

"A Phase I Archaeological Survey of the  
Proposed Timber Harvest Areas in Training  
Areas 8, 13, and 14 on the Fort Knox Military  
Reservation, Hardin and Meade Counties,  
Kentucky" by Pamela A. Schenian, Fort Knox.  
July 1995.

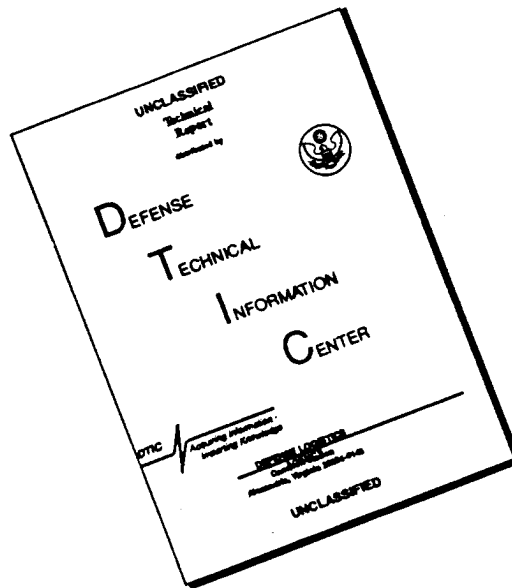
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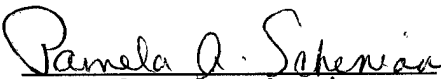
A Phase I Archaeological Survey  
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DPW Forestry Section Project FY 95-3

July 1995

  
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Project Principal Investigator

## ABSTRACT

In June and July 1995, the Fort Knox Contract Staff Archeologist conducted a Phase I archaeological survey of proposed timber harvest areas in Training Areas 8, 13, and 14 on the Fort Knox Military Reservation, Hardin and Meade Counties, Kentucky. The timber areas consist of five small, disjoint project areas encompassing a total of 11 acres (4.4 ha). The trees to be harvested had been marked by the forestry section prior to the survey. All timber areas were walked in their entirety. No evidence of archaeological sites was found in this study. It is recommended that the timber harvesting be conducted as proposed.

## MANAGEMENT SUMMARY

In accordance with Executive Order 11593 and other applicable federal laws and regulations, a Phase I archaeological survey was conducted of proposed timber harvest areas in Training Areas 8, 13, and 14 on the Fort Knox Military Reservation, Hardin and Meade Counties, Kentucky. The five project areas adjoin existing utility easements and/or roads. All portions of the proposed timber harvest areas were surveyed. No evidence was found of archaeological sites. It is recommended that the timber harvest be conducted as proposed.

## TABLE OF CONTENTS

|  | <u>Page</u> |
|--|-------------|
| Abstract .....                                     | i           |
| Management Summary .....                           | ii          |
| Table of Contents .....                            | iii         |
| List of Figures .....                              | iii         |
| Introduction .....                                 | 1           |
| Previous Research .....                            | 9           |
| Survey Predictions .....                           | 11          |
| Setting and Field Methods .....                    | 12          |
| Conclusions and Recommendations .....              | 15          |
| References Cited .....                             | 17          |
| Appendix A. Resume of Principal Investigator ..... | 20          |

## LIST OF FIGURES

|  | <u>Page</u> |
|--|-------------|
| Figure 1. Location of Project Area in Training<br>Area 8 .....   | 2           |
| Figure 2. Location of Project Area in Training<br>Area 13 .....  | 3           |
| Figure 3. Location of Project Areas in Training<br>Area 14 ..... | 4           |
| Figure 4. Plan View of Project Area TA8 .....                    | 5           |
| Figure 5. Plan View of Project Area TA13 .....                   | 6           |
| Figure 6. Plan View of Project Area TA14A .....                  | 7           |
| Figure 7. Plan View of Project Areas TA14B and TA14C ..          | 8           |

## INTRODUCTION

In June and July 1995, the Fort Knox Contract Staff Archaeologist, an employee of J.M. Waller Associates, Burke, Virginia, performed a Phase I archaeological survey of five proposed timber harvest areas on the Fort Knox Military Reservation. The proposed timber harvest includes one project area in Training Area (TA) 8 in Meade County, Kentucky (Figure 1), one project area in TA 13 in Hardin County (Figure 2), and three project areas in TA 14 (Figure 3). Project Area TA14A is in Hardin County. Project Area TA14B is partially in Hardin County and partially in Meade County. Project Area TA14C is in Meade County.

Project Area TA8 is maximum of 800 m long by 10 m on the north side and 800 m long by 20 m wide on the south side of an existing aquaduct easement (Figure 4), encompassing 5.9 acres (2.4 ha). The aquaduct easement is demarcated by a dirt road. Project Area TA13 is L-shaped (Figure 5). It extends 120 m east-west along the south side of Frazier Road and 180 m north-south along the west side of Wilson Road and each leg is approximately 15 m wide. Project Area TA13 encompasses approximately 1.1 acres (0.4 ha). Project Area TA14A is located along 484th Engineers Road (Figure 6). It is a maximum of 300 m long and 10 m wide on the east side and 140 m long and 15 m wide on the west side of the road, comprising 1.3 acres (0.5 ha). Project Area TA14B lies east of 484th Engineers Road on the north and south sides of a powerline easement (Figure 7). It is 140 m long by 10 m on the north side and 130 m long by 20 m wide on the south side, encompassing 1.0 acres (0.4 ha). Project area TA14C lies west of 484th Engineers Road and on the east and west sides of a powerline easement. It is roughly triangular in shape and includes two wooded areas. One is 180 m long by 10 m wide and one is 360 m long and 20 m wide (2.2 acres = 0.9 ha). Project Area TA14A lies in Hunting Area (HA) 19. The rest of the project areas lie outside any Hunting Area.

Only some of the trees in each project area are marketable timber. The trees selected for harvesting had been marked with blue spray paint by Fort Knox Forestry Section personnel prior to the survey. Marked trees also included "hazard" trees, i.e., trees which need to be removed for safety reasons even if they are not marketable.

In 1993, the Fort Knox Contract Staff Archaeologist obtained all the documents necessary to perform Phase I literature searches for the installation (e.g., site forms, reports of previous investigations, historic maps). These documents are on file at the Environmental Management Division of the Directorate of Public Works, Fort Knox, and are updated on a regular basis. No file check therefore was made with the Office of State Archaeology and the Kentucky Heritage Council specifically for this project.



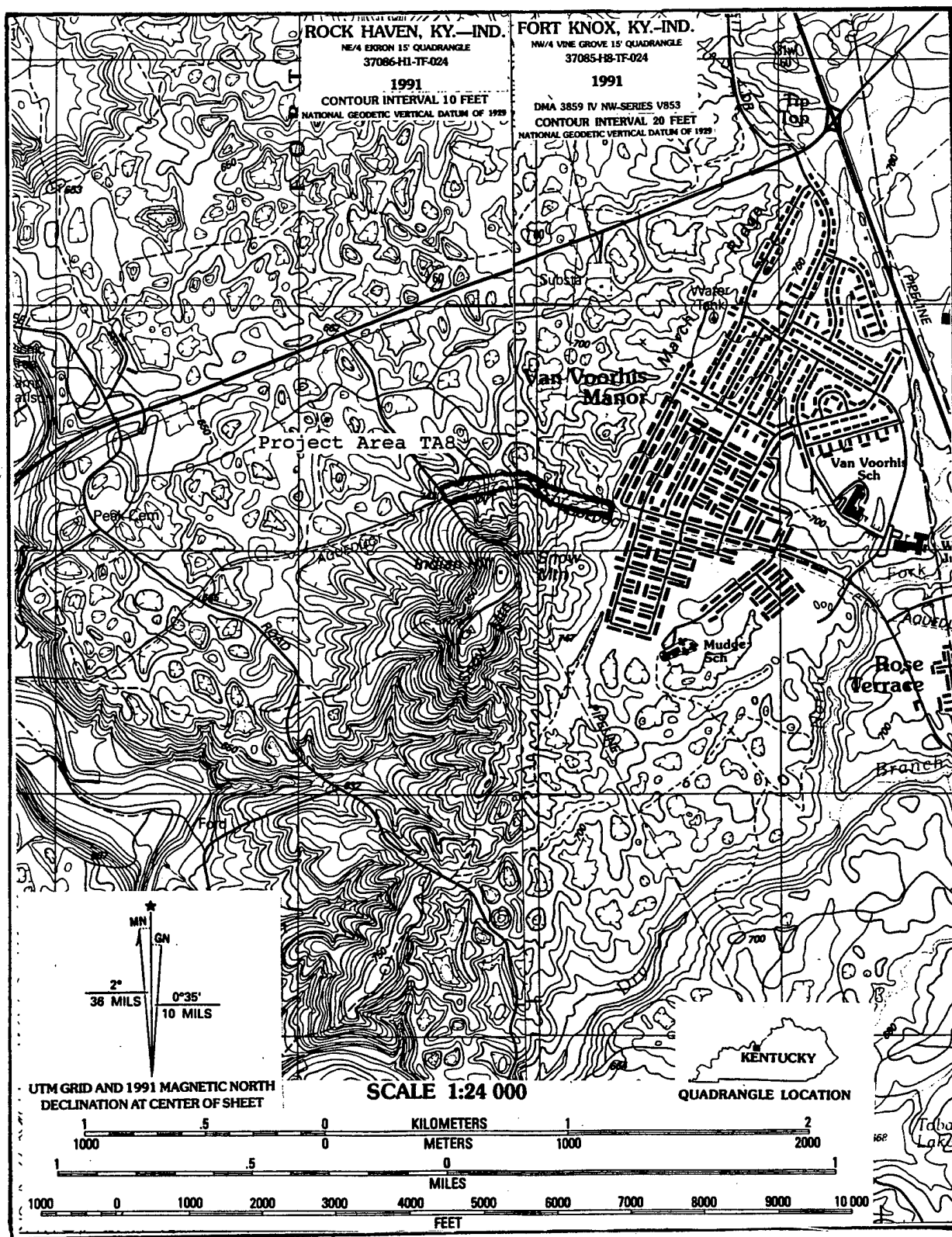


FIGURE 1. Location of Project Area in Training Area 8.

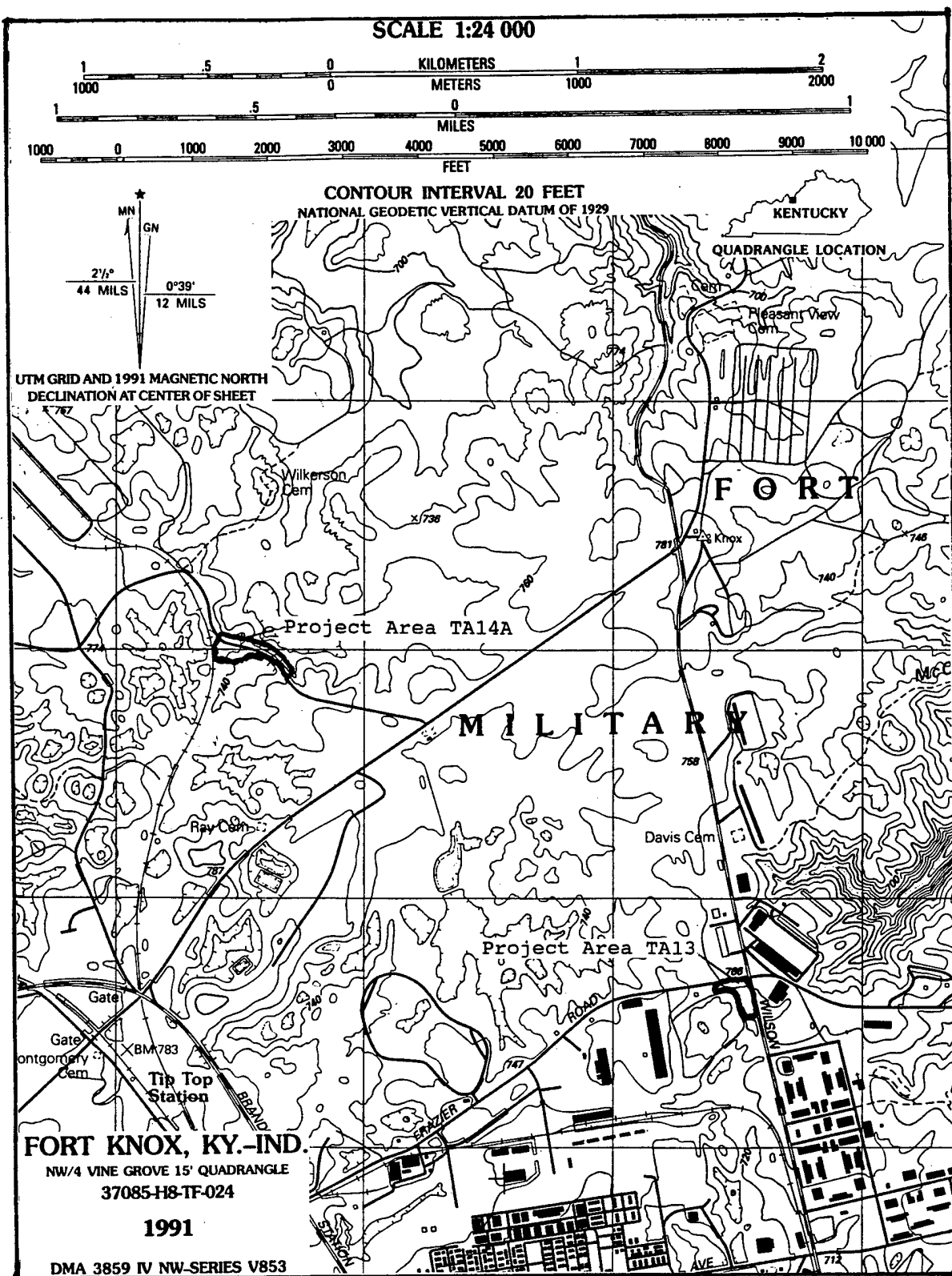


FIGURE 2. Location of Project Area in Training Area 13.



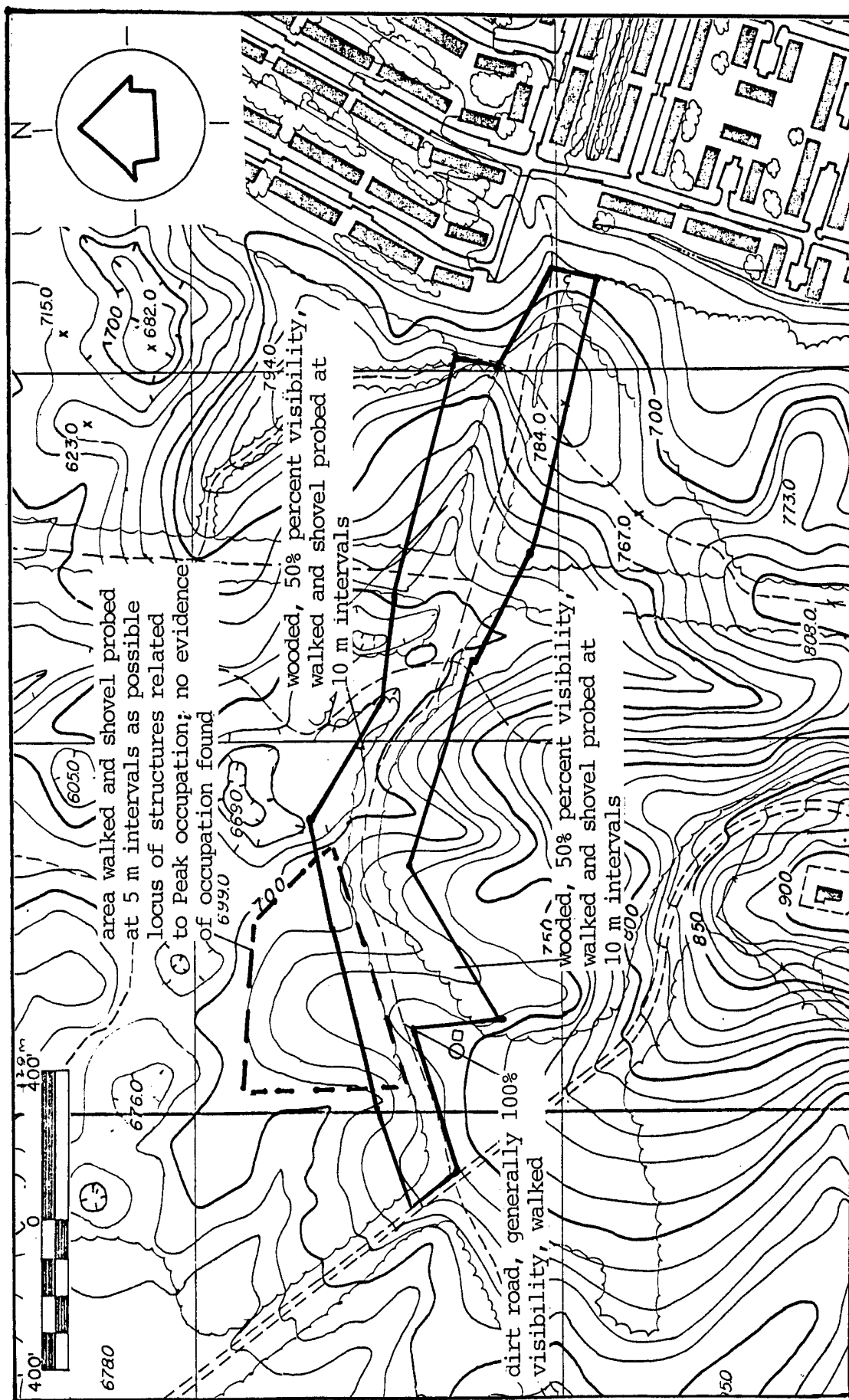


FIGURE 4. Plan View of Project Area TA8.

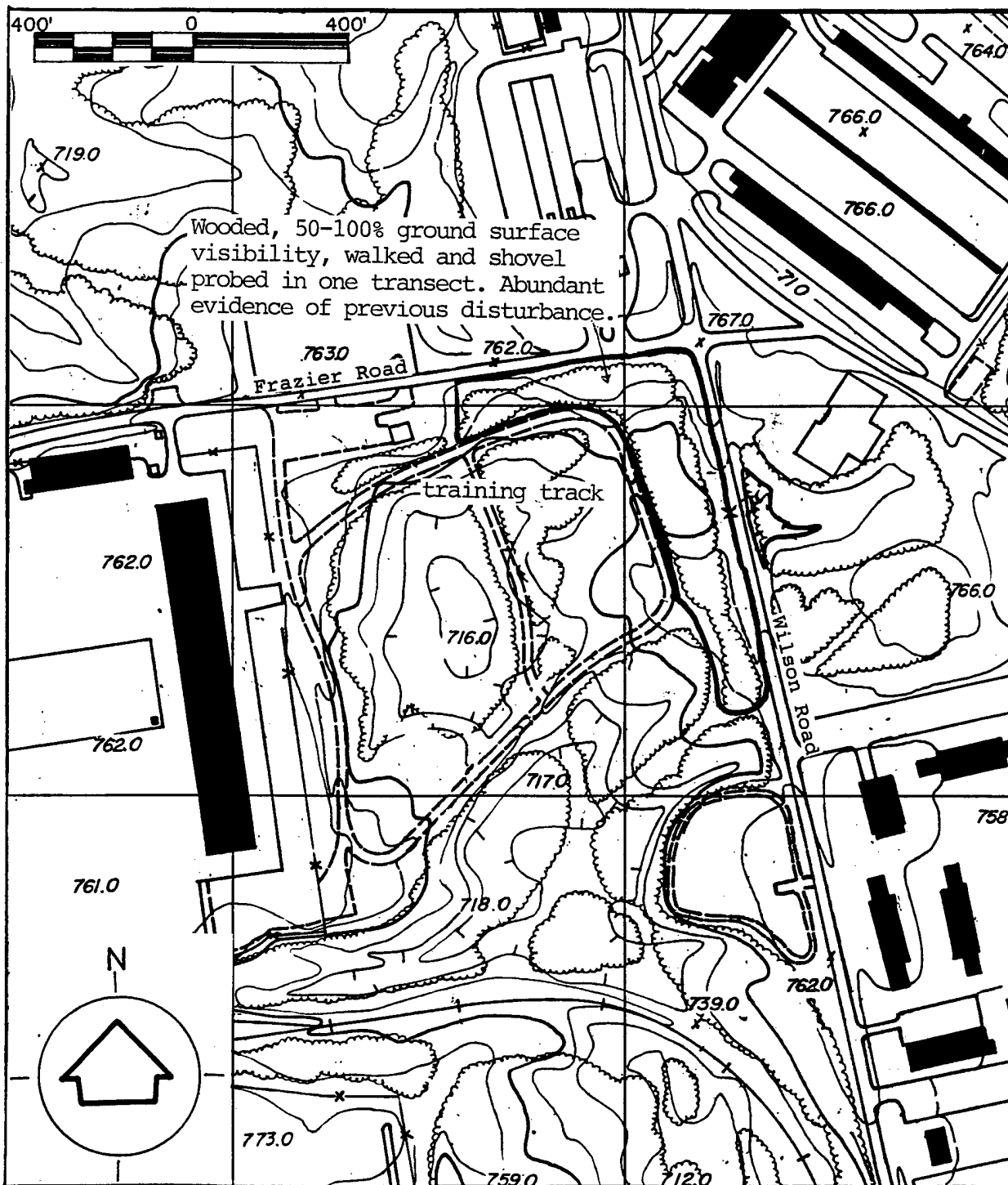


FIGURE 5. Plan View of Project Area TA13.

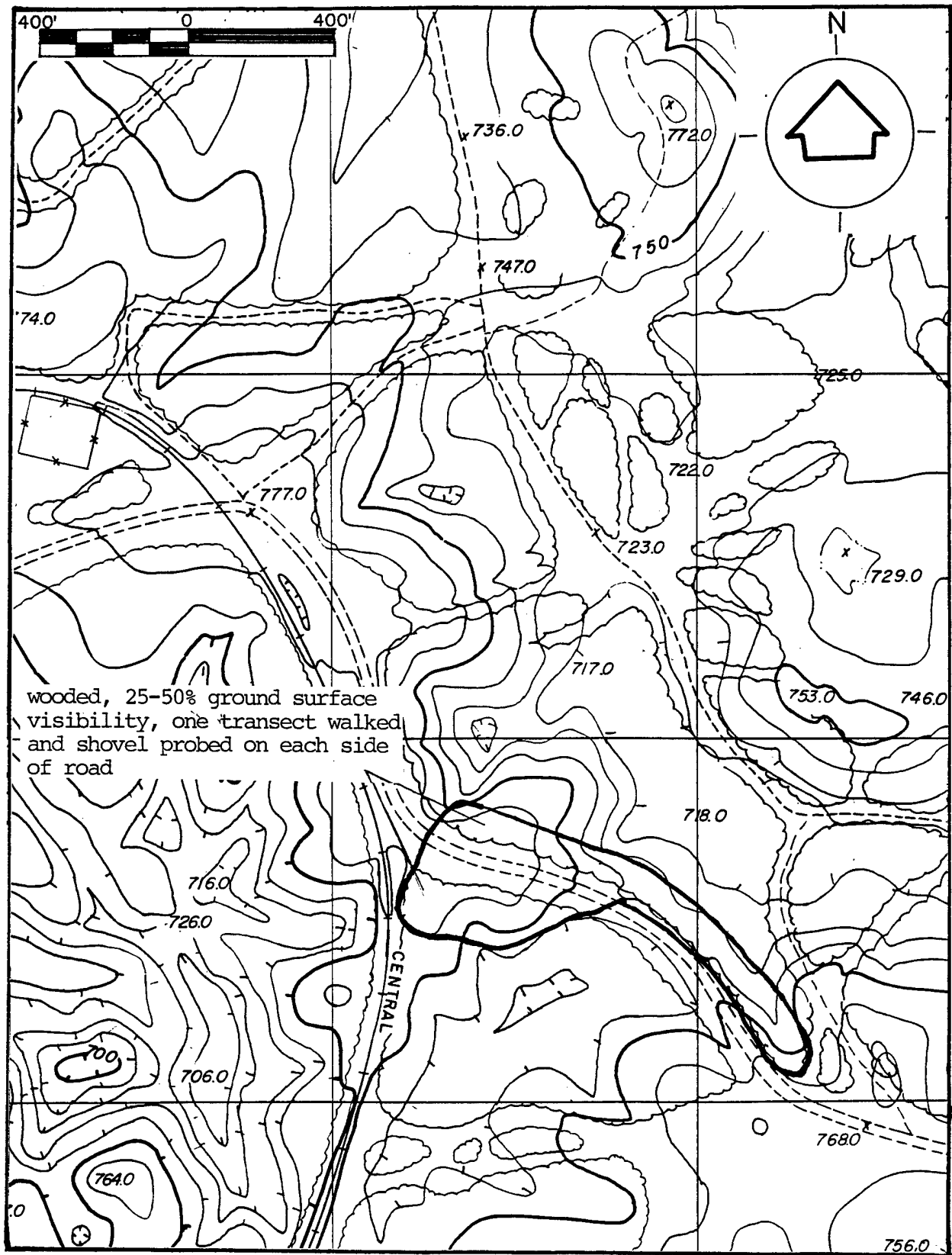


FIGURE 6. Plan View of Project Area TA14A.

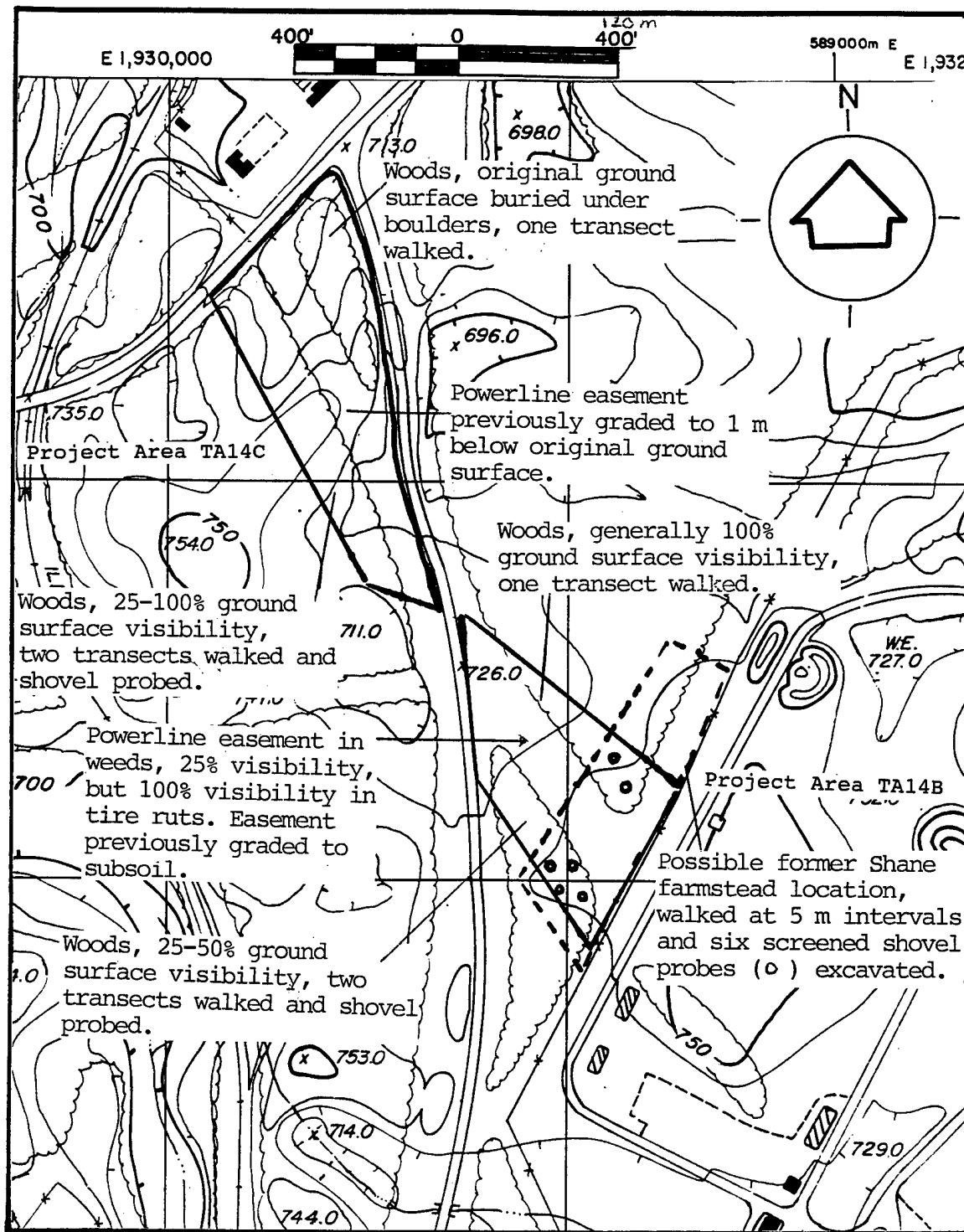


FIGURE 7. Plan View of Project Areas TA14B and TA14C.

A literature search revealed that none of the project areas had been previously surveyed. Therefore, during the present project all portions of the project areas were inspected by walkover, supplemented by shovel probing.

The proposed timber harvest areas are located in the Plain section of the Pennyrile cultural landscape, on the hill and ridge crests and slopes of dissected uplands. The five project areas lie in the Mississippian Plateau physiographic region of Kentucky (McGrain and Currens 1978:35) and on Muldraugh Hill, which forms the boundary with the Knobs physiographic region. The project areas in TA 13 and TA 14 lie in an upland karstic plain, while the TA 8 project area is in an area which has both karstic and dissected upland features.

Elevations in the project areas range from 700 to 790 feet. Soils are classified as Crider-Vertrees soil association (U.S.D.A. 1975: General Soil Map). Drainage in all of the project areas is into sinkholes.

The archaeological survey was conducted in preparation for the removal of selected trees within approximately 20 m of existing roads and/or powerlines. The archaeological survey and literature review were required to comply with the National Environmental Policy Act, or NEPA, (Public Law 91-190), the Historic Preservation Act of 1966, as amended (Public Law 89-665), the Archaeological Resources Protection Act of 1979 (Public Law 96-95), Presidential Executive Order 11593, and Army Regulation 420-40. The project number is FY 95-3, an in-house number assigned by the Forestry Section of the Environmental Management Division of the Directorate of Public Works, Fort Knox.

The project areas were surveyed on June 22 and July 10, 1995. A total of 6.0 person hours were spent in the survey of the project areas. No artifacts were collected in this survey. Documentation of this project will be curated at the University of Louisville Program of Archaeology, on a "permanent loan" basis, under contract number DABT 23-93-C-0093, for curatorial and technical support (copy of contract on file, DPW, Fort Knox, Kentucky). Duplicate copies of the documentation will be stored at the Directorate of Public Works (DPW), U.S. Army Armor Center and Fort Knox, Fort Knox, Kentucky.

#### PREVIOUS RESEARCH

Approximately 26,260 acres of the Fort Knox installation have been surveyed for archaeological sites at some level, primarily in cultural resource management (CRM) studies. Schenian and Mocas (1994a) summarize the archaeological studies conducted on or near the installation through August



1994. No portion of any of the five project areas had been previously surveyed, although the Mocas (1994a) pipeline survey immediately adjoins a portion of the TA 13 project area. A number of areas in the vicinity of each current project area have been surveyed, however. This section will focus on the previous research conducted within a 2 km radius of the current project areas.

Within 2 km of Project Area TA8, Funkhouser and Webb (1932) reported 15Md10, a mound group, which they did not visit in person. McGraw (1976) recorded no sites in the survey of the realignment of Highway 60. Sorensen and Ison (1979) surveyed a proposed building expansion site and access road, encountering no sites. O'Malley et al. (1980) surveyed approximately one-quarter of HA 9, recording no sites, and of HA 13, recording 15Md154-15Md156 and 15Md162. Schenian and Mocas (1992) recorded 15Md326 in a 74 acre timber harvest area. Schenian and Mocas (1993) reported 15Md336-15Md339 in a proposed rehab area, and Schenian and Mocas (1994a) recorded 15Md347-15Md361 and one isolated find in a proposed rehab area. Schenian and Mocas (1994b) recorded 15Md377 in the survey of two proposed school gym tracts. Schenian and Mocas recorded the town of Grahamton as 15Md378 and a prehistoric site within the town boundaries as 15Md379 during the Phase I survey of proposed septic sewer tracts which was described in an emergency letter report (Woodbury 1994) and later conducted Phase II testing of a limited portion of these sites (Schenian and Mocas in prep.). Site 15Md10 (which is presumed to have been destroyed by construction during World War I) and 15Md326 are located within 300-400 m of the current project area. All of the other recorded sites are at least 700 m distant.

Within 2 km of Project Area TA13 and/or TA14A, O'Malley et al. (1980) surveyed approximately one-quarter of each HA 18-20, recording 15Hd127 and 15Hd133 in HA 18. Ruple (1993a) surveyed a shoreline maintenance project area, recording no sites. Mocas (1993) described the results of the survey of a proposed landfill and borrow pit tract, in which no archaeological sites were encountered. Mocas (1994a) surveyed a proposed water tower tract and pipeline, encountering no sites. Mocas (1994b) surveyed a proposed sports complex, encountering no sites. Mocas (1994c) reported on the survey of proposed borrow areas, in which two isolated finds were discovered. Schenian (1995a) surveyed a proposed timber harvest area, encountering no sites. Schenian (1995b) describes the results of the survey of the proposed construction tract and adjoining areas, in which 15Hd496 was recorded. The nearest recorded site to Project Area TA13 is 15Hd496, located approximately 1.7 km distant. The nearest recorded site to Project Area TA14A is 15Hd133, which is approximately 800 m distant.

Within 2 km of Project Areas TA14B and TA14C, are the O'Malley et al. (1980) survey of one-quarter of each of HA

3, 4, and 16. Sites 15Md135-15Md137 and 15Md165 were recorded in HA 3; no sites were recorded in HA 4; and 15Hd123-15Hd125 were recorded in HA 16 in the O'Malley et al. study. Wheaton (1987) reported on the survey of the proposed realignment corridor of Highway 1638, in which 15Md306 was recorded approximately 1.2 km southeast of the current project areas, and other sites were recorded much farther away. Ruple (1993b) surveyed all of HA 4, recording 15Hd479-15Hd481 and 15Md335. Site 15Md335, the nearest recorded site to either TA14B or TA14C, is located 0.5 to 1.0 km from the project areas.

No archaeological sites known to be listed on or eligible for listing on the National Register of Historic Places are located in or immediately adjacent to any of the five current project areas. No buildings listed on or known to be eligible for the National Register are located in or within the viewshed of any of the five current project areas. The only buildings within view of any of the current project areas are of post-World War II military construction. No cemeteries are located in or immediately adjacent to any of the project areas.

#### SURVEY PREDICTIONS

Based on previous archaeological research in the area, the history of settlement, and the environmental setting of the project area, the following results were expected:

- 1) The proposed timber harvest areas lie within 20 m of existing powerlines and/or roads. The project areas are therefore expected to have some disturbance due to road construction and maintenance, powerline installation and maintenance, erosion, and possibly training.
- 2) All of the project areas lie within the section of the installation acquired ca. 1919. The 1919 Camp Knox land acquisition map shows the location of civilian structures at the time of acquisition. No structures are known to be historically located near Project Areas TA13, TA14A, or TA14C, so no historic sites were expected in these areas. The farmstead of J.H. Shane is known to have been located near Project Area TA14B, so there is a high potential for historic archaeological deposits in this location. It appears that the farmstead of C.H. Peak was located in or near Project Area TA8, but this farmstead was recorded as 15Md326 in a survey by Schenian and Mocas (1992) and is actually located 300 m west, and on the opposite side of the road leading to Snow Mountain, as the supposed location. Whether

this is an error in mapping on the part of the preparers of the 1919 acquisition map or a scale translation problem on the part of Schenian is unknown. There is a low potential for a historic site in Project Area TA8, however, because the Peak farmstead has supposedly been located elsewhere.

- 3) Project Areas TA13 and TA14A-C are located in a karstic plain, which typically has had a low pre-historic site density. Project Area TA8 is located near the boundary of the karstic plain and the dissected uplands, which typically have a higher prehistoric site density, especially of habitation and processing sites.
- 4) Previous surveys in the vicinity of Project Areas TA13 and TA14A-C have yielded a very low site density. A low site density is expected for the current project areas in these areas.
- 5) Previous surveys in the vicinity of Project TA8 have resulted in variable site density, ranging from one site in 74 acres (30 ha) (Schenian and Mocas 1992) to 15 sites and an isolated find in 95 acres (38.4 ha), or one cultural resource approximately every six acres (Schenian and Mocas 1994a). There is therefore moderate potential for archaeological sites in Project Area TA8.

#### SETTING AND FIELD METHODS

The proposed timber harvest areas are located in the Plain section of the Pennyryle cultural landscape and the Salt River Section of the Salt River archaeological management area. All five project areas are in the Mississippian Plateau physiographic region of Kentucky (McGrain and Currens 1978:35) and on Muldraugh Hill, which forms the boundary with the Knobs physiographic region. Project areas TA13 and TA14A-C are located in an upland karstic plain, while Project Area TA8 is in an area which combines karstic features with dissected upland characteristics.

Elevations in Project Area TA8 range from 750 to 790 feet. Project Area TA13 is at an elevation of 750 to 770 feet. Project Area TA14A is at an elevation of 740 to 750 feet. Project Areas TA14B and TA14C are at elevations of 700 to 740 feet.

Drainage in all of the project areas is into sinkholes. A tributary of Otter Creek, which is a tributary of the Ohio River, lies approximately 1 km south of Project Area TA8. The headwaters of Tollgate Creek, a tributary of Mill Creek,

which is a tributary of the Salt River, lie approximately 400 m east-northeast of Project Area TA13. No surface streams lie within 2 km of Project Area TA14A. A tributary of Tioga Creek lies 700 m north of Project Area TA14B and 300-400 m north of Project Area TA14C.

Soils in all of the project areas are classified as Crider-Vertrees soil association (U.S.D.A. 1975: General Soil Map). Soils on the hill and ridge tops and slopes in Project Area TA 8 and Project Areas TA14B and TA14C consist of Crider silt loam. Soils in the large sinkhole in Project Area TA8 are Baxter gravelly silt loam (Anonymous 1992). Soils in Project Areas TA13 and TA14A consist of Crider silt loam and Nicholson silt loam (Arms et al. 1979: Maps 1 and 2).

The geologic deposits underlying the soils in all of the project areas is the St. Louis Limestone formation (Kepferle and Sable 1977; Withington and Sable 1969). The Sandstone member of the Mooretown Formation, which is typically slumped, unconformably overlies the St. Louis Limestone on the higher elevations in the Project Area TA8 vicinity (Kepferle and Sable 1977; Withington and Sable 1969). A small area of Ste. Genevieve limestone and possibly the top of the Lost River chert defined in Elrod (1899), is present on the southwest side of Snow Mountain (Withington and Sable 1969), approximately 700 m southwest of Project Area TA8.

Each project area was systematically walked in a sufficient number of transects spaced approximately 10 m apart to cover the area needed for logging the marked trees. Ground surface visibility was variable, but limited fallen leaf cover was the predominant ground cover in most areas.

If the ground surface was obscured by vegetation for greater than 10 m within a transect, then a shovel probe was excavated. Each shovel probe was approximately 30 cm square at ground surface and excavated to a depth of at least 25 cm or until subsoil was encountered. The fill was trowel sorted for possible cultural materials.

In Project Area TA8, the dirt road demarcating the aquaduct easement was first walked in a single transect from the west end to the east end of the project area. Ground surface visibility was 100 percent in most portions of the road. When the end of the project area was reached, the Principal Investigator would walk the woods on one side of the aquaduct until a convenient stopping point was reached and then cross over to the opposite side and do that parallel segment. In general, a single transect was walked parallel to the road in each wooded area. When an occasional outlier marked tree was present, one transect would be walked perpendicular to the road to a point slightly past the tree and a second transect walked back to the road. The two transects were walked 10 m apart and centered on the tree to

cover the area which would be affected by the logging operations. Ground surface visibility was generally 50 percent or better, as a heavy rain the night before the survey had washed away much of the leaf cover. No evidence of any archaeological materials was observed in this project area.

The area near the possible location of buildings associated with the Peak occupation, on the north side of the second ridge spur from the west end of Project Area TA8, was walked in additional perpendicular transects at 5 m intervals, and no evidence was found of this occupation. It is believed that there is a mapping error in this vicinity, since a Peak farmstead had been recorded as an archaeological site over 300 m west of this location, and no structure actually existed at this location.

Project Area TA13 was in mixed deciduous trees and cedars, with fallen leaf cover and evergreen needles as the predominant ground cover. Ground surface visibility was 50 to 100 percent. This area was walked in a single transect through the center of each leg. The area had numerous bulldozer piles, erosional gullies, and tracked vehicle ruts. It appeared that much of the area had been borrowed for use as berm fill in the construction and maintenance of Wilson Road, Frazier Road, and the paved training track to the south. No evidence of archaeological materials was observed in this project area.

The TA14A project area was in deciduous trees with fallen leaf cover, with raspberry brambles along the east side of the road. Ground surface visibility was approximately 25 to 50 percent. Both portions of this project area had numerous tire tracks, and the east side additionally appeared to have been disturbed during the construction and maintenance of the 484th Engineers Road, which is bermed and gravelled. A single transect was walked on each side of the road. No evidence was found of archaeological materials or potential archaeological deposits.

Project Area TA14B is centered on an overhead powerline easement which is occasionally bushhogged. The weeds are approximately knee-high at the time of survey with approximately 25 percent ground surface visibility, but tire ruts and a few open patches had 100 percent ground surface visibility. The easement has been bulldozed to subsoil. The adjoining wooded areas are in deciduous trees. A single transect was walked on the north side of the easement, where ground surface visibility was 100 percent in most areas, and two transects were walked on the south side, where ground surface visibility was 25 to 100 percent. The easement-woods margin was marked by bulldozer piles and raspberry brambles.

Two shovel probes near the east end on the south side of Project Area TA14B each yielded one small possible brick fragment. The material crumbled to dust when it was

attempted to retrieve it from the soil, however, so it was impossible to determine if these were actually brick fragments or fired clay of possible natural origin. Since these shovel probes were found near the former location of the Shane farmstead, six screened (1/4 inch mesh) shovel probes were placed in the vicinity, and the area was walked at 5 m intervals. No archaeological materials were found in the screened shovel probes, in additional trowel-sorted shovel probes, or in the walkover. A single iris plant was noted at the margin of the utility easement. It was concluded that the Shane farmstead had been destroyed by bulldozing during the clearing and maintenance of the powerline easement and/or construction of the nearby training complex, and that insufficient evidence of it existed to consider it an archaeological site.

The overhead utility easement in Project Area 14C was in mowed weeds with approximately 50 percent ground surface visibility. Subsoil showed at ground surface in the easement and the easement was clearly several feet lower than the surrounding woods. Since soil had been removed from the easement to a depth of at least 1 m below the original ground surface, the easement was not walked except to cross from one wooded area to the area. The wooded area between the easement and 484th Engineers Road was walked in a single transect parallel to the road. Large boulders covered most of the surface, and since tree trunks were partially buried within the boulders, it was obvious that the rock had been placed there. The rock either had been removed from the powerline easement or during the construction of the nearby water plant or Highway 31W. The wooded area west of the easement was not buried by rock, but some bulldozer piles were present near the easement-woods margin. Ground surface visibility was approximately 25 to 50 percent in this wooded area. The area was walked and/or shovel probed in two transects. No evidence was found of archaeological materials or potential archaeological deposits. Although surface evidence of disturbance was minimal in the west woods, soil profiles in shovel probes suggested that much of the area to be timbered had been disturbed during the clearing of the powerline easement.

#### CONCLUSIONS AND RECOMMENDATIONS

The Phase I literature search of five proposed timber harvest areas in Forestry Section project number FY 95-3 determined that none of the project areas had been previously inspected. The project areas were field inspected by walkover and shovel probing in the current study. The field inspection resulted in the discovery of no archaeological sites. It is recommended that the installation be permitted to conduct the timber harvest of these five areas as proposed.

Most of Project Area TA14C was found to have been previously disturbed by bulldozing, and possibly blasting, as a result of the powerline installation and maintenance. The original ground surface of the wooded area between the powerline easement and 484th Engineers Road has been buried by limestone boulders removed from the powerline easement. It is presumed that the ground surface was disturbed by bulldozing and the movement of heavy machinery prior to burial. Project Area TA14B showed signs of disturbance (bulldozer piles) only immediately adjacent to the open powerline easement. Project Areas TA13 and TA14A showed evidence of disturbance due to road construction and maintenance activities. Project Area TA13 also showed disturbance from tank training in the days when tanks were allowed to cut across this area to get from the gravel training track to its south to the washrack and open training area on the north side of Frazier Road. Project Area TA8 only had evidence of prior disturbance due to powerline maintenance activities in limited areas.

Access to each project area is available from existing disturbed utility easements and/or from paved roads. No impact to any significant cultural resource is therefore expected as a result of the movement of vehicles to be used in this project.

In the remote possibility that archaeological materials are discovered during the timber harvesting, all work in the vicinity of the finds must cease and the State Historic Preservation Officer (502-564-7005) and the DPW Staff Archaeologist (502-624-6581 or 502-624-3629) should be contacted, so a representative of those agencies may evaluate the materials. Also, if human remains, regardless of age or cultural affiliation, are discovered, all activity in the vicinity of the remains must cease immediately, and the state medical examiner (502-564-4545) and the appropriate local law enforcement agency (Fort Knox Law Enforcement Command, 502-624-6852) must be contacted, as stipulated in KRS 72.020.

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APPENDIX A.  
RESUME OF PRINCIPAL INVESTIGATOR

Pamela A. Schenian  
Staff Archeologist and Project Principal Investigator

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Date and Place of Birth: January 1, 1959; Waukesha, WI.

Present Position: J.M. Waller & Associates/Fort Knox Contract Staff Archaeologist

Education:

A.B.D. in Anthropology, Northwestern University, 1984.  
M.A. in Anthropology, Northwestern University, 1982.  
A.B. in Anthropology, Bryn Mawr College, 1980.

Previous Employment:

Senior Staff Archeologist, Archeology Service Center,  
Department of Sociology, Anthropology, and Social Work, Murray State University, Murray, KY, November 1991-June 1993;  
Staff Archeologist, November 1983-November 1991.

Southern Illinois University, Carbondale, IL: Field Technician, November-December 1985, September-October 1984.

Illinois State Museum Society, Springfield, IL: Field Assistant II (Supervisor), summer 1983; Field Technician, summer 1981.

Center for American Archeology, Kampsville, IL: Field Technician, summer 1982.

Department of Anthropology, Northwestern University, Evanston, IL: Teaching Assistant, 1981-82 academic year.

Great Lakes Archeological Research Center, Milwaukee, WI: Field Technician, summer 1979.

Field Research Experience:

Field experience on prehistoric and historic archeological projects in Illinois, Indiana, Kentucky, New Jersey, South Dakota, Tennessee, and Wisconsin, 1979-present.

Professional Publications, Reports, Papers and Manuscripts:  
90 CRM contract reports on projects in Indiana, Kentucky, and Tennessee.

1 Homicide site excavation contract report prepared in lieu of court testimony in Illinois.

7 Papers presented at professional conferences.

5 Publications, 1 in press.

Doctoral candidacy qualifying paper: "A Theory of Individual Style Variation for Archeological Studies".

Ms. submitted in partial fulfillment of the M.A. requirements: "Models of Environmental-Cultural Relationships: Testing with Archeological Evidence".