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# ENVIROUPDATE

## Naval Submarine Base

Kings Bay, Georgia

July 1997

Volume 4, Number 2

### Installation Restoration Program Newsletter

This newsletter is provided to the community by Naval Submarine Base (SUBASE) on a quarterly basis or when significant developments occur in the environmental cleanup program. Copies of previous editions of *EnviroUpdate* can be obtained through the Public Affairs Office. For more information, contact Robert Steller, Public Affairs Office, (912) 673-4714.

## Results from Groundwater Sampling Activities Are In

In 1992, the Navy confirmed the presence of *chlorinated solvents* under Site 11 (the Old Camden County Landfill) and a nearby residential subdivision. Groundwater sampling activities were recently conducted at Site 11 to enhance the understanding of groundwater contamination at the site. The sampling activities took place in March 1997, and included a direct-push program (discussed in the March 1997 edition of *EnviroUpdate*) and collection of groundwater samples from monitoring and recovery wells.

The objectives of the sampling program were to

- (1) obtain current information about contaminant levels in groundwater at the site,
- (2) attempt to locate the source of contamination, and
- (3) identify locations for additional monitoring well installations.

Seventy-three groundwater samples were collected at various depths in the area where the Interim Measure (IM) treatment system is operating at the site. All the samples were analyzed in an onsite laboratory for chlorinated solvents and preliminary results are now available. A summary of the results is provided below.

- Area with high levels of chlorinated solvents was identified (suspected to be located near the source of the contamination).

- Main contamination area appears to be relatively narrow.
- Main contamination area *does not* appear to be releasing contaminants.
- *Natural attenuation* of the chlorinated solvents appears to be occurring.

The results of the groundwater sampling event have proven to be extremely valuable as the Navy continues to characterize the situation at Site 11 and evaluate possible improvements to the IM treatment system. In general, the results have (1) supported installation of a larger groundwater extraction pump at recovery well (RW) 6, (2) helped identify locations for additional monitoring wells, and (3) provided support for the occurrence of natural attenuation at the site (see articles on page 3 for more information).

### Glossary... for highlighted terms

**Chlorinated solvents:** Solvents are liquid compounds capable of dissolving other substances. When these compounds contain chlorine atoms, they are referred to as chlorinated solvents. Many chlorinated solvents are commonly used in industrial processes (e.g., large-scale painting and stripping operations). Ordinary household solvents include paint thinner and mineral spirits.

**Natural attenuation:** A process where naturally occurring microscopic "bugs" degrade (or eat) existing contaminants. This process usually takes several years and will only work under certain conditions (i.e., requires a specific amount of oxygen, the right temperature, etc.).

*Please Join Us!*

Our next Restoration Advisory Board meeting will be held on

Thursday, August 21, 1997  
at St. Marys Public Library at 10 a.m.

# What's New at SUBASE?

## *Best Wishes to Lieutenant Bourdon!*

Over the last three years, Lt. Kristen Bourdon has been instrumental in fostering a positive relationship between the Navy, the community, and regulatory agencies in her everyday duties and in her role as Navy co-chair to the Restoration Advisory Board (RAB). Many of you have met and discussed SUBASE's environmental cleanup issues with her at RAB meetings and public information sessions. Starting this fall, Lt. Bourdon will be attending classes at the University of Florida where she will work toward a Masters degree in Environmental Engineering. Her contributions to the cleanup program have been significant and she will be greatly missed. Lt. Bourdon, thanks and good luck!

## *Welcome Aboard, Ensign Grimsbo!*

The newest SUBASE environmental cleanup team member is Ensign Dan Grimsbo. He is a recent graduate of the Citadel in Charleston, South Carolina, and will take over many of Lt. Bourdon's responsibilities. He will be actively involved in the environmental cleanup activities as the Navy's co-chair for the RAB. In this role, Ensign Grimsbo will work closely with the community co-chair to lead the RAB and foster communication efforts. He is looking forward to working with you more closely and hopes to see you at RAB meetings and public information sessions.



Thank you for taking the time to fill out the reply cards mailed with our last newsletter. We appreciate your comments and will consider them in subsequent newsletters and fact sheets. The following are a few topics you and your neighbors want to hear more about:

- use of private irrigation wells,
- costs associated with the environmental cleanup at Site 11, and
- location and current levels of contamination in the groundwater.

### *Can groundwater from private irrigation wells be used for general everyday use?*

The water from private irrigation wells has typically been used by residents in the Crooked River Plantation subdivision to water lawns, wash cars, and fill swimming pools. Although investigations conducted over the last few years indicate that groundwater contamination at the landfill has been

contained and that the treatment system is working to reduce contamination, the Navy continues to recommend that residents avoid contact with the groundwater from these wells.

A lot of facts have been collected regarding the groundwater contamination at and around the landfill; however, at this time we cannot know for sure what might be present at every location in the affected area. Currently, the sampled area is a relatively small portion of the total affected area. For this reason, we have to rely on data from this smaller area as being representative of the total affected area.

We want to be conservative in protecting the residents in the subdivision and hope that you will appreciate the Navy's continued recommendation that it is in your own best interest to avoid contact with the groundwater.

*Glad You Asked!*

## Environmental Cleanup Program: A Progress Report

### **Background**

Since the 1950s, the U.S. military has used what is now called SUBASE to support various military activities, including the current mission, which is to support a strategic submarine force. As part of the daily operations, chemicals and petroleum products have been used, handled, stored, and discarded on base property. Over the years, these materials and wastes have entered the environment through accidental spills and waste

disposal practices considered acceptable in the past. These activities have resulted in soil and groundwater contamination on SUBASE property.

Environmental assessments of SUBASE property began in the early 1980s under the Navy's Installation Restoration program. In 1985, the State of Georgia identified four sites (Sites 5, 11, 12, and 16) at SUBASE that required further

investigation or possible corrective action (Site 2 was added to the program at a later date). Since 1992, Site 11, the Old Camden County Landfill, has been the highest environmental cleanup priority for SUBASE. It was at that time that organic contaminants were confirmed in groundwater under the landfill and a nearby residential subdivision. The Navy initiated a proactive effort to further  
*(continued on page 3)*

# Progress Report

(continued from page 2)

investigate the problem and involve the community in cleanup activities and decisions. In 1994, an IM treatment system was installed at the site to contain and clean up the contaminated groundwater.

The Navy has been very busy over the last year evaluating and improving the IM treatment system installed at Site 11. These efforts are being made so that cleanup of the site may be conducted as efficiently as possible. Here is a brief report on selected activities taking place this summer at Site 11.

## Operation and Maintenance Visits Begin

Operation and maintenance visits to the IM treatment system began this summer

with visits taking place in May, June, July, and August. Visits will continue to be made on a monthly basis. During the operation and maintenance visits, general operation of the system is documented and extensive cleaning and preventative maintenance duties are performed to ensure that the system is running effectively.

## Installation of Larger Pump at RW-6

A larger groundwater extraction pump was installed this May at RW-6. The larger pump will help contain areas with elevated contaminant levels, which were identified during the March 1997 groundwater sampling activities, and will allow more contaminated groundwater to flow through the IM treatment

system. The initial pump installed at RW-6 extracted groundwater at 14 gallons per minute (gpm), whereas the new pump is now extracting at 39 gpm. With the new pump, the treatment system is running more efficiently — the total combined flow for the system is now approximately 58 gpm!

## Continued Monitoring of the Interim Measure

Additional monitoring wells in the IM area will be installed this summer so that SUBASE can obtain a more accurate picture of what is actually happening beneath the ground's surface at Site 11. Using the previously collected groundwater data, the Navy, working with the U.S. Geological Survey and ABB Environmental Services, Inc., will decide where to locate the new monitoring wells.

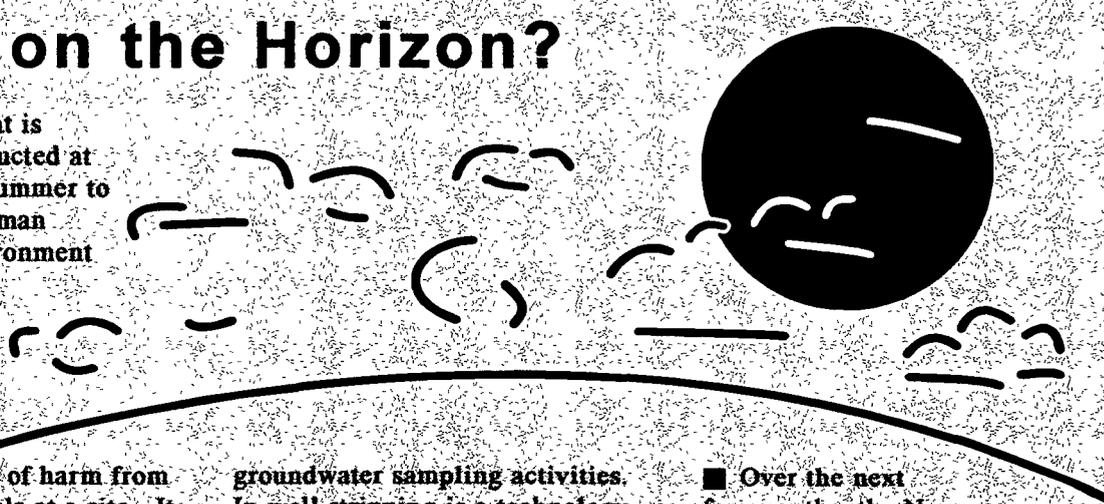
# What's on the Horizon?

■ A risk assessment is expected to be conducted at SUBASE late this summer to evaluate risks to human health and the environment associated with the groundwater contamination at Site 11. A risk assessment is a scientific estimation of the probability of harm from exposure to chemicals at a site. It involves identifying what chemicals are present, estimating how and to what extent people, animals, and plants might be exposed to them, and assessing any health or ecological effects associated with the chemicals. The risk assessment activities at SUBASE will be discussed in more detail in the next newsletter.

■ The Navy is considering the use of a technology called in-well stripping to treat areas with elevated levels of contamination identified during the March 1997

groundwater sampling activities. In-well stripping is a technology that extracts, treats, and discharges groundwater inside a single well. Groundwater is not removed from the ground for treatment using this technology. A pilot-scale test of this technology will begin this summer. This initial work is a short-term test of the technology to see how well it will perform at the site and to help determine if the technology should be applied in the long term. Pilot tests are usually scaled down or used as short-term implementations so that the cost is kept at a minimum until the technology is proven effective.

■ Over the next few months, the Navy (working closely with the U.S. Geological Survey and ABB Environmental Services, Inc.) will collect data to evaluate and monitor the effectiveness of natural attenuation for chlorinated solvents in groundwater at Site 11. Natural attenuation, the process in which naturally occurring microscopic "bugs" degrade (or eat) existing contaminants, is being considered as a followup remedial alternative to groundwater extraction and treatment at the site. Based on the information collected in March, natural attenuation looks promising.



# Questions & Answers

## Naval Submarine Base, Kings Bay - Who to Call?

If you have any questions or comments about the environmental cleanup program at SUBASE, please let us know!

**Robert Steller**  
**Public Affairs Officer**  
**1063 USS Tennessee Avenue**  
**Naval Submarine Base**  
**Kings Bay, Georgia 31547**  
**(912) 673-4714**  
**e-mail: [pao@subasekb.navy.mil](mailto:pao@subasekb.navy.mil)**



**Information Repository:**  
Documents relating to the environmental cleanup and Installation Restoration program at SUBASE are available for review at the following location:

**St. Marys Public Library**  
**100 Herb Bauer Drive**  
**St. Marys, Georgia 31558**  
**(912)882-4800**

**You can also visit us at our web site**  
**<http://www.kingsbay.org>**

***Become involved in the environmental program at SUBASE, attend a RAB meeting!***  
***These meetings are held quarterly and are open to the public.***  
***Mark your calendars for the next meeting scheduled for August 21st at 10 a.m.***

**Public Affairs Office**  
**Naval Submarine Base**  
**1036 USS Tennessee Avenue**  
**Kings Bay, Georgia 31547-2606**