DEPARTMENT OF THE NAVY
JOINT BASE ANACOSTIA- BOLLING
20 MACDILL BLVD. SUITE 300
WASHINGTON, D.C. 20032-7711

5090
Ser J44/079
27 June 2018

From: Commanding Officer, Joint Base Anacostia-Bolling
To: Commanders/Directors of Tenant Organizations

Subj: 2017 ANNUAL DRINKING WATER QUALITY REPORT

Encl: (1) 2017 Annual Drinking Water Quality Report for Joint Base Anacostia-Bolling (JBAB)

1. In accordance with federal drinking water regulations, JBAB is providing you with the 2017 Annual Drinking Water Quality Report for Public Water System ID DC0000004, enclosure (1).

2. This routine report is required by law, and is being provided to ensure that you have all of the information regarding the quality of your drinking water. This is not being sent in response to a health threat.

3. The 2017 Annual Drinking Water Quality Report for JBAB, enclosure (1), provides information regarding drinking water monitoring conducted throughout calendar year (CY) 2017.

4. If you have any questions regarding the quality of your drinking water, contact the JBAB Drinking Water Program Manager at 202-404-1273.

J. L. RODRIGUEZ

2017 ANNUAL DRINKING WATER QUALITY REPORT

JOINT BASE ANACOSTIA-BOLLING (JBAB) PUBLIC WATER SYSTEM (PWS) #DC0000004

Sources of Drinking Water

JBAB distributes drinking water to residential and non-residential buildings on the installation. This water is supplied to JBAB by The District of Columbia Water and Sewer Authority (DC Water). DC Water purchases the water from the US Army Corps of Engineers, Washington Aqueduct who treats the water by removing impurities and adding a disinfectant to control microorganism levels. DC Water conducts water quality monitoring throughout the city to ensure that the water delivered throughout the District meets Federal drinking water quality standards; for more information on DC Water please visit their website at https://www.dcwater.com/waterquality. Routine sampling and monitoring activities at JBAB are done by the Environmental Group in the Public Works Department (PWD). Those monitoring results are contained in Tables 1 and 2 of this report.

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. 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.
- **Pesticides and Herbicides,** which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- **Inorganic Contaminants**, such as salts and metals, which can be naturally occurring or result from urban stormwater runoff, industrial, or domestic wastewater discharges, oil and gas production, mining, or farming.
- **Organic Chemical Contaminants,** including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- **Radioactive Contaminants,** which can be naturally-occurring or be the result of oil and gas production and mining activities.

Important Health Information

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. The Environmental Protection Agency (EPA) and Centers for Disease Control and Prevention (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 at (800) 426–4791.

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 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 (800-426-4791).

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

***Cryptosporidium* -** *Cryptosporidium* was monitored by the Washington Aqueduct in the Potomac River monthly and was detected in 6 samples with a concentration ranging from 0.093 to 0.279 oocysts per liter in January, February, May, and October of 2017. *Cryptosporidium* is a microbial pathogen found in most surface water in the U.S. Once *Cryptosporidium* is detected in the source water, Washington Aqueduct is required to ensure that their drinking water treatment system is adequate to control *Cryptosporidium*. Giardia was also monitored in the source water monthly in 2017. Giardia cysts were detected in seventeen samples with a concentration ranging from 0.093 to 1.02 cysts/L in every month of 2017. Giardia is effectively removed through the treatment process.

Ingesting *Cryptosporidium* may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. *Cryptosporidium* must be ingested to cause disease, and it may be spread through means other than drinking water. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people are at greater risk of developing a life-threatening illness. JBAB encourages immuno-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection.

Lead - 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. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 2 minutes before using water for drinking or cooking. JBAB met EPA standards for lead in 2017 (see Tables 1& 2). If you are concerned about lead in your water, please contact JBAB's Environmental Drinking Water Program Manager at 202-404-1273. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (1-800-426-4791) or at http://www.epa.gov/safewater/lead.

Coliforms - Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that the potential pathway exists through which contamination may enter the drinking water distribution system. We found coliform indicating the need to look for potential problems in the water treatment or distribution. When this occurs, we are required to conduct assessments to identify problems and to correct any problems that were found during these assessments.

Level 1 and Level 2 Assessments

Level 1 Assessment:

The Level 1 assessment is a basic examination of the source water, treatment, distribution system and relevant operational practices. It is primarily based on reviews of existing data and system records. If warranted, the Level 1 assessment may include onsite inspections and/or interviews with sample collectors, distribution system managers and/or other employees. The purpose of performing a Level 1 assessment is to enhance public health protection by identifying the presence of sanitary defects and correcting all such defects identified (40 CFR 141.859(b)(1)).

During the past year we were required to conduct 1 Level 1 assessment. 1 assessment was completed. In addition, we were required to take 1 corrective action and we completed 1 of these actions.

Level 2 Assessment:

The Level 2 assessment is a detailed examination of the system, its operational practices, and its monitoring programs and results. It includes the same elements as a Level 1 assessment but each element is investigated in greater detail because the incidents that trigger the Level 2 assessment are more likely to impact public health. If warranted, the Level 2 assessment should include additional water quality monitoring, onsite inspections, interviews with sample collectors, distribution system managers, other employees, and/or customers; and/or consultations with experts. The purpose of performing a Level 2 assessment is to enhance public health protection by identifying the presence of sanitary defects and correcting all such defects identified (40 CFR 141.859(b)(1)).

During the past year we were required to conduct one Level 2 assessment and we failed to correct all identified defects that were found during the Level 2 Assessment as of now. One assessment was completed. In addition, we were required to take 9 corrective actions and we completed 3 of these actions. There is an ongoing effort to finish correcting the identified issues.

Any system that has failed to complete all the required assessments or correct all identified sanitary defects, is in violation of the treatment technique.

<u>Maintaining High Water Quality in residential and non-residential buildings</u>

What is the difference between building pipes and distribution mains?

Building pipes and distribution mains both move water. The difference is how fast the water is moving. Distribution mains typically have high water velocities that keep water fresh because of the continuous demand on the system. However, once the water leaves the main and enters a customer's service line, the water only turns over as fast as consumers use it. Water in buildings has the tendency to stagnate during off-work hours or vacation times.

Buildings also tend to keep water warmer, which can deteriorate water quality and at times create taste and odor issues. JBAB is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components.

What can I do to improve water quality?

As a tenant, you play a larger role in enhancing the water quality within the building. Here are a few actions that can be taken to prevent water quality degradation and even contamination.

- **Flush Lines After Extended Periods of Stagnation** - Often buildings will shut down over weekends and holidays. Following extended days of water stagnation, flush a tap at the furthest end of the building from where the water originates on each floor for 15 minutes. In addition, flush each frequently used fountain/tap for 2 minutes.

- **Maintain Water Fountains** - Many fountains have filters that remove chlorine taste, reduce byproducts of chlorine, and reduce sediments and particulate metals such as lead, copper, and iron which can leach from in-house plumbing. However, without routine maintenance and changing of these filters as recommended by the manufacturer, water quality will diminish considerably. Carbon filters that are not changed will eventually accumulate enough nutrients for bacteria to grow. As bacteria activity increases, their byproducts can reduce water quality. Another common water filter is a sediment filter. If these filters are not routinely changed they will begin to accumulate excessive amounts of metals which may eventually break through the filter or leach into the water during times of excessive stagnation, which may be considered any period greater than six (6) hours without water use.

- **Clean Strainers/Aerators** - Periodically remove and clean the strainer/ aerator device on faucets in the building to remove debris.

- **Keep Water Coolers Clean** - Many buildings purchase bottled water coolers for drinking water purposes. Unlike tap water, the water provided in these coolers contains no disinfectant and therefore provides the potential for bacterial growth in the cooler dispenser. Coolers must be routinely cleaned as prescribed by the manufacturer.

Water Conservation. For information on what you can do to conserve water, please visit www.epa.gov/watersense.

Este reporte contiene información importante sobre el agua potable que usted consume. Para obtener una traducción del reporte, por favor comuníquese con la Oficina de Asuntos Públicos al (202) 404-8863. Si necesita la asistencia de un traductor con respecto a información sobre DC Water, favor de contactar DC Water Asistencia al Cliente al (202) 354-3600 (8am a 5pm, Lunes a Viernes).

Table 1. 2017 JBAB-Anacostia Water Quality Data Table

The table below lists all of the drinking water contaminants detected that are applicable for the calendar year of this report.

Microbial Indicators

	Units	EPA Limits		JBAB-Anacostia Drinking Water		Violations	Description/Typical Sources of Contaminants
		MCLG	MCL or TT	Highest	Range		
Total Coliform Bacteria	# of positive samples	0	1 positive sample/month	2*	0-2	No	Naturally present in the environment
E. coli Bacteria	Number Positive	0	0	0	0-0	No	Human and animal fecal waste

*The positive hit was resampled at the original location, upstream, and downstream. Some resample results came back positive for TC.
For a system that collects fewer than 40 samples/month, if two or more samples during the month are positive, the system has a MCL violation for total coliform.

Disinfectants

	Units	EPA Limits		JBAB-Anacostia Drinking Water		Violations	Description/Typical Sources of Contaminants
		MRDLG	MRDL	Highest Annual Average	Range		
Chlorine	ppm	4 running annual average	4.0 running annual average	2.2	0.00-3.60* (range of single site results)	No	Water additives that protects against microbial contamination. Chlorine is combined with ammonia to form chloramine.

*Any time the residual chlorine samples did not contain the minimum chlorine concentration of 0.10 mg/L a heterotrophic plate count (HPC) sample was collected and analyzed. HPC monitoring that is less than 500 colony forming units (CFU) or Most Probable Number (MPN) per mL is considered to have a detectable chlorine residual. All the samples that did not contain the minimum chlorine concentration did have less than 500 CFUs when the HPC sample was analyzed and therefore had a detectable level of chlorine.

Disinfection byproducts

	Units	EPA Limits		JBAB-Anacostia Drinking Water		Violations	Description/Typical Sources of Contaminants
		MCLG	MCL or TT	Highest Annual Average	Range		
Total Trihalomethanes	ppb	N/A	80	49	19-75 (range of single site results)	No	Trihalomethanes are a byproduct of drinking water disinfection
Haloacetic Acids	ppb	N/a	60	35	18-48 (range of single site results)	No	Haloacetic acids are a byproduct of drinking water disinfection

Asbestos

	Units	EPA Limits		JBAB-Anacostia Drinking Water		Violations	Description/Typical Sources of Contaminants
		MCLG	MCL or TT	Average	Range		
Asbestos	MFL	7	7	<0.726	<0.726	No	Decay of asbestos cement water mains; erosion of natural deposits

Asbestos result is from 2017 monitoring year, which is the most recent sampling completed in accordance with Federal regulations. The next asbestos required monitoring period is in 2020.

Nitrite and Nitrate							
	Units	EPA Limits		JBAB-Anacostia Drinking Water		Violations	Description/Typical Sources of Contaminants
		MCLG	MCL or TT	Average	Range		
Nitrite	ppm	1	1	<.20	ND (0.10-0.20)	No	Runoff from fertilizer use; erosion from natural deposits
Nitrate	ppm	10	10	1.7	1.6 to 1.7	No	Runoff from fertilizer use; erosion from natural deposits
Nitrite sampling is conducted in July, while Nitrate sampling is conducted January.							

Lead and Copper							
	Units	EPA Limits		JBAB-Anacostia Drinking Water		Violations	Description/Typical Sources of Contaminants
		MCLG	Action Level (AL)	Samples Above AL	Range and 90th Percentile		
Lead- Monitoring Period June to Sept 2015	ppb	0	15	0	ND to 6.6 90th percentile is 1.4	No	Corrosion of household plumbing systems; erosion of natural deposits
Copper- Monitoring period June to Sept 2015	ppm	1.3	1.3	0	0.0088 to 0.46 90th percentile is 0.34	No	Corrosion of household plumbing systems; erosion of natural deposits
Lead and Copper results are from June to September 2015 monitoring period, which is the most recent sampling completed in accordance with Federal regulations. The next required sampling will occur in 2018.							

Data Table Key: Unit Descriptions

AL	Action Level
MCL	Maximum Contaminant Level
MCLG	Maximum Contaminant Level Goal
MRDL	Maximum Residential Disinfectant Level
MRDLG	Maximum Residential Disinfectant Level Goal
TT	Treatment Technique
ppb	Parts per billion
ppm	Parts per million

Table 2. 2017 JBAB-Bolling Water Quality Data Table

The table below lists all of the drinking water contaminants detected that are applicable for the calendar year of this report.

Microbial Indicators

	Units	EPA Limits		JBAB-Bolling Drinking Water		Violations	Description/Typical Sources of Contaminants
		MCLG	MCL or TT	Highest	Range		
Total Coliform Bacteria	# of positive samples	0	1 positive sample/month	10*	0-10	No	Naturally present in the environment
E. coli Bacteria	Number Positive	0	0	0	0-0	No	Human and animal fecal waste

*The positive hit was resampled at the original location, upstream, and downstream. Some resample results came back positive for TC.
For a system that collects fewer than 40 samples/month, if two or more samples during the month are positive, the system has a MCL violation for total coliform.

Disinfectants

	Units	EPA Limits		JBAB-Bolling Drinking Water		Violations	Description/Typical Sources of Contaminants
		MRDLG	MRDL	Highest Annual Average	Range		
Chlorine	ppm	4 running annual average	4.0 running annual average	1.7	0.00-3.50 (range of single site results)	No	Water additives that protects against microbial contamination. Chlorine is combined with ammonia to form chloramine.

*Any time the residual chlorine samples did not contain the minimum chlorine concentration of 0.10 mg/L a heterotrophic plate count (HPC) sample was collected and analyzed. HPC monitoring that is less than 500 colony forming units (CFU) or Most Probable Number (MPN) per mL is considered to have a detectable chlorine residual. All the samples that did not contain the minimum chlorine concentration did have less than 500 CFUs when the HPC sample was analyzed and therefore had a detectable level of chlorine.

Disinfection byproducts

	Units	EPA Limits		JBAB-Bolling Drinking Water		Violations	Description/Typical Sources of Contaminants
		MCLG	MCL or TT	Highest Annual Average	Range		
Total Trihalomethanes	ppb	N/A	80	50	22 to 75 (range of single site results)	No	Trihalomethanes are a byproduct of drinking water disinfection
Haloacetic Acids	ppb	N/a	60	38	2 to 51 (range of single site results)	No	Haloacetic acids are a byproduct of drinking water disinfection

Asbestos

	Units	EPA Limits		JBAB-Bolling Drinking Water		Violations	Description/Typical Sources of Contaminants
		MCLG	MCL or TT	Average	Range		
Asbestos	MFL	7	7	<0.694	<0.694	No	Decay of asbestos cement water mains; erosion of natural deposits

Asbestos result is from 2011 monitoring year, which is the most recent sampling completed in accordance with Federal regulations. The next asbestos required monitoring period is in 2020.

Nitrite and Nitrate							
	Units	EPA Limits		JBAB-Bolling Drinking Water		Violations	Description/Typical Sources of Contaminants
		MCLG	MCL or TT	Average	Range		
Nitrite	ppm	1	1	0.24	0.06 to 0.42	No	Runoff from fertilizer use; erosion from natural deposits
Nitrate	ppm	10	10	1.77	1.5 to 2.3	No	Runoff from fertilizer use; erosion from natural deposits
Nitrite sampling is conducted in August, while Nitrate sampling is conducted November.							

Lead and Copper							
	Units	EPA Limits		JBAB-Bolling Drinking Water		Violations	Description/Typical Sources of Contaminants
		MCLG	Action Level (AL)	Samples Above AL	Range and 90th Percentile		
Lead- Monitoring Period June to Sept 2015	ppb	0	15	0	ND to <2 90th percentile is ND	No	Corrosion of household plumbing systems; erosion of natural deposits
Copper- Monitoring period June to Sept 2015	ppm	1.3	1.3	0	ND to 0.279 90th percentile is 0.137	No	Corrosion of household plumbing systems; erosion of natural deposits
Lead and Copper results are from June to September 2015 monitoring period, which is the most recent sampling completed in accordance with Federal regulations. The next required sampling will occur in 2018.							

Data Table Key: Unit Descriptions

AL	Action Level
MCL	Maximum Contaminant Level
MCLG	Maximum Contaminant Level Goal
MRDL	Maximum Residential Disinfectant Level
MRDLG	Maximum Residential Disinfectant Level Goal
TT	Treatment Technique
ppb	Parts per billion
ppm	Parts per million

Important Drinking Water Definitions

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.
MCL	This highest level of contaminant that is allowed in drinking water. MCLs are set as close as feasible using the best available treatment technology.
TT	A required process intended to reduce the level of contaminant in drinking water.
AL	The concentration of a contaminant, which, if exceeded triggers treatment or other requirements which a water systems must follow.
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 the disinfectants to control microbial contaminants.
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.

For More Information Please Contact:
JBAB Drinking Water Program Manager
370 Brookley Avenue SW, Washington, DC 20032
Phone: 202-404-1273