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Drinking Water Quality Fort Richardson Alaska

Second Annual Water Quality Report • June 2010

Letter from the Site Manager



Bob Zacharski,
Doyon Utilities Fort
Richardson Site Manager

Doyon Utilities has prepared the following report to provide information to you, the consumer, on the quality of our drinking water for testing year 2009. This report has been prepared as part of state and federal requirements

to inform the consumer as mandated by the Safe Drinking Water Act. However, we welcome this opportunity to inform residents and business owners of our high water quality and hope that consumers will contact our office on Fort Richardson with any questions or concerns regarding water quality and service.

Who are we? Doyon Utilities owns and operates the utilities located at Forts Wainwright, Richardson and Greely under a program to privatize utility operations through the Department of Defense. Doyon Utilities submitted its competitive bid for the purchase of the utilities in 2005. We received notice that we were the successful bidder in September 2007. Upon receiving the award notice, Doyon Utilities quickly began evaluating the utility systems, organizing the construction of our “depots” at each Army Post, and identifying and hiring key positions. On August 15, 2008, the date selected to transfer the utilities to private ownership, Doyon Utilities was staffed, had all necessary equipment, and was ready to assume the critical role of owning, operating and maintaining the utilities.

Water Quality. Water is one of the world’s most precious resources 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 2009 water quality tests are included in this report. The results confirm that your water meets or exceeds the state and federal drinking water requirements. Source water protection is also a high priority which requires special attention. Doyon Utilities completes water quality tests on its source water. The test results indicate that Doyon

The results from our 2009 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.

Utilities’ water supply is safe and free of contaminants.

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 Alaska Department of Environmental Conservation. To earn certification, each employee must have passed many courses in water treatment and water distribution, have completed years of job experience, and passed extensive 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’ Commitment. Part of Doyon Utilities contract with the government is our commitment to repair and replace utility infrastructure. Our approach to this large and complex task is the development of an Annual Capital Upgrades, Renewals and

continued inside

Where does our water come from?

Fort Richardson’s drinking water is obtained primarily from the Upper Ship Creek Drainage Area in the Ship Creek Watershed. Because the drainage area is contained within the Chugach State Park, it is protected from many chemicals (such as pesticides) that may be found in other surface water sources. While the chemical properties of the raw (untreated) water are not assessed, the Fort Richardson treatment plant routinely examines the physical quality of the raw water, including pH, turbidity, hardness, color and alkalinity. Additional water is obtained from three groundwater wells located on post.

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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 (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 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 or farming.
- **Pesticides and Herbicides**, which may come from 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 that 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 Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

Some people may be more vulnerable to contaminants in drinking water than is the general population. Immuno-compromised persons such as persons 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 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* 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 907-338-3600. 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.

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.

mrem/yr: Millirems per year.

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.

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.

The table lists the Regulated Contaminants required to be monitored by the EPA that were detected in your water. While most monitoring is required annually, some contaminants are sampled less frequently. Doyon Utilities has a waiver that does not require us to test for asbestos through 2011. Nitrate in drinking water levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask for advice from your health care provider. The Interim Enhanced Surface Water Treatment Rule required testing for trihalomethanes and haloacetic acids at the farthest end of the distribution system or any part of the system that retains water the farthest from the water treatment facility. This sampling was done quarterly in 2009. All the substances we found were present in quantities less than the EPA's 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 to view a complete listing of test results, please call Kathleen Hook at 907-455-1540.

In addition to those samples collected by the DPW Environmental Compliance group, Preventative Medicine also collects a variety of 'quality control' samples to help ensure the overall safety of the post's drinking water. Combined, these two groups have conducted over 1,250 tests for more than 100 substances in your drinking water system during 2009.

The table at right shows analyses that the State of Alaska requires us to sample at our treatment facility. Please note the frequency and number of samples varies on each constituent.

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. 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 the water at the individual service locations. If abnormal levels of lead or copper are detected in the water supply, Doyon Utilities will notify the residents and

implement action to correct the problem. 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. It is important to use this approach for drinking water or cooking water. 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>.



Contamination	Sample Date	Violation Y/N	Level Detected	MCLG	MCL	Likely Source of Contamination
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The following constituents were detected in low levels. Fort Richardson is required to test for these analyses daily.

Turbidity	Daily 2009	N	0.0 NTU 100%	0	TT= 1 NTU TT= % of samples <0.3 NTU	Soil Run-off
Fluoride	Daily 2009	N	1.2-2.2 ppm	4	4	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories. Additive to promote strong teeth.

The following constituents were detected in low levels. Fort Richardson is required to test for these analyses monthly.

Total Organic Carbon (TOC)	Monthly 2009	N	Raw Water Range 0.0-2.4 ppm ¹ No removal required if <2.0 Treated Water Range 0.0-1.6 ppm	NA	TT	Naturally present in the environment
Cryptosporidium	Monthly 2009 3/2/09 8/3/09 11/3/09	N	Raw Water Range ² 0.0978/L 0.0978/L 0.0978/L	0	TT	Human and animal fecal waste

¹25.0% removal is required if TOC >2.0, but <4.0, when alkalinity is >50 mg/L CaCO₃. Actual removal for the Ft. Richardson WTP was 48%.

²USEPA's Surface Water Treatment Rules (SWTRs) require systems using surface water or groundwater under the direct influence of surface water (GWUDI) to (1) disinfect their water and (2) filter their water or meet criteria for avoiding filtration so that the following contaminants are controlled at the following levels: Cryptosporidium: 99% removal by all filtered systems, plus additional treatment as required under the Long-Term 2 Enhanced Surface Water Treatment Rule of Jan. 5, 2006, including at least 99% inactivation by unfiltered surface water systems.

The following constituents were detected in low levels. Fort Richardson is required to test for these analyses quarterly.

Total Trihalomethanes	Quarterly 2009	N	Location running annual average	NA	80	By-product of drinking water chlorination
AAFES Gas Station	< 10.0 - 11.5 ppb		10.9 ppb			
Bldg 36-012	9.8 - 17.5 ppb		12.5 ppb			
Bldg 57-024	< 10.0 - 10.5 ppb		8.7 ppb			
Bldg 986	< 10.0 - 13.8 ppb		12.8 ppb			
Bldg 59004	< 10.0 - 7.1 ppb		6.9 ppb			
Total Haloacetic Acids	Quarterly 2008	N	Location running annual average	NA	60	By-product of drinking water disinfection
AAFES Gas Station	5.0 - 11.0 ppb		8.3 ppb			
Bldg 36-012	3.6 - 11.3 ppb		6.4 ppb			
Bldg 57-024	5.7 - 12.5 ppb		9.2 ppb			
Bldg 986	4.7 - 10.8 ppb		7.4 ppb			
Bldg 59004	3.9 - 8.1 ppb		6.0 ppb			

The following constituents were detected in low levels. Fort Richardson is required to test for these analyses annually.

Nitrate	1/13/09	N		10	10	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Well 1			0.366 ppm			
Well 2			0.722 ppm			
Well 3			0.807 ppm			
Well 4			0.749 ppm			

The following constituents were detected in low levels. Fort Richardson is required to test for these analyses every three years.

Lead ³	5/13/009 7/8/09	N	90% = 4.0 ppb 27.8 ppb 90% = 1.7 ppb	0	AL= 15	Corrosion of household plumbing systems
Bldg 75						
Copper ³	5/13/009 7/8/09	N	90% = 0.07 ppm 90% = 0.067 ppm	1.3	AL= 1.3	Corrosion of household plumbing system
Chromium	6/5/08	N	0.75 ppb highest level reported Range 0.63 - 0.75 ppb	100	100	Discharge from steel and pulp mills; Erosion of natural deposits

³ Fort Richardson conducted their residential copper and lead testing at the housing units. A total of 20 samples were collected from each branch line of the distribution system.

The following constituents were detected in low levels. Fort Richardson's next sampling event is determined by the ADEC.

Alpha emitters	7/9/09	N	1.1 pCi/L Highest level reported	0	15	Erosion of natural deposits
Beta/Photon emitters	7/9/09	N	3.7 mrem/yr Highest level reported Range 0.0 - 3.7 mrem/yr	0	50	Decay of natural and man-made deposits
Combinde radium (226, 228)	7/9/09	N	1.3 pCi/L Highest level reported Range 0.4 - 1.3 pCi/L	0	5	Erosion of natural deposits

Cryptosporidium

Cryptosporidium is a microbial pathogen found in surface water throughout the US. Although filtration removes Cryptosporidium, the most commonly-used filtration methods cannot guarantee 100 percent removal. Our monitoring indicates the presence of these organisms in our source water. Ingestion of Cryptosporidium may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks.

Hydrant Maintenance

Hour utility! Twice a year, April 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.



Letter from the Site Manager continued

Replacements Plan. The Plan is a 5-year forward look at the work we intend to conduct on the system. Many factors are considered in identifying and scheduling renewals and replacements such as the age of the existing facilities, design life of the equipment and cost of replacing the existing equipment in kind with a new version, are a few of the factors.

We have multiple projects planned for Fort Richardson this upcoming summer. Many construction employees as well as our own workforce will be in public roadways. Please be aware of these personnel on the road way and potential traffic revisions.

Doyon Utilities looks forward to continuing to provide you with exceptional quality service and drinking water for many years to come. Our door is always open!

Where does our water come from? continued

Before entering the Fort Richardson Treatment and Distribution System, raw water from Ship Creek flows through a series of bar racks and screens designed to remove large debris that can damage the treatment facility. The plant uses a series of conventional water treatment processes including coagulation (causes contaminants to clump together), flocculation (increases the size of the clumps), sedimentation (settles the clumps from the water), rapid sand filtration (removes smaller particles and contaminants), and chlorination (disinfects the treated water). The plant is designed to produce approximately 7 million gallons of water per day – enough to fill over 8 Olympic competition-size pools! All of our treatment processes are controlled and monitored by an interconnected set of computers known as a Supervisory Control and Data Acquisition (SCADA) system. This SCADA system constantly monitors the treatment and distribution system and alerts the system operators in the unlikely event of a process disruption or malfunction. Additionally, the SCADA system operates three groundwater wells used to supplement the system during times of peak demand (such as early morning and evening when people are cooking or conducting personal hygiene activities). Because groundwater is a very high quality source of raw water, the only treatment necessary is disinfection. Each well is equipped with its own in-line chlorination equipment to ensure that water enters the distribution system free from any microbial contamination. The finished water is tested several times a day to ensure that pH and chlorine residuals are at appropriate levels.

The treatment process is fairly simple. Before entering the distribution system, the additional well water is chlorinated. The Alaska Department of Environmental Conservation has completed assessments of Fort Richardson's source waters. If you would like to review the Source Water Assessment for Fort Richardson, please contact Kathleen Hook at 907-455-1540.



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Complete the puzzle using the word bank and clues below to see how tap water delivers.

tap pumps hydrated fluoride bills potable hydrants leaks water infrastructure utility pressure

Just for kids!

Across

- Water flows to fire hydrants through a system of water mains, storage tanks, and _____.
- Drinking enough water every day keeps us healthy and _____.
- The company that maintains and delivers our tap water is called a water _____.
- What kind of water delivers fire protection and safe drinking water?
- What is the main ingredient in common products like canned foods and soft drinks?
- The network of water pipes below the ground is sometimes called the water _____.
- _____ in the infrastructure can result in wasted water.

Down

- What do many water systems add to their water to prevent tooth decay?
- Water that firefighters use to fight fires sometimes comes from _____.
- Tap water in the United States and Canada is suitable for drinking and is sometimes called _____ water.
- A break in a water main can cause a drop in water _____.
- People pay water _____ to help maintain their water systems.

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 Fort Richardson Water Treatment Plant has been completed and is available for review by contacting Kathleen Hook at 907-455-1540. These tables are from the Executive Summary of our assessment:

Source Intake	Water System Vulnerability Rating					
	Bacteria/ Viruses	Nitrates/ Viruses	Volatile Organic Chemicals	Heavy Metals	Other Organic Chemicals	Synthetic Organic Chemicals
Well #1	Low	Low	Low	Low	Low	Medium
Well #2	Low	Low	Low	Low	Low	Medium
Well #3	Medium	Medium	Medium	Medium	Medium	Medium

Sampling Schedule Required by the State of Alaska

Analyte	Frequency	# Samples
Treatment Facility		
Chloriform, Total	Monthly	7
HAA5	Quarterly	1
TTHM	Quarterly	1
TOC & ALKY Raw Water	Monthly	1
Lead & Copper	Every 6 Months	10
Wells		
Pesticides Phase 2&5	Quarterly	1
Rad, GA & Uranium	Quarterly	1
Arsenic - Single	Yearly	1
Nitrate - Single	Yearly	1
VOC P2/PS W/VCL	Every 3 Years	1
Inorganic Phase 5	Every 3 years	1
Inorganic Phase 2	Every 9 years	1
Primary Well		
Total Organic Carbon	Monthly	1
Abestos - Single	Every 3 Years	1

Source Water Assessment Report Executive Summary Data – PWSID# AK2212039.

DISCLAIMER: Information provided on this page is automatically generated from a database of Source Water Assessment information. For additional details, please view the actual Executive Summary contained in the Source Water Assessment Report.