



# THE MEMPHIS DEPOT TENNESSEE

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## ADMINISTRATIVE RECORD COVER SHEET

AR File Number 684

# EnviroNews

Spring 2002



## Dunn Field Remedial Investigation Completed

The drinking water is safe, and most areas of Dunn Field are safe for current and future workers, according to the Remedial Investigation (RI) recently completed for Dunn Field. The RI marks an important step forward in the Memphis Depot environmental cleanup program.

The RI represents the third step in the seven-step process regulated by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Before remedial design and cleanup work begins at Dunn Field, the RI must be reviewed by the Tennessee Department of Environment and Conservation (TDEC) and the Environmental Protection Agency (EPA).

The nature and extent section of the RI identifies the quantity and location of environmental impacts at Dunn Field. This information was presented at the

February 2002 Restoration Advisory Board (RAB) meeting, with the following general conclusions.

- Environmental conditions on Dunn Field are defined and can be cleaned up using available technologies.
- Past Depot activities have not affected the drinking water aquifer (Memphis Sand).
- Most areas of Dunn Field are safe for current and future workers.
- Tests of surface water and sediments on Dunn Field show no unacceptable risks.

Through the nature and extent investigation, several compounds were identified as Chemicals of Potential Concern (COPCs). These are substances detected in the environment, which may be higher than background levels (naturally occurring or consistent with

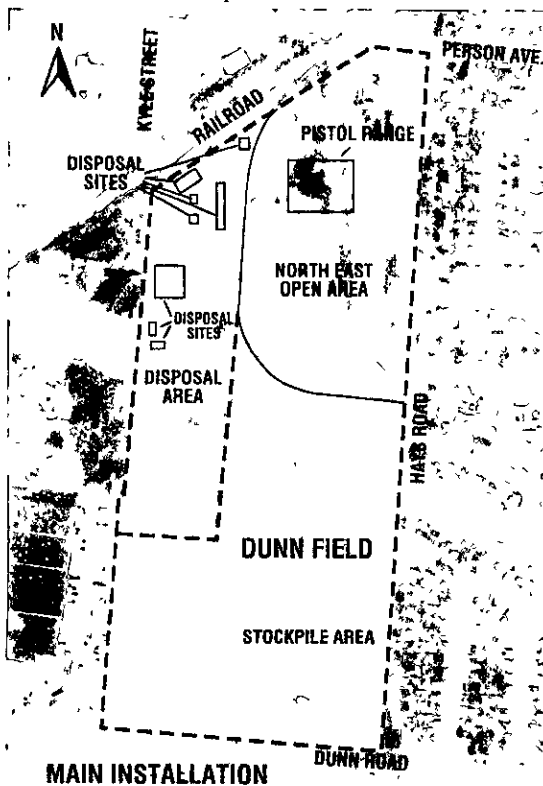
environmental conditions elsewhere in the Memphis area). COPCs are studied further to determine if they present any unacceptable risks.

The next stage of the RI is the Risk Assessment (RA), which evaluates the potential risks to human health and the environment from environmental conditions at Dunn Field. A summary of the RA was presented at the April 18, 2002, RAB meeting.

### STUDY AREAS

For the RI, Dunn Field was divided into three land areas.

The fourth study area was Groundwater, beneath Dunn Field and the surrounding areas.



## The Memphis RAB: Working for you!

The Memphis Restoration Advisory Board meets regularly to review proposed plans and actions and provide input on the environmental cleanup program at the Depot. The RAB consists of 13 volunteer community members, five civic representatives, and three Base Realignment and Closure (BRAC) Cleanup Team (BCT) members.

RAB meetings are open to all community members. They are usually held the third Thursday of the month at the South Memphis Senior Citizens Center, located at 1620 Marjorie Street off Person.

**There will be no RAB meeting in May 2002. Watch the Commercial Appeal, Tri-State Defender or Silver Star News for the date and presentation topics for the next RAB meeting.**

### DISPOSAL AREA

The Disposal Area consists of approximately 14 acres in the northwest section of Dunn Field, west of the railroad tracks. It was used as a landfill for construction debris, maintenance shop waste, paints, and other types of waste.

COPCs in the soil that were evaluated in the Risk Assessment include

- Aluminum, antimony, lead and total chromium that are naturally occurring metals and slightly higher than background levels, and arsenic and thallium that are from the past pesticide and rodenticide use,
- PAHs (Polycyclic Aromatic Hydrocarbons) associated with asphalt and railroad tracks;
- Pesticide (dieldrin) from past application;

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- Volatile Organic Compounds (VOCs) solvents from past disposal and industrial operations.

### NORTHEAST OPEN AREA

This approximately 20-acre area consists of grassy and lightly wooded land in the northeast section of Dunn Field. It includes the former asphalt burial site, a portion of the bauxite storage area, pistol range, and temporary pesticide storage area.

#### COPCs detected in this area include:

- Lead from the pistol range,
- Thallium from the application of rodenticide, and chromium and antimony that are naturally occurring metals detected slightly above background levels;
- Pesticide (dieldrin) from past application;
- One small area of VOCs in surface soil (this appears to be from a single occurrence rather than general operations).

The surface soil containing lead at the pistol range will be removed in advance of the remedial action phase.

### STOCKPILE AREA

This approximately 30-acre area includes the former bauxite and fluor spar storage areas in the southern section of Dunn Field.

COPCs detected in this area were:

- Metals associated with mineral ore storage: aluminum, barium, chromium, copper, lead, manganese, vanadium,
- Arsenic associated with pesticide application, which is similar to background levels;
- PAHs associated with asphalt roads and railroad tracks,
- Pesticide (dieldrin) from past application.

## New at the Information Repositories

The Depot's Information Repositories contain technical reports and documents related to the ongoing cleanup of Dunn Field and the Main Installation, including minutes from Restoration Advisory Board (RAB) and Base Realignment and Closure (BRAC) Cleanup Team (BCT) meetings.

The Depot's three Information Repositories are located at the Cherokee Library, Memphis/Shelby County Health Department and the Community Outreach Room in Building 144 at the former Memphis Depot. The Hillview Neighborhood Network Center is no longer an Information Repository for the Depot.

For a complete list of documents available in the Information Repositories, visit the website at [www.ddc.dla.mil/memphis](http://www.ddc.dla.mil/memphis). □

## GROUNDWATER

Tests of the shallow, intermediate and deep aquifers beneath Dunn Field have determined that the drinking water is safe. The groundwater in the shallow aquifer has been affected beneath Dunn Field and to the north and west of the site. Affected groundwater to the northeast of Dunn Field is from an unidentified source that is not related to Depot activities.

COPCs in the shallow aquifer include:

- VOCs under the disposal locations that have migrated from surface soil into the groundwater;
- Naturally occurring metals: aluminum, arsenic, barium, beryllium, cadmium, chromium, copper, iron, lead, manganese, mercury, nickel, and vanadium.

The Depot's Base Realignment and Closure Cleanup TEAM (BCT) will now use the RI data to develop cleanup alternatives to protect human

health and the environment. These alternatives will be detailed in the Feasibility Study (FS) for Dunn Field, scheduled for completion in the summer of 2002. The FS will provide the results of the pilot projects for soil vapor extraction (SVE) at Dunn Field and enhanced bioremediation at the Main Installation. It will also include information on the Dunn Field Groundwater Pumping System, which is reducing VOC levels in off-site monitoring wells.

A Proposed Plan for Dunn Field, which details the BCT's recommended cleanup actions, will be completed and presented to the public for comment later this year. The Depot anticipates submitting the Dunn Field Record of Decision to the EPA, TDEC and U.S. Department of Army for approval before the end of 2002.

For more information on the Dunn Field Remedial Investigation, please call the Depot's Community Relations Office at (901) 544-0613.

# Risk Assessment Overview

## How do we know it's safe?

The Depot recently completed a risk assessment as part of the Remedial Investigation (RI) for Dunn Field. This article describes the process that was followed, based on guidelines developed by the U.S. Environmental Protection Agency (EPA).

For a health risk to be present, two things must occur. First, a hazard must exist and be above acceptable levels. Second, exposure must take place. This means the presence of a substance in the environment is not considered to be an unacceptable risk if people are not exposed to it.

Performing a risk assessment is a complex process that involves four key areas of investigation:

### Hazard Identification

First, the Base Realignment and Closure Cleanup Team (BCT) identifies any potential hazards found in samples taken from the site. Scientists and technicians record the frequency and locations of these substances in the soil and groundwater. They compare these findings to 'background levels' that may be present in the natural or local urban environment and to 'screening levels' such as safe drinking water standards established by EPA. If the samples show higher concentrations than are normal for the area or higher than the screening levels, the risk assessment for that compound continues.

### Toxicity Assessment

After compiling a list of possible hazards, a toxicity assessment is used to compare the types

and levels of compounds identified at the site to accepted scientific standards, to measure the potential impact of environmental conditions on human health.

### Exposure Assessment

An exposure assessment identifies who might come into contact with the compound, the quantities, exposure pathways and the duration of exposure. Exposure pathways are the ways in which people may come into contact with the substances, including ingestion (eating or drinking affected soil and water), inhalation, or contact with the skin.

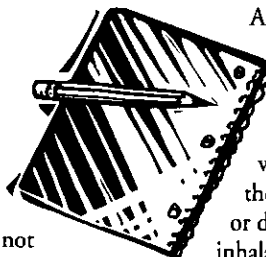
The exposure assessment also takes into account possible future land-use scenarios (residential, commercial, recreational uses) and determines the potential for exposure.

### Risk Characterization

The final step in the RA step combines the information from the exposure and toxicity assessments to determine the potential for increased risk and the conditions under which the risk may occur. It also defines the nature of any unacceptable risk and the risk management options that may be considered.

Once the risks at Dunn Field have been characterized, the BCT will determine the acceptable cleanup levels for the site. These levels are based on strict standards to protect human health and the environment, to ensure it is restored to safe levels for the intended future use.

The results of the Dunn Field Risk Assessment were presented at the Restoration Advisory Board meeting on April 18, 2002. □



# Reflections on 2001

In 2001, the Memphis Depot reached a number of important milestones in its ongoing environmental cleanup program. Numerous short and long-term activities were started and/or completed on the Main Installation and Dunn Field. These activities are moving the Depot and the community closer to the goal of safely restoring the property for productive reuse.

- **January 2001** – The Groundwater Pumping System on Dunn Field was upgraded and four new wells were added. This system was installed in 1998 as an interim cleanup action to control the flow of groundwater from the site. The expanded system will operate until alternate cleanup actions are approved.
- **May 2001** – The Chemical Warfare Material (CWM) Removal Project, which began in April 2000, was completed. All CWM related materials were removed from the site to approved waste management facilities.
- **June 2001** – The Defense Logistics Agency (DLA) and the Department of Army completed a 30-day public comment period for its second Finding of Suitability to Transfer (FOST). The 15.2-acre area of the Main Installation (MI) includes seven buildings, the open land area and two paved parking lots surrounding the Administration Building (Building 144).
- **July 2001** – Additional temporary groundwater monitoring wells were installed on the Main Installation. The wells were installed in areas where possible connections were identified in the clay layers between the shallow and deep aquifers to ensure the drinking water is

protected from environmental conditions in the shallow aquifer.

- **September 2001** – State and Federal regulators and the DLA signed the Record of Decision (ROD) for the MI. The ROD outlines the cleanup remedies for groundwater that will ensure the Memphis Depot Business Park is safe for future industrial and recreational use.



Charles Haynes, a University of Memphis student, visits the Depot Community Outreach Room

- **September 2001** – The Depot began preparing the Remedial Design for the groundwater cleanup remedy at the MI. This activity will help the Depot to determine the best locations to implement the remedial action for groundwater.
- **October 2001** – Two sites on the Main Installation were cleaned up. The Depot contractors removed soil that contained lead near Building 949, which was formerly used as

an outdoor spray paint site. Contractors also cleaned up materials from Building 308, a former hazardous waste storage site.

- **November 2001** – A pilot project began to test soil vapor extraction (SVE) on Dunn Field. SVE is a treatment method that is used at many Superfund sites across the United States. The project, completed in January 2002, tested the effectiveness of SVE in removing solvents from affected soil to a depth of 75 feet. State and Federal regulators will determine if SVE meets or surpasses the health protective standards and becomes the preferred cleanup alternative in the Dunn Field Proposed Plan.



Workers complete the removal of the old railroad tracks from Dunn Road

- **December 2001** – The Depot completed the railroad track removal project on Dunn Road. The Depot once used the railroad tracks to move materials and supplies from the Depot. □

## Looking Toward The Future...

### What To Expect In 2002 And Beyond

The Depot and its contractors are scheduled to complete the following tasks in 2002, 2003 and beyond. While every effort will be made to meet the projected schedule, the dates given are subject to change.

#### 2002-2003:

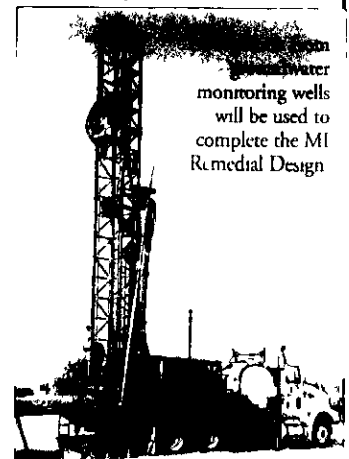
- The BCT will review and approve the Main Installation Remedial Design (RD) work plans. The RD includes plans for conducting the preferred cleanup alternative for groundwater for the Main Installation.
- The BCT will complete the Dunn Field Feasibility Study, which will evaluate different cleanup alternatives for groundwater and soil at Dunn Field.
- The BCT will complete the Dunn Field Proposed Plan, which will present the BCT's preferred cleanup

alternatives for Dunn Field. The Depot will provide the documents to the public for review in its Information Repositories and expects to begin the public comment period in the summer of 2002.

- The BCT will complete the Dunn Field Record of Decision for the cleanup of Dunn Field.

#### Beyond 2003:

- The BCT will complete the Remedial Design for Dunn Field.
- The Depot will operate and monitor remedial actions at the Main Installation and Dunn Field to ensure operations meet Remedial Action objectives. □



## We've Moved! (...but just down the hall)

The Memphis Depot Caretaker Office, the Community Relations Office and the Community Outreach Room have relocated to the south wing of Building 144 at 2163 Airways Boulevard.

From Airways Boulevard, turn onto Memphis Depot Parkway and take the first right into the parking lot (before the security gate). If you need more information, or a wheelchair accessible entrance, please call the Depot's Community Relations Office at (901) 544-0613. □

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The Memphis Depot  
Building 144,  
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Memphis, TN 38114

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## DATED MATERIALS - PLEASE DELIVER THIS IMMEDIATELY

### FOR YOUR INFORMATION.....

The Information Repositories are at the following locations:

The Depot, 2163 Airways Blvd , Bldg. 144,  
Memphis, TN (901) 544-0613

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 Health  
Department, Pollution Control Division  
814 Jefferson Ave., Memphis, TN  
(901) 576-7775

The Pollution Control Division is open Monday  
to Friday from 7 30 a m to 4 30 p m

Memphis/Shelby County Public Library,  
Cherokee Branch, 3300 Sharpe Ave.,  
Memphis, TN (901) 743-3655

The Cherokee Branch is open Monday to Wednesday  
from 10 a m to 6 30 p m , Thursday from noon to  
6 30 p m , and Saturday from noon to 6 p m

## 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.

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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](http://www.ddc.dla.mil/memphis)



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