The Memphis Depot
Building 144,
2163 Airways Blvd.
Memphis, TN 38114

DATED MATERIALS - PLEASE DELIVER THIS IMMEDIATELY

FOR YOUR INFORMATION.....

The Information Repositories are at the following locations:

The Memphis Depot Business Park,
2163 Airways Blvd., Memphis, TN (901) 774-3683
The Community Outreach Room is located in Building 144. Please call ahead for an appointment to ensure that we are available to help you.

Memphis/Shelby County Public Library,
Cherokee Branch, 3300 Sharpe Ave.,
Memphis, TN (901) 743-3655
The Cherokee Branch is open Monday to Thursday from 10 a.m. to 6 p.m. and Saturday from 10 a.m. to 6 p.m. Closed on Friday & Sunday.

HOW TO REACH US....

If you have any questions or comments about the Depot's environmental cleanup program, please feel free to contact any one of the following:

Michael Dobbs
BRAC Environmental Coordinator
The Memphis Depot
2163 Airways Blvd., Bldg. 144
Memphis, TN 38114
(901) 774-3683

Turpin Ballard
United States Environmental Protection Agency
61 Forsyth St., SW
Atlanta, GA 30303
(404) 562-8553

Jim Morrison
Tennessee Department of Environment and Conservation
410 Church St.,
4th Floor, L&C Annex
Nashville, TN 37243
(615) 532-0910

Mondell Williams
RAB Community Co-Chair
667 Mallory Avenue
Memphis, TN 38106
(901) 946-9751

Jackie Noble
Defense Distribution Center
(717) 770-6223

EnviroNews is published by the Memphis Depot to update the public on the environmental cleanup program. If you have comments, questions, or suggestions for future articles, please call Ms. Alma Black Moore at (901) 544-0613.

Visit the Depot's website at www.ddc.dla.mil/memphis

DEPOT

Summer 2005

EnviroNews

THE MEMPHIS DEPOT ENVIRONMENTAL RESTORATION PROGRAM
THE DEPOT
RESTORE, REUSE, REVITALIZE

Cleanup underway at Dunn Field

Buried waste and affected soil is being removed from the Dunn Field Disposal Sites according to the cleanup remedy approved by the Environmental Protection Agency (EPA) and the Tennessee Department of Environment and Conservation (TDEC).

In March, environmental contractors at the former Memphis Depot began implementing the approved cleanup remedy as part of the Remedial Action phase of the Depot's environmental program. The remedy involves excavation, transportation and disposal (ET&D), as outlined in the Record of Decision (ROD), which was approved in April 2004. A public briefing on the Remedial Design for the remedy was held in January 2005.

A Mactec field team member excavates affected soil from a former disposal site on Dunn Field.

During ET&D activities, the environmental contractors are following a site safety plan to protect workers, residents and the environment. The plan includes air monitoring, dust control measures, equipment cleaning, and personal protective equipment for workers.

A pre-design investigation of 17 former disposal sites at Dunn Field was completed in October 2003. The study identified five sites that required ET&D – Sites 3, 4.1, 10, 13 and 31. The final Disposal Sites Remedial Design, including the study results, was distributed to the Restoration Advisory Board (RAB) in June 2004.

The excavated soil will be sampled to ensure waste is taken to the appropriate facility for disposal. Non-hazardous waste will be transported to the Browning Ferris Industries (BFI) South Shelby Landfill. Soil and debris that is classified as hazardous waste will be transported to the Emelle Treatment Facility in Emelle, Alabama. Excavated soil is being replaced with clean fill at each disposal site.

Following excavation, the environmental contractors will collect soil samples from each disposal site to confirm that cleanup goals have been met. The initial excavations have been completed at sites 4.1, 10, 13 and 31. Cleanup goals have been met at Sites 4.1, 13 and 31. Excavated soil was classified as non-hazardous waste and disposed at South Shelby Landfill. All excavations have been backfilled with clean soil.

At Site 10, soil samples indicated that the cleanup goals had not been met at one end of the excavation. The environmental contractors performed a visual inspection and identified a burn pit. They will continue the excavation of Site 10 later this summer and will ensure that the cleanup goals are met.

At Site 3, the contractors unearthed several glass bottles, which were sealed and still contained liquid. The presence of the bottles was indicated by the historical records, but the number of bottles and the liquid contents required that excavation be stopped until the liquid could be analyzed. Test results confirmed the liquid was acidified water with low concentrations of ortho-tolidine, a compound commonly used to detect the presence of chlorine in water. The cleanup team will put appropriate safety measures in place to ensure that workers, residents and the environment are protected as the excavation continues this summer.

All recovered waste was removed from the ground, inspected and transported off-site for disposal.

The environmental contractors will prepare a Remedial Action Completion Report after all five sites have been excavated and all cleanup goals have been met. The report will be reviewed and must be approved by EPA and TDEC. The approved final Remedial Action Completion Report will be placed in the Depot's Information Repositories.

The Dunn Field ROD and the Dunn Field Disposal Sites Remedial Design and Remedial Action Work Plan are available for reference in the Depot's Information Repositories, located at the Memphis Depot Business Park and the Cherokee Library. ❑

NEXT MEETINGS

July 21/05 - 6 pm
Main Installation Remedial Design Public Briefing

October 20/05 - 6 pm
Restoration Advisory Board (RAB) Meeting

Both meetings will be held at the South Memphis Senior Citizens Center, 1620 Marjorie Street.

Public Briefing July 2005

Groundwater cleanup at Main Installation

This winter, environmental contractors at the former Memphis Depot will begin cleaning up affected groundwater under the Main Installation.

As outlined in the Main Installation Record of Decision (ROD), which was finalized in 2001, the Environmental Protection Agency (EPA) and the Tennessee Department of Environment and Conservation (TDEC) approved Enhanced Bioremediation Treatment (EBT) as the groundwater remedy for the Main Installation.

The Depot's environmental contractors completed a pilot study in 2003, to confirm EBT as a cost-effective solution for treating solvents in the shallow groundwater aquifer beneath the Main Installation.

The results of the pilot study were used to complete the Main Installation Remedial Design (RD), which outlines the technical specifications and schedule for groundwater cleanup on the Main Installation. **A public briefing has been scheduled for Thursday, July 21, 2005, at 6 p.m.** at the South Memphis Senior Citizens Center to provide details of the RD to the community.

"Our objective is to ensure the solution meets the cleanup criteria defined in the Record of Decision," said Michael Dobbs, Environmental Program Manager for the Defense Distribution Center and BRAC Cleanup Team member. "The groundwater remedy is designed to restore groundwater in the shallow aquifer to drinking water standards, even though it is not a source of drinking water for the community."

Drinking water in Memphis/Shelby County is taken from the Memphis Sand Aquifer, which is much deeper below ground surface and has not been affected by past operations at the Depot.

The Main Installation Remedial Design is available for public review at the Depot's Information Repositories. The date and location of the Public Briefing will be announced in the local media. For more information, call the Community Relations Office at (901) 774-3683.

EBT and ZVI

Environmental cleanup technologies

The Depot is using leading-edge environmental technologies to restore affected soil and groundwater at the former Memphis Depot. This article explains the science behind two of those approved technologies – Enhanced Bioremediation Treatment (EBT) and Zero-Valent Iron (ZVI) injection.

Enhanced Bioremediation Treatment (EBT):

Scientists have discovered naturally occurring organisms present in the environment that can help to break down chlorinated solvents in groundwater, and turn them into safe, natural compounds. This process is known as bioremediation.

Enhanced bioremediation involves injecting natural nutrients into the groundwater as an additional food source for these tiny organisms. This speeds up the natural process by encouraging the growth and development of more organisms. EBT has been used successfully at hundreds of cleanup sites across the country.

During a year-long pilot study completed in 2003, the Depot's environmental team set up two test sites where organic nutrients were injected into the groundwater. Vegetable oil was used at one site and sodium lactate was used at the other, to compare the effectiveness of the substances. The results of the study showed that multiple injections of sodium lactate will be the most effective solution for treating solvents in the shallow aquifer beneath the Main Installation (MI).

EBT will be used in two areas of the MI where concentrations of solvents are the highest. In the southwest corner, 16 injection wells will be used to introduce sodium lactate into the groundwater. In the southeast corner, nine injection wells will be used. Injections will occur bi-weekly during the first year of treatment and then reduce to a monthly schedule until the cleanup goals are reached.

Additional monitoring wells will also be installed to ensure the effectiveness of the treatment.

The Environmental Protection Agency (EPA) and the Tennessee Department of Environment and Conservation (TDEC) will review the effectiveness of the remedy at five-year intervals to ensure the site continues to be safe for community reuse.

The Depot will host a public briefing for the MI Remedial Design on July 21, 2005, and will provide more information on EBT and its use at the Memphis Depot. An announcement will be placed in the local media before the briefing. More information on EBT is available on EPA's website at www.epa.gov/swertio1/download/citizens/bioremediation.pdf.

Zero-Valent Iron (ZVI):

In February 2005, the Depot hosted a Community Information Session featuring a special guest speaker, Dr. Ralph Ludwig, who described how ZVI works, and provided examples from other sites where the technology has been used with great success.

Dr. Ludwig has a Ph.D. in environmental engineering from McGill University in Canada. He is a senior scientist with the U.S. EPA's Office of Research and Development, at the Ground Water and Ecosystems Restoration Division (GWERD) in Ada, Oklahoma.

As Dr. Ludwig explained during his presentation, ZVI has been used since the early 1990s to treat groundwater containing solvents known as chlorinated volatile organic compounds (CVOCs).

When ZVI is injected into groundwater, the iron slowly oxidizes, or rusts, and releases electrons that react with the chlorinated solvents in groundwater. A chemical reaction occurs that removes the chlorines from the CVOCs, breaking down the solvents into harmless byproducts. This chemical reaction is called reductive dechlorination.

In 2004, the Depot's environmental team completed a Treatability Study at Dunn Field to confirm the effectiveness of ZVI technology on groundwater conditions at the Depot. The results of the study showed a significant reduction in CVOCs in the groundwater.

ZVI has been approved for use in two cleanup remedies:

- Source Area Remedial Action: ZVI will be injected directly into areas at Dunn Field with the highest concentrations of solvents;
- Off-Depot Groundwater Remedial Action: ZVI will be used in a Permeable Reactive Barrier to treat groundwater, with lower concentrations of solvents, flowing off-site to the west of Dunn Field.

ZVI was used from November 2004 to January 2005 during an early remedy implementation to treat off-site impacts of solvents in groundwater beneath Memphis, Light, Gas and Water (MLGW) property northwest of Dunn Field. Sampling in January and March 2005 indicated that concentrations of solvents have been reduced by 50 per cent. Groundwater monitoring will continue and the information will be used in the Off Depot Groundwater Remedial Design.

EPA and TDEC will review the effectiveness of this remedy through regular monitoring that will be conducted once implementation has been completed. Additional review will also take place every five years as part of the Five-Year Review process that happens at all sites on the National Priorities List to ensure the site continues to be safe for community reuse. ❑

FOST #4:

Depot property ready for transfer

The fourth Finding of Suitability to Transfer (FOST) document has been signed by the Department of Army, clearing the way for approximately 41 acres of land on the east side of Dunn Field to be transferred to the City of Memphis.

The property identified in FOST #4 consists of open grassed areas, paved and gravel roads, and railroad tracks. This property was identified in the Dunn Field ROD as available for unrestricted reuse. While the City's plans for the land are still to be confirmed, the property is being transferred for use as a park (17 acres), for Hays Road improvements (2 acres) and for other transportation uses (22 acres).

The FOST process is a requirement of the Base Realignment and Closure (BRAC) Act to transfer the ownership of federal property for community redevelopment. FOST #4 includes a report that details the historic uses of the property including environmental impacts and cleanup remedies.

To date, 422 acres of former federal property have been made available for transfer, including 332 acres at the Memphis Depot Business Park, where buildings and open areas are being redeveloped for commercial and light-industrial activities.

A copy of FOST #4 can be reviewed in the Depot's two Information Repositories, located at the Depot and the Cherokee Branch Library. For more information on the economic improvement programs at the Memphis Depot Business Park, contact the Depot Redevelopment Corporation at (901) 942-4939. ❑

COMMUNITY RELATIONS UPDATE

New Community Involvement Plan

The Defense Distribution Center (DDC) has released its new Community Involvement Plan (CIP) that outlines the steps that will be taken to keep the community informed throughout the environmental cleanup program at the former Memphis Depot.

The Depot first developed an interim Community Relations Plan (CRP) in 1997 to help identify community concerns, facilitate communication regarding environmental issues, and encourage community involvement in the decision-making process. That plan was published in 1999 as a five-year document with input from community interviews and focus groups.

Since then, significant progress has been made in the environmental cleanup program. The Remedial Investigations, Feasibility Studies and Records of Decision (RODs) have been completed for the Main Installation and for Dunn Field.

Community interviews were conducted again in June 2004 to assess the progress of the communication activities described in the 1999 CRP. The results of the community interviews conducted in 2004 indicate that, overall, community stakeholders are satisfied with the environmental cleanup of the Depot. They are satisfied with the information they receive and the work being done. Awareness levels are very high, with nearly everyone expressing some knowledge of the environmental issues.

The focus of the updated CIP is to help the environmental team keep the community informed of the progress being made during the cleanup.

Key objectives of the CIP are to:

- Fulfill information availability requirements using vehicles such as Information Repositories (IRs), and the Administrative Record (AR) online – www.adminrec.com/DLA.asp
- Build community interest in the cleanup through RAB meetings (May, October 2005), EnviroNews (July 2005), Public Briefings (January, July 2005), Community Information Sessions (February 2005), and Fact Sheets
- Build awareness about community involvement opportunities with Fact Sheets, Media Relations, and the Depot website at www.ddc.dla.mil/memphis
- Maintain regular information channels through the Community Relations Specialist, Public Briefings, Community Information Sessions, EnviroNews, Fact Sheets, IRs, and the Depot website

A copy of the new CIP is available for public review in the Information Repositories, or online at www.ddc.dla.mil/Memphis/whatsnew.asp. For more information, contact the Depot's Community Relations Office at (901) 774-3683.

Information Repositories Consolidated

The Memphis Depot has consolidated its Information Repositories (IRs) into two locations:

- **The Memphis Depot Business Park**
- **Memphis/Shelby County Public Library Cherokee Branch**

The IR formerly located at the Memphis/Shelby County Health Department, which was used infrequently by the public, has been closed.

Visit our website at www.ddc.dla.mil/memphis/docs/IRdocuments.htm for a list of technical reports and environmental data included in the Depot's IRs. BRAC Cleanup Team minutes and Restoration Advisory Board (RAB) meeting minutes can be viewed online at www.ddc.dla.mil/Memphis/bct.asp#minutes and www.ddc.dla.mil/Memphis/RAB.asp#minutes. ❑

Cleanup program on schedule

The environmental cleanup program at the former Memphis Depot is now in the final stages of the eight-stage process outlined in the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

The Remedial Designs for the Main Installation and for the Dunn Field Disposal Sites have been completed, and Remedial Action (RA) is now underway at the disposal sites. Remedial Design is continuing for the Dunn Field Source Areas and Off-Depot Groundwater. The cleanup team has set the following schedule for these program milestones:

Summer 2005

- Complete Dunn Field Disposal Sites Remedial Action
- Conduct Main Installation Remedial Design (RD) Public Briefing

Winter 2005/06

- Begin Main Installation RA – Enhanced Bioremediation
- Complete Source Area RD – Soil Vapor Extraction (SVE) and Zero-Valent Iron (ZVI) injection
- Submit Disposal Sites RA Completion Report

2006

- Conduct Source Area RD Public Briefing
- Begin Source Area Remedial Action
- Complete Off-Depot Groundwater Remedial Design – Permeable Reactive Barrier (PRB) and ZVI

2007

- Conduct Off-Depot Groundwater RD Public Briefing
- Begin Off-Depot Groundwater RA

2008

- Receive Operating Properly and Successfully (OPS) determination from the Environmental Protection Agency (EPA) for the Main Installation RA
- Conduct a Public Comment Period for the Finding of Suitability to Transfer (FOST) #5 (remainder of MI)

2009

- Receive OPS determination for the Source Area and Off-Depot Groundwater RAs
- Conduct a Public Comment Period for FOST #6 (remainder of Dunn Field)

These dates are based on current information and are subject to change. The Depot's environmental team will keep the community informed of the progress on the cleanup program through our regular community outreach activities such as public briefings, community information sessions, Restoration Advisory Board meetings, media releases, fact sheets and future issues of EnviroNews.

For more information, please contact the Community Relations Office at (901) 774-3683.