

U.S. NAVAL AIR STATION (NAS) SIGONELLA 2011 CONSUMER CONFIDENCE REPORT NAS II

About this report.

We are proud to present to you our annual drinking water quality report for calendar year 2011. This Consumer Confidence Report (CCR) provides valuable information on water quality and supports the Navy's commitment to providing high quality drinking water to our service members, their families, and DoD personnel. Presented in this report is information regarding the source of our drinking water, its constituents, and the health risks associated with those contaminants detected above applicable regulatory maximum contaminant levels (MCL) or action levels (AL).

What standards apply to drinking water overseas?

DoD water systems in Italy must comply with the Environmental Final Governing Standards-Italy (IFGS). The IFGS were developed through a comprehensive review of the U.S. Environmental Protection Agency (USEPA) Safe Drinking Water Act, generally applied Italian drinking water standards, and applicable international treaty provisions. When Italian and USEPA standards differ, the most protective requirement was adopted into the IFGS. This assures U.S. personnel, family members, and Italian employees receive drinking water which meets requirements mutually agreed upon by the U.S. and Italy. U.S. Food and Drug Administration establishes regulatory requirements for contaminants in bottled water, which must provide similar protection for public health.

Is my water safe?

Tap water provided to NAS II in 2011 did not consistently meet IFGS drinking water requirements for produced water. The disinfectant byproduct, bromate, was detected in December 2011 above the MCL established by the IFGS. Additionally, the concentration of iron exceeded the IFGS MCL.

Annual Declaration of Potability

The Naval Air Station, Sigonella, Italy, (NAS II) drinking water is declared POTABLE. This declaration is based on the Annual Drinking Water Surveillance results conducted by US ARMY PUBLIC HEALTH COMMAND REGION – EUROPE for calendar year 2011, and current U.S. Naval Air Station, Sigonella, Italy, Public Works Department, Environmental Division water analysis and test results.

Johnfritz Antoine
LT, MSC, USN
Preventive Medicine/Environmental Health Officer
Preventive Medicine Department

Groundwater supplied to NAS II is extracted from three off-base wells. The water entering the installation is treated using sand filters and reverse osmosis membrane filtration. The drinking water is disinfected prior to distribution.

Source water assessment and its availability.

The Navy completed a source water assessment in October 2011. This survey evaluated the adequacy of the drinking water sources, facilities, equipment, operation, and maintenance for producing and distributing safe drinking water. Additional information about the source water assessment is available from the Public Works Department (PWD) Environmental Office at 624-2722.

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 the water poses a health risk. More information about contaminants and potential health effects can be obtained from the USEPA Safe Drinking Water website, www.epa.gov/safewater/sdwa.

The source of your drinking water is groundwater produced at three wells. As water travels through the ground, it dissolves naturally occurring minerals (including radioactive material), and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water can include the following:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic compounds, such as salts and metals, can be naturally occurring or result from urban stormwater runoff, industrial, domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- Organic chemicals, including synthetic and volatile organic chemicals, are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- Radioactive compounds can be naturally occurring or be the result of oil and gas production and mining activities.

Additional information for 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. PWD 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 thirty seconds to two minutes before using water for drinking or cooking. If you are concerned about lead in your water, please contact PWD Environmental Office at 624-2722. Information on lead in drinking water and the steps you can take to minimize exposure is available from the USEPA Safe Drinking Water website, www.epa.gov/safewater/lead.

Additional information for Bromate.

If present, elevated levels of bromate can cause serious health problems. Some people who drink water containing bromate in excess of the MCL over many years may have an increased risk of getting cancer. If you are concerned about bromate in your water, please contact PWD Environmental Office at 624-2722. Information on bromate in drinking water and the steps you can take to minimize exposure is available from the USEPA Safe Drinking Water website, www.epa.gov/safewater/sdwa.

Additional information for Iron.

Iron is regulated as a secondary contaminant by USEPA, because it may cause discolored water or aesthetic effects in drinking water, such as unpleasant odor or taste. Exceeding a secondary standard may cause people to stop using the water even though the water is actually safe to drink. Secondary standards are set to provide public water systems guidance on removing these chemicals to levels that are below what most people will find noticeable. Activities taken to reduce the iron concentration in NAS II drinking water include flushing the distribution system to remove settled particulates.

For what compounds is NAS II drinking water tested?

Drinking water supplied to NAS II is tested at least monthly and analyzed according to standards established by the IFGS. The water is analyzed for over 110 individual parameters including inorganic chemicals, volatile organic chemicals, pesticides, disinfection by-products, radionuclides, microbiological contaminants, and residual chlorine (residual disinfectant). Information on the specific compounds tested and the testing frequency is available from the PWD Environmental Office at 624-2722.

Do I need to take special precautions?

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as those 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 advice about drinking water from their health care providers. USEPA/Centers for Disease Control and Prevention guidelines on appropriate means to lessen the risk of infection by

Cryptosporidium and other microbial contaminants are available from the USEPA Safe Drinking Water website, www.epa.gov/safewater/sdwa.

How can I get involved?

Customers should always observe water conservation practices. Water is a scarce resource in Sicily and everyone's cooperation in conserving water is greatly appreciated. If you have any questions, concerns, or ideas, please contact the PWD Environmental Office at 624-2722.

Water quality data table.

The following tables summarize the concentration of drinking water contaminants regulated by the IFGS that were detected during 2011, and compounds detected in previous years that are on a greater than one-year monitoring cycle. The presence of contaminants in the drinking water does not necessarily indicate that the water poses a health risk.

Contaminants (units)	USEPA MCLG or MRDLG	IFGS MCL	Your Water	Range		Year	Violation	Typical Source
				Low	High			
Disinfectants and Disinfection By-products								
Chlorine (as Cl ₂) (ppm)	4	NA	1.01	0.03	2.0	2011	No	Water additive used to control microbes.
TTHMs (total trihalomethanes) (ppb)	zero	30	1.3	ND	1.3	2011	No	By-product of drinking water disinfection.
Inorganic Contaminants								
Ammonium (ppb)	NA	500	260	ND	260	2011	No	Runoff from fertilizer use, leaching from septic tanks, sewage.
Boron (ppm)	NA	1	0.37	0.36	0.37	2011	No	Erosion of natural deposits.
Bromate (ppb)	Zero	10	51	ND	51	2011	Yes*	Byproduct of drinking water disinfection.
Chloride (ppm)	NA	250	35	23	35	2011	No	Chlorides are leached from rocks into soil and water by weathering.
Color (color units)	15	Acceptable to consumer	15	5	15	2011	No	Natural or human-induced.
Copper (ppm)	NA	1	0.16	0.027	0.16	2011	No	Erosion of natural deposits.
Iron (ppb)	NA	200	365	70	660	2011	Yes	Erosion of natural deposits, corrosion of piping and household plumbing systems.
Lead (ppb)	NA	25	0.8	0.4	0.8	2011	No	Erosion of natural deposits.
Manganese (ppb)	NA	50	9	ND	9	2011	No	Erosion of natural deposits.

Contaminants (units)	USEPA MCLG or MRDLG	IFGS MCL	Your Water	Range		Year	Violation	Typical Source
				Low	High			
Inorganic Contaminants (continued)								
Nitrate (as Nitrogen) (ppm)	10	10	1.9	1.7	1.9	2011	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
Sodium (ppm)	NA	200	36	24	36	2011	No	Erosion of natural deposits, leaching.
Sulfate (ppm)	NA	250	49	31	49	2011	No	Erosion of natural deposits, leaching.
Total Dissolved Solids (ppm)	NA	NA	115	115		2011	No	Natural or human-induced.
Total Hardness (ppm)	NA	150-500	76	49	76	2011	No	Natural or human-induced.
Total Nitrate and Nitrite (as Nitrogen) (ppm)	10	10	1.9	1.9		2011	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
Turbidity (NTU)	NA	Acceptable to consumer	0.49	0.2	0.76	2011	No	Soil runoff.
Radioactive Contaminants								
Alpha Emitters (pCi/L)	zero	15	2.1	-0.58	2.1	2008-2009	No	Erosion of natural deposits.
Beta/photon emitters (pCi/L)	zero	50	1.7	1.2	1.7	2008-2009	No	Decay of natural and man-made deposits.

*Results based on analysis method DIN EN ISO 15061. The possibility of false positive or biased high results caused by matrix interference cannot be fully excluded by this procedure.

Contaminants (units)	IFGS AL	Your Water (90 th percentile)	Samples Exceeding AL	Sampled Year	Violation	Typical Source
Copper – AL at consumer taps (ppm)	1.3	0.3	0	2010	No	Corrosion of household plumbing systems.
Lead – AL at consumer taps (ppb)	15	4.2	0	2010	No	Corrosion of household plumbing systems.

Unit Descriptions	
Term	Definitions
NTU	Nephelometric Turbidity Unit – A unit for measuring turbidity. Turbidity is a measure of the cloudiness of the water.
pCi/L	Picocuries per liter – A unit for measuring radioactivity.
ppb	Parts per billion, or micrograms per liter (µg/L).
ppm	Parts per million, or milligrams per liter (mg/L).
NA	Not Applicable.
ND	Not Detected.

Important Drinking Water Definitions	
Term	Definitions
AL	Action Level – The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
MCL	Maximum Contaminant Level – The highest level of a contaminant that is allowed in drinking water. USEPA sets MCLs as close to the MCLG as feasible using the best available treatment technology. MCLs are set by the USEPA or Italian water standards, and the most conservative (typically the lowest) value is adopted by the IFGS.
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 are set by USEPA, and include a margin of safety.
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.

For more information, please contact the PWD Environmental Office at 624-2722.