



Misawa AB Drinking Water Consumer Confidence Report For CY 2010



このレポートには飲料水に関する重要な情報が記載されています。この英文を訳してもらおうか、またはどなたか英語が分かる方にたずねてください。

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1. WHAT IS A CONSUMER CONFIDENCE REPORT (CCR)?

The U.S. Environmental Protection Agency (EPA) requires community water systems to provide annual drinking water quality reports to their customers. These reports, known as consumer confidence reports (CCRs), enable Americans to make practical, knowledgeable decisions about their health and their environment. The Air Force applied this requirement to all its bases (including OCONUS) in AFI 48-144, *Safe Drinking Water Surveillance Program*.

2. WHAT TYPES OF CONTAMINANTS MAY BE IN MY DRINKING WATER?

The United States Environmental Protection Agency (U.S. EPA) requires the following language in all water quality reports for all drinking water systems. Though EPA does not have jurisdiction in Japan, we are providing this same information to you.

a. The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over land surfaces or through the ground it dissolves naturally occurring minerals, radioactive material, and substances resulting from the presence of animal 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, and farming.
- Pesticides and herbicides--may come from a variety of sources such as agriculture, stormwater runoff, and residences.
- Organic chemical contaminants--including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production. Organic chemicals can also come from gas stations, urban stormwater runoff, and septic systems.
- Radioactive contaminants--may be naturally occurring or be the result of oil and gas production and mining activities.

b. In order to ensure tap water is safe to drink, the EPA and the Air Force prescribe regulations limiting the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) and Air Force regulations also establish limits for contaminants in bottled water that must provide the same protection of public health. The Air Force criteria for drinking water systems in Japan are contained in the Japanese Environmental Governing Standards (JECS) and AFI 48-144.

c. 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.

d. Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 drinking water advice from their health care providers.

e. The 35 CES Water Plant is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. Bioenvironmental Engineering is required to sample for lead plumbing contamination in selected, high-risk structures every three years. During the last sample events in 2008 and 2010, all results were below the EPA action level. Despite this, the EPA requires us to include the following information related to 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 30 seconds to 1 minute before using water for drinking or cooking. If you are concerned about lead in your drinking water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at <http://www.epa.gov/safewater/lead/>."

3. IS OUR DRINKING WATER SAFE?

Our water has been and continues to be safe to drink. We receive quality water through a combination of Civil Engineering's constant treatment and maintenance, Bioenvironmental

Engineering Flight’s sampling, analysis, and monitoring, and everyone’s pollution prevention practices.

4. WHERE DOES MISAWA’S DRINKING WATER COME FROM?

Misawa maintains five separate drinking water systems. These systems are located on the Main Base, North Area, Security Hill, and Draughton Range (two systems). Main Base receives water from five ground water wells and Lake Anenuma. The North Area receives its water from four north area ground water wells. The Security Hill area receives its water from two deep wells located at Security Hill. Draughton Range contains two systems: the Air Force Range Office and surrounding buildings receive water from one ground water well, while the gate area receives its water from the City of Misawa through a water storage tank. The City of Misawa receives its water from ground water wells.

5. HOW IS OUR DRINKING WATER TREATED?

Treatment systems are operated in a manner that ensures appropriate chemical concentrations are maintained throughout the distribution system. Table 1 below describes the treatment process for each location on the installation.

Table 1. Water Treatment

LOCATION	System Classification	PROCESS/COMMENTS
Main Base Well Water	Public Water System- Community Water System	Sand sedimentation to remove suspended matter such as sand, dirt, rust, loose scale, clay or organic material from the water.
		Chlorination to disinfect/prevent distribution system contamination
		Fluoridation to prevent cavities in children
Main Base Lake Water	Public Water System- Community Water System	Activated carbon filtration to absorb chemicals
		Coagulation/flocculation/sedimentation to remove algae/large particles
		Sand filter to remove particles
		Chlorination to disinfect/prevent distribution system contamination
North Area Well Water	Public Water System- Community Water System	Fluoridation to prevent cavities in children
		Sand sedimentation to remove suspended matter such as sand, dirt, rust, loose scale, clay or organic material from the water.
		Chlorination to disinfect/prevent distribution system contamination
		Fluoridation to prevent cavities in children
Security Hill Well Water	Public Water System – Non-transient, Non-Community System (NTNC)	Sand sedimentation to remove suspended matter such as sand, dirt, rust, loose scale, clay or organic material from the water.
		Chlorination to disinfect/prevent distribution system contamination
Draughton Range Well Water	Non-Public Water System	Chlorination to disinfect/prevent distribution system contamination
Draughton Range Water Storage Tank (water supplied by Misawa City)	Non-Public Water System	Chlorination to disinfect/prevent distribution system contamination

6. HOW OFTEN IS MISAWA’S DRINKING WATER TESTED?

In compliance with Air Force and EPA regulations, the Bioenvironmental Engineering Flight monitors for more than 100 possible substances in Misawa’s drinking water at differing intervals. Table 2 below identifies the sampling they conduct.

Table 2. Sample Contaminant Groups and Monitoring Frequencies

Contaminant Group	Examples	Monitoring Frequency
Biological Contaminants *	Total coliform, Fecal coliform, pH, Free Available Chlorine	Monthly
Inorganic Contaminants **	Metals, (e.g. lead, copper, selenium, arsenic, mercury, nickel, sodium, etc)	Main Base Lake Water - Annually
		Main Base Well Water - Triannually
		North Area, Security Hill, Triannually
	Nitrate, Nitrite, Total Nitrate and Nitrite	Main Base Lake Water Annually, Quarterly for Total Nitrate and Nitrite
		Main Base Well Water - Annually
		North Area, Security Hill - Annually
	Asbestos	Once every 9 years
Volatile Organic Compounds **	Benzene, Trichloroethylene, Carbon Tetrachloride, etc	Main Base Lake Water - Annually
		Main Base Well Water - Annually
		North Area - Annually
		Security Hill - Annually
Synthetic Organic Compounds **	Pesticides, Herbicides, PCBs	Main Base Lake Water - Quarterly
		Main Base Well Water - Quarterly
		North Area - Triennially
		Security Hill - Triennially
Lead & Copper From Plumbing Materials*	Lead, Copper	Once every 3 years
Radiological Compounds **	Gross Alpha and Beta, Radium 226	4 quarterly samples every 4 years
Disinfectant By-Products*	Trichloromethane, Haloacetic Acids (HAA5)	Main Base - Quarterly
		North Area, Security Hill - Annually

* In the distribution system

** Before distribution system, at the source or tower

7. WHAT IS IN OUR DRINKING WATER?

Misawa’s water meets all the EPA and Air Force health standards. The vast majority of regulated substances were not found in Misawa’s water, and per regulation, this report only provides information on the substances that were detected. To comply with regulation, this report must include the substances detected during the 12-month period from 1 Jan 2010 through 31 Dec 2010. For your convenience, we have included information on all substances detected in the current three-year monitoring period from 2008 – 2010. The contaminants presented in the following tables are organized by the respective water distribution system. The presence of contaminants in the water does not necessarily indicate a health risk.

Table 3. Detected Contaminants for Main Base Lake Water System

Contaminant	MCLG	MCL	Highest Detected Level	Above MCL?	Typical Source
Inorganic Contaminants					
Nitrate-Nitrite (measured as Nitrogen) (mg/L)	10	10	2.85	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrate (mg/L)	10	10	2.8	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Fluoride (mg/L)	4.0	4.0	1.3	No	Water additive which promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories
Barium (mg/L)	2	2	0.0052	No	Discharge of drilling waste; discharge from metal refineries; erosion of natural deposits
Sodium (mg/L)	200	200	28	No	Discharge from mines; discharge from petroleum refineries
Radioactive Contaminants					
Gross Alpha (pCi/L)	None	15	1.60-avg	No	Erosion of natural deposits
Radium-226 (pCi/L)	None	5	0.53-avg	No	Erosion of natural deposits
Corrosivity as Langelier Saturation Index					
Corrosivity (mid-summer)	None	None	-1.41	No	This index is an indicator to control corrosion and the deposition of scale.
Corrosivity (mid-winter)	None	None	-1.59	No	This index is an indicator to control corrosion and the deposition of scale.

Table 4. Detected Contaminants for Main Base Ground Water System

Contaminant	MCLG	MCL	Highest Detected Level	Above MCL?	Typical Source
Inorganic Contaminants					
Nitrate-Nitrite (measured as Nitrogen) (mg/L)	10	10	1.62	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrate (mg/L)	10	10	1.6	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Chromium,total (mg/L)	0.1	0.1	0.0021	No	Discharge from steel and pulp mills; erosion of natural deposits
Fluoride (mg/L)	4.0	4.0	1.1	No	water additive which promotes Strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories
Sodium (mg/L)	200	200	15	No	Discharge from mines; discharge from petroleum refineries
Radioactive Contaminants					
Gross Alpha	None	15	1.58-avg	No	Erosion of natural deposits
Radium-226	None	5	0.58-avg	No	Erosion of natural deposits
Corrosivity as Langelier Saturation Index					
Corrosivity	None	None	-0.8	No	This index is an indicator to control corrosion and the deposition of scale.

Table 5. Detected Contaminants for Main Base Water Distribution System

Contaminant	MCLG	MCL	Highest Detected Level	Above MCL?	Typical Source
Inorganic Contaminants					
Lead (µg /L) * (CY2009)	Zero	AL = 15	1.3	No	Corrosion of household plumbing systems; erosion of natural deposits
Copper (mg/L) * (CY2009)	AL = 1.3	AL = 1.3	0.0470	No	Corrosion of household plumbing systems; erosion of natural deposits
Disinfectant By-products					
TTHMs (Total Trihalomethanes) (µg /L)	None	80	51.4	No	By-product of drinking water disinfection
HAA5 (Haloacetic Acids) (mg/L)	None	1.0	0.0108	No	By-product of drinking water disinfection
Radioactive Contaminants					
Gross Alpha (pCi/L)	None	15	1.7325-avg	No	Erosion of natural deposits
Radium-226 (pCi/L)	None	5	0.9675-avg	No	Erosion of natural deposits
Corrosivity as Langelier Saturation Index					
Corrosivity	None	None	-1.29	No	This index is an indicator to control corrosion and the deposition of scale.

* The established action level (AL) IAW Environmental Protection Agency “Lead and Copper Rule” for triennially monitoring criteria is based on 90th percentile level of tap water samples. The “highest level detected” is the 90th percentile level of tap water sampled.

Table 6. Detected Contaminants for North Area Water System

Contaminant	MCLG	MCL	Highest Detected Level	Above MCL?	Typical Source
Inorganic Contaminants					
Arsenic (mg/L)	0	0.01	0.0024	No	Erosion of natural deposits; runoff from orchards; glass & electronics production wastes
Fluoride (mg/L)	4.0	4.0	0.9	No	Water additive which promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories
Sodium (mg/L)	200	200	11	No	Discharge from mines; discharge from petroleum refineries
Lead (µg /L) * (CY2006)	Zero	AL = 15	0.0013	No	Corrosion of household plumbing systems; erosion of natural deposits
Copper (mg/L) * (CY2006)	AL = 1.3	AL = 1.3	0.0086	No	Corrosion of household plumbing systems; erosion of natural deposits
Radioactive Contaminants					
Gross Alpha (pCi/L)	None	15	1.3125-avg	No	Erosion of natural deposits
Radium-226 (pCi/L)	None	5	0.2900-avg	No	Erosion of natural deposits
Disinfectant By-products					
TTHMs (Total Trihalomethanes) (µg /L)	None	80	5.2	No	By-product of drinking water disinfection
HAA5 (Haloacetic Acids) (mg/L)	None	1.0	0.06	No	By-product of drinking water disinfection
Corrosivity as Langelier Saturation Index					
Corrosivity	None	None	-0.94	No	This index is an indicator to control corrosion and the deposition of scale.

* The established action level (AL) IAW Environmental Protection Agency “Lead and Copper Rule” for triennially monitoring criteria is based on 90th percentile level of tap water samples. The “highest level detected” is the 90th percentile level of tap water sampled.

Table 7. Detected Contaminants for Security Hill Water System

Contaminant	MCLG	MCL	Highest Detected Level	Above MCL?	Typical Source
Inorganic Contaminants					
Fluoride (mg/L)	4.0	4.0	1.0	No	Water additive which promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories
Sodium (mg/L)	200	200	23	No	Discharge from mines; discharge from petroleum refineries
Lead (µg /L) * (CY2006)	Zero	AL = 15	1.38	No	Corrosion of household plumbing systems; erosion of natural deposits
Copper (mg/L) * (CY2006)	AL = 1.3	AL = 1.3	0.05	No	Corrosion of household plumbing systems; erosion of natural deposits
Radioactive Contaminants					
Gross Alpha (pCi/L)	None	15	1.5075-avg	No	Erosion of natural deposits
Radium-226 (pCi/L)	None	5	0.3725-avg	No	Erosion of natural deposits
Disinfectant By-products					
TTHMs (Total Trihalomethanes) (µg /L)	None	80	32.6	No	By-product of drinking water disinfection
HAA5 (Haloacetic Acids) (mg/L)	None	1.0	0.0079	No	By-product of drinking water disinfection
Corrosivity as Langelier Saturation Index					
Corrosivity	None	None	-0.53	No	This index is an indicator to control corrosion and the deposition of scale.

* The established action level (AL) IAW Environmental Protection Agency “Lead and Copper Rule” for triennially monitoring criteria is based on 90th percentile level of tap water samples. The “highest level detected” is the 90th percentile level of tap water sampled.

8. WHERE CAN WE GET MORE INFORMATION?

The Bioenvironmental Engineering Flight, 35 AMDS/SGPB, prepared this CCR. Additional information regarding on-base water quality may be obtained by contacting the Bioenvironmental Engineering Flight at 226-6107. This report is located on the 35 AMDS/SGPB (Bioenvironmental Engineering) website at <https://misawa.eim.pacaf.af.mil/sites/BEF/default.aspx>. You can also access the EPA's drinking water website at <http://www.epa.gov/safewater>.

9. ACRONYMS AND TERMS USED IN THIS REPORT: The table below explains the acronyms, terms, and units of measure used in this CCR:

Table 8. Acronym/Term List

Unit Descriptions	
Term	Definition
mg/L	Milligrams per liter of water (mg/L)
ug/L	Micrograms per liter of water (ug/L)
N/A	Not applicable
None	No established regulatory levels/limits for MCLG or MCL
Important Drinking Water Definitions	
Term	Definition
Action Level	Concentration of a contaminant which triggers treatment or other requirement which a water system must follow.
Avg	Average of concentrations from all samples collected in the year
MCLG	Maximum Contaminant Level Goal: 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	Maximum Contaminant Level: 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.
SDWR	Secondary Drinking Water Regulation: Non-enforceable guidelines regulating contaminants that may cause cosmetic effects (such as skin or tooth discoloration) or aesthetic effects (such as taste, odor, or color) in drinking water. EPA recommends secondary standards to water systems but does not require systems to comply.
Range	The range of the highest and lowest analytical values of a reported contaminant. For example, the range of reported analytical detections for an unregulated contaminant may be 10.1 ppm (lowest value measured in year) to 13.4 ppm (highest value measured in year). EPA requires this range to be reported.
Acronym Explanation	
Acronym	Explanation
ADA	American Dental Association
AB	Air Base
AIDS	Acquired Immune Deficiency Syndrome
CCR	Consumer Confidence Report
EPA	Environmental Protection Agency
HIV	Human Immunodeficiency Virus
JECS	Japanese Environmental Governing Standards
SDWA	Safe Drinking Water Act; Federal law which sets forth drinking water regulations
TCE	Trichloroethylene