

Joint Base Elmendorf-Richardson

Water Quality Report

2023

We are proud to report that the water provided to JBER 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 (DU) and Bioenvironmental Engineering (BE) are pleased to prepare this comprehensive report for those who work and reside on Joint Base Elmendorf-Richardson (JBER). Our goals and efforts are 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 water quality tests that were conducted. During sampling, if there was any reason for concern regarding your drinking water, a public notice was issued to the affected consumers. This annual water quality report also contains educational information about the potential health effects of drinking water which contains common contaminants. The quality of water you drink is superb, and our standards will not be compromised. From the testing results included in this report, you can be confident that the dedicated staff of highly qualified and state-certified professional water treatment operators will protect the integrity and quality of your drinking water.

We are proud to report that the water provided by Doyon Utilities and the 773rd Civil Engineer Squadron (CES) meets or exceeds established water quality standards. The JBER drinking water program is in compliance with national primary drinking water regulations and has met all testing and monitoring requirements. The EPA has determined that your water is safe to drink at the tested and monitored levels.



DOYON UTILITIES LLC

www.doyonutilities.com

Office: 907-338-3600

Public Water System
ID# 2212039



Bioenvironmental Engineering

Office: 907-384-3985

Public Water System ID# 2211423

Where does our water come from?

JBER's drinking water is obtained from the Ship Creek Reservoir and three local wells on JBER-Richardson. As the water enters the treatment plant it undergoes several conventional water treatment processes. Each well is equipped with its own in-line chlorination equipment to ensure that water enters the distribution system free from any microbial contamination. During 2022, Doyon Utilities produced over 1 billion gallons of water, making us one of the largest water producers in the state.

All of our treatment processes are controlled and monitored. The finished water is tested several times a day to ensure that pH, chlorine residuals, and fluoride are at appropriate levels. The water is closely monitored for contaminants in accordance with the EPA Safe Drinking Water Act.



Upper Ship Creek provides the drinking water for the JBER water system.

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

Fort
Wainwright
Fort
Greely
JBER

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 Joint Base Elmendorf-Richardson 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 the JBER water system information go to: www.dec.alaska.gov/dww. The specific public water system IDs are AK2212039 for JBER-Richardson, and AK2211423 for JBER-Elmendorf.



DOYON UTILITIES INC.



Rich Holladay,
JBER Director of Utilities

Who are We?

Doyon Utilities owns, operates, and monitors utilities located on the Richardson side of JBER. The 773rd Civil Engineering Squadron (CES) manages the distribution lines on the Elmendorf side of JBER, and the Bioenvironmental Engineering Flight from the 673rd Medical Group conducts water quality monitoring on the Elmendorf side of JBER. Doyon Utilities provides water to the point of demarcation between the Richardson and Elmendorf side, at which point 773 CES and BE take over operations. While there are two Public Water Systems on JBER, one for each side of base, the two systems are connected and in essence operate as a continuous system from the water plant to the consumer, no matter where you are on base. The commonality of the two systems allows us to efficiently operate as a team in order to serve the Soldiers, Airmen, families, and civilian employees assigned to the joint installation.

This report will provide many technical aspects of our water quality but just as importantly, it will allow us an opportunity to let you know some of the work going on behind the scenes. Doyon Utilities' relationship with JBER was initially through a Utility Privatization Contract with the Army at the former Ft. Richardson, and later expanded due to the joint basing action that consolidated Ft. Richardson and Elmendorf AFB to become JBER.

In order to ensure long term reliability of the water source, we have conducted studies to determine areas where we need to focus our resources. DU, 773 CES, and BE work tirelessly to ensure the best service and product is delivered. After all, our reputation is only as good as the quality of water we produce, and we value that reputation!

We are proud to be partners in the preparation and publication

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Who are We continued

of this annual Consumer Confidence Report and welcome any suggestions on how to make it more informative in the future. As always, we encourage you, our consumer, to conserve water. Conservation of any resource is important, and we ask you to do your part in this effort. At the same time, regular circulation of water at buildings can help reduce the risk of freezing lateral water lines; if water does not regularly flow through an area or section of pipe freezing may occur. During periods of inactivity at your building, running the water is a simple solution to reduce the risk of freezing, and helps avoid the time and resource intensive repairs from burst pipes. If you encounter a facility with a sink or faucet that is running this may be intentional to prevent freezing. Please do not turn off the water but contact the facility manager to confirm whether this is intentional or not.

To get more involved with your water system and community, join the monthly JBER Community Action Council by going to: <https://www.jber.jb.mil/Services-Resources/CAC/> or visit the JBER Environmental site at: <https://www.jber.jb.mil/Services-Resources/Environmental/Water-Quality/>

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. There is nothing in the water treatment process that would introduce lead into the water; therefore, the water is tested at the individual service locations. Lead and Copper samples were collected at numerous locations on JBER-Richardson and JBER-Elmendorf during July 2021 and March 2022, respectively. During both sampling events, the copper and lead concentrations were below the primary drinking water standards. If abnormal levels of lead or copper are detected in the water supply, residents will be notified and the appropriate agency 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 and the 773rd Civil Engineering Squadron/ Bioenvironmental Engineering are 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>.



JBER-Richardson 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.

Joint Base Elmendorf-Richardson routinely monitors for contaminants in your drinking water according to federal and state laws. The table below shows the results for Regulated Contaminants required to be monitored by the EPA which were detected in the period between 1/1/22 to 12/31/22. All the substances we found were present in quantities below 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 or Bioenvironmental Engineering at 907-384-3985.

Substance	Sample Date	Violation Y/N	Detected Results JBER-R PWS 2212039	MCL	MCLG	Potential Source of Contamination
Microbiological Contaminants						
Coliform Bacteria <i>revised total coliform rule</i>	Monthly 2022 100% of Samples Negative	N	NA	TT	NA	Naturally present in the environment
Turbidity	Daily 2022	N	Highest single measurement 0.08 NTU 100% of samples <0.3 NTU	TT = 1 NTU TT = 95% of samples <0.3 NTU	NA	Soil Run-off
Inorganic Contaminants						
Fluoride	Daily 2022	N	0.1 - 0.76 ppm	4 ppm	4 ppm	Water additive which promotes strong teeth
Nitrate Bldg 28011 Bldg 35610 (Well 1) Bldg 35620 (Well 2) Bldg 35630 (Well 3)	Annually 8/2/22 8/2/22 8/2/22 8/2/22	N	0.25 ppm 0.57 ppm 0.63 ppm 0.65 ppm	10 ppm	10 ppm	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Barium Bldg 28004 Bldg 35610 (Well 1) Bldg 35620 (Well 2) Bldg 35630 (Well 3)	Every 9 years 1/27/20 1/27/20 1/27/20 1/27/20	N	0.0085 ppm 0.0039 ppm 0.0038 ppm 0.0040 ppm	2 ppm	2 ppm	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Free Residual Chlorine	Daily 2022	N	0.08 - 1.83 ppm	MRDL 4 ppm	MRDL 4 ppm	Water additive used to control microbes
Weekly Lead	Weekly 2022	N	ND	AL=15ppb	0	Corrosion of household plumbing systems
Lead ¹	Every 3 years July 2021	N	90th Percentile <1.0 ppb	AL=15ppb	0	Corrosion of household plumbing systems
Copper ¹	Every 3 years July 2021	N	90th Percentile 0.062 ppm	AL=1.3 ppm	1.3 ppm	Corrosion of household plumbing systems

¹ Samples were obtained from numerous locations. The 90th percentile for lead and copper were below EPA actions levels (AL). For a complete list of sites contact Doyon Utilities Environmental at 907-455-1500.

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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.

JBER-R: Joint Base Elmendorf Richardson – Elmendorf side. Public Water System (PWS) 2211423.

JBER-R: Joint Base Elmendorf Richardson – Richardson side. Public Water System (PWS) 2212039.

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 treatment 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.

Nephelometric Turbidity Units (NTU): The unit of measurement for turbidity samples.

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.

Substance	Sample Date	Violation Y/N	Detected Results JBER-R PWS 2212039	MCL	MCLG	Potential Source of Contamination
Organic Contaminants						
Total Organic Carbon	Monthly 2022	N	Raw Water Range 0.50-2.78 ppm Treated Water Range <0.50-1.61 ppm	TT	TT	Naturally present in the environment
Total Trihalomethanes Bldg 560 (AAFES Gas) Bldg 986	Samples taken Quarterly 2022	N	Average 21.2 ppb Range 4.1 - 29.0 ppb	80 ppm	NA	By-product of drinking water chlorination
Total Haloacetic Acids Bldg 560 (AAFES Gas) Bldg 986	Samples taken Quarterly 2022	N	Average 24.4 ppb Range 4.6 - 38.0 ppb	60 ppm	NA	By-product of drinking water chlorination
Toluene	Annually 8/2/2022	N	0.0027 ppm	1 ppm	NA	Discharge from petroleum factories
Total Xylenes	Annually 8/2/2022	N	0.0018 ppm	10 ppm	NA	Discharge from petroleum factories; Discharge from chemical factories
Radionuclides						
Gross Alpha Bldg 28004 Bldg 35610 (Well 1) Bldg 35620 (Well 2) Bldg 35630 (Well 3)	Every 9 years 1/22/18 1/22/18 1/22/18 1/22/18	N	Highest reported level 1.3 ± 0.6 pCi/L 1.5 ± 0.7 pCi/L 2.5 ± 0.9 pCi/L 1.2 ± 0.7 pCi/L	15 pCi/L	0	Erosion of natural deposits
Combined radium (226, 228) Bldg 28004 Bldg 35610 (Well 1) Bldg 35620 (Well 2) Bldg 35630 (Well 3)	Every 9 years 1/22/18 1/22/18 1/22/18 1/22/18	N	Highest reported level 2.68 ± 0.67 pCi/L 2.66 ± 0.75 pCi/L 1.50 ± 0.80 pCi/L 3.80 ± 0.81 pCi/L	5 pCi/L	0	Erosion of natural deposits
Unregulated Contaminants, UCMR 4						
Manganese	Samples taken Quarterly 2020	N	Average 0.0025 ppm Range ND - 0.0137 ppm	NA	NA	Naturally-occurring element; commercially available in combination minerals; drinking water and wastewater treatment chemicals; essential nutrient
Total Organic Carbon	Samples taken Quarterly 2020	N	Average 0.323 ppm Range ND - 1.29 ppm	NA	NA	Naturally present in the environment
Bromochloroacetic acid	Samples taken Quarterly 2020	N	Average 0.135 ppb Range ND - 0.565 ppb	NA	NA	By-product of drinking water chlorination
Bromodichloroacetic acid	Samples taken Quarterly 2020	N	Average 0.073 ppb Range ND - 0.587 ppb	NA	NA	By-product of drinking water chlorination
Dichloroacetic acid	Samples taken Quarterly 2020	N	Average 4.05 ppb Range 1.44 - 8.94 ppb	NA	NA	By-product of drinking water chlorination
Trichloroacetic acid	Samples taken Quarterly 2020	N	Average 6.02 ppb Range 1.51 - 15.0 ppb	NA	NA	By-product of drinking water chlorination

JBER-Elmendorf Drinking Water Test Results

Substance	Sample Date	Violation Y/N	Detected Results JBER-E PWS 2211423	MCL	MCLG	Potential Source of Contamination
Microbiological Contaminants						
Coliform Bacteria <i>revised total coliform rule</i>	Monthly 2022 99.5% of Samples Negative ¹	N	NA	TT	NA	Naturally present in the environment
¹ A Single Positive sampling event occurred in July 2022 (176th Wing HQ Building 17441). Follow up sampling according to the RTCR Plan resulted in all negative results.						
Inorganic Contaminants						
Free Residual Chlorine	Weekly 2022	N	0.20 - 1.52 ppm	MRDL 4 ppm	MRDL 4 ppm	Water additive used to control microbes
Lead ²	Every 3 years June 2022	N	90th Percentile 1.0 ppb	AL=15ppb	0	Corrosion of household plumbing systems
Copper ²	Every 3 years June 2022	N	90th Percentile 0.226 ppm	AL=1.3 ppm	1.3 ppm	Corrosion of household plumbing systems
² Samples were obtained from numerous locations. The 90th percentile for lead and copper were below EPA actions levels (AL). One sample location during the JBER-Elmendorf 2022 copper and lead sampling effort exceeded the action limit for lead. For a complete list of sites contact Bioenvironmental Engineering at 907-384-3985.						
Organic Contaminants						
Total Trihalomethanes Bldg 21309 (3 ASOS) Bldg 5327 (773 CES)	Samples taken Quarterly 2022	N	Average 18.8 ppb Range 4.77 - 36.4 ppb	80 ppm	NA	By-product of drinking water chlorination
Total Haloacetic Acids Bldg 21309 (3 ASOS) Bldg 5327 (773 CES)	Samples taken Quarterly 2022	N	Average 20.9 ppb Range 5.8 - 35.4 ppb	60 ppm	NA	By-product of drinking water chlorination

Important Information About Your Water: Violations and Exceedances

JBER-Elmendorf Open Sanitary Survey Deficiency

We are required to conduct sanitary surveys of each water system on a routine basis. Sanitary surveys are a proactive public health measure and an important component of the SDWA public water supervision program. During the August 2022 sanitary survey conducted by the Alaska Department of Environmental Conservation (ADEC), three significant deficiencies and one minor deficiency were noted. All deficiencies pertained to the JBER

hospital wells, which are primarily used for cooling purposes and are only meant to provide drinking water during contingency operations. Significant deficiencies included: a gap in the electrical conduit of Well #3, inadequate screening on pipe entries within Well #1, and improperly plumbed drain lines in both Well #1 and Well #3. Additionally, a minor deficiency was noted for bulk fuel storage within 60 feet of Well #1. As of 17 May 2023,

all findings have been closed except for the relocation of two fuel tanks near Well #1. A work order to remove these tanks is currently in progress, and status updates are provided to ADEC on a routine basis. Sanitary surveys are a proactive public health measure and the above deficiencies apply to an alternate water source; therefore, it does not affect the drinking water quality at this time. Even though these findings are not emergencies, as our customers,

you have the right to know what occurred and what we are doing to correct the situation.

For more information please contact Bioenvironmental Engineering at 907-384-3985.



Water Testing and Your Health

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.

Although our water supply may contain some of these contaminants, it is important to know that these substances are either removed completely or reduced to a safe level before it arrives at your 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 storm water runoff, industrial or domestic wastewater discharge, oil and gas production, mining, or farming.

Water System Conditions & Maintenance

Be assured that Doyon Utilities makes every effort to ensure the water provided to JBER-Richardson is safe for consumption and the installation is notified should water quality deteriorate. 773 CES matches this effort in their maintenance and operation of the JBER-Elmendorf system; Bioenvironmental Engineering owns a team of highly trained technicians to accomplish all required sampling events.

- **Pesticides and Herbicides**, which may come from



Some housing residents may experience brown or rusty water coming from their faucets, more often in older homes. This is usually caused by a higher concentration of minerals in the water and 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 and 773 CES also provide 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.

a variety of sources such as agriculture, urban storm water 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 storm water 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/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).

Doyon Utilities or Bioenvironmental Engineering would be happy to answer any other questions about our water quality. For general information or for water quality questions call the Doyon Utilities site management office at 907-338-3600 or the Bioenvironmental Engineering flight at 907-384-3985.



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.jber.jb.mil or www.doyonutilities.com. Hardcopies are available at Doyon Utilities and can also be obtained by contacting Doyon Utilities Environmental at 907-455-1500 or Bioenvironmental Engineering at 907-384-3985.