



2018 Drinking Water Consumer Confidence Report

Summarizing 2018 Water Quality Test Results

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Naval Air Facility Atsugi, Japan



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For additional information or questions regarding this report, please contact NAF Atsugi Public Works Department Utilities and Energy Management Branch at 264-3336, or Environmental Division at 264-4095.



NAF Atsugi Installation Water Quality Board is pleased to present this year's Annual Water Quality Report (Consumer Confidence Report) as required by the Office of the Chief of Naval Operations, Commander, Navy Installations Command (CNIC) and the Safe Drinking Water Act (SDWA). This report is designed to provide details about where your water comes from, what it contains, and how it compares to standards set by the U.S. Navy's Overseas Drinking Water Program and the Japanese Environmental Governing Standards.

Overseas Drinking Water Program

All U.S. military installations in Japan comply with regulations of the Japan Environmental Governing Standards (JEGS), which is a combination of U.S. and Japanese environmental laws. In 2013, the U.S. Navy issued CNICINST5090.1, which supplemented the JEGS with portions of the U.S. Safe Drinking Water Act of 1970 (40 CFR 141). In 2018, NAF Atsugi's drinking water met all quality standards set by the Safe Drinking Water Act.

NAF Atsugi is currently taking steps to meet all requirements of the Navy's Overseas Drinking Water (ODW) program. In 2018, the Regional Water Quality Board (RWQB) granted NAF Atsugi a Conditional Certification to Operate (CTO) for its water system. This affirms that the system is safe and the water is fit for human consumption. A full CTO requires close-out of all Deficiencies. A Deficiency is an identified required enhancement to the system that will prevent potential opportunities for system contamination. NAF Atsugi is working to close out any identified deficiencies and will likely obtain Full CTO upon completion of all deficiency closeouts.



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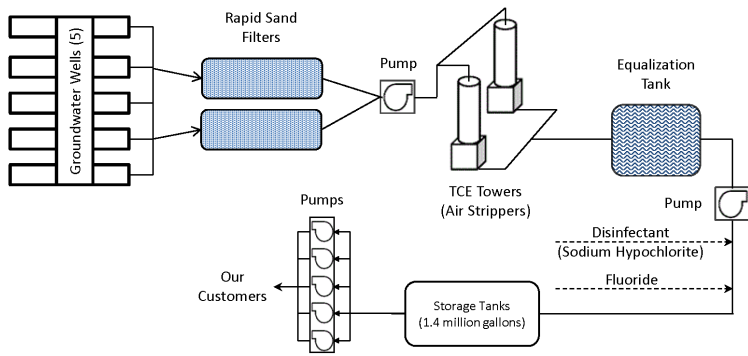


Diagram 1

NAFA Drinking Water System

Your potable water system at NAF Atsugi is owned and operated by the U.S. Navy and supplies both U.S. forces and on-base Government of Japan (GOJ) entities with high quality drinking water that is “fit for human consumption.” The NAF Atsugi PWD Utilities Management Branch is responsible for operating and maintaining the system, to include potable water supply sources, water treatment facilities, storage facilities, and the overall distribution system.

NAF Atsugi pumps water from the Sagamino Gravel Layer (SGL) and Zama-Kyuryo Gravel Layer (ZGL) Aquifers through five deep wells scattered throughout the installation. In 2015, the Public Works Department (PWD) conducted a year-long Ground Water Under Direct Influence of Surface Water (GWUDISW) survey to identify connectivity between surface water (Tade River or storm runoff) and the SGL/ZGL aquifers. The survey concluded that both the SGL and ZGL Aquifers are not influenced by surface water and are considered true ground water systems.

Your water is treated with sand filters to remove particulates, with an air stripper to remove Trichloroethylene (TCE), and is disinfected with sodium hypochlorite to protect against harmful bacteria and viruses. Fluoride is added to aid in dental hygiene. Diagram 1 (above) highlights Atsugi’s water treatment process.

Water Monitoring

NAF Atsugi’s PWD ensures that the quality of base drinking water meets or exceeds U.S. drinking water quality standards through routine water monitoring. To certify that treated water meets US EPA safe drinking water standards, water samples are collected and tested for all primary and secondary drinking water contaminants. In 2018, more than 700 water samples were collected and nearly 2,000 tests were run on a weekly, monthly, and annual basis from NAF Atsugi water source and designated sampling locations throughout the water distribution system to ensure that the water provided to the consumers is of high quality and is fit for human consumption. Final test results indicate that levels are well within standards established by the JEGS and SDWA.

The NAF Atsugi water quality summary can be found on Page 5 of this report. Below are details on a few of the contaminants that we test for.

Trichloroethylene

Trichloroethylene (TCE) is a Volatile Organic Chemical (VOC) commonly found in solvents and associated with activities such as degreasing, dry cleaning, or manufacturing of organic chemicals or pharmaceuticals.

In the early 1990’s, TCE was found in local groundwater at levels exceeding the maximum contaminant level (MCL). Your Water Treatment Plant utilizes a process known as air stripping to reduce TCE levels below their MCL threshold.



The air stripping process involves interaction between a contaminant-free gas (air) and the contaminated water to release the organics into the air. This process can effectively remove approximately 70 to 100 percent of TCE. The TCE removal facility was designed to treat an incoming TCE concentration of 15 parts-per-billion (ppb). Today, the typical level of TCE present in the untreated water is less than 5 ppb, with a resultant effluent TCE concentration below the 5 ppb MCL for drinking water at DoD installations per Chapter 3 of the JEGS and SDWA.

The TCE concentration both from the well water and the treated water is monitored regularly to ensure that the TCE level is within the allowable limit. Regular laboratory test results show no TCE exceedances were found in the NAF Atsugi drinking water system.

Nitrates and Nitrites

Nitrates and nitrites are nitrogen-oxygen chemical units which combine with various organic and inorganic compounds.

The major sources of nitrates in drinking water are runoff from fertilizer use, leaking septic tanks, sewage, and erosion of natural deposits.

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 infants to develop a blood disorder that affects the delivery of oxygen to tissues in the body (commonly known as “blue baby syndrome”). Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity.

Two water samples from representative sites in the distribution system are collected quarterly and analyzed to ensure that nitrates and nitrites are within the prescribed standards. Laboratory test results show no nitrate or nitrite exceedances were found in the NAF Atsugi drinking water system. Additional information can be found in the Water Quality Tables in this report.



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Lead & Copper

Compliance monitoring for lead and copper occurs at designated consumer taps. The sampling protocol simulates worst case conditions. These occur when water sits stagnant in residential plumbing for an extended period of time, such as overnight, or during the day if no one is at home.

In 2018, 22 drinking water samples from faucets in housing units, childcare centers and the elementary school were collected and analyzed for Lead and Copper. The results of those tests were in compliance with the U.S. EPA safe drinking water standards. Lead in Priority Areas monitoring will be conducted in June 2019 and results to be provided in next year's report. If there is any detection above the threshold the problem area will be isolated from the system and remedied through a NAVFAC Facility Operations Specialist responsible for the facility and subsequently re-tested to ensure compliance.

Additional Information for Lead

If present, elevated levels of Lead (as described in Water Quality Table on page five of this report) 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 domestic plumbing. When your water has been stagnant for several hours, you can further minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using

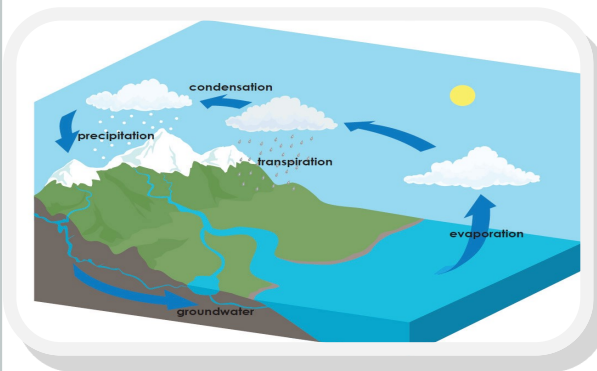
water for drinking or cooking. Use cold water for drinking or cooking. Never cook or mix infant formula using hot water from the tap.

In 2015, PWD conducted a Lead and Copper material survey to determine if lead or copper materials are present in the water system connections and fixtures at military family housing units, child care centers and school. Results of the study indicated no suspected presence of Lead or Copper materials in the distribution system. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure are available from the Safe Drinking Water Hotline at 800-426-4791 or at <http://www.epa.gov/safewater/lead>.

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 infection.

If you have special health care needs, consider taking additional precautions with your drinking water, and seek advice from your health care provider. For more information, see <http://www.epa.gov/safewater>

Why are there contaminants in my drinking water?



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 Environmental Protection Agency's (EPA) Safe Drinking Water Hotline (800-426-4791) or at <http://www.epa.gov/safewater>.

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: microbial contaminants, such as viruses and bacteria,

that 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 a variety of sources such as agriculture, urban stormwater runoff, and residential uses; 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; and radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities. In order to ensure that tap water is safe to drink, USEPA and the JEGS prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The U.S. Food and Drug Administration (FDA) regulations establish limits for contaminants in US-sourced bottled water which must provide the same protection for public health.



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Fluoride

The addition of fluoride to the drinking water is recommended by the U.S. Public Health Service (PHS) and the Center for Disease Control (CDC) and is required per Department of the Navy policy as a public health measure for reducing the incidence of cavities. Fluoride in drinking water is routinely tested to verify that the optimum level for beneficial health effect is maintained.

Arsenic

While your drinking water meets the JEGS and SDWA standards for arsenic, it does contain low levels of arsenic. Regulatory standards balance the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

Total Coliform Bacteria

Coliforms are bacteria that are naturally present in the environment and are used as an indicator of the presence of potentially harmful bacteria. If coliforms are found in more samples than allowed, this is indicative of potential problems and corrective actions should be taken immediately.

Regulations allow for one routine coliform-positive sample per month, if the repeat sample tests negative. In 2018, no coliforms were detected in 120 samples taken from the distribution system.

Drinking Water Monitoring and Testing Procedure Deficiencies

We are required to monitor your drinking water for specific contaminants on a regular basis. Monitoring ensures that your drinking water meets established health standards.

Throughout 2018, our monitoring contractor collected drinking water samples to test for Total Coliform Bacteria on our installation. Our monitoring contractor sent the drinking water samples for analysis to a lab that uses Japanese test methods for analysis, rather than US EPA-certified test methods. Failure to use a US EPA-certified test method is a SDWA monitoring violation. Although this does not constitute an emergency, as our customers, you have a right to know this information and what we did to correct this situation. To correct this violation, the NAF Atsugi Branch Health Clinic performed representative sampling to verify that your water was free from harmful bacteria and was safe to drink. As of 2019, we are now testing via the EPA method and the same continuous monitoring shows no detection for fecal coliform.

What should I do?

There is nothing you need to do at this time. You may continue to drink the water. If a situation arises where the water is no longer safe to drink, you will be notified within 24 hours.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail

NAF Atsugi Installation Water Quality Board

The NAF Atsugi Installation Water Quality Board (IWQB) was established in Jan 2013. The purpose of the board is to guarantee the delivery of high quality and compliant drinking water at NAF Atsugi controlled properties through review of installation water quality data and inspection reports, tracking corrective actions, and coordinating certification actions of NAF Atsugi water system by the Region Commander. The IWQB meets quarterly to discuss water quality compliance requirements. The board continues to focus on long-term water efficiency and system upgrades to ensure water delivered to NAF Atsugi population continues to be "fit for human consumption".

For additional information or questions regarding this report, please contact NAF Atsugi Public Works Department Utilities and Energy Management Branch at 264-3336, or Environmental Division at 264-4095.



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2018 Water Quality Data

Tables in the following section represent the levels of regulated water quality parameters detected in samples that were collected in 2017. These parameters were detected above the Environmental Protection Agency's (EPA) analytical method detection limit. The test results compare the quality of your tap water to the Navy's Overseas Drinking Water standards for each parameter, where applicable. For most of the results, you will see the unit of measurement, the regulatory limits, and the range of detected values. We have also provided the typical contaminant sources. Please note that the monitoring frequency of each parameter varies.

Regulated Contaminants						
Inorganic Chemicals:						
	MCLG	MCL	Highest	Range	units	Description / Typical Sources of Contaminants
Nitrate (measured as Nitrogen)	10	10	5.7	4.7 to 5.6	ppm	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Nitrite (measured as Nitrogen)	1,000	1,000	ND	ND	ppb	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Total Nitrite and Nitrate	10	10	5.7	4.7 to 5.6	ppm	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Volatile Organic Compounds:						
Toluene	1,000	1,000	1.1	ND to 1.1	ppb	Discharge from petroleum factories
Lead & Copper:						
	MCLG	Action Level	Samples Above AL	90th Percentile	units	Description / Typical Sources of Contaminants
Lead	0	20	0 of 24	2	ppb	Corrosion of household plumbing systems; Erosion of natural deposits
Copper	1,300	1,300	0 of 23	33	ppb	Corrosion of household plumbing systems; Erosion of natural deposits

Abbreviations and Definitions

As you review the test results in the following section, you may find terms and abbreviations with which you are not familiar. Below is a reference guide to help you better understand the terms and abbreviations used in this report.

AL (Action Level): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow. Other requirements may include additional testing, public notification or capital improvements. The AL is not equivalent to a maximum contaminant level or MCL (see definition below).

Highest: The highest detected level of a contaminant in your drinking water

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 contamination.

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 over the MCL (Maximum Contaminant Level). Detected values greater than the MCLG but less than the MCL have no known or expected risk to health.

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.

ND: Not detected.

ppm: parts per million. Equivalent to a drop of water in 50 liters of liquid.

ppb: parts per billion. Equivalent to half a teaspoon of water in one Olympic-size swimming pool.



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Regulated Contaminates

Microbial Indicators:

	MCLG	MCL	Highest Level Detected	Range	Units	Description / Typical Sources of Contaminants
Total Coliform Bacteria	0	0	0	0 to 0	Number of positive repeat samples	Naturally present in the environment

Disinfectants and Disinfection Byproducts:

	MCLG	MCL	Highest Level Detected	Range	Units	Description / Typical Sources of Contaminants
Chlorine	4 (MRDLG, annual average)	4 (MRDL, annual average)	0.55 (annual average)	0.30 to 0.70	ppm	Water additive used to control microbes
Total Trihalomethanes (TTHM)	N/A	80 (4-quarter locational running average)	2	ND to 2	ppb	By-product of drinking water disinfection
5 Haloacetic Acids (HAA5)	N/A	60 (4-quarter locational running average)	1	0 to 1	ppb	By-product of drinking water disinfection

Source Water Protection Tips: Protection of drinking water is everyone's responsibility. You can help protect NAF Atsugi's drinking water source in several ways:

- Eliminate excess use of lawn and garden fertilizers and pesticides—they contain hazardous chemicals that can reach your drinking water source.
- Pick up after your pets.
- Dispose of chemicals properly; take used motor oil to a recycling center.
- Wash vehicles and equipment only in designated washing locations—they are designed to keep potentially harmful chemicals from reaching the ground.

Water Conservation Tips: Did you know that the average U.S. household uses approximately 400 gallons of water per day or 100 gallons per person per day? Luckily, there are many low-cost and no-cost ways to conserve water. Small changes can make a big difference—try one today and soon it will become second nature.

- Take short showers— a 5 minute shower uses 4 to 5 gallons of water compared to up to 50 gallons for a bath.
- Shut off water while brushing your teeth, washing your hair, and shaving to save up to 500 gallons a month.
- Run your clothes washer and dishwasher only when they are full. You can save up to 1,000 gallons a month.
- Water plants only when necessary.
- Fix leaky toilets and faucets. Faucet washers are inexpensive and take only a few minutes to replace. To check your toilet for a leak, place a few drops of food coloring in the tank and wait. If it seeps into the toilet bowl without flushing, you have a leak. Fixing it or replacing with a new, more efficient model can save up to 1,000 gallons a month.
- Teach your kids about water conservation to ensure a future generation that uses water wisely. Make it a family effort to reduce next month's water bill!