


# BRAC Talk

▲ Environmental Base Realignment and Closure News ▲

Spring 1998




 Naval Facilities Engineering Service Center



## Allen Harbor Landfill contract awarded

By Phil Otis

A \$9,602,170 contract for remedial action at the Allen Harbor Landfill was awarded to Foster Wheeler Environmental Corporation of Lyndhurst, New Jersey on Christmas Eve, 24 December 1997. The Allen Harbor Landfill is located at the former Naval Construction Battalion Center, Davisville, Rhode Island (BRAC 1991). The contractor will install a multimedia cap on the landfill, which was accepted as the preferred alternative by the Navy after extensive negotiations with Environmental Protection Agency (EPA) Region I and the Rhode Island Department of Environmental Management (RIDEM). This action was incorporated in the Record of Decision (ROD) issued in September 1997.

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## GAC attacks NAS Agana



The granular activated carbon system shown here removes organic pollutants from groundwater at Guam.

The Navy has completed a major milestone in their effort to remediate low-levels of trichloroethylene (TCE) in the groundwater at Tiyan, formerly NAS Agana (BRAC 1993). The installation of a granular activated carbon (GAC) system at the production well, NAS-1, was completed in November 1997. The GAC system was designed by Ogden Environmental and Energy Service and installed by the subcontractor, Fluor Daniel GTI and AIC International, a Guam contractor.

A wellhead treatment system was requested by the Guam Environmental Protection Agency (GEPA) after groundwater samples showed levels of TCE exceeding the maximum safe drinking contaminant level of 5 parts per billion. After negotiations between the Navy, Region IX of the U.S. Environmental Protection Agency (EPA Region IX) and GEPA, the Navy proposed to install a treatment system through a time-critical removal action. As part of the groundwater investigation and remediation, the system has been programmed for a period of 5 years. It could be shut down if levels of TCE consistently remain below the maximum contaminant level (MCL).

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## *"Allen Harbor Landfill"* *continued from page 1*

The project will include installation of an impermeable multimedia cap over portions of the landfill above the 100-year storm surge flood level and placement of a soil cap over the remaining area. The slope of the landfill facing Allen Harbor will be stabilized with a stone revetment. Tidal wetlands will be constructed along the harbor face of the landfill, using material dredged from the harbor entrance channel. (See related story "Beneficial reuse of dredged sediment planned for Allen Harbor Landfill remediation" on page 3.) Dredging of the channel will benefit the

post-transfer use of Allen Harbor for boating and marina activities sponsored by the town of North Kingstown. The Navy CLEAN contractor, EA Engineering Science and Technology, is designing the remedial action.

Work at the site is expected to begin in March 1998 with substantial completion by the end of the year. Final grading of the cap and the wetland areas (to account for post-construction settlement prior to vegetation) will be accomplished in the spring of 1999.

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## *"GAC attacks NAS Agana"* *continued from page 1*

The GAC system was designed to treat TCE contaminated water at a rate of 200 gallons per minute for distribution to the public drinking water system. The system consists of two vessels containing a total of 16,000 pounds of carbon granules, a backwash tank and a backwash pump. TCE contaminants are adsorbed by the carbon in series through the two carbon vessels. This dual vessel system optimizes carbon usage by allowing breakthrough to occur and carbon to be spent only in the first vessel. Monitoring will be performed to better estimate the breakthrough time and develop the carbon replacement schedule. Carbon replacement is estimated to be 20 months. The spent carbon will be either disposed of at the PWC landfill as non-hazardous or shipped off-island as hazardous waste depending on sample results. To prevent clogging and fouling, the system was designed with a backwash system that will flush particulates from the carbon by high-pressure water.

Weekly samples are being collected for analysis. While influent results are both below and above MCL, the effluent results are non-detect, showing that the system successfully removes TCE. The Navy will propose to the BRAC Cleanup Team (BCT) a bi-monthly and quarterly sampling schedule depending on the sampling results for November and December 1997. Ogden has subcontracted PCR Environmental, Inc., a Guam environmental firm, to operate and maintain the system.

The contract cost for the GAC system without consultant fees is approximately \$470,000. We are encouraged that the system may be selected as the groundwater remediation system for TCE at NAS Agana. The BRAC Environmental Coordinator and Remedial Project Manager (RPM) for the groundwater investigation is Mr. Frank Caluya (705) 475-5161. He is assisted by Mr. Andrew Lee (808) 474-5964, the RPM for the soils investigation.

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# Beneficial reuse of dredged sediment planned for Allen Harbor Landfill remediation

By Simeon Hahn

Every now and then there is a cleanup which provides for a true win-win situation. Case in point is wetland creation adjacent to the Allen Harbor Landfill located at the former Naval Construction Battalion Center Davisville, Rhode Island (BRAC 1991). The center, closed in 1994, is slated for transfer to the town of North Kingstown for use as a conservation/recreation area when remediation activities are complete. (See related story "Allen Harbor Landfill contract awarded" on Page 1).

The landfill, closed in 1972, is located on the western shore of Allen Harbor, a small embayment of Narragansett Bay. The site is bounded to the north and south by tidal wetlands. The landfilling activity changed the local topography and water elevations, thus impacting the adjacent wetlands. Sediments adjacent to the landfill were determined to present ecological risk to the benthic community (organisms found in the sediment) and the animals which feed upon these organisms. People eating clams, oysters and mussels would also be at risk. Studies determined that contamination resulted from general run-off and bank erosion processes. Therefore, remediation of the sediments in front of the landfill was necessary.

During the course of the Navy's remedial investigation, the town of North Kingstown was coincidentally developing a plan to dredge approximately 30,000 cubic yards of sediment from the entrance channel of Allen Harbor. This project was primarily intended to support recreational boating associated with a small marina in the harbor. Due to its protective features, Allen Harbor is one of the best anchorages in Narragansett Bay, if not the entire East Coast.

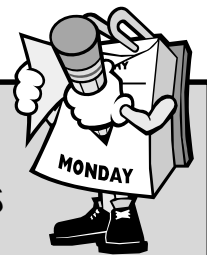
The sediment in the area planned to be dredged was found to be clean, yet there still were problems. Basically there was no plan for disposing of the dredge spoils.

Northern Division Naval Facilities Engineering Command (NORTHDIV) had been investigating and strongly advocating an innovative approach to remediating the landfill for quite some time. The traditional approach is to dredge the contaminated sediments and dispose of them in an approved upland location. However, in this case there was apprehension. Some were concerned that dredging would present

environmental and engineering risks. From an environmental perspective, resuspension of and mobilization of contaminated sediment was problematic. From an engineering perspective, structural elements would need to be strategically placed on the face of the landfill for erosion protection from wave action and storm events. The Navy felt that these structural elements should remain, as the landfill was quite stable despite some small-scale erosion.

The biologists on the team from NORTHDIV, EA Engineering, the National Oceanographic and Atmospheric Administration, and the U.S. Fish and Wildlife Service had long advocated the restoration of the wetlands habitat next to the landfill. The benefits of the restoration include dissipation of wave energy, general water quality improvements, and most importantly, remediation of the existing area. Once the Navy became aware of the town's project, we quickly realized that this material would serve as an excellent base for restoring the wetlands, thus encapsulating the existing contaminated sediment. Through negotiations with the Environmental Protection Agency, Rhode Island Department of Environmental Management, the Natural Resource Trustees and the community, this alternative was selected in the Record of Decision. The project is currently in remedial design, with construction scheduled to begin in November 1998. This is a true win-win situation with the biggest winner being the environment.

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## Reminder 1998 DoD BCT Workshops

13-15 May	St. Louis, MO	For BCTs in EPA Regions 4-8
2-4 June	Pittsburgh, PA	For BCTs in EPA Regions 1-3
23-25 June	San Diego, CA	For BCTs in EPA Regions 9 & 10

# Midway cleanup a success

By Christopher Glenn

On June 30, 1997, the Navy officially turned over operation of an environmentally safe, ecologically sound Midway Atoll (BRAC 1993) to the U.S. Fish and Wildlife Service. The atoll wasn't always this way, though. After 60 years of Navy operations, Midway had been dangerous to wildlife. Debris and antenna supports injured or trapped birds and marine animals, while fuel, chemicals and lead from lead based paint, seeped into the soil and nearshore water.

Working closely with Region IX of the U.S. Environmental Protection Agency, the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, and the National Oceanic Atmospheric Administration, the Naval Facilities Engineering Command Pacific Division (PACDIV) investigated 42 sites potentially contaminated with hazardous substances.



Half a million Laysan Albatross, also known as "gooney birds," reside on the Midway Atoll.

Midway Atoll, seen here from above, will remain a wildlife preserve under the U.S. Fish & Wildlife Service.



"By involving regulatory agencies early in the planning process, the cleanup was significantly accelerated," according to Jeff Yamamoto, the Navy BRAC Environmental Coordinator.

During the cleanup process, 125 underground storage tanks were removed, some as large as two million gallons, as well as all associated pipelines. PACDIV installed a Fluid Injection Vacuum Extraction (FIVE) system, the largest ever built, covering 60 acres, to remove contaminants that seeped into the soil. The system injected steam into a series of underground pipes causing the fuel to collect in numerous collection wells.

Pesticide and polychlorinated biphenyl (PCB) contaminated soil was treated and placed into an on-island landfill. PCB contaminated transformers and other hazardous material were disposed off-island. In addition, lead paint from the buildings was scraped away, removing a risk to the albatross population on the island that often pecks and swallows bits of the paint.

These cleanup efforts overseen by PACDIV's Environmental Division have prompted praise from the agency taking over the Midway Atoll. "Their diligent efforts to clean up such contaminants as PCB, DDT, lead paint, asbestos and fuel have removed a significant threat to Midway Atoll's fish and wildlife refuge," said Robert Smith, Pacific Island Ecoregion manager for the Fish and Wildlife Service.

In a flag lowering ceremony, the Navy turned over control of Midway, leaving behind runways, a hangar and various housing quarters, as well as a safe environment for the approximately 1.5 million Laysan albatross, or gooney birds, and various other birds and marine life. The atoll will continue being used as a wildlife preserve and will provide a treat for visiting tourists.

*Reprinted from Environmental Division News, Summer 1997 Naval Facilities Engineering Command Pacific Division*

## New cleanup technology tested at Mare Island



TerraTherm Environmental Services is demonstrating a new cleanup technology at the former Mare Island Naval Shipyard.

On October 1, 1997, at the former Mare Island Naval Shipyard (BRAC 1993), TerraTherm Environmental Services, Inc. demonstrated a new environmental remediation process aimed at eliminating volatile and semi-volatile organic compounds, including PCBs, chlorinated solvents, pesticides and petroleum wastes. TerraTherm is a subsidiary of Shell Technology Ventures, Inc. of Houston, Texas. The 30-day demonstration period is expected to prove whether the TerraTherm heat treatment known as In-Situ Thermal Desorption (ISTD) is a cost effective method to destroy and remove PCBs to well below two parts per million. The TerraTherm heat treatment cost is estimated to range from \$100 to \$300 per ton compared to about \$1,000 per ton for the excavate, haul and dump cleanup process.

The Mare Island demonstration project was sponsored by the Bay Area Defense Conversion Action Team (BADCAT) Environmental Technology Partnership (ETP). BADCAT/ETP is a public/private partnership of the Bay Area Economic Forum, Bay Area Regional

Technology Alliance (BARTA), California Environmental Protection Agency, U.S. Environmental Protection Agency, U.S. Navy, Chevron Research and Technology, San Francisco State University and other technical experts working to expedite the cleanup and conversion of closing bases in the San Francisco Bay Area through the application of innovative environmental cleanup technologies.

The Mare Island demonstration site is a former electrical shop grease trap, where oil containing PCBs was washed out of transformers. Liquid waste and sludge were pumped into the grease trap prior to discharge to the industrial wastewater system. The grease trap was removed and the area was backfilled with soils contaminated with PCBs. Levels as high as 2,200 parts per million are present.

The ISTD heat treatment process can be installed in either of two ways. The first process employs a thermal blanket, which heats the soil to a depth of three feet. Nearly all soil contaminants are vaporized and

destroyed by soil temperatures of 450-840 degrees Fahrenheit during the ten-day remediation operation. Any remaining vapors are cleaned in a vapor treatment system.

The second ISTD heat treatment process uses thermal wells in which heating elements are placed in wells drilled vertically or horizontally into a contaminated zone. At Mare Island, these wells are 14 feet deep. The thermal well process can take up to 30 days to remediate contaminants, depending on the level and depth of contamination and the type of soil.

Final test results were sent to the laboratory for analysis in December 1997. A final report is due in April 1998 and may be obtained by calling Karla Jenkins at the Naval Facilities Engineering Service Center, (805) 982-2636.

*Reprinted with permission from California Base Closure News December 1997, a bi-monthly publication of the Governor's Office of Planning and Research, State of California.*

## Reusing pre-1960 housing: Alameda and the Navy reach agreement on lead-based paint



Thirty-one of these ranch-style houses at the former Alameda Naval Air Station will be leased to the Alameda Reuse and Redevelopment Authority. The houses were built in 1964 and only need to be tested for the presence of lead-based paint.

The Navy and the Alameda Reuse and Redevelopment Authority (ARRA), the local reuse authority for the former Alameda Naval Air Station (NAS) (BRAC 1993), have agreed on lease terms for 80 former naval officer's houses on the closed base. Among the houses to be leased are 19 senior officers' homes known as "Big Whites," 31 ranch-style homes and 30 chief petty officers' homes. The "Big Whites" and the chief petty officer's homes were built in the early 1940s and are included in the NAS Alameda Historic District. The ranch-style houses were built in 1964.

The presence of lead-based paint in the pre-1960 houses (the "Big Whites" and chief petty officers' houses) proved to be one of the most difficult issues to solve. Current Navy policy reflects U.S. Department of Housing and Urban

Development regulations under the Residential Lead-Based Paint Hazard Reduction Act of 1992. These regulations require that a federal agency "inspect and abate" lead hazards in its pre-1960 housing. The Navy has responded at Alameda by agreeing to re-paint both the interior and exterior of the pre-1960 homes with 20-year encapsulating paint. Lead-based paint will be stripped from high friction areas, such as windowsills and door frames. Accessible or friable asbestos will be remediated. The cost to the Navy is expected to be over \$2 million.

The post-1960 ranch-style houses will not be re-painted. However, the Navy will test these units for lead-based paint and include this information in the lease document.

ARRA has contracted with a local realty company, Gallagher and

Lindsey, to lease and manage the "Big Whites" and the ranch-style homes. Homeless organizations designated in the base reuse plan will sublease from ARRA the 30 chief petty officers' homes. All the homes are included in ARRA's economic development conveyance proposal, which was submitted to the Navy in July 1997.

ARRA will install new gas and electric meters and panels in the 19 "Big Whites" and the 31 ranch-style homes. Water heaters and heating units may need to be re-piped and re-wired to meet local building codes. Additionally, ARRA will pay the Navy a monthly maintenance fee of 2.5 cents for each square foot of property leased. This charge is assessed on all Navy property leased by ARRA and reflects the cost of common area maintenance, including police and fire service.



At the Alameda Naval Air Station, 19 of these officers' homes, known as "Big Whites" will be leased to the Alameda Reuse and Redevelopment Authority (ARRA). Because they were built in the 1940s, and contain lead-based paint, the Navy will repaint the houses inside and out with 20-year encapsulating paint before turning them over to ARRA.

The charge will be paid to the Navy until such time as the property is permanently conveyed.

Realtor Don Lindsey says, "The rental market for single family homes in the area is incredible." He anticipates renting the homes out as the Navy releases them. The projected cash flow from the first leases should pay for the repairs and upgrades on the remaining homes. Monthly rents on the 4-bedroom, 2,600 square foot "Big Whites" are expected to be around \$2,000 while the 4-bedroom ranch-style homes are expected to bring \$1,500 per month. In early December, city building inspectors walked through the houses to identify necessary building code upgrades so that Certificates of Occupancy can be issued. "Hopefully, there won't be too many onerous requirements," Mr. Lindsey said.

If pre-1960 military housing is reused as office space, rather than residential purposes, lead-based paint is not an issue. At the former Mare Island Naval Shipyard (BRAC 1993), Vallejo has already leased 9 of its 11 large commanding officers' homes for corporate offices. These houses were built in 1903 and are within the Mare Island Historic District, a National Historic Landmark listed on the National Register of Historic Places.

For further information:  
Call Nanette Banks with ARRA  
at (510) 864-3407.

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## BRAC Talking

By Joyce Patterson



Welcome to Spring 1998! If you have good news or lessons learned to share with your Navy BRAC environmental partners, this is the place to do it! Send your articles to me by mail, fax, or email.

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Previous *BRAC Talk* issues (Spring 1997 and Fall 1997) featured articles on the Midway cleanup. We have one more for you in this issue on page 4. Those who were involved in the Midway cleanup and closure deserve all the press they get! It's an interesting and informative cleanup story.

The Naval Facilities Engineering Service Center has a toll free number for you. Call 1.888.4 THE ESC (1.888.484.3372) for assistance from the Navy's problem-solving experts.

## Recent closures

Public Works Center San Francisco, CA ..... closed effective 26 September 1997

Naval Air Station South Weymouth, MA ..... closed effective 28 September 1997

## Recent transfers

Naval Surface Warfare Center White Oak, MD ..... transferred to the General Services  
Administration on 18 October 1997



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[www.navy.mil/homepages/navfac/env/](http://www.navy.mil/homepages/navfac/env/)

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