation	Typical Source	
Lead	ppb	15	2	30		<0.0050	2015		No	Internal corrosion of household water plumbing systems; erosion of natural deposits	
Copper	ppm	1.3	0.17	30		0.22	2015		No		

¹ Our water system treats your water by adding fluoride to the naturally occurring level in order to help prevent dental caries in consumers. The fluoride levels in the treated water are maintained within a range of 0.7-1.3 ppm, as required by state regulations.

² Turbidity is a measurement of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. For compliance, at least 95% of all samples must be less than or equal to 0.3 NTU and no one sample may be greater than 1.0 NTU.

³ Total organic carbon (TOC) has no health effects; however, TOC provides a medium for the formation of disinfection byproducts. These byproducts include total trihalomethanes (TTHMs) and haloacetic acids (HAAs). The treatment technique dictates that a removal ratio of 1.0 or higher must be achieved.

⁴ Compliance is based on the running annual average (RAA) determined quarterly. This means that every three months, we average all samples taken during the prior twelve-month period.

Legend:

ND: Not detectable at testing limits

ppm: Parts Per Million or milligrams per liter (mg/L)

ppb: Parts Per Billion or micrograms per liter (µg/L)

uS/cm: Microsiemens Per Centimeter

NTU: Nephelometric Turbidity Units

Additional general information

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. However, the presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the U.S. EPA's Safe Drinking Water hotline at 1-800-426-4791.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised people such as people with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. U.S. EPA and Centers for disease Control guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbial contaminants are available from the Safe Drinking Water hotline.

Lead in water: 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 60th Civil Engineering Water Fuels Maintenance Shop is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When water has been sitting for several hours, people can minimize the potential for lead exposure by flushing the tap for between 30 seconds to 2 minutes before using water for drinking or cooking. Those concerned about lead in the water, may wish to have their water tested. Information on lead in drinking water, testing methods and steps to minimize exposure are available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>. To be in compliance with the Lead and Copper Rule, the level detected at the 90th percentile must be below the AL. The next round of lead and copper testing is in September 2018.

Fluoride added to water

The water system treats water by adding fluoride to the naturally occurring level to help prevent dental caries in consumers. State regulations require the fluoride levels in the treated water be maintained within a range of 0.7 to 1.3 parts per million with an optimum dose of 0.7 ppm. Monitoring showed that the fluoride levels in the treated water ranged from 0.08 to 1.4 with an average of 0.9 ppm. Information about fluoridation, oral health and current issues is available from:

http://www.swrcb.ca.gov/drinking_water/certlic/drinkingwater/Fluoridation.shtml.

Total trihalomethanes and haloacetic acids

To protect drinking water from disease-causing organisms or pathogens, chlorine is added to drinking water as a disinfectant. TTHMs and HAAs can form when organic-rich water is disinfected. A major challenge for the Travis Air Force Base water system and all municipal water systems, is how to control and limit the risks from pathogens and simultaneously minimize disinfection byproduct formation. In 2015, Travis was unable to maintain the locational running annual average levels below the TTHM MCL of 80 ug/L at multiple locations during one of the quarterly sampling events. These high TTHM levels were due to long detention times in the water distribution system secondary to reduction of usage in response to the recent drought in California. To reduce TTHM levels, Travis has implemented a multifaceted approach to increase water circulation in the system:

- Water production was adjusted to match demand and reduce surplus water in storage tanks.
- Water storage tank capacities were lowered to improve water circulation and to reduce detention times to allow for sustainable levels
- Water mains continue to be flushed as required.
- Took investigative samples to ensure the results were meeting state requirement for TTHM levels.

A small percentage of people who drink water containing disinfection byproducts in excess of the maximum limit over many years may experience slightly elevated risk of different types of cancer and central nervous disorders. Medical conditions of these types are not caused solely by chemicals in drinking water, but are result of several other human and environmental factors.



Questions or comments about this report or the data contained in it can be directed to:

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