



2013 Water Quality Report

2013 Consumer Confidence Report

Water Quality Report

The Travis Air Force Base (AFB) Bioenvironmental Engineering Flight's goal is to ensure you are provided a reliable drinking water supply and we are pleased to present to you this 2013 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 you, where it came from, what it contained, and how it compares to California standards. We are committed to providing you with this information in its entirety.

Travis AFB vigilantly safeguards its water supplies and we are proud to report that our system has never violated a maximum contaminant level or any other water quality standard. For 2013, as in years past, your tap water met all United States Environmental Protection Agency (US EPA) and California state drinking water health 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, and can pick up substances resulting from the presence of animals or from human activity.

Travis AFB 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 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 AFB water treatment plant is down for maintenance water is obtained from groundwater wells located on Cypress 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 2013. Please contact the Bioenvironmental Engineering Flight at (707) 423-5490 for exact locations or further information.

The table below lists the drinking water contaminants detected for the period January 1 – December 31, 2013. The presence of contaminants does not necessarily indicate that the water poses a health risk. The California Department of Public Health (CA DPH) allows us 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 your tap water is safe to drink the US EPA and the CA DPH 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 (MCL): 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 (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the US EPA.

Public Health Goal (PHG): 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 (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.

Primary Drinking Water Standards (PDWS): MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements and water treatment requirements.

Secondary Drinking Water Standards (SDWS): 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 (TT): A required process intended to reduce the level of a contaminant in drinking water.

Regulatory Action Level (AL): 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.

ND: Not detectable at testing limits

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

ppb: Parts Per Billion or micrograms per liter ($\mu\text{g/L}$)

uS/cm: Microsiemens Per Centimeter

NTU: Nephelometric Turbidity Units

Primary Drinking Water Standards

				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
Aluminum	ppm	1	0.6	ND	ND	2013	0.041	ND-0.083	2012	No	Erosion of natural deposits; residual from water treatment process
Copper	ppm	(AL=1.3)	0.3	ND	ND	2013	ND	ND	2012	No	Erosion of natural deposits; leaching from wood preservatives
Fluoride ¹ - added	ppm	2	1	1	0.8 - 1.3	2013	0.98	0.73 - 1.2	2013	No	Water additive which promotes strong teeth
Lead	ppb	(AL=15)	0.2	ND	ND	2013	ND	ND	2012	No	Discharges from industrial manufacturers; erosion of natural deposits
Nitrate (as nitrate, NO3)	ppm	45	45	<2	<2	2013	8.4	7.5-10	2013	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	2013	ND	ND	2013	No	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Turbidity ²	NTU	1	N/A	0.13	≤0.3	2013	N/A	N/A	N/A	No	Soil run-off
Alpha Particle Activity	pCi/L	15	0	ND	ND	2006	ND	ND	2013	No	Erosion of natural deposits
Radium 226	pCi/L	1	0.05	ND	ND	2006	ND	ND	2013	No	Erosion of natural deposits
Radium 228	pCi/L	1	0.019	ND	ND	2006	ND	ND	2013	No	Erosion of natural deposits
Uranium	pCi/L	20	0.43	ND	ND	2006	ND	ND	2013	No	Erosion of natural deposits
Total Organic Carbon ^{3,4}	ppm	TT=RAA >1	N/A	100% of samples ≥ 1	0.9-2.0	2013	N/A	N/A	2013	No	Decay of natural organic matter

Secondary Drinking Water Standards

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
Aluminum	ppb	200	none	ND	ND	2013	41.5	ND - 83	2012	No	Erosion of natural deposits; residue from some surface water treatment processes
Chloride	ppm	500	none	16	8.5 - 33	2013	35.3	34 - 36	2012	No	Runoff/leaching from natural deposits; seawater influence
Manganese	ppb	50	none	ND	ND	2013	ND	ND	2012	No	Leaching from natural deposits
Odor	units	3	none	1.2	1.0 - 2.0	2013	ND	ND	2012	No	Naturally-occurring organic materials
Specific Conductance	uS/cm	1600	none	280	246 - 447	2013	623	610 - 640	2012	No	Substances that form ions when in water; seawater influence
Sulfate	ppm	500	none	28	24 - 54	2013	52	49 - 54	2012	No	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids	ppm	1000	none	180	154 - 279	2013	373.5	360 - 390	2012	No	Runoff/leaching from natural deposits

Monitoring

Contaminants	Units	MCL	MCLG	No. of Detections	Year of Sampling	Violation	Typical Source	
Total Coliform Bacteria	N/A	> 1 positive monthly sample	0	0	2013	No	Naturally present in the environment	
Fecal Coliform Bacteria	N/A	1 positive and 1 repeat positive	0	0	2013	No	Human and animal fecal waste	
Substance	Units	MCL	MCLG	Highest	Range of	Year of Sampling	Violation	Typical Source
Total Trihalomethanes	ppb	80	N/A	55	22-55	2013	No	By-product of drinking water disinfection
Haloacetic Acids	ppb	60	N/A	21	14-21	2013	No	Byproduct of drinking water disinfection
Metals	Units	AL	PHG	No. of Samples	90th Percentile	Year of Sampling	Violation	Typical Source
Lead	ppb	15	2	30	<.0050	2012	No	By-product of drinking water disinfection
Copper	ppm	1.3	0.17	30	0.25	2012	No	Byproduct of drinking water disinfection

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.

Additional General Information on Drinking Water

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 US 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 persons such as persons 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. US EPA/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 Utilities Shop 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 between 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>

Water Conservation Tips for Consumers

Did you know that the average U.S. household uses approximately 400 gallons of water per day or 100 gallons per person per day? Luckily, there are many low-cost and no-cost ways to conserve water. Small changes can make a big difference – try one today and soon it will become second nature.

- Take short showers – a 5 minutes shower uses 4 to 5 gallons of water compared to up to 50 gallons for a bath.
- Shut off water while brushing your teeth, washing your hair and shaving and save up to 500 gallons a month.
- Use a water-efficient showerhead. They are inexpensive, easy to install, and can save you up to 7
- Use a water-efficient showerhead. They are inexpensive, easy to install, and can save you up to 750 gallons a month.
- Run your clothes washer and dishwasher only when they are full. You can save up to 1,000 gallons a month.
- Water plants only when necessary.
- Fix leaking toilets and faucets. Faucet washers are inexpensive and take only a few minutes to replace. To check your toilet for a leak, place a few drops of food coloring in the tank and wait. If it seeps into the toilet bowl without flushing, you have a leak. Fixing it or replacing it with a new, more efficient model can save up to 1,000 gallons a month.
- Adjust sprinklers so only your lawn is watered. Apply water only as fast as the soil can absorb it and during the cooler parts of the day to reduce evaporation.
- Teach your kids about water conservation to ensure a future generation that uses water wisely. Make it a family effort to reduce next month's water bill!

Visit www.epa.gov/watersense for more information.

Source Water Protection Tips for Consumers

Protection of drinking water is everyone's responsibility. You can help protect your community's drinking water source in several ways:

- Eliminate excess use of lawn and garden fertilizers and pesticides – they contain hazardous chemicals that can reach your drinking water source.
- Pick up after your pets.
- If you have your own septic system, properly maintain your system to reduce leaching to water sources or consider connecting to a public water system.
- Dispose of chemicals properly; take used motor oil to a recycling center.
- Volunteer in your community. Find a watershed or wellhead protection organization in your community and volunteer to help. If there are no active groups, consider starting one. Use EPA's Adopt Your Watershed to locate groups in your community, or visit the Watershed Information Network's How to Start a Watershed Team.

Questions or comments about this report or the

data contained in it can be directed to:

Bioenvironmental Engineering

60 AMDS/SGPB

106 Bodin Circle, Bldg. 791

Travis AFB, CA

(707) 423-5490