

OCTOBER 1996



NAVAL SUPPORT ACTIVITY MEMPHIS MILLINGTON, TENNESSEE

ENVIRONMENTAL UPDATE 3

INTRODUCTION

This update provides a review of the environmental restoration program at Naval Support Activity (NSA) Memphis, including the associated redevelopment activities resulting from the Defense Base Closure and Realignment Act of 1990 (also known as BRAC).

MOVING TOWARD REUSE - LEASING OF PROPERTY

Since the last update in August 1995, considerable progress has been made toward the environmental cleanup and economic reuse of NSA Memphis. Although the Navy cannot transfer property with environmental problems by deed, under certain conditions, the property can be leased as an interim measure to aid in redevelopment. The BRAC Cleanup Team has identified and documented, through the Finding of Suitability to Lease process, property available for lease at NSA Memphis.

On May 1, 1996, the Millington Municipal Airport Authority signed a 25-year lease with the Navy for use of the main runway, apron areas, and several buildings, including the two hangars (Buildings N-126 and

798) and the air traffic control tower (Building N-2). The operation of an airfield is critical in Millington's reuse plans, which call for an airfield surrounded by mixed industrial development.

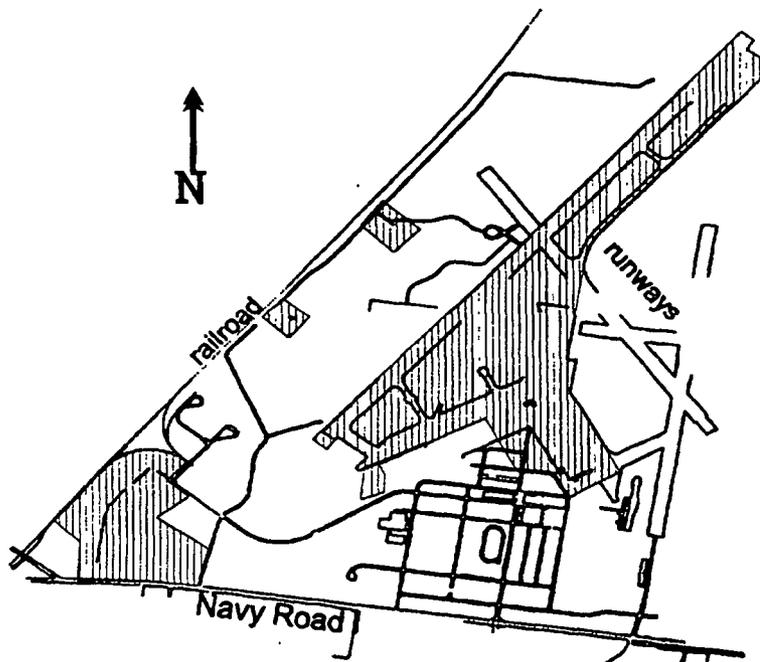


Figure 1 - Areas Leased, To Date

In addition to the airfield lease, the Millington Industrial Development Board signed a 25-year lease with the Navy on August 14, 1996 for approximately 40 acres along North Fork Creek in the southwest corner of the base's north side.

Figure 1 provides a map which shows the portion of the Navy property that has been leased. Only property north of Navy Road will be eligible for lease or transfer because the Navy will continue to operate on the south side of the property.

GROUNDWATER AND REUSE

Initial investigations are complete at the sites scheduled for transfer from the Navy, and no major sources of contamination have been identified. Instead, many small areas were identified, where contaminants (such as solvents, used oil, or jet fuel) from the base's half-century of operation were detected. Follow-up investigations will be conducted at some of these sites. These sites do not pose a hazard or risk at ground surface because there is not enough of any contaminant at any particular site. The combined contamination from these areas, however, has reached a shallow source of groundwater in the fluvial deposits in the vicinity of the aircraft parking apron (see Figure 2: hydro-geological cross-section). In some cases, concentrations of these contaminants exceed levels allowed in drinking water.

Although the groundwater in the fluvial deposits is not used as a public drinking supply at the base, the Navy is required to meet drinking water standards. The BRAC Cleanup Team has collected solid evidence on locations where the groundwater is most affected, and how the water moves under the base. Figure 3 provides a map showing the estimated extent of the contamination.

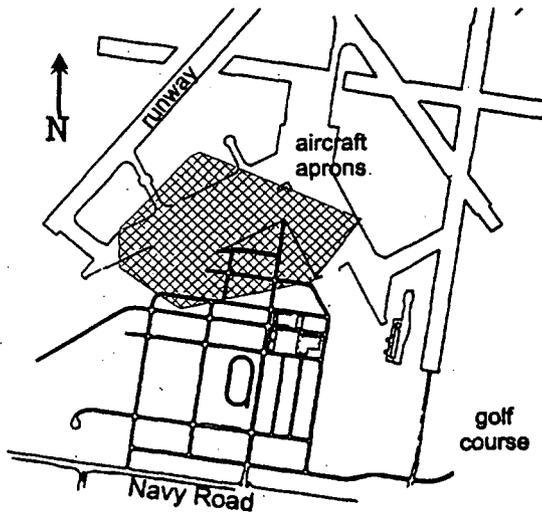


Figure 3 - Estimated Extent of Fluvial Deposits Groundwater Contamination

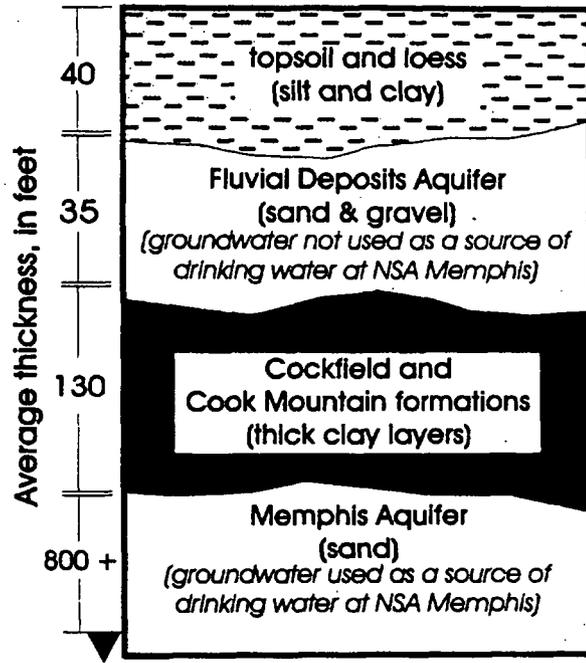


Figure 2 - Simplified Cross-section of NSA Memphis Hydro-geology

The materials identified in the groundwater include solvents and petroleum by-products. To prevent the possibility of human exposure, the Navy is looking at ways of preventing people from consuming or coming into contact with the contaminated water.

According to the BRAC Cleanup Team, groundwater contamination is the single most important issue facing transfer of this property. The Navy is working with the Millington Airport Authority, the Base Reuse Committee, Tennessee Department of Environment and Conservation (TDEC) and the US Environmental Protection Agency (USEPA) to accomplish both environmental cleanup and property reuse at the same time.

SITE INVESTIGATION SUMMARY

Sites requiring environmental investigation at NSA Memphis have been grouped into eight "assemblies" based on the level of environmental concern and their potential for reuse. Sites within Assembly A were given highest investigative priority because of the potential for environmental contamination from past activities, as well as their location on property to be transferred to the local community. The next-highest priorities are, in order, sites within Assemblies B, C, and D. Assemblies E, F, G, and H, which are primarily sites on the south side, will remain under Navy ownership and control.

BRAC Sites (Sites to be Transferred) - Assemblies A through D

Investigations are complete at all sites in Assemblies A, B, C, & D, with a few exceptions discussed below. Reports for the completed investigations are either being finalized (Assemblies B and D), or are in a draft stage and have been reviewed by the USEPA and TDEC (Assemblies A and C). Copies of these reports are available for review in three repositories: at the Millington Public Library, the NSA Memphis Library, and the base Public Affairs Office. Details on the repositories are found at the end of this update.

Investigations at the Assembly A sites have confirmed that groundwater below the airfield apron area (in the fluvial deposits) has been contaminated by past activities, as discussed above. Because of this, investigation of the groundwater in the apron area is not yet complete. Additional samples are needed to further evaluate the contamination and conditions in this area.

Underground storage tanks identified at SWMU 40 in Assembly B and SWMU 18 in Assembly C are being removed under the base's underground tank program. In addition, numerous additional underground storage tanks are being removed from the north side of the base, in preparation for lease or transfer of the property.

Actions have been taking place at other sites around the base:

- Dry wells at SWMUs 3 and 7, and the disposal sites at SWMUs 1 and 67, were removed by the Navy as Voluntary Corrective Actions.
- Removal of the soil at SWMU 8, and of the SWMU 66 Radar Facility disposal site, are in progress.
- The gas pits adjacent to the airfield apron (part of the old refueling system) were recently removed.

Two sites in Assembly C, SWMUs 15 and 21, required additional study, as solvents and fuel by-products were detected in groundwater. A report on this additional groundwater investigation is being developed.

Non-BRAC Sites (Sites to be Retained by the Navy) - Assemblies E through H

The initial investigation at all sites in Assembly E has been completed. Assemblies F, G and H consist of the south side Confirmatory Sampling Investigation SWMUs. The work plan for Assembly F has been approved by USEPA and TDEC and is available in the repositories. Field work for the Assembly F investigation started in October 1996. Work plans for Assemblies G and H are being developed.

Followup Gray Area Report

Certain properties have been classified "gray" areas, which indicates that an environmental status has not yet been determined. This classification could be due to an uncertain history at the site, or other lack of information. Site studies were conducted to gather more information on these sites to help categorize them as uncontaminated, possibly contaminated, or contaminated. The information from this study is being evaluated, leading to eventual categorization of these sites.

ENVIRONMENTAL IMPACT STATEMENT

The Environmental Impact Statement (EIS) analyzes how the planned reuse of NSA Memphis property will affect the local environment, ecology, economy, social and cultural resources, and infrastructure. An EIS must be completed and approved before property can be transferred from the Navy.

A public hearing will be held in November 1996 to receive feedback on the draft EIS. This hearing will be part of a 45-day public comment period. The final EIS, which will address the comments received during this time, is scheduled to be completed in early 1997.

ECOLOGICAL SAMPLING

Inactive sewage lagoons outside the south gate of the base, which once received domestic and industrial wastewater, were sampled in late 1995. Sediment and surface water from the lagoons were sampled, and soil and groundwater were sampled around the site. Data from these samples indicate no concerns with soil, sediment, or water at the site. Fish were sampled in March 1996 as a precautionary measure. Whole fish, rather than fillets, were sampled as an initial screening for contaminant bio-accumulation. Bio-accumulation occurs when certain contaminants are taken up (eaten) in small amounts by small creatures and stored in body tissues. Because they are not easily broken down or passed out of the body, these contaminants can accumulate in higher and higher amounts as they make their way up the food chain.

Fish tissue screening is an "early warning system" in environmental testing. In this case, whole fish were used to assess the potential risk to ecological receptors (such as plants and animals), as a "worst-case" scenario for human health risk potential, and to account for areas in the lagoons where sediments were not sampled. If only fillets had been sampled, the potential for contamination might have been missed, because some of the most important bio-accumulating pollutants only collect in the skin or organs.

Polychlorinated biphenyls (PCBs) and 4,4'DDE (a pesticide) were contaminants detected in the fish. This suggests that, while contaminant concentrations are below detection limits in sediment samples, they are "bio-accumulating" in the food chain. Results exceeded the federal screening levels (risk-based concentrations or RBCs) for fish tissue. While this study showed that there is a potential risk from eating fish from the sewage lagoons, the method used to calculate the risk is based on several very protective assumptions. Those assumptions include that whole fish (as opposed to fillets) are eaten frequently (as often as once per day), for a very long time (30 years). PCBs and DDE accumulate in the liver and in the fat between the skin and the muscle (portions of the fish that are not normally consumed). This study did not use gutted or skinned fish, and is therefore very protective of human health.

"No Trespassing" signs have been posted at the sewage signs have been installed since the fish tissue study was Trespassing/Sewage Lagoon/No fishing." A report on this found in the Millington Public Library and other repositories.



lagoons for years. More completed, stating "No risk evaluation can be

Fishing has never been allowed in the sewage ponds, but has been allowed elsewhere on NSA Memphis. Therefore, follow-up studies, which will study both whole fish and fish fillets, are planned for other NSA Memphis water bodies where fishing is allowed, such as Navy Lake. Although contamination is not expected in other water bodies, the Navy is taking this step voluntarily as a precaution for fishermen. These studies are currently being conducted, and results will be discussed at future Restoration Advisory Board (RAB) meetings.

PUBLIC INVOLVEMENT

Mailing List

The Public Affairs Office at NSA Memphis maintains a list of individuals and organizations interested in the environmental program. The mailing list is used for notification of meetings, announcements, and developments in the program.

Please contact the Public Affairs Office if you wish to be added to this list or if you have any questions about the environmental program at NSA Memphis.

Public Affairs Office
7800 Third Avenue
Naval Support Activity
Millington, TN 38054-5045

(901) 874-5761

Restoration Advisory Board Meetings

The RAB at NSA Memphis meets regularly (usually once every three months) to discuss environmental topics. These meetings are advertised and open to the public. If you cannot attend the next meeting, listed below, you can find out when future meetings will be held by contacting the base Public Affairs Office.

The Restoration Advisory Board will meet:

Tuesday, October 22, 1996

6:30 p.m.

Baker Community Center, Room 1
Millington, Tennessee

Information Repositories

Some documents are mentioned in this update as being available in the repositories. In addition to the Millington Public Library, these documents can be found at the NSA Memphis Library and NSA Memphis Public Affairs Office. Documents and other information are available for public review.

Repository Locations

Shelby County Public Library
Millington Branch
4858 Navy Road
Millington
(901) 872-1585

NSA Memphis Library
South 78 Building
(901) 874-5683



Public Affairs Office
Building S-1
7800 Third Avenue
NSA Memphis
(901) 874-5761

The following Fact Sheets are available for review at the Repositories.

Restoration Advisory Board Preliminary Notice (2/94)
Environmental Baseline Survey (4/94)
History of the Installation Restoration Program (5/94)
National Environmental Policy Act and NAS Memphis (5/94)
Federal Property Disposal and Screening Process (6/94)
Notification/Investigation Requirement for New Sites (9/94)

Finding of Suitability to Lease (4/95)
Typical Site Cleanup (11/95)
also
Environmental Update #1 (5/95)
Environmental Update #2 (8/95)

RESTORATION ADVISORY BOARD

The Restoration Advisory Board, or RAB, was set up in early 1994 to increase public participation in the environmental restoration program at NSA Memphis. The following local citizens have volunteered their time to serve on the board and represent the community on this board with the Navy, USEPA, and TDEC. All RAB members can be reached through the Public Affairs Office at the number listed below. If you have questions or concerns about the environmental issues at the base, please contact a RAB member, or attend a RAB meeting. All RAB meetings are open to the public.



Jack Carmichael, US Geological Survey, explains the groundwater investigation to members of the RAB during a visit to the base.

RAB Membership

Community Co-Chair

Mayor George Harvell
City of Millington

Community Members

Frieda Ellerbrook
Kenny Kelly, Sr.
Norman LaChapelle
Trent McVay
Russell Neighbors
Russell Noble
Tom Seale
Charles F. Smith
John A. Smith
David Watt

Navy Co-Chair

Captain James Mallory
Commanding Officer
Naval Support Activity Memphis

Navy Representative

David Porter
Southern Division, Naval Facilities Engineering
Command (Charleston, SC)

USEPA Representative

Brian Donaldson
Federal Facilities Branch (Atlanta, GA)

TDEC Representative

Jim Morrison
Division of Superfund, Memphis Office