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THE MEMPHIS DEPOT
TENNESSEE

ADMINISTRATIVE RECORD
COVER SHEET

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

September 22, 2005

Reply To
4WD-FFB

Michael A. Dobbs
Environmental Program Manager
Defense Distribution Center
DDC J-3/J-4E
2001 Mission Drive
New Cumberland, Pennsylvania 17070-5000

Re: Approval of the Interim Remedial Action Completion Report (IRACR) for Phase I of the Selected Remedy at Dunn Field, Former Defense Depot, Memphis Tennessee

Dear Mr. Dobbs:

The U.S. Environmental Protection Agency, Region 4 (EPA) hereby approves the referenced document. This is an official determination that the initial phase of remedial action at Dunn Field is complete. The final remedy for Dunn Field was selected in a Record of Decision (ROD) approved by EPA on April 12, 2004. The remedial action objectives (RAO) for ground water listed in the ROD were:

- Prevent human exposure to contaminated ground water;
- Prevent further migration of contaminated ground water;
- Restore ground water to drinking water quality to protect the deeper Memphis Aquifer.

The technologies selected to achieve these objectives were:

- In-situ treatment of with zero-valent iron (ZVI) using two delivery methods;
- Soil vapor extraction to eliminated principal threat waste;
- Monitored natural attenuation (MNA) for low-concentration areas of the plume;
- Institutional controls.

EPA notes that the completed phase of remedial action was an early implementation of ZVI treatment via radial injection, in response to a change in the ground water conceptual site model (CSM) that came to light after the ROD was signed. During remedial design data collection activities by Defense Logistics Agency (DLA) contractors, highly contaminated ground water was identified in areas of the plume where MNA had been planned. In order to reduce contaminant concentrations to levels more consistent with MNA as a polishing step, DLA, EPA, and the Tennessee Department of Environment and Conservation (TDEC) agreed to

initiate Phase I of remedy implementation to inject ZVI into the plume at these locations. DLA mobilized to the site on November 15, 2004, completed injections in January 2005, and completed the initial post-injection monitoring in April 2005. In addition to attacking the problem, valuable technology implementation and hydrogeologic design data were collected to facilitate the remainder of remedy implementation.

EPA further notes that, as reported in the IRACR, the anticipated reductions in concentration have not been realized at this phase of overall remedy implementation. The IRACR attributes this to failure to deliver sufficient mass of ZVI to the affected areas, caused by physical access restrictions at the site, hydrogeologic conditions at several injection locations, and an attempt to determine the maximum spacing between injection locations that would still afford adequate treatment. EPA understands that these data, in addition to data previously acquired during a ZVI treatability study, will help guide the remainder of the remedial design.

I commend DLA and the site project team, for their rapid response to the conditions identified in the updated CSM. It is unfortunate that the concentration reductions at this phase were not as robust as was hoped for. However, the overall ground water remedy must still attain the RAOs identified in the ROD. This may include additional treatment for the Phase I plume areas, which would be addresses in the final remedial design(s) for ground water.

If you have any questions, please contact Turpin Ballard of my staff at 404/562-8553.

Sincerely yours,

Kenneth R. LaPierre, Chief
Federal Facilities Branch

Cc: Jim Morrison, TDEC / DoR
Evan Spann, TDEC / DoR

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