Archeological Survey of Two Parcels at Defense Distribution Depot Memphis, Tennessee

by
Ross C. Fields
and
Michael C. Tuttle

Drewitt & Associates, inc.
Consulting Archeologists
Austin, Texas

TECHNICAL REPORTS, NUMBER 27

US Army Corps of Engineers
Fort Worth District

REPORT DOCUMENTATION PAGE		Form Approved OMB No. 0704-0188

1. AGENCY USE ONLY (*Leave blank*)	2. REPORT DATE	3. REPORT TYPE AND DATES COVERED
	November 1997	Final Report

4. TITLE AND SUBTITLE

Archeological Survey of Two Parcels at Defense Distribution Depot Memphis, Tennessee

5. FUNDING NUMBERS

Contract No. DACA63-95-D-0051
Delivery Order 0014

6. AUTHOR(S)

Ross C. Fields and Michael C. Tuttle

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)

Prewitt and Associates, Inc.
7701 N. Lamar, Suite 104
Austin, Texas 78752-1012

8. PERFORMING ORGANIZATION REPORT NUMBER

Technical Reports, No. 27

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)

U. S. Army Corps of Engineers, Fort Worth District
P. O. Box 17300
Fort Worth, Texas 76102-0300

10. SPONSORING/MONITORING AGENCY REPORT NUMBER

11. SUPPLEMENTARY NOTES

12a. DISTRIBUTION AVAILABILITY STATEMENT

12b. DISTRIBUTION CODE

13. ABSTRACT (*Maximum 200 words*)

In May 1997, personnel from Prewitt and Associates, Inc., conducted an archeological survey of two parcels of land at Defence Distribution Depot Memphis, Tennessee, under contract with the U.S. Army Corps of Engineers, Fort Worth District. The survey was done to aid the Fort Worth District and the U.S. Army Materiel Command in fulfilling their cultural resource compliance requirements prior to the planned closure of the depot. The two parcels surveyed were selected because they are the least-developed parts of the depot, and hence they are the only areas with any potential for intact archeological deposits. The project consisted of three primary tasks. The first involved archival research to determine if the survey areas might contain historic sites predating construction of the depot in 1941; no evidence of such sites was found. The second task involved review of records at the depot to identify parts of the two survey areas that are too disturbed to have any archeological potential. The third task consisted of pedestrian survey of the 25 acres that lack major disturbances and thus have some potential for intact deposits. One hundred fifty-three shovel tests were excavated at ca. 25-m intervals. No archeological sites were found, and it is recommended that no further cultural resources work be required on the two parcels.

14. SUBJECT TERMS	15. NUMBER OF PAGES
Defence Distribution Depot Memphis, Archeology, Prehistory, History	12
	16. PRICE CODE

17. SECURITY CLASSIFICATION OF REPORT	18. SECURITY CLASSIFICATION OF THIS PAGE	19. SECURITY CLASSIFICATION OF ABSTRACT	20. LIMITATION OF ABSTRACT
Unclassified	Unclassified	Unclassified	

ARCHEOLOGICAL SURVEY OF TWO PARCELS AT DEFENSE DISTRIBUTION DEPOT MEMPHIS, TENNESSEE

by

Ross C. Fields

and

Michael C. Tuttle

Principal Investigator: Ross C. Fields

TECHNICAL REPORTS, NUMBER 27

Submitted to

U.S. Army Corps of Engineers
Fort Worth District

by

Prewitt and Associates, Inc.
Consulting Archeologists
Austin, Texas

November 1997

TABLE OF CONTENTS

LIST OF FIGURES

ACKNOWLEDGMENTS

Recognition and thanks are due to the individuals whose efforts allowed successful completion of this project. Denise Cooper of Defense Distribution Depot Memphis, Tennessee, was most helpful in coordinating the fieldwork and providing maps and other data, while Stephen P. Austin provided coordination and oversight on behalf of the U. S. Army Corps of Engineers, Fort Worth District. The historical research was performed by Michael C. Tuttle under the supervision of Stephen R. James Jr., both of Panamerican Consultants, Inc. Ross C. Fields served as Principal Investigator, and he was assisted in the fieldwork by Marie E. Blake and Christopher J. Hartman. Other employees of Prewitt and Associates, Inc. who contributed are Sandra Hannum (graphics), Karen M. Gardner (laboratory processing), Linda Nance Foster (editing), and Melissa C. Hennigan (report production).

MANAGEMENT SUMMARY

In May 1997, personnel from Prewitt and Associates, Inc., conducted an archeological survey of two parcels of land at Defense Distribution Depot Memphis, Tennessee, under contract with the U.S. Army Corps of Engineers, Fort Worth District. The survey was done to aid the Fort Worth District and the U.S. Army Materiel Command in fulfilling their cultural resource compliance requirements prior to the planned closure of the depot. The two parcels surveyed were selected because they are the least-developed parts of the depot, and hence they are the only areas with any potential for intact archeological deposits. The project consisted of three primary tasks. The first involved archival research to determine if the survey areas might contain historic sites predating construction of the depot in 1941; no evidence of such sites was found. The second task involved review of records at the depot to identify parts of the two survey areas that are too disturbed to have any archeological potential. The third task consisted of pedestrian survey of the 25 acres that lack major disturbances and thus have some potential for intact deposits. One hundred fifty-three shovel tests were excavated at ca. 25-m intervals. No archeological sites were found, and it is recommended that no further cultural resources work be required on the two parcels.

INTRODUCTION

During May 1997, personnel from Prewitt and Associates, Inc., conducted an intensive archeological survey of parts of Defense Distribution Depot Memphis, Tennessee, under contract with the U.S. Army Corps of Engineers, Fort Worth District. The survey was done to aid the Fort Worth District and the U.S. Army Materiel Command in fulfilling their cultural resource compliance requirements (under Section 106 of the National Historic Preservation Act of 1966 [P.L. 89-665], as amended through 1992) prior to the planned closure of the depot as a result of the Defense Realignment and Closure Act of 1990 (P.L. 101-510), 1995 authorized action.

The depot, which is located in the south-central part of the City of Memphis, is a 642-acre facility consisting mostly of warehouses, rail yards, and open storage. Construction of the facility began in 1941. The main part of the depot (ca. 574 acres) is bounded on the east by Airways Boulevard, on the south by Ball Road, on the west by Perry Road, and on the north by Dunn Avenue (Figure 1). The ca. 68-acre Dunn Field area is north of Dunn Avenue and is bounded by Hays Street on the east, Kyle Street on the west, and Person Avenue on the north. The facility is in a fully developed part of Memphis and is surrounded by residential and commercial areas.

The scope of work for this project called for intensive pedestrian survey, with shovel testing at intervals of 20–25 m, of the two parts of depot that have been least developed and thus have some potential for intact deposits: the northeastern part of Dunn Field at the north edge of the depot and the golf course in the southeastern corner (see Figure 1). The identification of these two areas as having the potential for relatively undisturbed deposits, and a recommendation that they be subjected to survey, was made as a result of a reconnaissance-level assessment done by TRC Mariah Associates Inc. in 1996 (Holmes et al. 1996). The scope of work also specified the following: (1) prefield review of maps and photographs at the depot to identify parts of the two survey areas that are too disturbed to warrant survey; and (2) prefield review of historic records to determine if historic resources predating the depot (e.g., farmsteads) might be present.

The pedestrian survey was performed by a three-person crew from Prewitt and Associates (the Principal Investigator and two Archeological Assistants) on May 28–30, 1997. The actual fieldwork required six person-days of effort. The other two tasks—prefield review to document disturbances and review of historic records—were accomplished by personnel from Panamerican Consultants, Inc., a cultural resources firm with an office in Memphis on May 12–23, 1997. The records generated by this project are curated at the University of Memphis.

ENVIRONMENTAL BACKGROUND

Defense Distribution Depot Memphis, Tennessee is located in the loess uplands approximately 7 km east of the Mississippi River valley bluffs. Elevations in the immediate project area range from 270 to 310 ft above mean sea level. The current channel of Nonconnah Creek, a westward-flowing tributary of the Mississippi River, lies ca.1 km south of the depot, with the valley wall being about 0.5 km from the south edge of the project area. The Nonconnah Creek floodplain lies at an elevation of ca. 230 ft msl. The golf course area surveyed during this project is at the head of three branches of a small south-flowing tributary of Nonconnah Creek. The Dunn Field survey area contains the upper reaches of a small drainage that flows north ca. 0.5 km to join Cane Creek, which flows southwestward before joining Nonconnah Creek ca. 3 km west-southwest of the depot.

The loess that makes up the uplands in the project area was deposited from the Mississippi River valley during the late Pleistocene (Saucier 1974:19). According to Sease et al. (1970:1), the loess ranges from as much as 80 ft in thickness on the bluffs east of the river valley to as little as 5 ft in thickness at the eastern edge of Shelby County. Examination of the logs of monitoring wells on the depot indicates that 23–33 ft of fine-grained sediments (usually described as silty clay) overlie coarser sediments (sandy clay, clayey sand, gravelly sand, or sand), with the contact often occurring at ca. 270–275 ft msl (Law Environmental, Inc. 1990). These upper, fine-grained sediments represent the loess deposits. Given the age of these deposits, deeply buried archeological remains are not likely, except perhaps along drainages and on lower slopes where redeposited loess could occur.

The soils developed in the loess in the depot area belong to the Memphis series, which are characterized as "deep, well-drained, strongly acid, silty soils on uplands" (Sease et al. 1970:29). A representative profile of Memphis silt loam, which occurs on gently sloping uplands, consists of a 7-inch-thick silt loam Ap horizon overlying a silty clay loam B21t horizon at 7–18 inches, with silt loam B22t, B23t, and C horizons at 18–36 inches, 36–74 inches, and 74–108 inches, respectively (Sease et al. 1970:29).

The climate of the Memphis area is characterized by "relatively mild winters, hot summers, and abundant rainfall" (Sease et al. 1970:2). The average annual temperature is 62°F, with the average daily minimum and maximum temperatures being 52°F

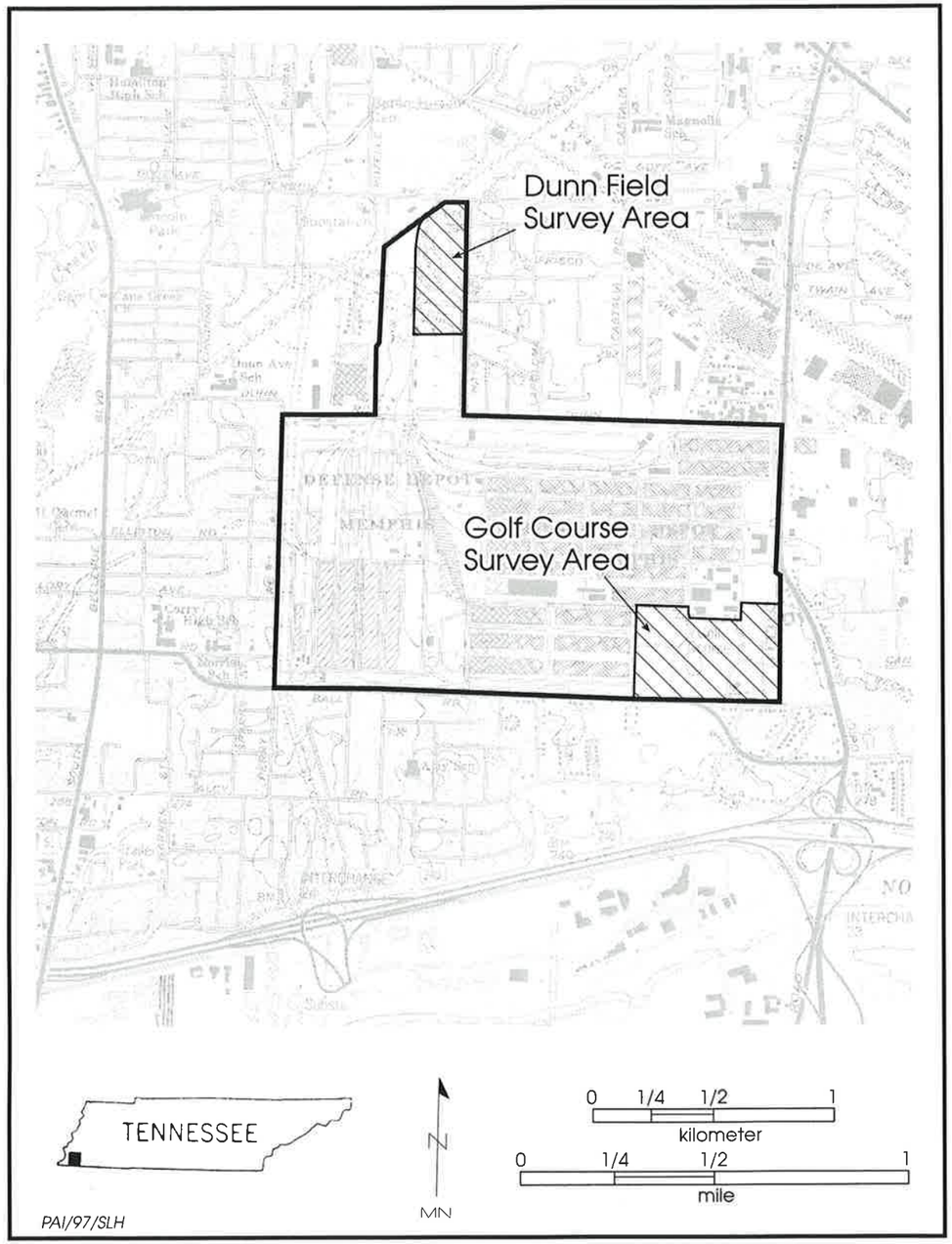

Figure 1. Project location map showing survey areas.

and 72°F. Monthly averages range from 42–43°F in December and January to 81–82°F in July and August. The growing season averages 238 days. Total rainfall between 1931 and 1960 averaged almost 50 inches annually. Precipitation generally is distributed throughout the year, although January (6.07 inches) tends to be the wettest month and August, September, and October the driest (2.72–2.97 inches). The average annual relative humidity is ca. 70 percent, and the prevailing winds are from the south.

The current vegetation of the depot bears little resemblance to that of premodern times, especially in the golf course area where introduced grasses and non-native trees such as Austrian pine, Scotch pine, English walnut, deodar cedar, and mimosa have been planted. Nonetheless, the two survey areas support a number of trees (including post oak, white oak, southern red oak, black oak, mockernut hickory, and American elm) that probably were common in upland forests of the region. A variety of other native trees are present in smaller numbers (although some clearly have been planted within the past few decades), such as white ash, boxelder, blackgum, eastern redcedar, black cherry, flowering dogwood, sassafras, sweetgum, willow oak, water oak, sycamore, pecan, persimmon, bitternut hickory, black willow, and eastern cottonwood. The faunal resources have been altered even more drastically as Memphis has developed and grown. According to Smith and Weinstein (1987:4), animals that are likely to have been important to prehistoric and early historic peoples include white-tailed deer, turkey, rabbits, black bear, opossum, raccoon, water fowl, passenger pigeon, fish, and turtles.

LITERATURE REVIEW

Previous Investigations

The only previous cultural resources investigation at the depot consists of an architectural inventory, accompanied by a reconnaissance-level assessment of the potential for archeological resources (Holmes et al. 1996). The architectural inventory involved documenting the 46 permanent and semipermanent buildings constructed during the World War II era out of the more than 100 buildings present. Most of the inventoried buildings (n = 28) are warehouses, 20 of which were assessed as eligible for listing in the National Register of Historic Places as a historic district (Holmes et al. 1996:32).

The archeological assessment entailed reviewing files at the office of the Tennessee State Historic Preservation Officer to identify previously recorded sites in the area (these files were not consulted during the project reported here because this task was accomplished in 1996), consulting with archeologists knowledgeable about the Memphis area concerning the likelihood of buried sites in the project area, conducting a windshield survey of the depot to identify areas with relatively little disturbance, reviewing a 1941 map showing the topography of the depot prior to construction and photographs of the construction in progress to further assess the degree of disturbance, interviewing a depot employee knowledgeable about the initial construction activities, and reviewing hazardous materials remediation reports to identify waste disposal sites (Holmes et al. 1996:22–23). This research revealed the following: (1) there are no recorded archeological sites at the depot, and the few known sites nearby, all along Nonconnah Creek to the south, saw only limited investigations before they were destroyed as a result of development; (2) most of the depot was extensively disturbed during the initial construction, with additional disturbances occurring since then; and (3) only two areas—the northeast corner of Dunn Field and the golf course area—might retain sufficient integrity to have little-disturbed archeological deposits.

Prehistoric Background

While limited archeological work has been done in the immediate vicinity of the depot, Smith and Weinstein (1987) present useful information for the Nonconnah Creek valley just to the south and Smith (1996) provides a recent cultural historical summary for the western Tennessee part of the central Mississippi valley. Smith and Weinstein's (1987) work consisted of a pedestrian survey along ca. 29 km of Nonconnah Creek eastward from where it enters Lake McKellar (an oxbow of the Mississippi River) prior to channel improvements. The survey did not find any archeological sites, largely because the floodplain already had been heavily impacted by "highway construction, industrial or office development, or had been covered with many meters of fill" (Smith and Weinstein 1987:23). Nonetheless, they noted that the Nonconnah Creek valley had at one time been rich in archeological sites, with 94 sites having received trinomial designations (Smith and Weinstein 1987:9–11). Diagnostic artifacts had been collected from many of these sites, allowing the identification of the following components (Smith and Weinstein 1987: 27–64): Paleoindian (a Clovis point at a single site); Early Archaic (Dalton, Greenbrier, Big Sandy, Haywood, Palmer, Plevna,

and Lost Lake points at 7 sites); Middle Archaic (Cypress Creek, Nonconnah, McIntire, and Bartlett points at 11 sites); Late Archaic (Benton, Pickwick, Lick Creek, Mulberry Creek, and Flint Creek points at 8 sites); Poverty Point (baked clay objects and Pontchartrain, Motley, Kent, Lambert, Delhi, Harris Island, and Arlington points at 40 sites); Early Woodland (Tchula/Tchefuncte-like ceramics and Adena, Mabin, and Claiborne points at 31 sites); Middle Woodland (Thomas and Baldwin ware ceramics and Mabin, Claiborne, and Frazier points at 27 sites); and Mississippian (various late ceramics and arrow points at 18 sites).

As discussed by Smith (1996:100–102), the Paleoindian, Early Archaic, and Middle Archaic periods (i.e., the time prior to 3500 B.C.) in the westernmost part of the state are not well known, with substantial questions remaining about typologies and chronologies as well as lifeways. The presumably diffuse economy of these early hunter-gatherers shifted during the Late Archaic period to more intensive harvest collecting, particularly of hickory nuts, and seasonal transhumance. Smith (1996:103–104) views the Terminal Archaic period (1500–500 B.C.) as a time of "expansion of a frontier version of the Poverty Point culture into western Tennessee." Lifeways probably continued with little change from the Late Archaic period, but the high frequency of Poverty Point components in the Nonconnah Creek valley suggests that this may have been a time of increased intensity of use, i.e., a "settling-in" by local groups. This is consistent with Smith's (1996:103) identification of several local complexes in the region during this interval.

These complexes may have continued into the Woodland period, suggesting a degree of stability in cultural developments, but Woodland-age mound sites pointing to increased cultural complexity are not known for the Memphis area as they are elsewhere in the region (Smith 1996:104). The Late Woodland period seems to have seen a decrease in intensity of use of the uplands of southwestern Tennessee and increased occupation of the Mississippi River valley proper, perhaps reflecting a shift to a reliance on lowland resources (Smith 1996:109; Smith and Weinstein 1987:56).

The Memphis area saw major occupations during the Mississippian period (A.D. 900–1500), with mound centers such as Chucalissa on the bluff above the Mississippi River valley southwest of the mouth of Nonconnah Creek and a nearly destroyed site in DeSoto Park with many mounds being important examples. The Mississippian culture of the area has been labeled the Northern Delta regional tradition by Smith (1996:110) and was characterized by an agricultural economy and platform and burial mound centers as well as smaller villages and campsites. Named phases within this period include the early Mississippian Ensley phase and the later Boxtown and Walls phases (Smith 1996:112–116).

Historic Background

The 1541 visit of the DeSoto expedition to the central valley and the introduction of Old World epidemics led to severe depopulation among Mississippian groups, and by the time of the LaSalle and Marquette and Jolliet expeditions in the 1670s–1680s the region was being used much less intensively by Native Americans (Holmes et al. 1996:10; Smith and Weinstein 1987:65). The region apparently saw sporadic use by the Chickasaw and Europeans during the eighteenth century, but substantial permanent settlement did not occur until after the 1818 Treaty of Old Town in which the United States acquired the land north of 35° N and between the Mississippi and Tennessee Rivers from the Chickasaw. Surveys of the land that would become Memphis were begun in 1819, although this was complicated by disputes over the Tennessee-Mississippi boundary line and the issuance of land titles by speculators in both Tennessee and North Carolina, and Shelby County was established in the same year (Smith and Weinstein 1987:66).

By the middle of the nineteenth century, Memphis was a thriving river town with an important role as a shipping point for cotton. As a major producer of cotton, Shelby County had a large slave population and an Anglo population that supported secession wholeheartedly (Holmes et al. 1996:13; Smith and Weinstein 1987:66). Things changed dramatically with the Civil War and the occupation of the city by Union forces under the command of William T. Sherman in 1862. The African-American population of Memphis increased greatly during this time as former slaves flocked to the city, not only crippling rural agricultural efforts but also leading to serious racial tensions and rioting in 1866 (Smith and Weinstein 1987:67). Partly as a result of these tensions, rural areas saw increased populations after the Civil War and a resurgence of cotton agriculture, while epidemics of yellow fever in the 1870s resulted in decreased population and a lull in commercial and industrial development within the city. Memphis saw recovery in the latter part of the nineteenth century and the early twentieth century as cotton farming continued to be important, the population within the city increased, and improvements in infrastructure were made (Holmes et al. 1996:14; Smith and Weinstein 1987:67). With the economic boosts provided by World Wars I and II, the city grew greatly during the second quarter of the twentieth century. It was during this time that the part of town containing the depot became surrounded by development. The succeeding decades have seen even more dramatic growth as suburbs have expanded to the south and east.

METHODS AND RESULTS

Historical Research

This task consisted of research aimed at determining whether the two survey areas might contain historic archeological sites (e.g., farmsteads or tenant houses) predating government purchase of the property in 1941. One obvious source for this information, the real property records resulting from government acquisition of the land, are no longer kept at the depot and hence are unavailable for study. Another potential source, Sanborn maps, proved to be of no use because the area under study was not incorporated into the City of Memphis until 1950, when the depot was already in existence, and the Sanborn maps predating this (1929) do not cover the project area. The most useful sources of information are deed records obtained from the Shelby County Courthouse, a variety of historic maps dating back to the Civil War at the Memphis and Shelby County Room of the Memphis Main Library, and maps on file at the depot.

The deed records indicate that the U.S. government purchased most of the land for the depot in May 1941 for $175,000 from Abe and Ben Goodman, local developers who did business as the firm of Goodman Brothers (Shelby County Deed Records Book 1675:334–336). These 500 acres consisted of three tracts and constituted the eastern three-quarters of the main depot area south of Dunn Street and all of the Dunn Field area; both of the survey areas dealt with in this report are on the Goodman tracts. The Goodmans had owned the land since 1914, when they bought it for "Ten dollars and other good and valuable considerations" from A. B. and Mary Witten Knipmeyer (Shelby County Deed Records Book 589:626–629). The largest of the three tracts transferred consisted of ca. 266 acres out of the Emily F. Ball tract; this land later became the eastern half of the main depot area. The second tract consisted of ca. 166 acres just to the west and was described as "Lot number eight (8) of the subdivision made by the commissioners . . . in the suit of John C. Fizer, et al, vs. Walter C. Dunn et al." The third tract consisted of the area north of Dunn Avenue (i.e., the Dunn Field area). The Knipmeyers had acquired the 500 acres from J. D. Fulmer et al., perhaps in 1912.

Neither the 1941 nor 1914 deed mentions improvements on the property, and it is likely that most of the project area was under cultivation during these decades. This is supported by a map published by the Theo. W. Ohman Map Co. in 1925, which has shading indicating parks and boulevards and manufacturing, business, and residential areas. The project area is shown as being owned by the Goodman brothers and is unshaded, indicating that it was undeveloped. In addition, a July 1941 property map made just after purchase by the government shows no structures, although it does show three instances of buildings encroaching on the edges of the property, as well as Tennessee Valley Authority transmission lines that crossed the northeastern corner of the main depot and Dunn Field areas. Railroad tracks also ran north-south through Dunn Field and east-west through the north-central main depot area. This map also shows an abandoned cemetery on the ca. 166-acre Fizer tract. The cemetery measured about 140 ft east-west by 80 ft north-south, and the inset showing details indicates that it was surrounded by cultivated land and had no road connections. The detail also shows that it was surrounded by an "old hedge row," that it contained 8 identifiable graves and 10 headstones (most not associated with identified graves), and that 1 grave with a legible headstone ("Ambrose Daily") lay just outside its northeast corner. The legible headstones within the cemetery were recorded as follows: (1) "Marguret Dunn, died Oct. 14, 1845"; (2) "Sam C. Dunn, died July 22, 1846, age 65"; (3) "Wm. H. Dunn, died Feb. 27, 1857, age 46"; and (4) "Dunn, died Dec. 6, 1846, age 30." The caption of the inset reads "Old Abandoned Cemetery of the Dunn Family Found to Have Been Removed Prior to Date of Purchase." Given what this map does show, the fact that it does not indicate structures (except those encroaching on the edges) suggests that none were present on the land when it was acquired by the government.

Deed records for ownership prior to 1914 were not researched, but a series of earlier maps provide clues. Maps published in 1902 and 1888 by M. T. Williamson both indicate that the eastern part of the project area was owned by Mrs. E. Ball (Dower), with M. H. Fizer owning the ca. 166 acres to the west and the tract north of Dunn Avenue. An earlier map dating to about 1872 published by Donoho & Bulkley also shows the Mrs. E. Ball (Dower) tract and the M. H. Fizer tract to the west, but the tract north of Dunn Avenue is not labeled as to owner. Two Civil War–era maps, one attributed the date of 1864 and the other undated, do not show ownership but do show general disposition of the land. The first, titled "Memphis and Vicinity" and signed "S.O. Shorry,

Maj. 1st Miss Mtd Rifles", shows the city, railroads, roads, streams, and at least some of the buildings outside of the city; apparently written in after the map was produced are some place names and the names of people who were associated with certain pieces of land. This map shows no buildings or written-in names in the depot area, implying that it was unoccupied as of the mid-1860s, although this could be at odds with the dates on the headstones in the cemetery on the ca. 166-acre Fizer tract. The second Civil War–era map, of the same title, was produced under the orders of Major General W. T. Sherman. This map also shows the city, railroads, roads, streams, and at least some buildings outside of the city, with no structures in the depot area.

Based on the names and dates on the headstones in the cemetery on the Fizer tract, it seems likely that the Dunn family was living on or near the western half of the main depot area during the mid-nineteenth century. A notation on the July 1941 depot property map indicates that the Emily F. Ball (Dower) tract and both of the Fizer tracts (i.e., the ca. 166-acre tract containing the cemetery and the tract north of Dunn Avenue) were created out of the W. M. Dunn estate, and this suggests that all of the 500 acres eventually purchased by the government from the Goodmans may have belonged to the Dunns at one point. Whether the W. M. Dunn referred to on the 1941 map is the same as Wm. H. Dunn who died in 1857 and was buried in the cemetery is unknown, but the map evidence makes it clear that the subdivision had taken place by 1872. No evidence was found to allow a conclusive determination about whether Mrs. Emily Ball or M. H. Fizer ever lived on their properties.

By the early part of the second decade of the twentieth century, the land that would become the depot was held by developers, and this remained the case until 1941. The property probably was used for agriculture for much if not all of this interval. The July 1941 property map suggests strongly that the land was vacant at the time of government purchase.

Documentation of Disturbance

This task consisted of reviewing records at the depot and conducting an in-field inspection to identify parts of the two survey areas that have been too disturbed to warrant shovel testing. The information sources used include the following: (1) a February 1995 map showing areas of known waste disposal in the Dunn Field area; (2) a series of maps dated October 1991 and entitled "Existing Conditions" showing the locations of all buildings, roads and parking lots, recreational facilities, storm drains, and water supply, sewer, natural gas, electrical, and telecommunications lines; (3) a map dated June 1960 and revised through June 1989 showing electrical distribution lines; (4) a map dated June 1960 and revised through February 1985 showing water distribution lines; (5) a February 1973 map entitled "Depot Layout Plan, Southeast Quarter" showing storm drains (underground and open concrete ditches) and electrical, natural gas, sewer, and water lines in the golf course area; (6) three maps dated October 1944 and entitled "Use of Buildings and Areas," "Paving Map," and "Tree Plan" showing the early layout of the golf course and other recreational facilities in the southeast part of the depot, as well as the extent of tree cover; (7) a July 1941 map entitled "General Layout & Location Plan" showing the topography of the area before construction began; (8) a large collection of photographs documenting construction of the facility; and (9) several aerial photographs. Enough information was collected from these sources to create a chronology of the depot with a representation of the facility approximately every decade of its existence.

Golf Course

This survey area measures about 600 m east-west by 325–400 m north-south, encompassing some 54 acres (Figure 2). As befits its function as a golf course and recreational area, this part of the depot has a manicured appearance, with about a third being covered by trees and the remainder being open areas (e.g., greens, fairways, tee boxes, and a ball field). Overall, it is gently rolling, containing the heads of three south-flowing drainages and the adjacent interfluvial areas. The western drainage has been dammed to form Lake Danielson in the northwest corner of the survey area. The middle drainage extends the full north-south width of the survey area, and the head of one arm has been dammed to create a small pond. The eastern drainage extends northward only about 150 m into the survey area and has been modified to contain a swimming pool and wading pool. The interfluves have flat to very gently sloping summits and moderate to steep sideslopes and noseslopes. The bottom of the eastern drainage lies ca. 10 ft below the adjacent interfluve summits, the central drainage is ca. 25 ft below the interfluves to the east and west, and the western drainage is ca. 15 ft below the adjacent interfluves. Because the easternmost drainage extends only partway across the project area, the entire northeast corner is flat.

The extent to which the general character of this area has changed since the depot was created can be gauged from several sources. The July 1941 preconstruction topographic map shows that the general lay of the land has not changed much (i.e., the drainages

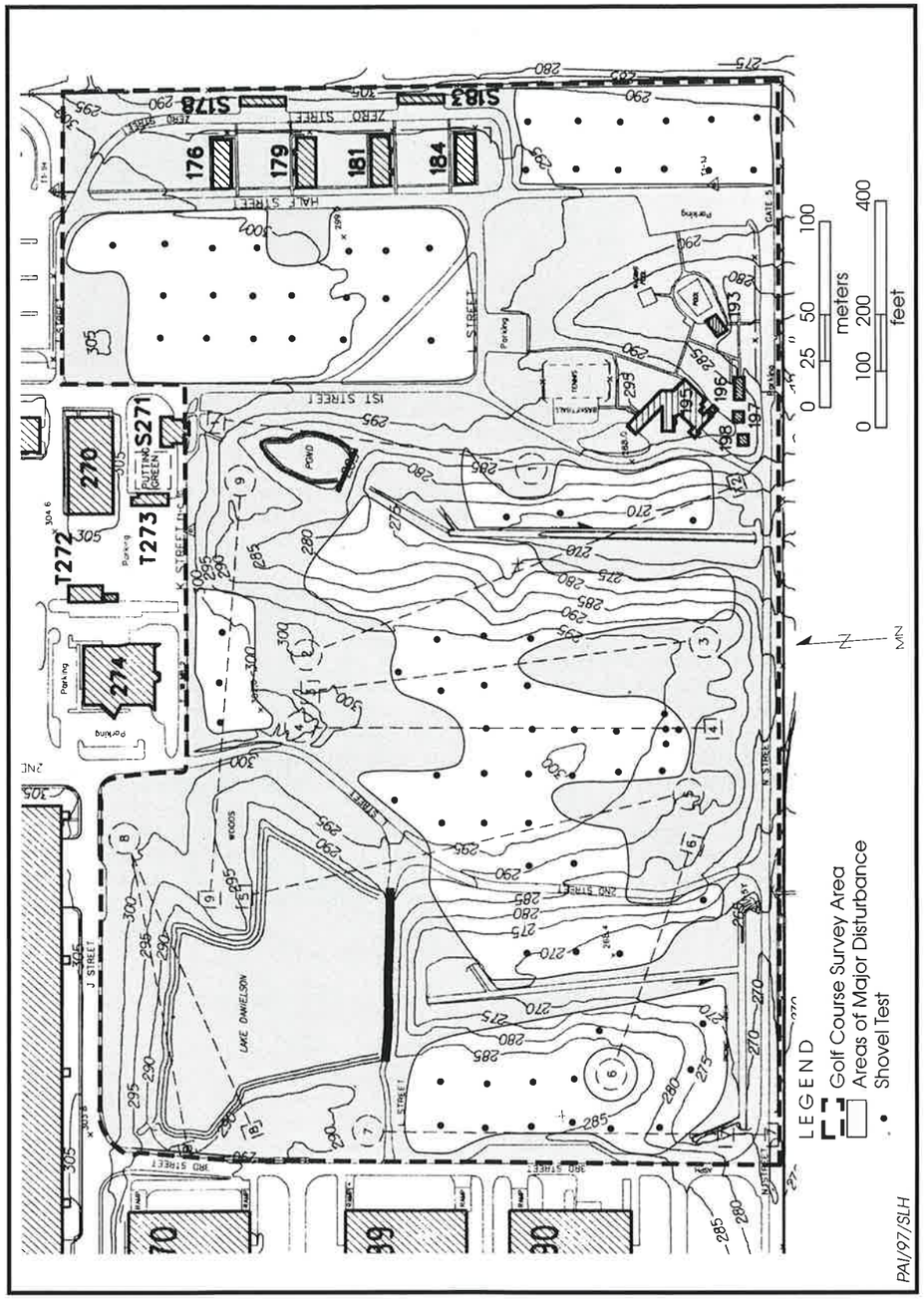

Figure 2. Topographic map of the golf course survey area showing shovel test locations and areas of major disturbance.

and interfluves present in 1997 coincide with those mapped in 1941). It appears that the area escaped the widespread earth movement that occurred over most of the depot during initial construction. The most notable differences between the modern topography and that shown for 1941 are as follows: (1) the head of the western drainage was expanded after 1941 to create Lake Danielson: (2) the southern edge of the interfluve between the western and central drainages has been sculpted for the placement of two greens and two tee boxes; and (3) the area north and east of the eastern drainage appears to exhibit less relief today than it did in 1941, perhaps reflecting grading of the summit north of the drainage and filling along the eastern edge of the property.

Figure 3. View to the north of the central drainage in the golf course survey area; note channelized drainage on left, tee box in right foreground, and golf cart trail running diagonally.

In terms of vegetation, photographs taken during construction with the southeastern part of the depot in the background show that the golf course area was wooded, and this is supported by an aerial photograph taken in June 1940 that shows roughly the western two-thirds of the golf course area in forest. An October 1944 map shows considerably less tree cover, and thus it appears that some clearing was done when the golf course was constructed in the early 1940s (Holmes [1996:26–27] report that construction of the golf course began in ca. 1946 and was not completed until 1957 or 1958, but several October 1944 maps show that the golf course was present by that time). Based on the presence of a number of exotic species and trees in rows, it is obvious that some of the existing vegetation has been planted.

Substantial parts of the golf course area have been disturbed extensively (see Figure 2). From east to west, the areas of major disturbance are as follows: (1) the northeastern edge, which is shown as containing "Victory Gardens" on an October 1944 map, contains a row of four residences with two outbuildings to the east and landscaped yards; (2) the area in and around the eastern drainage contains swimming and wading pools, the community club and golf shop, four other buildings, tennis and basketball courts, two parking lots, and a playground; (3) the head of the central drainage has been partially dammed and modified for the placement of a green and tee box; (4) the central drainage itself has been channelized into an open concrete ditch (Figure 3); (5) most of the northern part of the interfluve between the central and western drainages has been modified for the placement of two greens and a tee box, with associated underground sprinkler systems; (6) the southern edge of this same interfluve has been sculpted to form two greens and two tee boxes, along with the placement of sprinkler lines; (7) the entire northwestern quadrant has been modified through the excavation of Lake Danielson and the placement of two greens and four tee boxes; (8) the western drainage has been channelized into an open concrete ditch; and (9) the southern edge of the westernmost interfluve has been disturbed by the construction of a concrete storm drain, bathroom facilities, and the paved road that runs east-west along the south edge of the depot. These areas account for 35 of the 54 acres in the golf course survey area. The remaining 19 acres are far from pristine, however, as they contain utility lines of various kinds, paved roads, golf cart trails, a ball field, and the former locations of tennis and badminton courts and softball fields. In addition, 5 of these 19 acres are on steep slopes.

Dunn Field

This survey area measures about 210 m east-west by 500 m north-south, encompassing ca. 25 acres (Figure 4). The northern part is gently rolling and covered mostly by grasses and forbs, with less than one-fifth of the acreage supporting tree cover. The southern part is flat except where it is covered by large piles of stored bauxite. The northern part is bisected by a north-flowing drainage, with most of the area consisting of moderate slopes bordering the drainage. Within the project area are a small part of the interfluve summit east of the drainage and a larger portion of the interfluve to the west and south.

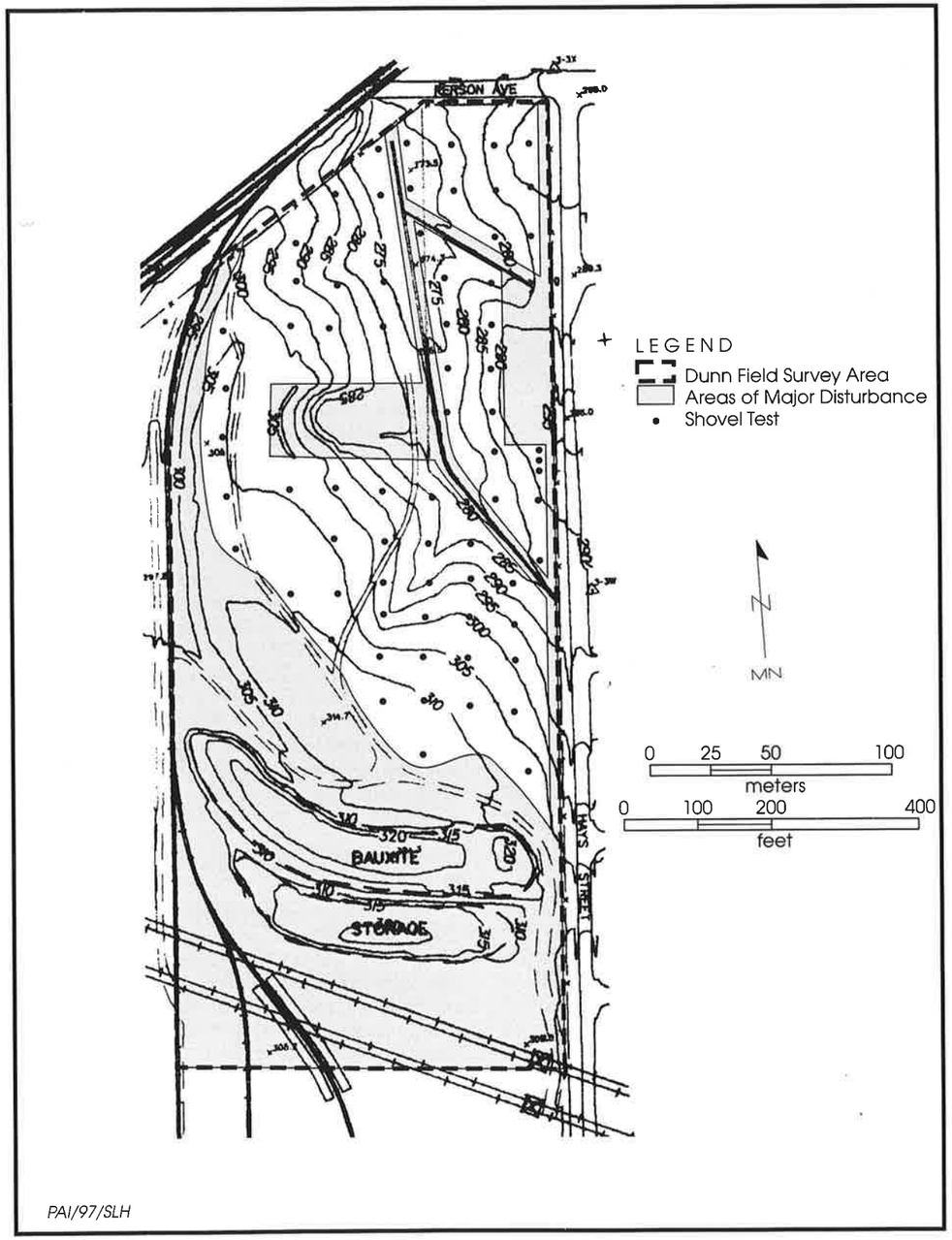

Figure 4. Topographic map of the Dunn Field survey area showing shovel test locations and areas of major disturbance.

The eastern summit is 10–15 ft above the bottom of the drainage, while the western/southern summit is 25–30 ft higher than the drainage.

Comparison of the modern topography with that shown on the July 1941 preconstruction topographic map shows that the southern part of the survey area, and most of Dunn Field south and west of the survey area, has been graded or covered with fill. Grading has also occurred along the western edge east of the railroad tracks and in the bottom of the drainage, which has been channelized into an open concrete ditch (Figure 5). In terms of vegetation, an undated aerial photograph that shows the depot in its early years (based on the buildings present and the amount of surrounding undeveloped land) indicates that most of the Dunn Field survey area was lightly wooded. Apparently, the area has seen some clearing since that time.

Figure 5. View to the northwest of the southern part of the channelized drainage in the Dunn Field survey area; pistol range is in trees on the left.

Fourteen of the ca. 25 acres in this survey area have been extensively disturbed (see Figure 4). Most of these are in the southern part where the land has been graded for the placement of large piles of bauxite. Maps show that the area just north of the bauxite piles on the western side of the survey area has been used as an equipment loading area and an incinerator area, presumably resulting in substantial disturbance. Other disturbed areas include the graded berm east of the railroad tracks, a now-overgrown pistol range excavated into the western interfluve slope, the channelized drainage, and a hazardous materials disposal site on the eastern interfluve summit.

Pedestrian Survey

The pedestrian survey consisted of walking across the areas that have not been extensively disturbed and that are not on steep slopes, i.e., those areas with some potential for intact deposits (14 acres in the golf course area and 11 acres in the Dunn Field area), and excavating 153 shovel tests at 25-m intervals. The ground surface across most of the survey areas is obscured by vegetation and thus affords very poor visibility; where erosion has created exposure, however, the surface was subjected to systematic inspection. The shovel tests measured ca. 30 cm in diameter and were excavated in 20-cm levels through the A horizon to the compact B horizon. In most cases (n = 98), this contact was at a depth of 20 cm or less, although 46 tests reached the contact at 21–30 cm and 9 tests extended to greater depths (the deepest test was 60 cm). Given that the loess deposits in the area date to the late Pleistocene, the potential for cultural remains at greater depths is low. All sediments removed from the tests were screened through ¼-inch-mesh hardware cloth. Each test was recorded on a form noting materials recovered and the sediments encountered. Additional documentation of the fieldwork consists of a daily journal maintained by the Principal Investigator and 35-mm color and black-and-white photographs recording the general character of the project area. As discussed below, no archeological sites were found, so no site forms were completed.

Golf Course

Eighty-one shovel tests were excavated in the golf course area. Thirty-one were on the broad interfluve surface north and east of the easternmost drainage; 31 were on the interfluve between the central and western drainages; 13 were on the interfluve west of the western drainage; 3 were in the bottom of the central drainage; and 3 were in the bottom of the western drainage (see Figure 2). The sediments observed varied little, even in the tests along the drainages. Most profiles consisted of 6–8 cm of dark brown silt loam over 15 cm or less of yellowish brown silt loam over the very hard, brownish yellow silt loam B horizon. Only 7 shovel tests encountered obviously disturbed sediments or fill, but over half (n = 41) yielded chert gravels that are anomalous given the host sediments (i.e., loess). These gravels suggest that much of the golf course area has been disturbed.

Disturbance is also indicated by the occurrence of modern historic artifacts in 11 of the shovel tests. These materials include three small pieces of asphalt, nine clear glass sherds, two soda bottle sherds, four wire nails, one piece of barbed wire, one piece of flat metal, one small brick fragment, one piece of rubber, and one plastic comb fragment. A variety of modern artifacts, especially soda bottles, was observed on the surface across the golf course area as well. One small concentration of artifacts appears to date to the early years of the depot (1940s–1950s). This concentration, which is on the eroded interfluve slope just south of Lake Danielson, consists of four pieces of salt-glazed stoneware sewer pipe, three fragments of machine-made bricks, and one sherd of undecorated hotel ware with a mark indicating that it was made by the Shenango China Company for the U.S. Army Quartermaster Corps. These materials appear to represent a secondary trash deposit, or perhaps they were brought in with fill used to construct the paved road just upslope. Because the historic materials observed on the surface and in the shovel tests are of recent origin, they were not collected or designated as sites.

A single decorticate chip of reddish yellow chert was found in the upper 20 cm of a shovel test near the south end of the interfluve between the western and central drainages. This item might reflect prehistoric knapping activities, although it also could have come from the introduced gravels that occur widely across the area. Three shovel tests placed 5 m to the east, south, and west failed to yield any additional artifacts, and this chip was neither collected nor designated as a site.

Dunn Field

Seventy-two shovel tests were placed in the Dunn Field area. Seventeen were on the interfluve slope and summit east of the drainage; 43 were on the interfluve slopes and summit west and south of the drainage; and 12 were in the bottom of the drainage (see Figure 4). The sediments observed were the same as those in the golf course area, i.e., a thin dark brown silt loam A horizon over usually less than 15 cm of yellowish brown silt loam over the brownish yellow silt loam B horizon. Six of the tests encountered obviously disturbed sediments, and almost two-fifths (n = 27) yielded probably introduced chert gravels.

Modern debris was encountered in nine tests, including 20 pieces of clear glass, 2 sherds of green glass, a piece of asphalt, a plastic wrapper, a tin can, and construction debris such as brick and concrete fragments and pieces of ceramic tile. The construction debris was concentrated in a shovel test at the base of the interfluve slope east of the drainage; it may represent a demolished building near this location or introduced fill. Because of their recent origin, these materials were not collected or designated as archeological sites. A single flake was recovered from a shovel test at the east edge of the survey area, but it is of the same material as gravels in an adjacent road and does not reflect prehistoric activities; it was neither collected nor designated as a site.

RECOMMENDATIONS

While the golf course and Dunn Field areas certainly are the least disturbed parts of the depot, providing some idea of what the landscape looked like before the depot was constructed, both have been disturbed to a substantial extent. Review of records at the facility and on-site inspection revealed that only 25 acres (14 in the golf course area and 11 in the Dunn Field area) have any potential for intact deposits. Archival research did not find any evidence for historic sites predating the depot in either area, and pedestrian survey did not find any prehistoric or historic archeological sites. All artifacts found, except for a single chert chip that could be prehistoric, are modern. The possible prehistoric artifact may reflect limited use of the uplands by groups who lived along Nonconnah Creek to the south. Because the two survey areas lack archeological sites, it is recommended that no further cultural resources work be required on them.

REFERENCES CITED

Holmes, Richard, Nick Trierweiler, and Ruth Nichols
1996 *A Cultural Resources Inventory and Assessment at the Defense Distribution Depot Memphis, Tennessee*. Prepared for U.S. Army Corps of Engineers, Fort Worth District, by TRC Mariah Associates Inc., Austin, Texas.

Law Environmental, Inc.
1990 *Remedial Investigation Final Report. Appendices*. Prepared for United States Army Corps of Engineers, Huntsville Division, by Law Environmental, Inc., Kennesaw, Georgia.

Saucier, Roger T.
1974 *Quaternary Geology of the Lower Mississippi Valley*. Publications in Archeology, Research Series No. 6. Arkansas Archeological Survey, Fayetteville.

Sease, E. C., R. L. Flowers, W. C. Mangrum, and R. K. Moore
1970 *Soil Survey of Shelby County, Tennessee*. United States Department of Agriculture, Soil Conservation Service, in cooperation with the Tennessee Agricultural Experiment Station.

Smith, Gerald P.
1996 The Mississippi River Drainage of Westem Tennessee. Chapter 4 in *Prehistory of the Central Mississippi Valley*, edited by Charles H. McNutt, pp. 97–118. The University of Alabama Press, Tuscaloosa and London.

Smith, Gerald P., and Richard A. Weinstein
1987 *Cultural Resources Survey, without Testing, of the Nonconnah Creek Project, Shelby County, Tennessee*. Prepared for the U.S. Army Corps of Engineers, Memphis District, by Coastal Environments, Inc., Baton Rouge, Louisiana.