



Annual Consumer Confidence Report for Calendar Year 2023 on the Quality of Drinking Water for the Centroid Water System

Is the Centroid drinking water safe?

This Annual Consumer Confidence Report presents the results of our drinking water system's quality monitoring for the calendar year January 1st to December 31st, 2023. During the entire calendar year 2023, the Centroid drinking water system met all U.S. Environmental Protection Agency (EPA) and state drinking water health standards. NASF vigilantly safeguards its drinking water supplies, and we are proud to report that our drinking water system did not violate a maximum contaminant level or any other water quality standard.

Where does my water come from?

NASF owns a groundwater well located inside the installation perimeter. Groundwater from this deep well comes from an aquifer over 500 feet below the surface. Water is drawn from this well and delivered via pipeline to the Centroid Arsenic Treatment Facility. This treatment facility removes arsenic prior to distribution to Centroid Facilities. The arsenic treatment mechanism consists of an adsorption treatment system preceded by disinfection by sodium hypochlorite.

Why are there contaminants in some 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, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife;*
- *Inorganic contaminants such as salts and metals, which 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, which 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, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems; and*
- *Radioactive contaminants, which can be naturally occurring, or that may be the result of oil and gas production or mining activities.*

In order to ensure that tap water is safe to drink, the EPA prescribes regulations, which limits the number of certain contaminants in water provided by public water systems. NASF drinking water is routinely tested for 88 water contaminants from the National Primary Drinking Water Regulations (NPDWRs or primary standards) and for 14 from the National Secondary Drinking Water Regulations (NSDWRs or secondary standards). The Food and Drug Administration (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 accessing the EPA website at <http://water.epa.gov/lawsregs/guidance/sdwa/basicinformation.cfm>.

Do I need to take special precautions?

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised individuals such as people undergoing chemotherapy for cancer, people who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, and some elderly and infants can be particularly at risk from infections. These people should seek advice from their health care providers about drinking water. EPA/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 (800-426-4791).

Source Water Assessment and its availability

The Nevada Bureau of Safe Drinking Water (BSDW) completed their Vulnerability Assessment Program (VAP) Public Water System Report of NASF source water on December 23, 2019. They reported that our water system is compliant with all State of Nevada and Federal water quality standards. The water system is potentially vulnerable to inorganic compounds (IOC) typically associated natural deposits, fertilizers, septic systems, and asbestos. A full copy of the Vulnerability Assessment is available for viewing at the BSDW, Carson City Office.

****Additional Safe Drinking Water Information****

Lead

While your water meets the EPA's standard for Lead, if present at elevated levels this contaminant 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. Your Water System is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components.

What can I do to minimize exposure to lead?

Flush. 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. You may need to flush longer if your building has been shut down or experienced reduced occupancy.

Use Cold Water. Hot water dissolves lead more quickly than cold water, so use cold water to prepare food and drinks.

Clean Your Aerator. Metal debris can be trapped on the aerator screens on water outlets, especially if construction or plumbing work may have occurred in your area. Simply twist off the aerator (may need a wrench and vinegar if there is build-up), carefully tap and clean any debris which may be caught on the filtration screen, and reinstall.

If you are concerned about lead in your drinking 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>.

Arsenic

While your drinking water meets EPA's standard for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

COVID-19

The transfer of COVID-19 between humans is primarily from the inhalation of droplets containing the virus from other people. It is suspected as occurring from people touching their face with their hands after their hands have touched a contaminated surface. The virus is readily killed by chlorine during the water treatment process and is not known to be transmitted through drinking water. Therefore, no sampling and analysis for COVID-19 is conducted in drinking water.

Per- and Polyfluoroalkyl substances (PFAS)

What are per- and polyfluoroalkyl substances and where do they come from?

Per- and polyfluoroalkyl substances (PFAS) are a group of thousands of man-made chemicals. PFAS have been used in a variety of industrial and consumer products around the globe, including in the U.S., for decades. Due to their widespread use and environmental persistence, most people in the United States have been exposed to certain PFAS. PFAS have been used to make coatings and products that are used as oil and water repellents for carpets, clothing, paper packaging for food, and cookware. They are also contained in some foams (aqueous film-forming foam or AFFF) used for fighting petroleum fires.

Is there a regulation for PFAS in drinking water?

On April 10, 2024, the US EPA established MCLs for a subset of PFAS chemicals.

<u>Compound</u>	<u>Chemical Name</u>	<u>Final MCLG</u>	<u>Final MCL (enforceable levels)</u>
<u>PFOA</u>	<u>Perfluorooctanoic acid</u>	<u>Zero</u>	<u>4.0 parts per trillion (ppt) (also expressed as ng/L)</u>
<u>PFOS</u>	<u>Perfluorooctane sulfonic acid</u>	<u>Zero</u>	<u>4.0 ng/L/4.0 ppt</u>
<u>PFHxS</u>	<u>Perfluorohexane sulfonic acid</u>	<u>10 ppt</u>	<u>10 ppt</u>
<u>PFNA</u>	<u>Perfluorononanoic acid</u>	<u>10 ppt</u>	<u>10 ppt</u>
<u>HFPO-DA (GenX)</u>	<u>Hexafluoropropylene oxide dimer acid</u>	<u>10 ppt</u>	<u>10 ppt</u>
<u>Mixtures containing two or more of PFHxS, PFNA, HFPO-DA, and PFBS</u>		<u>1 (unitless) Hazard Index</u>	<u>1 (unitless) Hazard Index</u>

EPA requires implementation of sampling in accordance with the new MCLs within three years of the publication date and implementation of any required treatment within five years.

These limits did not apply for the 2023 calendar year because they had not been published. However, the DoD proactively promulgated policies to monitor drinking water for PFAS at all service owned and operated water systems at a minimum of every two years. The DoD policy states that if water sampling results confirm that drinking water contains PFOA and PFOS at individual or combined concentrations greater than the 2016 EPA health advisory (HA) level of 70 ppt, water systems must take immediate actions to reduce exposure to PFOS and PFAS. For levels less than 70 ppt but above the 4 ppt level (draft at the time of policy publication), DoD committed to planning for implementation of levels once EPA's published MCLs take effect.

Has Naval Air Station Fallon tested its water for PFAS in 2023?

Yes. In September 2023 samples were collected from NAS Fallon Centroid.

Below MRL

We are pleased to report that drinking water testing results were below the Method Reporting Limit (MRL) for all 29 PFAS compounds covered by the sampling method, including PFOA and PFOS. This means that PFAS were not detected in your water system. In accordance with DoD policy, the water system will be resampled every two years for your continued protection.

Whom can I contact for more information?

If you have any questions regarding the information presented in this report or NASF drinking water in general, please feel free to contact Mr. Harry Little, P.E. at the NASF Public Works Environmental Division. His email address is harry.l.little5.civ@us.navy.mil. He has a copy of the Vulnerability Assessment completed by the Nevada Bureau of Safe Drinking Water dated December 23, 2019 that is referenced above.

WATER QUALITY TABLES

Presented below are the water quality tables. Unless otherwise noted, the data presented in these tables is from testing done in the 2023 calendar year. The tables below list all of the drinking water contaminants that were detected during the most recent tests. The EPA or the State requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not change frequently.

The presence of contaminants in the water does not necessarily indicate that the water poses a health risk. The tables show that our system met all requirements during the 2023 calendar year. In addition to these data, routine sampling and analyses for residual chlorine and total coliform bacteria are conducted monthly to verify that the drinking water is safe. The data is then reported to the Nevada Department of Environmental Protection - Safe Drinking Water Division on a routine basis. For brevity, those analytical data have not been included in this report.

How to Read the tables

The tables on the following pages show contaminants (and their regulatory limits) detected in your drinking water. *Contaminants not detected are not listed.*

To view data about the water delivered to your home or office, look at the tables and find the column “Your Water After Treatment.” Compare this data with the maximum allowable amount of each contaminant, found in the column labeled “MCL, TT, MRDL, SMCL, or AL.” For example, the average detected amount of Haloacetic Acids (HAA5) (a by-product of disinfecting your water) is 2.3 ppb. This compares to the MCL of 60 ppb. Because the detected level of HAA5 is less than the MCL, there is no violation of drinking water standards set by the EPA and adopted by the State of Nevada. Therefore, a “No” was placed in the “Violation” column of the table.

The “Terms and Abbreviations” section at the end of this report defines the terminology used in the following tables.

Centroid Distribution System Water Quality Data Tables

Disinfection Byproducts

The chemical compounds listed below are the result of chlorinating the drinking water for disinfection.

<u>Contaminants</u>	<u>MCL, TT, or MRDL</u>	<u>Your Water After Treatment</u>	<u>Sample Date</u>	<u>Violation</u>	<u>Typical Source</u>
HAA5 (Haloacetic Acids) (ppb)	60	2.3	11/01/2022	No	By-product of drinking water disinfection by chlorination.
TTHMs [Total Trihalomethanes] (ppb)	80	29	11/01/1022	No	By-product of drinking water disinfection by chlorination.

Inorganic Contaminants

The inorganic contaminants listed below are for the two items that are commonly evaluated: copper and lead. In 2023 the drinking water was initially sampled from five locations, Building 658 N.E.Kitchen, Building 659 Men's Room, Building 660 Kitchen Sink, Building 660 Room113 and Building 657 Kitchen.

<u>Contaminants</u>	<u>MCL or MRDLG</u>	<u>AL</u>	<u>Your Water After Treatment</u>	<u>Sample Date</u>	<u># Samples Exceeding AL</u>	<u>Exceeds AL</u>	<u>Typical Source</u>
Copper – action level at consumer taps (ppm)	1.3	1.3	90 th Percentile 3.17 ppm Range 0.008-6.3	8/30/23	1	Yes*	Building plumbing systems corrosion; erosion of natural deposits; leaching of wood preservatives.
Lead – action level at consumer taps (ppb)	0	15	90 th Percentile 180 ppb Range <1 to 360	8/30/23	1	Yes*	Building plumbing systems corrosion; erosion of natural deposits.

*See description below for qualification of the Yes.

The 90th percentile value for the five results was calculated by averaging the 4th and 5th highest result.

As stated above, NAS Fallon is required to sample five locations at the Centroid EW facility every three years, analyze the samples for lead and copper, and submit a report on the findings to NDEP. The lead and copper sampling event is conducted to protect the health of the water users.

On August 30, 2023, operator personnel completed their initial sampling effort. However, they collected two samples from wrong locations. That is, from locations not listed in the Lead and Copper Sampling Plan submitted to NDEP on October 9, 2020. These locations included BG660 "C" Supply Sink 113 and BG 658 "A" NE Kitchen. The sample collected in BG 658 did not have any adverse effects. The BG660 "C" Supply Sink 113 results included high levels of lead and copper. The lead concentration was reported at 360 parts per billion (ppb) which is much higher than the Maximum Contaminant level (MCL) for lead of 15 ppb. Similarly, the copper results were reported at 6.3 mg/l that exceed the MCL for copper of 1 mg/l. We have been told that the faucet in the BG660 "C" Supply Sink 113 is rarely used which enables the water in the faucet to become stagnant and contaminated. None of the four other lead samples collected that day exhibited lead concentrations above the detection level of 1 ppb. In addition, the four other copper samples were well below the MCL for copper of 1 mg/l.

Since the August 30, 2023 sampling event the same faucet in Building 660, Room 113 was resampled and found that after flushing, the lead and copper results were within acceptable limits. This indicated that the faucet itself was the problem. It was replaced in December 2023 with a lead-free device.

The initial lead and copper results from Supply Sink 113 has caused NDEP to require two additional lead and copper sampling events in 2024 along with a revised Lead and Copper (LCR) Sampling Plan. The new LCR Sampling Plan has been approved by NDEP. Also required for 2024 are samples collected for chemicals associated with corrosion including alkalinity, calcium, conductivity, pH and temperature. The 2024 sampling results will determine the NDEP's future lead and copper sampling requirements.

We were also required to post a 3-page Installation-Wide Notification and Public Education document in each of the four buildings at Centroid describing the lead and copper results and advice on how an individual can minimize their exposure to lead and copper. A single page Site Specific Notification and Public Education document was posted in Building 660, Room 113 near the subject faucet.

Primary Drinking Water Standards (Regulated Contaminants)

The data table below presents the results from testing completed for Primary Drinking Water Standards, which are enforceable standards on regulated contaminants. Contaminants not detected are not listed. All data listed are in parts per million (ppm) except for arsenic and chromium which are reported in part per billion (ppb).

Inorganic Contaminants

<u>Contaminants</u>	<u>MCLG or MRDLG</u>	<u>MCL, TT, or MRDL</u>	<u>Water After Treatment</u>	<u>Range</u>		<u>Sample Date</u>	<u>Violation</u>	<u>Typical Source</u>
				Low	High			
Arsenic (ppb)	0	10	3.5 (average *)	3	4	Thru Year 2023	No	Erosion of natural deposits; runoff from orchards.
Chromium (ppb)	100	100	7	NA		9/20/2022	No	Erosion of natural deposits
Fluoride (ppm)	2	4.0	1.5	NA		9/20/2022	No	Erosion of natural deposits
Nitrate as N (ppm)	10	10	0.16	NA		9/20/2022	No	Runoff from fertilizer use; erosion of natural deposits

Note: * Compliance with arsenic MCL is based on the annual running average. Some people who drink water-containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer. However, NAS Fallon complies with the Arsenic Rule because compliance is based on a running annual average.

Secondary Drinking Water Standards

The Secondary Drinking Water Standards are in primarily for aesthetics such as taste and odor in drinking water. These standards are not enforceable, but are only guidelines . Contaminants not detected are not listed.

<u>Contaminants</u>	<u>SMCL</u>	<u>Water After Treatment</u>	<u>Sample Date</u>	<u>SMCL Exceeded</u>	<u>Typical Source</u>
Chloride (ppm)	400	49	9/20/22	No	Runoff/leaching from natural deposits
Iron (ppm)	0.3	0.05	9/20/22	No	Runoff/leaching from natural deposits
Sulfate (ppm)	250	29	9/20/22	No	Runoff/leaching from natural deposits

Terms & abbreviations used in this report:

- **Maximum Contaminant Level (MCL):** The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the Maximum Contaminant Level Goals (MCLGs) as feasible using the best available treatment technology. These are enforceable standards.
- **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 allow for a margin of safety. This is not enforceable.
- **Treatment Technique (TT):** A required process intended to reduce the level of a contaminant in drinking water.
- **Action Level (AL):** The concentration of a contaminant which, when exceeded, triggers treatment or other requirements which a water system must follow.
- **Secondary Maximum Contaminant Level (SMCL):** Secondary standards are established as a guideline by the State to assist public water systems in managing drinking water aesthetic considerations such as color, odor, and taste. Secondary standards are not enforced by the EPA, and are not considered to be a health risk at the SMCL. Above the SMCL these constituents may cause poor taste, color/clarity or odor, though the water is safe to drink.
- **Maximum Residual Disinfection Level Goal (MRDLG):** 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.
- **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.
- **NA:** Not available/applicable
- **ND:** Non detect
- **ppb:** Parts per billion or micrograms per liter
- **ppm:** Parts per million or milligrams per liter
- **pCi/L:** Picocuries per liter (a measure of radiation)
- **TON:** Threshold Odor Number
- **MFL:** Million fibers per liter