

Water Quality Report

Annual Water Quality Report
June 2019

Fort
Wainwright
Alaska



DOYON UTILITIES LLC

www.doyonutilities.com

Office: 907-455-1539

Public Water System ID# 2310918

Doyon Utilities Drinking Water Mission

A water utility seldom takes the opportunity to tell its customers about all they are doing to produce exceptional quality drinking water in conjunction with the myriad of additional things the utility does to ensure public safety. All too often, we concentrate only on our mission of producing water that goes through a rigorous testing and quality control process before being introduced into a water distribution system for customers. Beyond that, we don't broadcast what we are doing.

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

As you will clearly see from the report, the water you consume is of exceptional quality and exceeds the standards established by the US Environmental Protection Agency.



Letter from the Site Manager

Doyon Utilities has prepared the following report to provide information to you, the consumer, on the quality of our drinking water for 2018. This report has been prepared as part of state and federal re-



*Josh Van Horn,
Fort Wainwright
Director of Utilities*

goal is to maintain the highest standards in water quality with a well-trained and professional staff. These goals are the cornerstone on which we provide safe and reliable drinking water for the consumers. Doyon Utilities also provides

water service for the Army training areas and recreational sites. *Water Quality.* Water is essential to the health of our installation and we take seriously the integrity of our supply. Doyon Utilities adheres to strict testing requirements with oversight by the Alaska Department of Environmental Conservation (ADEC) and the Environmental Protection Agency (EPA). The results from our 2018 water quality tests are included in this report. The results indicate that your water meets or exceeds the state and federal drinking water requirements.

Who are we? Doyon Utilities and its employees have been producing and delivering drinking water to our customers on Fort Wainwright since August of 2008. Our

Source water protection is also a high priority which requires special attention. Doyon Utilities completes annual water quality tests on its source water (water wells). The test results indicate that Doyon Utilities' water supply is safe and free of contaminants. Full test results are available at Doyon Utilities' headquarters located at 714 4th Avenue, Fairbanks, Alaska. *Doyon Utilities Employees.* You can have the utmost confidence in the dedicated and committed employees responsible for producing and distributing your drinking water. Doyon Utilities' water treatment plant operators and

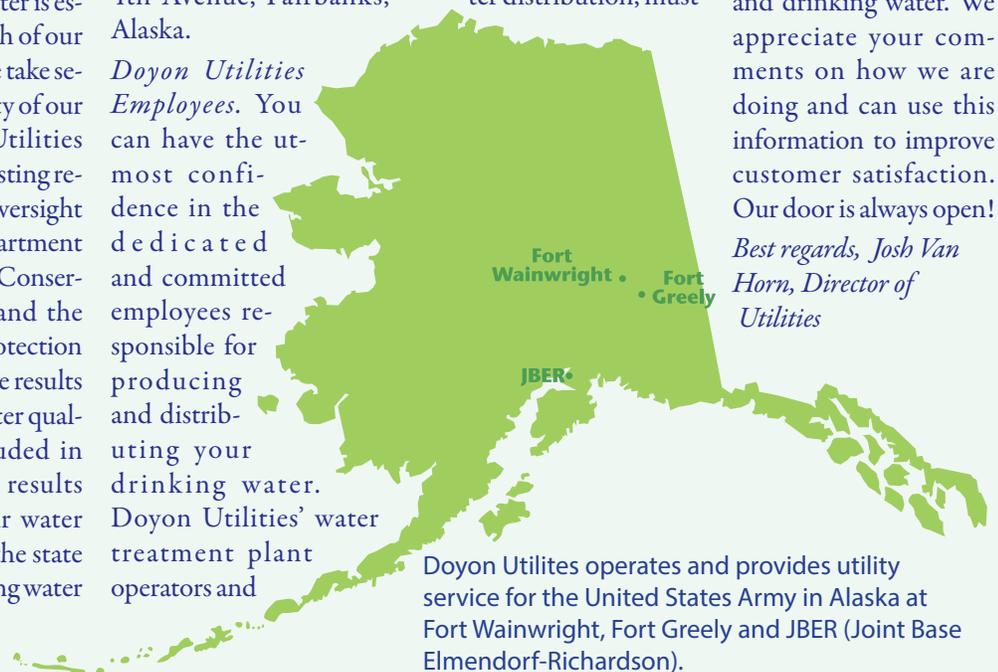
water distribution system personnel are highly trained and certified in the production and distribution of clean, safe water by

The results from our 2018 water quality tests are included in this report. The results of which indicate that your water meets or exceeds the state and federal drinking water requirements.

have years of job experience, and must pass comprehensive tests. These tests cover a wide range of subjects from hydrology, microbiology, chemistry, and physics to pumps, electricity, chlorination and drinking water regulations. Doyon Utilities looks forward to continuing to provide you with exceptional quality service and drinking water. We appreciate your comments on how we are doing and can use this information to improve customer satisfaction. Our door is always open!

Best regards, Josh Van Horn, Director of Utilities

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).



Drinking Water Quality Report

Doyon Utilities is proud of the high quality water it provides to our customers. This annual water quality report provides information on the source of our water, lists the results of water quality tests that are conducted and contains other important information about water and health.

Doyon Utilities will notify you immediately if there is any reason for concern about your water. We are happy to report to you how 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 inside outlining the tests conducted and the results of those tests.

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



Water Testing and Your Health

The sources of drinking water from both tap water and bottled water include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land and through the ground, it dissolves naturally occurring minerals and 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 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, storm water runoff and residential uses.

- **Organic chemical contaminants**, including synthetic and volatile organics, are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff and septic systems.
- **Radioactive contaminants**, can be naturally occurring or be the result of oil and gas production and mining activities.

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

Some people in the general population may be more

vulnerable than others to contaminants in drinking water. Immuno-compromised persons such as those with cancer undergoing chemotherapy, persons who have undergone organ transplants, persons with HIV/AIDS or other immune system disorders, some elderly and infants can be particularly at risk of infection. These people should seek advice about drinking water from their health care providers. EPA/CDC published guidelines on appropriate means to lessen the risk of infection are available from the Safe Drinking Water Hotline (800-426-4791).

We're happy to answer any other questions about Doyon Utilities and our water quality. For general information or for water quality questions call our site management office at 907-455-1539. Other resources: Environmental Protection Agency's Safe Drinking Water Hotline: 1-800-426-4791. Water Quality Data for community water systems throughout the United States is available at www.waterdata.com.



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 used on airports and military installations worldwide.

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 DU source wells and the Fort Wainwright Water Treatment Plant were placed on a quarterly monitoring schedule for PFAS. Monitoring results indicated PFOS and PFOA levels in the Fort Wainwright water system range from 2.1 ppt to 2.4 ppt, well below the EPA health advisory level.

DU also manages three fire protection wells connected directly to the water distribution network. One of these wells ranges between 12.6 ppt to 24.7 ppt. As a course of normal operations, DU limits the use of all fire wells to emergency situations only.

The water on Fort Wainwright is safe to drink. DU 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. For more information, on PFAS issues visit the United States Environmental Protection Agency's PFAS information page at www.epa.gov/pfas.



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 1/1/18 to 12/31/18. This table includes data for detected substances on both the Primary and Secondary contaminants lists that are required for monitoring by EPA. The National Primary Drinking Water Regulations are legally enforceable primary standards and treatment techniques that apply to public water systems. Primary standards and treatment techniques protect public health by limiting the levels of contaminants in drinking water. The National Secondary Drinking Water

Regulations set non-mandatory water quality standards for 15 contaminants. EPA does not enforce these "secondary maximum contaminant levels" (SMCLs). They are established as guidelines to assist public water systems in managing their drinking water for aesthetic considerations, such as taste, color, and odor. 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 naturally occurring mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems. 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 DU Environmental at 907-455-1500.

Substance	Sample Date	Violation Y/N	Fort Wainwright Detected Range <small>PWS AK2310918</small>	MCL	MCLG	Likely Source of Contamination
Inorganic Contaminants						
Coliform Bacteria	Monthly 2018 20 samples per month	N	ND	Two or more positive samples/month	0	Naturally present in the environment
Fluoride	Daily 2018	N	0.02 - 0.58 ppm	4 ppm	4 ppm	Naturally present in the environment
Free Residual Chlorine	Daily 2018	N	0.00 - 3.80 ppm	MRDL 4ppm	MRDLG 4ppm	Water additive used to control microbes
Barium	Every 9 years	N	0.1 ppm	2 ppm	2 ppm	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Lead ¹	Every 3 years June 2016	N	90th Percentile 4.7 ppb	AL=15 ppb	0	Corrosion of household plumbing systems
Copper ¹	Every 3 years June 2016	N	90th Percentile 0.40 ppm	AL=1.3 ppm	1.3 ppm	Corrosion of household plumbing system
Combined Radium (226, 228)	Every 6 years 1/5/17	N	1.8 ±0.58 pCi/L	5 pCi/L	0	Erosion of natural deposits

¹ Fort Wainwright conducted their residential copper and lead testing in August 2016. Thirty samples were collected, one sample exceeded the lead AL; however, the 90th percentile was below the action level and no other samples exceeded.

Organic Contaminants						
Total Trihalomethanes	Samples taken Quarterly 2018	N	Average	80 ppb	NA	By-product of drinking water chlorination
Bldg 3494 Bldg 3015 Bldg 1003 Bldg 1541	22.2 - 58.9 ppb	N	58.2 ppb	80 ppb	NA	
Haloacetic Acids	Samples taken Quarterly 2018	N	Average	60 ppb	NA	By-product of drinking water chlorination
Bldg 3494 Bldg 3015 Bldg 1003 Bldg 1541	0.5 - 31.0 ppb	N	26.9 ppb	60 ppb	NA	

Be assured that Doyon Utilities make 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. 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 due to more oxygen in the water and most often noticed during colder months. Any cloudy water that does not clear up after sitting for a couple minutes should be reported to housing maintenance.



Per- and Polyfluoroalkyl Substances (PFAS) Voluntary Monitoring

PFOS/PFOA	Samples taken 2018	Range	EPA Health Advisory Level	Industrial usage; aircraft firefighting foam
Water Plant Well 3559A Well 1032		2.4 ppt 2.1 - 2.3 ppt 12.6 - 24.7 ppt	70 ppt	70 ppt

Parameter	Average	Low	Range	High	Source
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Unregulated Contaminants, UCMR 4

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 mineral; a byproduct of zinc or processing
Manganese	0.429 ppm	0.048 ppm		0.672 ppm	Naturally-occurring element; commercially available in combination with mineral; 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
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Secondary Contaminants and Other Aesthetic Water Parameters: Finished Treated Water

Iron	0.03 ppm	0.01 - 0.05 ppm	0.3 ppm	Rusty color; sediment; metallic taste; reddish or orange staining
Manganese	0.06 ppm	0.049 - 0.084 ppm	0.05 ppm	Black to brown color; black staining; bitter metallic taste
pH	7.48	7.39 - 7.57	6.5 - 8.5	Low pH: bitter metallic taste; corrosion High pH: slippery feel, soda taste; deposits
Fluoride	0.30 ppm	0.27 - 0.34 ppm	2.0 ppm	Tooth discoloration
Turbidity	0.099 NTU	0.068 - 0.144 NTU	N/A	Turbidity is a measure of the cloudiness of water, it is used to indicate water quality and filtration effectiveness.
Calcium Hardness	144 ppm as CaCO ₃	131 - 175 ppm as CaCO ₃	N/A	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	190 ppm as CaCO ₃	182 - 197 ppm as CaCO ₃	N/A	Alkalinity is water's capacity to resist acidic changes in pH

Substance	Sample Date	Violation Y/N	Bolio Lake Detected Range <small>PWS AK2372025</small>	MCL	MCLG	Likely Source of Contamination
Inorganic Contaminants						
Nitrate	Annually 4/18/18	N	ND	10 ppm	10 ppm	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Free Residual Chlorine	Quarterly 2018	N	0.57 - 1.16 ppm	MRDL 4ppm	MRDLG 4ppm	Water additive used to control microbes

Substance	Sample Date	Violation Y/N	Black Rapids Detected Range <small>PWS AK2370667</small>	MCL	MCLG	Likely Source of Contamination
Inorganic Contaminants						
Nitrate	Annually 4/18/18	N	1.15 ppm	10 ppm	10 ppm	Runoff from fertilizer use' Leaching from septic tanks, sewage; Erosion of natural deposits
Free Residual Chlorine	Quarterly 2018	N	0.42 - 0.83 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	Likely Source of Contamination
Inorganic Contaminants						
Nitrate	Annually 4/18/18	N	ND	10 ppm	10 ppm	Runoff from fertilizer use' Leaching from septic tanks, sewage; Erosion of natural deposits
Free Residual Chlorine	Quarterly 2018	N	0.36 - 0.78 ppm	MRDL 4 ppm	MRDLG 4 ppm	Water additive used to control microbes

Substance	Sample Date	Violation Y/N	BAC Detected Range <small>PWS AK2372855</small>	MCL	MCLG	Likely Source of Contamination
Inorganic Contaminants						
Nitrate	Annually 4/18/18	N	ND	10 ppm	10 ppm	Runoff from fertilizer use' Leaching from septic tanks, sewage; Erosion of natural deposits
Free Residual Chlorine	Quarterly ¹ 2018	N	0.61 - 0.69 ppm	MRDL 4ppm	MRDLG 4ppm	Water additive used to control microbes

¹ Samples of BAC taken quarterly during operation season.

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.

ppt: Parts per trillion or nanograms per liter.

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. During June 2016, numerous residents were sampled for lead and copper. The results of the sampling event indicated that the 90th percentile concentrations for both lead and copper were below the EPA action levels. If present, elevated levels of lead can cause serious health problems, especially in pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. There is nothing in the treatment process that would introduce lead into the water; therefore, Doyon Utilities tests at the individual service locations. If abnormal levels of lead or copper are detected in the water supply, residents will be notified and Doyon Utilities will initiate action to correct the problem. If you want to take additional precautions, one method to minimize the risk of lead or copper contamination is to let the tap water run for 30 seconds to 2 minutes to flush any water that has been sitting for several hours. 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>.

Where does our water come from?

Fort Wainwright draws its water supply from two primary and two secondary, or back-up, ground-water wells. Additional wells are used for fire suppression which are only activated when the distribution system has a significant drop in water pressure. The water is very good quality and requires very little treatment and disinfection prior to being distributed to customers.

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 thick, provides us with an excellent supply of good quality drinking water. An assessment completed by the U.S. Army Corps of Engineers (USACE) identified that although our raw (untreated) water is susceptible to potential sources of contamination, such as fuel storage tanks, they have

not impacted our supply of water. The water is then treated to Alaska Department of Environmental Conservation (ADEC) drinking water standards prior to being distributed to your home. The water treatment plant consists of a pressurized green sand fil-

ter plant connected to the water distribution system. Much of the water distribution system is enclosed in the vast utilidor system.

The treatment process is fairly simple. As the water from the primary and secondary 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 several filters designed to remove the iron and manganese which can cause stains, tastes and odors in water. After the filtration process, the produced water is mixed 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

Hydrant Maintenance

Hydrant maintenance is a top priority for our utility! Twice a year, May and September, we visit each hydrant in our system. We test the water flow at each hydrant and make sure each one is working properly. This is our way to provide superior fire protection to ensure the safety and well-being of our consumers. Often during these activities, customers may notice some intermittent discoloration in their water. This normal occurrence is not harmful and shall clear up quickly during the flushing process. Prior to these maintenance activities, DU will notify the Fort Wainwright Department of Public Works (DPW) in order to notify the installation community. An activity schedule and point of contact are published through FWA housing and DPW social media sources during these events. If you experience discolored water outside of these maintenance activities, please contact your housing representative or DPW customer service.



Source Water Assessment

For the last several years, the ADEC has been working on assessments of the vulnerability of the water



sources that provide water to all of the public water systems in Alaska. The source water assessment for the Fort Wainwright Water Treatment Plant has been completed and is available for review by contacting DU Environmental at 907-455-1500, or by visiting the Noel Wien Library in Fairbanks.

at their optimum levels. 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.

If you would like to review the USACE Source Water Assessment for Fort Wainwright, please contact DU Environmental at 907-455-1500.

This Consumer Confidence Report summarizes drinking water quality for the period between 1/1/2018 and 12/31/2018. In order to conserve natural resources and make it more efficient to distribute, an electronic copy can be downloaded at www.doyonutilities.com. Hard copies are also available at your local Doyon Utilities depot or by contacting DU Environmental at 907-455-1500.

