



**DEPARTMENT OF THE AIR FORCE
99TH MEDICAL GROUP
NELLIS AIR FORCE BASE NEVADA**

30 May 2019

MEMORANDUM FOR NELLIS AIR FORCE BASE

FROM: 99 AMDS/SGPB

SUBJECT: Consumer Confidence Report (CCR)

The Consumer Confidence Report (CCR) is required by the Environmental Protection Agency (EPA), and is distributed to Nellis AFB as our communication to you, the consumer. The drinking water on the installation has been tested and certified as “safe to drink.” The information in this report is a snapshot of calendar year 2018 drinking water quality at Nellis AFB. This effort is accomplished in accordance with the EPA’s Safe Drinking Water Act (SDWA) which was passed by Congress in 1974. The purpose of the SDWA is to protect public health by regulating the nation's public drinking water supply. The SDWA was amended in 1996 requiring states to develop and implement source water assessment programs for existing and potential threats to the quality of public drinking water. The SDWA amendment includes a summary of the assessment in the water system’s annual CCR. States are required to delineate the sources of public drinking water, identify potential contamination sources within the delineated area, assess the water system’s susceptibility to contamination and inform the public of the results. The utility advisory board meets on the first Tuesday of April and the first Tuesday of October. These meetings are held at the North Las Vegas City Council Chambers at 1800 Hrs.

Drinking Water Sources

Most of Nellis AFB’s drinking water comes from Lake Mead and is supplied by the Southern Nevada Water Authority (SNWA). The water in Lake Mead begins as snowmelt in the Rocky Mountains and arrives via the Colorado River. The Las Vegas Wash also carries storm water and treated wastewater into Lake Mead, which accounts for less than 2% of all the water in the lake. The Virgin River and Muddy River also combine to provide approximately 1.5% of the water in Lake Mead. Lastly, the water Nellis AFB receives from SNWA is supplemented by a small percentage of groundwater from wells on and near the installation. The source of the well water originates from the Las Vegas Valley Aquifer.

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.

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.

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 Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

Samples have not been conducted for Lead and Copper rule for the year 2018. 30 Samples will be taken for 2019, at approved water sampling points.

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. SNWA 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>.

Monitoring and Analysis

Every month, technicians from SNWA collect and analyze water samples from the Nellis AFB drinking water system and water treatment facilities. The water is tested at a higher frequency and more extensively than the SDWA and the Nevada Administrative Code requires. The test results are shown in the table accompanying this report.

Additionally, Nellis AFB routinely monitors for disinfectant residual in the distribution system. This measurement tells us whether the installation is effectively disinfecting the water supply. Disinfectant residual is the amount of chlorine present in the water distribution system pipes.

More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at 1-800-426-4791 or by visiting water.epa.gov/drink/hotline/index.cfm.

Potentially present contaminants in untreated source water include:

- Microbial contaminants such as viruses and bacteria, which may come from sewage treatment plants, septic systems, and wildlife.
- Inorganic contaminants such as salts and metals, which can be naturally occurring or result from urban storm runoff and industrial or domestic wastewater discharges.
- Pesticides and herbicides which may come from a variety of sources such as agriculture, urban storm water runoff, and residential use.
- Organic chemical contaminants including synthetic or volatile organic chemicals, which are byproducts of industrial processes, as well as, common sources like: gas stations, urban storm water runoff, and septic systems.

- Radioactive contaminants, which can be naturally occurring or the result of industrial activities.

Other Health Information

While the Environmental Protection Agency (EPA) requires water agencies to monitor for approximately 90 regulated contaminants, the City of North Las Vegas goes above and beyond to monitor for approximately 30 additional, unregulated contaminants. One unregulated contaminant that is closely monitored is cryptosporidium. This naturally-occurring organism found in many U.S. source waters can cause gastrointestinal distress. The EPA now requires larger water systems that treat surface water to assure removal of cryptosporidium. The Southern Nevada water system monitors and tests for cryptosporidium in both its source and treated water supplies. Ozonation, used at both SNWA regional water treatment facilities, is among the most effective processes for destroying microorganisms such as cryptosporidium. The Southern Nevada Water Authority’s Microbiology Laboratory is among the few municipal facilities certified by the EPA for cryptosporidium and giardia detection.

Treatment Process

SNWA has advanced water treatment facilities designed to provide water meeting SDWA standards.

All the water drawn from Lake Mead is sent to the Alfred Merritt Smith or River Mountains water treatment facilities. As it arrives, the water is treated with chlorine and ozone to kill any potentially harmful microscopic organisms. A multistage filtration system is then used to remove particles from the water. As the water leaves the water treatment facility, additional chlorine is added to protect it on the way to the consumer. The water is also treated to prevent corrosion of the pipelines.

Furthermore, the water from base wells are chlorinated by Civil Engineering (CE) Utilities and mixed with the SNWA water. CE Utilities maintains a staff of well-trained professionals who operate and maintain the system daily.

2018 Maximum Contaminant Limit (MCL) Violations

During the 2018 calendar year, Nellis AFB is required to include an explanation of the violation in the table below and the steps taken to resolve the violation with this report.

Type	Category	Analyte	Compliance Period
MCL, AVERAGE	MCL	Trihalomethanes	9/11/2018 – 12/1/2018

The water system servicing the west side of NAFB, known as Area 2 which does NOT include base housing, CDC III, gym, or golf course, exceeded the MCL level for total trihalomethanes (TTHM) according to results from a routine test performed in September 2018. The result was 0.0937 milligrams per liter (mg/L) and the MCL is 0.080 mg/L. The violation lasted approximately 3 months. On 11 September 2018 during Southern Nevada Water Authority (SNWA) quarterly water testing, BLDG 10206 had a TTHM level of 0.0937 mg/L. Upon further investigation, the cause of the high TTHM level was due to a faulty aerator. NAFB repaired the

aeration system in the tank and reduced the water level in the storage tank from 75% to 55% reducing the residual time of water in the system. By December 2018, fourth quarter results were reduced to 0.0509 mg/L, bringing NAFB into compliance. The EPA requires a MCL based on a running annual average for TTHM of 0.080 mg/L. The average level for the NAFB drinking water system for the year was 0.070 mg/L for CY2018.

As a consumer, please be assured the drinking water on NAFB is constantly being monitored (24 hours a day/7 days a week) by the water utilities department and tested regularly by SNWA.

Trihalomethanes (THM) form naturally in a water system when chlorine reacts with organic compounds in the water. The base continually balances the disinfectant level in order to keep the system in equilibrium, much like chlorinating a swimming pool.

Health Information About Water Quality

Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of cancer.

Do I need to take special precautions?

No, in most cases; however, some people may be more vulnerable to contaminants in drinking water than the general population. Some elderly, infants, and Immuno-compromised persons undergoing chemotherapy, who have undergone organ transplants, who have HIV/AIDS, or other immune system disorders can be particularly at risk from infections. These individuals should seek advice about drinking water from a health care provider. EPA and the 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 EPA Safe Drinking Water Hotline at 1-800-426-4791 or by visiting the EPA hotline website at water.epa.gov/drink/hotline/index.cfm .

Frequently Asked Questions

Is my tap water safe to drink?

Yes, your tap water meets and surpasses all SDWA standards and is safe to drink. Also, the Alfred Merritt Smith Water Treatment Facility has been recognized by the National Partnership for Safe Water for its efforts to ensure the Southern Nevada's municipal water meets these water quality standards. Water samples are taken from the NAFB water distribution system monthly and analyzed to ensure compliance with standards. Additionally, in 2013 NDEP conducted a sanitary survey of Nellis AFB and concluded the drinking water system and infrastructure met the state's requirement for a Public Water System to adequately deliver safe drinking water to the consumer, this survey is accomplished every three years.

If tap water is really of good quality, why does it taste the way it does?

Water quality and taste are not always mutually inclusive. The taste of the water can be caused by chlorine used to keep the water safe from bacteria and naturally occurring minerals. It is important to remember, quality is best measured by the concentration of contaminants in the water. For Nellis AFB, we have very few contaminants in our drinking water and those present are well within SDWA limits.

Do I need to use a water treatment system or drink bottled water?

No, unless you wish to improve the taste of your water or remove the minerals causing it to be considered "hard". While many people prefer the taste of bottled water, tap water is subject to more stringent quality standards and is monitored and tested more frequently. Additionally, the cost of the average liter of bottled water is more than 1,000 times the same amount of tap water. The Food and Drug Administration (FDA) establishes regulations contaminants in bottled water; however, these limits do not always coincide with EPA standards. For more information on bottled water quality, call the International Bottled Water Association at 1-800-WATER11 (1-800-92837-11) or by visiting www.bottledwater.org.

How will I be notified if a significant health risk associated with my water quality develops?

This report is considered the appropriate mechanism for notifying the consumer of routine and non-emergency compliance violations. However, certain emergency situations may warrant more active notification efforts, including, but not limited to: additional publications, postings in public places, mass-mailings, or working through other well-established mass-notification systems.

Additional Information and Input

If you would like a copy of this report or have questions, please contact the 99 ABW Public Affairs office at 702-652-2750, 99ABW.PA2@us.af.mil. Questions and comments can also be mailed to the 99 ABW Public Affairs office at: 99 ABW/PA, 4430 Grissom Ave, BLDG 11, St 107 Nellis AFB, NV 89191. The most current source water assessments are available at the BE office for the Nellis AFB wells, and through SNWA for the water that is provided by SNWA.

For additional information on the quality of your water, call SNWA at 702-862-3400 or go to the SNWA website at http://www.snwa.com/wq/water_quality.html. Information on Nevada's Safe Drinking Water Program is available from the NDEP at 775-687-4670. Or contact BE at 702-653-3316 or usaf.nellis.99-mdg.list.99-amds-sgpb-all-personnel@mail.mil.

General information for drinking water can be found on the EPA website at www.epa.gov/safewater.

Water Quality Data Tables

The table associated with this report (see next page) lists the drinking water contaminants detected. The presence of contaminants in the water does not necessarily indicate the water poses a health risk. Unless otherwise noted, the data presented in the tables are from testing completed in the 2018 calendar year. The EPA and the State requires Nellis AFB to monitor contaminants at a different frequency because some concentrations do not change frequently.

NAFB 2019 CRTABLE	REGULATED CONTAMINANTS	MCL (EPA Limit)	MCLG (EPA Goal)	WELL 2 (2)			WELL 8 (3)			RESEVOR #49 (4)			RESEVOR #52 (5)			ALFRED MERRITT SMITH WATER TREATMENT PLANT (1)			POSSIBLE SOURCES OF CONTAMINATION					
				MINIMUM	MAXIMUM	AVERAGE	MINIMUM	MAXIMUM	AVERAGE	MINIMUM	MAXIMUM	AVERAGE	MINIMUM	MAXIMUM	AVERAGE	MINIMUM	MAXIMUM	AVERAGE		MINIMUM	MAXIMUM	AVERAGE		
	Alpha Particles	pCi/L	15	0	5 (2)	NA (2)	ND (2)	ND (2)	NA (2)	ND (2)	ND (2)	NA (2)	ND (2)	ND (2)	NA (2)	ND	ND	ND		Erstion of natural deposits of certain minerals that are radioactive and may emit a form of radiation known as alpha radiation				
	Arsenic	ppb	10	0	2	2	3	4	3	2 (6)	3 (6)	2	3	2 (6)	1	2	2		Erstion of natural deposits					
	Barium	ppm	2	2	0.1 (2)	NA (2)	0.1 (2)	0.1 (2)	NA (2)	0.1 (4)	0.1 (4)	NA (4)	0.1 (4)	0.1 (4)	0.1	0.1	0.1		Erstion of natural deposits; discharge from metal refineries; discharge of drilling wastes					
	Bromate	ppb	10	0	Treatment Plant Monitoring Only			Treatment Plant Monitoring Only			Treatment Plant Monitoring Only			2			4			3 (6)			By-product of drinking-water disinfection with ozone	
	Copper	ppm	1.3 (Action Level)	0.05 (8)	0.55 (8)	0.48 (8)	Distribution System Monitoring Only			Distribution System Monitoring Only			Distribution System Monitoring Only			Distribution System Monitoring Only			Distribution System Monitoring Only			Corrosion of household plumbing systems; erosion of natural deposits		
	Fluoride	ppm	4.0	4.0 (10)	0.7	0.7	0.7	0.7	0.7	0.7 (4)	0.7 (4)	0.5 (4)	0.5 (4)	0.5 (4)	0.7	0.8	0.7		Erstion of natural deposits; water additive (9)					
	Free Chlorine Residual	ppm	4.0 (MRDL)	4.0 (MRDL)	ND	1.9	0.8 (8)	Distribution System Monitoring Only			Distribution System Monitoring Only			Distribution System Monitoring Only			Distribution System Monitoring Only			Water additive used to control microbes				
	Haloacetic Acids	ppb	60	NA (11)	9	40	30 (12)	Distribution System Monitoring Only			Distribution System Monitoring Only			Distribution System Monitoring Only			Distribution System Monitoring Only			By-product of drinking-water disinfection				
	Lead	ppb	15 (7)	0	ND (8)	11 (8)	2 (8)	Distribution System Monitoring Only			Distribution System Monitoring Only			Distribution System Monitoring Only			Distribution System Monitoring Only			Corrosion of household plumbing systems; erosion of natural deposits				
	Nitrate (as Nitrogen)	ppm	10	10	0.4	0.4	0.4	0.4	0.4	0.6 (6)	0.6 (4)	0.3 (4)	0.3 (4)	0.4	0.4	0.5	0.4		Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits					
	Selenium	ppb	50	50	2 (2)	2 (2)	1 (2)	1 (2)	NA (2)	2 (4)	2 (4)	1	1	NA	2	2	2		Erstion of natural deposits; discharge from mines; component of petroleum					
	Total Trihalomethanes	ppb	80	NA (11)	51	94 (13)	70 (12)	Distribution System Monitoring Only			Distribution System Monitoring Only			Distribution System Monitoring Only			Distribution System Monitoring Only			By-product of drinking-water disinfection				
	Turbidity	NTU	95% of the samples <0.3 NTU (14)	N/A	Treatment Plant Monitoring Only			Treatment Plant Monitoring Only			Treatment Plant Monitoring Only			Treatment Plant Monitoring Only			100% of the samples were below 0.3 NTU. The maximum NTU was 0.073 on February 15, 2018.			Soil runoff				
	Uranium	ppb	30	0	2 (2)	2 (2)	NA (2)	1 (2)	1 (2)	NA (2)	4 (3)	4 (3)	2 (3)	2 (3)	NA (2)	4	4	4		Erstion of natural deposits				

Footnotes:

(1) Some Safe Drinking Water Act (SDWA) regulations require monitoring from the distribution system, while other SDWA regulations require monitoring at the entry points to the distribution system. (Alfred Merritt Smith WTP, River Mountains WTP, and NAFB Reservoirs and Wells).

(2) Annual monitoring not required, data from 2017.

(3) Annual monitoring not required, data from 2014.

(4) Annual monitoring not required, data from 2015.

(5) This value is the highest running annual average (RAA) reported in 2015. Reports are filed quarterly.

(6) This value is the highest running annual average (RAA) reported in 2018. Reports are filed quarterly.

(7) Lead and copper are regulated by a Treatment Technique (TT) that requires systems to control the corrosiveness of their water. If more than 10% of tap-water samples exceed the action level, water systems must take additional steps. For copper the action level is 1.3 ppm, and for lead it is 15 ppb.

(8) Samples are from the NAFB customers' taps. Annual monitoring not required, data from 2015.

(9) By state law, the Southern Nevada Water Authority (SNWA) is required to fluoridate the municipal water supply. This law is not applicable to groundwater.

(10) Chlorine is regulated by MRDL, with the goal stated as a MRDLG.

(11) No coliform MCLs but there are MCLGs for some of the individual contaminants. Haloacetic Acids: dichloroacetic acid (0), trichloroacetic acid (300 ppb); Trihalomethanes: bromochloromethane (0), bromobrom (0), dibromochloromethane (60 ppb).

(12) This value is the highest locational running annual average (LRAA) reported in 2018. Reports are filed quarterly.

(13) Maximum values greater than the MCL are allowable as long as the locational running annual average does not exceed the MCL.

(14) Turbidity is regulated by a Treatment Technique (TT) requirement - 95% of all samples taken after filtration each month must be less than 0.3 NTU. Maximum turbidity cannot exceed 1.0 NTU.