



2016 DRINKING WATER CONSUMER CONFIDENCE REPORT NSA Souda Bay



About this Report

This Consumer Confidence Report (CCR) is prepared in accordance with the U.S. Department of Defense (DoD) Environmental Final Governing Standards (FGS) for Greece and CNIC Instructions 5090.1 and 5090.3. This CCR provides valuable information on water quality and supports the Navy's commitment to provide high quality drinking water to our service members, their families, local installation staff and other DoD personnel. Presented in this report is information regarding the source of our water, its constituents and the health risks associated with any contaminants detected in quantities exceeding a drinking water regulatory maximum contaminant level (MCL) or an action level (AL) during the calendar year 2016.

Is our water safe to drink?

Yes. NSA Souda Bay's drinking water system provides water that is safe and Fit For Human Consumption (potable) as determined by the Installation Commanding Officer's Record of Decision dated 13 December 2013.

DoD water systems in Europe must comply with country specific Environmental FGS and Chief of Naval Installations Command (CNIC) Instruction 5090.1, which requires compliance with certain sections of the U.S. Environmental Protection Agency (EPA) Safe Drinking Water Act (SDWA). The FGS were developed after a comprehensive review and comparison of the DoD Overseas Environmental Baseline Guidance Document (OEBGD), Safe Drinking Water Act (SDWA) and Greek drinking water standards. When Greek and U.S. standards are different, the most protective requirement was adopted into the FGS. This assures U.S. personnel and Greek employees receive drinking water which meets or is above the nation's requirements. The applicable SDWA standards are also compared directly.

Where does our water come from and how is it treated?

Naval Support Activity (NSA) Souda Bay purchases potable water from the Chania Water Authority (DEYACH). The sources of the drinking water are deep wells and natural springs at the foot of the White Mountains. DEYACH chlorinates the water prior to distribution. NSA Souda Bay provides additional chlorination before the water is distributed around the base. Additional information about the source water is available from the Public Works Environmental Office at 266-1973.

Why are there contaminants in 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 from the Safe Drinking Water website, www.epa.gov/safewater/sdwa. The sources of drinking water (both tap water and bottled water) are groundwater and natural springs. As water travels 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.

Contaminants that may be present in source 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 stormwater runoff, industrial, or domestic wastewater discharges, oil and gas production, mining, or farming;



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- **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, the FGS and CNIC 5090.1 (implementing EU and EPA rules) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems.

Source water assessment

In July 2014 the Navy's Water Quality Oversight Council conducted a comprehensive sanitary survey of the NSA Souda Bay drinking water system. This survey provided an evaluation of the adequacy of the drinking water source, facilities, equipment, operation and maintenance for producing and distributing safe drinking water. NSA Souda Bay is continually improving the drinking water system based on the recommendations in the report.

The report identified three significant deficiencies in the drinking water system.

1. Cross connection control (CCC) and backflow prevention (BFP): NSA Souda Bay has a BFP program to prevent backflow and back-siphonage into the drinking water system and is implementing the recommendations of a March 2014 CCC report to address all cross connections.
2. Treatment for all water sources: Since DEYACH does not complete all source water testing required by EPA, NSA Souda Bay is implementing a testing program for water entering the base to verify that it meets all source water requirements. (Note: this is separate from the testing of the water which is distributed to the base, which shows no contaminants above allowed levels.)
3. Water distribution system: NSA Souda Bay's distribution system is not rated for high fire flow pressures and therefore experiences frequent breakage. A portion of the system has been replaced and project is being programmed to replace other portions.

Do I need to use special precautions?

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 infections. These people should seek advice about drinking water from their health care providers. Some people who drink trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous system, and may have an increased risk of getting cancer.

USEPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Water Drinking website, www.epa.gov/safewater/sdwa.

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. The NSA Souda Bay Public Works Department is responsible for providing high quality



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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 30 seconds to 2 minutes before using water for drinking or cooking. 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 www.epa.gov/safewater/lead.

Water Quality Data Table

The table below lists all of the drinking water contaminants and relevant sampling data collected during the 2016 calendar year (unless otherwise noted in the sample date column). The presence of contaminants in the water does not necessarily indicate that the water poses a health risk. All substances detected in NSA Souda Bay's drinking water are below allowed levels and meet EPA and FGS requirements.

| <u>Parameter</u> | <u>FGS MCL</u> | <u>MCLG</u> | <u>Concentration</u> | <u>Testing Freq.</u> | <u>Violation</u> | <u>Typical Source</u> |
|---|----------------|-------------|----------------------|----------------------|------------------|--|
| Antimony (ppm) | 0.0050 | 0.0060 | 0.0008 | Annually | No | Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder |
| Barium (ppm) | 2.000 | 2.000 | 0.079 | Annually | No | Erosion of natural deposits. |
| Calcium (ppm) | No upper limit | NA | 37 | Annually | No | Erosion of natural deposits. |
| Copper (ppm) | 2.00 | NA | 0.01 | Annually | No | Corrosion of plumbing systems. |
| Fluoride (ppm) | 1.20 | 1.20 | 0.18 | Annually | No | Erosion of natural deposits, leaching. |
| Haloacetic acids (HAA5 - ppm) | 0.0600 | NA | 0.0146 | Annually | No | By-product of drinking water disinfection |
| Lead (ppm) | 0.010 | NA | 0.004 | Annually | No | Corrosion of plumbing systems. |
| Sodium (ppm) | No upper limit | NA | 8.6 | Annually | No | Erosion of natural deposits, leaching. |
| Total Nitrate/Nitrite (as Nitrogen) (ppm) | 10.0 | 10.0 | 0.5 | Annually | No | Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits. |
| TTHMs (total trihalomethanes) (ppm) | 0.0800 | Zero | 0.0134 | Quarterly | No | By-product of drinking water disinfection. |

| <u>Parameter</u> | <u>FGS MCL</u> | <u>Recorded levels</u> | <u>Testing Frequency</u> | <u>Sample Date</u> | <u>Violation</u> | <u>Typical Source</u> |
|------------------------------|----------------|------------------------|--------------------------------|--------------------|------------------|-----------------------|
| Combined Radium 226/228 | 5 | <0.23 | Every 4 years if above 2 pCi/L | March 2012 | No | Naturally Occurring |
| Gross Alpha Activity (pCi/L) | 15 | 0.2±0.7 | Every 4 years | May 2016 | No | Naturally Occurring |
| Gross Beta Activity (pCi/L) | 50 | -0.3±0.9 | Every 4 years | May 2016 | No | Naturally Occurring |



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| <u>Parameter</u> | <u>FGS AL</u> | <u>MCLG</u> | <u>90th percentile</u> | <u>Sample Date</u> | <u>Samples Exceeding AL</u> | <u>Violation</u> | <u>Typical Source</u> |
|--|-------------------|-------------|---------------------------------------|------------------------|-------------------------------------|------------------|--|
| Copper – action level at consumer taps (ppm) | 1.3 | 1.3 | 0.085 | June 2014 | 0 | No | Corrosion of household plumbing systems. |
| Lead – action level at consumer taps (ppm) | 0.015 | zero | 0.0044 | June 2014 | 0 | No | Corrosion of household plumbing systems. |

Unit Descriptions

| <u>Term</u> | <u>Definition</u> |
|-------------|--|
| NA | NA: not applicable |
| pCi/L | pCi/L: picocuries per liter (a measure of radioactivity) |
| ppm | ppm: parts per million, or milligrams per liter (mg/L) |

Important Drinking Water Definitions

| <u>Term</u> | <u>Definition</u> |
|-------------|---|
| AL | AL: Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements. |
| 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. |
| 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. |

Points of Contact

This Consumer Confidence Report is required by CNIC Instruction 5090.1 (04 FEB 2013)

For more information please contact the Public Works Environmental Office at 266-1973. Representatives from this office are members of the Installation Water Quality Board.