

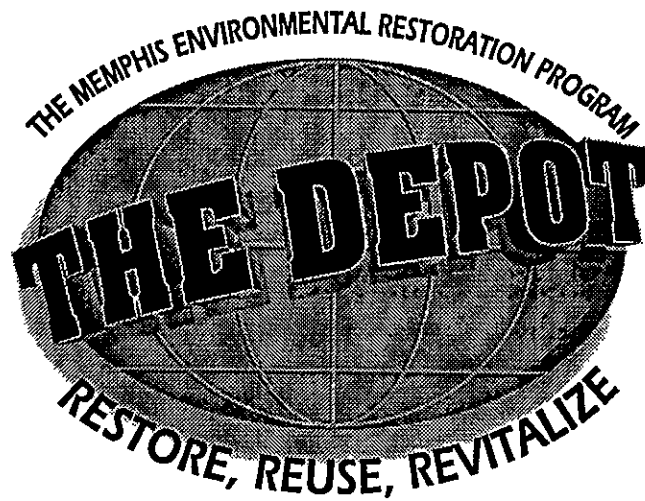


# THE MEMPHIS DEPOT TENNESSEE

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## ADMINISTRATIVE RECORD COVER SHEET

AR File Number 518



**FACT SHEET  
MEMPHIS DEPOT GOLF COURSE  
AND RECREATION PARCEL**

**Summary of Recent Environmental Studies**

(July 1999) The golf course at the Memphis Depot was used until the closure of the facility in September 1997. The nine-hole golf course has two impoundments: Lake Danielson and the golf course pond. The largest, Lake Danielson, was used periodically for fishing before 1986, since which there has been a ban on fishing. It is not known if swimming was ever officially banned, but it is common knowledge that swimming was not allowed at any time in the history of the golf course.

Since closure, both swimming and fishing continue to be banned. Within this recreational parcel is also a baseball field, a small playground (two swing sets and a seesaw), a golf clubhouse, and an empty swimming pool.

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Since late 1996, there have been environmental investigations and risk assessments of the surface soils of the parcel as well as the water, sediment, and aquatic life in both the lake and pond. These studies were started before the completion of the facility-wide Remedial Investigation to allow for more rapid reuse of this highly desirable parcel. These studies have been very repetitive in nature, as each has led to more questions that required more sampling data to answer. Both of these studies are now complete. The soils risk assessment is titled the *Streamlined Parcel Three Risk Assessment Technical Memorandum* (January 1999), and the lake and pond risk assessment is titled the *Baseline Risk Assessment for the Golf Course Impoundments*" (May 1999). All completed studies are available for public review at each of the four Memphis Depot Information Repositories.

In the *Streamlined Parcel Three Risk Assessment Technical Memorandum*, 42 surface soil samples were used in the risk assessment for the golf course, eight surface soil samples were used for the baseball field, and 11 surface soil samples were used for the playground. Part of the risk assessment process is to determine the most likely receptor. A receptor is a person who may be exposed to the soils of a particular site. The BRAC Cleanup Team (BCT), which includes the Environmental Protection Agency (EPA) and the Tennessee Department of Environment and Conservation (TDEC), evaluated the golf course for exposures to golfers and industrial workers (groundskeepers). The baseball field was evaluated for exposures to an adolescent baseball player and an industrial worker. The small playground was evaluated for exposure to a young child. The EPA also required the Depot to evaluate the parcel for residential use as part of the EPA's policy for risk assessment.

The assessment concluded that there is no unacceptable risk posed to the future golfer, the baseball player, the child at the playground, or the groundskeepers. The parcel is not suitable for residential purposes. The receptor whose risk was determined to be the largest under recreational use was the golfer. The risk to the golfer is similar in nature to the risk any golfer is exposed to on any golf course across the country due to the use of herbicides and pesticides on golf courses. Therefore, this parcel may continue to be used as it has in the past as a golf course and recreational area.

In the *Baseline Risk Assessment for the Golf Course Impoundments*, sediment and water sample results from a 1990 study as well as some 1986 fish sample results were the basis for an initial risk assessment. Subsequent comments from the EPA and TDEC led to additional fish and sediment sampling in September 1997. The collection of only one species, golden shiners, led to an additional round of fish samples using more robust sampling techniques in September 1998. This additional sampling included netting and electroshocking instead of what had been previously attempted (angling, trot lines and trapping). Again, only golden shiners were collected out of Lake Danielson, and goldfish were collected out of the golf course pond. Frogs were collected out of both the lake and pond. The receptor that the BCT considered most appropriate for this risk assessment was an occasional trespassing teenager who would swim in or eat fish from the lake or pond.

This assessment concluded that there is no unacceptable risk posed by the lake or pond from either skin contact or ingestion. Shiners are not a game species used for consumption so this is more safe

It is important to note that Lake Danielson was historically stocked with bass, bream, and catfish but there was a lake-wide summer fish kill in the early 1990s that apparently eliminated all the game species of fish. This incident is documented (Pickering Firm, 1992) as a naturally occurring condition creating an unfavorable environment for game species. This condition, called "turning over", is caused by differences in oxygen levels and temperatures between layers of water. The golden shiner is a much hardier species that survived this incident. Fisheries biologists from the Tennessee Valley Authority certified in 1998 that in their professional opinion there were no other species, especially game species, present in either the lake or pond.

Although the risk evaluation data presented in these two reports is now available to the BCT and there appears to be little need for additional environmental action, the BCT has taken further action to protect human health. There has been a reuse restriction placed on the golf course that requires any future lessee of the golf course to place signs notifying users that herbicides/pesticides have been used to maintain the property. In 1999, the Depot also replaced some "No Fishing" signs along Lake Danielson that were very rusty and hard to read. It is anticipated that any future use of the golf course will continue the ban on fishing due to the safety issues of golf balls striking a fisherman. This restriction will also apply to swimming.

In conclusion, the golf course and recreational parcel is suitable to be reused in a manner consistent with the use of the area before the closure of the facility in 1997. The ultimate decision that there is no further action required on the course will be made in the Record of Decision (ROD) that is scheduled to be completed for the Main Installation in the fall/winter of 2000. Based upon the two investigations described above, it is very unlikely that any future remediation will be required.

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