Misawa AB, JAPAN
Drinking Water
Consumer Confidence Report (CCR)
2022

`

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。

CONTENTS:

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

Table 1. Acronym/Term List

Unit Descriptions	
Term	Definition
mg/L	Milligrams per liter
ppm	Parts per million
pCi/L	Picocuries per liter
ppt	Parts per trillion

Important Drinking Water Definitions	
Term	Definition
Action Level	Concentration of a contaminant which if exceeded triggers treatment or other requirements which a water system must follow.
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.
MRDL	Maximum Residual Disinfectant Level: 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.
MRDLG	Maximum Residual Disinfectant Level Goal: 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 contaminants.

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.
Treatment Technique	A required process intended to reduce the level of a contaminant in drinking water.

Acronym Explanation	
Acronym	Explanation
AB	Air Base
CCR	Consumer Confidence Report
CDC	Center for Disease Control
CES	Civil Engineering Squadron
DoD	Department of Defense
EPA	Environmental Protection Agency
N/A	Not Applicable
POL	Petroleum, Oils, and Lubricants
USAF	United States Air Force

2. WHAT IS A CCR?

The U.S. Environmental Protection Agency (EPA) and Japan Environmental Governing Standards (JEGS) requires community water systems to provide annual drinking water quality reports to their customers. These reports, known as Consumer Confidence Reports (CCRs), enable people to make practical, knowledgeable decisions about their health and their environment.

3. WHERE DOES MISAWA's DRINKING WATER COME FROM?

The USAF maintains three separate drinking water systems on Misawa AB (Main Base, North Area and Security Hill), and two separate water systems at the Draughon Range (Gate Area and Tower Area). The Main Base receives water from seven ground water wells and Lake Anenuma. The North Area receives its water from four ground water wells. Security Hill receives its water from two deep wells. Draughon 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. The City of Misawa receives its water from ground water wells. Bioenvironmental Engineering conducts water sampling for Air Force owned and operated systems. City water quality is monitored by the City of Misawa.

4. WHAT TYPES OF CONTAMINANTS MAY BE IN MY DRINKING WATER AND WHY?

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 storm water 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, storm water runoff, and residences.
- Organic chemical contaminants--including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production. Organic chemicals can also come from gas stations, urban storm water runoff, and septic systems.
- Radioactive contaminants--may be naturally occurring or manmade.

b. In order to ensure tap water is safe to drink, the Department of Defense (DoD) prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. These limits are the same as those established by the EPA for drinking water in the US. 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.

c. Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised people (e.g. individuals undergoing chemotherapy, organ transplant recipients, HIV-AIDS positive, etc.), the elderly and infants can be particularly at risk of infections. These people should seek advice about drinking water from their health care providers. For more information about contaminants and potential health effects, or to receive a copy of the EPA and the CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and microbiological contaminants call the EPA Safe Drinking Water Hotline at (1-800-426-4791).

d. Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. The highest levels of nitrate detected at Misawa AB are 2.87 ppm. If you are caring for an infant you should ask advice from your health care provider.

e. The 35th Civil Engineer Squadron (CES) is responsible for providing high quality drinking water to the occupants and workers of Misawa AB. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. For this reason, Bioenvironmental Engineering samples for lead contamination. During the last sample events in 2021 for Main Base, North Area and Security Hill, all results were below the EPA lead action level. If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. 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/.

f. Currently, further characterization of Cryptosporidium inactivation in our surface water source is required in accordance with the 2022 JEGS. Bioenvironmental Engineering and Civil Engineering are working in conjunction with each other to initiate monitoring and assess the performance of current surface water treatments in place. Initial monitoring is planned for 2023. Cryptosporidium is a microbial pathogen that is common and widespread in surface water. Although filtration removes Cryptosporidium, the most commingly-used filtration methods cannot guarantee 100 percent removal. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Consumption of water contaminated with excessive amounts of this Cryptosporidium can result in clinical manifestations of cryptosporidiosis, an abdominal infection. This is known to cause diarrhea,nausea, and abdominal infection. Immunocompromised humans and children are at a greater risk of developing life-threatening illness; immune-compromised individuals are encouraged to consult their doctor regarding appropriate precautions to avoid infection. Additional symptoms can include abdominal cramps, vomiting, and lethargy.

5. IS OUR DRINKING WATER SAFE?

Yes. We receive high-quality water that meets the same standards as drinking water in the US. Civil Engineering provides constant treatment and maintenance of our water distribution system; while, Bioenvironmental Engineering ensures water is safe by collecting samples and analyzing our potable water.

6. HOW IS OUR DRINKING WATER TREATED?

Treatment systems are operated in a manner that ensures appropriate chemical concentrations are maintained throughout the distribution system. Chlorine concentrations and contact times (i.e. CT values) are monitored to ensure proper disinfection of the water in accordance with applicable regulations. Table 2 below describes the treatment process for each location on the installation.

Table 2. Water Treatment

Location	Source	Water Treatment Processes
Main Base	Well Water	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
	Lake Water	Activated carbon filtration to absorb chemicals
		Coagulation/flocculation/sedimentation to remove algae/large particles
		Rapid Sand Filtration to remove particles
		Chlorination to disinfect/prevent distribution system contamination
		Fluoridation to prevent cavities in children
North Area	Well Water	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	Sand sedimentation to remove suspended matter such as sand, dirt, rust, loose scale, clay or organic material from the water.
		Flouride is not added because of no children and no child activities in the area.
		Chlorination to disinfect/prevent distribution system contamination
Draughon Range Tower Area	Well Water	Chlorination to disinfect/prevent distribution system contamination. US owned well; however,JASDF responsible for maintenance including chlorination.
Draughon Range Gate Area	City Water	Chlorination to disinfect/prevent distribution system contamination Sand Stripping to remove suspended matter such sand, dirt, rust, loose, scale, clay or organic material from the water.

7. HOW OFTEN IS MISAWA's DRINKING WATER TESTED?

In compliance with USAF and DoD regulations, the Bioenvironmental Engineering Flight monitors for more than 100 possible substances in Misawa's drinking water at different intervals. Table 3 below identifies the sampling they conduct.

Table 3. Contaminant Groups and Monitoring Frequencies

Contaminant Group	Examples	Monitoring Frequency
Biological Contaminants	Coliform bacteria	All water systems - Monthly
Inorganic Contaminants	Metals (e.g. lead, copper, selenium, arsenic, mercury, nickel)	Main Base Lake Water - Annually
		Main Base Well Water - Once every three years
		North Area - Once every three years
		Security Hill - Once every three years
	Nitrate, Nitrite, Total Nitrate and Nitrite	Main Base Lake Water Annually
		Main Base Well Water - Annually
		North Area - Annually
		Security Hill – Annually
Volatile Organic Compounds	Benzene, Trichloroethylene, Carbon Tetrachloride, etc.	Main Base Lake Water - Once every three years
		Main Base Well Water - Quarterly
		North Area - Once every three years
		Security Hill - Once every three years
Synthetic Organic Compounds	Pesticides, Herbicides, PCBs	Main Base Lake Water - two consecutive quarters every three years

		Main Base Well Water - two consecutive quarters every three years
		North Area - Once every three years
		Security Hill - Once every three years
Lead & Copper From Plumbing Materials	Lead, Copper	Main Base, North Area, Security Hill - Once every three years
Radiological Compounds	Gross Alpha, Radium- 226, Radium-228, Uranium	Main Base - Every four years (distribution system)
		North Area – Every four years (distribution system)
		Security Hill - Not required
	Beta Particle & Photon Activity	Main Base - Every nine years (distribution system)
		North Area – Every nine years (distribution system)
		Security Hill - Not required
Disinfectant By-Products	Trichloromethanes, Haloacetic Acids (HAA5)	Main Base - Quarterly (distribution system)
		North Area - Annually
		Security Hill - Annually
	Total Organic Carbon, Alkalinity	Main Base - Quarterly
Non Regulated Compounds/Emerging Contaminants	PFAS (per- and polyfluoroalkyl substances)	Main Base – Every two years North Area – Every three years Security Hill – Every three years Draughon Range Tower Area –Every two years Draughon Range Gate Area – Every three years

Note 1 : It was determined the two water systems at Draughon Range is non-public water system. Therefore, the monitoring requirements listed in the 2022 Japan Environmental Governing Standards (JEGS) do not apply, except for total coliforms and disinfectant residual.

Note 2 : Frequency of sampling for PFAS at Main Base and Draughon Range Tower Area have changed from "Quarterly" to "Every two years" after four consecutive samples have shown levels below 70 ppt of the EPA lifetime health advisory(HA).

8. WHAT IS IN OUR DRINKING WATER?

The potable water of Misawa AB meets all the EPA and Air Force health standards. The vast majority of regulated substances were not found in the water of Misawa AB. The contaminants presented in the following tables are organized by the respective water distribution system. Only contaminants detected are reported, results below the analytical detection limit are not included. Some contaminants are not tested annually. In these cases, the most current results are reported even though the actual sample may have been collected in a previous year. The presence of contaminants in the water does not necessarily indicate a health risk.

Table 4. Detected Contaminants for Main Base Distribution System

Contaminant	MCLG	MCL	Highest Level	Sample Date	Above MCL?	Typical Source	Health Effects
Inorganic Contaminants							
Nitrate	10.0 mg/L	10.0 mg/L	2.87 mg/L	2022	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits	Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome.
Fluoride	4.0 mg/L	4.0 mg/L	0.61 mg/L	2022	No	Water additive which promotes strong	Some people who drink water containing fluoride in excess of the

						teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories	MCL over many years could get bone disease, including pain and tenderness of the bones. Fluoride in drinking water at half the MCL or more may cause mottling of children's teeth, usually in children less than nine years old. Mottling, also known as dental fluorosis, may include brown staining and/or pitting of the teeth, and occurs only in developing teeth before they erupt from the gums.
Arsenic	zero	0.01 mg/L	0.0015 mg/L	2022	No	Erosion of natural deposits; runoff from orchards; glass & electronics production wastes	Some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.
Barium	2.0 mg/L	2.0 mg/L	0.0057 mg/L	2022	No	Discharge of drilling waste; discharge from metal refineries; erosion of natural deposits	Some people who drink water containing barium in excess of the MCL over many years could experience an increase in their blood pressure.
Chromium, Total	0.1 mg/L	0.1 mg/L	0.0015 mg/L	2022	No	Discharge from steel and pulp mills; erosion of natural deposits	Some people who use water containing chromium well in excess of the MCL over many years could experience allergic dermatitis.
Sodium	No MCLG	200 mg/L	32 mg/L	2022	No	Discharge from mines; discharge from petroleum refineries	
Nickel	0.1 mg/L	0.1 mg/L	0.0011 mg/L	2022	No	Leaching from metals in contact with drinking-water, such as pipes and fittings. However, nickel may also be present in some groundwaters as a consequence of dissolution from nickel ore-bearing rocks.	
Lead	zero	Action Level 0.015 mg/L	0.0014 mg/L	2021	No	Corrosion of household plumbing systems; erosion of natural deposits	Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.
Copper	1.3 mg/L	Action Level	0.12 mg/L	2021	No	Corrosion of household plumbing	Copper is an essential nutrient, but some people who drink water containing copper in excess of the

		1.3 mg/L1.3 mg/L				systems; erosion of natural deposits	action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's disease should consult their personal doctor.
Volatile Organic Compounds							
Tetrachloroethylene	zero	0.005 mg/L	0.0003 mg/L	2022	No	Discharge from factories and dry cleaners	Some people who drink water containing tetrachloroethylene in excess of the MCL over many years could have problems with their liver, and may have an increased risk of getting cancer.
Trichloroethylene	zero	0.005 mg/L	0.0019 mg/L	2022	No	Discharge from metal degreasing sites and other factories	Some people who drink water containing trichloroethylene in excess of the MCL over many years could experience problems with their liver and may have an increased risk of getting cancer.
Disinfectant Byproducts							
Total Trihalomethanes (TTHMs) (Veterinary Clinic)	See Note 1	0.08 mg/L	0.0193 mg/L	2022	No	Byproduct of drinking water disinfection	Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.
Haloacetic Acids (Veterinary Clinic)	See Note 1	0.06 mg/L	0.0067 mg/L	2022	No	Byproduct of drinking water disinfection	Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.
Total Trihalomethanes ((Main Base Water Tower Admin. Office)	See Note 1	0.08 mg/L	0.0119 mg/L	2022	No	Byproduct of drinking water disinfection	Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.
Haloacetic Acids (Main Base Water Tower Admin. Office	See Note 1	0.06 mg/L	0.0045 mg/L	2022	No	Byproduct of drinking water disinfection	Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.
Total Organic Carbon (Source)	See Note 2	N/A	1.730 mg/L	2020	No	Organic contaminants (natural organic substances, insecticides, herbicides, and other agricultural chemicals)	Total organic carbon (TOC) has no health effects. However, total organic carbon provides a medium for the formation of disinfection by products. These byproducts include trihalomethanes (TTHMs) and haloacetic acids (HAA5s). Drinking water containing these byproducts in excess of the MCL

							may lead to adverse health effects, liver or kidney problems, or nervous system effects, and may lead to an increased risk of getting cancer.
Alkalinity (Source)	See Note 2	N/A	52.0mg/L	2022	No	Most alkalinity in water comes from calcium carbonate leached from rocks and soil.	
Alkalinity (Treated)	See Note 2	N/A	37.5 mg/L	2022	No	Most alkalinity in water comes from calcium carbonate leached from rocks and soil	
Total Organic Carbon (Treated)	See Note 2	N/A	0.459 mg/L	2022	No	Organic contaminants (natural organic substances, insecticides, herbicides, and other agricultural chemicals)	Total organic carbon (TOC) has no health effects. However, total organic carbon provides a medium for the formation of disinfection byproducts. These byproducts include trihalomethanes (THMs) and haloacetic acids (HAA5s). Drinking water containing these byproducts in excess of the MCL may lead to adverse health effects, liver or kidney problems, or nervous system effects, and may lead to an increased risk of getting cancer.

Note:
1. The reported reading is the running annual average of quarterly averages of all samples taken in the distribution system. Although there is no collective MCLG for this contaminant group, there are MCLGs for some of the individual contaminants:
- Trihalomethanes: bromodichloromethane (0 mg/L); bromoform (0 mg/L); dibromochloromethane (0.06 mg/L): chloroform (0.07 mg/L).
- Haloacetic acids: dichloroacetic acid (0 mg/L); trichloroacetic acid (0.02 mg/L); monochloroacetic acid (0.07 mg/L). Bromoacetic acid and dibromoacetic acid are regulated with this group but have no MCLGs.

2. Total organic carbon (TOC), a form of disinfection byproducts precursors has no known health effects. However, total organic carbon provides a medium for the formation of disinfection byproducts. These byproducts include trihalomethanes (TTHMs) and haloacetic acids (HAA5s). Drinking water containing these byproducts in excess of the MCL may lead to adverse health effects, liver, or kidney problems, or nervous system effects, and may lead to an increased risk of getting cancer. IAW 2022 JEGS, systems that use conventional filtration treatment (MB) must monitor each treatment plant water source for TOC on a quarterly basis. Samples must be taken from the source water prior to treatment and the treated water not later than the point of combined filter effluent turbidity monitoring. Source water alkalinity must also be monitored at the same time. Neither MCLG nor MCL are outlined in the regulation.

Table 5. Detected Contaminants for North Area Distribution System

Contaminant	MCLG	MCL	Highest Level	Sample Date	Above MCL?	Typical Contaminant Source	Health Effects Language
Inorganic Contaminants							
Nitrate	10.0 mg/L	10.0 mg/L	0.16 mg/L	2022	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits	Infants below the age of six months who drink water containing nitrate in excess of the MCL could

							become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome.
Arsenic	zero	0.01 mg/L	0.003 mg/L	2022	No	Erosion of natural deposits; runoff from orchards; glass & electronics production wastes	Some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.
Chromium, Total	2.0 mg/L	2.0 mg/L	0.001 mg/L	2022	No	Discharge from steel and pulp mills; erosion of natural deposits	Some people who use water containing chromium well in excess of the MCL over many years could experience allergic dermatitis.
Fluoride	4.0 mg/L	4.0 mg/L	0.69mg/L	2019	No	Water additive which promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories	Some people who drink water containing fluoride in excess of the MCL over many years could get bone disease, including pain and tenderness of the bones. Fluoride in drinking water at half the MCL or more may cause mottling of children's teeth, usually in children less than nine years old. Mottling, also known as dental fluorosis, may include brown staining and/or pitting of the teeth, and occurs only in developing teeth before they erupt from the gums.
Sodium	No MCLG	200.0 mg/L	11 mg/L	2022	No	Discharge from mines; discharge from petroleum refineries	
Copper	1.3 mg/L	Action Level 1.3 mg/L1.3 mg/L	0.0096 mg/L	2021	No	Corrosion of household plumbing systems; erosion of natural deposits	Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's disease should

							consult their personal doctor.
Disinfectant Byproducts							
Total Trihalomethanes (Lakeview Grills)	See Note 1	0.08 mg/L	0.0024 mg/L	2022	No	Byproduct of drinking water disinfection	Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.
Total Trihalomethanes (North Area Water Plant)	See Note 1	0.08 mg/L	0.0029 mg/L	2022	No	Byproduct of drinking water disinfection	Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

Note:
1. The reported reading is the running annual average of quarterly averages of all samples taken in the distribution system.
Although there is no collective MCLG for this contaminant group, there are MCLGs for some of the individual contaminants:
- Trihalomethanes: bromodichloromethane (0 mg/L); bromoform (0 mg/L); dibromochloromethane (0.06 mg/L): chloroform (0.07 mg/L).
- Haloacetic acids: dichloroacetic acid (0 mg/L); trichloroacetic acid (0.02 mg/L); monochloroacetic acid (0.07 mg/L). Bromoacetic acid and dibromoacetic acid are regulated with this group but have no MCLGs

Table 6. Detected Contaminants for Security Hill Distribution System

Contaminant	MCLG	MCL	Highest Level	Sample Date	Above MCL?	Typical Contaminant Source	Health Effects Language
Inorganic Contaminants							
Nitrate	10.0 mg/L	10.0 mg/L	0.06 mg/L	2022	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits	Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome.
Sodium	No MCLG	200.00 mg/L	22 mg/L	2021	No	Discharge from mines; discharge from petroleum refineries	
Lead [Note 1]	zero	0.015 mg/L	0.0024 mg/L	2021	No	Corrosion of household plumbing systems; erosion of natural deposits	Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or

							mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.
Copper [Note 1]	1.3 mg/L	Action Level 1.3 mg/L	0.00220 mg/L	2021	No	Corrosion of household plumbing systems; erosion of natural deposits	Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's disease should consult their personal doctor.
Disinfectant Byproducts							
Total Trihalomethanes (Airman Leadership School)	See Note 2	0.08 mg/L	0.041 mg/L	2022	No	Byproduct of drinking water disinfection	Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.
Haloacetic Acids (Airman Leadership School)	See Note 2	0.06 mg/L	0.0074 mg/L	2022	No	Byproduct of drinking water disinfection	Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.
Total Trihalomethanes (Security Hill Water Plant)	See Note 2	0.08 mg/L	0.021 mg/L	2022	No	Byproduct of drinking water disinfection	Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.
Haloacetic Acids (Airman Leadership School)	See Note 2	0.06 mg/L	0.0065 mg/L	2022	No	Byproduct of drinking water disinfection	Some people who drink water containing haloacetic acids in excess of the MCL over many years may have

							an increased risk of getting cancer.

Note:
1. Lead and copper are regulated by a treatment technique that requires systems to control the corrosiveness of their water. If more than 10% of tap water samples exceed the action level, water systems must take additional steps. For copper, the action level is 1.3 mg/L, and for lead is 0.015 mg/L.

2. The reported reading is the running annual average of quarterly averages of all samples taken in the distribution system. Although there is no collective MCLG for this contaminant group, there are MCLGs for some of the individual contaminants:

- Trihalomethanes: bromodichloromethane (0 mg/L); bromoform (0 mg/L); dibromochloromethane (0.06 mg/L): chloroform (0.07 mg/L).
- Haloacetic acids: dichloroacetic acid (0 mg/L); trichloroacetic acid (0.02 mg/L); monochloroacetic acid (0.07 mg/L). Bromoacetic acid and dibromoacetic acid are regulated with this group but have no MCLGs.

Table 7. Perfluorooctane sulfonate (PFOS)/Perfluorooctanoic acid (PFOA) (Emerging Contaminants)

Main Base Water System (Drinking Water)

Sample Timeframe	Contaminant	MCLG	MCL	Detected Level		Above MCL?	EPA Health Advisory	Typical Source
Aug 20 – May 21	PFAS (PFOS + PFOA)	N/A	N/A	Lowest	25.0	N/A	70 ppt	Runoff from firefighting foam/other every day products
				Highest	35.1			

Draughon Range Tower Area System (Drinking Water)

Sample Timeframe	Contaminant	MCLG	MCL	Detected Level		Above MCL?	EPA Health Advisory	Typical Source
Jul 20 – May 21	PFAS (PFOS + PFOA)	N/A	N/A	Lowest	15.3 ppt	N/A	70 ppt	Runoff from firefighting foam/other every day products
				Highest	31.1 ppt			

Note: Results for Security Hill and North Base systems were below the limit of detection.
Water System consists of wells, treatment facilities and distribution points

9. What are per- and polyfluoroalkyl substances and where do they come from?
Per- and polyfluoroalkyl substances (PFAS) are a group of thousands of man-made chemicals. PFAS have been used in a variety of industries and consumer products around the globe, including in the U.S., since the 1940s. PFAS have been used to make coatings and products that are used as oil and water repellents for carpets, clothing, paper packaging for food, and cookware. PFAS chemicals are persistent in the environment and some are persistent in the human body – meaning they do not break down and they can accumulate over time. In May 2016, the EPA established a health advisory (HA) level at 70 parts per trillion (ppt) for individual or combined concentrations of perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS). Both chemicals are types of PFAS.

`9.a. Is there a regulation for PFAS in drinking water?
In 2020 the DoD promulgated a policy to monitor drinking water for PFAS at all service owned and operated water systems at a minimum of every three years. The DoD policy states that if water sampling results confirm that drinking water contains PFOA and PFOS at individual or combined concentrations greater than the 2016 EPA HA level of 70 ppt, water systems would quickly undertake additional sampling to assess the level, scope, and localized source of contamination, and take action to reduce exposure to PFOS or PFAS.

9.b. What about the EPA's 2022 interim Health Advisories?
Because the interim Health Advisories for PFOS and PFOA are based on draft analyses that are still undergoing review by EPA's Science Advisory Board, are below quantifiable limits, and are non-regulatory levels, DoD is instead looking to EPA to promulgate a regulatory drinking water standard, which is

anticipated by the end of this year. DoD looks forward to the clarity that a nationwide regulatory standard for PFOS and PFOA in drinking water will provide.

In anticipation of this EPA drinking water regulation and to account for emerging science that shows potential health effects of PFOS and PFOA at levels lower than 70 ppt, DoD is evaluating its efforts to address PFAS in drinking water, and what actions we can take to be prepared to incorporate this standard, such as reviewing our current data and collecting additional sampling where necessary. We remain committed to fulfilling our cleanup responsibilities, operating within the law and authorities provided by the federal cleanup law, and clearly communicating and engaging with our communities.

9.c. Has Misawa AB tested its water for PFAS?
Yes. In August 2020 – May 2021 and Jul 2020 – May 2021 samples were collected from the Main Base Water Drinking System and Draughon Range respectively. We are informing you that 2 of the 29 PFAS compounds covered by the sampling method were detected above the method reporting limit (MRL). The results are provided in Table 7. EPA does not have a HA for these compounds at this time. PFOA and PFOS were detected but below the 2016 EPA HA. As PFOA and PFOS were below the 2016 EPA HA, there is no immediate cause for concern, but we will continue to monitor the drinking water closely. In accordance with DoD Policy, Misawa AB has collected quarterly samples for PFAS.

10. WHERE CAN WE GET MORE INFORMATION?

Additional information regarding on-base water quality may be obtained by contacting the Bioenvironmental Engineering Flight at 226-6010 or email us at usaf.misawa.35-mdg.list.35-omrs-sgxb@mail.mil. Public participation in decisions affecting drinking water quality may also be arranged through the Bioenvironmental Engineering. In addition, customers can address any drinking water concerns during the quarterly Drinking Water Working Group meeting. Please contact 226-6010 for more information or to make an appointment to attend the meeting. This report is located on the Misawa Air Base web site at http://www.misawa.af.mil. The EPA's drinking water web site provides additional information at http://water.epa.gov/drink/. For more information on the 2022 JEGS please go to https://www.usfj.mil/Resources/JEGS/.