

Environmente Winter 2022



Five-Year Review Status

The Army submitted the Fifth Five-Year Review to the U.S. Environmental Protection Agency (EPA) and the Tennessee Department of Environment and Conservation (TDEC) in early October for review and comment. The report documents cleanup actions at Dunn Field completed to date have met the cleanup goals and that the Off Depot Groundwater cleanup system is operating as intended. The report states the groundwater cleanup action at the Main Installation has not met the cleanup goals and the Feasibility Study is in progress for selection of a new cleanup action.

No one is being exposed to groundwater contaminants. Other exposure pathways are being controlled through land use controls restricting the land use on most of the former Memphis Depot to industrial use only. Additional cleanup on the Main Installation is needed to meet the cleanup objectives of Safe Drinking Water Act maximum contaminant levels. More information is needed to determine if vapor intrusion from remaining contamination in soil vapor and groundwater at the Main Installation and Dunn Field presents an unacceptable risk to human health. Long-term protectiveness of the cleanup actions will be confirmed by groundwater sampling performed during long term monitoring, land use controls, and compliance monitoring of cleanup systems.

Once the Fifth Five-Year Review report is completed with agreement from EPA and TDEC, an advertisement will be placed in the Commercial Appeal to notify the community and the report will be available to the community in the Information Repository available online at <u>https://ww3.sam.usace.</u> army.mil/DDMT.

Main Installation: Steps To Revised Cleanup Plan

The Army is taking the last steps to revise the cleanup plan for groundwater at the Main Installation. In September, the Army provided the 2022 Main Installation Focused Feasibility Study Report to the U.S. Environmental Protection Agency (EPA) and Tennessee Department of Environment and Conservation (TDEC) for review and comment.

A Feasibility Study documents the analysis of potential treatment alternatives, also called cleanup methods, and explores the advantages and disadvantages of each cleanup method. The Feasibility Study was prepared to review information gained from site investigations, groundwater monitoring and cleanup actions in the 20 years since the current remedy, enhanced bioremediation, was selected in the 2001 Main Installation Record of Decision. The Feasibility Study reviewed the Record of Decision cleanup objectives, evaluated technologies to cleanup contamination present in soil vapor and groundwater, and prepared a cost analysis of technologies and cleanup system operations to support a change to the remedy selected in the Record of Decision.

Several cleanup technologies proven to remove contamination from soil vapor and groundwater at the Main Installation and at the Off Depot Groundwater cleanup system were evaluated using criteria in the National Contingency Plan and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The evaluation found the best cleanup methods for the Main Installation are air sparging with soil vapor extraction and monitored natural attenuation for groundwater and soil vapor extraction for soil vapor. All three methods have been successfully used at Dunn Field.

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After EPA and TDEC complete their review of the Feasibility Study, the Army's next steps are to produce a decision document outlining the selected cleanup alternative and to conduct required community involvement activities. All final documents will be available to the community in the Information Repository available online at <u>https://ww3.sam.</u> <u>usace.army.mil/DDMT.</u>



Illustration of a combined air sparging and soil vapor extraction system from EPA Publication EPA 542-F-12-018, "A Citizen's Guide to Soil Vapor Extraction and Air Sparaina."

Army's Plans for Dunn Field West

The Army continues their review of the Dunn Field West Post-ROD Supplemental Investigation report to incorporate EPA comments, as necessary, and to determine what additional actions are necessary on Dunn Field to transfer the property for reuse. The Offsite Groundwater Investigation concluded that groundwater contamination along the north end of Dunn Field came from an off-site source north and east of Dunn Field. EPA plans to work with TDEC to determine if there are health impacts from vapor intrusion and to locate the source of the contamination. After completion of the Dunn Field West report, the Army will prepare a revised Environmental Condition of Property report and an amended Finding of Suitability to Transfer. After finalizing the property transfer documents, the Army will conduct appropriate community involvement activities and the General Services Administration will administer a public sale of Dunn Field West. Necessary cleanup actions and monitoring will continue to be performed by the Army.

Recent Main Installation Risk Sampling and Vapor Intrusion Study

The Army completed the Human Health and Ecological Risk Assessment for the Main Installation in 2020 with agreement that additional review of contaminant levels in soil, sediment, and surface water and additional sampling would be performed. The additional review has been completed and the Human Health and Ecological Risk Assessment Review Sampling and Analysis Plan was completed in May 2022.

Soil, sediment, and surface water samples were collected in July and August 2022. A detailed report is being prepared to describe sampling activities; data quality review; a risk screening with estimated exposure concentrations, cancer risks, and hazards; and recommendations for further action, if needed.

The Army submitted the Vapor Intrusion Sampling and Analysis Plan to EPA and TDEC for review and comment in October 2022. The plan was developed to follow investigation procedures recommended by the Army, EPA and TDEC, and the sampling activities were discussed in a meeting with EPA.

Vapor intrusion may come from soil contamination from previous spills or releases, from contaminated groundwater or from both

Planned Cleanup Activities in 2023

- Begin sampling for the Main Installation Vapor Intrusion
 Study
- Complete the Risk Assessment Sampling Report
- Complete the Main Installation Focused Feasibility Study and Revised Proposed Plan; request comments and conduct public meeting
- Complete the Fifth Five-Year Review and notify community with advertisement in the *Commercial Appeal*

sources in some areas. Shallow soil vapor screening samples will be collected across the Main Installation including areas above groundwater contamination. Additional vapor samples will then be collected at different depths from a few feet to about 70 feet to evaluate the source of vapor contaminants. Vapor samples will also be collected immediately below a few buildings and from indoor air in those buildings. The sample results will show if contaminant vapors are entering buildings and if the vapors are at levels that impact human health.

Soil vapor sampling will take place in several phases with work starting in 2023. See the EPA "What is Vapor Intrusion" fact sheet for more information on how vapors can enter buildings at <u>www.epa.gov/vaporintrusion/what-vapor-intrusion</u>.

Sampling plans and reports documenting the sampling, results and recommendations for soil, sediment, and surface water and vapor intrusion will be available in the online Information Repository at <u>https://ww3.sam.usace.army.mil/DDMT</u>.

- Complete the Dunn Field West Finding of Suitability to Transfer 5, Amendment 2 and notify community with advertisement in the *Commercial Appeal*
- Complete operation of the Off Depot Groundwater cleanup system and begin compliance monitoring.
- Conduct Main Installation and Dunn Field long-term groundwater monitoring
- Conduct the Annual Land Use Controls Inspection

New Project Managers



BILL MILLAR The Department of Army named Bill Millar as the Army Base Realignment and Closure (BRAC) Environmental Coordinator (BEC) when the former BEC, Joan Hutton, retired in March 2022. Mr. Millar has 30 years of experience supporting environmental cleanup at various sites.

He has managed cleanup at five Superfund sites and began working on environmental cleanup at BRAC sites in early 2000. He supported the BEC at Volunteer Army Ammunitions Plant in Chattanooga for several years and has managed environmental cleanup at the Alabama Army Ammunition Plant and at Fort Sheridan in Illinois.

Mr. Millar works for CALIBRE Systems in Virginia but has very close ties to Memphis as his mother and other family members have lived here for about 40 years. As the BEC for the former Memphis Depot site, Mr. Millar's goals include selling the remaining Dunn Field property and completing cleanup at the Off Depot Groundwater cleanup system. "I will do my best to finish the environmental cleanup of the former Memphis Depot," said Mr. Millar, "so it can provide jobs and financial support to the community going forward."

Off Depot Groundwater Cleanup System Update

The Off Depot Groundwater cleanup system located near the intersection of Menager Rd. and Ragan St. has used air sparge/ soil vapor extraction to remove groundwater contaminants in the area west of Dunn Field since 2009. Groundwater contamination levels in one monitoring well remained above the cleanup goal in the Dunn Field Record of Decision, so the Army installed five new air sparge wells and connected them to the cleanup system in 2020. Groundwater sample results from that monitoring well show contaminant levels have recently decreased below the cleanup goal. The Army expects to turn off the cleanup system in 2023. Groundwater monitoring after the system is off will determine if the system can be removed. Off Depot Air Sparge/Soil Vapor Extraction Annual Operations Reports are available online in the Information Repository.





FERNANDO MARTINEZ The EPA Region 4 named Fernando Martinez as the Remediation Project Manager (RPM) for the former Memphis Depot site when the former RPM, Diedre Lloyd, took on other duties in April 2022. Mr. Martinez has worked as an EPA RPM for three years and provides project oversight at federal facilities.

Prior to the former Memphis Depot, Mr. Martinez served as the EPA representative in a supporting role at several Superfund sites including Tyndall Air Force Base in Florida and Robins Air Force Base in Georgia. Prior to joining the EPA, Mr. Martinez worked for the Department of Veterans Affairs, assisting veterans who became ill or injured while serving in the military. Mr. Martinez also served in the military for ten years as a Military Police Officer.

"I would like to continue providing technical support for CERCLA-required response actions in the coming year to support the federal government's commitment to complete environmental restoration at the former Memphis Depot," said Mr. Martinez.

Definitions

Air Sparging: A cleanup method that pumps air underground to help extract vapors from groundwater and wet soil found beneath the water table. The addition of air makes the contaminants evaporate faster making them easier to extract with soil vapor extraction.

Soil Vapor Extraction: A cleanup method that removes vapors from the soil above the water table by applying a vacuum to pull the vapors out.

Monitored Natural Attenuation: A cleanup method that relies on natural processes to decrease or "attenuate" levels of contaminants in soil and groundwater.

Feasibility Study: The study of possible cleanup actions that explores advantages and disadvantages of each action.

Risk Assessment: The process for evaluating the chance of harmful effects to human health or to ecological systems from exposure to an environmental stressor - any physical, chemical, or biological entity that can bring about a harmful effect in humans or ecosystems.

Suitability to Transfer: Documentation supporting a finding that property is compatible with the proposed land use and that the land use restrictions or remedies in place (if any) will protect human health and the environment.

Vapors: The gases that form when chemicals evaporate.

Vapor Intrusion: The result of vapors from a contaminant source below ground moving up into a building.



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For Your Information

Former Memphis Depot Information Repository

Information Repository documents are available online at <u>https://ww3.sam.usace.army.mil/DDMT/.</u>

Mew Documents

- 2021 Annual Site Inspection Report, Revision 1
- Annual Long-Term Monitoring Report-2020, Revision 1

- 2022 Site Management Plan, Revision 1
- Vapor Intrusion Conceptual Site Model, Revision 1
- Human Health and Environmental Risk Assessment Sampling and Analysis Plan, Revision 1
- Off Depot Air Sparge/Soil Vapor Extraction Annual Operations Report, Year Ten, Revision 1
- Offsite Groundwater Investigation Report, Revision 1
- 2022 Annual Site Inspection, Revision 1

How to reach us...

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

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EnviroNews is published by the former Memphis Depot to update the public on the environmental cleanup program. If you have comments, questions, suggestions for future articles, or wish to be added to the mailing list please call and leave a message on the Community Involvement Line at (901) 774-3683.