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In September 1995, the Fort Knox contract archaeology staff conducted a Phase I archaeological survey of a proposed timber harvest area near the Regional Correctional Facility on the Fort Knox Military Reservation, Hardin County, Kentucky. The proposed timber harvest area is approximately 122 m (400 feet) wide and 25 m (80 feet) long, encompassing approximately 0.30 ha (0.74 acres). Only selected trees will be harvested. The total area surveyed is 580 m long and 325 m wide, encompassing approximately 6.7 ha (16.5 acres). The survey resulted in the discovery of one archaeological site, outside the proposed timber harvest area. Site 15HD498 is a small lithic scatter, which is considered potentially eligible for the National Register in part due to field conditions not conducive to the adequate investigation of its horizontal or vertical extent. Since 15HD498 lies completely outside the proposed timber area, it is recommended that the timber harvest be conducted as proposed.
A Phase I Archaeological Survey
of the Proposed Timber Harvest Area
near the Regional Correctional Facility
on the Fort Knox Military Reservation,
Hardin County, Kentucky

by
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and
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October 1995

Pamela A. Schenian
Project Principal Investigator
ABSTRACT

In September 1995, the Fort Knox contract archaeology staff conducted a Phase I archaeological survey of a proposed timber harvest area near the Regional Correctional Facility on the Fort Knox Military Reservation, Hardin County, Kentucky. The proposed timber harvest area is approximately 122 m (400 feet) wide and 25 m (80 feet) long, encompassing approximately 0.30 ha (0.74 acres). Only selected trees will be harvested. The total area surveyed is 580 m long and 325 m wide, encompassing approximately 6.7 ha (16.5 acres). The survey resulted in the discovery of one archaeological site, outside the proposed timber harvest area. Site 15Hd498 is a small lithic scatter, which is considered potentially eligible for the National Register in part due to field conditions not conducive to the adequate investigation of its horizontal or vertical extent. Since 15Hd498 lies completely outside the proposed timber area, it is recommended that the timber harvest be conducted as proposed.
MANAGEMENT SUMMARY

In accordance with Army Regulation 420-40 and other federal laws and regulations, the Fort Knox contract cultural resource management staff conducted a Phase I archaeological survey of a proposed timber harvest area near the Regional Correctional Facility on the Fort Knox Military Reservation, Hardin County, Kentucky. The entire wooded area west of the Regional Correctional Facility was inspected, but only a limited number of trees will be cut within the timber area. One archaeological site, 15Hd498, was found in the project area but outside the timber harvest area. It is considered potentially eligible for the National Register, but the proposed timber harvest will have no affect on the site. It is recommended that the timber harvest be conducted as proposed.
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INTRODUCTION

In September 1995, the Fort Knox contract archaeology staff performed a Phase I archaeological survey of a proposed timber harvest area near the west edge of the Regional Correctional Facility (RCF) on the Fort Knox Military Reservation, Hardin County, Kentucky (Figures 1 and 2). The area to be harvested is approximately 25 m (80 feet) wide and 122 m (400 feet) long, encompassing approximately 0.30 ha (0.74 acres) immediately adjacent to the RCF perimeter road. Only selected trees will be cut. Because the archaeologists are attempting to cover larger areas when their schedule permits, so as to complete the survey of contiguous areas with well-defined boundaries while writing fewer reports, additional acreage adjoining the proposed timber harvest area was surveyed. The total area surveyed is 580 m long and 325 m wide, encompassing approximately 6.7 ha (16.5 acres). The complete area surveyed is bounded to the east by the fence and perimeter road of the RCF, to the south by an open area which is the former location of a railroad spur, to the west by railroad tracks, and to the north by Gold Vault Road.

All documents needed to perform basic Phase I literature searches for the installation (e.g., site forms, reports of previous investigations, historic maps) are on file at the Cultural Resource Management office of the Directorate of Public Works (DPW), Fort Knox, and are updated on a regular basis. No file check therefore was made with the Office of State Archaeology (OSA) and the Kentucky Heritage Council specifically for this project. A literature search revealed that the project area had not been previously surveyed; therefore, the entire project area was field inspected.

The project area is in the Plain section of the Penny-rile cultural landscape, in the undulating upland karst plain. Elevations in the project area range from 726 to 756 feet. Soils are classified as Crider-Vertrees soil association (U.S.D.A. 1975: General Soil Map). The wooded area is in the cantonment area. Before urban development and alteration of drainage patterns, drainage in the project area was into the headwaters of Mill Creek.

The archaeological survey was conducted in preparation for the removal of selected trees from the wooded area directly west of the Regional Correctional Facility. The literature review and archaeological survey were required to comply with the National Environmental Protection 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), Executive Order 11593, and Army Regulation 420-40.

The project area was surveyed on September 14, 1995, by Schenian and Mocas. A total of 3.0 person hours were spent
Figure 1. Location of Project Area.
Figure 2. Project Area and Proposed Timber Area.
surveying the project area. The materials collected from 15Hd498 and the project documentation will be curated at the University of Louisville Program of Archaeology, on a "permanent loan" basis, under contract number DABT 23-95-C-0102, for curatorial and technical support. Duplicate copies of the documentation will be stored at DPW.

SETTING AND ENVIRONMENTAL BACKGROUND

O'Malley et al. (1980) prepared a detailed description of the setting and environmental background of the Fort Knox base as a whole. This section will focus on the topographic characteristics of the current survey area.

The project area lies in the Mississippian Plateau physiographic region of Kentucky (McGrain and Currens 1978:35). The survey area comprises a narrow drainage and the land on either side of it in the undulating karst plain. Elevations in the project area range from 726 to 756 feet. Soils are classified as Crider-Vertrees soil association (U.S.D.A. 1975: General Soil Map). Crider silt loam is found primarily on ridge slopes, and Nicholson silt loam primarily on ridge tops (Arms et al. 1979: Map 3). Prior to the urban development of the area, drainage in the project area would have been into sinkholes and the headwaters of Mill Creek, but is now into sinkholes and storm drains.

The proposed timber area lies in a wooded area previously used for tank training. The shovel probes had soil profiles with a considerable mixture of soil layers. The area north of the woods has been thoroughly borrowed and reshaped, with much of the surface covered by cinders and gravel. The area south of the woods had been bulldozed to a depth of 1.5-2.0 m below ground surface when the railroad spur was constructed or removed. The west edge of the woods is bordered by railroad tracks resting on a berm created by fill borrowed from the surrounding area. The area east of the woods has been landscaped for the Regional Correctional Facility and North Dietz Acres residential area. The only portion of the project area that appeared to have a relatively unmodified ground surface was in the vicinity of the North Dietz playground.

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. This section focuses on the previous research conducted within a 2 km radius of the current project area.

No portion of the project area had been previously surveyed, but several nearby areas had been examined. O'Malley et al. (1980) surveyed approximately one-quarter each of Hunting Areas (HA) 15 and 72 near the current project area. Site 15Hd215, a small prehistoric lithic scatter not eligible for the National Register, was the only site in HA 15 recorded by O'Malley et al. that lies within 2 km of the project area. No sites were found in HA 72 within 2 km of the project area. Fiegel (1982) surveyed the Radcliff Industrial Park access road, including land in HA 15, but recorded no sites within 2 km of the project area.

Schenian and Mocas (1994b) surveyed approximately 53.5 ha (132.2 acres) that been proposed for construction of new residences in the proposed Prichard Place Replacement project, recording only one prehistoric isolated find. Schenian and Mocas (1994c) surveyed approximately 0.22 ha (0.50 acres) for the proposed water pipeline on the Anderson golf course and an adjacent area 1.50 ha (3.70 acres). One site, 15Hd495, was recorded during the survey. The Campbell-Bennett site is a late nineteenth to mid twentieth century historic site, which is not eligible for the National Register due to previous disturbance.

No archaeological sites listed on or eligible for listing on the National Register of Historic Places are located in or immediately adjacent to the current project area. No buildings listed on or determined to be eligible for the National Register lie within the current project area or its viewshed. A historic district eligible for the National Register has been identified within the cantonment area (Grandine et al. 1995), but it is not visible from the project area. The Regional Correctional Facility buildings date from 1953 to 1980, and the houses in the North Dietz Acres neighborhood were built in 1962.

### 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 project area is bounded by a railroad track, a residential neighborhood, a former railroad spur, and the RCF; therefore, some disturbance is expected.

2) The project area is on a hilltop above several small drainages, thus there is a possibility that
prehistoric activity or habitation occurred in the area.

3) The project area lies on the former property of Julia Corbett, whose house and outbuildings were in the area on which the RCF now stands. Evidence of historic structures are, therefore, not expected within the project area.

FIELD METHODS

The woods in the project area were systematically walked in transects spaced approximately 10 m apart. The woods contained scattered large trees, with an understory that consisted primarily of scattered spindly weeds and saplings. Some brambles and vines also were present near the edges of the woods. Fallen leaf cover was present throughout the area. Much of the ground surface could be examined by scraping aside the leaves or by examining game trails and rodent burrows.

Shovel probes were excavated where visibility was restricted for greater than 10 m within a transect and there was no clear surface evidence for prior disturbance (e.g., bulldozer piles). Each shovel test was approximately 30 cm square at the ground surface and excavated until subsoil was encountered. The fill was trowel sorted prior to the back-filling of the probe.

The open area between the north end of the woods and Gold Vault Road was in grass, with nearly zero percent ground surface visibility. All high probability areas for prehistoric sites (i.e., ridge tops and upper slopes) in this grassy area were carefully examined. If vegetation obscured the ground surface for more than 10 m within a transect, then a shovel probe was excavated. This grassy area was found to have been completely disturbed by borrowing. Much of the surface also had been covered with cinders and gravel after it was borrowed.

The open area south of the woods was in mowed patchy grass, with 50 to nearly 100 percent ground surface visibility. Subsoil was present at the ground surface throughout most of this area. Inspection of the margin of the woods and this grassy area showed that up to 2 m of fill had been removed from this area, either during the construction or removal of the railroad spur.

Prehistoric cultural materials were recovered from the ground surface of the dirt path circling the North Dietz playground (Figure B-3). The exposed ground was surface collected at 1 m intervals and all cultural materials were collected. Most of the playground surface is covered by a
dense layer of wood chips and could not be examined. No
shovel probes were excavated in this area because of the
potential danger to children at the playground. Because the
site lies outside the proposed timber harvest area, because
the wood chip layer protects the majority of the potential
site area, and because there is a low probability of distur-
bance in the small exposed portion of the site, it also was
decided that this site was not in immediate danger of dis-
turbance and did not require extensive examination at this
time. A small area (trowel-length wide) of the upper slope
cutbank was scraped, however, to examine the soil profile of
the site. This soil profile showed that approximately 5 cm
of intact topsoil is present along the south margin of the
site and suggests that up to a 15 cm layer of topsoil caps
the portion of the site on the top of the knoll. No arti-
facts were found in the trowel scrapings.

The vegetated area immediately south of the former rail-
road spur area were briefly examined to determine if rem-
nants of the site existed on the other side of the borrowed
area. This vegetated area was in cedars and scrub growth,
with approximately 30 percent ground surface visibility.
The walkover determined that the borrowing and disturbance
related to the railroad spur continued at least 10 m into
the woods, and ended on a moderately steep slope. No arti-
facts were observed in this scrub area, and the depth of the
borrowing and disturbance makes intact cultural deposits
unlikely, if the site ever extended into this area.

In summary, archaeological materials were recovered from
one site, which lies outside the proposed timber harvest
area. This site has been assigned state site number 15Hd498.

ARTIFACT TYPOLOGY AND MATERIALS RECOVERED

The following paragraphs summarize the artifact defini-
tions used in the sorting and analysis of the materials col-
lected from 15Hd498.

Biface

A biface is a chipped stone tool with flakes removed
from two opposite sides along one or more edges. There is
considerable variety in the size, shape, and precision of
chipping of bifaces.

Chert Debitage

Chert debitage is a category used to describe the lithic
debris created as a by-product of the manufacture of more
formally defined chipped stone tools. Debitage is divided
into utilized flakes, non-utilized flakes, blocky chert pieces, and chert shatter. Non-utilized flakes are classified by stage of manufacture, and utilized flakes by evidence for use as an informal, or expedient, tool. The following criteria were used to sort the chert debitage in this study:

1) Flakes have a striking platform and a bulb of percussion. Concentric rings or ripple marks on the ventral surface and feather terminations also may be present. Primary flakes have 90 percent or more of the dorsal surface (the side opposite the bulb of percussion) covered by cortex or rind; secondary flakes have one to 90 percent of the dorsal surface covered by cortex; and tertiary flakes have no cortex present on the dorsal surface.

2) Shatter is a flat, generally small, chert piece exhibiting some flake-like characteristics, which is insufficiently complete to classify it as a primary, secondary or tertiary flake.

3) A blocky chert piece is an angular chert piece lacking flake-like characteristics and lacking evidence of having served as a core.

4) Utilized chert debitage has at least three contiguous small flakes removed from one or more edges by use rather than retouch.

One biface fragment and 13 pieces of chert debitage were collected from the surface of 15Hd498. The biface fragment is a distal portion. The 13 pieces of chert debitage consist of one utilized tertiary flake with lateral use wear, two primary flakes, two secondary flakes, three tertiary flakes, two blocky flakes, and three pieces of shatter.

CULTURAL RESOURCE

15Hd498

Site 15Hd498 is a lithic scatter of indeterminate prehistoric cultural-temporal affiliation. It is located in the North Dietz playground. Most of the ground surface around the playground equipment is covered by a thick layer of wood chips, which prevented examination of the ground surface. Cultural materials were found over a 14 m (east-west) by 5 m, or 70 m^2, area on the cutbank on the south side of the knoll on which the playground is located and in the dirt path which circles the playground on the knoll top. The cultural materials recovered consist of one biface tip, one utilized flake, and 12 unmodified flakes.
Since the cultural materials extended to the edge of the playground equipment area, it is assumed that the site continues under the wood chips. If so, some postholes for the legs of the playground equipment probably intrude into the site. The site has been truncated to the south by the removal of fill to a depth approximately 2 m below the original ground surface for a railroad spur which no longer exists. The edge of the woods to the south of the former railroad spur were examined, but no evidence was found that the site continued into this area. Scraping of the cutbank on the south side of the playground knoll revealed that the site has at least 5 cm, and probably up to 15 cm of intact topsoil on it, with the exception of a narrow vehicle path on the southwest margin of the site which is eroded to subsoil in places.

Site 15Hd498 is considered potentially eligible for the National Register, primarily because it was not possible to examine the entire surface or the subsurface characteristics due to its location in a playground that is partially covered with a thick layer of wood chips. The presence of an intact topsoil zone, and the density of materials in the limited exposed area of a high traffic area, suggests that there is some potential for intact subsurface features on the site. This site is also one of the few known prehistoric sites in the karst plain portion of the installation, and is the only one that the authors are aware of that has intact topsoil, so even the recovery of diagnostics or study of topsoil zone materials would add information about this site type.

CONCLUSIONS AND RECOMMENDATIONS

The Phase I literature search determined that the project area had not been previously inspected; therefore, the woods and the surrounding area was field inspected during the present project. No sites were found within the proposed timber harvest area. One prehistoric archaeological site, 15Hd498, was discovered outside the proposed timber area. Site 15Hd498 is considered potentially eligible for the National Register due to field conditions not conducive to its complete assessment. The site is outside the proposed timber harvest area, however, and the proposed timbering will have no affect on the site. It is recommended that the installation conduct the timber harvest as proposed.

Although there is some erosion along the south margin of site 15Hd498, it appears that Fort Knox has already attempted to control erosion of the knoll by planting grass on the slope and installing a treated wood stair case on the southeast knoll slope. Foot traffic on the dirt path has compacted the knoll top and upper slope as well, further reducing the rate of erosion. A portion of the site also
apparently is protected by the layer of wood chips and is considered to be safe from adverse impacts. No further work at 15Hd498 is recommended in conjunction with the proposed timber harvest. The site should be periodically revisited after especially heavy rainstorms to recover more materials, and hopefully diagnostics, from the site. Projectile points and other complete formal tools are very likely to disappear from this site soon after exposure. This site will be kept in mind for a potential public archaeology 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) must be contacted, so representatives of those agencies may evaluate the materials. 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.
REFERENCES CITED

Arms, Fred S., Michael J. Mitchell, Frank C. Watts, and Byron L. Wilson

Fiegel, Kurt H.

Grandine, Katherine, Leo Hirrel, Deborah Cannan, and Hampton Tucker

McGrain, Preston, and James C. Currens

O'Malley, Nancy, Boyce Driskell, Julie Riesenweber, and Richard Levy
1980 Stage I Archaeological Investigations at Fort Knox, Kentucky. Archaeological Report No. 16, Department of Anthropology, University of Kentucky, Lexington.

Schenian, Pamela A., and Stephen T. Mocas


United States Geological Survey
1991 Fort Knox, Kentucky-Indiana, 7.5 Minute Topographic Quadrangle.
APPENDIX A.

RESUMES OF KEY PERSONNEL
Pamela A. Schenian  
Contract Staff Archaeologist

Office Address: Directorate of Public Works  
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U.S. Army Armor Center and Fort Knox  
Fort Knox, Kentucky 40121-5000

Phone: (502) 624-6581

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

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

Education:  
M.A. in Anthropology, Northwestern University, 1982.  

Previous Employment:  
Senior Staff Archaeologist, Archeology Service Center,  
Department of Sociology, Anthropology, and Social Work, Murray State University, Murray, KY, November 1991-June 1993;  
Illinois State Museum Society, Springfield, IL: Field Assistant II (Supervisor), summer 1983; Field Technician, summer 1981.  
Center for American Archeology, Kamps ville, 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 archaeological projects in the states of Illinois, Indiana, Kentucky, New Jersey, South Dakota, Tennessee, and Wisconsin, 1979-present.

Professional Publications, Reports, Papers and Manuscripts: 106 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".  
Manuscript submitted in partial fulfillment of the M.A. requirements: "Models of Environmental-Cultural Relationships: Testing with Archeological Evidence".
Stephen T. Mocas
Contract Assistant Staff Archaeologist

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Present Position: University of Louisville Program of Archaeology/Fort Knox Contract Assistant Staff Archeologist

Education:
Completed one year of doctoral program, Southern Illinois University, Carbondale, Illinois, 1972.
B.A. in Anthropology, University of Louisville, 1971.

Previous Employment:
Indiana University, Bloomington, Indiana: Staff Archaeologist, Part-time September 1991-Present.
Murray State University, Murray Kentucky: Staff Archaeologist, November 1991-November 1993.
Louisville School of Art, Louisville, Kentucky: Anthropology Instructor, January-May 1976.
University of Louisville Archaeological Survey, Louisville, Kentucky. Project Director, Field Supervisor, or Research Assistant on various projects, July 1969-January 1977.

Field Research Experience:

Research Grants:
Six grants for fieldwork and research.

Professional Publications, Reports, Papers and Manuscripts:
5 Non-contract site reports on projects.
26 CRM contract reports on projects.
5 Chapters in additional site reports.
5 Publications.