



**U.S. NAVAL SUPPORT ACTIVITY NAPLES  
DETACHMENT - GAETA  
2012 DRINKING WATER CONSUMER CONFIDENCE REPORT**

**What is a Consumer Confidence Report?**

A Consumer Confidence Report (CCR), also known as Annual Water Quality Report or Drinking Water Quality Report, summarizes information regarding water sources used (i.e., rivers, lakes, reservoirs, or aquifers), any detected contaminants, compliance and educational information. This CCR provides all test results from January 1 through December 31, 2012 and includes information on how they compare to the standards set by regulatory agencies. This CCR provides valuable information and reflects the Navy's commitment to providing safe drinking water to service members and their families.

**Is my water safe?**

The drinking water systems at Naval Support Activity Naples Detachment (NSAND) - Gaeta and Olde Mill Inn deliver potable (safe) water and are monitored in accordance with standards and requirements prescribed by the Department of Defense's (DoD's) Environmental Final Governing Standards (FGS) for Italy. FGS were developed by comparing and adopting the more protective drinking water requirements of either the U.S. DoD Overseas Environmental Baseline Guidance Document (OEBGD) or the Italian drinking water regulations. For additional information on regulatory requirements, see the section describing "What standards apply to drinking water at overseas DoD installations?" on page 5 of this CCR.

During 2012, water from the NSAND Gaeta water system was subjected to more than 290 tests for over 119 contaminants. As a result, 12 contaminants were detected, however, their concentration and all other tests results were below the maximum contaminant levels (MCLs) allowed by the FGS except for Turbidity (Read "Additional Information for Turbidity" below).

Additionally, 7 samples per month were randomly collected throughout the water system and analyzed for microbiological contaminants, including coliform bacteria. Following a review of test results obtained during 2012, the U.S. Naval Hospital Naples (USNH) Preventive Medicine Authority (PMA) declared the water delivered by the water distribution system onboard NSAND Gaeta as potable and fit for domestic use and consumption.

**Additional Information for Turbidity:** The Town of Gaeta water system, supplied by Acqualatina, has historically been subject to Turbidity (cloudiness) spikes after heavy rain events. The Turbidity spikes often result in the Town of Gaeta declaring the water non-potable. When Turbidity levels rise above the maximum levels allowed in the water distribution system, the Mayors of the towns of Gaeta and Formia declare the water non-potable. When this occurs, the office of the Mayor of Gaeta notifies the NSAND Gaeta Protocol Officer who initiates a specific procedure to notify all Military members and their families living in the Gaeta area. As part of this notification procedure, non-potable warning signs are posted at every faucet within the NSAND Gaeta premises.



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Turbidity has no health effects. However, Turbidity can interfere with the water disinfection which may provide a medium for microbial growth in the water. Therefore, Turbidity may indicate the presence of disease causing organisms. These organisms include bacteria, viruses, and parasites which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches. If you experience any of these symptoms and they persist, you may want to contact your health care provider.

On 5 November 2012, NSAND Gaeta personnel were notified through PAO Notes and All Hands e-mails that the drinking water had been declared non-potable by the Town of Gaeta and by the U.S. Naval Hospital Naples (USNH) Preventive Medicine Authority (PMA) because of high Turbidity levels. The notification recommended use of bottled water for drinking, food preparation, cooking, brushing teeth, making ice, and for pets.

"Non-Potability" signage was posted next to each faucet at NSAND - Gaeta and at the Olde Mill Inn, bottled water was provided to personnel at both facilities and trucked potable water was provided to the USS MOUNT WHITNEY. In addition, the PMA initiated a daily water sampling protocol at NSAND - Gaeta and at the Olde Mill Inn until the water test results were within acceptable regulatory limits for Turbidity. When turbidity test results confirmed water was in compliance with the limits set by the FGS, drinking water in Gaeta and surrounding areas was declared potable. Personnel were informed of water potability status on a weekly basis through PAO Notes updates.

For additional information on Turbidity, please read the FACT SHEET: WATER TURBIDITY IN GAETA at the end of this CCR.

**Where does my water come from and how is it treated?**

NSAND Gaeta purchases treated water from Acqualatina. Water is received from two sources: the Capodacqua wells and the Mazzoccolo springs. Water is disinfected at both locations using Ultraviolet (UV) light and sodium hypochlorite (a form of chlorine) disinfection. Water is stored in several reservoirs before it is pumped to the City of Gaeta. To monitor the quality of water delivered to its customers, Acqualatina routinely collects and analyzes water samples at several points along its aqueduct every week. Samples are split and also submitted to the local health department for testing.



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**The following Commands/Departments are responsible to ensure delivery of safe drinking water to NSAND Gaeta. Listed below are their responsibilities:**

Italian Navy Personnel:

- Conduct drinking water distribution system operation and maintenance including cleaning of tanks and system disinfection.

NAVFAC Naples Public Works Department:

- backflow prevention

NAVFAC Naples Public Works Department Environmental Division:

- Ensure compliance with FGS.
- Coordinate drinking water sampling and laboratory analysis.
- Recordkeeping.

U.S. Naval Hospital Naples (Preventive Medicine Authority):

- Certifies base drinking water systems as potable.
- Conducts bacteriological monitoring.
- Provide health effects advice and implementation of protective measures associated with any instances of non-compliance.

NAVFAC:

- Treatment plant construction/upgrades.
- Maintain source water surveys, master plans, sanitary surveys, and laboratory contract services.

NSA Naples Public Affairs Office:

- Initiate public notification for non-compliance issues associated with on-base drinking water systems. Public notification covers potential adverse health effects/risks, corrective actions, alternative water supplies and protective measures.
- Initiate public notification for non-compliance issues associated with off-base systems in the surrounding community which may affect station personnel.
- Publish CCRs.
- Provide Community Outreach.

NSA Naples Housing Office:

- Coordinate drinking water issues related to base housing.



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### **Source water assessment**

In December 2007 and in April 2008, United States Navy contractor AH Environmental Consultants conducted a comprehensive sanitary survey of all of NSA Naples' installations. This survey evaluated adequacy of the drinking water source, facilities, equipment, operation and maintenance for producing and distributing safe drinking water.

### **Why are there contaminants in my drinking water?**

It is reasonable to expect drinking water, including bottled water, to contain at least small amounts of some contaminants. Drinking water sources (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 can pick up substances resulting from the presence of animals or from human activity. Substances that may be picked up by source drinking water include:

- **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 storm water 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 storm water runoff, and residential uses;
- **Organic chemical contaminants** include synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can come from gas stations, urban storm water runoff and septic systems; and
- **Radioactive contaminants**, which can be naturally occurring and form part of the Earth's crust. Can also be present due to oil and gas production and mining activities.

The presence of contaminants does not necessarily indicate that water poses a health risk. In order to ensure that tap water is safe to drink, regulations limit the amount of certain contaminants in water provided by public water systems. 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 on line at <http://water.epa.gov/drink/info/index.cfm>

### **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. Italian Navy personnel provide oversight on drinking water quality at NSAND Gaeta and have direct control over the materials used in plumbing components on the facility. This ensures that no lead service lines or components are used on the drinking water system. As a general safety practice, whenever - and wherever - you plan to use tap water for drinking or cooking, you can minimize the potential for lead exposure by flushing the tap for 30 seconds to 2 minutes prior to use. If you are concerned about lead in your 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 from the Safe Drinking Water Hotline or at <http://water.epa.gov/drink/info/lead/index.cfm>



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**What standards apply to drinking water at overseas DoD installations?**

DoD potable water systems in Europe must comply with the requirements contained in the FGS Drinking Water chapter. These requirements are developed by Commander Navy Region Europe, Africa, Southwest Asia (CNREURAFSWA) through a comprehensive review and comparison of drinking water related requirements contained in the U.S. DoD Overseas Environmental Baseline Guidance Document (OEBGD) and in the Host Nations drinking water national, regional and local laws and regulations. When the Host Nation and OEBGD standards are different, the **more protective** requirement is adopted. Once finalized, and approved by Headquarters, United States European Command (EUCOM), the FGS is then issued by CNREURAFSWA. Regularly monitored parameters listed in the Drinking Water chapter of the FGS for Italy include:

- **Bacteriological:** Total Coliforms
- **Inorganics:** Asbestos, Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cyanide, Fluoride, Mercury, Nickel, Selenium, Sodium, Thallium, Nitrate, Nitrite, Total Nitrate/Nitrite, Lead and Copper
- **Organic Compounds:** Benzene, Carbon tetrachloride, o-Dichlorobenzene, cis-1,2-Dichloroethylene, trans-1,2-Dichloroethylene, 1,1-Dichloroethylene, 1,1,1-Trichloroethane, 1,2-Dichloroethane, Dichloromethane, 1,1,2-Trichloroethane, 1,2,4-Trichloro-benzene, 1,2-Dichloropropane, Ethylbenzene, Monochlorobenzene, para-Dichlorobenzene, Styrene, Tetrachloroethylene, Trichloroethylene, Toluene, Vinyl chloride, Xylene
- **Pesticides and PCB's:** Alachlor, Aldicarb, Aldicarb sulfone, Aldicarb sulfoxide, Atrazine, Benzo[a]pyrene, Carbofuran, Chlordane, Dalapon, 2,4-D 1,2-Dibromo-3-chloropropane (DBCP), Di (2-ethylhexyl) adipate, Di (2-ethylhexyl) phthalate, Dinoseb, Diquat, Endrin, Endothall, Ethylene dibromide (EDB) (1,2-Dibromoethane), Glyphosphate, Heptachlor, Heptachlorepoxyde, Hexachlorobenzene, Hexachlorocyclopentadiene, Lindane, Methoxychlor, Oxamyl (Vydate), PCBs (as decachlorobiphenyls), Pentachlorophenol, Picloram, Simazine, 2,3,7,8-TCDD (Dioxin), Toxaphene, 2,4,5-TP (Silvex)
- **Total Trihalomethanes:** Chloroform, bromoform, dibromochloromethane and bromodichloromethane
- **Radionuclides:** Gross alpha activity and combined radium-226 and -228

**Do I need to take special precautions?**

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised people such as cancer patients 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. EPA/Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available on EPA's Drinking Water Consumer Information web page at <http://water.epa.gov/drink/info/index.cfm>



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**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 and save up to 500 gallons a month.
- Use a water-efficient showerhead. They're inexpensive, easy to install, and can save you up to 750 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 it with a new, more efficient model can save up to 1,000 gallons a month.
- Adjust sprinklers so only your lawn is watered. Apply water only as fast as the soil can absorb it and during the cooler parts of the day to reduce evaporation.
- 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!
- Visit [www.epa.gov/watersense](http://www.epa.gov/watersense) for more information.

**Source Water Protection Tips**

Protection of drinking water is everyone's responsibility. You can help protect your community'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.
- If you have your own septic system, properly maintain your system to reduce leaching to water sources or consider connecting to a public sewer system.
- Dispose of chemicals properly.



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## Water Quality Data Table

The table below lists the highest level and range, if available, of drinking water contaminants that were detected during calendar year 2012 and contaminants detected in previous years that are on a greater than one-year monitoring cycle. The presence of contaminants in water does not necessarily indicate that water poses a health risk. Unless otherwise noted, the data presented in this table is from testing conducted in the calendar year of the report. For more information please contact the U.S. Naval Hospital Naples Preventive Medicine Office at DSN 629-6299 or commercial 081-811-6299.

Contaminants	MCLG or MRDLG	EPA MCL, TT, or MRDL	FGS MCL	Your Water	Range		Sample Year	Violation	Typical Source
					Low	High			
<b>Disinfectants &amp; Disinfection By-products</b> (There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants)									
Bromate (ppb)	0	10	10	1.42	NA		2012	No	By-product of drinking water disinfection
Chlorine (as Cl <sub>2</sub> ) (ppm)	4	4	4 *	0.1	ND	0.1	2012	No	Water additive used to control microbes
Chlorine Dioxide (ppb)	0.8	800	800*	50	20	50	2012	No	Water additive used to control microbes
TTHMs [Total Trihalomethanes] (ppb)	NA	80	30	3.9	ND	3.9	2012	No	By-product of drinking water disinfection
* MCL from Overseas Environmental Baseline Guidance Document (OEBGD)									
<b>Inorganic Contaminants</b>									
Nitrate [Measured as Nitrogen] (ppm)	10	10	10	0.8	0.4	0.8	2012	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits



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Contaminants	MCLG or MRDLG	EPA MCL, TT, or MRDL	FGS MCL	Your Water	Range		Sample Year	Violation	Typical Source
					Low	High			
Sodium (ppm)		NA	200	4.2	NA		2012	No	Erosion of natural deposits; Leaching
Turbidity (NTU)	NA	NA	1	33.4	0.05	33.4	2012	Yes	Soil runoff
<b>Radioactive Contaminants</b>									
Alpha emitters (pCi/L)	0	15	15	0.63	0.48	0.63	2012	No	Erosion of natural deposits
Beta/photon emitters (pCi/L)	0	50	50	0.49	0.013	0.49	2012	No	Decay of natural and man-made deposits. The EPA considers 50 pCi/L to be the level of concern for Beta particles.
Radium [Combined 226/228] (pCi/L)	0	5	5	0.29	0.13	0.29	2012	No	Erosion of natural deposits

<b>Inorganic Contaminants at Consumer Taps</b>							
Contaminants	MCLG	AL	Your Water	Sample Year	# Samples Exceeding AL	Exceeds AL	Typical Source
Copper [Action level at consumer taps] (ppm)	1.3	1.3	0.086	2012	0	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead – [Action level at consumer taps] (ppb)	0	15	3.5	2012	0	No	



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<b>Unit Descriptions</b>	
<b>Term</b>	<b>Definition</b>
ppm	ppm: parts per million, or milligrams per liter (mg/L)
ppb	ppb: parts per billion, or micrograms per liter (µg/L)
ppt	ppt: parts per trillion, or nanograms per liter
ppq	ppq: parts per quadrillion, or picograms per liter
pCi/L	pCi/L: picocuries per liter (a measure of radioactivity)
NTU	NTU: Nephelometric Turbidity Units. Turbidity is a measure of the cloudiness of the water. Turbidity is monitored because it is a good indicator of the effectiveness of our filtration system.
positive samples/month	positive samples/month: Number of samples taken monthly that were found to be positive
positive samples/yr	positive samples/yr: The number of positive samples taken per year
NA	NA: not applicable
ND	ND: Not detected
NR	NR: Monitoring not required, but recommended.
<b>Important Drinking Water Definitions</b>	
<b>Term</b>	<b>Definition</b>
MCLG	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	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.
TT	TT (Treatment Technique): A required process intended to reduce the level of a contaminant in drinking water.
AL	AL (Action Level): The concentration of a contaminant that, if exceeded, triggers treatment or other requirements which a water system must follow.
Variances and Exemptions	Variances and Exemptions: State or EPA permission not to meet an MCL or a treatment technique under certain conditions.
MRDLG	MRDLG (Maximum Residual Disinfection 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.
MRDL	MRDL (Maximum Residual Disinfectant Level): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that adding a disinfectant is necessary for control of microbial contaminants.
MNR	MNR (Monitored, Not Regulated)
MPL	MPL (State Assigned Maximum Permissible Level)

## **FACT SHEET: WATER TURBIDITY IN GAETA**

Each year in the fall and spring (September - April), an increase in the Turbidity (cloudiness) of drinking (potable) water occurs in the cities of Gaeta, Formia and in the surrounding areas. This increase in Turbidity is caused by the heavy rains that recharge the aquifer that supplies the source water to the Gaeta and Formia public water system. As increased rainwater flows through rock formations, very small particles of inorganic material are dissolved from the rocks and are held in the water. This suspended inorganic material is too small to be removed by the water treatment system at the Capodacqua facilities (located south-west of the town of Spigno Saturnia) and remains in the water. The particles of dissolved rock and minerals ultimately appear in potable water as a slight tint or a noticeable cloudiness. The extent of the Turbidity is directly proportional to the amount of rainwater that flows through rock formations.

Acqualatina, a consortium providing integrated water service for the Lazio Region, delivers water to the cities of Gaeta and Formia. The NSAND Gaeta Drinking Water Sanitary Survey, performed by the U.S. Navy in 2008, states: "According to an Acqualatina representative, Turbidity excursions occur frequently and it is suspected that a direct connection exists between the surface and the wells. In fact the mayor of the City of Formia (and Gaeta) routinely declares the water non-potable due to Turbidity excursions".

Turbidity can interfere with the disinfection processes practiced at the Capodacqua treatment facilities and may provide a medium for microbial growth. For these reasons, when Turbidity levels rise, Acqualatina increases the level of disinfection of the water and the local Italian Public Health Department (referred to as the Azienda Sanitaria Locale [ASL]) increases the frequency of microbiological sampling and testing throughout the fall and spring periods of increased Turbidity. This is done to insure that drinking water is adequately disinfected. The increased chlorine dosage and microbiological monitoring and testing are maintained until the Turbidity levels drop below the regulatory limit of 1.0 NTU (Nephelometric Turbidity Unit: a unit used in measuring water clarity), usually by late March or early April.

All potable water provided by an Italian Public Water Supply System must meet Italian standards (which are European Community standards) at all times. When water is declared non-potable, bottled water should be used for drinking, food preparation, cooking, brushing teeth, making ice, and for pets (see the Bottled Water Safety Fact Sheet at [http://www.cnic.navy.mil/navycni/groups/public/documents/document/cnic\\_c\\_065847.pdf](http://www.cnic.navy.mil/navycni/groups/public/documents/document/cnic_c_065847.pdf)). Bottled water is available at most stores and at most concessions.

**For more information please contact the U.S. Naval Hospital, Naples Preventive Medicine Office at DSN 629-6299 or commercial 081-811-6299.**