











PUBLIC COMMENT PERIOD OCTOBER EXTENDED TĤ **Proposed Plan Presents Cleanup UPCOMING** Alternatives for Main Installation



The Memphis Depot BRAC Cleanup Team (BCT), which includes representatives from the Depot, the Environmental Protection Agency (EPA) and the Tennessee Department of Environment and Conservation (TDEC), has presented its Proposed Plan for the Main Installation for public comment

The Proposed Plan is the fourth of seven steps in the cleanup process, which is governed by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) The document is available in the four Information Repositories for the public comment period, began August 14 and has been extended to

October 13 The plan outlines cleanup alternatives for affected soil and groundwater on the Main Installation

The plan also describes the cleanup alternative preferred by the BCT and how this alternative meets EPA guidelines as the most effective method to reach cleanup objectives and allow the transfer of the property for its intended reuse

The Preferred Alternative proposed by the BCT will ensure that the soil and groundwater is cleaned up to meet health standards for future industrial workers and recreational visitors at the Main Installation

RAB MEETING

The RAB includes community members who review proposed plans and actions and provide input on the environmental cleanup activities

The next¹ **RAB** meeting is Thursday, Sept. 21st

The RAB meeting will be held at 6 00 pm in the "J" Street Café at the Memphis Depot Business Park 🗖

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The following five alternatives were evaluated for the cleanup of affected soil at the Main Installation

1. No Action: No cleanup action would be taken. BCT Assessment: Unacceptable Alternative.

2. Institutional Controls: Low-level affected surface soils would be left in place, but permanent deed restrictions would be used to

- · prohibit fishing and swimming in the lakes in Functional Unit 2;
- maintain boundary fences to prohibit casual access to the Recreation Area by nearby residents,
- regulate industrial use to prevent activities that may cause industrial users to encounter affected soil in Functional Unit 4.
- maintain barriers and signage to limit entry into affected areas in Functional Unit 4, as well as periodic monitoring of these areas

It would take approximately six months to reach cleanup objectives using this alternative BCT Assessment: Acceptable Alternative, except for Functional Unit 4

3. Soil Containment: A protective soil cover would be placed over approximately 7,200 square feet of affected surface soil to act as a barrier to human contact. This alternative would also include the deed restrictions listed above, as well as regular maintenance of the protective cover. It would take approximately one year to reach cleanup objectives using this alternative. BCT Assessment: Acceptable Alternative

4. In-situ Soil Treatment: Approximately 7,200 square feet of affected surface soil on site would be treated using a stabilizing agent to fix or immobilize compounds by physically binding them to the soil It would take approximately six months to reach cleanup objectives using this alternative BCT Assessment: Acceptable Alternative

5. Excavate and Transport Affected Soil for Off-site Disposal: Approximately 7,200 square feet of affected surface soil would be excavated and transported off-site for permanent disposal Clean soil would be added and all excavated areas would be landscaped to their original condition. It would take approximately six months to reach cleanup objectives using this alternative BCT Assessment: Acceptable Alternative.

Proposed Plan Presents Cleanup Alternatives for Main Installation *Continued from page 1*

Preferred Alternative for Soil:

After conducting a detailed analysis of these cleanup alternatives, the BCT chose a combination of Institutional Controls and Excavation, Transportation and Off-site Disposal as the Preferred Alternative for the cleanup of affected soil at the Main Installation. Excavation was chosen as a rapid, permanent and cost-effective solution, allowing the property to be transferred for unrestricted industrial use. Institutional Controls will provide additional layers of protection to ensure human health is not at risk during industrial and/or recreational use of the site

GROUNDWATER

The following alternatives were evaluated for the cleanup of affected groundwater at the Main Installation \cdot

<u>1.</u> No Action: No action would be taken at this site Instead, naturally occurring environmental processes would be allowed to reduce the levels of substances detected in the shallow groundwater (also called "natural attenuation"). BCT Assessment: Unacceptable Alternative.

2. Institutional Controls with Long-Term Monitoring: Affected groundwater would be left in place, but deed restrictions and existing groundwater controls would prohibit the installation and use of groundwater production wells. Monitoring would record the progress of natural attenuation and possible movement of affected groundwater. It would take approximately 30 years to reach cleanup objectives using this alternative. BCT Assessment: Acceptable Alternative

3. Enhanced Bioremediation: Compounds would be injected into the groundwater-to-speed-up-the-natural-biodegradation-process-that-breaks----down and/or removes compounds from the water Groundwater monitoring would document changes in concentrations, and deed restrictions would prohibit the installation and use of groundwater wells until the completion of this alternative. It would take approximately 10 years to reach cleanup objectives using this alternative. BCT Assessment: Acceptable Alternative.

<u>4. Air Sparging:</u> Air would be pumped into the most affected groundwater to help flush out and remove compounds. This alternative would also include a groundwater-monitoring program and institutional controls to prohibit the installation and use of groundwater wells It would take approximately 10 years to reach cleanup objectives using this alternative. **BCT Assessment: Acceptable Alternative.**

5. Extraction and Discharge to City of Memphis Publicly Owned

<u>Treatment Works (POTW)</u>: Groundwater would be pumped from approximately 12 wells in the most affected areas and discharged off-site to the POTW. This alternative would also include a groundwater-monitoring program and institutional controls to prohibit the installation and use of groundwater wells. It would take approximately 10 years to reach cleanup objectives using this alternative. **BCT Assessment: Acceptable Alternative.**

Preferred Alternative for Groundwater:

After conducting a detailed analysis of these cleanup alternatives, the BCT chose Enhanced Bioremediation as the Preferred Alternative. A contingency plan for more aggressive groundwater treatment, such as Air Sparging or Groundwater Extraction, would be developed and started if needed to prevent affected groundwater from moving off-site or into the deeper aquifer CERCLA requires that the effectiveness of this alternative will be reviewed at least every five years for the protection of human health.

During the public comment period, the community is invited to review and comment on the cleanup alternatives presented in the Proposed Plan The Depot hosted a Public Comment Meeting on August 24, 2000, to present the Proposed Plan to the community The BCT will review all public comments and will take them into consideration before finalizing their decision on the Preferred Alternative

The BCT's decision will be documented in a Record of Decision, which should be available to the public in January 2001. Written responses to all comments received during the public comment period will be included in the Record of Decision Responsiveness Summary and will be available at our Information Repositories.

CWM PROJECT UPDATE: Progress continues on Dunn Field

The chemical warfare materiel (CWM) removal project continues on Dunn Field, where the U.S. Army Corps of Engineers and their contractors are now excavating the next portion of Site 1

The CWM removal project at Site 1 is focused on locating and removing Chemical Agent Identification Sets (CAIS) that were buried under Dunn Field. Since excavation began May 4 in the northeast section of Dunn Field, more than 750 cubic yards of soil have been excavated.

All digging and removal activities take place inside the vapor containment structure (VCS), a 3,800 square-foot, tent-like structure designed to contain any material that is uncovered, and to filter the air during the excavation to provide maximum protection for the workers and the community. As of early August, the airmonitoring systems inside and outside the VCS had not detected any chemical warfare agent

In early May, the CWM team found 24 empty glass bottles labeled "HS," which stands for sulfur mustard, in a cardboard storage box at Site 1 These 3-ounce bottles have been identified as components of the Chemical Agent Identification Set (CAIS) K941



A CWM team member works on a soil sifter inside the VCS

Toxic Gas Set, M-1. This variety of CAIS was used to train soldiers on the proper procedures for cleaning mustard off of terrain or equipment The mustard bottles found at Site 1 did not contain any mustard and, since they were found in the original storage box (not in the K941 shipping container) and because sample results detected no mustard, the CWM team determined the bottles had never contained mustard. The 24 bottles were distributed to the Product Manager for Non-Stockpile Chemical Materiel, the U.S. Army Technical Escort Unit, the Edgewood Chemical Biologi and the Memphis museums

By mid August, tl small vials contain are approximately in diameter and l Chemical Agent l chemical agents in caustic substance,

For the latest infc of the community given by Mr. Clyi weekly CWM bri the Depot Comm Building 144 Yc trailer, located at the community o a.m until 2 00 p

For more informa appointment to w the VCS, contact at (901) 544-3115

RISK ASSESSMENT FINDINGS PRESENTED

The Restoration Advisory Board (RAB) and members of the community gathered at the regular RAB meeting in July to gain a better understanding of the Main Installation Baseline Risk Assessment (RA).

Dr. Ted Simon, Risk Assessor for the U.S. Environmental Protection Agency (EPA), provided an overview of the risk assessment process that was applied at the Depot. Dr. Simon explained that an RA provides a protective estimate of health risks that could be present from contact with soil, sediment, surface water and groundwater

Developed by EPA, the RA is an important part of the Remedial Investigation It determines where and how much cleanup may be required at each location, in order to meet acceptable standards. These health-protective standards are determined according to the intended future land-use for the site In the case of the Depot, most of the Main Installation will be used for light industrial and commercial purposes. In these areas, the RA identifies where cleanup will be needed to ensure that future workers are safe. In other areas, such as the Golf Course and Recreation Area, the RA considers the potential risks to adults and children who might play in these areas on a regular basis.

For comparison purposes, the RA also considers the risks that might be present for a future resident on the Main Installation, even though the Depot is not zoned for residential use

Following Dr. Simon's overview, Dr. Vijaya Mylavarapu, Risk Assessor for CH2M Hill, presented a summary of the findings from the Depot RA, which was conducted by CH2M Hill, the contractor for the U.S. Army Corps of Engineers.

Dr. Mylavarapu explained each of the steps followed in the RA and provided the findings for each Functional Unit (FU). These refer to six areas of the Main Installation that were identified as having similar past and future land uses. The groundwater in the shallow aquifer under the Main Installation was also investigated as the seventh FU

The RA concludes that the Main Installation is safe for workers, with the exception of a few limited areas that show higher than acceptable levels of lead These areas have been included In the cleanup recommendations outlined in the Proposed Plan Recreational activities can be safely continued in the Golf Course and Recreation Area And the Housing Area is safe for future residential use.

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Dr. Mylavarapu explained that, if the industrial areas of the Main Installation were to be used for residential use, some areas would require cleanup to ensure the safety of future residents However, these areas are considered safe for industrial land uses

The RA recommends that the groundwater under the Depot should not be used for drinking water Currently, this water does not flow into the Memphis drinking water system and will be restricted from future use, as recommended in the Proposed Plan

Finally, the RA considered potential risks to off-site residents and determined that the Depot does not pose any unacceptable risks to the community.

For more information on the RA, visit the Information Repositories or phone (901) 544-0613.

RAB Member Profile

Carter Gray Keeps the Memphis Environment In Check

As the Manager of the Pollution Control Section of the Memphis/Shelby County Health Department, Carter Gray brings valuable experience on environmental issues to the Depot's Restoration Advisory Board (RAB).

In Memphis and Shelby County, Mr Gray is responsible for issuing and enforcing regulations for the construction and operation of monitoring wells and non-municipal water production wells He and his team also monitor air pollutants identified in the Clean Air Act, issue and enforce all air pollution permits and investigate environmental concerns in the community

Mr. Gray has been a member of the RAB since it was first formed, providing valuable guidance to the Depot environmental team and ensuring that other city and state officials are kept up to date on the cleanup program. "We are now entering the exciting part of the cleanup process," said Mr. Gray "And I would like to see the community begin to share my excitement at the fact the Depot is actually getting to the real cleanup portion after this long evaluation process "

"We have painstakingly studied the problems, and now we are seeing the results. That's what we are interested in, because this is what the Superfund process is supposed to accomplish The Depot's public participation procedures allow everyone who is interested to have a strong voice in the Depot's current cleanup efforts."

While the groundwater under the Depot is not currently used for drinking, Mr. Gray believes this water should be monitored over time, to ensure it doesn't move into the deeper aquifer

Mr Gray is also keeping a close eye on the removal action at Dunn Field, and says he's concerned about the reliability of historic records that identified the disposal locations

"A lot of the Depot's current (cleanup) work is based on data from a preliminary evaluation, and additional investigation might be necessary to ensure that data is accurate," said Mr Gray "I feel this validation can come as a result of the current excavation of chemical warfare materiel on Dunn Field, and this process must be watched closely as it progresses "

al Center, the U.S. Army Corps of Engineers Depot for use in their respective archives and

e CWM team had found approximately 100,000 ng sodium hydroxide pills at Site 1 The vials 2-1/2 inches in length and less than a half-inch ve been identified as being from the M-9 etection Kit Soldiers used the kits to detect vapor form. Because sodium hydroxide is a e vials have been removed for safe, offsite disposal

nation on the CWM removal project, members are encouraged to attend weekly CWM briefings ~ Hunt, the CWM on-site coordinator The fings are held every Wednesday at 10 00 a m. in nity Outreach Room at 2163 Airways Blvd, can also visit the Community Information ate 15 on Dunn Road The trailer is open to Mondays, Wednesdays and Fridays from 10 00 1.

on on the CWM removal project, or for an tch a live video of the removal activities inside Mr. Hunt or his assistant, Ms 'Elizabeth Burks, 594 4

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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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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



