

Fort Wainwright, Alaska

Water Quality Report

2023

We are proud to report that the water provided by Doyon Utilities meets or exceeds established water quality standards.

The U.S. Environmental Protection Agency (EPA) and the Alaska Department of Environmental Conservation (ADEC) have given us an opportunity to tell our story in the form of this annual water quality report or Consumer Confidence Report (CCR). Doyon Utilities is pleased to prepare this comprehensive report for those who work and reside on Fort Wainwright. Our goal is to provide you with a complete picture of the water quality program.

This annual water quality report provides information on the source of our water and includes the results of the water quality tests that were conducted and contains the educational information about the potential health effects for drinking water containing contaminants. Doyon Utilities will notify you immediately if there is any reason for concern about your water.

We are happy to report to you that we have surpassed established water quality standards. Doyon Utilities is in compliance with the national primary drinking water regulations and has met all testing and monitoring requirements. The EPA has determined that your water is safe at the tested and monitored levels. We have included a table in this report that outlines the tests conducted and the results of those tests.



DOYON UTILITIES

www.doyonutilities.com

Office: 907-455-1539

Public Water System

ID# 2310918

Where does our water come from?

Fort Wainwright's drinking water is obtained from an underground aquifer called the "Tanana Basin Alluvium." This aquifer, which ranges from a few feet to approximately 300 feet deep, provides us with an excellent supply of good quality drinking water. The water is then treated to ADEC drinking water standards prior to being distributed to the Fort Wainwright community. The water treatment plant consists of pressurized greensand filters and two 500,000-gallon storage tanks.

The water is supplied to the water plant by two primary and two secondary groundwater wells. Additional wells are used for fire suppression which are only activated when the distribution system has a significant drop in water pressure.

The treatment process is fairly simple. As the water from the groundwater wells enters the water treatment facility, it is mixed with potassium permanganate. This chemical is used to aid in the removal of iron and manganese, which are naturally occurring substances in groundwater. The water flows through the

greensand filters to remove the iron and manganese which can cause stains, tastes and odors in water. After the filtration process, the filtered water is treated with sodium hypochlorite (disinfects the water), soda ash (adjusts the pH), and sodium hexameta-phosphate (prevents corrosion in the distribution system). The finished water is tested three times daily to ensure the pH, chlorine residual and fluoride content are at their optimum levels. Much of the water distribution system is enclosed in the vast utilidor system. Additionally, we closely monitor all drinking water contaminants required by the EPA Safe Drinking Water Act.

We are proud to report the results of our water quality tests and allow you to have complete confidence in the water you consume.

Source Water Assessment



A Source Water Assessment is a study and report, unique to each water system, which provides basic information about the area that provides water to your drinking water source.

The report data for Fort Wainwright is available to review on the ADEC's Drinking Water Watch web page. This online tool allows anyone to view data on active public water systems in Alaska. To access Fort Wainwright water system information go to: www.dec.alaska.gov/dww and the specific water system number is AK2310918.



DOYON UTILITIES



Jon Daniels,
FWA Director of Utilities

Dear Consumer,

Doyon Utilities is proud of the quality drinking water it provides to our three military installations, and we are committed to maintaining the highest standards.

Since 2008, Doyon Utilities and its employees have been producing and delivering high quality drinking water to our partners at Fort Wainwright, Joint Base Elmendorf Richardson (JBER), and Fort Greely. Our company proudly serves over 55,000 service members, families, and Department of Defense civilians across these three military installations.

This Water Quality Report or Consumer Confidence Report is prepared annually as part of state and federal requirements to inform you, the consumer, as mandated by the EPA Safe Drinking Water Act. This report summarizes drinking water quality

for the period between January 1, 2022, and December 31, 2022. The results obtained from our 2022 water quality tests indicate that your water meets or exceeds the state and federal drinking water requirements.

Drinking water is essential to the health and mission of our military installations' personnel and residents. Prior to water treatment, our water supply wells are

tested regularly for contaminants, and the treated water is analyzed for quality and compliance with safe drinking water standards throughout the distribution system. Doyon Utilities adheres to strict testing requirements with oversight by ADEC and the EPA.

Our employees take pride in and are committed to providing the Fort Wainwright community

Doyon Utilities operates and provides utility service for the United States Army in Alaska at Fort Wainwright, Fort Greely and JBER (Joint Base Elmendorf-Richardson).

Fort Wainwright
Fort Greely
JBER



PFAS Notice

As the water utility provider at Fort Wainwright, Doyon Utilities tracks emerging trends within the water industry. In 2016, an increased number of reports from around the country and within the state of Alaska began to highlight drinking water contamination concerns from a group of chemicals known as perfluoroalkyl substances or PFAS. Of this group, perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA) are the two compounds extensively produced and studied.

PFAS compounds are in a range of common household products and specialty applications, including the manufacture of non-stick cookware, fabric, furniture and carpet stain protection applications, food packaging, and some industrial processes. They are also commonly associated as components of fire-fighting foams that were used on airports and military installations worldwide.

In 2016, in order to provide Americans with a margin of protection from a lifetime of exposure to PFOA and PFOS in drinking water, the United States Environmental Protection Agency lowered an established health advisory level to a combined 70 parts per trillion (ppt). For a point of reference, one ppt would be represented by a single drop of food coloring in 18 million gallons of water.

As this issue has continued to emerge around the country, all Doyon Utilities source wells, fire protection wells, and the Fort Wainwright Water Treatment Plant were placed on a routine monitoring schedule for PFAS. Monitoring results for PFAS in the Fort Wainwright water system are listed in the data table contained within this report. All detections were well below the EPA health advisory level.

The water on Fort Wainwright is safe to drink. Doyon Utilities will continue to voluntarily monitor and track PFAS compounds to ensure the installation's water supply remains a safe and reliable resource for the Fort Wainwright community. To learn more about PFAS issues go online to the EPA webpage at www.epa.gov/pfas.



This Consumer Confidence Report summarizes drinking water quality for the period between January 1, 2022 and December 31, 2022. In order to conserve natural resources and to make it more efficient to distribute this report, an electronic copy can be downloaded at www.doyonutilities.com. Hardcopies are also available at Doyon Utilities or by contacting Doyon Utilities Environmental at 907-455-1500.

Drinking Water Test Results

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 the water poses a health risk. 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.

Fort Wainwright routinely monitors for contaminants in your drinking water according to federal and state laws. The table below shows the results for

substances detected for the period between 1/1/22 to 12/31/22 and lists the Regulated Contaminants required to be monitored by the EPA that were detected in your water. All the substances we found were present in quantities less than the EPA limits for safe drinking water. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. If you would like a complete listing of test results, please call Doyon Utilities Environmental at 907-455-1500.

Fort Wainwright Drinking Water Monitoring Results AK2310918

Substance	Sample Date	Violation Y/N	Detected Range	MCL	MCLG	Potential Source of Contamination
Microbiological Contaminants						
Coliform Bacteria ¹ (revised total coliform rule)	Monthly 2022 99.6% of samples negative	N	NA	TT	NA	Naturally present in the environment
Inorganic Contaminants						
Fluoride	Daily 2022	N	0.09 - 0.80 ppm	4 ppm	4 ppm	Naturally present in groundwater
Free Residual Chlorine	Daily 2022	N	0.02 - 1.82 ppm	MRDL 4ppm	MRDLG 4ppm	Water additive used to control microbes
Barium	Every 9 years February 2018	N	0.1 ppm	2 ppm	2 ppm	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Lead ²	Every 3 years July 2022	N	90th Percentile 2.4 ppb	AL=15 ppb	0	Corrosion of household plumbing systems
Copper ²	Every 3 years July 2022	N	90th Percentile 0.52 ppm	AL=1.3 ppm	1.3 ppm	Corrosion of household plumbing systems
Combined Radium (226, 228)	Every 6 years January 2022	N	0.46 ±0.40 pCi/L	5 pCi/L	0	Erosion of natural deposits

¹On 4/13/2022 at Building 3709, a routine sample was analyzed and found to be positive for Total Coliform. Follow up sampling was conducted according to DU's revised total coliform plan at Building 3709, the supply well, and three nearby buildings. All follow up samples were negative for coliform bacteria.

² Fort Wainwright conducted their residential copper and lead testing in July 2022. Thirty samples were collected within the water system. The 90th percentile was below the action level and no samples exceeded the action level.

Organic Contaminants						
Total Trihalomethanes Bldg 3494 Bldg 3015 Bldg 1003 Bldg 1541	Samples taken Quarterly 2022 29.8 - 82.8 ppb	N	72.5 ppb	80 ppb ³	NA	By-product of drinking water chlorination
Haloacetic Acids Bldg 3494 Bldg 3015 Bldg 1003 Bldg 1541	Samples taken Quarterly 2022 1.0 - 39.0 ppb	N	31.5 ppb	60 ppb	NA	By-product of drinking water chlorination

³Fort Wainwright water is below the EPA primary drinking water standard for Total Trihalomethanes. The MCL for Total Trihalomethanes is based on the average of previous quarters. FWA water provided by DU frequently monitors for these analytes and factors that may contribute to their production.

Fort Wainwright Drinking Water Monitoring Results AK2310918

Substance	Sample Date	Violation Y/N	Detected Range	MCL	MCLG	Potential Source of Contamination
Per- and Polyfluoroalkyl Substances (PFAS) Voluntary Monitoring						
PFOS/PFOA	Frequency		Range	EPA Health Advisory Level		Industrial usage; aircraft firefighting foam
Water Plant Well 3559A Well 3559B Well 1032	Annual July 2022		2.9 ppt 2.3 ppt 2.9 ppt 21.9 ppt	70 ppt	70 ppt	

Parameter	Average	Low	Range	High	Source
Unregulated Contaminants, UCMR 4 - Collected Quarterly in 2018					
Bromide	0.01 ppm	ND		0.0222 ppm	Naturally present in the environment
Germanium	0.0007 ppm	ND		0.0013 ppm	Naturally-occurring element; commercially available in combination with minerals; a byproduct of zinc or processing
Manganese	0.429 ppm	0.048 ppm		0.672 ppm	Naturally-occurring element; commercially available in combination with minerals; drinking water and wastewater treatment chemical; essential nutrient
Total Organic Carbon	2.33 ppm	ND		2.69 ppm	Naturally present in the environment
Bromochloroacetic Acid	0.521 ppb	ND		0.907 ppb	By-product of drinking water chlorination
Bromodichloroacetic Acid	0.506 ppb	ND		0.854 ppb	By-product of drinking water chlorination
Dichloroacetic Acid	7.98 ppb	1.59 ppb		14.5 ppb	By-product of drinking water chlorination
Trichloroacetic Acid	14.3 ppb	0.970 ppb		21.9 ppb	By-product of drinking water chlorination

Parameter	Average	Range	Secondary MCL	Noticeable effects above the Secondary MCL
Secondary Contaminants and Other Aesthetic Water Parameters: Finished Treated Water				
Iron	0.005 ppm	0.001 - 0.04 ppm	0.3 ppm	Rusty color; sediment; metallic taste; reddish or orange staining
Manganese	0.02 ppm	0.002 - 0.049 ppm	0.05 ppm	Black to brown color; black staining; bitter metallic taste
pH	7.48	7.1 - 7.8	6.5 - 8.5	Low pH: bitter metallic taste; corrosion High pH: slippery feel, soda taste; deposits
Fluoride	0.395 ppm	0.09 - 0.8 ppm	2.0 ppm	Tooth discoloration
Turbidity	0.037 NTU	0.027 - 0.425 NTU	NA	Turbidity is a measure of the cloudiness of water, it is used to indicate water quality and filtration effectiveness.
Calcium Hardness	151 ppm as CaCO ₃	110 - 190 ppm as CaCO ₃	NA	Hardness is the traditional measure of the capacity of water to react with soap. Hard water often produces a noticeable deposit of precipitate in containers, glass and tableware.
Alkalinity	182 ppm as CaCO ₃	144 - 214 ppm as CaCO ₃	NA	Alkalinity is water's capacity to resist acidic changes in pH.

The following data is for Doyon Utilities owned and operated drinking water systems located outside of the main Fort Wainwright garrison. One of these systems is located on Fort Wainwright but operates on an independent system to supply drinking water to buildings 5010 and 5009, this system is the Defense Reutilization Marketing Office (DRMO). The remaining 4 systems are Bolio Lake Test Complex, Black Rapids Training Center, Interim Staging Base (ISB), and the Battle Area Complex (BAC). Collectively, Doyon Utilities refers to these systems as the "Ranges." The Ranges are located near Fort Greely, Alaska where our Fort Greely operations oversee the integrity and safety of the Ranges' drinking water supply.

Substance	Sample Date	Violation Y/N	Bolio Lake Detected Range <small>PWS AK2372025</small>	MCL	MCLG	Potential Source of Contamination
Inorganic Contaminants						
Nitrate	Annually 4/21/21	N	ND	10 ppm	10 ppm	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Free Residual Chlorine	Quarterly 2021	N	0.50 - 0.76 ppm	MRDL 4ppm	MRDLG 4ppm	Water additive used to control microbes

Substance	Sample Date	Violation Y/N	Black Rapids Detected Range <small>PWS AK23 70667</small>	MCL	MCLG	Potential Source of Contamination
Inorganic Contaminants						
Nitrate	Annually 4/21/21	N	0.90 ppm	10 ppm	10 ppm	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Free Residual Chlorine	Quarterly 2021	N	0.35 - 01.20 ppm	MRDL 4ppm	MRDLG 4ppm	Water additive used to control microbes

Substance	Sample Date	Violation Y/N	ISB Detected Range <small>PWS AK2372863</small>	MCL	MCLG	Potential Source of Contamination
Inorganic Contaminants						
Nitrate	Annually 4/21/21	N	0.33 ppm	10 ppm	10 ppm	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Free Residual Chlorine	Quarterly 2021	N	0.58 - 1.02 ppm	MRDL 4ppm	MRDLG 4ppm	Water additive used to control microbes

Substance	Sample Date	Violation Y/N	BAC Detected Range <small>PWS AK2372855</small>	MCL	MCLG	Potential Source of Contamination
Inorganic Contaminants						
Nitrate	Annually 4/21/21	N	0.55 ppm	10 ppm	10 ppm	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Free Residual Chlorine	Quarterly 2021 ¹	N	0.51 - 1.01 ppm	MRDL 4ppm	MRDLG 4ppm	Water additive used to control microbes

¹ Samples for BAC taken quarterly during operational season.

Substance	Sample Date	Violation Y/N	DRMO Detected Range <small>PWS AK2314051</small>	MCL	MCLG	Potential Source of Contamination
Microbiological Contaminants						
Coliform Bacteria <small>(revised total coliform rule)</small>	Quarterly 2021 100% of samples negative	N	NA	TT	NA	Naturally present in the environment
Inorganic Contaminants						
Free Residual Chlorine	Daily 2022	N	0.15 - 1.942 ppm	MRDL 4ppm	MRDLG 4ppm	Water additive used to control microbes
Barium	Every 9 years March 2021	N	0.12 ppm	2 ppm	2 ppm	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Lead ¹	2 consecutive 6 month sets 2021	N	90th Percentile 3.6 ppb	AL=15 ppb	0	Corrosion of household plumbing systems
Copper ¹	2 consecutive 6 month sets 2021	N	90th Percentile 0.230 ppm	AL=1.3 ppm	1.3 ppm	Corrosion of household plumbing system
¹ Fort Wainwright DRMO facility conducted residential copper and lead testing at building 5010 in June and December 2021. Three samples were collected at facility locations during each sampling event. The 90th percentile sample result was below the action level and no other samples exceeded the action level.						
Organic Contaminants						
Total Trihalomethanes Bldg 5010 Interior	Samples taken Annually 2022	N	Average 23.9 ppb	80 ppb	NA	By-product of drinking water chlorination
Haloacetic Acids Bldg 5010 Interior	Samples taken Annually 2022	N	Average 21.0 ppb	60 ppb	NA	By-product of drinking water chlorination

Terms and Abbreviations Used

Action Level (AL): The concentration of a contaminant which, when exceeded, triggers treatment or other requirements which a water system must follow.

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. MCLs are set as

close to the MCLGs as feasible using the best available technology.

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.

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 (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 contamination.

Not Applicable (NA): When NA is used in the range column, only one sample was taken, therefore, no range exists.

Not Detectable (ND): The contaminant is below the detectable limits of the testing method.

PCi/L: Picocuries per Liter.

ppb: Parts per billion or micrograms per liter.

ppm: Parts per million or milligrams per liter.

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



Lead/Copper in Drinking Water

The EPA Safe Drinking Water Act requires public water systems to test water samples from its customers to determine lead and copper levels. Lead and Copper samples were collected at numerous locations on Fort Wainwright during July 2022. During the sampling events the copper and lead concentrations were below the primary drinking water standards. There is nothing in the treatment process that would introduce lead in the water; therefore the water is tested at the individual service locations. If abnormal levels of lead or copper were to be detected in the water supply, residents will be notified and Fort Wainwright will initiate action to correct the problem.

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. Doyon Utilities 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>.



Water System Conditions & Maintenance

Be assured that Doyon Utilities makes every effort to ensure the water provided to Fort Wainwright is safe for consumption and the installation is notified should water quality deteriorate.

Some residents may experience brown or rusty water coming from their faucets, more often in older housing. This is usually caused by a higher concentration of minerals in the water and this does not mean that the water is not safe. Any brown or rusty water that does not run clear after running faucets for several minutes should be reported to housing maintenance.

Another common occurrence is white cloudy water. This is caused by air bubbles in the water system. Any cloudy water that does not clear up after sitting for a couple minutes should be reported to housing maintenance.

Doyon Utilities also provides superior fire protection through proper hydrant maintenance. Hydrant maintenance and testing occurs on a regular schedule to ensure proper water flow rate and functionality. During these hydrant maintenance and flow testing events the water may appear hazy or have a slight color at the consumer tap. Likewise, earthquakes, rapid changes in water velocity, and firefighting activities may also cause discolored water events. If these conditions occur and you notice changes in water color, run several faucets until the water is clear.



Water Testing and Your Health

The sources of drinking water (both tap and bottled) include rivers, lakes, ponds, reservoirs, springs and wells. As water travels over the surface of the land or underground, it can dissolve naturally occurring minerals. In some cases, water can pick up radioactive material, or substances resulting from the presence of animals or human activity.

Although our water supply may contain some of these contaminants, it is important for you to know that these substances are either removed completely or reduced to a safe level before it arrives at your water tap.

Contaminants that may be present in source water include:

- **Microbial Contaminants**, such as viruses and bacteria, which may come from sewage treatment facilities, septic systems, agricultural livestock operations and wildlife.
- **Inorganic Contaminants**, such as salts and metals, which may naturally occur or result from urban stormwater runoff, industrial or domestic wastewater discharge, oil and gas production or farming.
- Pesticides and Herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- **Organic Contaminants**, including synthetic and volatile organic compounds, which are by-products of industrial processes and petroleum production, and may also come from gas stations, urban stormwater runoff and septic systems.
- **Radioactive Contaminants**, which may occur naturally or result from oil and gas production and mining activities.



In order to ensure tap water is safe to drink, the EPA prescribes regulations, which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. 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.

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. 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 Water Drinking Hotline (800-426-4791)

Doyon Utilities is happy to answer any other questions about the water quality of the water we provide. For general information or for water quality questions call the Doyon Utilities site management office at 907-338-3600.

Dear Consumer continued

with safe and reliable water and wastewater services.

Doyon Utilities' water treatment plant operators and water distribution system personnel are highly trained and certified in the production and distribution of clean, safe water by ADEC. To earn certification, each employee receives specialized training in water treatment and water distribution, must have years of on-the-job experience, and must pass comprehensive examinations. These exams cover a wide range of subjects from hydrology, microbiology, chemistry, and physics to knowledge of mechanical pumps, electricity, and principals of chlorination.

Doyon Utilities looks forward to continuing to provide you with exceptional quality service and drinking water. We welcome and appreciate your comments on how we are doing and can use this information to improve consumer satisfaction. Please don't hesitate to reach out to us; our door is always open.

If you have questions or would like more information, please contact our offices at 907-455-1571 or email us at info@doyonutilities.com.

Sincerely,
Jon Daniels
FWA Director of Utilities

