



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

1 June 2021

MEMORANDUM FOR NELLIS AIR FORCE BASE

FROM: 99 OMRS/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 2020 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 (1-800-426-4791).

Lead and Copper Monitoring

There were 37 samples of Lead and Copper for the year 2020 on approved sampling sites.

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 15 ppb for lead.

Nellis AFB exceeded the drinking water action level for copper and had one sample (Bldg 793) with slightly elevated lead results during the initial sampling for year 2020. Follow-up samples were collected and results came back well below the action level. Bioenvironmental Engineering has sent out a water flushing recommendation memorandum to dorm residents to promote drawing fresh water through the lines and reduce degradation of quality through water stagnation.

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.

Perfluorooctane sulfonic acid (PFOS) and Perfluorooctanoic acid (PFOA) monitoring

In 2012, EPA identified PFOS and PFOA as emerging contaminants in the unregulated contaminant monitoring Rule 3 (UCMR3) due to a perceived, potential, or real threat to human health and/or the environment.

PFOS and PFAS sampling were conducted on Nellis AFB in 2016, all sample location results during this period were analyzed under the EPA method 537 and were below the Maximum Reportable Limit (MRL) of < 2.0 ng/L.

In March 2020, Department of Defense (DoD) and Air Force leadership implemented a new Polyfluoroalkyl substances (PFAS) (which include PFOS and PFOA) sampling requirement for all DoD-owned drinking water systems. Resampling will occur where the most current PFAS drinking water sample results are more than a one year old.

In December 2020, January and April 2021, Bioenvironmental Engineering and SNWA collected water samples at each entry point of distribution and analyzed under the EPA method 537.1. All results were either below the method detection limit, report limit, or the health advisory level established by EPA at 70 parts per trillion.

Health advisories (HA) provide information on contaminants that can cause human health effects and are known or anticipated to occur in drinking water. EPA's health advisories are non-enforceable and non-regulatory and provide technical information to states agencies and other public health officials on health effects, analytical methodologies, and treatment technologies associated with drinking water contamination. EPA's health advisory level for PFOA and PFOS offers a margin of protection for all Americans throughout their life from adverse health effects resulting from exposure to PFOA and PFOS in drinking water.

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.

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 2019 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.

MAKAYLA A. ARCARA, 2d Lt, USAF, BSC
OIC, Environmental Health

NAFB 2020 CCR TABLE

				Tank #561 ⁽¹⁾			NELLIS AIR FORCE BASE DISTRIBUTION SYSTEM ⁽¹⁾			WELL 2 ⁽¹⁾			WELL 8 ⁽¹⁾			RESERVOIR #562 ⁽¹⁾			ALFRED MERRITT SMITH WATER TREATMENT PLANT ⁽¹⁾						
REGULATED CONTAMINANTS	UNIT	MCL (EPA Limit)	MCLG (EPA Goal)	MINIMUM	MAXIMUM	AVERAGE	MINIMUM	MAXIMUM	AVERAGE	MINIMUM	MAXIMUM	AVERAGE	MINIMUM	MAXIMUM	AVERAGE	MINIMUM	MAXIMUM	AVERAGE	MINIMUM	MAXIMUM	AVERAGE	POSSIBLE SOURCES OF CONTAMINATION			
Alpha Particles	pCi/L	15	0	Entry Point Monitoring Only				N/D	N/D	N/A	9	9	N/A	4 ⁽²⁾	4 ⁽²⁾	N/A	N/D	N/D	N/D	Erosion of natural deposits of certain minerals that are radioactive and may emit a form of radiation known as alpha radiation					
Arsenic	ppb	10	0	Entry Point Monitoring Only				2 ⁽³⁾	2 ⁽³⁾	2 ⁽³⁾	3	3	N/A	2	3	2 ⁽⁴⁾	1	2	2	Erosion of natural deposits					
Barium	ppm	2	2	Entry Point Monitoring Only				0.1 ⁽³⁾	0.1 ⁽³⁾	N/A	0.1	0.1	N/A	0.1 ⁽²⁾	0.1 ⁽²⁾	N/A	0.1	0.1	0.1	Erosion of natural deposits; discharge from metal refineries; discharge of drilling wastes					
Bromate	ppb	10	0	Treatment Plant Monitoring Only												1	4	2 ⁽⁴⁾	By-product of drinking-water disinfection with ozone						
Copper ⁽⁵⁾	ppm	1.3 ⁽⁶⁾ (Action Level)	1.3	Distribution System Monitoring Only			N/D	1.8 ⁽⁷⁾	1.4 ⁽⁸⁾ (90th% value)	Distribution System Monitoring Only												Corrosion of household plumbing systems; erosion of natural deposits			
Fluoride	ppm	4.0	4.0	N/A	N/A	N/A	0.7	0.7	0.7	0.2 ⁽³⁾	0.2 ⁽³⁾	N/A	0.6	0.6	N/A	0.6 ⁽²⁾	0.6 ⁽²⁾	N/A	0.7	0.8	0.7	Erosion of natural deposits; water additive ⁽⁹⁾			
Free Chlorine Residual	ppm	4.0 ⁽¹⁰⁾ (MRDL)	4.0 ⁽¹⁰⁾ (MRDLG)	Distribution System Monitoring Only			N/D	1.7	0.7 ⁽⁴⁾	Distribution System Monitoring Only												Water additive used to control microbes			
Haloacetic Acids	ppb	60	N/A ⁽¹¹⁾	Distribution System Monitoring Only			9	34	27 ⁽¹²⁾	Distribution System Monitoring Only												By-product of drinking-water disinfection			
Lead ⁽⁵⁾	ppb	15 ⁽⁶⁾ (Action Level)	0	Distribution System Monitoring Only			N/D	18 ⁽⁷⁾	3 (90th% value)	Distribution System Monitoring Only												Corrosion of household plumbing systems; erosion of natural deposits			
Nitrate (as Nitrogen)	ppm	10	10	N/A	N/A	N/A	Entry Point Monitoring Only	0.5	0.5	N/A	0.5	0.5	N/A	0.3 ⁽²⁾	0.3 ⁽²⁾	N/A	0.3	0.4	0.4	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits					
Selenium	ppb	50	50	N/A	N/A	N/A		2 ⁽³⁾	2 ⁽³⁾	N/A	1	1	N/A	1 ⁽¹³⁾	1 ⁽¹³⁾	N/A	2	2	2	Erosion of natural deposits; discharge from mines; component of petroleum					
Thallium	ppb	2	0.5	N/A	N/A	N/A		N/D ⁽³⁾	N/D ⁽³⁾	N/A	N/D	N/D	N/A	1 ⁽²⁾	1 ⁽²⁾	N/A	N/D	N/D	N/D	Leaching from ore-processing sites; discharge from electronics, glass, and drug factories					
Total Trihalomethanes	ppb	80	N/A ⁽¹¹⁾	Distribution System Monitoring Only			48	83 ⁽¹⁴⁾	64 ⁽¹²⁾	Distribution System Monitoring Only												By-product of drinking-water disinfection			
Turbidity	NTU	95% of the samples <0.3 NTU ⁽¹⁵⁾	N/A	Treatment Plant Monitoring Only												100% of the samples were below 0.3 NTU. The maximum NTU was 0.11 on May 31, 2020.			Soil runoff						
Uranium	ppb	30	0	N/A	N/A	N/A	Entry Point Monitoring Only	2	2	N/A	1	1	N/A	4 ⁽²⁾	4 ⁽²⁾	4 ⁽²⁾	4	4	4	Erosion of natural deposits					
Perfluoroctanesulfonic Acid (PFOS)	ppt	70 ⁽¹⁶⁾ (HA)	N/A	N/A	0.00041	N/A	Entry Point to the Distribution System Monitoring Only												Highly fluorinated aliphatic molecules that have been released to the environment through industrial manufacturing and through use and disposal of PFAS-containing products						
Perfluoroctanoic Acid (PFOA)	ppt	70 ⁽¹⁶⁾ (HA)	N/A	N/A	N/D	N/A	Entry Point to the Distribution System Monitoring Only																		

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 2016.

(3) Annual monitoring not required, data from 2019.

(4) This value is the highest running annual average (RAA) reported in 2020. Reports are filed quarterly.

(5) Samples are from the NAFB customers' taps. Nellis AFB exceeded the drinking water action level for copper and had one sample (Bldg 793) with slightly elevated lead results during the initial sampling for year 2020. Follow-up samples were collected and results came back well below the action level. Bioenvironmental Engineering has sent out a water flushing recommendation memorandum to dorm residents to promote drawing fresh water through the lines and reduce degradation of quality through water stagnation.

(6) 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.

(7) Maximum values greater than the Action Level are allowable as long as the 90th percentile value is less than the MCL.

(8) Please confer with the State to see what is required for this exceedence.

(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) Although there is no collective MCLG for this contaminant group, there are individual MCLGs for some of the individual contaminants. Trihalomethanes: bromodichloromethane (zero); bromoform (zero); dibromochloromethane (60 ppb); chloroform (70 ppb). Haloacetic acids: dichloroacetic acid (zero); trichloroacetic acid (20 ppb); monochloroacetic acid (70 ppb). Bromoacetic acid and dibromoacetic acid are regulated with this group but have no MCLGs.

(12) This value is the highest locational running annual average (LRAA) reported in 2020. Reports are filed quarterly.

(13) Annual monitoring not required, data from 2018.

(14) Maximum levels greater than the MCL are allowable as long as the LRAA does not exceed the MCL. One location exceeded the MCL during 2020.

(15) 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.

(16) Health advisories (HA) provide information on contaminants that can cause human health effects and are known or anticipated to occur in drinking water. EPA's health advisories are non-enforceable and non-regulatory and provide technical information to states agencies and other public health officials on health effects, analytical methodologies, and treatment technologies associated with drinking water contamination. EPA's health advisory level for PFOA and PFOS offers a margin of protection for all Americans throughout their life from adverse health effects resulting from exposure to PFOA and PFOS in drinking water.