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PWS# 2212039

Drinking Water Quality

Annual Water Quality Report • June 2012

JBER
Joint Base Elmendorf-Richardson
www.jber.af.mil
Office: 907-384-7790
PWS# 2211423

JBER: Joint Base Elmendorf–Richardson, Alaska

JBER's 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. In essence, we fail to "toot our own horn."

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 and 673rd Bioenvironmental Engineering are pleased to jointly prepare this comprehensive report for our customers who work and reside on both sides of the JBER boundary. Our goals and efforts have been closely coordinated with the environmental staff from both JBER and DU 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 clearly exceeds the standards established by the US Environmental Protection Agency.

The results from our 2011 water quality tests are included in this report. These results indicate that your water meets or exceeds all the state and federal drinking water requirements.

Who are we?

While there are two Public Water Systems at JBER, the two systems are connected and in essence operate as a continuous system from the water plant to the consumer. The commonality of the two systems allows us to efficiently operate as a team in order to serve our most deserving customers; the military personnel 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 owns and operates the utilities located at JBER-Richardson. This relationship was initially established through a Utility Privatization Contract with the Army at Ft. Richardson and later expanded due to the Joint Basing efficiency program that consolidated Richardson and Elmendorf. As the water purveyor on JBER-Richardson, Doyon manages the water plant and distribution lines, while conducting a myriad of bacteriological and chemical tests to ensure all quality standards are met.

Once the water reaches the JBER-Elmendorf side, the 673d Civil Engineering Group (CEG) and 673d Medical Group (MDG) Bioenvironmental Engineering

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This Consumer Confidence Report summarizes drinking water quality for the period between January 1, 2011 and December 31, 2011. In order to conserve natural resources and make it more efficient to distribute an electronic copy can be downloaded at www.doyonutilities.com or www.jber.af.mil. Hardcopies are also available at Doyon Utilities or by contacting Kathleen Hook at 907-455-1540.

Where does our water come from?

JBER's drinking water is obtained from surface-water drainage and three local wells on JBER. Large debris is removed from the raw surface-water prior to it entering the treatment plant where it is undergoes several conventional water treatment processes. 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. 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, chlorine residuals, and fluoride are at appropriate levels.

Two of Doyon Utilities' water treatment operators at the surface-water source.

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 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 our water quality. For general information or for water quality questions call Doyon Utilities site management office at 907-338-3600 or JBER Bioenvironmental Engineering at 907-384-7790. 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.

Hydrant Maintenance

Hydrant maintenance is a top priority for our 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.

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, the water is tested at the individual service locations. If abnormal levels of lead or copper are detected in the water supply, residents will be notified and JBER will initiate 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.

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 JBER's Water Treatment Plant has been completed and is available for review by contacting Jennifer Glanville at 907-384-7790 or Kathleen Hook at 907-455-1540.

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/E: 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 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.

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.

Substance	Sample Date	Violation Y/N	Level Detected JBER/R PWS 2212039	Level Detected JBER/E PWS 2211423	MCL	MCLG	Likely Source of Contamination
Microbiological Contaminants							
Total Organic Carbon (TOC)	Monthly 2011	N	Raw Water Range <1.00 - 4.73 mg/L Treated Water Range <1.00 - 1.55 mg/L	Tested by JBER/R	NA	NA	Naturally present in the environment
Turbidity	Daily 2011	N	Highest single measurement 0.27 NTU 100% of samples <0.3 NTU	Tested by JBER/R	TT = 1 NTU TT = % of samples <0.3 NTU	NA	Soil Run-off
Inorganic Contaminants							
Fluoride	Daily	N	0.02-1.30 ppm	Tested by JBER/R	4 ppm	4 ppm	Chemical Additive
Nitrate Bldg 28008 Well 1 Well 2 Well 3	Annually 1/10/11	N	 0.326 ppm 0.480 ppm 0.665 ppm 0.624 ppm	Tested by JBER/R	10 ppm	10 ppm	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Free Residual Chlorine	Monthly 2011	N	0.20-1.90 ppm	0.05-1.79 ppm	MRDL 4 ppm	MRDLG 4 ppm	Water additive used to control microbes
Lead[1]	Every 3 years	N	90%=3.96 May 09	90%=1.29 Aug/Sept 10	AL=15 ppb	0	Corrosion of household plumbing systems
Copper[1]	Every 3 years 5/13/09	N	90%=0.0703 May 09	90%=0.0703 Aug/Sept 10	AL=1.3 ppm	1.3 ppm	Corrosion of household plumbing system
Chromium	BY ADEC Request 6/5/08	N	Highest level reported 0.75 ppb Range 0.63 - 0.75 ppb	Tested by JBER/R	100 ppb	100 ppb	Discharge from steel and pulp mills; Erosion of natural deposits
Organic Contaminants							
Total Trihalomethanes Bldg 36010	Samples taken Quarterly 2011 <0.088 - 5.6 ppb	N	Stage 1 Location Running Annual Average 2.88 ppb	Stage 2 Taken 2010 Bldg 18220 12 ppb	80 ppb	NA	By-product of drinking water chlorination
Total Haloacetic Acids Bldg 36010	Samples taken Quarterly 2011 <2.50 - 7.34 ppb	N	Stage 1 Location Running Annual Average 5.01 ppb	Stage 2 Taken 2010 Bldg 18220 13.6	60 ppb	NA	By-product of drinking water chlorination
Radionuclides							
Alpha emitters	BY ADEC Request 7/9/09	N	Highest level reported 1.1 pCi/L Range 0.0-1.1 pCi/L	Tested by JBER/R	15 pCi/L	0	Erosion of natural deposits
Beta/photon emitters	BY ADEC Request 7/9/09	N	Highest level reported 3.7 mrem/yr Range 0.0 - 3.7 mrem/yr	Tested by JBER/R	4 mrem/yr	0	Decay of natural and man-made deposits
Combined radium (226, 228)	7/9/09	N	Highest level reported 1.3 pCi/L Range 0.4 - 1.3 pCi/L	Tested by JBER/R	5 pCi/L	0	Erosion of natural deposits

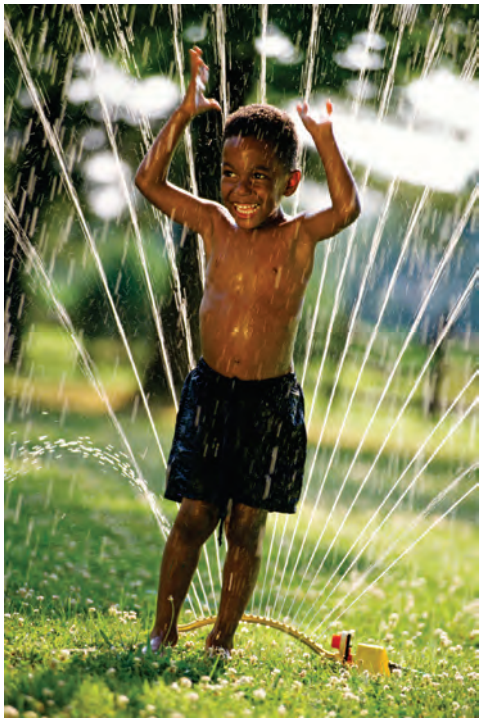
[1] Samples were obtained from numerous locations, the 90th percentile for lead and copper were below EPA actions levels (AL). For a complete list of sites contact Jennifer Glanville at 907-384-7790 or Kathleen Hook at 907-455-1540

Water Quality

JBER routinely takes weekly water quality samples as well as additional samples during every line break. Be assured that Bioenvironmental Engineering and Doyon Utilities make every effort to ensure that the water provided to JBER is safe for consumption and that 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.



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. 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 2011. All the substances we found were present in quantities less than the EPA's limits for safe drinking water.

If you would like to view a complete listing of test results, please call Jennifer Glanville at 907-384-7790 or Kathleen Hook at 907-455-1540.

take over. CEG provides distribution system oversight, while Bioenvironmental Engineering monitors water quality. This includes additional testing of the system for bacteriological contamination, with each major loop and/or population area sampled at least once per month. Additionally, several select chemical contaminants are re-sampled to verify results seen on JBER-Richardson, as required by the State of Alaska. The results of Bioenvironmental Engineering's samples, in conjunction with those obtained by Doyon Utilities, are used to ensure base wide water quality.

In order to ensure long term reliability of the water source, we have conducted assessment studies to determine areas where we need to focus our resources. As a result of those condition assessments, we have initiated a comprehensive repair project of the water system with the overarching goal of improving the quality of your water. Our water treatment plant received continuous oversight of the drinking water it produces. The quality of water you drink is superb and our standards will not be compromised. Testing results from 2011 are included in this report and from the data, 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. 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 preparation and publication of this annual Consumer Confidence Report and welcome any suggestions on how to make it more informative in the future. As a side note, we encourage you to use the water you need but don't needlessly use water. Conservation of any resource is important and we ask you to do your part in this effort.

Doyon Utilities' water treatment operators discussing treatment at the plant.

Just for kids!

P	M	A	E	R	T	S	B	G	T
X	O	B	F	L	A	K	E	H	R
W	T	L	I	D	J	O	Q	T	E
P	A	X	L	L	L	E	W	L	A
I	N	T	T	U	G	V	P	U	T
P	F	O	E	Y	T	D	W	C	M
E	V	S	R	R	A	I	M	K	E
S	T	R	Z	B	N	P	O	Y	N
N	E	F	A	S	K	W	A	N	T

Find and circle these words!

STREAM
FILTER
PIPES
SAFE
WATER
WELL
TREATMENT
TANK
POLLUTION
LAKE