

TOTAL TRIHALOMETHANES

The regulatory Disinfectant By-Product (DBP) Rule for Stage II sampling for Total Trihalomethanes (TTHMs) requires a running average based on each sample location. In 2014, our highest TTHM locational average was 74 ppb, which is below the Maximum Contaminant Level (MCL) of 80 ppb. TTHMs are a widely occurring class of DBP that form during water treatment disinfection when chlorine reacts with organic material (also known as “precursors”). Factors that influence the formation of DBPs include water temperature, pH, chlorine concentration, precursor concentration, and chlorine contact time. Some individuals who drink water containing TTHMs in excess of the state MCL over many years may experience complications with their liver, kidneys, or central nervous system, and may have an increased risk of getting cancer. For more information, visit the EPA website at <http://www.epa.gov/safewater/disinfection/>.

IRON, MANGANESE & TURBIDITY

Because our iron, manganese and turbidity levels at some of our wells continue to exceed secondary MCLs, we will maintain our increased monitoring of our groundwater wells. These higher levels do not directly pose a health risk, but can impact the aesthetics of your water. In addition, high levels of turbidity can interfere with disinfection and provide a medium for microbial growth. At certain concentrations, iron and manganese can precipitate out and leave stains on plumbing fixtures, dishes, and on laundered clothes. We will continue monitoring our wells and will adjust operations as necessary to ensure these levels are maintained at manageable levels.

TOTAL COLIFORM BACTERIA

Coliform is a bacteria naturally present in the environment and is used as an indicator that other potentially harmful bacteria may exist. VAFB collects between 12 to 15 coliform samples each month at selected sites, to include the childcare facilities. All routine compliance samples collected and analyzed were all absent for coliform and met state requirements.

IMPORTANT HEALTH INFORMATION

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 (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

WATER SYSTEMS IMPROVEMENTS

The drinking water system on VAFB was upgraded as required to deliver high quality drinking water. Ongoing projects include corrosion prevention and water line/pump station replacement.

CONTAMINANTS IN THE 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 that may come from sewage treatment plants, septic systems, agricultural livestock operations, and 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, and 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, and septic systems.
 - Radioactive contaminants that can occur naturally or be the result from oil and gas production and mining activities.

To ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (USEPA) and the California Department of Public Health prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. Department regulations also establish limits for contaminants in bottled water that provide the same protection for public health.

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 USEPA’s Safe Drinking Water Hotline (1-800-426-4791) or <http://water.epa.gov/infrastructure/drinkingwater/pws/index.cfm>.

ABBREVIATIONS:

AL Action Level: The concentration of a contaminant which, if exceeded, triggers increased monitoring, sampling, treatment, or other requirements that a water system must follow in order to protect public health.

Maximum Contaminant Level (MCL): The highest level of a contaminant allowed in drinking water. Primary MCLs are set as close to the PHGs/MCLGs) as is economically and technologically feasible Secondary MCLs are not health concerns but 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 U.S. 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.

Maximum Residual Disinfectant Level Goal: 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.

Primary Drinking Water Standard: MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

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 Environmental Protection Agency (Cal/EPA).

Secondary Drinking Water Standard: MCL requirements for contaminants that do not affect the health at MCLs but may affect taste, odor, or appearance of water.

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

Regulated Substances Primary						
Substance (Contaminant)	MCL	PHG (MCL G)	SA Well Water (Avg)	Range	Most Recent Sample Date	Typical Source of Substances
			SA Well Water (VAFB)			
Gross Alpha Particle Activity (pCi/L)	15	0	ND	ND	2013	Erosion of natural deposits
Aluminum (ppm)	1.0	0.6	ND	ND	2013	Erosion of natural deposits; residue from some surface water treatment processes
Arsenic (ppb)	10	0.004	4	ND - 7	2013	Erosion of natural deposits; runoff from orchards; naturally occurring in groundwater
Fluoride (ppm)	2	1	0.8	0.5 - 1.1	Monthly 2014	Erosion of natural deposits; water additive that promotes strong teeth
Nitrate as NO ₃ (ppm)	45	45	ND	ND	2014	Runoff and leaching from fertilizer use; erosion of natural deposits
Selenium (ppb)	50	30	6	2 - 11	2013	Erosion of natural deposits; runoff from livestock lots (feed additive)
* Total Trihalomethanes (TTHM) (ppb)	80	N/A	54.4	34 - 85	Qtrly 2014	By-product of drinking water disinfectant
Haloacetic Acids (HAA) (ppb)	60	N/A	10.6	6.8 - 14	Qtrly 2014	By-product of drinking water disinfectant
Total Chlorine Residual (ppm)	4.0	4.0	1.7	0.6 – 2.7	Weekly 2014	Measure of the disinfectant used in the production of drinking water

Lead and Copper Rule										
Substance (Contaminant)	AL	PHG	VAFB Water	Number of sites	Number of sites over AL	Sample Date	Typical Source of Substances			
Lead (ppb)	15	0.2					0.0	30	0	2014
Copper (ppm)	1.3	0.3					0.23	30	0	2014
Internal corrosion of household water plumbing systems; erosion of natural deposits										

Regulated Substances Secondary						
Substance (Contaminant)	Secondary MCL	SA Well Water (Avg)	Range	Most Recent Sample Date	Typical Source of Substances	
		SA Well Water (VAFB)				
Color (ACU)	15 units	ND	ND	2013	Naturally-occurring organic materials	
*Iron, Total (µg/L)	300	224	ND - 390	2014	Leaching from natural deposits	
*Manganese, Total (µg/L)	50	52	ND - 71	2014	Leaching from natural deposits	
Odor – Threshold (TON)	3 units	1.25	1-2	2013	Naturally-occurring organic materials	
*Turbidity (NTU)	5 units	6.5	2.8 - 9.4	2013	Soil runoff	
Total Dissolved Solids (mg/L)	1,000	478	420 - 520	2013	Runoff/leaching from natural deposits	
Specific Conductance (µmhos/cm)	1,600	868	672 - 964	2013	Substances that form ions when in water; seawater influence	
Chloride (mg/L)	500	99	86 - 110	2013	Runoff/leaching from natural deposits; seawater influence	
Sulfate (mg/L)	500	81	65 - 100	2013	Runoff/leaching from natural deposits; seawater influence	

Non- Regulated Substances				
Substance (Contaminant)	SA Well Water (Avg)	Range	Most Recent Sample Date	Notes
	SA Well Water (VAFB)			
Sodium (ppm)	70	62 - 76	2013	Neither sodium nor hardness has an MCL but, we are presenting since customers have shown interest.
Hardness, Total (ppm)	242	213 - 277	2013	

*** Please see coordinating substance specific paragraph on the opposite page.**

ACRONYMS
ACU: Apparent Color Units; **CCWA:** Central Coast Water Authority; **CFU/ml:** Colony Forming Units per milliliter; **ND:** Not detectable above testing limits; **NTU:** Nephelometric turbidity units; **pCi/L:** PicoCuries per liter; **ppb:** Parts per billion or micrograms per liter (µg/L); **ppm:** Parts per million or milligrams per liter (mg/L) ; **SA:** San Antonio; **SWP:** State Water Project; **TON:** Threshold Odor Number; **µmhos/cm:** µS/cm or micromhos per centimeter

GENERAL INFORMATION

We are pleased to present our 2014 water quality report. This report is designed to inform you about the quality of drinking water we deliver to you daily. Our constant goal is to provide you with a dependable supply of drinking water. The sources of drinking water (both tap 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. This requires disinfection for all water sources. The U.S. Environmental Protection Agency (U.S. EPA) and the California Department of Public Health prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. Disinfectant treatment ensures your water meets public health requirements and eliminates microbial contamination.

SOURCES OF WATER

In 2014 VAFB utilized water from the groundwater wells located on VAFB property in the San Antonio (SA) Groundwater Basin. VAFB can also purchase water from the California State Water Project (SWP). Water from the SWP originates from the upper Feather River in northern California and is stored in Lake Oroville and the San Luis Reservoir. The Central Branch of the Central Coast Water Authority (CCWA) delivers SWP water via pipelines to VAFB from the Polonio Pass Water Treatment Plant which is approximately 125 miles northeast of VAFB. SA well water was supplemented with SWP water for only a few hours in 2014. If you would like information on their water results please contact BE at 606-7811. Water from both sources is disinfected and fluoridated.

WATER SOURCE ASSESSMENT

In July 2012 the California Department of Public Health (CDPH) updated VAFB’s Source Water Assessment for the base groundwater wells. As there have been no contaminants detected in the water supply, there are no possible contaminating activities that have had a direct impact on the source. However, the source is considered to be the most vulnerable to the following activities: military installation, wells-water supply, roads/streets, surface water, and freeways/state highways. The assessment determined there are no activities that pose a direct threat to VAFB’s groundwater source. For a more detailed summary of the assessment, contact Laura Miz, 30 CES/CEO, at 805-606-4749. A copy of the complete assessment may be viewed at Division of Drinking Water, Drinking Water Field Operations Branch, 1180 Eugenia Place, Suite 200, Carpinteria, CA 93013, or you may request a summary of the assessment be sent to you by contacting Jeff Densmore, District Engineer, at 805-566-1326.

WATER CONSERVATION

DROUGHT INFORMATION

Due to the continuing severe drought in California, surface water sources are not as abundant as they typically are. As a result, Vandenberg is using its ground water wells as the primary water source since late 2013. Since there are distinct aesthetic differences between VAFB well water and State Water, you may notice changes in the physical characteristics of the water, such as appearance, taste, and odor. Both water sources are safe to drink.

PROTECT OUR RESOURCE

We must all take steps to ensure we have an adequate supply of drinking water in the future. The best way to achieve this goal is by using water sparingly in our daily lives. VAFB is also required to prevent storm water pollution. Here are some tips on how to conserve water and also prevent storm water pollution:

- Water your lawn only when necessary, and never on consecutive days. ***This could save 750-1,500 gallons per month.***
- Look for leaky faucets and plumbing joints. ***This saves 600 gallons per month for each leak fixed.***
- Run only full loads in washing machines and dishwashers. ***This saves 300-800 gallons per month.***
- Shorten your showers. ***This saves up to 700 gallons per month.***
- Turn off the water while brushing your teeth and/or shaving. ***This saves 10 gallons per day.***
- Visit www.epa.gov/watersense for more information.

PREVENT WATER POLLUTION

During storm events runoff mobilizes contaminants such as oil and gasoline from parking lots, sediment and fertilizers from landscaping, and pet waste from parks. Storm water runoff eventually makes its way into groundwater or receiving water bodies such as rivers and lakes and has the potential to contaminate water supplies. Keep storm water leaving your home or workplace clean. Prevent contamination of drinking water by following these simple guidelines:

- Use a commercial car wash facility.
- Keep vehicles maintained to prevent leaks.
- Don’t litter
- Use pesticides and fertilizers sparingly and never before anticipated rain.
- If you see polluted storm water runoff or materials such as motor oil discharging or being dumped into storm drains, call the **Storm Water Hotline at 606-7541.**

Recycle waste oil and used antifreeze can be taken to the Consolidated Collection Accumulation Facility, Building 3300 on New Mexico Avenue. Used kitchen grease is the only item Balfour Beatty Communities Self Help Center can accept. They are located at 603 Juniper Street.

QUESTIONS

If you have questions about your water quality, this report, or service, please contact the appropriate department.

REPORT INFORMATION

- ❖ **Installation Management Flight, Water Quality Program, (805) 605-0342**

HOUSING MAINTENANCE CONCERNS

- ❖ **Balfour Beatty, Facility Maintenance, (805) 734-1488**

WATER SAMPLING INFORMATION

- ❖ **Bioenvironmental Engineering (BE), (805) 606-7811**

HEALTH CONCERNS

- ❖ **Public Health, (805) 606-0648**

WATER EMERGENCIES

- ❖ **Water & Fuels Maintenance, (805) 606-5885/(805)606-1856**

WATER CONSERVATION

- ❖ **Water Engineer, (805) 606-0739**

VANDENBERG AFB
ANNUAL DRINKING WATER QUALITY REPORT
2014

ADVISORY

This report contains important information regarding your drinking water.

AVISO

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.

READING THIS REPORT

The EPA requires an Annual Drinking Water Report to present information about your drinking water, its sources, and how San Antonio well water compares to federal and California standards. To help ensure your drinking water meets these standards, Vandenberg Air Force Base (VAFB) routinely samples and analyzes your water for over 100 different water quality parameters on a weekly, monthly, quarterly, annual, and triennial basis as required by Air Force, state, and federal procedures and/or regulations. This report will give you a representative idea of your drinking water quality, and goes into further detail about some of the constituents found in your water. The data represented in this report reveals all detected substances regulated by the state of California.