

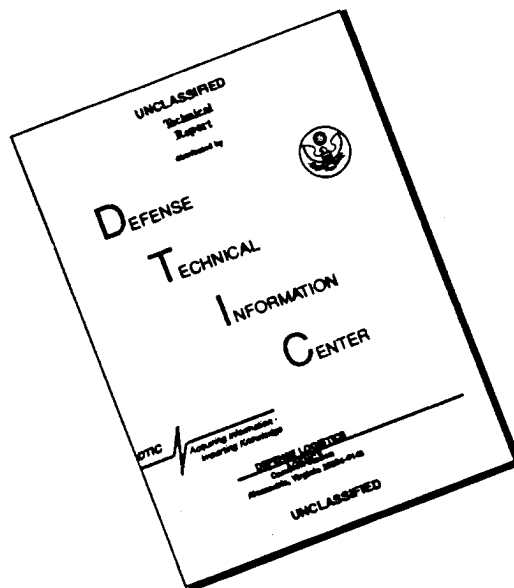
"A Phase I Archaeological Survey of Three
Proposed Borrow Pits for Cedar Creek Range on
the Fort Knox Military Reservation, Hardin
County, Kentucky" by Pamela A. Schenian and
Stephen T. Mocas, Fort Knox. June 1996.

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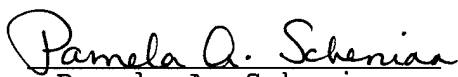
REPORT DOCUMENTATION PAGE	1. REPORT NO.	2.	3. Recipient's Accession No.
4. Title and Subtitle A Phase I Archaeological Survey of Three Proposed Borrow Pits for Cedar Creek Range on the Fort Knox Military Reservation, Hardin County, Kentucky		5. Report Date June 1996	6.
7. Author(s) Pamela A. Schenian and Stephen T. Mocas		8. Performing Organization Rept. No.	
9. Performing Organization Name and Address Directorate of Public Works ATTN: ATZK-PWE (Archaeology) U.S. Army Armor Center and Fort Knox Fort Knox, Kentucky 40121-5000		10. Project/Task/Work Unit No.	11. Contract(C) or Grant(G) No. (C) DACW65-93-D-0039 and (G) DABT23-95-C-0102
12. Sponsoring Organization Name and Address Directorate of Public Works ATTN: ATZK-PWE (Archaeology) U.S. Army Armor Center and Fort Knox Fort Knox, Kentucky 40121-5000		13. Type of Report & Period Covered Final, April-June 1996	
14.		14.	
15. Supplementary Notes The Cultural Resource Management office of the Directorate of Public Works is staffed by outside contractors employed by J.M. Waller Associates, Inc., 9249 Old Keene Mill Road, Burke, Va 22015-4202 (contract DACW65-93-D-0039) or Program of Archaeology, University of Louisville, Louisville, KY 40292 (contract DABT23-95-C-0102)			
16. Abstract (Limit 200 words) In April 1996, the Fort Knox contract archaeology staff conducted a Phase I survey of three proposed borrow areas on Cedar Creek Range, Hardin County, Kentucky. The borrow areas encompass 4.0 ha (10 acres). Four sites were recorded in the survey. Site 15Hd523, in Borrow Area 1, and 15Hd526, in Borrow Area 3, are lithic scatters of indeterminate prehistoric affiliation. Site 15Hd524 in Borrow Area 1 and 15Hd525 near Borrow Area 1 are nineteenth or twentieth century historic sites. Due to previous disturbance, 15Hd523, 15Hd525, and 15Hd526 are not eligible for the National Register, and no further archaeological investigation is recommended for them. Site 15Hd524 is potentially eligible for the National Register. It should be avoided, because of its archaeological potential and proximity to a creek. If 15Hd524 cannot be avoided, additional archaeological research must be conducted prior to borrowing activities to assess more fully its National Register status. If 15Hd524 is avoided or impacts mitigated through additional archaeological research, then it is recommended that the borrowing be conducted as proposed. Cedar Creek Cemetery is near Borrow Area 3. The cemetery is bermed and fenced. No impact to the cemetery is expected due to the proposed borrowing activities.			
17. Document Analysis a. Descriptors b. Identifiers/Open-Ended Terms Fort Knox Hardin County, Kentucky Archaeology c. COSATI Field/Group			
18. Availability Statement Release Unlimited		19. Security Class (This Report) Unclassified	21. No. of Pages iv+23=27
		20. Security Class (This Page) Unclassified	22. Price

A Phase I Archaeological Survey
of Three Proposed Borrow Pits for Cedar Creek Range
on the Fort Knox Military Reservation,
Hardin County, Kentucky

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ABSTRACT

In April 1996, the Fort Knox contract archaeology staff conducted a Phase I survey of three proposed borrow areas on Cedar Creek Range, Hardin County, Kentucky. The borrow areas encompass 4.0 ha (10 acres). Four archaeological sites were recorded in the survey. Site 15Hd523, in Borrow Area 1, and 15Hd526, in Borrow Area 3, are lithic scatters of indeterminate prehistoric affiliation. Sites 15Hd524 in Borrow Area 1 and 15Hd525 near Borrow Area 1 are nineteenth or twentieth century historic sites.

Due to previous disturbance, 15Hd523, 15Hd525, and 15Hd526 are not eligible for the National Register, and no further archaeological investigation is recommended for them. Site 15Hd524 is potentially eligible for the National Register. It should be avoided, because of its archaeological potential and proximity to a creek. If 15Hd524 cannot be avoided, additional archaeological research must be conducted prior to borrowing activities to assess more fully its National Register status. If 15Hd524 is avoided or impacts mitigated through additional archaeological research, then it is recommended that the borrowing be conducted as proposed.

Cedar Creek Cemetery is near Borrow Area 3. The cemetery is bermed and fenced. No impact to the cemetery is expected due to the proposed borrowing activities.

MANAGEMENT SUMMARY

In accordance with Army Regulation 420-40 and other federal laws and regulations, the Fort Knox contract archaeology staff conducted a Phase I archaeological survey of three proposed borrow areas for the Cedar Creek Range on the Fort Knox Military Reservation, Hardin County, Kentucky. Two sites, 15Hd523 and 15Hd524, were found in Borrow Area 1, and 15Hd525 nearby. 15Hd526 was recorded in Borrow Area 3 and Cedar Creek Cemetery is located nearby. No sites were recorded in Borrow Area 2. Sites 15Hd523, 15Hd525, and 15Hd526 are not eligible for the National Register and no further archaeological investigation is required of these sites. Cedar Creek Cemetery is separated from Borrow Area 3 by a berm and a fence; no impact to the cemetery is expected to occur as a result of the proposed borrowing activities. Site 15Hd524 is potentially eligible for the National Register and should be avoided in the borrowing activities or else the impacts mitigated by conducting further archaeological research prior to the initiation of borrow operations at Borrow Area 1.

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INTRODUCTION

In April 1996, the Fort Knox contract archaeology staff performed a Phase I archaeological survey of three proposed borrow areas for the Cedar Creek Range, Hardin County, Kentucky (Figure 1). Together the borrow areas encompass a total of 4.0 ha (10 acres). The project area boundaries were not marked in any way, and their locations were vaguely indicated to the archaeologists by a range employee. The archaeologists extended the survey beyond the indicated boundaries to encompass all the land between specific roads, drainages, and steep hills that logically could be used for borrow fill.

Borrow Area 1 is on the south side of a drainage that enters the Cedar Creek floodplain from the east. The western portion had been scraped well into subsoil by previous borrow activities and service road building. Almost all the eastern portion had been scraped to the top of the subsoil, and only isolated small patches of intact soil remain. The area is bordered by a service road on the west, a stream on the north, and the bluff line to the south and east.

Borrow Area 2 is on the north side of a drainage that enters the Cedar Creek floodplain on the opposite side of the steep ridge spur that borders Borrow Area 1 on the south. The area had been previously timbered and was scraped and eroded to subsoil. The area is bounded by a service road on the west, a drainage on the south, and the bluff line to the north and east. Survey in Borrow Area 2 was confined to areas with few or no large trees.

Borrow Area 3 is on the north side of a drainage that enters the Cedar Creek floodplain from the west, approximately 1 km south of Borrow Area 1. This area had been scraped to subsoil during previous borrowing activities. The area is bounded by a service road to the east, by Seventh Armored Division Road to the south, by a drainage to the north, and by the bluff line to the west.

All documents needed to perform basic Phase I literature searches for Fort Knox (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 regularly. No file check therefore was made with the Office of State Archaeology and the Kentucky Heritage Council specifically for this project.

The project area is in the Plain section of the Penny-rile cultural landscape, at the edge of the floodplain of Cedar Creek and its tributaries. Elevations in the project areas range from 440 to 460 feet. Soils are classified as Garmon-Frederick association (U.S.D.A. 1975: General Soil

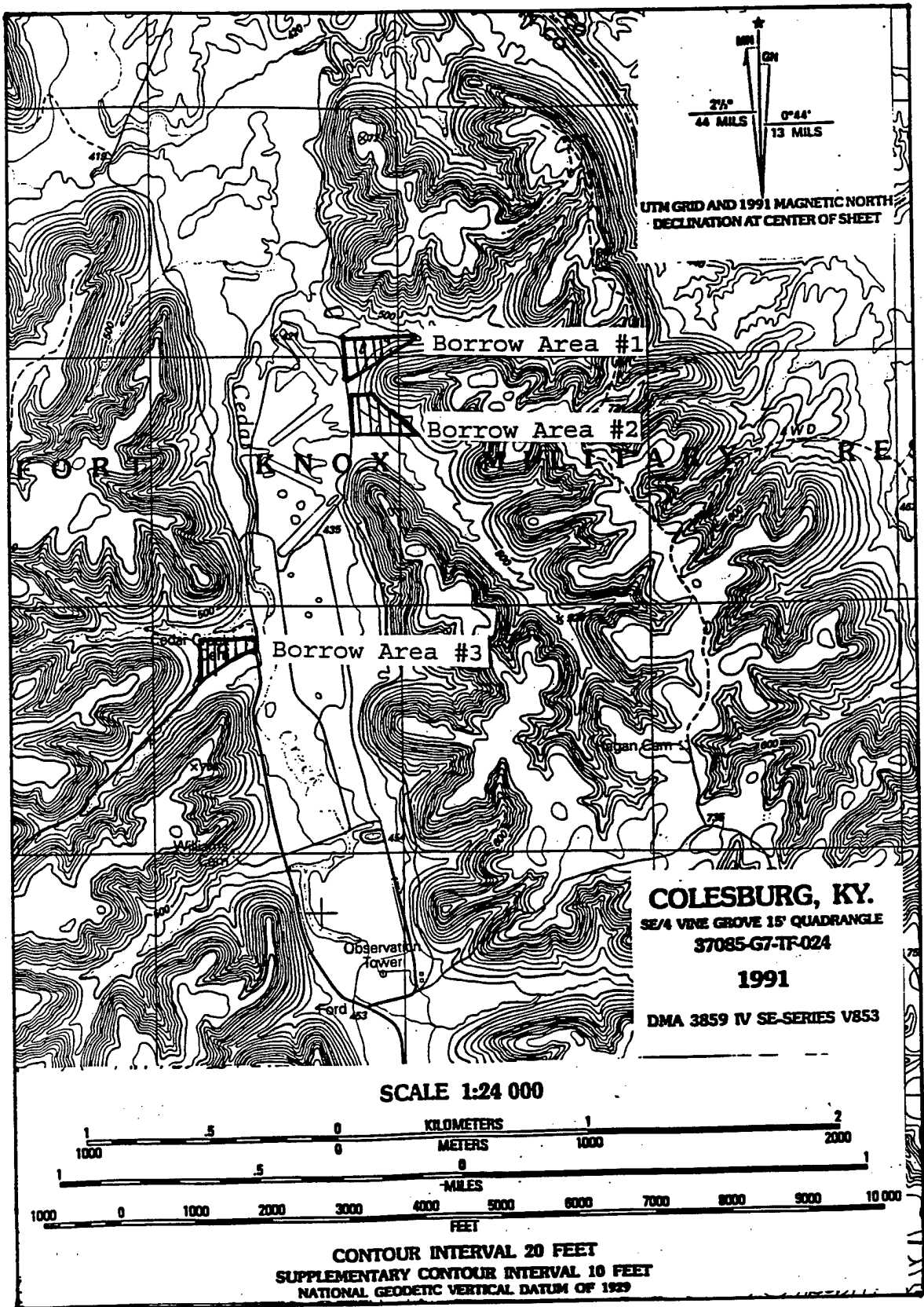


Figure 1. Location of Project Areas.

Map). Drainage in the project areas is into tributaries of Cedar Creek. Cedar Creek is a tributary of the Rolling Fork of the Salt River.

A literature search revealed that none of the project areas had been previously surveyed. The archaeological survey was conducted in preparation for borrowing operations to repair target berms on the Cedar Creek Range. The literature review and archaeological survey 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 (ARPA) of 1979 (Public Law 96-95), Executive Order 11593, and Army Regulation 420-40.

The project area was surveyed on April 2, 1996, by Mocas and Schenian. A total of nine person hours were spent surveying the project areas. The materials collected from the project sites and associated 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 Fort Knox as a whole. This section will focus on the environmental characteristics of the current survey areas.

The project areas lie in the Mississippian Plateau physiographic region of Kentucky (McGrain and Currens 1978:35). The survey areas comprise the low areas of hollows at the base of steep ridges and at the edge of the Cedar Creek floodplain. Elevations in the project areas range from 440 to 460 feet.

Soils are classified as Garmon-Frederick soil association (U.S.D.A. 1975: General Soil Map). McGary silt loam, zero to two percent slope, soils are found in Borrow Areas 1 and 2, while Lenberg-Frondorf complex soils, 20 to 30 percent slope, cover the slightly higher slope on which site 15Hd525 lies. Nicholson silt loam, two to six percent slope, exists in proposed Borrow Area 3 (Arms et al. 1979: Map 9). Drainage in the project area is into tributaries of Cedar Creek, which is a tributary of the Rolling Fork of the Salt River.

PREVIOUS RESEARCH

Approximately 26,534 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 (1994) 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.

O'Malley et al. (1980) surveyed portions of several Hunting Areas (HA) within 2 km of the current project area, recording several sites. Sites 15Hd216-15Hd220 were recorded in HA 70 to the west and northwest of Borrow Areas 1 and 2. Sites 15Hd229-15Hd231 and 15Hd241-15Hd243 were recorded in HA 85 to the east and south of Borrow Area 3. Sites 15Hd221-15Hd225 were recorded in HA 86. The survey of a portion of HA 87 resulted in the recording of no sites. Site 15Hd159 was recorded in HA 88. The later study of additional areas of HA 87 and HA 88 by Schenian and Mocas (1992) resulted in the recording of 15Hd462-15Hd464.

Of the known sites, 15Hd218 is located approximately 150 m west of Borrow Area 1 and 400 m northwest of Borrow Area 2. Site 15Hd252 is located 300 m east of Borrow Area 3 and sites 15Hd229, 15Hd242, and 15Hd243 are located approximately 400 m southeast of Borrow Area 3. All the other sites mentioned above are located farther away from the current project areas.

No archaeological sites near the project area are listed on the National Register or have been formally determined to be eligible for the National Register. No buildings exist in the project areas. No buildings, except the Cedar Creek range buildings, which are of recent construction, lie within the viewshed of the proposed borrow areas. The Cedar Creek Cemetery is located immediately adjacent to the northeast corner of the proposed Borrow Area 3, and is protected by a high berm.

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) All three borrow areas are located in hollows at the foot of ridges and near the point where small drainages enter the Cedar Creek floodplain. These are high potential areas for the location of both prehistoric and historic sites.

- 2) Because of the rich supply of floral and faunal resources, the portion of the project area in the Cedar Creek floodplain is likely to have had pre-historic occupation or at least specialized activity areas.
- 3) Five historic structures are shown in or near Borrow Area 3 on a 1940 Army map. No historic structures are shown in the vicinity of Borrow Areas 1 and 2 on a 1925 oil and gas map (Pirtle and Miller 1925) and this area is blocked out by the legend on the 1940 Army map. There is therefore a high potential for a historic archaeological site in Borrow Area 3, and a moderate potential for historic sites in Borrow Areas 1 and 2.
- 4) The borrow areas are located near Cedar Creek Range, which was revamped in 1993. There is, therefore, some potential for disturbance due to range construction in each area.

FIELD METHODS

Portions of all of the borrow areas had been scraped during previous borrowing activities, and the western end of Borrow Area 1 had been scraped well into the subsoil. Because scrub vegetation covered most of the ground surface, the areas were walked at 10 m intervals and shovel probes were used to ascertain that intact soil no longer was present, except for small, isolated spots within Borrow Area 1. The cultural material retrieved during the project was obtained from disturbed contexts and deflated soils. A large amount of range construction debris, particularly railroad ties, was scattered throughout Borrow Area 1. Tank and wheeled vehicle trails were evident in the borrow areas.

Shovel probes were excavated where visibility was restricted for greater than 10 m within a transect and there was no obvious surface evidence of 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 backfilling of the probe.

Shovel probes were excavated at 15Hd524, which was minimally disturbed. The fill from the shovel probes at 15Hd524 was screened through one-quarter inch mesh prior to the backfilling of the test. No shovel testing was conducted at 15Hd523, 15Hd525, and 15Hd526 because it was evident from the surface inspection that the sites were eroded to subsoil or heavily disturbed.

In summary, four archaeological sites were found in or near the proposed borrow areas. The following sections discuss the archaeological sites and the materials collected or observed at them.

ARTIFACT TYPOLOGY AND MATERIALS RECOVERED

The following paragraphs summarize the artifact definitions used in the sorting and analysis of the materials in this project. Table 1 summarizes the artifacts recovered from the sites. No artifacts were collected from 15Hd524, but limestone slabs were observed on the site surface and in the walls of a historic feature.

Prehistoric Artifact Typology

Biface

A biface is a chipped stone tool that has had flakes removed from two opposite surfaces along one or more edges. There is considerable variety in the size and shape and the refinement of flaking of bifaces. Bifaces may be quarry blanks or tool blanks, preforms for projectile points or other tools, cutting or chopping tools, or may serve other functions. They also represent tools broken or discarded during various stages of manufacture. Two biface fragments were recovered from 15Hd523. One biface may be a projectile point preform and the other biface was discarded during an early stage of manufacture.

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 and retouched flakes, non-utilized flakes, microflakes, blocky chert pieces, and shatter. Non-utilized flakes are classified by stage of manufacture, and utilized and retouched flakes by evidence for use as informal, or expedient, tools. 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;

TABLE 1. Artifacts Collected from the Project Sites.

	15Hd 523	15Hd 524	15Hd 525	15Hd 526	Total
<u>PREHISTORIC ARTIFACTS</u>					
Biface	2	0	0	0	2
Retouched primary flake	1	0	0	0	1
Unutilized debitage					
primary flake	1	0	0	0	1
secondary flake	1	0	0	2	3
tertiary flake	0	0	0	1	1
microflake	1	0	0	0	1
chert shatter	3	0	0	0	3
<u>Prehistoric Artifact Total</u>	9	0	0	3	12
<u>HISTORIC ARTIFACTS</u>					
KITCHEN GROUP					
Ceramics					
whiteware	0	0	9	0	9
semi-porcelain	0	0	3	0	3
Bottle glass					
solarized amethyst	0	0	1	0	1
aqua	0	0	3	0	3
green	0	0	1	0	1
Dish glass					
solarized amethyst	0	0	1	0	1
ARCHITECTURE GROUP					
Brick fragment	0	0	1	0	1
Nails, square cut	0	0	1	0	1
Flat glass (window)	0	0	1	0	1
FURNITURE GROUP					
Flat glass (furniture)	0	0	1	0	1
<u>Historic Artifact Total</u>	0	0	22	0	22
ARTIFACT TOTAL	9	0	22	3	34

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) A microflake is a complete flake less than 6 mm in length and, generally, is the product of fine retouch or resharpening of a tool.
- 5) Utilized chert flakes have at least three contiguous small flakes removed from one or more edges by use rather than retouch. Retouched flakes show localized removal of a small number of flakes to produce a specialized cutting, scraping, or perforating edge.

Six non-utilized flakes and one retouched flake were collected from 15Hd523. The retouched primary flake had bilateral and transverse and bifacial retouch that may have been preparation for further reduction. The debitage sample consisted of a primary flake, a secondary flake, a microflake, and three pieces of chert shatter. The size and shape of these flakes suggest they derive from some special activity rather than from early stage lithic manufacture. Two secondary flakes and a tertiary flake were recovered from 15Hd526.

Historic Artifact Typology

South (1977:95-95) defined a system of artifact classification based on function. Under South's system, for example, ceramics are kitchen group artifacts, nails are architectural group artifacts, and horseshoes are transportation group artifacts.

KITCHEN GROUP

Ceramics

Historic ceramics are divided into coarse earthenware, stoneware, ironstone, refined earthenware, semi-porcelain, and porcelain. Coarse and refined earthenware have the most porous paste, stoneware and ironstone have less porous paste, and semi-porcelain and porcelain have the least

porous paste. Each of these broad categories is further divided into more specific types based on paste texture and color, glaze characteristics, and decoration (Maples 1991).

Whiteware is one form of refined earthenware. Nine whiteware sherds were recovered from 15Hd525. Five of the whiteware sherds are undecorated body sherds and two are undecorated base sherds. One more base sherd has a partial maker's mark of a wreath plus the lettering "...E". A wreath was used in several pottery firms' marks, and the mark could not be identified. One additional sherd is an unscaloped rim sherd with painted blue shell-edge without relief or impressed decoration. This type of shell-edge dates from 1850 to 1897 (Miller 1989).

Three semi-porcelain sherds were recovered from 15Hd525. Semi-porcelain dates from 1880 to present (Worthy 1983:337). The sherds consist of one thick base, one plain base, and one base sherd with a pink floral transfer print.

Bottle Glass

One piece of solarized amethyst bottle glass, three pieces of aqua bottle glass, and one piece of green bottle glass were recovered from 15Hd525. Solarized amethyst glass dates from ca. 1880 to 1914 (Newman 1970:70-75) and green glass from 1865 to present (Fike 1987:13). Aqua glass does not have a specific date range. The green bottle fragment is a based marked "VI". The aqua pieces are two body sherds and one fragment of a screw-top rim, all from canning jars.

Dish Glass

One piece of solarized amethyst cut dish glass was recovered from 15Hd525. Like bottle glass, amethyst dish glass dates from ca. 1880 to 1914. The cut dish pattern could not be identified.

ARCHITECTURE GROUP

Brick Fragment

One brick fragment was recovered from 15Hd525. Additional fragments and whole bricks were observed on the site, but not collected.

Nail

One square cut nail was recovered from 15Hd525. Cut nails date from 1790-1880 (Smith 1975-5:7).

Flat Glass (window)

One piece of clear flat glass was recovered from 15Hd525. It is probably from a window. Clear glass dates from 1875 to present (Fike 1987:13).

FURNITURE GROUP

Flat Glass (furniture)

One piece of greenish, thick (6 mm) flat glass was recovered from 15Hd525. This is probably from a table top.

CULTURAL RESOURCES

15Hd523

Site 15Hd523 lies at an elevation of 450 feet on a knoll above the floodplain of Cedar Creek (Figures B-1 and B-2). The nearest water source is an unnamed intermittent tributary of Cedar Creek located 70 m away. A total of nine pre-historic materials (two bifaces, six non-utilized flakes, and one retouched flake) were collected from a 20 m (north-south) by 5 m, or 100 m², area. The materials were found near the boundary of a previously borrowed area, which was in grass, with an area in scrub. Most of the scrub area had been borrowed to the top of the subsoil zone and was disturbed by tank training and erosion. Only small, isolated areas of topsoil remained. These isolated areas of topsoil were not large enough to contain potentially intact deposits that would not have been exposed in adjoining eroded areas as well.

Site 15Hd523 is not eligible for the National Register due to previous disturbance. Much of the site vicinity had been borrowed to several feet below the original ground surface. The adjoining area had been heavily rutted and eroded by tank training and earthmoving machinery. No additional archaeological research is recommended for 15Hd523.

15Hd524

Site 15Hd524 is at an elevation of 450 feet on the bank of an intermittent tributary of Cedar Creek, which immediately adjoins the site (Figures B-1 and B-2). The site is centered on a deep (2 m) subsurface feature approximately 5 m in diameter that is partially lined with limestone slabs. Scattered limestone slabs lie on the ground surface for approximately 4 m beyond the feature. Some limestone slabs appeared to have remnants of concrete facing. The site area

is 10 m by 10 m, or 100 m². Shovel probes encountered more slabs buried under the humic layer, preventing further excavation. Other than these slabs, no artifacts were observed in shovel probes or on the ground surface. The slabs were not collected. The function of this site is unknown.

The site has been assigned a nineteenth century date based on the appearance of the feature and the weathered condition of the limestone slabs. This site was on a 486.40 tract acquired by the Army from Grover C. Burnett and wife in the early 1940's. No building is shown at this location on a 1925 oil and gas map, suggesting it was already in ruins by this time.

The site is potentially eligible for the National Register due to the presence of an intact feature. More archival and field research would be necessary to assess fully the National Register eligibility. Because the site is immediately adjacent to a stream, the site area has to be avoided in the borrowing activities for reasons related to Clean Water Act and Section 404 Stream permit requirements. No impact to 15Hd524 is therefore expected to occur as a result of the proposed borrowing operations at Borrow Area 1. Additional archaeological research, including archival research, is recommended for 15Hd524 if earthmoving activities are planned for the site vicinity in the future.

15Hd525

Site 15Hd525 is located outside any of the three borrow areas (Figures B-1 and B-2). It was inspected primarily because the stand of daffodils alerted the crew that a historic site probably existed.

Site 15Hd525 is located at an elevation of 460 feet on a hillside located 40 m north of a tributary of Cedar Creek and 120 m east of Cedar Creek. Historic artifacts were collected over 40 m by 70 m, or 2800 m², area on both sides of a gravel range road. The site was in dense grass with stands of daffodils. Borrowing spoil piles were obvious despite the dense grass, and all bare patches were to subsoil. It appears that the former house location was east of the road, but associated materials were smeared across the road by range construction. The site was on a 132.30 acre tract purchased by the Army from Lucy A. Deats and others in the early 1940's. The artifact assemblage suggests a ca. 1850 to ca. 1920 date.

No shovel testing was conducted at 15Hd525. The portion of the site west of the road was located in the Cedar Creek Range impact area, where shovel testing is prohibited. The bulldozer piles and patches of bare ground showing subsoil at ground surface strongly indicated that there was little or no potential for intact cultural deposits. The east por-

tion of the site was clearly borrowed and eroded to subsoil, so no shovel testing was needed there. Site 15Hd525 is not eligible for the National Register because it has been severely disturbed by borrowing and range construction. No additional archaeological work is recommended for 15Hd525.

15Hd526

Site 15Hd526 is located at an elevation of 445 feet. Three chert flakes were recovered from a 20 by 20 m, or 400 m², area on a low bank of a tributary of Cedar Creek (Figures B-1 and B-3). The intermittent stream was 40 m from the find area. The site had been scraped to subsoil. Visibility was nearly 100 percent in the find area. Adjoining areas were vegetated in scrub but had obviously been disturbed by borrowing activities. There were numerous bulldozer piles in the scrub areas. No shovel testing was conducted at 15Hd526 because subsoil was present at the ground surface.

Site 15Hd526 is not eligible for the National Register because it has been scraped to subsoil and no evidence was observed of potential subsurface features. No additional archaeological investigation is recommended for 15Hd526.

Cedar Creek Cemetery

Cedar Creek Cemetery, or Cemetery #34, is located immediately northeast of Borrow Area 3 (Figure B-1). The cemetery contains over 100 marked graves. The cemetery has a chain link fence around it and is separated from proposed Borrow Area 3 by a berm several meters tall. No impact to the cemetery is expected to occur as a result of the proposed borrowing activities.

CONCLUSIONS AND RECOMMENDATIONS

The Phase I literature search determined that none of the proposed borrow areas had been previously inspected. All of the project areas, therefore, were examined during the present project. An additional area across the creek from Borrow Area 1 was inspected because a stand of daffodils was present, suggesting that a historic site might be located there.

Two archaeological sites, 15Hd523 and 15Hd524 were found in Borrow Area 1. Site 15Hd525 was discovered outside of Borrow Area 1. No sites were found in Borrow Area 2. Site 15Hd526 was recorded in Borrow Area 3.

Sites 15Hd523 and 15Hd526 area small lithic scatters of indeterminate prehistoric cultural-temporal affiliation. They are not eligible for the National Register due to previous disturbance by range construction and cemetery berm construction, respectively. No additional archaeological work is recommended at 15Hd523 or 15Hd526.

Site 15Hd525 is a farmstead of mid-nineteenth to mid-twentieth century occupation. It has been heavily disturbed by range construction, and is not eligible for the National Register. It is outside any of the proposed borrow areas. No additional archaeological work is recommended for 15Hd525.

Site 15Hd524 is a historic site of unknown function, which appears to date to the nineteenth century. It is considered potentially eligible for the National Register, because of the presence of an intact feature. Additional archival and field research would be necessary to determine its function. Site 15Hd524 should be avoided in the borrowing operations both because of its archaeological potential and because of its proximity to a drainage.

Cedar Creek Cemetery is located near proposed Borrow Area 3. No impact to the cemetery is expected because of the borrowing activities because the cemetery is separated from the proposed borrow areas by a fence and a berm.

No evidence was found of the five structures that were located in the vicinity of Borrow Area 3 on a 1940 Army map. It is assumed that all evidence of these structures was destroyed by previous borrowing activities in this area for the construction of the berm around Cedar Creek Cemetery.

In the remote possibility that archaeological materials are discovered during the borrowing operations, 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) 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
1979 Soil Survey of Hardin and Larue Counties, Kentucky.
U.S. Department of Agriculture, Washington, D.C.
- Fike, Richard E.
1987 The Bottle Book. A Comprehensive Guide to Historic,
Embossed Medicine Bottles. Gibbs M. Smith, Salt Lake
City.
- Maples, Trina
1991 Procedures for Cataloguing Historic Materials. 1991
Update. Program of Archaeology, University of Louis-
ville, Louisville.
- McGrain, Preston, and James C. Currens
1978 Topography of Kentucky. Kentucky Geological Survey
Series X. Special Publication 25. University of
Kentucky, Lexington.
- Miller, George L.
1989 Date Ranges for the Time Periods of Highest Popula-
rity and Production for the Different Types of Shell
Edge Decorated Pearl and White. Handout for the
Eighteenth and Nineteenth Century Ceramics Class,
Cincinnati, Ohio, March 1989.
- Newman, Stell T.
1970 A Dating Key for Post-Eighteenth Century Bottles.
Historical Archaeology 4:70-75.
- 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.
- Pirtle, George W. and Raymond Miller
1925 Map of Hardin County, Kentucky: Oil and Gas Develop-
ment. Kentucky Geological Survey, Frankfort.
- Schenian, Pamela A., and Stephen T. Mocas
1992 A Phase I Archeological Survey of ca. 600 Acres and
Site Flagging in ca. 300 Acres in Various Timber
Areas on the Fort Knox Military Reservation, Hardin
and Meade Counties, Kentucky. Murray State Univers-
ity, Murray.
- 1994 A Phase I Archaeological Survey of the Fall 1994
Rehab Areas on the Fort Knox Military Reservation,
Meade County, Kentucky. Directorate of Public
Works, Fort Knox.

- Smith, H.R. Bradley
1975 Chronological Development of Nails Supplement to
Blacksmith's and Farriers' Tools at Shelburne
Museum. Museum Pamphlet Series, No. 7:1-10, Shel-
burne, Vermont.
- South, Stanley
1977 Method and Theory in Historical Archeology. Academic
Press, New York.
- United States Department of Agriculture
1975 General Soil Map of Kentucky. Soil Conservation
Service, Washington, D. C.
- United States Geological Survey
1991 Colesburg, Kentucky, 7.5 Minute Topographic Quad-
rangle.
- Worthy, Linda H.
1980 Classification and Interpretation of Late 19th and
Early 20th Century Ceramics. Archaeology of Urban
America: The Search for Pattern and Process, Roy S.
Dickens, Jr., editor, Academic Press, New York.

APPENDIX A.
RESUMES OF KEY PERSONNEL

Pamela A. Schenian
Staff Archaeologist and Project Principal Investigator

Office Address: Directorate of Public Works
ATTN: ATZK-DPW (Schenian)
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:

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 archaeological projects in Illinois, Indiana, Kentucky, New Jersey, South Dakota, Tennessee, and Wisconsin, 1979-present.

Professional Publications, Reports, Papers and Manuscripts:
111 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.

6 Publications.

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".

Stephen T. Mocas
Contract Assistant Staff Archaeologist

Office Address: Directorate of Public Works
ATTN: ATZK-DPW (Mocas)
U.S. Army Armor Center and Fort Knox
Fort Knox, Kentucky 40121-5000
Phone: (502) 624-6581

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.

Fort Knox/University of Louisville: Contract Assistant Staff Archaeologist, November 1993-December 1994.

Murray State University, Murray Kentucky: Staff Archaeologist, November 1991-November 1993.

Jefferson Community College, Louisville, Kentucky. Anthropology Instructor, August 1981-December 1982.

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.

State University of New York of Buffalo, Buffalo, New York. Senior Field Worker, June-August 1970.

Field Research Experience:

Field experience, Phase I-III, prehistoric and historic archaeological projects in the states of Illinois, Indiana, Kentucky, New York, and Tennessee, 1969-present.

Research Grants:

Six grants for fieldwork and research.

Professional Publications, Reports, Papers and Manuscripts:

2 Non-contract site reports on projects.

32 CRM contract reports on projects.

6 Chapters in additional site reports.

5 Publications.

APPENDIX B.
LOCATIONS OF CULTURAL RESOURCES