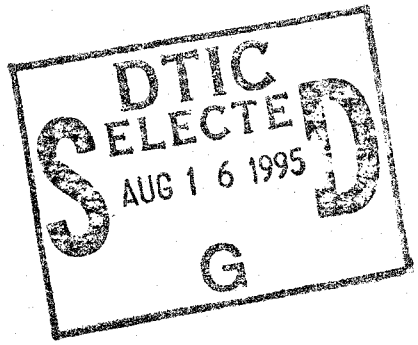
Archaeological Survey of the Class II Sanitary Landfill Access Road Alignment, Holston Army Ammunition Plant, Kingsport, Hawkins County, Tennessee

Contract Number DACA01-93-D-0033
Delivery Order 0007



New South Associates
6150 East Ponce de Leon Avenue
Stone Mountain, Georgia 30083

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

1. AGENCY USE ONLY (Leave blank)	2. REPORT DATE	3. REPORT TYPE AND DATES COVERED
	July 13, 1995	Final August 1994 - July 1995

4. TITLE AND SUBTITLE
Archaeological Survey of the Class II Sanitary Landfill Access Road Alignment, Holston Army Ammunition Plant, Kingsport, Hawkins County, Tennessee

5. FUNDING NUMBERS
C DACA01-93-D-0033
DO 0007

6. AUTHOR(S)
Lisa D. O'Steen

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)
New South Associates, Inc.
6150 East Ponce de Leon Avenue
Stone Mountain, Georgia 30083

8. PERFORMING ORGANIZATION REPORT NUMBER
278

9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES)
U. S. Army Corps of Engineers
Mobile District
P. O. Box 2288
Mobile, Alabama 36628

10. SPONSORING / MONITORING AGENCY REPORT NUMBER
COESAM/PDER-95-003

11. SUPPLEMENTARY NOTES

12a. DISTRIBUTION / AVAILABILITY STATEMENT
DISTRIBUTION STATEMENT A
Approved for public release;
Distribution Unlimited

12b. DISTRIBUTION CODE

13. ABSTRACT *(Maximum 200 words)*

This report presents the results of archaeological deep testing conducted through the excavation and recording of backhoe test trenches for a portion of the Class II Sanitary Landfill Access Road Alignment at the Holston Army Ammunition Plant. One archaeological site, designated 40HW68, and one isolated find were discovered during this survey. Neither of these resources were determined eligible for nomination to the National Register of Historic Places.

14. SUBJECT TERMS
archaeology, deep testing, archaeological survey

15. NUMBER OF PAGES
43

16. PRICE CODE

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

COESAM/PDER-95-0003

Archaeological Survey of the Class II Sanitary Landfill Access Road Alignment, Holston Army Ammunition Plant, Kingsport, Hawkins County, Tennessee

Contract No. DACA01-93-D-0033
Delivery Order 0007

Report Prepared for:

Environmental Resources Planning Section
Planning and Environmental Division
Mobile District
U.S. Army Corps of Engineers
P. O. Box 2288
Mobile, Alabama 36628-0001

Report Submitted by:

New South Associates, Inc.
6150 East Ponce De Leon Avenue
Stone Mountain, Georgia 30083

J. W. Joseph, Ph.D. - Principal Investigator

Lisa D. O'Steen - Archaeologist and Author

New South Associates Technical Report 278

July 13, 1995

Management Summary

During the period from August 15, 1994 to August 26, 1994, New South Associates conducted deep backhoe testing to determine the presence or absence of buried archaeological deposits within or adjacent to an access road alignment on the Holston Army Ammunition Plant. Ten backhoe trenches were excavated at 100 ft (31 m) intervals along the road alignment between Stations 19+00 and 28+00. The trenches, which were placed perpendicular to and across the road alignment, measured 33 ft (10 m) in length. Trenches varied in depth between 3 and 5 ft (1-1.5 m). While all trenches in the project area were supposed to be excavated to a depth of 5 feet, the water table and sand strata that may be described as "running sands" were encountered at approximately 3 ft (1 m). Following consultation with U.S. Army Corps of Engineers (COE) archaeologists, it was deemed unnecessary to continue trenching to a depth of 5 feet.

Prehistoric artifacts were found in disturbed contexts in three of the trenches (22+00, 23+00, and 28+00). As per the contract, a line of shovel tests was to be excavated parallel and perpendicular to the positive trenches. However, due to the disturbed context of the artifacts and the location of the trenches in a low backswamp area, COE archaeologists Dottie Gibbens and Jerry Nielsen determined that this testing between trenches was not needed. Instead, a line of shovel/auger tests was excavated at 33 ft (10 m) intervals north and parallel of positive trench 22+00 and up onto the crest of the levee. Among the 11 shovel/auger tests, two produced one chert flake each in the plow zone. A chert point tip was also recovered from Zone II of one of these tests (Shovel Test 1). This line of tests was continued until two negative tests were excavated to the north, west and east along the crest of the levee. The material from the shovel tests and Trenches 22+00 and 23+00 was designated as Site 40HW68. The flake from Trench 28+00 was designated as Isolated Find 1. Following archaeological fieldwork, the artifacts were returned to the New South Associates lab, where they were washed, cataloged, analyzed and prepared for curation. None of these archaeological resources are considered eligible for nomination to the National Register of Historic Places.

On August 22, 1994, Richard Bryant of New South Associates conducted large format photography of three railroad bridges on the HAAP as part of the Level III HABS/HAER documentation of these structures.

Executive Summary

This document details the archaeological survey of the Class II sanitary land fill access road alignment on the Holston Army Ammunition Plant (HAAP), Kingsport, Hawkins County, Tennessee. The U.S. Army has the responsibility to identify and preserve historic resources, or mitigate losses thereto, on lands under its control in adherence to several historic preservation laws and Executive Order 11593, dated May 13, 1971.

Presently, only a minimal amount of archaeological investigation has been conducted at HAAP. In the 1970s, members of the Kingsport Chapter of the Tennessee Archeological Society conducted archaeological excavations at site 40HW15. In 1984, the report entitled *An Archeological Overview and Management Plan for the Holston Army Ammunition Plant, Hawkins and Sullivan Counties, Tennessee* was prepared by Woodward-Clyde and Associates. Two archaeological surveys have been conducted at HAAP by the Mobile District, U.S. Army Corps of Engineers in 1993. A second prehistoric archaeological site, 40HW67, and four prehistoric artifact scatters were identified as a result of these surveys.

During August of 1994, New South Associates conducted deep backhoe testing to determine the presence or absence of buried archaeological deposits within or adjacent to an access road alignment on the Holston Army Ammunition Plant. Ten backhoe trenches were excavated at 100 ft (31 m) intervals along the road alignment between Stations 19+00 and 28+00. The trenches, which were placed perpendicular to and across the road alignment, measured 33 ft (10 m) in length. Trenches varied in depth between 3 and 5 ft (1-1.5 m). While all trenches in the project area were supposed to be excavated to a depth of 5 ft, the water table and sand strata that may be described as "running sands" were encountered at approximately 3 ft (1 m). Following consultation with U.S. Army Corps of Engineers (COE) archaeologists, it was deemed unnecessary to continue trenching to a depth of 5 feet.

Prehistoric artifacts were found in disturbed contexts in three of the trenches (22+00, 23+00, and 28+00). As per the contract, a line of shovel tests was to be excavated parallel and perpendicular to the positive trenches. However, due

to the disturbed context of the artifacts and the location of the trenches in a low backswamp area, COE archaeologists Dottie Gibbens and Jerry Nielsen determined that this testing between trenches was not needed. Instead, a line of shovel/auger tests was excavated at 33 ft (10 m) intervals north and parallel of positive trench 22+00 and up onto the crest of the levee. Two of the 11 shovel/auger tests each produced one chert flake in the plow zone. A chert point tip was also recovered from Zone II of one of these tests (Shovel Test 1). This line of tests was continued until two negative tests were excavated to the north, west and east along the crest of the levee. The material from the shovel tests and Trenches 22+00 and 23+00 was designated as Site 40HW68. The flake from Trench 28+00 was designated as Isolated Find 1. Following archaeological fieldwork, the artifacts were returned to the New South Associates lab, where they were washed, cataloged, analyzed and prepared for curation. Because of the highly disturbed, and possibly redeposited, nature of soils and cultural material on each of the identified cultural properties, neither are considered to meet the criteria for eligibility to the National Register of Historic Places.

On August 22, 1994, Richard Bryant of New South Associates conducted large format photography of three railroad bridges on the HAAP as part of the Level III HABS/HAER documentation of these structures.

Acknowledgements

A number of people were involved in the successful completion of this project. Ms. Dottie Gibbens and Mr. Jerry Nielsen of the Mobile District, U.S. Army Corps of Engineers visited the project, and provided insights and advice on the fieldwork and report preparation. Mr. Joe Benthall, Regional Archaeologist with the Tennessee Division of Archaeology Office also visited the site while fieldwork was underway. Mr. George Fletcher, Chemical Engineer, Holston Defense Corporation, was most helpful with all aspects of the fieldwork on this project.

Personnel at New South Associates, Inc. offered assistance during this project. Dr. J. W. Joseph provided administrative and logistical support. Dr. Debbie Wallsmith supervised the laboratory work and edited the report. Ms. Tracey Fedor brought her graphic skills to maps and graphics requiring an artist's hand.

Last, but certainly not least, the crew, Ms. Nancy Parrish, is thanked for her enthusiasm and hard work.

Table Of Contents

Management Summary	i
Executive Summary	ii
Acknowledgements	iv
Table of Contents	v
List of Figures	vii
I. Introduction	1
Purpose	1
Authority	3
II. Environmental Background	4
Physiography of the Region	4
Water Resources	6
Modern Climate	6
Floral Resources	7
Faunal Resources	8
Paleoenvironment	8
III. Cultural Overview	9
Prehistoric Background	9
Paleoindian	9
Archaic	9
Woodland	10
Mississippian	12
Ethnohistory of the Region	12
History of the Region	14
Summary Of Previous Archaeological Work Conducted at the Holston AAP	20
IV. Methods	23
Literature Review	23
Field Methods	23
Laboratory Methods	26
Site Forms And Curation	27
Site Evaluation	27

V. Results 28
Trench Excavations 28
Site 40Hw68 28
Isolated Find 1 34

VI. Summary and Recommendations 36
Site Summary 36
Eligibility Recommendations 36

References Cited 37

List of Figures

1. Project Location Map 2
2. Plan of Project Area. 25
3. Positive Trench 22+00, West Profile 29
4. Positive Trench 23+00, East Profile 30
5. Positive Trench 28+00, West Profile 31
6. Section from Sterile Trench 21+00, West Profile 32
7. Section from Sterile Trench 24+00, West Profile 33

I. Introduction

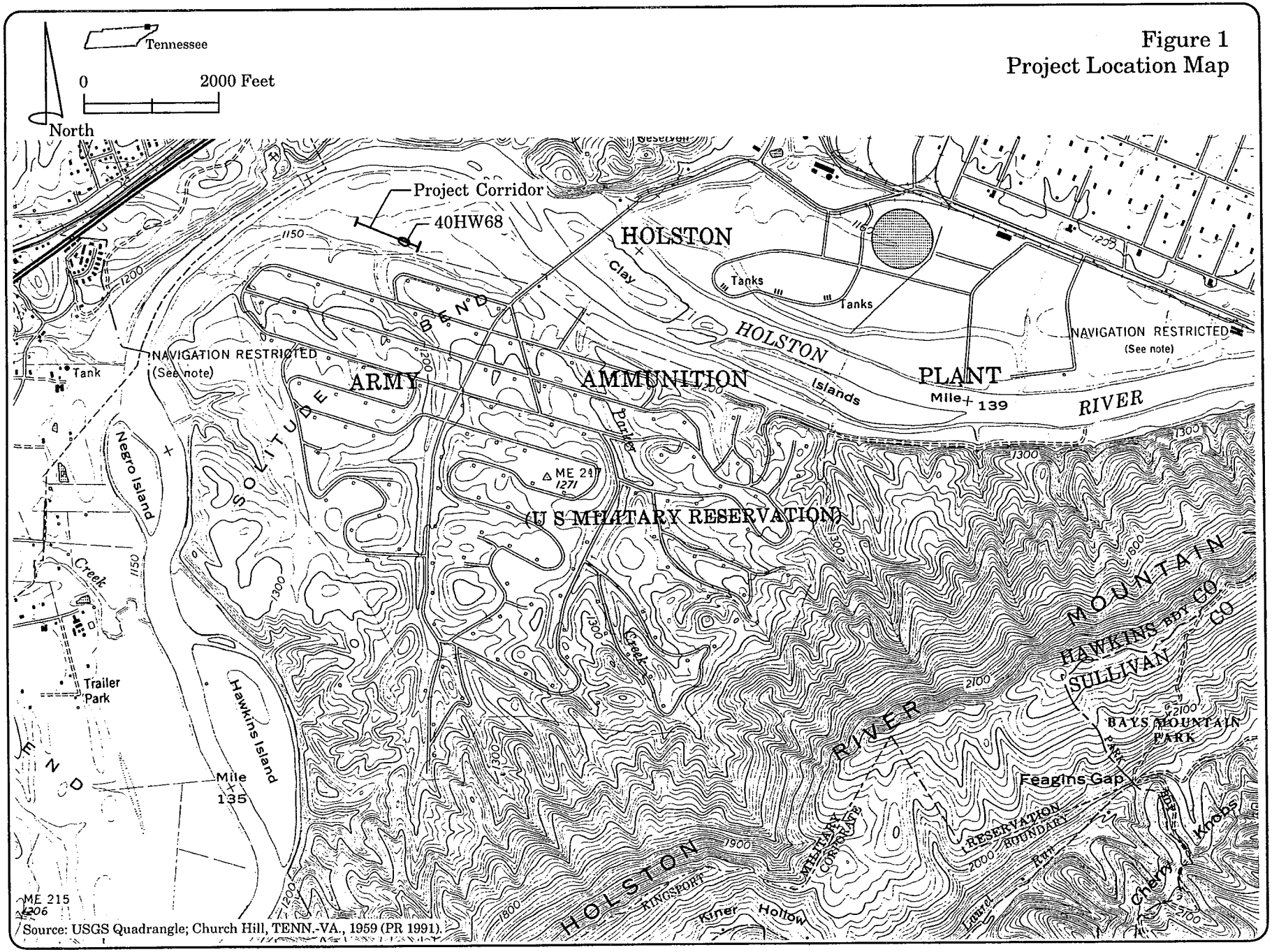
Purpose

The Holston Army Ammunition Plant (AAP) is planning to construct a Class II Landfill on the east bank of the Holston River in Hawkins County, Tennessee. The landfill is required to meet the new state solid waste regulations because the existing landfill is nearing capacity. The landfill will handle all non–hazardous commercial, industrial, institutional, landscaping, construction and demolition waste generated at HAAP. In addition to the landfill, a borrow pit, access road and two sediment basins will be constructed. During August of 1993, Mobile District, U.S. Army Corps of Engineers archaeologists Dottie Gibbens and Jerry Nielsen conducted a Phase I historic resources survey of the proposed landfill and associated facilities (U.S. Army Corps of Engineers 1993a, 1993b). Following this study they recommended that a 1000 ft (305 m) section of the proposed access road alignment that traverses the back side of a large levee of the Holston River be deep tested to determine the presence or absence of buried cultural resources in this portion of the project area.

Between August 15 and 27, 1994, New South Associates conducted deep backhoe trenching to locate and assess any cultural resources that are located in this 1000 ft (305 m) section of proposed access road alignment. This segment of road is located in Area B of the HAAP, in an area known historically as Solitude Bend. Ten backhoe trenches were excavated at 31 m (100 ft) intervals along the planned road alignment (Figure 1). Prehistoric artifacts were recovered in disturbed contexts in three of the backhoe trenches. Evidence of ephemeral Mississippian and possibly Woodland occupations was identified. Artifacts were recovered from the upper colluvial/plow zone in backhoe trenches, shovel tests, and surface exposures within the project alignment. The portion of the site in the study area may represent the edge effect from a site that is situated either along the levee or on the Pleistocene terrace where the X Magazine area is located (south of the study area across Sand Branch). These findings were confirmed through shovel/auger testing between one of the positive trenches and the crest of the levee adjacent to the road alignment (to the north).

The following sections of this report briefly summarize the environmental characteristics of the region, present the cultural history of the region, describe

Figure 1
Project Location Map



Source: USGS Quadrangle; Church Hill, TENN.-VA., 1959 (PR 1991).

previous archaeological investigations at HAAP, describe the strategy of the current survey and recommend future investigations, if warranted, within the study area. Much of the environmental and cultural background of the study area is extracted from two previous studies at HAAP, which resulted in three reports: *An Archeological Overview and Management Plan for the Holston Army Ammunition Plant, Hawkins and Sullivan Counties, Tennessee* (McNutt et al. 1984); *Historic Resources Survey of the Class II Landfill, Holston Army Ammunition Plant, Hawkins and Sullivan Counties, Tennessee*; (U.S. Army Corps of Engineers 1993a); and *Historic Resources Survey, Alternate I Access Road, Class II Landfill, Holston Army Ammunition Plant, Hawkins County, Tennessee* (U.S. Army Corps of Engineers 1993b).

Authority

The U.S. Army has the responsibility to identify and preserve historic resources, or mitigate losses thereto, on lands under its control in adherence to several historic preservation laws and Executive Order 11593, dated May 13, 1971.

The authorities for this responsibility include the Antiquities Act of 1906; the Historic Sites Act of 1935; the National Historic Preservation Act of 1966, as amended in 1980 and 1992; the Reservoir Salvage Act of 1960, as amended by the Archeological and Historical Preservation Act of 1974; Executive Order 11593; the Archeological Resources Protection Act of 1979; the National Environmental Policy Act of 1969; the Native American Graves Protection and Repatriation Act of 1990; and Army Regulation AR 420–40, Historic Preservation.

II. Environmental Background

Physiography of the Region

The HAAP is located in the Great Valley, a part of the southern section of the Ridge and Valley Physiographic Province as defined by Fenneman (1938:195-278;). The area is characterized by long, narrow valleys separated by longitudinal mountains and ridges running north and south. The western border of the Appalachian Plateau Physiographic Province, represented by the Unaka Mountains, is located approximately 30 mi (48.3 km) to the east of the HAAP.

The complex topography of the HAAP is largely the result of thrust faulting and folding, with subsequent erosion of the softer clastic stratum. There are five major topographic zones within the facility boundary: the floodplain and islands of the Holston River; alluvial terrace formations in the bends of the river; two ridge systems in the northern portion of Area B; and the slopes of Holston River Mountain.

The Holston River flows on the southern border of Area A and through Area B, separating Area B into northern and southern portions (Figure 1). The river is bordered by floodplain and backswamp deposits of Staser silt loam, which extend a maximum of (0.4 km) 0.25 mi inland on both sides of the river (McNutt et al. 1984:43). Between River Mile 137.5 and 139, the Holston widens to accommodate eight small islands, known collectively as the Clay Islands. The Inter-Plant Railroad, which connects Areas A and B, crosses a portion of Long Island, situated south of Area A between River Miles 143.3 and 147.5.

High Pleistocene river terraces composed primarily of Holston loam cover a large portion of the bend north of the Holston River in Area B and most of Solitude Bend (the project area) at the foot of Holston River Mountain in the southern half of Area B. Lower, more recent, alluvial terraces of Altavia and Statler silt loams are found parallel to the floodplain north of the river in Area B. A large portion of the terrace deposits in Area B and all of those in Area A were leveled during construction of the facility. In some spots, deep cutting has exposed underlying calcareous shale bedrock (McNutt et al. 1984:32).

Holston River Mountain is situated in the southern portion of Area B. Elevations range from 1,140 ft (353 m) AMSL at the Holston River to 2,300 ft (713 m) AMSL along the mountain crest, which forms the facility's southern boundary. The steep northern slope consists of calcareous Sevier shale, with thin layers of limestone, siltstone, sandstone, and conglomerate of the Ordovician-aged Chickamauga group. Dandridge shaley silty clay loam covers most of the steeper slopes, with Jefferson cobbly loam on benches, footslopes and fans. On the crest and eastern slopes of the mountain, light-gray to white sandstone outcrops of the Bays Formation are exposed. Soils on this side of the mountain consist of Lehew Channery loam, Hartsells loam, and Jefferson cobbly loam (McNutt et al. 1984).

Two parallel ridge systems are found in the extreme northern portion of Area B. Highway 11W, which serves as the northern boundary of the facility, follows the first of these ridges. This northernmost ridge, with peaks reaching 1,380 ft (428 m) AMSL, is composed of cherty limestones and dolomites of the Knox group (McNutt et al. 1984). Much of the surface, especially in the western portion, is karst terrain. Hilltops and slopes are mantled with Dewey, Talbott, and Dunmore silt loam, or Clarksville cherty silt loam. Small patches of Etowah, Emory, and Hinvale silt loams occur on benches, footslopes and fans (McNutt et al. 1984).

The second ridge, just south of and parallel to the limestone ridge, consists primarily of Sevier shale overlying Knox limestone (McNutt et al. 1984). Elevations range from 1,200 ft (372 m) AMSL at the base to crests at 1,400 ft (434 m) AMSL. Soils are primarily Dandridge shaley silt loam, with small areas of Sequoia and Needmore silt loam and Nella cobbly loam.

The preceding discussion of local geology, soils, and landforms is important in predicting possible prehistoric and historic site locations, settlement patterns, and available natural resources within the HAAP boundary. For instance, the limestone ridge in Area B is likely to harbor habitable caves and rock shelters. The Knox limestones are also a source for dark gray chert, or flint, used in the production of stone tools. Sinkholes and limestone depressions are often sites for early aboriginal occupations and chert extraction. Small, seasonally occupied hunting and gathering sites on upland benches, ridge spurs, and rock shelters can be expected on the rugged slopes of Holston River Mountain. Larger habitation sites and farmsteads are more likely to be found along the alluvial terrace deposits, with seasonal occupation in the floodplain.

Water Resources

An abundant supply of fresh water is available year round within the facility area. The North Fork and South Fork of the Holston River come together near River Mile 142, approximately 4 mi (7 km) downstream from AAP Area A and 1.2 mi (2 km) north of Area B. Tennessee Valley Authority construction of Fort Patrick Henry Dam, located approximately 4 river miles (7.4 km) upstream from Area A, has eliminated most flooding problems (McNutt et al. 1984).

HAAP Area A is located at the confluence of Mad Branch, which drains a large section of central Kingsport, and the South Fork of the Holston River. Arnott Branch, several smaller unnamed streams, and six drainage ditches drain the northern portion of Area B. The major named streams in the southern portion of Area B are Sand Branch (adjacent to the study area) and Parker Creek, with numerous smaller streams cascading down the northern face of Holston River Mountain. A small area along the southern boundary of Area B drains down the eastern face of the mountain into Laurel Run, which empties into the Holston River south of the facility. These are all perennial water resources.

Modern Climate

Temperatures in the vicinity of the HAAP vary according to elevation as well as season. Locations in the river valley are generally very cool in the winter, with occasional warm spells. Summers are very warm and frequently hot. Mountain tops and upper slopes are generally cold in the winter. In summer, upper elevations are warm during the day, becoming cool at night.

The climate is largely determined by warm, moist air masses from the Gulf of Mexico, and cool, dry continental air masses from the north and west. The prevailing winds are from the west-southwest, with an average windspeed of approximately 6 miles per hour (McNutt et al. 1984:2-3).

Temperatures recorded in Rogersville (25 mi [40 km] downriver from the AAP) between 1931 and 1970 show an average temperature of 58°F, with an average daily minimum of 45°F and average daily maximum of 70°F. The winter average daily minimum is near 29°F. Approximately two-thirds of the days in winter have temperatures of 32°F or less, although only about one day a year has

temperatures below 0°F. Summer temperatures average 87°F for the daily maximum, with an average daily minimum of 63°F. The highest temperature recorded in Rogersville is 104°F; the lowest is -19°F. The average growing season is 190 days, usually between mid-April and late October (McNutt et al. 1984:2-3).

Precipitation is abundant and generally well distributed throughout the year. It is heaviest in winter and spring and usually lightest in summer and early fall. Average yearly precipitation is 44.3 in (113 cm). The lowest total rainfall was recorded at 29.3 in (74 cm) in 1941, the highest being 53.0 in (135 cm) in 1948 and 1962. Severe storms are rare. Snowfall is infrequent, with an average of 6.1 days a year with snow cover. Yearly accumulations of snow average 3.5 in (9 cm) (McNutt et al. 1984:2-3).

Floral Resources

The varied topographic, microclimatic, and edaphic characteristics of the facility area provided past inhabitants a diversified mosaic of vegetational communities. The river valleys of upper East Tennessee are among the richest and best suited areas for aboriginal hunting and gathering in the southeastern United States.

The study area is situated in the Ridge and Valley section of the Oak-Chestnut Forest as defined by Braun (1950:225-242). Upland slopes and mountaintops were originally covered with forests predominated by oaks and American chestnut. Hemlock and mixed mesophytic communities occur locally. On the valley floor and low shale and limestone ridges, white oak predominates, accompanied by tulip tree, hickory, red oak, and black oak. Red cedar is often found on rocky limestone karst terrain. Small areas of mixed mesophytic species, such as basswood, sugar maple, tulip tree, and beech are found along well watered entrenched stream beds.

Chestnut, black walnut, hickory, beech, and some species of oak would have been especially important as food sources. Food-producing herbaceous and woody plants on the forest understory and floor include paw-paw, persimmon, black cherry, huckleberry, serviceberry, wild plum, mayapple, blackberry, raspberry and strawberry. Herbaceous food resources probably available in the floodplain zone include scuppernong grapes, water smartweed, giant ragweed,

lamb's quarter, Jerusalem artichoke, dock, goosegrass, duck potatoes, and common cattail, to mention a few (Faulkner and McCollough 1973).

Faunal Resources

Faunal resources, like native floral resources, were once numerous and diverse. Important food species include the white-tailed deer, black bear, raccoon, opossum, cottontail rabbit, squirrel, turkey, and passenger pigeon. Occasional woodland bison and elk were also probably taken by prehistoric or historic hunters. The streams and river provided an abundance of fish, as well as turtles, amphibians, mollusks, aquatic birds, and aquatic mammals (Chapman 1985).

Paleoenvironment

Paleoenvironmental research in the southern Appalachian area has provided evidence of dramatic climatic and ecological change over the last 40,000 years. One important site - Shady Valley Bog - is located east of the HAAP in Johnson County, Tennessee (McNutt et al. 1984).

Delcourt and Delcourt (1981), using radiocarbon-dated pollen from 100 localities in the eastern United States and Canada, have constructed paleovegetational maps spanning the past 40,000 years. Generally, conditions were cooler and wetter during the Terminal Pleistocene (40,000-12,500 years ago), gradually becoming warmer and drier than today during the mid-Holocene (8,000-4,000 years ago), followed by increased precipitation and cooling weather to present conditions. Thus, climatic conditions have ranged from those comparable to modern central Canada to those of areas south of the facility area. Successive climatic conditions and associated forest compositions usually support quite different numbers and species of animals, thus providing significantly different sets of subsistence resources for human populations present at least 20,000 to 30,000 years ago (McNutt et al. 1984).

III. Cultural Overview

Prehistoric Background

Paleoindian

The Paleoindian tradition, identified by the presence of fluted projectile points known as Clovis points, marks the initial occupation of the New World by bands of migratory hunter-gatherers. Their arrival is generally believed to have occurred about 12,000 years ago although some would propose a much earlier arrival date (Adovasio et al. 1978; Adovasio et al. 1990; Haynes 1980, 1988; Whitley and Dorn 1993). There is no local candidate for a pre-Clovis horizon in the HAAP area.

The Clovis point, named for a site in New Mexico where it was found in direct association with bones of mammoth and other, now extinct, Pleistocene fauna, is characterized by basal flakes or "flutes" removed from both faces of an elongate blade. This point type has been found throughout the Tennessee Valley, although the associated faunal evidence has not. In any event, comparable antiquity (10,000-12,000 B.C.) must be accorded the eastern fluted point specimens. In the HAAP area, Clovis and presumably somewhat later Cumberland Fluted points have been reported eroding out of the banks of contemporary reservoirs, as isolated finds in the basal levels of rockshelters, and as isolated finds from higher elevations (Lewis and Kneberg 1958; McNutt et al. 1984; U.S. Army Corps of Engineers 1993a). In at least one case, snub-nosed end scrapers and retouched blades, also typical of this period, have been reported (Chapman 1985; Justice 1987). These finds are generally isolated; no intact occupation from this period has been discovered as yet. The subsequent Dalton Period, frequently regarded as a transitional phase between Paleoindian and Early Archaic, has not been identified in the study region, and it is possible that the Clovis and Cumberland tool types persisted in the upper Holston for some time.

Archaic

Although data are very poor for the early and middle parts of the Archaic sequence, isolated finds and information from the recently excavated Eastman

Rockshelter bridge (40SL34) (McNutt et al. 1984; U.S. Army Corps of Engineers 1993a) indicate that the area was probably sparsely occupied, presumably by small, highly mobile gathering and hunting bands which differed little in their lifeways from their predecessors in the area. Early and Middle Archaic components have been reported from the middle Nolichucky (some 40-50 mi [64-81 km] south of the HAAP), with sites divided about evenly between bottomland and upper terraces (McNutt et al. 1984). Not until the Late Archaic, beginning about 4,500 B.C., is there definite evidence in the literature of sites in the Kingsport area. Available radiocarbon dates from the Eastman Rockshelter suggest that even this site, with typologically earlier materials, may date to the Late Archaic. Dispersed deposits (including storage pits and a single burial) from the Phipps Bend Site, some 28 km (15 air mi) downstream from Kingsport, suggest temporary camps on the upper terraces during this period (Lafferty 1981). Occupation of the area throughout the Archaic appears minimal in contrast to the rather intensive Archaic occupations along the Tennessee River below Chattanooga (200 mi [322 km] downriver from the HAAP).

Woodland

While the Archaic tradition appears to be poorly represented in the Kingsport area, the early Woodland tradition is better represented. These data are derived primarily from Lafferty's (1981) excavations at the Phipps Bend Site, though Early Woodland materials have been collected from 40HW14 in Smith Bend (River Mile 135.5) and 40SL10 on Cloud's Bend in the late 1960s (McNutt et al. 1984; U.S. Army Corps of Engineers 1993a). Some of the earliest Woodland pottery in Tennessee has been identified in this region, and this regional ceramic assemblage has been classified as a local version of the Appalachian Summit Swannanoa series (Keel 1976). Apparently, people with a well-developed ceramic tradition moved into the area from the north at approximately 1,000 B.C. Small camps are reported from both the lowlands and upper terraces at Phipps Bend. It is also hypothesized that small groups of seasonally mobile people were exploiting the larger game animals of the forest edge and local mussel beds in the river. Storage and cooking pits have been found, but there was no associated evidence of domestic architecture.

As the Early Woodland occupation progressed through the subsequent Phipps and Long Branch phases, exploitation of native resources apparently became more complete, as small game animals remains are found more frequently in later Woodland assemblages. During the Long Branch Phase (600

B.C.-A.D. 1), the use of mussels apparently decreased, reflecting either a minor change in climate (wetter) or perhaps a change in the seasonal round. A new ceramic tradition of vessels made with clay having crushed limestone temper or grog and bearing fabric impressions on vessel surfaces appeared. This Long Branch ceramic tradition is one of the most widely spread in the eastern United States; its occurrence in the Kingsport area is extremely early. Although a terminal date of 400 B.C. is postulated for the Long Branch Phase at Phipps Bend (Lafferty 1981), there is evidence from the Camp Creek site to the south (Lewis and Kneberg 1957) that it may have lasted until approximately A.D. 1 in upper east Tennessee.

Following the apparent increased activity in the region during the early part of the Woodland sequence, subsequent developments in the HAAP area are extremely difficult to trace. In many parts of the Southeast, both to the north and south of Kingsport, there is considerable evidence of wide-ranging trade, an increase in burial ceremonialism, and the construction of burial mounds. The Rankin Site (Smith and Hodges 1968), near the confluence of the Nolichucky and French Broad rivers (60-70 air miles [111-130 km] southeast of the HAAP), is of particular interest. Lacking burial mounds, it seems to stand on the border between Early and Middle Woodland. Elaborate burial assemblages suggesting influence from the north were recovered. This is an unusual site; generally there seem to be only minimal developments in the area. Burial mounds did indeed exist in the Kingsport area; they were the object of some of the earliest professional excavations in the region (Thomas 1894). Although it is difficult to evaluate these early excavations with precision, the presence of mica, steatite, and copper in them all suggest at least minimal participation in Middle Woodland burial ceremonialism.

The Late Woodland Period in east Tennessee is characterized by the Hamilton Phase. Typical ceramics and projectile points of the phase occur very early in upper east Tennessee, probably by A.D. 600. The early Hamilton occupation of the Kingsport area continues to suggest the presence of transient camps and base camps. Very little has been found to suggest the dispersed but well-defined settlement pattern characteristic of the Hamilton Phase groups farther to the south.

Mississippian

The Mississippian Period in the Kingsport area is signaled by the appearance of the Pisgah ceramic series (Keel 1976; Lafferty 1981). Locally, the name "Cobb Island" has been applied to this material (Polhemus and Polhemus 1966). This distinctive sand-tempered pottery, characterized by collared rims and loop handles, and typically decorated with stamped designs, is characteristic of the Appalachian area to the east, where it has been designated "Pseudo-Iroquoian" (Kelly and Neitzel 1961) and is regarded as ancestral Cherokee (Dickens 1976; Keel 1976). Isolated occurrences of Pisgah material have been reported from the Clinch River (Dickens 1976; Polhemus and Polhemus 1966) and the Powell (Dickens 1976) valleys. The Holston-middle Nolichucky axis appears to be the westernmost area of concentrated occupation, with sites reported from Kingsport (McNutt et al. 1984), Holliston Hills (40HW11, River Mile 130) (Dickens 1976), Phipps Bend (Lafferty 1981), Cobb Island (Polhemus and Polhemus 1966), and along the middle Nolichucky (Smith and Hodges 1968). None of the excavations in the HAAP area has produced information regarding house type or settlement size; rectangular houses with central hearths have been excavated at Cobb Island and at McCullough Bend on the Clinch River (Dickens 1976).

Although Pisgah ceramics appear to develop into historic Cherokee pottery (Qualla series) in the Appalachian Summit area, such is not the case on the Holston River. In late Mississippian times, there was an incursion of the Dallas culture from south of Knoxville. Dallas material is widespread in the Norris Basin on the Powell and Clinch rivers (Webb 1938), on the middle Nolichucky (Smith and Hodges 1968) and is also reported for Kingsport (McNutt et al. 1984), Holliston Mills (Dickens 1976), and Phipps Bend (Lafferty 1981). As is the case with the Pisgah material, none of the local excavations has given an adequate picture of village plans or house types for the upper Holston River. A better understanding of the relationships between the Pisgah and Dallas occupations of the upper Holston may well hold the key to a better understanding of the origin of the historic Overhill Cherokee.

Ethnohistory of the Region

From earliest historic times, the Cherokee claimed lands from the Appalachians west to central Tennessee. Certainly the British recognized these

claims in the 1720s, although the Shawnee and others seem to have viewed the matter differently.

The first Europeans known to have been in the vicinity of Kingsport are James Needham and Arthur Gabriel, who apparently passed down the Holston Valley in 1673 en route to trade with the Overhill Cherokee towns on the Little Tennessee River. Certainly Arthur Gabriel passed along the Great War Path through the Kingsport area in the following year, in company with a group of Cherokee to visit the Honetons (Nohetans?) then living near the mouth of Kanawha River in present-day West Virginia. Abraham Wood's 1828 (McNutt et al. 1984) letter describing the Needham-Gabriel travel does not mention Cherokee (or other Indian) towns in the immediate project area, but the Cherokee seemed to have passed through the region with impunity.

It is possible that John Peter Salley passed through the region in 1726. Salley, a captive of the Cherokee, was taken from Tennessee on a hunting trip to Kentucky. Although no particulars of his route are available, the existing trail up the Holston River and then west through Cumberland Gap may well have been followed (McNutt et al. 1984).

In the 1740s and perhaps even earlier, traders such as Cornelius Doherty, Samuel Stalnaker, and a man named Vaughan are known to have passed down the upper Holston to trade with the Overhill towns. They almost certainly passed through the Kingsport area, but unfortunately left no description of their travels (McNutt et al. 1984). It is unlikely that there are any archaeological remnants of any of these early travelers.

The first unmistakable historic references to the Kingsport region are in the journals of Dr. Thomas Walker, who visited the forks of the Holston in 1748 and again in 1750. Maps of the period indicate that the English were settling at this time on the upper reaches of the river in Virginia. In 1748-49, Steven Holston journeyed down the river to the Tennessee and then to Natchez. Walker's journals are probably the first to use the term "Holston's River". His entry of March 31, 1750, describes sites that may be located near the project area:

> In the Fork between Holston's and the North River [probably east of the east end of the modern Rotherwood Bridge], are five Indian Houses built with loggs and covered with Bark, some whole Pots and Pans, some broken and many pieces of mats and Cloth. On the West Side of the North River, is four Indian Houses such as before mentioned . . . we went four miles below the North River [near modern River Mile 138] and Camped on the Bank of Holston's opposite to a large Indian Fort (McNutt et al. 1984:2-3).

Walker's allusion to the large Indian fort, which may have been in the immediate vicinity of the present magazine area of the HAAP (and adjacent to the study area), is the only known historic reference to an aboriginal town in the immediate Kingsport area.

History of the Region

Cabins of hunters, including those of Nathaniel Gist, Thomas Price, and Richard Pearis, were constructed on Long Island on the Holston across from modern Kingsport by 1754 (Spoden 1991). It was not until 1761, however, that the earliest permanent Euroamerican structure was erected in the area – Fort Robinson, on the north bank of the Holston opposite the west end of Long Island. In order to reach the construction site, the "Island Road" from Chilhowee on the Tennessee River south of modern Knoxville to Long Island had been opened by Virginians (Spoden 1991). Both the road and the construction of Fort Robinson encouraged further settlement of the Holston area. The historic period in the project area was at hand and Long Island, the fort, and the developing community of Kingport became a nexus for the American settlement of Tennessee and Kentucky during the late eighteenth century.

History began in 1761 in the Kingsport area with the construction of Fort Robinson. The garrison of 1,000 men did much to persuade the Cherokee to make a treaty of peace and agreements for trade with the British. It was as a direct result of the "Treaty of Fort Robinson" that Lieutenant Henry Timberlake was sent downriver to the Overhill Town.

With peace assured in the mid-1760s, most of the Fort Robinson soldiers returned to their homes in Virginia and North Carolina; one Virginia company remained to garrison the fort. Two of the Virginia men, Robert and Gilbert Christian, built cabins approximately one mile above the mouth of Reedy Creek (modern Kingsport) and planted crops for the coming year. They were to leave before harvest, but Gilbert Christian vowed to return.

During the 1760s, many families from Virginia moved through the area, down the Holston to the Tennessee and then to Natchez. This movement was

spurred by the heavy speculation in western lands that followed the signing of the Choctaw-Chickasaw (1765) and Cherokee (1768) treaties. The following decade saw the opening of Daniel Boone's Wilderness Road, which originated at the mouth of Reedy Creek (modern Kingsport) and ran northwest into Kentucky. That decade also witnessed the rapid establishment of several settlements in the general project area - at King's Hill Fort, Fall Creek, Carter's Valley, on the Watauga near Sycamore Shoals, and on the Nolichucky. The Fall Creek settlement was established a few miles upstream from Long Island in 1773; by 1774, it contained 85 people (Spoden 1991).

In 1774, Colonel James King established a mill at the mouth of Reedy Creek and in 1775 Gilbert Christian fulfilled his promise, bringing his family to the Long Island from King's Hill Fort. The Christian family is regarded by local inhabitants as the first permanent Euroamerican settlers of the area (Spoden 1991).

Virtually all of the above settlements represented encroachments upon Indian land and treaty violations. The peace established by the Treaty of Fort Robinson was strained to the breaking point in the 1770s and there are many recorded instances of raids and retaliations during the period. Most of the Indian remonstrance was by the Cherokee, although it was the Shawnee who pillaged Carter's store (in Carter Valley, a few miles southwest of the HAAP) in 1774. The Holston Valley formed a border between the Cherokee and Shawnee at this time. It was essentially controlled by the former, but subject to raids by the latter.

In 1776, the Euroamerican settlers of the Kingsport area were saved from a general massacre by an Indian woman, Nancy Ward, who warned them of the impending attack. The fierce Battle of Island Flats defeated the Indians. Two other Cherokee forces, one led by Dragging Canoe, were to attack the Wataugan and Carter Valley settlements; hearing of the defeat at Long Island, they retreated without doing much damage (Spoden 1991). The site of the battle is now downtown Kingsport. Fort Patrick Henry was built in 1776 on the North Bank of Holston River near Fort Robinson, as a garrison for the troops to be sent on a retaliatory campaign against the Overhill Cherokee. In November 1776, this force of 2,000 under Colonel William Christian began destruction of the abandoned Indian villages in the region.

As a result of the destruction of the Indian homes the Treaty of Long Island (1777) was exacted, by which the Cherokee relinquished claim to all lands north of Nolichucky River (Spoden 1991). All of the Indians were not in favor of the treaty,

and Dragging Canoe, son of Little Carpenter, withdrew with his followers down the Tennessee River to a site near Chattanooga.

Despite continued warfare with the Indians, the settlers from Holston participated in the Revolutionary War to protect their lands from the British, particularly in the decisive 1780 battle at King's Mountain that turned the tide of the Revolution in the South (Spoden 1991).

At the outset of the Revolutionary War, the people of the Wataugan settlement organized themselves into the Washington "military district." They were annexed to the state of North Carolina in 1777. The new Washington District was incorporated as Washington County (including all of present Tennessee) and in 1779, Jonesboro was designated the county seat. A Washington County petition to North Carolina for "salutary benefits of government" was denied in 1784 and North Carolina immediately ceded the entire Over-Mountain territory to the new United States government. In response, delegates from Washington, Sullivan, and Greene counties met at Jonesboro to organize an independent western state to be called Franklin, but this entity was short-lived.

Next the territorials organized "The Government South of the Holston and French Broad Rivers." The North Carolina cession of the Tennessee lands was accepted by the federal government in late 1789, when Congress created "The Territory of the United States South of the River Ohio," commonly known as the "Southwest Territory."

The HAAP lies within both Sullivan and Hawkins counties. Sullivan County was established in 1779 and Blountville, the second oldest town in Tennessee, became the county seat in 1792. Hawkins County was formed from Sullivan County in 1786, with Rogersville becoming the county seat in 1789. Tennessee was declared an independent state and admitted to the Union in 1796. Though population in the Holston Valley area was sparse during this period, it began to increase as industry developed.

In 1784, Colonel James King, who had earlier built the mill at the mouth of Reedy Creek on the Holston River, erected an iron furnace at the mouth of Steele's Creek in Sullivan County east of Kingsport. This was the first iron furnace erected in the state of Tennessee (Spoden 1991), and was the forerunner of industry in upper East Tennessee. Following the American Revolution and the treaty of 1783, a general peace ensued and settlers poured into the area. Industry and agriculture were carried on unmolested. By the turn of the century, four

powder mills were in operation within the region. More "one man" industries sprang up, the iron industry being the most prosperous, and there were 29 furnaces scattered through this area (Spoden 1991).

Kingsport, with its origins in the Long Island and Fort Robinson military and settlement activities, became an important river port. By 1800, 4,000 barrels of salt, iron, bacon, and other commodities were shipped annually through Kingsport from the surrounding area. It was on the bank of the Holston River in Hawkins County (just north of the HAAP Area B) that Frederick Ross built his historic home, "Rotherwood" in 1818. Below the hills and back of the Old Elm he established his cotton mill, hauling his raw cotton from Knoxville. Not far from this site stood the Netherland Hotel, built by Richard Netherland (U.S. Army Corps of Engineers 1993a), which stands today as a remnant from the area's historic past.

Kingsport served the surrounding area as its industrial hub and shipping center. By 1834, it contained 50 families, 317 inhabitants, 2 taverns, 2 stores, 2 physicians, 1 Methodist and 1 Presbyterian Church, and a good bridge across the north fork. Shortly thereafter, a hatter, tin shop, tailor, coppersmith, wagon maker, blacksmith, shoemaker, and harness and saddle maker were added (Spoden 1991).

In 1850, an attempt was made to dredge the Holston River channel for steamboat traffic to enlarge the shipping industry. At the same time, the building of a railroad from Virginia through east Tennessee to Georgia was contemplated. The natural route for the railroad lay through Kingsport, following the historic trails. Promoters wanting the railroad to go through Jonesboro rather than Kingsport approached Colonel Netherland and other Kingsport leaders to trade support for their railroad route for support for the dredging project. Since Kingsport had at least one transportation system already (the river traffic) and needed lobbying help for the dredging appropriations, they acquiesced. "The railroad went by Jonesboro, but the river appropriation never went anywhere" (Spoden 1991).

The loss of the railroad and the Civil War caused economic stagnation around the Holston area, since post-war shipping was primarily by rail. Although the countryside had been torn apart by the war and Union sentiment was strong in Hawkins County, there was only one major local skirmish, the Battle of Rotherwood (also called the Battle of Kingsport). (Ross' home,

"Rotherwood," was burned during the last year of the war. Later, a new Rotherwood was built just below the forks of the Holston; it remains today and is properly known as the J. Fred Johnson house.) The battle left the community paralyzed industrially and agriculturally, as well as disorganized socially. Some industries never recovered. It was not until 1909, when the first locomotive on the Carolina, Clinchfield and Ohio Railroad roared into the territory, that the town awakened from its slumber.

Kingsport, surrounded by level meadows skirted by the river and its wealth of untouched resources - virgin tracts of timber, mountains of shale, limestone and silica, other rich mineral resources and the coal fields of Virginia and Kentucky at its back door - was a natural site for an industrial empire. The period from 1900 until World War II was one of rapid growth for the Holston area. New factories were added each year including hosiery mills, cement and shale production, tanneries, Eastman Kodak, a book plant, textile and belting companies, glass manufacture, and foundry and manufacturing, with Pennsylvania-Dixie Cement Corporation ranking among the largest in the country. During World War I, the Federal Dye and Chemical Company was in operation. This industrial center served the surrounding counties, providing jobs for the populace.

Agriculture in the fertile valleys of this area is enhanced by winding Reedy Creek and other streams. Tobacco, grain and other marketable products are supplemented by produce which is preserved for use throughout the year.

Due to careful planning by the city and industry, the Kingsport area did not suffer the crushing Depression that hit much of the rest of the country. During 1932, the Eastman Corporation began production of acetate yarns and plastics, and the processing of timber and lumber. From 1935 to 1945, industrial employment in the area grew from 3,824 to 19,672. Further influencing the growth of Kingsport was the building of the Holston Ordnance Works between 1942 and 1943. Fifteen thousand people were employed during its construction and 5,000 on a regular operating basis. Following the war and the shutdown of the plant, these 5,000 were absorbed in the work force within a year. Between February 1, 1944 and August 7, 1945, Holston Ordnance Works was the largest high explosive production plant in the world (McNutt et al. 1984).

After four years on standby status, the plant was reopened in 1949 as the HAAP. Operated by the Holston Defense Corporation, a subsidiary of Eastman

Kodak, it continues to function as major center for the production of specialized explosives.

Hawkins County at the turn of the century remained a center for farming, crafts and small mercantile operations. Today Hawkins County is experiencing population growth and technological development characteristic of upper east Tennessee - an area rapidly becoming a high technology corridor. The Johnson City-Kingsport-Bristol Standard Metropolitan Statistical Area ranks as the ninety-second largest market area in the United States, has approximately 431,638 inhabitants, and provides jobs for over 160,000 workers. At present, this area offers the opportunities of rural environment coupled with the benefits of urban life (Spoden 1991).

Kingsport, in Sullivan County, is the merchandising and recreational center for an area extending many miles. Roads from five states converge at Kingsport. The population of Hawkins and Sullivan counties had expanded to more than 187,000 by 1980 (McNutt et al. 1984).

On the occasion of America's Bicentennial, the Head Corporation gave the westernmost section of the Long Island, opposite the Boatyard Historic District, to the City of Kingsport for its preservation as a National Historic Landmark. A condition of the deed required that part of the land be returned to the Eastern Band of the Cherokee Indians. On July 16, 1976 the City of Kingsport presented the Cherokees with a portion of the Long Island of the Holston (Spoden 1991).

Today, Kingsport is both aware and proud of its historic heritage. Not only have the Boatyard Historic District, Long Island, Netherland Inn, and the Old Kingsport Presbyterian Church been placed on the National Register of Historic Places, but so too have Roseland, Mount Ida, Spring Place, the Wills-Dickey Stone House, the J. Fred Johnson house (contemporary Rotherwood), Circle Church District, and the Clinchfield Railroad District. Although none of these properties are located on HAAP land, all are within a 5 mile radius of the facility (U.S. Army Corps of Engineers 1993a).

Summary of Previous Archaeological Work Conducted at the Holston AAP

In 1984, the report entitled *An Archeological Overview and Management Plan for the Holston Army Ammunition Plant, Hawkins and Sullivan Counties, Tennessee* was prepared by Memphis State University serving as subcontractor to Woodward–Clyde Consultants (McNutt et al. 1984). The work was performed under contract to the National Park Service as part of a program to develop facility specific archaeological overviews and management plans for the U.S. Army Material Development and Readiness Command (DARCOM). Prior to the study by McNutt et al. (1984), there had been no professional archaeological survey conducted at HAAP.

A minimal amount of archaeological work has been done in the Kingsport area. A major, recent effort is that of the University of Alabama in Phipps Bend, eight air miles down river from the HAAP. In southeastern Kingsport, excavation of the Eastman Rockshelter (40SL34) has recently been completed by paraprofessionals, yielding Early Archaic and possibly Paleoindian cultural materials. Site 40SL10 on Long Island between HAAP Areas A and B and Site 40HW11, 2 miles downriver from the HAAP, have been excavated by the Kingsport Chapter, Tennessee Archaeological Society (TAS), but there are no published reports of this work.

One shallow prehistoric site (40HW15) is known to be located in the southeast portion of the installation, outside of the survey area reported in this document. This site was partially excavated in the 1970s by members of the Kingsport Chapter of the Tennessee Archaeological Society, but no formal report of these investigations was prepared. Originally consisting of two to three acres in extent and containing Woodland Period materials, the site was apparently partially impacted by construction of a waste water treatment lift station and underground forced main pipeline. Portions of the site reportedly remain intact.

Fourteen historic structure locations and a road were identified by the 1984 study on the basis of 1939 U.S.G.S topographic maps and a local source (McNutt et al. 1984). The Solitude Bend Road and all but one historic structure location are well outside of the survey area.

One historic structure location, designated H–2 in the 1984 overview report (McNutt et al. 1984), is situated at the extreme north end of the survey area reported in the 1993 survey report (U.S. Army Corps of Engineers 1993a). This structure was also identified on a 1939 edition of the Church Hill, TN-VA USGS 7.5 minute quadrangle map. No other historic structure location was reported within the survey area.

As noted above in the historical background section, Dr. Thomas Walker visited the area in 1761 and reported "a large Indian Fort" 4 miles below the forks of the Holston River (McNutt et al. 1984:2-14). This location would be approximately at River Mile 138 in the vicinity of the Clay Islands in the center of the installation and outside of the present survey area.

The 1984 study also indicated that at least the northern half, if not all, of the survey area was under agricultural lease in 1944 (McNutt et al. 1984:3–4, 3–5). It was estimated that as a result, the area had undergone disturbance ranging from 0.5 to 3.0 ft (0.16 to 0.93 m) below the surface. The average depth of plowzone disturbance encountered by the 1993 survey was 0.5 ft (0.16 m) (U.S. Army Corps of Engineers 1993a).

Beginning in 1976, archaeological investigations were conducted at Phipps Bend on the Holston River, approximately 24 km (13 river mi) downstream from HAAP (Graham and Alexander 1976; Lafferty 1981). These excavations were conducted in anticipation of construction of the Phipps Bend Nuclear Plant by the Tennessee Valley Authority. Lafferty's (1981) report contains detailed discussions of the prehistoric record and site locational information for the study region. Much of this information was utilized in the McNutt et al. (1984) overview.

Archaeologists from the Mobile District, U.S. Army Corps of Engineers conducted a Phase I historic resources survey of a proposed Class II sanitary landfill at HAAP (U.S. Army Corps of Engineers 1993a). In addition to the landfill proper, a borrow area, two sediment basins and an access road were also surveyed and assessed. The survey area included approximately 100 ac (405 m^2) on the east bank of the Holston River at Solitude Bend.

Field methods included a pedestrian survey across the entire survey area of all exposed ground surfaces, including roads, trails, and the existing borrow area. Judgmental, formal shovel tests were excavated at all landforms considered to possess potential for the location of prehistoric and historic sites. Such landforms included knoll and ridge tops, and benches at the base of slopes.

Profiles of formal shovel tests were recorded and all fill hand sorted. Scattered shovel divots were excavated to sterile subsoil throughout the area and all fill inspected for artifacts (U.S. Army Corps of Engineers 1993a).

Prior to this survey, only one prehistoric archaeological site, 40HW15, had been recorded at HAAP. That site is located well outside of the present survey area. The remains of a single historic structure, previously identified from a 1939 topographic map, were relocated by the survey. The survey also located foundations of what appear to be a barn or storage building that did not appear on any maps of the area. Both historic structure sites have been marked for avoidance and preservation (U.S. Army Corps of Engineers 1993a, 1993b).

A dirt and gravel access road had been constructed prior to the August 1993 survey and the borrow pit at the south end of the survey area had been partially excavated for fill for a separate bridge replacement project. Two alternate access roads to the landfill were proposed during the course of the survey. Only one of these could be examined in the time available. Alternate Access Road 1 was recommended for additional survey (U.S. Army Corps of Engineers 1993b).

No historic resources were located within the areas surveyed and reported in this document that will be affected by proposed construction of the Class II sanitary landfill (U.S. Army Corps of Engineers 1993a, 1993b).

IV. Methods

Literature Review

The archaeological and historic information utilized to construct the cultural overview for this report was largely extracted from three major sources: *An Archeological Overview and Management Plan for the Holston Army Ammunition Plant, Hawkins and Sullivan Counties, Tennessee* (McNutt et al. 1984), *Historical and Resources Survey of the Class II Land Fill, Holston Army Ammunition Plant, Hawkins and Sullivan Counties, Tennessee* (U.S. Army Corps of Engineers 1993a), and *Historical Resources Survey of the Alternate I Access Road, Class II Land Fill, Holston Army Ammunition Plant, Hawkins County Tennessee* (U.S. Army Corps of Engineers 1993b). In addition to these sources, other repositories consulted include the Kingsport Public Library, the University of Georgia Libraries, and the author's personal library. The above cited U.S. Army Corps of Engineers reports had already documented the fact that no known cultural resources were previously recorded in the project area, and had recommended the more intensive work herein reported following a pedestrian survey of the study area.

Field Methods

At the time of the survey the project area was overgrown with tall grass, so the road alignment and an adjacent portion of the levee was cleared. The field in which the alignment is located is a fallow corn field that had not been plowed in approximately three years (Nick Bevins, personal communication). However, at the time of the previous survey (U.S. Army Corps of Engineers 1993a, 1993b), the project corridor was plowed, and no artifacts were reported from this section of the road alignment. Surface visibility following the mowing of the area was approximately 10 to 25 percent, and a few artifacts were located on the surface in, and adjacent to, the project area.

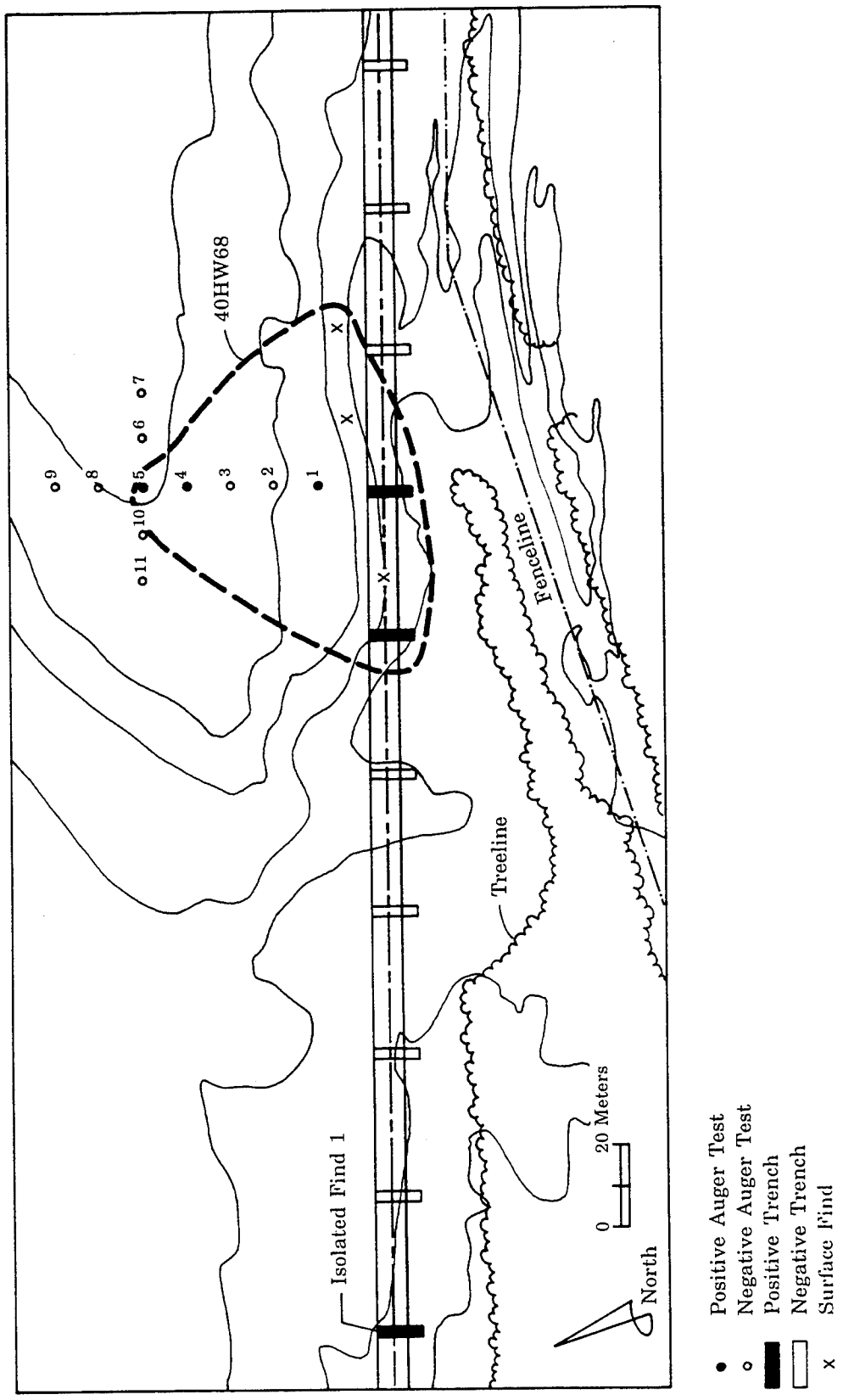
Ten backhoe trenches were excavated at 100 ft (31 m) intervals along the road alignment between Stations 19+00 and 28+00. The trenches, which were placed perpendicular to, and across, the road alignment measured 33 ft (10 m) in

length. Trenches varied in depth between 3 and 5 ft (1-1.5 m). While all trenches in the project area were supposed to be excavated to a depth of 5 ft, the water table and sand strata that may be described as "running sands" were encountered at approximately 3 ft (1 m). Following consultation with COE archaeologists, it was deemed unnecessary to continue trenching to a depth of 5 ft. This decision is further supported by the fact that excavation for the road is anticipated to disturb only the upper 2 ft (0.6 m) of soil along the alignment.

During backhoe trench excavation, archaeologists carefully observed the floor and walls of trenches for evidence of cultural materials. Both profiles of each trench were cleaned with shovels and trowels. Following the cleaning of backhoe trench profiles, either a complete or representative section of one trench profile was photographed and mapped. A one meter section of negative trenches was mapped, while attempts were made to draw one complete profile of each positive trench. The mapping process was complicated by the continual seepage of water into the trenches. Large portions of some profiles collapsed because of the water seepage from the walls and floor of the trenches, and in some cases, it was impossible to map the entire profile. When this occurred, the largest possible section of a given trench wall was profiled. It was necessary to run a water pump during most of the trench recordation process to maintain a low enough water level to allow for observation and recordation of trench profiles.

As per the contract, a line of shovel tests was to be excavated parallel and perpendicular to the positive trenches. However, due to the disturbed context of the artifacts and the location of the trenches in a low back swamp area Mobile District, Corps of Engineers archaeologists Dottie Gibbens and Jerry Nielsen determined that this testing between trenches was not needed. Joe Benthall, Regional Archaeologist for the Tennessee Division of Archaeology, also visited the study area while work was in progress. He concurred with the recommendations of the Corps archaeologists. Instead, a line of shovel and auger tests were excavated at 33 ft (10 m) intervals north and parallel of positive trench 22+00 and up onto the crest of the levee. These tests were excavated with a shovel to a depth of 2.5 ft (75 cm), then continued to a depth of at least 4.1 ft (125 cm) using a hand-turned bucket auger. The soil from each shovel test was screened through 0.25 in (0.64 cm) wire screens, and artifacts from each test were bagged separately. This line of tests was continued until two negative tests were excavated to the north, west and east along the crest of the levee (see Figure 2).

Figure 2
Plan of Project Area



Laboratory Methods

Following archaeological fieldwork, the artifacts were returned to the New South Associates lab, where they were washed, assigned lot control numbers, and analyzed. Lithics, classified as tools or debitage, were distinguished by morphological characteristics, type of raw material, size, and amount of cortex present. Lithic artifacts were sorted as chipped stone tools and debris or pecked/ground stone tools. The debris categories include all direct by-products of stone tool manufacture and maintenance. All debris types result from percussive knapping methods. Flake categories exhibit recognizable characteristics such as a striking platform and a bulb of percussion. The following debris types are recognized from the current project: primary flake (initial reduction debris that exhibit greater than 50% cortex); secondary flake (initial reduction debris consisting of relatively thick flakes with less than 50% cortex); tertiary flake (thin finishing or rejuvenation flakes with pronounced platforms, bulbs of percussion and no cortex); and biface thinning flake (generally small finishing or rejuvenation flakes exhibiting a faceted platform, and multiple dorsal flake scars). The amount of cortex on the dorsal surface of lithic debitage was visually estimated.

Only two chipped stone tools, a projectile point/knife fragment and a utilized flake, were recovered during the project. Four pieces of ground stone, including two small mano-like cobbles, a hammerstone, and a pitted cobble were also recovered. Fragments of burned non-human mammal bone were identified using a comparative skeletal collection. None of these fragments could be identified more specifically than to class.

Prehistoric ceramics were sorted by temper and surface treatment or decoration. In all cases sherds could be categorized only to this extent, and were too fragmentary to assign to established type descriptions. Ceramics were either shell or sand/grit tempered, and surface treatment consisted of cord or fabric marking and rectilinear complicated stamping.

Site Forms and Curation

The information from the field site form was transferred to official Tennessee site forms following laboratory analysis. A copy of this form was submitted for assignment of a permanent state site number. All prehistoric artifacts, photographs, notes and forms from this project will be curated at the Department of Environment and Conservation, Division of Archaeology, Nashville, Tennessee. The collection has been assigned Accession Number 94-78 by the Tennessee Division of Archaeology.

Site Evaluation

Under federal regulations, the major goal of this project was to evaluate the cultural resources in terms of the criteria established by the National Register of Historic Places (NRHP) (36CFR60.4 a-d). In order to be eligible for listing to the NRHP, cultural resources must possess a degree of integrity, and:

a) an association with events that have made a significant contribution to the broad patterns of our history;
b) an association with the lives of persons significant in our past;
c) embodying distinctive characteristics of type, period, or method of construction, or that represent a significant and distinguishable entity whose components may lack individual characteristics; or
d) yielding, or potentially yielding, information important in prehistory or history.

If a site is eligible for listing on the NRHP, the HAAP/U.S. Army is obligated to protect that resource from damage, or, if this is not possible, the agency may sponsor a program of archaeological data recovery to mitigate the loss of important information. Objective application of the above listed criteria depends on a knowledge of a region's prehistory and issues that are important in prehistory.

V. Results

Trench Excavations

Ten trenches were excavated along the road alignment. As discussed in the Chapter IV above, these trenches were placed at 100 ft (31 m) intervals along the access road alignment (Figure 2). Each trench measured 33 ft (10 m) in length by 3 to 5 ft (1.5-2 m) in width, while varying somewhat in depth. Trenches 19+00, 20+00, and 21+00 were excavated to a depth of 5 ft (2 m). However, since the water table in the project area is encountered at approximately 2.5 to 2.6 ft (75-80 cm), the remaining trenches were excavated to about 2.3 ft (70 cm) in depth. Profiles of the three positive backhoe trenches are presented in Figures 3 through 5, while four representative profile sections (4.9 ft/1.5 m) of the sterile trenches are presented in Figures 6 and 7.

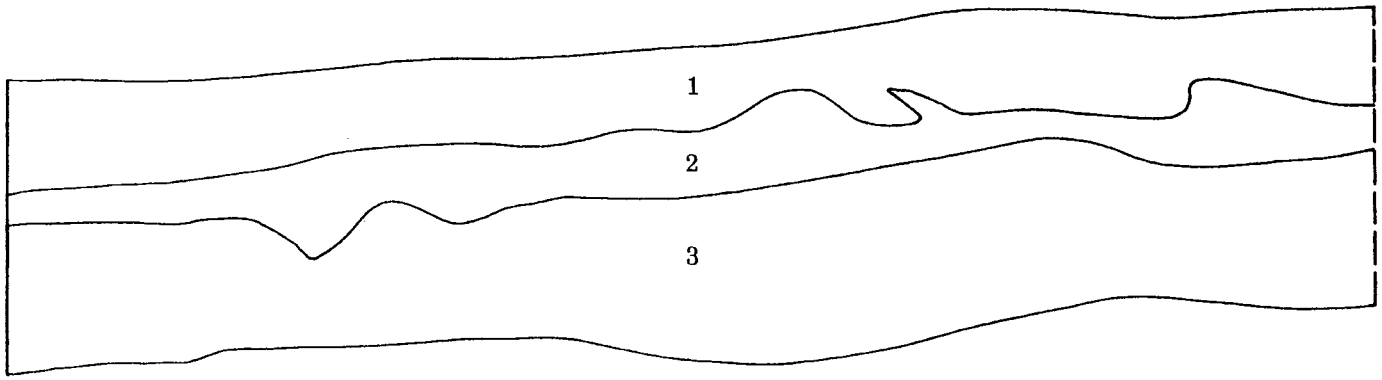
Site 40HW68

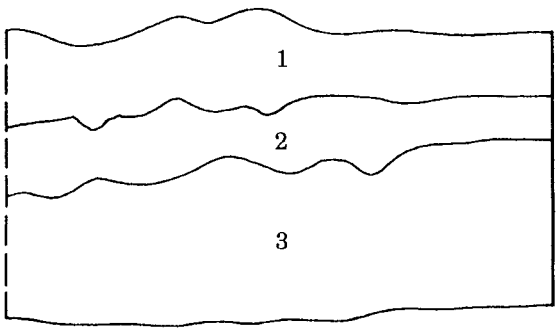
Prehistoric artifacts that identify Site 40HW68 were recovered from 2 backhoe trenches (22+00 and 23+00), 3 surface areas, and 3 shovel tests (Figure 2). Surface visibility averaged approximately 25 percent, and only 1 possible ground stone tool (a small mano) and 2 Knox chert debitage were recovered from the surface in or near the road alignment. These surface artifacts were located between Trenches 21+00, 22+00, and 23+00. One Knox chert tertiary flake was recovered from the plowzone of Trench 22+00.

A larger number and variety of artifacts were recovered from Trench 23+00. The artifacts from Trench 23+00 include Knox chert debitage, fragments of quartz cobble tools, unidentified mammal bone and ceramics. The ceramics represent Mississippian and possibly Woodland periods. Most of the material was recovered from a plow zone disturbance that penetrated into Zone II of the trench. The irregular dark stain was followed during trench excavation, and was hand trowelled after the first artifact was encountered. This concentration of artifacts included:

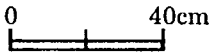
1	Knox chert primary flake fragment
1	Knox chert biface thinning flake, utilized

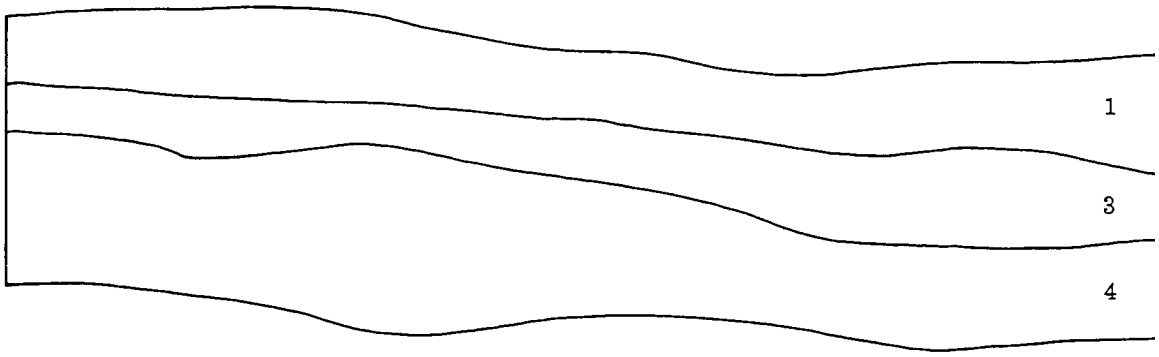
Figure 3
Positive Trench 22+00, West Profile

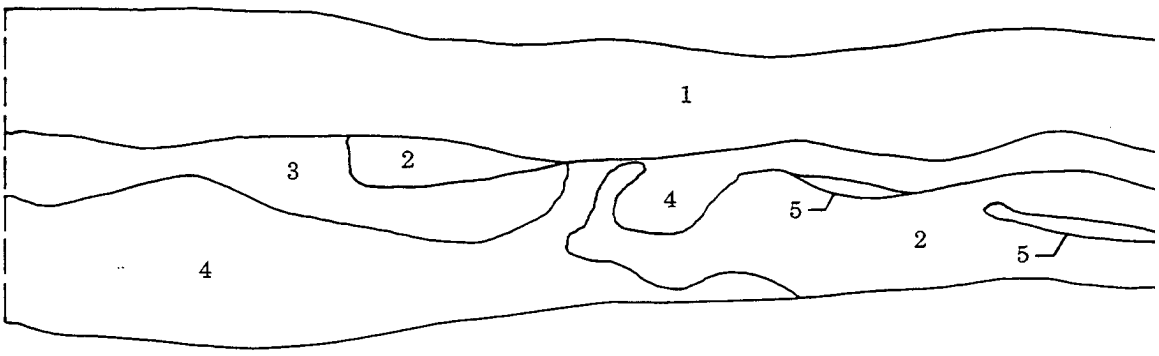


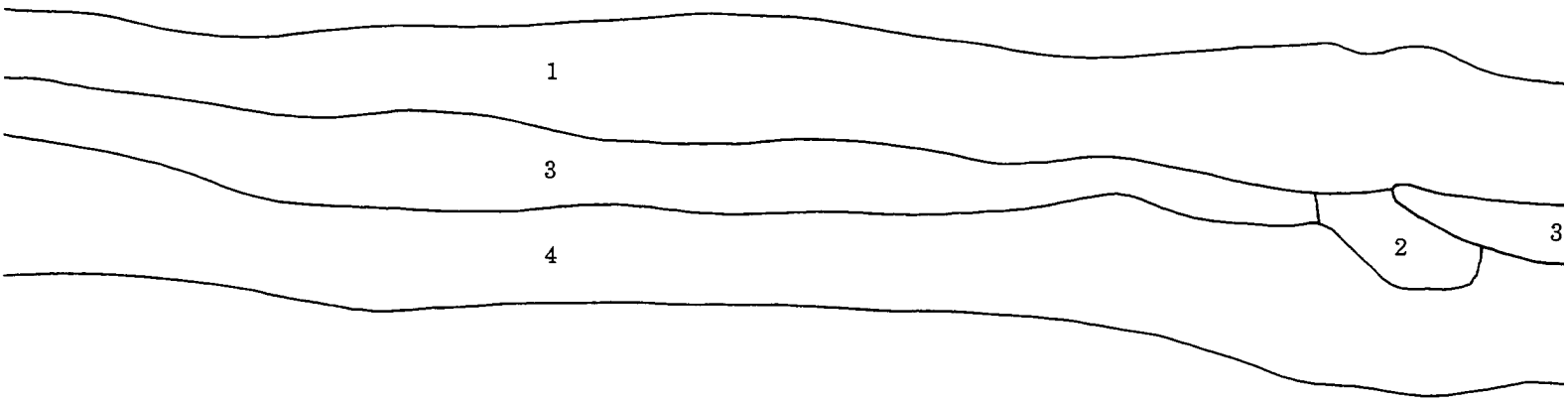


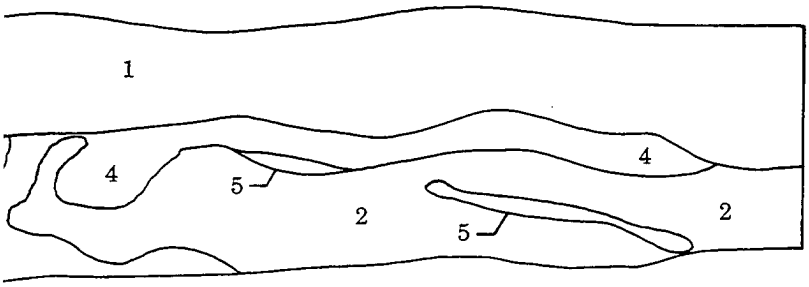
1 - 10YR3/2, Very Dark Grayish Brown Fine Silt.
2 - 10YR3/1, Very Dark Gray Clayey Silt
3 - 10YR3/2, Very Dark Grayish Brown Clayey Silt.




1
3
4


1
3
2
4
5
2
5
4

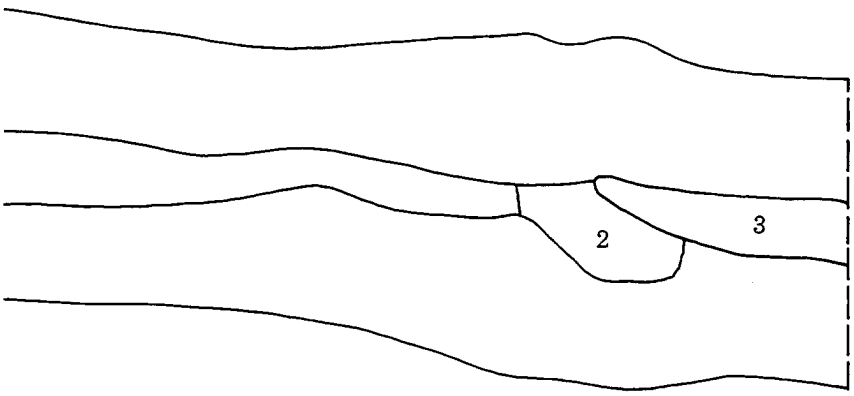




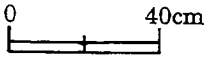
1 - 10YR4/2, Dark Grayish Brown Mottled with 10YR5/6, Yellowish Brown Clayey Silt with Iron Mottling.
2 - 10YR4/1, Dark Gray Sandy Silt (Rodent Burrow).
3 - 10YR3/1, Very Dark Gray Fine Silt with Charcoal Flecks.
4 - 10YR4/1, Dark Gray Coarse Sandy Silt (Wet).
5 - 10YR4/3, Brown and 10YR3/2, Very Dark Grayish Brown Sandy Lens.

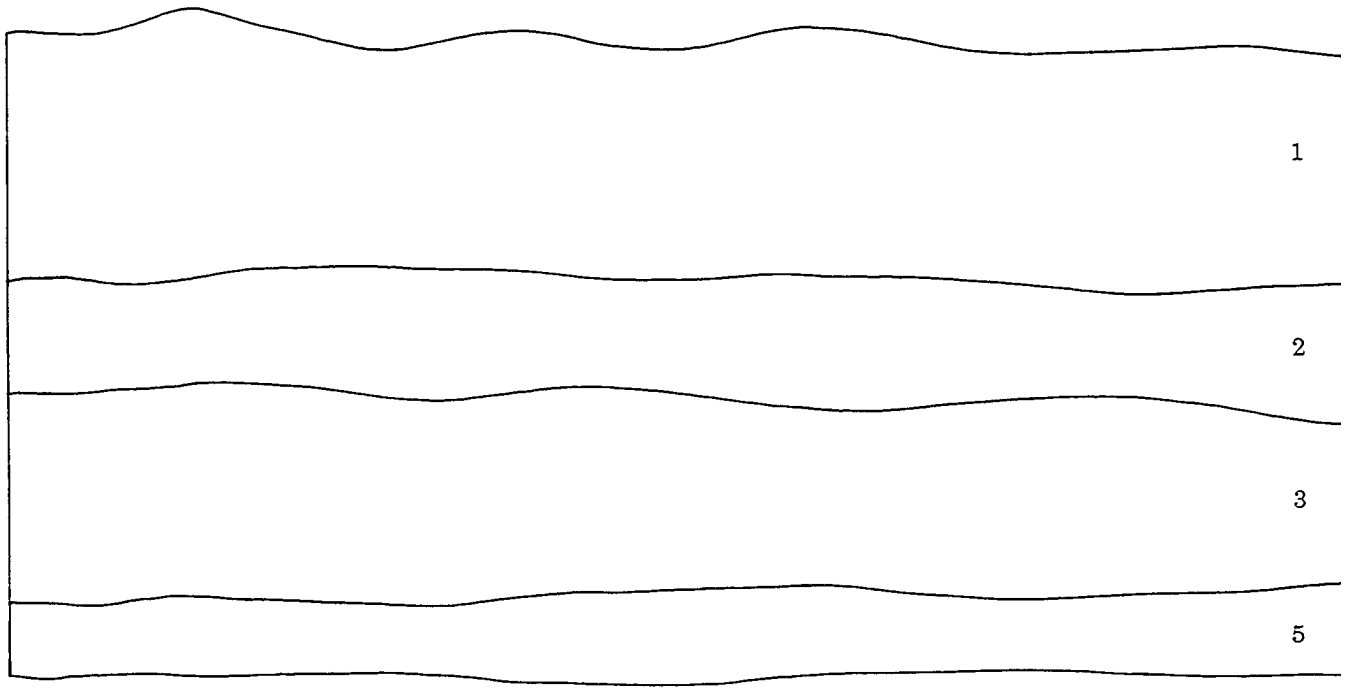
0

Figure 4
Positive Trench 23+00, East Profile



1 - 10YR4/2, Dark Grayish Brown Mottled with 10YR5/6, Yellowish Brown Clayey Silt with Iron Mottling.
2 - 10YR4/1, Dark Gray Sandy Silt (Rodent Burrow).
3 - 10YR3/1, Very Dark Gray Fine Silt with Charcoal Flecks.
4 - 10YR4/1, Dark Gray Coarse Sandy Silt (Wet).
5 - 10YR4/3, Brown and 10YR3/2, Very Dark Grayish Brown Sandy Lens.




1
2
3
5

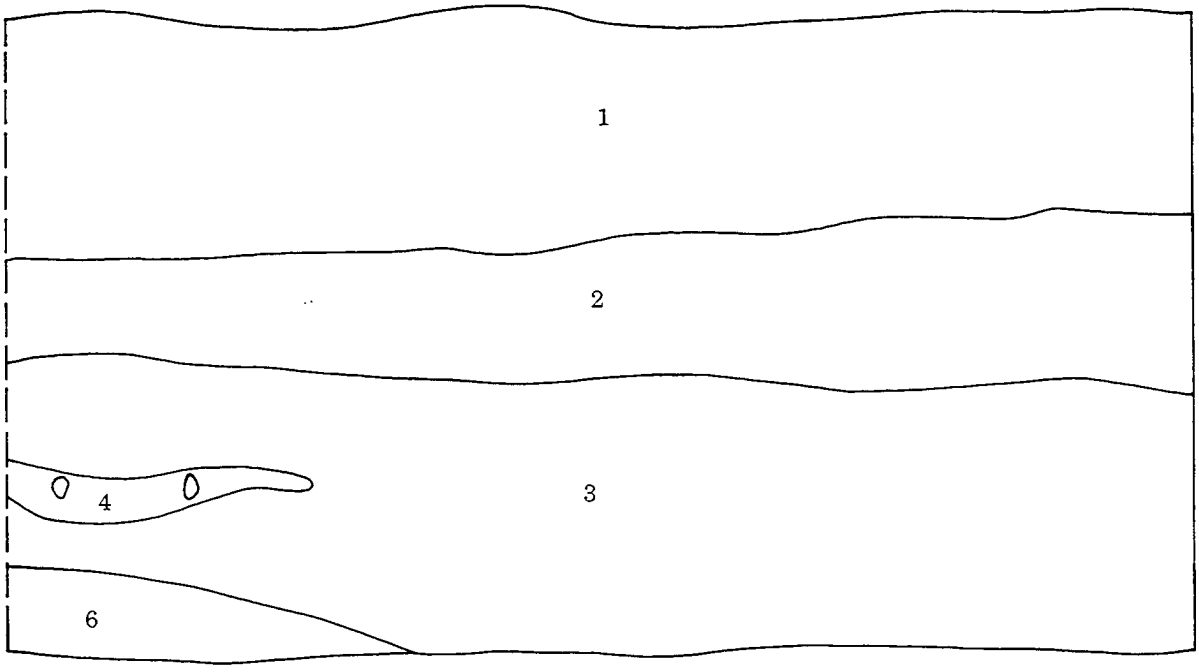
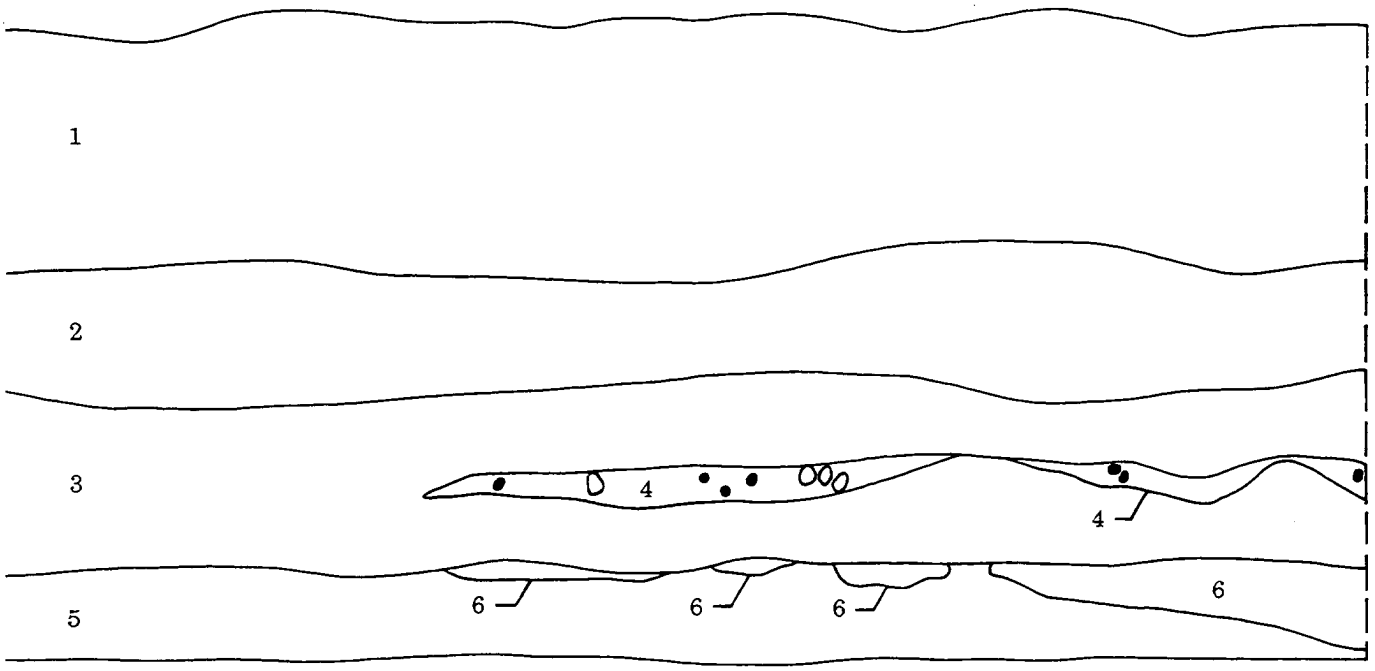

1
2
3
4
6

Figure 5
Positive Trench 28+00, West Profile



1 - 10YR3/2, Very Dark Grayish Brown Silt.
2 - 10YR3/3, Dark Brown Mottled with 10YR4/4, Dark Yellowish Brown Silty Clay.
3 - 10YR4/3, Brown Fine Sandy Silt.
4 - 10YR5/4, Yellowish Brown Coarse Fine Sandy Silt.
5 - 10YR5/4, Yellowish Brown Coarse Sandy Silt (Wet).
6 - 10YR6/4, Light Yellowish Brown Coarse Sand Lens.
● Pebble
Gastropod

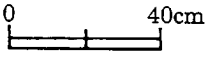
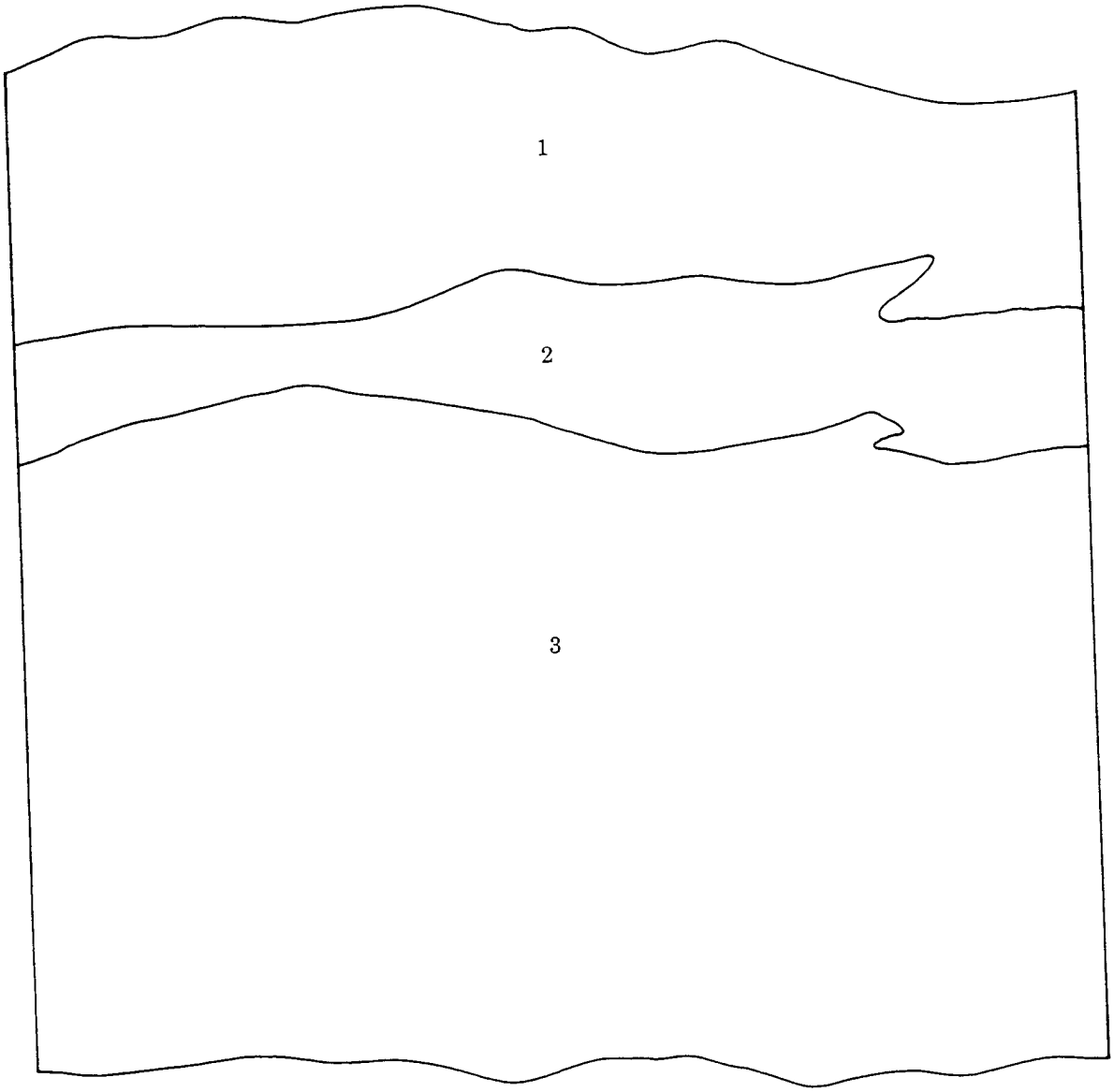


Figure 6
Section from Sterile Trench 21+00, West Profile



1 - 10YR3/2, Very Dark Grayish Brown Fine Silt.
2 - 10YR4/3, Brown to Dark Brown Sandy Silt.
3 - 10YR3/1, Very Dark Gray Mottled with 10YR4/4, Dark Yellowish Brown Clayey Silt.

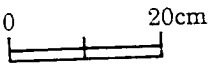
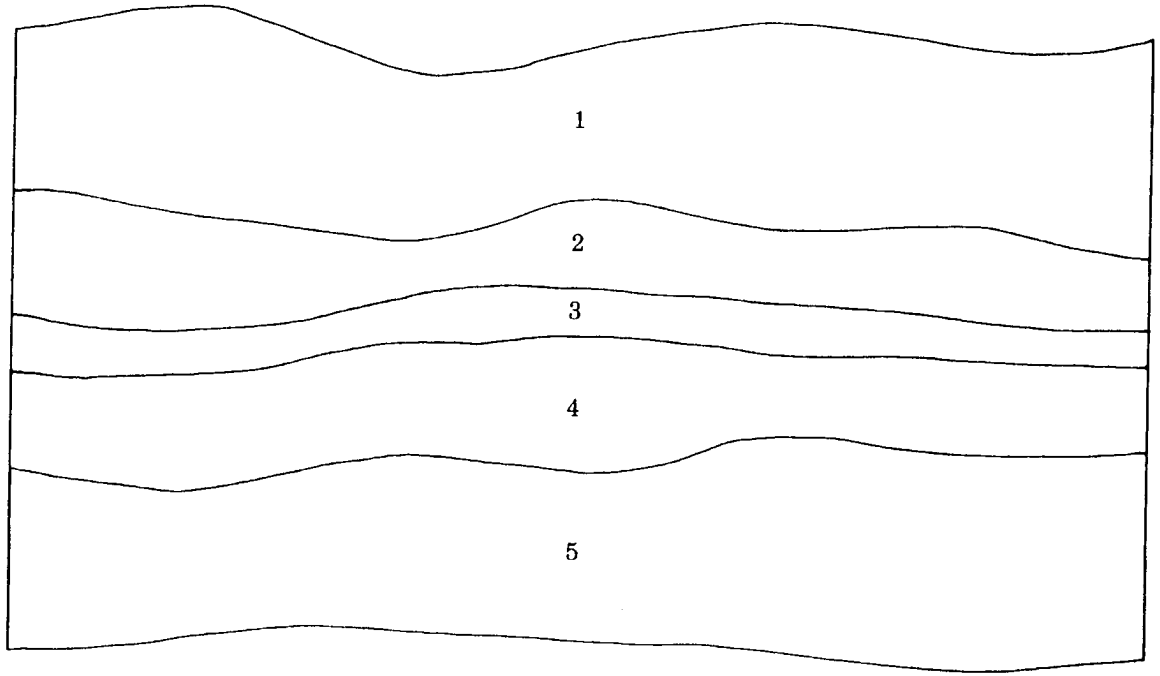
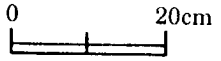


Figure 7
Section from Sterile Trench 24+00, West Profile



1 - 10YR3/2, Very Dark Grayish Brown Silt.
2 - 10YR4/3, Brown Coarse Sandy Silt.
3 - 10YR4/3, Brown and 10YR4/4, Dark Yellowish Brown Sandy Lens.
4 - 10YR4/3, Brown Fine Sandy Silt.
5 - 10YR3/2, Very Dark Grayish Brown Silt (Wet).



2	Knox chert tertiary flakes
1	quartz cobble hammerstone fragment
1	quartz pitted cobble fragment
1	quartz cobble fragment/fire cracked rock
4	Mississippian shell tempered cord marked sherds (1 with rolled/folded rim)
1	Late Woodland/Mississippian fine grit tempered, rectilinear stamped sherd
29	fragments of unidentified mammal (non-human) bone, burned (10.0 gm)

This irregular stain and artifact concentration appeared to be the result of a rodent burrow or similar disturbance. This burrow was clearly visible in the south profile of the trench. It originated in the plow zone (Zone I) and angled down into Zone II (Figure 4). Most of the cultural material was clustered at the base of the disturbance.

One Knox chert flake and one Knox chert biface tip were recovered from Shovel Test 1 (10-50 cm), situated 10 m north of Trench 22+00. Three Knox chert debitage were also recovered from the upper 10 cm of soil in Shovel Tests 4 (n=1) and 5 (n=2), situated 30 to 40 m north of Shovel Test 1. Although these tests are located several meters north of the positive trenches in the road alignment, they are considered to represent part of Site 40HW68. This decision is based on the fact that the artifacts on Site 40HW68 are sparse and located in disturbed deposits of either alluvial, colluvial, and/or plowed soils. Because of these disturbances the site as defined within the project alignment may represent only the disturbed edge effect of a larger site that is situated outside of the project area. Because of the recovery of cultural material only from plow zone or disturbed contexts, and because of the evidence for alluvial soils (running sands) underlying the artifact bearing stratum, it is believed that the artifacts that were recovered are in highly disturbed colluvial, alluvial or surface contexts. For these reasons, Site 40HW68 is considered ineligible to the National Register of Historic Places.

Isolated Find 1

Isolated Find 1 consists of a Knox chert secondary flake recovered from the backdirt of Trench 28+00. This artifact occurred in a coarse sand lens just above the water table. Because this occurrence is located 152 m (500 ft) from the other

cultural material in the alignment, and because it is separated by four negative trenches and a void of surface artifacts, it is considered a separate entity from Site 40HW68. Because this flake was located in an alluvial, coarse sand lens within the trench, its original location is impossible to determine. Because of the lack of integrity of soils, this isolated artifact find is considered ineligible to the National Register of Historic Places.

VI. Summary and Recommendations

Site Summary

Archaeological Site 40HW68 and Isolated Find 1 were identified within the access road alignment at Solitude Bend on the HAAP. Site 40HW68 represents the disturbed remains of an apparently multicomponent site that dates to the Woodland and Mississippian periods. The majority of artifacts recovered from this site were concentrated in a rodent burrow or similar disturbance. The remaining artifacts were recovered from the plow zone or surface of the project alignment and adjacent levee. The position of these cultural materials on the back side of a large levee and below the Pleistocene terrace (both areas that have been impacted by construction [the terrace] or plowing and erosion [the levee]) suggests that this site may represent a disturbed edge effect of, or redeposition from, a large site that may have been situated on either of these two landforms. The project corridor actually passes through the back swamp and along a creek that separates the levee from the Pleistocene terrace, and is a low swampy area that would probably have not been suitable for human habitation, especially when compared with the higher levee and terrace locales.

Isolated Find 1 represents a non-diagnostic prehistoric flake in a highly disturbed context. This find is also situated in a low, back swamp area several hundred meters west of Site 40HW68.

Eligibility Recommendations

Because of the highly disturbed, and possibly redeposited, nature of soils and cultural material on each of the identified cultural properties, neither are considered to meet the criteria for eligibility to the National Register of Historic Places, as presented in Chapter IV.

References Cited

Adovasio, J. M., J. Donahue, and R. Stuckenrath
1990 The Meadowcroft Rockshelter Radiocarbon Chronology 1975-1990. *American Antiquity* 55(2):348-354.

Adovasio, J. M., J. D. Gunn, J. Donahue and R. Stuckenrath
1978 Meadowcroft Rockshelter, 1977: An Overview. *American Antiquity* 43(4):632-651.

Bevins, Nick
1994 Personal Communication. Environmental Resource Coordinator, HAAP.

Braun, L.
1950 *Deciduous Forests of Eastern North America.* Hafner, New York.

Chapman, J.
1985 *Tellico Archaeology: 12,000 Years of Native American Prehistory.* Department of Anthropology, Report of Investigations No. 43, University of Tennessee, Knoxville.

Delcourt, P. A. and Delcourt, H. R.
1981 Vegetation Maps for Eastern North America: 40,000 years B.P. to the Present. In *Geobotany II*, edited by R. C. Romans, pp. 123-166. Plenum, New York.

Dickens, R. S., Jr.
1976 *Cherokee Prehistory: The Pisgah Phase in the Appalachian Summit Region.* University of Tennessee, Knoxville.

Faulkner, C. H. and Major C. R. McCollough
1973 *Introductory Report of the Normandy Reservoir Salvage Project: Environmental Setting, Typology, and Survey: Normandy Archaeological Report Volume 1.* Department of Anthropology, Report of Investigations No. 11, University of Tennessee, Knoxville.

Fenneman, N. H.
1938 *Physiography of the Eastern United States.* McGraw-Hill, New York.

Graham, J. B., and L. S. Alexander
1976 *Phase II Intensive Survey of the Phipps Bend Generating Plant Site, Hawkins County, Tennessee.* Report submitted to the Tennessee Valley Authority, Chattanooga.

Haynes, C. V., Jr.
1980 Paleo-Indian Charcoal from Meadowcroft Rockshelter: Is Contamination a Problem? *American Antiquity* 45(3):582-587.

1988 The First Americans: Geofacts and Geofancy. *Natural History* 97(2):4-12.

Justice, N. D.
1987 *Stone Age Spear and Arrow Points of the Midcontinental and Eastern United States: A Modern Survey and Reference.* Indiana University Press, Indianapolis.

Keel, B. C.
1976 *Cherokee Archaeology.* University of Tennessee, Knoxville.

Kelly, A. R. and R. S. Neitzel
1961 *The Chauga Site in Oconee County, South Carolina.* University of Georgia, Laboratory of Archaeology Series 3, Athens.

Lafferty, R. H., III
1981 *The Phipps Bend Archaeological Project.* Report submitted to the Tennessee Valley Authority by the University of Alabama, Office of Archaeological Research. Research Series No. 4, Moundville, Al.

Lewis, T. M. N., and M. D. Kneberg
1957 The Camp Creek Site. *Tennessee Archaeologist* 13:1-48.

1958 The Archaic Culture in the Middle South. *American Antiquity* 25(2):161-183.

McNutt, C., G. Maness and G. G. Weaver, Jr.
1984 *An Archeological Overview and Management Plan for the Holston Army Ammunition Plant, Hawkins and Sullivan Counties, Tennessee.* Report submitted to the U.S. Department of the Interior, National Park Service, Atlanta, by the Memphis State University, subcontractor to Woodward–Clyde Consultants, Walnut Creek, Ca.

Polhemus, R. R. and J. H. Polhemus
1966 The McCullough Bend Site. *Tennessee Archaeologist* 22:13-24.

Smith, D. C. and F. M. Hodges, Jr.
1968 The Rankin Site, Cocke County, Tennessee. *Tennessee Archaeologist* 24:36-91.

Spoden, M. M. C.
1991 *Kingsport Heritage: The Early Years 1700-1900.* The Overmountain, Johnson City, Tn.

Thomas, Cyrus
1894 *Report on the mound explorations of the Bureau of Ethnology.* Smithsonian Institution, Bureau of American Ethnology, 12th Annual Report.

U.S. Army Corps of Engineers
1993a *Historical and Resources Survey of the Class II Landfill, Holston Army Ammunition Plant, Hawkins and Sullivan Counties, Tennessee.*

1993b *Historical Resources Survey of the Alternate I Access Road, Class II Landfill, Holston Army Ammunition Plant, Hawkins County, Tennessee.*

Webb, W. S.
1939 *An Archaeological Survey of the Norris Basin in Eastern Tennessee.* Smithsonian Institution, Bureau of American Ethnology Bulletin 118.

Whitley, D. S. and R. I. Dorn
1993 New Perspectives on the Clovis vs. Pre-Clovis Controversy. *American Antiquity* 58(4):626-647.