



Drinking Water Quality Annual Report

Yokota Air Base & Tama Hills, 2011



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 further public understanding about public water systems and potential hazards across the country; technical language included is required by the Environmental Protection Agency (EPA). Our goal is to provide you with a safe and dependable supply of drinking water.

Where does our water come from?

- **Yokota:** The Yokota AB water supply system consists of 12 ground water wells (9 currently used for production) and two purchased water sources. These sources provide water to five different treatment and distribution plants within three distinct areas on the base. Chlorination and fluoridation of the water occurs at these plants. The approximate population served on Yokota AB is 11,800 people. The main water sources are the deep ground water wells on the installation and approximately 10% (seasonal fluctuations) supplied from the local off base water plant at *Musashi-Murayama*. Water from *Fussa City* is also available, but is only used for emergency situations. Water supply pumped from wells with an average of 2.0 million gallons per day is mixed with purchased water initially to one of the underground reservoirs. The water is then sent to the treatment plant for chlorination and fluoridation and then pumped to elevated storage tanks prior to the distribution system.



- **Tama:** The water supply system at Tama Hills Recreational Annex consists of two wells within the annex. Chlorination of the water occurs at the wellheads. The Tama Hills water system currently serves approximately 100 transient personnel.

How pure is our water?

The sources of drinking water (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 in some cases, radioactive material, and can pick up substances resulting from the presence of animals or 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 stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- ◆ **Pesticides and herbicides**, which 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**, which can be naturally-occurring or the result of oil/gas production and mining activities.

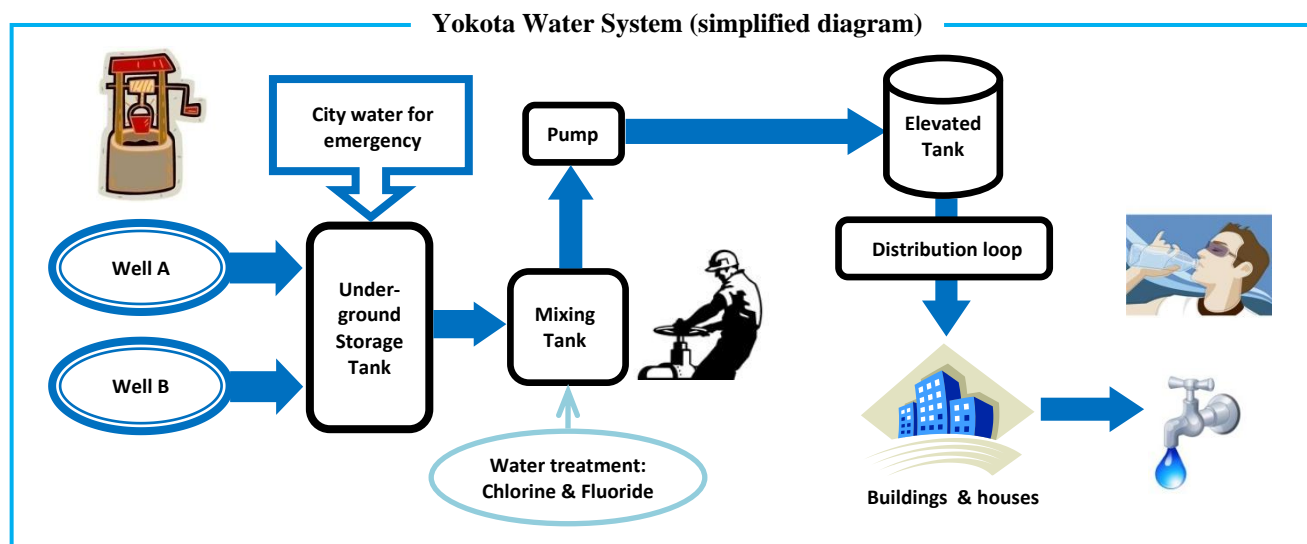
Who ensures our water's safety and quality?



- The 374th Civil Engineer Squadron (CES) manages the maintenance and operations of the drinking water supply and distribution system. CES Utility personnel operate on 24 hr work shifts to ensure the system is pressurized and maintains sufficient chlorine residual.
- 374th Aerospace Medicine Squadron, Bioenvironmental Engineering Flight (BEF) 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?

Your water is treated at the plant before it is sent to the distribution system. Our water treatment includes: chlorination (for disinfection) and fluoridation (adding fluoride for dental health). BEF monitors the levels of both chlorine and fluoride at the distribution sites weekly at Yokota and monthly at Tama. BEF contacts the CES Utility shop when a chlorine or fluoride adjustment is needed.



How our water is monitored?

- Yokota BEF routinely monitors for over 170 contaminants using EPA-certified laboratories and approved methods in accordance with Japan Environmental Governing Standards (JEGS) and Environmental Protection Agency (EPA).
- **Microbial contaminants** sampling is conducted every week at distribution points (such as child care, elementary school, youth center and the hospital), to include analysis for the levels of chlorine and fluoride in the water. There were no positive bacteriological samples in 2011.

- **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 last sampling results are listed. The contaminants listed in the table were the only primary contaminants detected in our drinking water. During Operation TOMODACHI, drinking water was monitored for radioactive contaminants. Results show no elevated radiation levels after March 2011.

■ **Tables 1 and 2** shown in attachment summarize the monitoring results for the period of January 1 to December 31, 2011.

Potential Health Effects & Risk

- About “Lead in Drinking Water”: Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in your community as a result of materials used in your home’s plumbing; the most common cause being corrosion of lead pipes and solder. BEF monitors lead and copper in housing annually. All test results have met EPA and JEGS drinking water requirements. If you are concerned about lead levels in your home’s water, please contact BEF at 225-8040. Additional information about lead in drinking water is available from the EPA’s Safe Drinking Water Hotline at 1-800-426-4791 or website at:

<http://www.epa.gov/safewater/lead/lead1.html>

- *On 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 225-9258.
- Dorm residents: Contact your building manager.

For more information on this report or base drinking water quality, please contact 374 AMDS/SGPB, Bioenvironmental Engineering Flight at DSN 225-8040.

Attachment

We are pleased to announce that our drinking water meets all JEGS and EPA requirements!

Table 1: 2011 Yokota AB Water Monitoring Data

Substances	Violation? Yes / No	Units	Detected Level		MCLG	MCL	Likely Source of Contamination
			High	Low		EPA (JEGS)	
Inorganic Chemicals (Annually Sampling : Performed during Mar ~ May 11)							
Barium	No	ppm	0.0044	0.0024	2	2 (2)	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Fluoride	No	ppm	0.7	0.3	4	4 (4)	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Nitrate	No	ppm	3.5	2.1	10	10 (10)	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural
Total Nitrate and Nitrite	No	ppm	3.7	2.1	10	10 (10)	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural
Sodium	No	ppm	18	13	N/A	N/A (200)	Erosion of natural deposits
Volatile Organic Chemicals (Quarterly sampling : performed during Jan ~ Dec 11)							
1,1-Dichloroethane	No	ppb	0.7	ND	5	5 (N/A)	Discharge from industrial chemical factories
1,1-Dichloroethylene	No	ppb	0.9	ND	7	7 (7)	Discharge from industrial chemical factories
Tetrachloroethylene	No	ppb	0.6	ND	5	5 (5)	Discharge from factories and dry cleaners
Total Trihalomethanes	No	ppb	6.1	ND	N/A	80 (80)	By-product of drinking water chlorination
Radioactive Particles (Every 4 years sampling: performed in Oct 2009) *This was the most recent EPA mandated sampling.							
Gross Alpha	No	pCi/L	1.8±1.0	-0.19±1.35	15	15 (15)	Erosion of Natural Deposits
Combined Radium	No	pCi/L	1.21±0.66	0.2±0.55	5	5 (5)	Erosion of Natural Deposits

Table 2: 2011 Tama Hills Water Monitoring Data

Substances	Violation? Yes / No	Units	Detected Level		MCLG	MCL	Likely Source of Contamination
			High	Low		EPA (JEGS)	
Inorganic (Annually sampling : Performed during Mar ~ May 11)							
Barium	No	ppm	0.0044	ND	2	2 (2)	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Nitrate	No	ppm	0.99	ND	10	10 (10)	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural
Total Nitrate Nitrite	No	ppm	0.8	ND	10	10 (10)	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural
Sodium	No	ppm	8.8	ND	N/A	N/A (200)	Erosion of natural deposits
Volatile Organic (Quarterly sampling : performed during Jan ~ Dec 11)							
Haloacetic Acids	No	ppb	1.6	ND	N/A	60 (60)	By-product of drinking water chlorination
Total Trihalomethanes	No	ppb	15.4	2.2	N/A	80 (80)	By-product of drinking water chlorination
Xylenes	No	ppm	0.0188	ND	10	10	Discharge from chemical factories
Radioactive Particles (Every 4 years sampling: performed in Oct 09) *This was the most recent EPA mandated sampling.							
Gross Alpha	No	pCi/L	3.6±2.1	-0.17±1.31	0	15 (15)	Erosion of Natural Deposits
Combined Radium	No	pCi/L	1.36±0.6	0.04±0.48	0	5 (5)	Erosion of Natural Deposits

Terms Defined

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.