Drinking Water Quality Annual Report (2014)

Yokota Air Base & Tama Hills

Published: June 2015

この年次報告書には横田基地の飲料水の水質についての重要な情報が記載されいています。 英語のわかる方に内容を翻訳、又は説明してもらうようにして下さい。 このレポートに関するご質問等は、第 374 航空医学中隊生物環境工学課(担当:助川)、内線 225-8040 までご連絡下さい。

This annual report summarizes the quality of water delivered by Yokota Air Base, Japan. Under the "Consumer Confidence Reporting Rule" of the federal Safe Drinking Water Act (SDWA), community water systems are required to report this water quality information to the consuming public. Presented in this report is information on the source of our water, its constituents and the health risks associated with any contaminants. This report is designed to strengthen public understanding about the safety of their public water systems; technical language included is required by the Environmental Protection Agency (EPA). The drinking water systems at Yokota Air Base and Tama Hills are safe and reliable.

Where does our water come from?

- **Yokota**: The primary Yokota AB water supply system consists of eight deep ground water wells on the installation*. These sources provide water to five different treatment and distribution plants within three distinct areas on the base (East, Main, West). Chlorination of the water occurs at these plants. The approximate population served on Yokota AB is 11,000 people. The water supply, pumped from wells with an average of 2.1 million gallons per day, is then sent to the on-base treatment plants for chlorination and then pumped to elevated storage tanks prior to entering the distribution system..

  Yokota AB also maintains connections to **Musashi-Murayama and **Fussa** cities used for **emergency situations only**. Purchased water sources are treated at **Ozaku** and **Fussa-Musashinodai** treatment plants and water monitoring is adjusted to accommodate the change in water sources.*

- **Tama**: The water supply system at Tama Hills Recreational Annex consists of two wells within the annex. Chlorination of the water occurs at two water treatment plants. The Tama Hills water system serves approximately 200 transient personnel.

How pure is our water?

Drinking water sources (both tap 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 other substances from animal or human activity. Contaminants that may be present in source water include:

- ***Microbial contaminants***: Viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

- ***Inorganic contaminant:*** 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.

- ***Pesticides and herbicides***: May come from agriculture, urban stormwater runoff, and residential uses.
- ***Organic chemical contaminants***: Including synthetic and volatile organics, which are by-products of industrial processes and petroleum production, and can come from gas stations, urban stormwater runoff, and septic systems.
- ***Radioactive Contaminants:*** Can be naturally-occurring or the result of oil/gas production and mining activities.

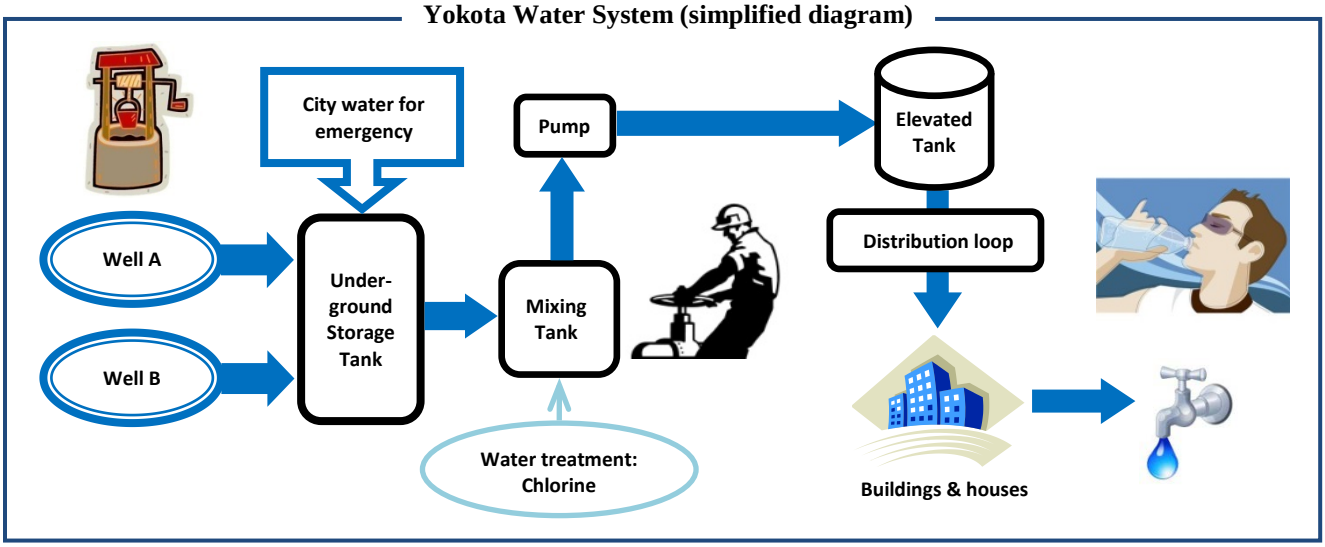
Who ensures our water's safety and quality?

- The 374th Civil Engineer Squadron (CES) manages the maintenance and operations of the drinking water supply and distribution system. CES Utilities personnel operate 24 hours to maintain sufficient pressurization, chlorination, and fluoridation.
- The 374th Aerospace Medicine Squadron (AMDS) Bioenvironmental Engineering (BE) Flight monitors the quality of the drinking water provided to consumers and addresses any health related concerns. Analysis is conducted by EPA-certified laboratories.

How is our water treated?

Water is treated at the plant before it is sent to the distribution system. The treatment method is chlorination for disinfection. BE monitors the levels of chlorine, fluoride, and presence of bacteria at the distribution sites weekly at Yokota and monthly at Tama. BE contacts the CES Utilities shop when adjustments are needed.

Yokota Water System (simplified diagram)



How our water is monitored?

- Yokota BE routinely monitors for over 170 contaminants using EPA-certified laboratories and approved methods in accordance with Japan Environmental Governing Standards (JEGS) and EPA regulations.

Microbial contaminants: Sampling is conducted every week at distribution points (such as child care facilities, elementary schools, youth center and the hospital), the analysis includes chlorine and pH levels and coliform testing. Coliforms are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present. Tests for both total and fecal coliforms have been negative in Yokota's water.

- ***Other contaminants* (*inorganic, pesticides & herbicides, organic chemical and radioactive*)**: Are monitored on a different frequency respectively. Some contaminants are only monitored every 4 years and for those, the recent sampling results are listed in the attached table. The contaminants listed in the table were the only contaminants detected in our drinking water.

- As of May 2014, fluoride injections resumed to the drinking water system at Yokota Air Base, thus weekly monitoring has been implemented. BE also monitors fluoride levels as an inorganic parameter every 3 years.

- **Table 1 (Yokota Water System)** and **Table 2 (Tama Water System)** shown in **Attachment 1** summarize the monitoring results for the period of January 1 to December 31, 2014 (including detected contaminants from last monitoring period due to monitoring frequency).

Potential Health Effects & Risk

- Although our water is safe to drink and meets all water quality standards, some individuals are more susceptible to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer and 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. These people should seek advice about drinking water from their health care providers.

- About "Lead in Drinking Water": 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. 374 CES Utilities is 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.** BE monitors lead and copper in housing every three years. **All test results are acceptable by JEGS and EPA water quality standards.** If you are concerned about lead levels in your home's water, please contact BE at DSN 225-8040. 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.

- *For further information regarding contaminants and potential health effects, contact the EPA's Safe Drinking Water Hotline at* ***1-800-426-4791*** **or please visit EPA website at:** http://www.epa.gov/safewater/index.html

Customer Views Welcome!!

Although Yokota AB does not hold public meetings on its distribution systems, we're available to address any questions or concerns you may have.

- **Any Water Concerns?**
  - Military housing residents: Contact CES Family Housing Office, at DSN 225-9258.
  - Dorm residents: Contact your building manager.
  - Water treatment and distribution: Contact CES Utility Office, at DSN 225-7089

For more information on this report or drinking water quality,
Please contact 374 AMDS/SGPB, Bioenvironmental Engineering (BE) Flight at DSN 225-8040

Attachment 1

Table 1: 2014 Yokota AB Water System Detected Contaminants

Substances	Violation? Yes / No	Units	Detected Level		MCLG	MCL	Likely Source of Contamination
			High	Low		EPA (JEGS)	
Inorganic Chemicals							
(Annual sampling: Performed during Apr ~ Jun 14)							
Total Nitrate and Nitrite	**No**	ppm	2.6	0.69	10	10 (10)	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Nitrate	**No**	ppm	2.6	0.69	10	10 (10)	
Nitrite	**No**	ppm	0.03	ND	1	1 (1)	
(Once every 3 years sampling: Performed during Mar ~ May 12)							
Barium	**No**	ppm	0.0035	0.0023	2	2 (2)	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Fluoride	**No**	ppm	1.1	0.4	4	4 (4)	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Sodium	**No**	ppm	18	13	N/A	N/A (200)	Erosion of natural deposits
Volatile Organic Chemicals (Quarterly or *Annual sampling: performed during Jan ~ Dec 14)							
1,1-Dichloroethylene	**No**	ppb	0.7	ND	7	7 (7)	Discharge from industrial chemical factories
Tetrachloroethylene	**No**	ppb	2.1	ND	5	5 (5)	Discharge from factories and dry cleaners
***Total Trihalome-thanes (TTHM)**	**No**	ppb	3.8	ND	N/A	80 (80)	By-product of drinking water disinfection
Radioactive Particles (Once every 4 years sampling: performed during Jan ~ Dec 13)							
Combined Radium	**No**	pCi/L	1.87	ND	5	5 (5)	Erosion of natural deposits
Gross Alpha	**No**	pCi/L	2.8	ND	15	15 (15)	
Uranium	**No**	pCi/L	0.25	0.01	20.1	20.1 (20.1)	

Table 2: 2014 Tama Hills Water System Detected Contaminants

Substances	Violation? Yes / No	Units	Detected Level		MCLG	MCL	Likely Source of Contamination
			High	Low		EPA (JEGS)	
Inorganic Chemicals							
(Annual sampling: Performed during Apr ~ Jun 14)							
Total Nitrate and Nitrite	**No**	ppm	0.75	0.09	10	10 (10)	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Nitrate	**No**	ppm	0.75	0.07	10	10 (10)	
Nitrite	**No**	ppm	0.02	0.02	1	1 (1)	
(Once every 3 years sampling: Performed during Mar ~ May 12)							
Barium	**No**	ppm	0.0045	ND	2	2 (2)	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Sodium	**No**	ppm	9.1	ND	N/A	N/A (200)	Erosion of natural deposits
Volatile Organic Chemicals (Annual sampling: performed during July ~ Sep 14)							
Total Trihalome-thanes (TTHM)	**No**	ppb	13.7	ND	80	80 (80)	By-product of drinking water disinfection
Haloacetic Acids (HAA5)	**No**	ppb	1.1	ND	60	60 (60)	
Radioactive Particles (once every 4 years sampling: performed during Jan ~ Dec 13)							
Combined Radium	**No**	pCi/L	1.78	ND	5	5 (5)	Erosion of natural deposits
Gross Alpha	**No**	pCi/L	1.05	ND	15	15 (15)	
Uranium	**No**	pCi/L	0.25	0.01	20.1	20.1 (20.1)	

Attachment 1

- Terms Defined -

EPA - United States Environmental Protection Agency

JEGS - Japan Environmental Governing Standards

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 expected health risk. MCLGs allow for a margin of safety.

N/A - Not applicable, No MCL established

ND - Means not detected and indicates that the substance was not found by laboratory analysis.

Parts per million (ppm) - One ppm corresponds to 1 minute in 2 years, or a single penny in $10,000.

Parts per billion (ppb) - One ppb corresponds to 1 minute in 2,000 years, or a single penny in $10,000,000.

Picocuries per liter (pCi/L) - Picocuries per liter is a measure of radioactivity in water.