

B6 C*****

Tuesday, October 16, 2001

THE COMMERCIAL APPEAL

Depot waste faces 'vacuum' Soil-vapor extraction to be tested

By Tom Charlier

charlier@gomemphis.com

Federal contractors plan to test a cleanup method known as soil-vapor extraction to literally suck chemical contaminants out of the ground at the former Defense Depot Memphis.

The test, which is expected to begin next week, is part of an ongoing effort to deal with contamination at Dunn Field, a 68-acre northern extension of the depot where a wide variety of wastes were buried during the 1950s and '60s. Soil-vapor extraction is a

cleanup technique used at several Superfund hazardous-waste sites across the nation. It employs an underground vacuum system to pull air through the soil, turning buried solvents into vapor. The air containing the vapors passes through a series of filters that remove the solvents.

Clyde Hunt, remedial project manager at the depot, said the 14-day test is needed because the results from soil-vapor extraction can vary from site to site.

"It reacts differently based on the type of soil," he said.

The process works best in removing volatile organic compounds, which evaporate easily from soil. Sampling in Dunn Field has shown the ground to be tainted with volatile compounds that include tetrachloroethene and trichloroethene.

Officials will test the effectiveness of the extraction method in removing underground wastes from depths of up to 75 feet.

The testing will be conducted in the middle of Dunn Field, away from neighboring homes and roads, officials said.

The testing will help shape the remedial investigation and feasibility study being conducted for Dunn Field. If the process works, officials could propose soil-vapor extraction as the preferred alternative for decontaminating soil at the site.

Earlier this year, contractors completed the excavation of chemical warfare material — including the remnants of mustard gas bombs — buried at the field.

But potentially dangerous wastes remain. According to a

1983 Army report, other wastes buried at the field include thousands of gallons of insecticide, some 1,700 bottles of fuming nitric acid and 32 drums of oil, grease and thinner.

Cleaning up the soil at the depot is considered an essential step in dealing with contaminated groundwater.

A shallow aquifer beneath the depot is tainted with solvents and other compounds. But the contamination has not affected the deeper Memphis Sand aquifer, the source of most public drinking water in the area.

By pumping water at certain locations, officials have established a "hydraulic barrier" that prevents contaminants from flowing away from the depot.

— Tom Charlier: 529-2572