

CURRENT ARCHAEOLOGICAL RESEARCH IN KENTUCKY

VOLUME 11



Edited by:

Cheryl Claassen
Matthew Davidson
Stephanie Dooley
Jon Endonino and
Bruce Manzano

Kentucky Heritage Council

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2024

Kentucky Heritage Council
410 High Street
Frankfort, Kentucky 40601

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Cover Photo: Killer Tree Rockshelter (15JA122) extracted from *Invisible Histories of Native Presence-The Potentials, Perils, and Pitfalls of Assessing Looted Rockshelter Sites* (Endonino 2024).

PREFACE

Since its creation in 1966, the Kentucky Heritage Council has taken the lead in preserving and protecting Kentucky's cultural resources. To accomplish its legislative charge, the Kentucky Heritage Council maintains three program areas: Site Development, Site Identification, and Site Protection.

The Site Development staff run the Certified Local Government, Investment Tax Credit, and Restoration Grants-in-Aid programs. It also administers federal and state Main Street programs, providing technical assistance in downtown revitalization to communities throughout the state.

The Site Identification staff maintain the inventory of historic buildings and are responsible for working with a Review Board, composed of professional historians, historic architects, archaeologists, and others interested in historic preservation, to nominate sites to the National Register of Historic Places. This program actively works to promote rural preservation and to protect Civil War sites.

The Site Protection staff work with a variety of federal and state agencies, local governments, and individuals to assist in their compliance with Section 106 of the National Historic Preservation Act of 1966 and to ensure that potential impacts to significant cultural resources are adequately addressed prior to the implementation of federally funded or licensed projects. The staff are responsible for administering the Kentucky Heritage Council's archaeological programs; organizing the annual archaeological conference, including the editing and publication of selected papers; and the dissemination of educational materials.

This Volume contains papers presented at the 38th, 39th, and 41st Annual Kentucky Heritage Council Archaeological Conference as well as contributed papers. Due to the COVID 19 shutdown, the 38th and 39th KHC Archaeology conferences were held virtually in 2021 and 2022. The 41st conference was held at the University of Louisville's Center for Archaeology and Cultural Heritage (CACHe) building in 2024 and was co-sponsored by the Kentucky Organization of Professional Archaeologists (KyOPA), Achulean Consulting, LLC., Cultural Resource Analysts, Inc., Falls of the Ohio Archaeological Society, HMB Professional Engineers, Inc., Metric Consulting, LLC., Stantec, Inc., Western Kentucky University, and WSP Global, Inc.

As in years past, the papers presented in this Volume provide a cross-section of archaeological research conducted in Kentucky. Figure 1 illustrates the general locations of major sites and project areas discussed in this Volume.

We would like to thank everyone that has participated in the Kentucky Heritage Council Archaeological Conferences. Without your support, these conferences would not have been as successful as they have been. Finally, we would like to thank those who have contributed papers and the editors that made the publication of this Volume possible.

Stephanie Dooley
Kentucky Heritage Council

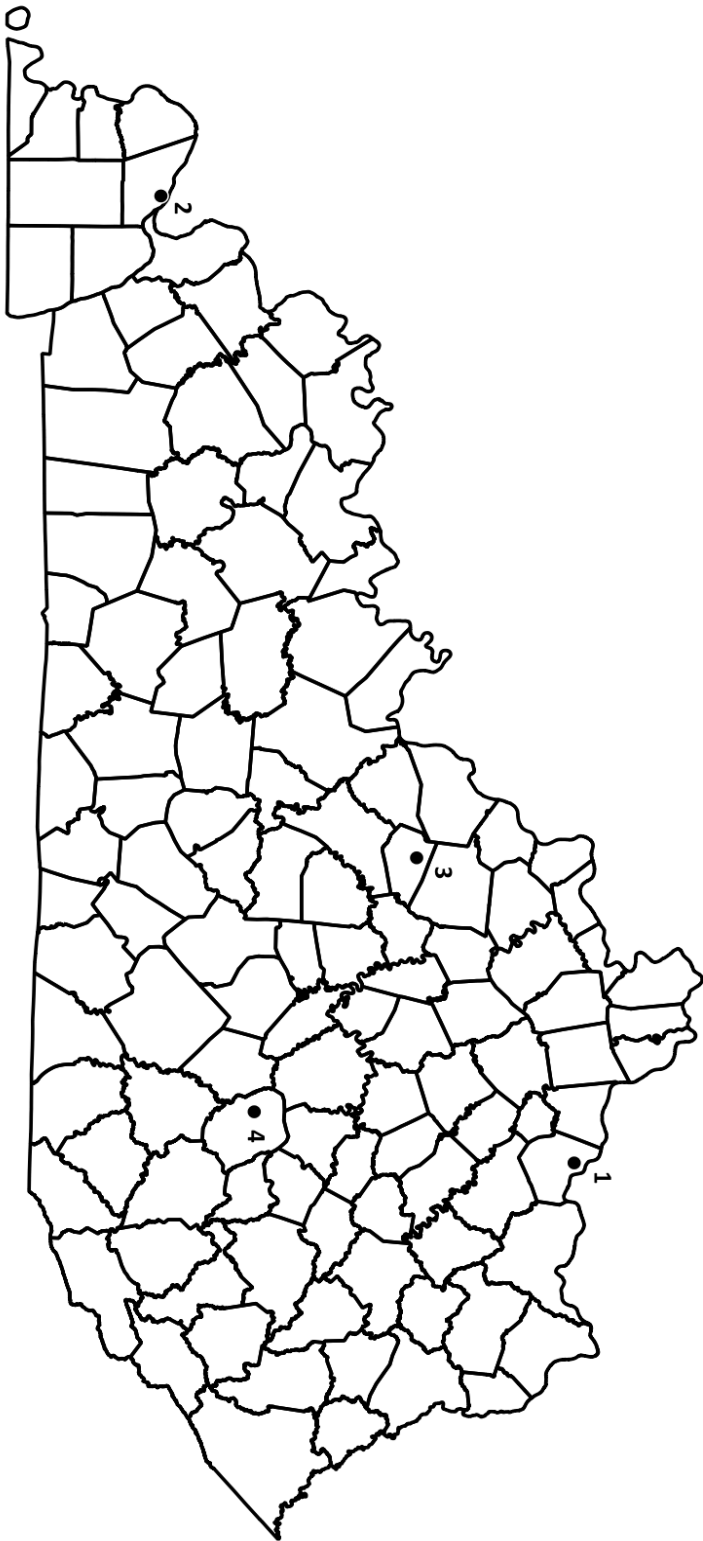


Figure 1: Approximate Locations of Sites Discussed in this Volume. 1) Fox Farm (15MA1); 2) Hill and Karnes Brick Company; 3) Prevallett-McClain Site (15SP243); 4) Killer Tree Rockshelter (15JA122).

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THE COMPILATION OF THIS VOLUME

by
Nicole Konkol
Kentucky Heritage Council
Frankfort, KY

Each time we are given the opportunity to work with the archaeological community of Kentucky we are absolutely humbled by how dedicated the archaeologists are. There is no place we would rather be working and no network of archaeologists we would rather support.

Kentucky is home to some of the most special and unique archaeological resources in our nation and we are honored to share the expertise of this amazing academic network of archaeologists. Please enjoy these compilations from the 2024 Kentucky Heritage Council archaeology conference.

This volume is dedicated to the memory of:

Patty Jo Watson



Photograph from Michael Shank's Conversations Through Archaeology
(<https://web.stanford.edu/~mshanks/MichaelShanks/60.html>)

Accessed August 23, 2024

ARTIFACTS MADE FROM DEER SCAPULAE RECOVERED FROM FOX FARM (15MS1), MASON COUNTY, KENTUCKY

by

Bruce L. Manzano, David Pollack, A. Gwynn Henderson, and Thomas W. Royster

ABSTRACT

Analysis of Fox Farm's (15MS1) large faunal assemblage identified four modified deer scapulae (shoulder blades), scored, and drilled to permit removal of a triangular section of flat bone, and ten thin, triangular, multi-perforated deer bone artifacts made from the flat portion of a scapula. The worked scapulae are interpreted as representing the waste products from the manufacture of these thin triangular artifacts, providing evidence about how they were made. Fox Farm's, multi-perforated deer bone artifacts are similar to the "ring" used in the North American ring and pin game as depicted in ethnographic sources. On the other hand, the ornate and intricate perforated designs on these artifacts and their overall fragility suggest a different function: personal objects worn as ornaments, perhaps enhanced with various symbolic accessories, such as feathers, leather strips, and bone that were then attached to clothing or hair.

INTRODUCTION

Fox Farm (15MS1) is a large Fort Ancient village situated on a broad ridgetop in Mason County, Kentucky within the North Fork of the Licking River drainage. It is located 3 km south of North Fork of the Licking River and about 15 km south of the Ohio River (Figure 1). Fort Ancient farmers occupied the site from ca. 1300 to 1650 CE. It is one of the largest and most intensely occupied Fort Ancient villages in the Middle Ohio Valley (Henderson 1992, 2008; Henderson et al. 1992; Pollack and Henderson 2000, 2017).

Excavations conducted at the site from 2009 through 2016 documented the establishment, growth, and abandonment of the village. Native farmers established the village during the Middle Fort Ancient period (1300 to 1375 CE) as a circular arrangement of square houses around a central plaza (initially represented by Midden Stain C). During those years, the village shifted slightly on the ridgetop, as represented by Midden Stains A and B (Figure 2). As population grew during the Transitional period (1375-1425 CE), village configuration changed: to clusters of rectangular houses (all oriented in the same direction), with associated trash disposal areas and cemeteries scattered across the entire ridgetop. This signaled fundamental changes in village social organization and political organization. This village arrangement continued into the Late Fort Ancient period (1425-1650 CE; Pollack and Henderson 2017). Pollack and Henderson attribute the village's growth and changes in configuration and house size to increased aggregation and

coalescence, brought about by families who moved to the village from other Fort Ancient subregions (Pollack and Henderson 2017).

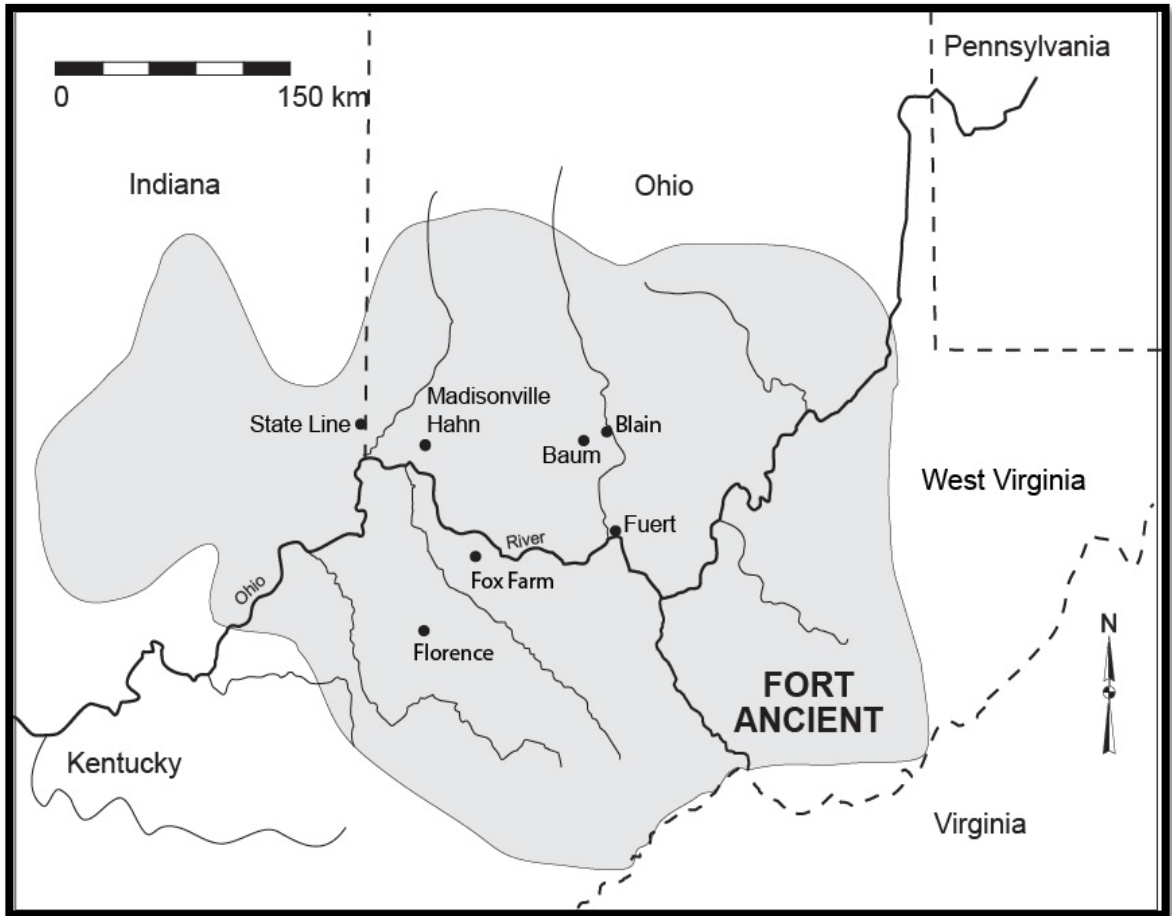


Figure 1. Map Showing Fort Ancient area and location of sites mentioned in this paper.

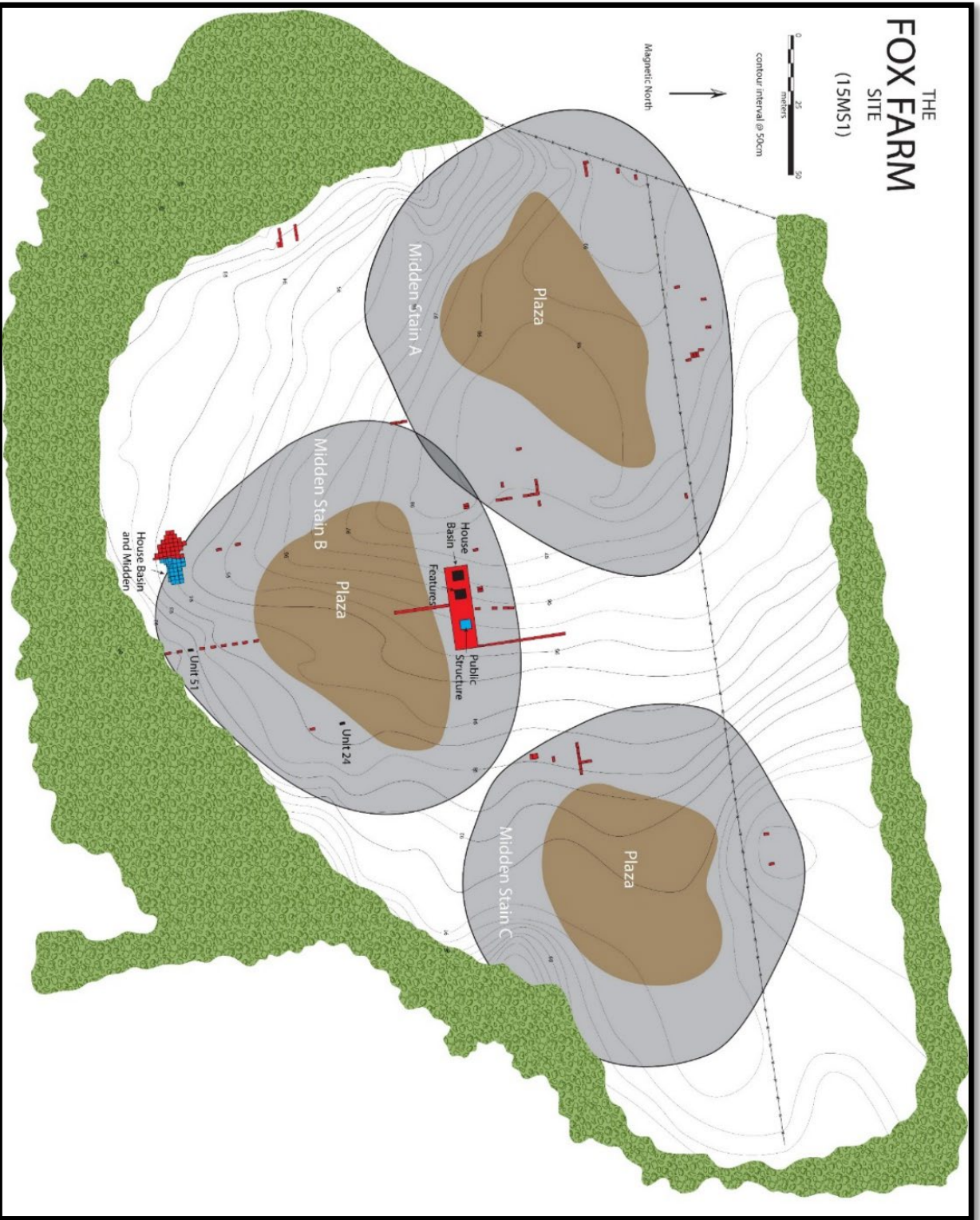


Figure 2. Map of excavations at Fox Farm (1983, 2009-2016), showing where worked scapulae were found: Middle Fort Ancient component (black units): Transitional Fort Ancient component (blue units).

METHODOLOGY

The analysis of the Fox Farm worked deer scapulae resulted from a targeted examination of select deer, elk, black bear, and turkey elements to address several research questions pertaining to deer and turkey hunting strategies, meat redistribution, antler tool production, and ritual use of select elements (Manzano et al. 2017, 2022; Moore 2018). Each scapula (Figures 3 and 4) was examined by the senior author for cultural and natural modifications with a light from a table lamp and a low powered (10X) hand lens. Given that identification of the worked scapulae did not occur systematically for the entire faunal collection it is likely that additional scapulae that exhibit similar score cuts are present in the Fox Farm faunal collection.

ARTIFACTS MADE FROM DEER SCAPULAE

This paper considers the four worked deer scapulae and 10 multi-perforated flat bone artifacts recovered from Fox Farm between 2009 and 2016, all of which were recovered from the site's Middle Fort Ancient or Transitional components (Pollack and Henderson 2017; Mills 2013; Table 1). After describing the hypothesized manufacturing process, the artifacts are described and then compared to the complete multi-perforated artifacts recovered from Fox Farm by Smith (1910) and to examples recovered from Fort Ancient sites in Ohio and Kentucky (Figure 1). Finally, potential functions are suggested with reference to ethnographic examples.

Table 1. Deer Scapula Artifacts Recovered from Fox Farm, 2009-2016.

Artifact	FS #	Unit	Location	Context
<i>Middle Fort Ancient (1300-1375)</i>				
Cut deer right scapula	743	51	Midden Stain B - south	Midden
Multi-perforated flat bone	457	24	Midden Stain B - southeast	Midden
Multi-perforated flat bone	661	39	Midden Stain B - north	House Basin fill
Multi-perforated flat bone	1247	73	Midden Stain B - north	Feature 83 (pit)
Multi-perforated flat bone	1466	87	Midden Stain B - north	Feature 70 (pit)
Multi-perforated flat bone	1496	94	Midden Stain B - north	Feature 92 (pit)
<i>Transitional (1375-1425)</i>				
Cut deer right scapula	2192	191	Transitional - southwest	Midden
Cut deer right scapula	3443	206	Transitional - southwest	Midden
Cut Deer left scapula	3601	214	Transitional - southwest	Midden
Multi-perforated flat bone	1810	76	Transitional - central	Public Structure floor
Multi-perforated flat bone	2995	193	Transitional - southwest	House Basin fill
Multi-perforated flat bone	3262	192	Transitional - southwest	House Basin fill
Multi-perforated flat bone	3492	207	Transitional - southwest	Midden
Multi-perforated flat bone	3139	198	Transitional - southwest	House Basin floor?

INTENTIONAL REMOVAL OF A SECTION OF DEER SCAPULAE

The assemblage of modified adult deer scapulae includes three right and one left elements (Figure 3). Three to four mended pieces comprise the right scapulae; only one piece comprises the left scapula. The left scapula has carnivore gnaw marks on the glenoid cavity area. The three right elements are much larger than the left scapula, indicating a minimum number of four individuals (MNI), likely represented by three males and one female.

Each element exhibits linear scoring marks made by a sharp tool on the infraspinous surface, close to the posterior scapular border and base of the spine where a thin triangular section of bone from the flattest portion of the scapula was cut out (Figure 4). One scapula (Figure 4 - upper right side) illustrates how a two-step method was used to remove the flat section. First, a series of holes or “dimples” were partially drilled to outline the location and size of the flat section to be removed (Figure 4 – see enlargement). Then a sharp tool, possibly a sharp expedient flake, was used to score and cut the bone along the outline.



Figure 3. Unmodified deer scapulae. Note the post depositional cavities on the left example.



Figure 4. Modified deer scapulae from Fox Farm. Note “dimples” and score lines on the scapula in the enlarged view (upper left); and the straight, complete cut edges on the lower left and on the middle and lower right scapulae.

During a 2018 research visit to the Cincinnati Museum Center, similar modified scapulae were identified in the Hahn site (33HA10) faunal collection, and a similarly worked scapula has been identified in the State Line site (12D18/33HA58) faunal collection. At both sites, the flat portion was removed, and the remainder of the scapula was discarded, like the scapulae recovered from Fox Farm (Figure 4). These discoveries suggest that the practice of using the thinnest section of a deer scapula to produce artifacts may have been more common than previously thought.

SHAPED AND PERFORATED BONE ARTIFACTS

The triangular section of flat bone removed from the deer scapulae was made into a distinctive multi-perforated artifact: 11 examples have been recovered from Fox Farm (Figures 5 and 6). These artifacts share several distinct features. All show evidence of at least two sides having been ground smoothed and have multiple holes drilled completely through the bone. Some specimens exhibit a series of notches along the base.

These artifacts can have as few as 14 and as many as 28+ perforations. The most complete example (Figure 6) recovered from Fox Farm exhibits 14 perforations that form what Smith (1910:205) termed “a somewhat M-shaped figure.” Smith (1910:205) notes that it was cut out of the thin shoulder blade of a deer with drilled holes, some of them

tapering from one side and some from the other. All three sides of this specimen, including the base, had been smoothed. Although pictured without a scale (Smith 1910:217; Plate XLIX, Figure 8 and 222, Plate LIII, Figure 3), its size can be estimated by comparing it to the other objects illustrated in the picture: it measures approximately 5 cm in length and 3 cm in width. This artifact was recovered from midden deposits.

Of the remaining 10 thin, multi-perforated artifacts recovered from Fox Farm, one specimen (Figure 5c) exhibits a series of narrow notches along the base and at least three parallel vertical rows of four or five perforations. A second specimen (Figure 5b) has a flat base and three vertical rows of at least four to five perforations of various sizes. Two other illustrated specimens (Figure 5a, d) are fragments but are multi-perforated. The five multi-perforated artifacts that are not illustrated here have from one to 10 drilled perforations. The specimen with the 10 drilled perforations has a length of 3.8 cm and a width of 4.2 cm.

And finally, the overall shape and perforation configuration of the most complete example is different from the small triangular example recovered from Fox Farm by Smith (1910). It is rectangular and exhibits a large central hole encircled by an inner circle of 13 perforations and an outer circle of 14 perforations (Figure 5e). A single prong remains on the bottom right-hand side of its otherwise broken base. Were the base unbroken, a minimum of four prongs likely were present.

The thin, triangular, multi-perforated artifact from the Florence site (15HR22) (Figure 7) is similar in size to the complete one recovered by Smith (1910) (Sharp and Pollack 1992:207). It measures 4.5 cm long and about 3 cm wide. As with one of the multi-perforated objects from Fox Farm (Figure 5c), the Florence specimen has a series of notches at the base. There are 19 observable perforations and perhaps as many as 6 to 8 additional perforations (if it was complete). Above three horizontal rows at the base, the perforations represent a somewhat M-shaped figure, similar to the one depicted on the example recovered by Smith (1910) from Fox Farm (Figure 6).

An artifact recovered from the Baum site by Mills (1906:78; Figure 6) is similar in shape to the complete Fox Farm and relatively complete Florence examples (Figures 6 and 7). Mills omits a visible scale but noted in the figure caption that it is shown half size. If this is the case, then this example is about twice the size of the Fox Farm and Florence triangular examples. As with the Florence artifact, and one of the examples recovered from Fox Farm (see Figure 5c), it has a series of notches along the base. It has 13 observable perforations: two at the top, a diagonal row of three, and two rows of four parallel to a notched base. From the illustration, it is not possible to determine whether the artifact was made from a deer scapula.

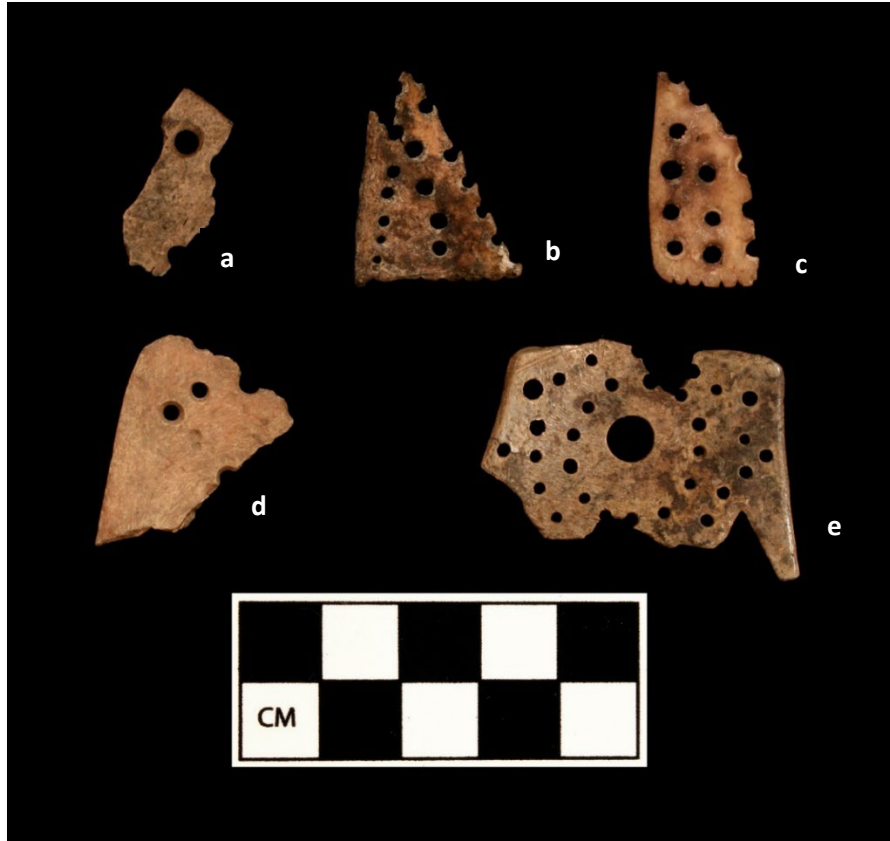


Figure 5. Thin, multi-perforated bone artifacts from Fox Farm (from Mills 2013).



Figure 6. Thin, triangular, multi-perforated bone artifact from Fox Farm (Smith 1910:222; Plates XLIX and LIII).

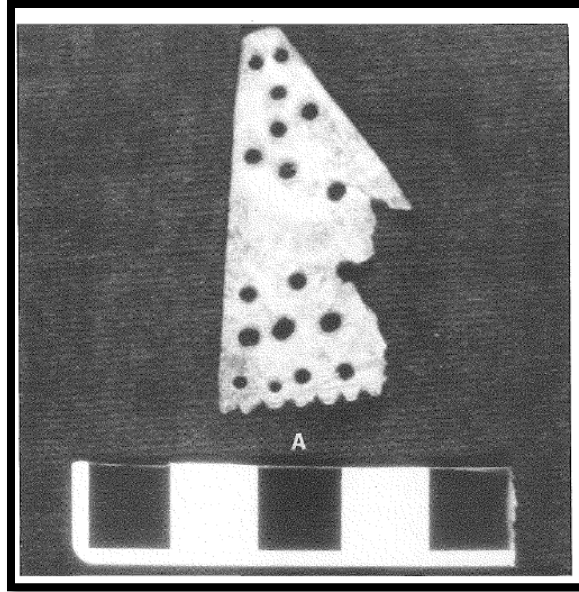


Figure 7. Thin, triangular, multi-perforated bone artifact from the Florence site (Sharp and Pollack 1992: Figure 9).

Mills (1917:438; Figure 8, Number 8) also recovered a broken, thin, multi-perforated bone artifact from the Feurt Mounds and Village site. It appears to be the midsection of a multi-perforated (at least 10 holes), thin, triangular, and made from bone. Like the Baum example, it is not clear from the illustration if the Feurt example was manufactured from a deer scapula.

Prufer and Shane (1970:138; Plate XVI) recovered an artifact from Blain Village that they describe as a fragmentary, flat piece of bone with multiple perforations along one edge. They suggest that it is similar to the multi-perforated, thin, flat bone object recovered from the Baum site (Mills 1906:78; Figure 62). Like for the Baum and Feurt examples, it is not clear from the illustration whether the Blain specimen was manufactured from a deer scapula.

The only other reports of this type of artifact from a Fort Ancient site comes from the Madisonville site (33HA36) and the nearby Hahn site. Hooton and Willoughby (1920:68-69; Plate 17h) recovered the basal portion of a thin bone that has a notched basal edge and three perforations. The perforations and notching are similar to that observed on one of the Fox Farm examples (Figure 5c), the Florence example (Figure 7), and the Baum example. They offered an extrapolation for what it would have looked like if it had been complete. They suggested that it was triangular in shape, with a length of 12 cm and a maximum width of 6 cm. Above the row of three perforations, they hypothesized three rows of two perforations, and at the top, one large perforation surrounded by four smaller perforations.

The specimen from the Hahn site was clearly made from a scapula. It has at least eight identifiable perforations (Robert Genheimer, personal communication, 2024).

DISCUSSION

As a group, these thin, triangular, multi-perforated bone artifacts recovered from these various Fort Ancient sites were cut out of large mammal scapula, most likely deer, and then worked to a desired shape, polished, and perforated multiple times. Except for the example recovered by Smith (1910), all the Fox Farm examples were broken. All were recovered from contexts dating from 1300 to 1425 CE; none were recovered from post-1425 CE contexts. As for the other sites where they have been found (Florence) or reportedly found (Baum, Feurt, Blain, and Madisonville), all were primarily occupied from 1200 to 1400 CE. The exception is the Madisonville site. However, despite the fact that Madisonville was primarily occupied during the Late Fort Ancient (1400-1700CE), the site does have a significant Middle Fort Ancient component (Drooker 1997).

At Fox Farm, where we have the best contextual information, these types of artifacts have been recovered from trash pits, midden deposits, house basin fill, and house floors. Half were recovered from three different Middle Fort Ancient contexts and the other half were recovered from two different Transitional contexts. Likewise, the thin, multi-perforated bone artifacts from Florence, Madisonville, and Feurt also were broken and discarded.

The function of these thin, triangular, multi-perforated artifacts is not known. Smith (1910:215) suggested that they may have been used as sewing implements, perhaps for smoothing sinew or used with a short bone tube or bead as hair spreaders. Hooton and Willoughby (1920:68-69) suggested a similar hair spreader function, their hypothesized shape and size based on hair spreader examples they had seen in Interior Basin ethnological collections. Unfortunately, there is little or no evidence to support their suggestion, although some ethnographic examples do reflect some very broad similarities (https://americanindian.si.edu/collections-search/object/NMAI_174242).

Smith (1910:209) also suggested that the thin, triangular, multi-perforated artifact may have functioned as the ring in the ring and pin game, a game that was widely distributed among Native American cultures (Culin 1907; Figure 8). Culin (1907:534) illustrated a triangular, multi-perforated object that is very similar to the ones recovered by Smith (1910), Sharp and Pollack (1992), and Mills (1906), although the object Culin illustrated was made from leather. This suggestion provides an alternative explanation for these enigmatic artifacts.

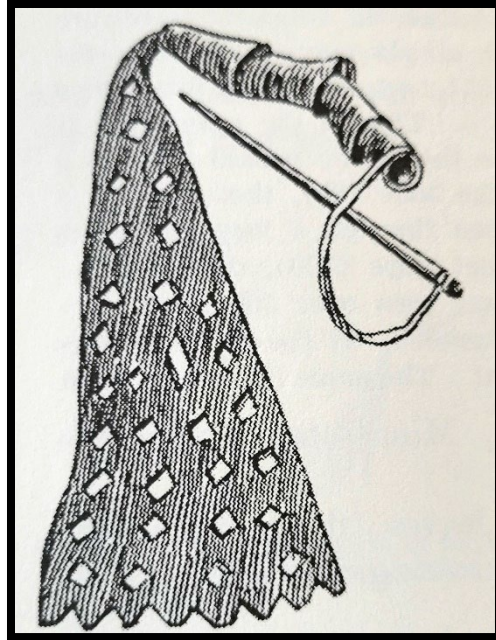


Figure 8. Thin, leather multi-perforated artifact (Culin 1907:534).

Culin (1907:534) illustrates an example of the equipment used by the Chippewa in the ring and pin game, one element of which is remarkably similar to some of the Fort Ancient thin, triangular, multi-perforated bone artifacts described here. The game involved “catching a bone [with the pin, which] counts 1 point; catching the center hole in the dangle wins the game.”

Curated at the American Museum of Natural History, this example consists of a wooden pin, four bones, and a triangular buckskin dangle all strung on a single thong (Figure 8). The dangle has diamond-shaped multiple perforations, and its base is notched. The complete item measures 38 cm, with the perforated triangular section having an estimated length of 25 cm and a width of 10 cm. This would make it somewhat larger than the more rigid Fort Ancient bone specimens. Though larger than the Fort Ancient examples, the shape of the Culin example is remarkably similar to some of the multi-perforated bones recovered from Fort Ancient sites.

An alternative interpretation is that these perforated scapula bones were used for sieving off floating debris – like floating acorn or nut hulls – when something was being boiled or foam when boiling deer meat with corn in earthen pots (Richard Zane Smith, personal communication 2024).

The ornate and intricate designs depicted on the perforated scapula bone objects and their overall fragility suggest that they may have been personal objects. They may have been worn as ornaments, perhaps enhanced with various symbolic accessories, such as feathers, leather strips, and bone that were then attached to clothing or hair.

Questions about these enigmatic objects remain, however. Future researchers should examine examples for wear patterns within the perforations or on the surface, fracture patterns, or stress or compaction fractures, as these features could offer insights into how Native people used or reused them. Finally, as Hofman (1980) noted over 45 years ago, researchers need to look for a greater range of artifacts made from scapulae.

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STALKING CASSIS SP. (HELMET SHELLS) SHELLS IN THE ARCHAEOLOGICAL RECORD OF EASTERN NORTH AMERICA

by

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ABSTRACT

Cassis shells are a rare occurrence in the archaeological record. Three species are found in sites, *C. flammaea*, *C. tuberculata*, and *C. madagascariensis*, collectively ranging from North Carolina to Brazil. Helmet shells were deployed as coverings over cremains, as grave goods, and as sources of pendants. The earliest occurrences are those at Zimmerman in northwestern Ohio, a Glacial Kame context; in the Adena mound at Dover, Ky, and in Qualls Cave, Tennessee. Middle Woodland use of *Cassis* sp. is pronounced in burial mounds along the Illinois River. They are also found in Tennessee River Copena burials particularly in Marshall County, Alabama and in Ohio Hopewell mounds. Pendant manufacture is documented among Florida's Belle Glade people at this time, simultaneous with the initial occupation of the Antilles, in the *Cassis* heartland. Mississippians on the upper Tennessee River continued the use of *Cassis* shells as vessels and produced clay imitations and clay figurines either seated in a *Cassis* shell or holding one.

INTRODUCTION

The predatory sea snails in the genus *Cassis* (Figure 1), called "helmet" shells, have attracted much attention in historic times first for the European cameo trade (Figure 2) and now for touristic shell trade throughout the world. They are far more heavily fished now than even in the 18th and 19th centuries when cameo cutters in England and Italy were using them, and at that time they were far more heavily exploited than prior to Columbus' landfall. In fact, *Cassis* shells can be said to be a rare occurrence in the archaeological record of the eastern U.S.



Figure 1. *Cassis* sp.

(https://commons.wikimedia.org/wiki/File:Cassis_madagascariensis_from_Margarita_Island.jpg#/media/File:Cassis_madagascariensis_from_Margarita_Island.jpg. CC0 license)



Figure 2. Cameo on helmet shell, Prince Albert Museum, London (Photo by author).

Three species have been found in archaeological sites, *C. flammea*, *C. tuberculata*, and *C. madagascariensis* (Figures 3 and 4), with native ranges from North Carolina to Brazil. They hunt starfish and urchins in sea grass beds from 1 meter to 60 meters deep. Shells from another carnivorous group of snails, the *Busycon* whelks, were circulating much earlier in the Ohio Valley as beads, gorgets, and ear pins perhaps because they were easily harvested from “local” tidal zones found from Delaware to Texas.

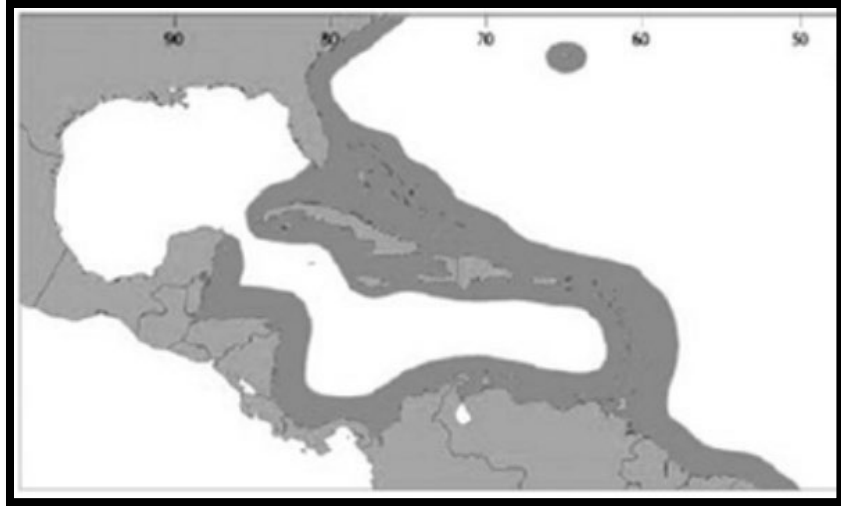


Figure 3. Range (darkened area) of *Cassis madagascariensis* (emperor helmet) and *Cassis tuberosa* (king helmet) (taken from Tefwik 2015, Figure 2).

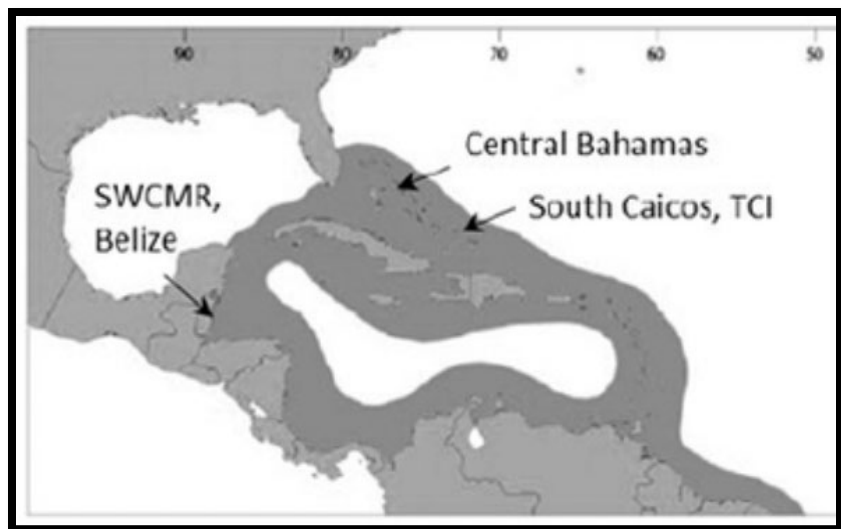


Figure 4. Range of *Cassis flammea* (taken from Tefwik 2015, Figure 2).

In the pre-Columbian past helmet shells were deployed as coverings over cremains or skulls, as cups, and as pendants. To manufacture cups and pendants the craftsperson excised the central structure leaving a cavity. As archaeological remains these shells sometimes appear as apex pieces or tooth pieces (Figure 5).

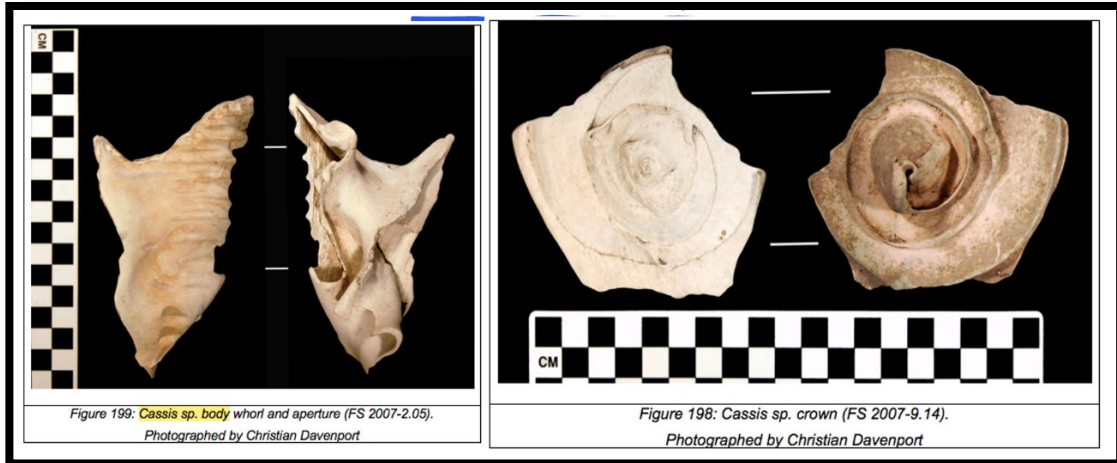


Figure 5. Manufacturing debris from *Cassis* shells (taken from Davenport et al. 2011).

WOODLAND PERIOD SHELLS

As of March 2021, I found that the earliest occurrences of the *Cassis* sp. are those at the Early Woodland Zimmerman site in northwestern Ohio, in a Glacial Kame context (Cunningham 1948); in the Adena mound at Dover, Kentucky; and a *Cassis tuberosa* in Qualls Cave, Tennessee, also with sandal sole shell gorgets probably made from a species of *Busycon* (Dowd 2015). (Figure 6).



Figure 6. EW and MW distribution of *Cassis* sp. shells.

Middle Woodland use of *Cassia* sp. is pronounced in burial mounds along the Illinois River of Illinois where they were found in a total of 13 mounds at 11 sites (Figures 6 and 7). In Gibson Mound 4 one extended adult had two shells and in Elizabeth Mound 7 one infant had four shells (Perino 2006). Groups of people in an unnamed bluff site, and at Naples-Russell Mound 8 (in cache on roof of a log tomb Figure 8), each had one shell; the three people buried in Merrigan Md 2 had three shells nearby. Single shells were also associated with burials or in log tombs in Illinois Middle Woodland sites of Bedford, Mound 9 (Figure 9); Gibson Mound 4 and Mound 6 (Figure 10), Knight Mound 8 and Mound 16. No shells came from Late Woodland contexts and only one shell is recorded in Mississippian context in Illinois. Larry Conrad (personal communication, February 2021) reports one cup each from Ogden Fettle Md 191, and Montezuma II, Md 1.

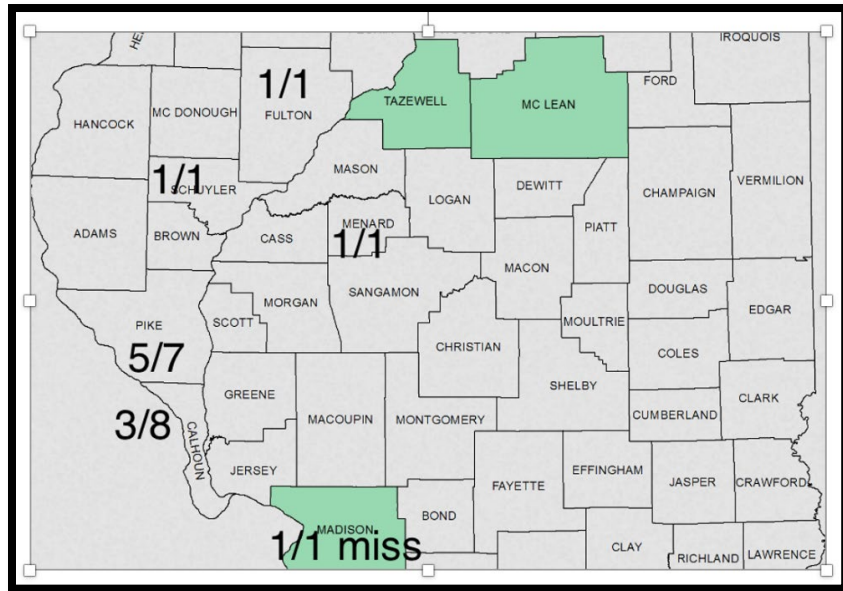


Figure 7. Illinois River Valley counties with Middle Woodland era *Cassia* sp. shells.

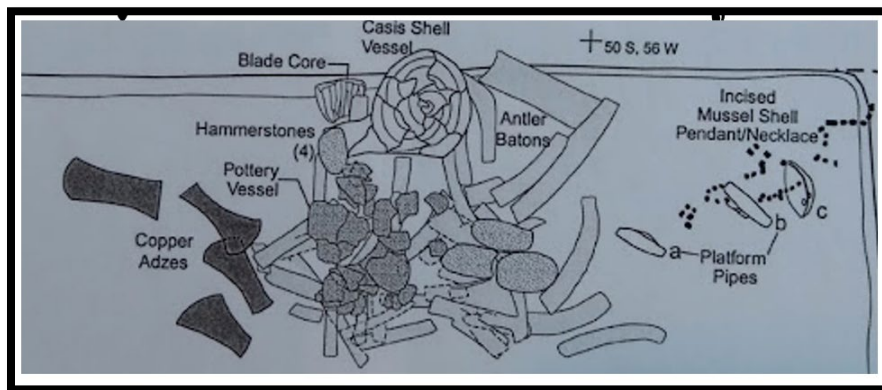


Figure 8. Naples-Russell Mound 8, *C. madagascariensis* on roof of log tomb (image taken from Perino 2006).

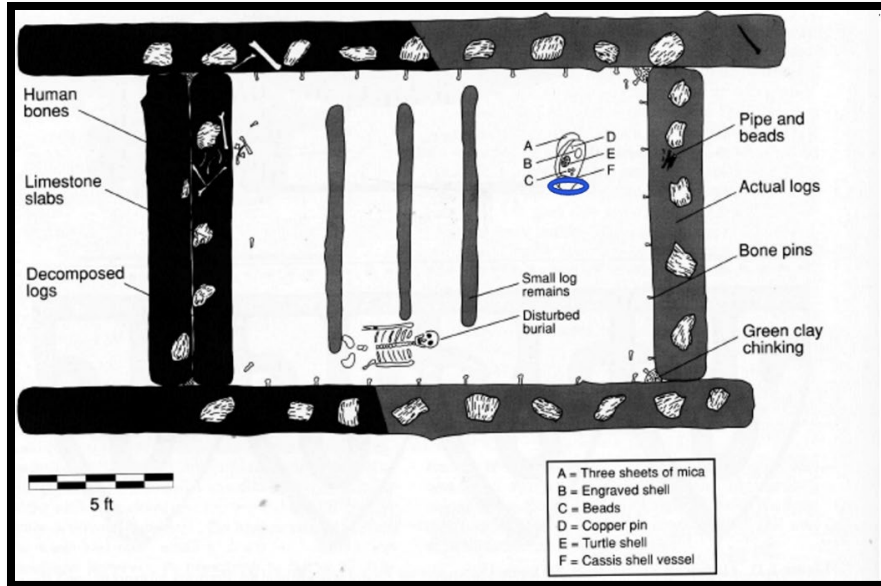


Figure 9. Bedford, Illinois Middle Woodland Mound 9 with *Cassis* sp. shell inclusion in cluster of items. (Image taken from Perino 2006:158).

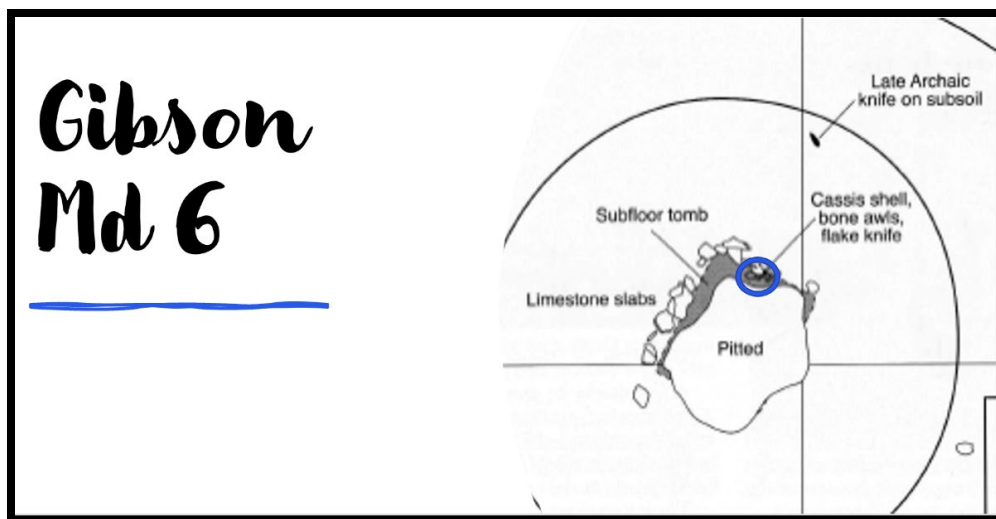


Figure 10. Gibson Illinois Middle Woodland Mound 6 *Cassis* sp. shell. (Image taken from Perino 2006:333, 340).

The Ohio Hopewell left one *Cassis* sp. shell in the Aten Mound, and two in Hopewell Mound 25. Other Ohio Hopewell *Cassis* sp. shells are unprovenienced such as two in the Field Museum of Chicago.

Cassis sp. shells to cover a skull were used by the Tennessee River Middle Woodland Copena people in several burials in several sites, particularly in Marshall County, Alabama. While all are referred to as “conch shells” the few photographs show *Cassis* sp. These *Cassis* shells were found in one infant cremation at Wright Md (1LU63,

Webb and Dejarnette 1942:Plate 177, with galena), nine burials in Ross Mound (1MS134, Webb and Wilder 1959:24; burials (Bu 1, 5?, 54, 72, 73), and in the Samuels Site (1MS136—137; Webb and Wilder 1959, plate 5), with five burials (Bu 21, 34, 36 in MS136 and Bu 18, 23 in MS137). Four *Cassis* pieces were depicted (one shell?) from Hampton Mortuary Cave (1MS145), Alabama (Webb and Wilder 1959:24).

It was also during Middle Woodland times that the Belle Glade people of Lake Okeechobee, Florida, cut out the toothed columella of *Cassis* shells and manufactured pendants (Figure 11). These pendants and the manufacturing debris have been found primarily at the Kreamer site but also at the sites of Belle Glade, Canal Point One, Canal Point 4, and the Spanish River complex (Davenport *et al.* 2011) (Figure 12). This is the era when agricultural pottery users first occupied the islands in the Antilles, the heart of *Cassis* habitat.

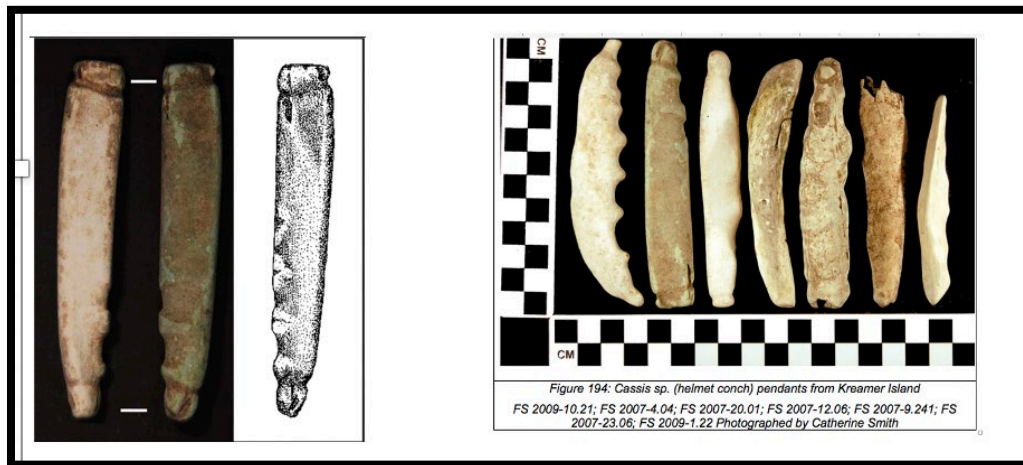


Figure 11. Florida's Belle Glade III and Belle Glade IV periods *Cassis* sp. shell tooth pendants, from Kreamer Island Site, Lake Okeechobee, Florida (illustrations taken from Davenport et al. 2011).

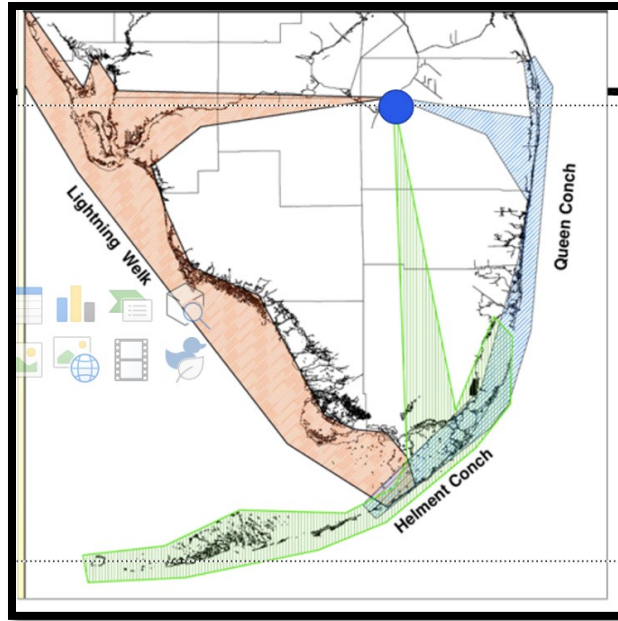


Figure 12. Kreamer Site and Distance to ranges of various predatory snail populations (taken from Davenport et al. 2011).

Cassis sp. shells were found as isolated items in Middle Woodland burials, and they were found as part of artifact clusters. Among the clusters are: *Cassis* sp. with galena in Samuels and Wright sites in Alabama; with *Oliva*, columella, and disc shell beads in Hampton Mortuary Cave; with copper and mica in Hopewell, Ohio Md 25; with mica, engraved shell, beads, copper pin, and turtle shell at Bedford Md 9, Illinois.

MISSISSIPPIAN PERIOD SHELLS

Mississippians on the upper Tennessee River used *Cassis* shells as vessels or cups with a concentration in the Dallas phase sites around Chattanooga (Figure 13). Hiwassee Island had three shells (Lewis and Kneberg 1949, pl. 81, 84c), Hixon had one, Dallas had four (Sullivan 1995:2:345, 415), Citico had one and the “Sequatchie valley” had one *C. tuberosa*. The best information for any *Cassis* shell comes from the Dallas Site burials where we learn that one middle-aged person had fragments, ceramics, and pipe; and Bu54, an adult, also had pottery, pipe, three shell spoons, six celts, two awls, a marine bivalve and two “conch shell” vessels. *Cassis* sp. shells also occurred in the Perry site (Webb and DeJarnette 1942, plate 114, 124) covering two cremated infants (Bu237 [presumed *Cassis*] and Bu279). Both shells were associated with carapace, columella shell beads, and disc shell beads. One burial with *Cassis* sp. also included a biface. These burials were presumed to be Mississippian in age.

Other than that concentration of cups, there is only very sporadic occurrences of *Cassis* sp. elsewhere in the southeastern United States (Figure 13). The Kunneman site on the Mississippi R. in Illinois had one shell (personal communication, Brooke Morgan

Curator ISM Feb. 19, 2021), and a cup was found on the Black Warrior River in the Charlotte Thompson Place visited by C. B. Moore (Moore 1996:151). At least five *Cassis* shells were found in Spiro Md, Oklahoma (Susie Fishman, personal communication, January 2022).

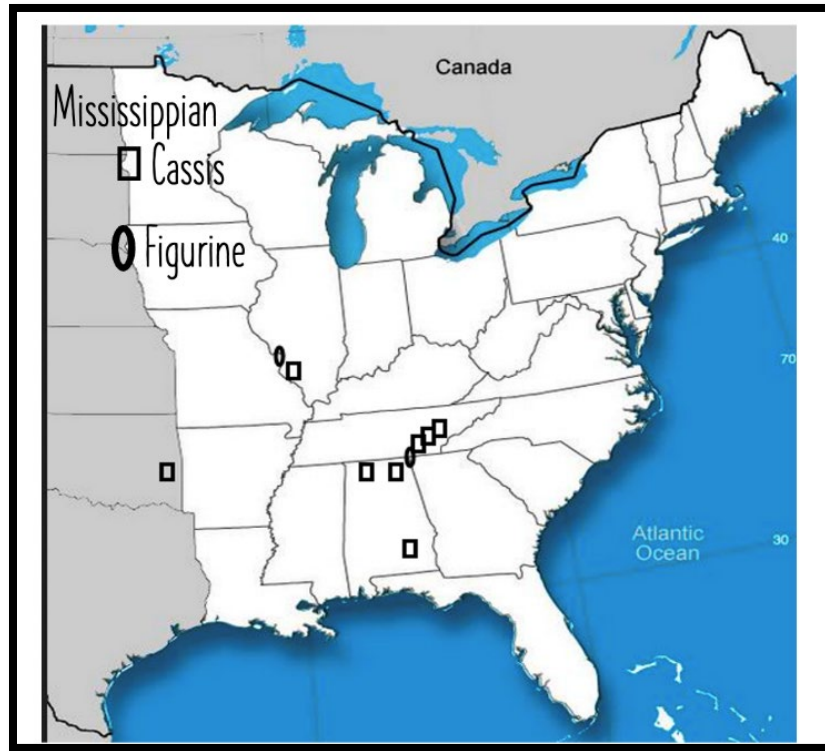


Figure 13. Geographical distribution of Mississippian *Cassis* sp.

It was during Mississippian times apparently that *Cassis* shells are represented in clay or associated with a clay figurine. A *Cassis* shell was found housing a clay figurine in the Sequatchie valley, Tennessee (Troost 1845; Figure 14). The Exchange Avenue clay figurine (Figure 14) found at East St. Louis is holding a (clay) *Cassis* shell (Deter-Wolf and Peres 2014). In both cases the small human is female and facing the viewer. There are also Mississippian clay vessels whose shape indicates *Cassis* shells from the Wabash, Kentucky, and Arkansas (Figure 15).



Figure 14. Clay figurines associated with *Cassís* sp. shells: Left: Sequatchie Valley, Tennessee clay figurine housed in a *Cassís* sp. shell (Troost 1845), right: Exchange Avenue East St. Louis clay figurine holding *Cassís* sp. shell (Deter-Wolf and Peres 2014:175).



Figure 15. Mississippian clay vessels made in imitation of *Cassís* sp. shells (Left: Posey Ct. Indiana (Scott 1979:120), center: Fulton Ct. Ky; right: Mississippi Ct. Arkansas [image taken from Scott 1979:118])

SUMMARY

In this survey I have found 61 shells in 31 sites or mounds: three Early Woodland sites with an unknown number of shells, 17 Middle Woodland sites or mounds with 38 shells; and nine Mississippian sites with 19 shells. Only two Ohio Hopewell sites had shells (n=5) while four Copena (Alabama) mounds had 16 shells and eleven Illinois Havana mounds had 17 shells. Mississippian sites with *Cassís* shells were quite widespread: one site in Illinois (Kunneman), Spiro in Oklahoma, Perry, and Charlotte Thompson Place, both

in Alabama and five southeastern Tennessee sites. Certainly, there are other examples to be found.

As for type of site, two shells were recovered from two Early-- Middle Woodland mortuary caves (Qualls, Hampton), 21 were deposited in Woodland era mounds and one came from a Mississippian mound. The others, primarily in southeastern Tennessee, were recovered from open air Mississippian sites. Finally, two came from the Perry, Alabama shell mound, the only clear examples of *Cassis* in this type of ceremonial center and probably in association with Mississippian child burials.

Cassis sp. shells were deployed as infant coverings in flesh and cremated burials, as tomb inclusions with adults apparently as cups, as a grotto for turtle shell (Qualls Cave) and a clay figurine and held by a clay figurine (Sequatchie Valley). They were used for pendant manufacturing in southern Florida, but these pendants do not appear to have traveled northward beyond Lake Okeechobee. As for material associations in Middle Woodland context, *Cassis* sp. shells were found with a copper headdress, mica, awls, batons, bear incisors and shell beads. Mississippian associations were with hooded vessels, carapaces, projectile points, and shell beads.

In general, shell carries underworld reference thus implying new life or rejuvenation. Links are also found between shells and stars, the night sky again invoking the dark, fertile earth. The engraving of images of celestial spirits on large gastropods such as are found in Spiro site examples further make the night sky—shell—celestial spirits connection. Gastropods have caves, yet another reference to underworld, earth spirits, and fecundity. The Tlingit of the Pacific coast of Canada use the same word for coffin, womb, and shell invoking cleansing and beginnings (Ceci 1989). The Seneca say that a shell could purify the soul (Ceci 1989). It is the use of these *Cassis* shells as coverings or containers that suggest their soul purification role when deployed in burials. If they were drinking vessels the liquid was probably a purgative.

Cassis sp. shells were harder to procure than were *Busycon* shells, and *Cassis* shells have a more restricted natural range (Figures 3, 4, 12). Both genera can be found in Early Woodland sites although *Cassis* is quite rare with a surprising distribution. Once we get to Middle Woodland times, what are we seeing with regard to social relations between the people of south Florida, the Antilles and the Illinois River or south Florida and the Antilles and the Tennessee River dwellers? Do the first ceramic users of the Caribbean give impetus to the northward movement of *Cassis*? Do *Busycon* and *Cassis* shells convey different meanings, such as particular places in the celestial realm? Do *Cassis* shells carry *particularly* Caribbean, or Gulf of Mexico meanings? The only geographical overlap in their find spots is the middle and upper Tennessee River. Are *Cassis* shells as rare as they seem? Are some disc shell beads made from the walls of *Cassis* sp.? As of now, these questions can't be answered. All shells in archaeological context have complex meanings. *Cassis* shells are no exception.

ACKNOWLEDGEMENTS

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THE HILL & KARNES BRICK COMPANY AT PADUCAH, MCCRACKEN COUNTY, KENTUCKY

by

Charles D. Hockensmith

Retired from the Kentucky Heritage Council

ABSTRACT

Paducah, Kentucky, situated on the banks of the Ohio River in western Kentucky, possessed abundant clay deposits suitable for the manufacture of bricks. Beginning in the 19th century, these clays were extensively exploited for brick making. Several brick companies were established over the years and at certain times there were competing brick manufactures. Prior research documented three of the major brick companies in Paducah and mentioned other companies. This paper examines the last major brick yard to operate in Paducah, the Hill & Karnes Brick Company. Established in 1904, Hill & Karnes was a major manufacturer of common building bricks with markets in western Kentucky and several other states. The key individuals associated with the company included Frank Hill, his sister Neva Hill, and Earnest Karnes. This paper presents archival research on this important brick company and includes some historic photographs of the operation. Some suggestions are offered for future archaeological investigations at the Hill & Karnes site.

INTRODUCTION

Between about 1850 and 1950, there was a thriving brick industry in Paducah, McCracken County, Kentucky (Hockensmith 2007). Several local brick makers competed to supply Paducah residents and builders with the bricks required for new construction projects. Previous studies have examined unusual bricks found in Paducah (Black 1987), three Paducah brick yards [the Katterjohn Brick Company, the Paducah Brick and Tile Company/ Chamblin and Murray Brick Yard, and the Allen Brick Yard] (Hockensmith and Black 2004a, 2004b, 2008, 2009, 2019), and brick yards within the Commonwealth of Kentucky (Hockensmith 2002). Known companies and individuals that manufactured brick in Paducah and McCracken County, Kentucky (in alphabetical order) include Allen; Baldwin; Byrd; Chamblin and Murray; Edwards; Fisher; Fowler, Crumbaugh & Company; Frank; Grace; Hill and Karnes; Hill and Smith; Hymarsch & Company; Katterjohn; Kentucky Brick Company; Paducah Brick & Supply Company; Paducah Brick & Tile Company; Paducah Brick Works; Spidel; Spidell & Company; and Stack (Hockensmith 2007). Interested readers wanting to know more about the value of studying brick yards can see Hockensmith (2001) and Hockensmith (2002) for a brief history of the clay products industry in Kentucky.

Paducah is an Ohio River town located in extreme western Kentucky within the Jackson Purchase region. Situated in the northeastern portion of McCracken County, Paducah is located west of the confluence of the Tennessee and Ohio rivers. As the county seat, Paducah has long been an important commercial center in western Kentucky. With transportation available on local railroads as well as barges on the Ohio River and its tributaries, bricks could easily be transported to markets in many other cities.

This article includes some preliminary information that I published in 2007 on the Hill and Karnes Brick Company in Paducah, Kentucky plus extensive new archival research. In 2007 (Hockensmith 2007), my article compiled information on all the known brick yards that previously operated in Paducah and surrounding areas of McCracken County. At that time only scattered sources had been discovered for the Hill and Karnes Brick Company. This was prior to the availability of historic Kentucky newspapers in a digital format that could be key word searched. With all this new information, I decided to prepare a more in-depth article that specifically focused on the Hill and Karnes Brick Company. Utilizing items found in historic newspapers and other archival sources, I have attempted to write a partial history of this important brick manufacturer. Frank P. Hill and Ernest Karnes established the company in 1904 and operated it together until early 1910 when Karnes sold his interest in the brick yard. Gus Smith acquired Karnes' shares of the business and by 1911, the company name was changed to the Hill & Smith Brick Company. By 1913, the name was changed back to Hill & Karnes Brick Company. The brick yard continued operating until sometime between 1930 and 1933. Unfortunately, Paducah newspapers for the 1930s are not currently available in a digital format. The Hill & Karnes' name disappears around 1931 or 1932, and then the Kentucky Brick Company appears for the same street address in 1933. This new brick company was short lived and was out of business before 1941. It is the goal of this article to increase our understanding of the Hill and Karnes Brick Company and the role that it played in Paducah's brick industry. First, I present in chronological order, the news items and ads found for the company. Other sources are also inserted within the discussion. Second, limited personal information discovered about Frank Hill and Ernest Karnes is presented. Third, brief information is provided for Hill & Karnes' successor, the Kentucky Brick Company. The article ends with some summary comments and suggestions for archaeological investigations.

HILL & KARNES BRICK COMPANY

A news item entitled, "Locates in Arizona" appeared in the May 10, 1901, issue of *The Paducah Sun* and suggested that Hill and Karnes along with their friend Ernest Pell were adventurous young men hoping to get rich from gold mining in Arizona (The Paducah Sun 1901:2):

A letter from Messrs. Ernest Karnes, Frank Hill, and Ernest Pell, who have been in Arizona for the past several months,

states that they have located on a gold mining claim in the Mezatazi Mountains, and that their claim yields about \$12 to the ton. They expect to get rich.

We do not have any additional details about Hill and Karnes business activities until 1904. They obviously decided that mining gold was not going to make them rich, and they returned to Paducah to earn a living in a more traditional way. The local society news in the August 15, 1904, edition of *The Paducah Sun* mentioned Hill and Karnes as well as Hill's sister who joined them in the brick business (The Paducah Sun 1904a:5): "Mr. Frank Hill and sister, Miss Neva Hill, accompanied by Mr. Ernest Karnes and Miss Ella Bryan, went to St. Louis today." On October 20, 1904, we learn that Hill and Karnes were acquiring property (The Paducah Sun 1904b:4):

E. P. Gilson and others to F. P. Hill and Ernest Karnes, for \$3,600, property at Sixth and Boyd streets.

The following month, Hill and Karnes sought tax relief for their new brick yard. The November 22, 1904, issue of *The Paducah Sun* reported that (The Paducah Sun 1904c:2):

A request from Frank Hill and Mike Karnes to be exempt from taxation for five years on a brick yard they are to build on North Sixth street was referred to the solicitor.

Hill & Karnes advertised their brick yard in three brief line ads scattered in the "Local Lines" section of the June 2, 1905, edition of *The Paducah Sun* (The Paducah Sun 1905a:5):

--See Hill & Karnes for BRICK, North Sixth street. Phone 1233 Red.

-- Phone 1233 Red, Hill & Karnes for BRICK.

--Hill & Karnes, phone 1233 Red, sell the best BRICK in the city.

On August 8, 1905, the City of Paducah acted on Hill and Karnes request for tax relief on their new business (The Paducah Sun 1905b:6):

A resolution to exempt the Karnes-Hill brickyard for five years from taxation was given second passage.

The above statement about taxation was repeated in the August 24, 1905, edition of *The Paducah Sun* (The Paducah Sun 1905c:2). On September 8, 1905, additional details were forthcoming from the city (The Paducah Sun 1905d:2):

The action of the board in refusing Karnes & Hill exemption for five years from taxation was reconsidered and on motion it was voted that the firm which conducts a brick yard, be exempted from taxation for this period of time.

A full-page listing for many housing related businesses appeared in the September 7, 1905, issue of *The Paducah Sun* and included the following ad for Hill & Karnes' brick yard (The Paducah Sun 1905e:3):

HILL & KARNES
BRICK
MAKERS
OLD PHONE 1236
SIXTH AND BOYD STREETS

On November 2, 1905, another Hill & Karnes ad appeared in a full-page listing entitled "Paducah's Progressive Business Houses" (The Paducah Sun 1905f:3):

----CALL ON----
HILL & KARNES
BRICK
MAKERS

FOR THE BEST PAVING AND BUILDING BRICK IN THE CITY

OLD PHONE 1236 RED,
SIXTH AND BOYD STREETS

Hill and Karnes were advertising for wood to burn their bricks in the December 29, 1905, issue of *The Paducah Sun* (The Paducah Sun 1905g:2). The ad ran until at least to January 3, 1906.

Bring your cord wood to Hill & Karnes brick yard, corner
Sixth and Boyd. Highest market prices paid.

In 1906, Young & Company's Business Professional Directory of the Cities and Town of Kentucky listed Hill & Karnes under brick manufacturers (Young & Company 1906:666).

Before modern trucks were available to haul loads, horses and wagons were the primary form of transportation along Kentucky's roads. An ad by Hill & Karnes appeared in the August 2, 1906, edition of *The Paducah Evening Sun* (The Paducah Evening Sun 1906:5).

Four teams [of horses] wanted to haul brick. Good pay.
Apply Hill & Karnes' brick yard.

Caron's Directory of the City of Paducah for 1906-07 (Caron Directory Company 1906:582) listed the Hill & Karnes brick yard at 6th and Boyd Streets. Gardner (1905:122) stated that Hill & Karnes was one of three brick yards in Paducah and was equipped with the C. & A. Potts brick machines.

The 1906 Paducah Sanborn Insurance Maps included the Hill & Karnes brick yard (Figure 1). Hill & Karnes' brick yard was laid out along North 6th Street, extending between Finland and Boyd Streets (Sanborn 1906:8). The brick yard was designed so the bricks were manufactured on the north end of the yard, dried near the center of the yard, and burned on the southern end of the yard. The clay pit was not shown but we know that it would have been between the brick yard and the Ohio River to the north. Using the scale on the map, we can obtain approximate dimensions for the various structures that were present at the brick yard. The brick machine was enclosed within a one-story frame structure measuring about 45 feet north-south and 25 feet east-west. The south end of the structure was left open thus providing easy access from the brick machine to the drying racks. A small "sand dryer" shed was attached to the east wall of the structure housing

the brick machine. This shed measured about 20 feet north-south and 10 feet east-west (Sanborn 1906:8). On the west side of the brick machine structure was another one-story structure containing the engine room. Measuring about 40 feet north-south and 25 feet east-west, the engine room contained a horizontal boiler and 50 horsepower steam engine (Sanborn 1906:8). The boiler was resting on a brick foundation measuring about 22 feet north-south and 10 feet east-west. Attached to the southwest corner of the engine room was a small shed approximately 24 feet east-west and 10 feet north-south. The purpose of this structure was not specified on the insurance map.

Drying frames under roof were located in the center of the brick yard. Freshly made bricks were placed in these frames for air-drying to remove the excess moisture. The air-drying frames occupied an area of about 385 feet long (east-west) and 110 feet wide (north-south). This large area afforded ample space for drying and storing the green bricks prior to their firing.

Three rectangular brick kilns were situated along the southern end of the brick yard next to North 6th Street (Sanborn 1906:8). The brick kilns were placed in a straight line with shed roofs covering the work areas between them. The kilns all appear to be the same size, measuring about 70 feet north-south and 30 feet east-west (Sanborn 1906:8). The shed roofs between the kilns measured 70 feet north-south and 35 feet east-west while the shed roofs on either end of the kilns measured about 70 feet north-south and 20 feet east-west. At the east end of the kilns was a structure labelled "kiln shed" which measures 75 feet north-south and 30 feet east-west. A one-story frame office was situated at the corner of North 6th and Boyd streets which measures 20 feet north-south and 15 feet east-west (Sanborn 1906:8).

Two years later, on January 4, 1908, the Hill and Karnes Brick Company was incorporated by F. P. Hill, Ernest Karnes, and Neva Karnes (Secretary of State 1908). The capital stock of the company was \$50,000 divided into 500 shares valued at \$100 per share (Secretary of State 1908). Shareholders of the corporation included F. P. Hill (250 shares), Ernest Karnes (247 shares), and Neva Karnes (Secretary of State 1908; 3 shares). F. P. Hill served as President, Neva Karnes was Vice President, and Ernest Karnes was the Secretary and Treasurer (Secretary of State 1908).

Following the incorporation of the Hill and Karnes Brick Company, Hill and Karnes sold their existing brick yard property to the new corporation. The January 23, 1908, issue of The Paducah Evening Sun carried the following news item entitled "Deeds Filed" (The Paducah Evening Sun 1908a:5):

F. P. Hill and Ernest Karnes, property at Sixth and Boyd streets, to the Hill & Karnes Brick company, \$7,000.

On August 20, 1908, Hill & Karnes started running a new ad in *The Paducah Evening Sun* (The Paducah Evening Sun 1908b:5): “Cheap dirt, rich dirt. The Hill & Karnes Brick Co. Old phone 1233-r”. This ad ran until August 28, 1908. A similar ad also started on August 20, 1908 (The Paducah Evening Sun 1908c:5): “THE HILL & Karnes Brick company will fill your lot with good, rich dirt, very cheap. Old phone 1233-r.” The second ad ran until August 29, 1908 (The Paducah Evening Sun 1908c:5). It is assumed that Hill and Karnes were marketing the topsoil that they were stripping to reach the clay deposits on their property. Since the brick yard was located on the floodplain of the Ohio River the soil was undoubtedly very rich and desirable for filling and leveling lots in residential areas of Paducah.

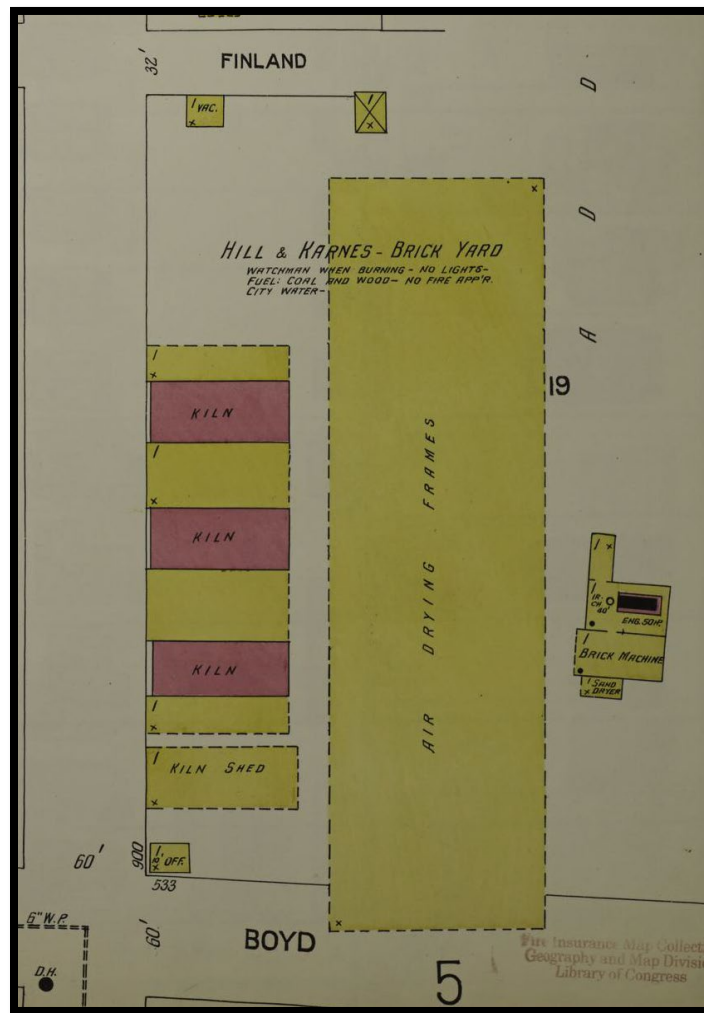


Figure 1. Hill & Karnes Brick Yard from the 1906 Paducah, Kentucky Sanborn Insurance Map, Sheet 8. North is towards the upper right corner. The street on the left side of the map is North 6th Street. Source: Library of Congress Sanborn Map collection. The dark pink represents brick construction while yellow is frame construction.

An informative article about the Hill and Karnes brick yard appeared in the April 14, 1909, edition of *The Paducah Evening Sun* (The Paducah Evening Sun 1909a:3):

The Hill & Karnes Brick company will start the machinery at their big plant next Monday morning, giving employment to some thirty-five men and boys. This firm has rapidly taken the lead in the brick manufacturing business in this vicinity, as the volume of business being done by them will show. In an interview with Mr. Frank P. Hill, president of the company, he reports the amount of business for the first quarter of the present year equal to that of 1906, which was the banner year in the building line in this vicinity. He attributes their immense success to the superior quality and appearance of the brick, they are having an immense bed of the finest clay found in Kentucky, also to the extreme care exercised in handling and burning. Their bricks are becoming famous throughout the surrounding territory, and they are shipping large quantities to surrounding towns in Kentucky and Southern Illinois. They expect to manufacture 4,000,000 brick this season, as the inquiries for brick being received daily justify them to run to their full capacity.

The Hill and Karnes brick yard, like other brick companies, bid on new brick construction projects. The July 14, 1909, issue of *The Paducah Evening Sun* included news about a construction project in Mayfield, a city south of Paducah in Graves County (The Paducah Evening Sun 1909b:4):

PADUCAH CONTRACTORS

Figuring for Work on the New Government Building

Mayfield, Ky., July 14. —Several contractors of Paducah were in the city to meet Mr. Beatty, contractor for the new postoffice [sic] building. Samples of brick and sand were furnished by the visiting contractors, and they will be sent to Washington for inspection. Plans are to be furnished on the plumbing and steam heating later on. Those who were here from Paducah were: Ed Hannan, the plumber; Charles Fitzpatrick, of the Paducah Sand and Gravel company; Frank

Hill, of the Hill & Karnes Brick company, and Henry Katterjohn, of the Katterjohn Brick company.

A story entitled “Mr. Ernest Karnes Goes to Visit the Southwest” appearing in the February 26, 1910, edition of *The Paducah Evening Sun* reported a major management change in the Hill & Karnes Brick Company (The Paducah Evening Sun 1910a:5):

Ernest Karnes, for several years a partner in the firm of Hill & Karnes, has sold his interest in the brick yard, and next month will leave for the southwest on a prospecting trip. His interest in the brick yard has been purchased by Gus T. Smith, who is well known in the city and formerly was in the drug business. Mr. Smith will succeed Mr. Karnes as secretary-treasurer of the company, although there will not be any change in the name of the firm. Mr. Karnes considers locating in Arizona, but will make a trip through the southwest, before deciding what place he will select. Both he and Mrs. Karnes have many friends in the city, who will regret to have them leave Paducah.

The “Want Ads” section of *The Paducah Evening Sun* carried an ad for the Hill & Karnes Brick Company. The ad started running on September 21, 1910, and continued until October 18, 1910 (The Paducah Evening Sun 1910b:5): “FOR RICH dirt and cinders call Hill & Karnes Brick Co.” Undoubtedly, the dirt from the overburden of the clay pit was used for fill and the cinders (probably from coal burned for heating the water in the steam engine boiler) could be used for spreading on road surfaces. Likewise, the cinders from burning the brick with coal could also be used for road surfaces.

Hill & Karnes ran an ad for stove wood in *The Paducah Evening Sun* beginning November 1, 1910 (The Paducah Evening Sun 1910c:5) which continued until November 25, 1910: “FOR SALE—Dry stove wood. Hill & Karnes Brick Yard. Phone 1233-r.” Areas slated for clay pit expansion may have been covered with forest. As the land was cleared prior to stripping the topsoil, the trees may have been cut into small lengths for use in heating stoves and stacked at the brick yard to season. This would have provided another source of income for the brick yard.

A short article about the Hill & Karnes Brick Company appeared in the November 29, 1910, *The Paducah Evening Sun* (The Paducah Evening Sun 1910d:6):

As manufacturers of common brick, the Hill & Karnes Brick Company holds a foremost position of leadership. This company's yards are located [at the] corner Sixth and Boyd streets, and their output is in great demand throughout this entire section of the country. They have a capacity of 30,000 daily and they pay their employes [sic] the very best wages for their labor. We feel that there is no company in their important line more entitled to the support and patronage of the wage earners than they are, and we hope to see their business grow and expand the coming year.

During a Board of Directors meeting on November 22, 1911, a decision was made to change the company's name to the Hill & Smith Brick Company (Secretary of State 1911). The directors of this company included F. P. Hill, Gus T. Smith, and Bettie Smith (Secretary of State 1911). Gus T. Smith was listed in the 1910 Census as a 46-year-old white male born in Kentucky whose occupation was listed as "manufacturing of bricks" (United States Federal Census 1910). A second amendment to the corporation occurred on January 4, 1913, when the company's name was changed back to Hill & Karnes Brick Company (Secretary of State 1913). At this point in time, Ernest Karnes and Neva Karnes were again mentioned in the amendment and the Smiths were no longer associated with the company (Secretary of State 1913).

Caron's Directory of the City of Paducah for 1908-9 (Caron Directory Company 1908:240) contained the following ad:

F. P. HILL, President. N. KARNES, Vice-President

ERNEST KARNES, Sec., and Treas.

The Hill & Karnes Brick Co.

(INCORPORATED)

MANUFACTURERS OF

COMMON BRICK

CAPACITY 30,000 DAILY

YARDS, SIXTH, AND BOYD STREETS

OLD PHONE 1233-R

The 1910 Population Census Schedules for McCracken County listed Frank P. Hill as a 34-year-old white Kentuckian that manufactured brick. Also, the 1910 Census also listed

Ernest M. Karnes as a 39-year-old white brick manufacturer born in Kentucky (United States Federal Census 1910). Ten years later in the 1920 Population Census Schedules for McCracken County listed Frank P. Hill as a 46-year-old brick maker (United States Federal Census 1920).

Several city directories listed the Hill & Karnes Company between 1912 and 1927. Caron's Directory of the City of Paducah for 1912-13 (Caron Directory Company 1912:627) listed the company as the Hill and Smith Brick Company at 900 North 6th Street. Caron's Directory of the City of Paducah for the Years 1914-1915 (Caron Directory Company 1914:663) included the following listing "HILL & KARNES BRICK CO.; office and yards 6th and Boyd (see card back cover)". The ad on the back cover is nearly identical to the 1908 ad except for a new phone number. In the subsequent years the listings in Caron's directories remain nearly the same (Caron 1916:624, 1918:577, 1920:644, 1922:660, 1924:767). In Caron's 1926-1927 directory (Caron 1926:821), a new street address, 900 North 6th, was assigned to the brick yard. The 1928 Telephone Directory of Paducah, KY, Fall-Winter Issue also listed the Hill & Karnes Company at 900 North 6th Street (Southern Bell Telephone and Telegraph Co. 1928:49).

The April 7, 1916, edition of the *Rock Products and Building Materials* journal carried the following information about W. H. Buhlinger (Rock Products and Building Materials 1916:12):

A half interest in the Hill and Karnes Brick Company of Paducah, Ky., has been purchased by W. H. Buhlinger of St. Louis, Mo., from Michael Karnes. Frank Hill, the other partner of the old concern, retains his interest and the plant will in the future be operated under his management and that of Mr. Buhlinger, who assumes the position of secretary and treasurer. W. H. Buhlinger, of St. Louis, Mo., has become the junior member of the firm of Hill & Karnes, brick manufacturers, at Paducah, Ky., succeeding Ernest Karnes.

Kentucky news appearing in the March 7, 1916, issue of the *Brick and Clay Record* also reported on W. H. Buhlinger buying Michael Karnes share of the Hill and Karnes Brick Company (Brick and Clay Record 1916:463).

W. A. Buhlinger with the Hill & Karnes Company was a member of the National Brick Manufacturers Association for 1918, 1919, 1920, 1921, 1922, and 1923 (National Brick Manufacturers Association 1918-1923). No listings were available for the years following 1923. Available digital newspapers only mentioned W. A. Buhlinger a couple of times. Little is known about him. A brief news item dated March 8, 1918, from *The Farmington Times* of Farmington, Missouri provided some information about Buhlinger (The Farmington Times 1918:1):

W. A. Buhlinger, of Paducah, Ky., secretary, and treasurer of the Hill—Karnes Brick Co., manufacturers of brick, came in last week on a visit for a couple days with old friends and relatives in Farmington, and incidentally looking up some business matters here. “Billy” was reared in Farmington, has a host of friends here, all of whom are delighted to know of his rapid rise in the business world and his success. Yes, Billy is married.

A wonderful article entitled “With the Paducah Brickmakers” containing detailed information about the Paducah Brick and Tile Company and the Hill & Karnes Brick Company appeared in the September 1921 edition of *The Clay Worker* (The Clay Worker 1921a:238-240). The following paragraphs about the Hill & Karnes Brick Company are quoted verbatim from this issue of *The Clay Worker* (The Clay Worker 1921a:239-240). An added blessing from the article was four photographs of scenes at the brick yard which have been scanned and included as Figures 2-5. These are the only photographs of the Hill & Karnes Brick Company that have come to light.

The Hill & Karnes Brick Plant

The main peculiarity of the plant and layout of the Hill & Karnes Brick Co., in Paducah, is found in the clay pit. Here, too, is the origin of some interesting distinct characteristics in their product which consists altogether of soft mud sand molded brick.”

A Pleasant Freak of Nature

They have forty acres of sedimentary clay deposit which though it has some of the usual characteristics of clay openings in the western Kentucky territory, has some peculiarities [sic]. It is overflow territory and the indications are that the top layer, ranging in thickness from two to three feet is made up of sand, loam and other matter carried by overflow and deposited on the early bedding in later years. Even the earlier bedding shows evidence of overflow and some slight intermingling of sand, but deeper down into it [,] it takes on the usual characteristics of a bluish clay. The first impression one gets of it all is disappointing. The first natural impression is that it is a characteristic clay of that section with considerable impurities intermixed with it. The

outcome, however, is one of those freaks of nature which are encountered now and then in the rounds. It produces a brick of unusual color which has more in the way of architectural beauty features than they seem to have made of it yet.

Looking at a finished kiln of brick the first impression is of the usual standard red, but where the burning has been thorough the brick takes on a bluish tint combined with a peculiar fine texture resulting from the sand used in molding that begets enthusiasm over its possibilities in face work. Moreover, this enthusiasm is strengthened after examining the brick closely and breaking some of them open. It burns hard through and through and the texture and color runs so evenly through the brick as to give one the feeling that it is an ideal clay mixture, both for color effect and for burning.

There are some variations in color from a soft red, through a gradually increasing blue shade to a dark chocolate effect in those which have been subjected to unusual temperature. And there is practically no bulging, blistering, or checking, and very little warping or distortion of shapes through piling and burning. The brick is solid and firm and holds its shape unusually well, even in the arches, which is one of the pleasing characteristics of most of the clay found in the Paducah territory.

A Fine Mold Sand

A full understanding of the peculiar features here involves an explanation of how they get the sand for molding and the effect it has on the face appearance of brick. Their clay pit overflows during the high-water times of the Ohio River near which they are located. This overflow interferes with their operations some in the winter and spring, but it repays them for it. It carries over into their pits and there hangs in the willow growth here and there a fine silty sand which they harvest after the water has receded, dry it and use it for molding sand. The sand is what is sometimes described as quicksand and is distinguished from ordinary river sand in that it is of a much finer grain than that usually harvested from the river. The comparison is about the same as comparing powdered sugar to granulated sugar, and the result is it gives a fine soft appearance to the face of the brick. This together with the blue tint in color make a

combination that has more face and architectural possibilities than are usually found in a soft mud brick. This fact is emphasized when an examination of the brick through breaking shows its solid and thorough burning nature. The writer is willing to venture the prediction, too, that if some Chicago architect could get hold of a pile of that brick, there would be another architectural featuring in the Chicago face brick trade.

The Hill & Karnes Brick Co. plant and equipment consists of forty acres of clay, which they are working from the surface down to a depth varying from ten to eighteen feet, and as stated above, there is a top layer of this clay, which when properly intermixed with the other produces a brick with an interesting blue cast.

The plant equipment consists of a sixty-horsepower boiler, a fifty-horsepower engine, disintegrator, and a Potts soft mud machine with a capacity of 40,000 brick a day. They have drying racks for about 225,000 brick, and an [sic, including] equipment of three up-draft rectangular kilns with a capacity of 400,000 each. The brick are usually set forty-two high in the kiln, water smoked four to four and a half days, using wood for water smoking, and then coal for burning, the total period requiring from seven to eight days. They judge the burning and its progress by the settling, which in their kilns when set forty-two high they figure will range ten to twelve inches. After they judge the burning as being sufficient, the kilns are sealed up and allowed to stand about four days to cool down.

Where Even the Arch Brick Burn Good

In the way of fuel requirements, they figure that to burn a kiln of 400,000 brick it requires thirty-five cords of wood and 120 tons of coal. The percentage of culls is small and there is seldom any bad effect shown from burning. The only ones found were checks due to letting in cold air in efforts to drive the heat from one side of the kiln to another. Even brick examined in the arches after burning showed practically no damage from fire, and they say they have no trouble whatever from over burning, and no special need for temperature control. After they get through their smoking period, they just simply burn hard until the settling indicates a thorough burning, after which they close up and cool off.

The owners and active managers of the Hill & Karnes Brick Co. are Frank P. Hill and Earnest Karnes. They began operations in 1904 and burned their first brick in 1905. They figure an annual production of approximately four million brick, their greatest record perhaps being four and a half million in one season. They do not operate in the late winter and spring months because the clay pits overflow at that time, and it is the slow seasons in building operations anyway. They can easily provide themselves with enough stock to carry through this period.

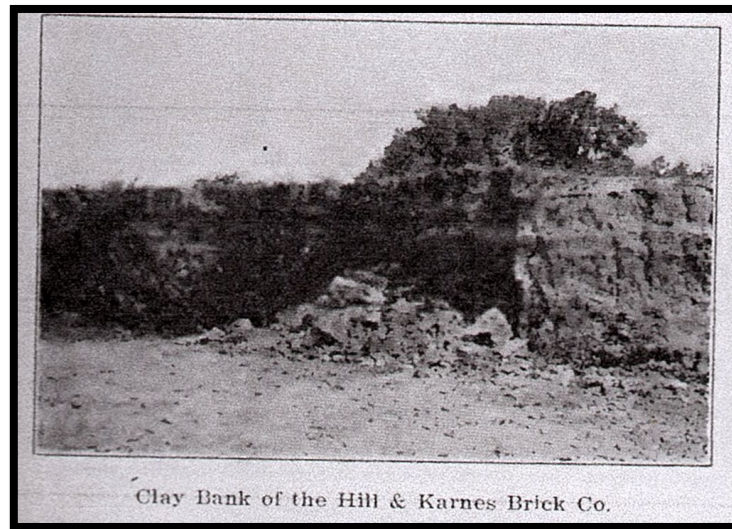


Figure 2. Clay Bank at the Hill & Karnes Brick Yard in Paducah, Kentucky. Reproduced from the September 1921 issue of *The Clay Worker*.

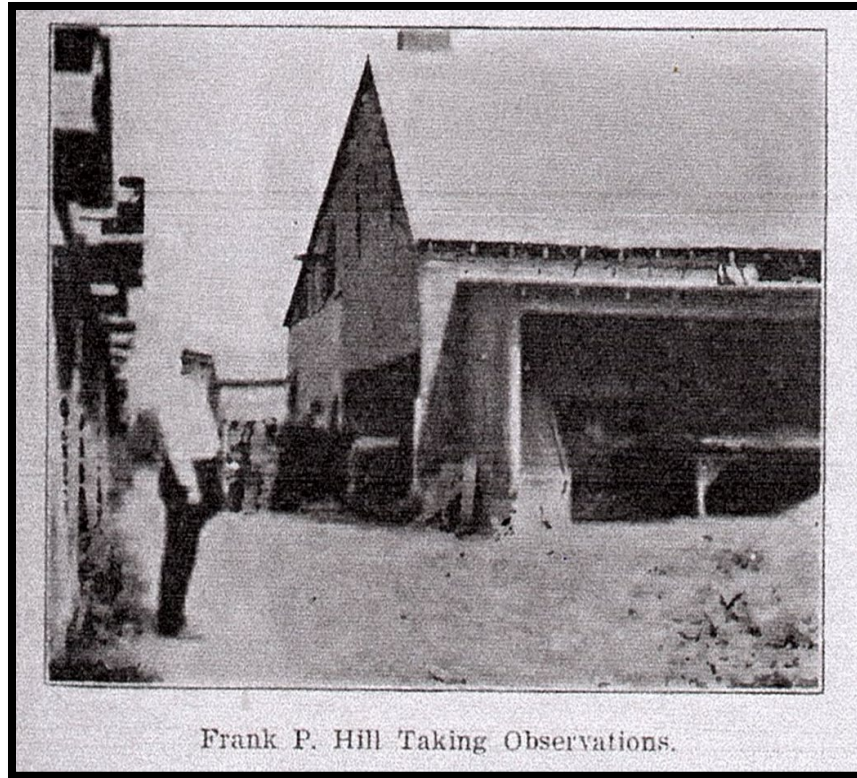


Figure 3. Frank P. Hill at the Hill & Karnes Brick Yard in Paducah, Kentucky. Reproduced from the September 1921 issue of *The Clay Worker*.

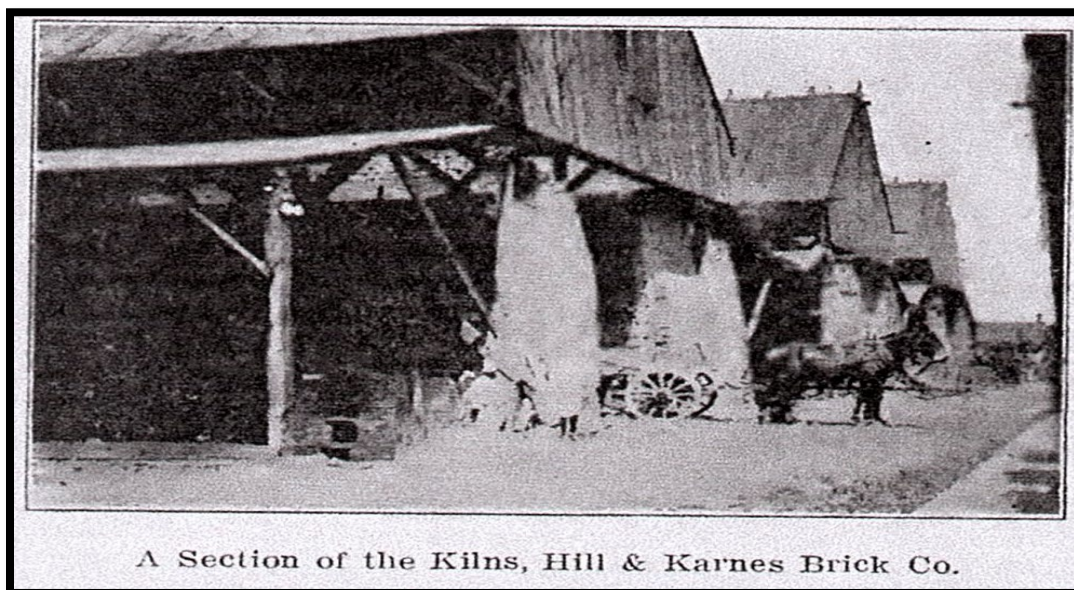


Figure 4. Brick Kilns at the Hill & Karnes Brick Yard in Paducah, Kentucky. Reproduced from the September 1921 issue of *The Clay Worker*.

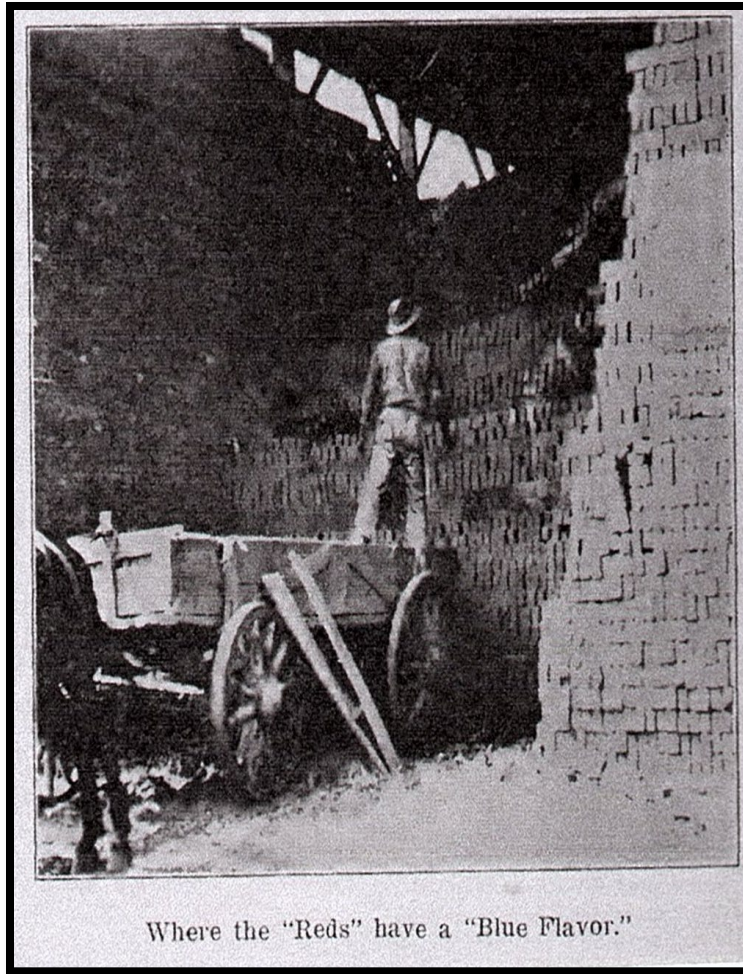


Figure 5. Interior of Brick Kiln at the Hill & Karnes Brick Yard in Paducah, Kentucky. Reproduced from the September 1921 issue of *The Clay Worker*.

A story about the Kentucky Clay Products Association also appeared in the September 1921 issue of *The Clay Worker* (1921b:241) that mentioned the Hill and Karnes Brick Yard:

A group meeting of the Kentucky Clay Products Association was called at the Palmer House, Paducah, Ky., July 13th, but owing to the excessive heat the attendance was small and no formal meeting was held. The Clark Brothers, Henry, Joe, and R. L. came down from Owensboro, and C. F. Cato, of the Dawson Springs Brick Co., came bringing his little daughter with him. These together with the secretary, and with James Murray, of the Paducah Brick and Tile Co., and Frank P. Hill, of the Hill and Karnes Brick Co., Paducah, made up the party

which took lunch together and informally discussed conditions in the clay-working industry.

The Paducah brick manufacturers say that while conditions looked dull and raggy they have really done fairly well so far as this season and the volume of brick used is about up to normal. They have plenty in stock to meet the demands but have not at any time been heavily burdened with stock on hand. Brick prices in Paducah average about \$15.00 delivered, the prices ranging from \$13 to \$17 delivered, and from \$12 to \$16 at the kilns.

Ries (1922:58) provided the following information "Hill and Karnes. This firm operates a common brick plant at 900 North Sixth Street. The material used is a flood-plain clay, dug 25 feet above river level". Further, he noted that "the bricks are molded in a soft-mud machine, dried on pallet racks, and fired in Dutch kilns. During the burning there is 12-14 inches settle in 42 courses. The product is a good common brick, but selected bricks are sold for fronts. The market is the same as the proceeding" [The proceeding comment was "The market is chiefly western Kentucky and Tennessee"] (Ries 1922:59). Jillson (1926:15) provided the following listing: "Hill Karnes Brick Co., Sixth & Boyd Sts., Paducah, Ky."

The 1926-1927 Paducah City Directory also contained a new ad for the Hill and Karnes Brick Company (Caron 1926:821):

FRANK P. HILL, President ERNEST. KARNES

Sec'y. And Treas.

HILL & KARNES BRICK CO.

INCORPORATED

MANUFACTURES OF

HIGH GRADE BRICK

N. 6TH AND BOYD STS.

PHONE 123

Kentucky Natural Resources, Industrial Statistics, Industrial Directory Description by Counties (Seiller 1929:294) indicated that Hill & Karins [sic] Brick Company had 42 employees which included 36 colored men and six white men. Burroughs (1930:14) listed Hill & Karnes Brick Company and noted their transportation sources included the following

railroads: Chicago, Burlington & Quincy; Illinois Central; Nashville, Chattanooga & St. Louis; Paducah & Illinois.

As of January 1, 1930, the Hill & Karnes Brick Company, Inc. was still operating at 900 North 6th Street in Paducah (Jillson 1930:165). Sometime between 1930 and 1933, the Hill & Karnes' name disappears, and the Kentucky Brick Company appears at their address (Caron 1933:712). We don't know whether this company bought out Hill & Karnes or this was just a name change.

PERSONAL INFORMATION ABOUT FRANK HILL AND ERNEST KARNES

Brief biographical information is available for Frank P. Hill and Ernest Karnes. Frank Hill was born January 19, 1885, in Warren County, Kentucky and worked as an engineer (Birchfield 1993:42). He resided at 931 Park Avenue in Paducah and was married to Elizabeth Hill (Birchfield 1993:42). Hill died of pneumonia on July 7, 1935, and was interred in the I.O.O.F. Cemetery in Joppa, Illinois (Birchfield 1993:42). Connelley and Coulter (1922:391) published an extensive bibliographical sketch for Ernest Karnes from which portions are extracted below:

ERNEST KARNES. Among the important industrial concerns which are assisting in maintaining Paducah's prestige is the Hill & Karnes Brick Company, whose product commands an excellent market because of its uniform excellence. Its position with the trade has been brought about through the energy, foresight, and business acumen of its officers, one of whom, Ernest Karnes, its secretary and treasurer, is a very representative man of this section. Mr. Karnes was born at Paducah, July 22, 1870, a son of William M. Karnes. ...

Ernest Karnes was reared at Paducah and attended its schools until he was fifteen years of age, after which he worked with his father in the contracting business until 1898. During the intervening few years, he was interested in several matters, but in 1904, partnership with Frank P. Hill, started his present brick business, and incorporating it in 1908 as Hill & Karnes Brick Company. The officers of the company are as follows: Frank P. Hill, president, and Ernest Karnes, secretary, and treasurer. The offices and yards are at Sixth and Boyd streets. The company manufactures common building brick, and the capacity of their plant is 4,000,000 annually. Shipments are made as far south as Central Mississippi and throughout Western Kentucky and Western Tennessee.

Several stories were published about Frank Hill's engagement to Blanche Shelbourne. Because of space restrictions, they will not all be quoted here. Their marriage was announced in the February 21, 1906, edition of *The Paducah Sun* in a story entitled "Shelbourne-Hill Wedding" (The Paducah Sun 1906a:5):

Mr. Frank Hill and Miss Blanche Shelbourne were quietly married this morning between 10 and 11 O'clock at the parsonage of St. Francis de Sales ... Catholic church by the Rev. Father H. W. Jansen and left at 12 o'clock for Louisville and the east on a bridal tour.

The bride is a popular young lady of Wickliffe who had been connected with the Riverside hospital nursing corps until her engagement several weeks ago. She has many friends in the city. The groom is a member of the popular firm of Hill and Karnes brick contractors.

The wedding was a quiet one, being witnessed by a few friends and the members of the family. The couple will be gone for several days and on their return will reside at Sixth and Clay streets. Both are popular young people with many friends here and elsewhere.

The couple's return was reported in the February 28, 1906, issue of *The Paducah Sun* (The Paducah Sun 1906b:5):

Mr. and Mrs. Frank Hill have returned from the east where they went on a bridal tour and are at home at 6th and Clay streets.

KENTUCKY BRICK COMPANY

Sometime between 1930 and 1933, the Kentucky Brick Company replaced the Hill & Karnes Company and continued to be located at 900 North 6th Street (Caron 1933:712). The Kentucky Brick Company was listed in the 1935-1936 (Caron 1935:757), the 1937 (Baldwin and Young 1937:37), and the 1939 (Baldwin, Billing, and Young 1939:32) City Directories for Paducah at 900 North 6th Street. Sometime prior to 1941, the company went out of business since it did not appear in the 1941 or 1947 City Directories for

Paducah (Caron 1941:783, 1947:501). No other information was found for this short-lived brick company that succeeded the Hill & Karnes Company.

POTENTIAL ARCHAEOLOGICAL RESEARCH

It is hoped that the archaeological remains associated with the Hill & Karnes brick yard will be documented in the future. Paducah resident, the late William R. Black, Jr., took me to the edge of the brick yard in 1997. The Ohio River was at flood stage at the time, and we could only see the edge of the brick yard ruins from a distance. There were numerous bricks visible in the area. According to Bill Black, a Paducah businessman owned the brick yard property and would not allow any fieldwork on his property. Bill and I had wanted to visit the brick yard but could not obtain permission to survey the property. An archaeological report authored by the late Pam Schenian shows that the area was surveyed but Schenian shared with me personally that she was not allowed to examine the area where the brick yard was located. I think that she was told that the area was "disturbed" and was to be excluded from the area actually examined during the survey. By telling the archaeologist that the land was disturbed, the property owner was able to avoid potential liabilities for having the brick yard ruins recorded as an archaeological site and eliminate any possible mitigation costs.

Since the brick yard is located in a low-lying area near the Ohio River, it is unlikely that anything has been built on this property. Extensive filling would be required to use this property for new construction. Assuming that these remains have survived to the present, I would recommend that the Kentucky Heritage Council staff keep a watchful eye on the property on North Sixth Street between Boyd and Finland. It is very possible that the bases of the brick kilns are still intact as well as the foundations associated with the brick machine shed, the shed containing the steam engine and boiler, and company office. Field work could document the dimensions of each structure, wall thicknesses and wall heights could be documented. There may also be areas with intact archaeological deposits. The brick kilns and the structure housing the boiler most likely contain a variety of fire brick. Typically, fire bricks have brand names on them that permit researchers to determine the place of their manufacture and the approximate ages. Fire bricks have to be purchased from other manufacturers for the building of the firing tunnels or arches at the bases of the brick kilns. Also, since years of repeated kiln burning damage the fire bricks, new bricks would have to be acquired for periodic repairs. Sometimes fire bricks from several states were used in the construction and periodic repairs at brick yards. Undoubtedly, there are thousands of discarded brick remaining at the brick yard site. The majority of these bricks are most likely rejects that the owners could not sell. However, there should be some nearly perfect bricks and fragments of high-quality bricks. Systematic sampling of the bricks at the site would provide a sample of the products produced by the Hill & Karnes Company. These bricks would provide examples from the brick yard that could be compared to those included in early 20th century buildings in Paducah. Currently, I am unaware of any bricks made by Hill & Karnes Company that

contained brand names. It is also possible that samples of tiles and other clay products made by the company could be recovered and analyzed.

CONCLUSIONS

Ries (1922:157) provided the following comments on the brick industry in the Jackson Purchase region of Kentucky and the increasing role of brick in the construction industry:

The plants vary considerably in capacity. The Paducah plants are the largest because the local market absorbs a large output; the Fulton plant represents an excess capacity with consequent periods of non-production; the Mayfield plant produces to capacity. Construction is changing in character in the Purchase. The log house has already given way to frame construction, and with the steadily mounting prices for lumber, brick is coming into use in the newer and better houses in the towns. This should lead to a better demand and a wider market for brick, so that brick manufacture should lose some of the precariousness which has attached to the industry in the past.

Bricks from the Hill & Karnes Brick Company were shipped to markets in Kentucky, southern Illinois, western Tennessee, Mississippi, and undoubtedly other areas as well. Railroads available to Hill & Karnes for shipping their bricks included Chicago, Burlington & Quincy; Illinois Central; Nashville, Chattanooga & St. Louis; Paducah & Illinois. Bricks could also be shipped on the Ohio River and its tributaries.

A range of soft mud building and paving bricks were manufactured by the Hill & Karnes Company. The floodplain clays allowed them to produce a range of brick colors from light to dark red, "dark chocolate", and some blue shades. Graves (2003:176) suggested that the Hill & Karnes Company did not produce any bricks containing the company name or other markings. The company was producing about four million bricks per year. In 1909, they could produce 30,000 bricks per day and by 1921 their daily capacity increased to 40,000 bricks per day. The bricks were burned in three rectangular updraft kilns.

The Hill & Karnes Company was established by Frank Hill, his sister Neva Hill, and Earnest Karnes in 1904. It operated at 900 North Sixth Street using a flood-plain clay to produce machine-made soft-mud bricks fired in Dutch kilns (Ries 1922:58-59). The partners operated it together until early 1910 when Karnes sold his interest in the brick yard. Gus Smith acquired Karnes' shares of the business and by 1911, the company name was changed to the Hill & Smith Brick Company. By 1913, the name was changed back to

Hill & Karnes Brick Company. W. H. Buhlinger acquired a half interest in the company in 1916. The brick yard continued operating until sometime between 1930 and 1933. Hill & Karnes employed 35 men and boys in 1909 and increased their work force to 42 men in 1929. The Kentucky Brick Company appears at the same street address in 1933. This new brick company was out of business before 1941. When the Paducah newspapers published for the 1930s are available, we should be able to learn why the Hill & Karnes brick yard closed and more about the Kentucky Brick Company that followed them.

ACKNOWLEDGMENTS

I want to thank my friend, the late William R. Black, Jr. for making me aware of the Hill & Karnes brick yard. Further, Bill encouraged me to visit and document some of the other brick yard ruins in Paducah. The late Thomas N. Sanders, former Site Protection Manager, and archaeologist at the Kentucky Heritage Council, permitted me to work with Bill Black on the Paducah brick industry. As always, my precious wife, Susie Hockensmith graciously proofread this article and identified errors that needed to be corrected. Finally, the September 1921 issue of The Clay Worker magazine, containing the photographs of the Hill & Karnes brick yard, was discovered on the Internet Archive website.

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THE PREVALLETT-McCLAIN SITE, 15SP243, A LATE MIDDLE ARCHAIC SITE IN SPENCER COUNTY, KENTUCKY

By
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ABSTRACT

Archaeological sites found during Section 106 compliance projects are variably found to be not eligible for listing to the National Register of Historic Places, potentially eligible and evaluated, or found to be very significant. The latter are then avoided by project impacts or mitigated through data recovery or other means. Sometimes, as specified in compliance reports, significant sites are tagged with a caveat that they be preserved in place for the future. Preservation, however, is not always realized. This is especially applicable if a project occurred years ago. Agency staff changes occur frequently, reports are archived, and the institutional knowledge of that site and associated restrictions are forgotten. Monitoring significant sites to ensure they are preserved is not always practical. The Prevallett-McClain site in Spencer County was investigated in 1976, with a portion of the site within road right-of-way set aside to be preserved and avoided. As seen by a recent Section 106 project, the site, which contains Native American graves and other important features, has been considerably impacted in recent years with utility placements, and was slated to be further affected by construction of a sidewalk. This article provides an update on this important site and the implications of ensuring site preservation.

INTRODUCTION

Between June 11 and July 6, 2020, Corn Island Archaeology LLC (now HMB Professional Engineers LLC) personnel completed an archaeological survey for the city of Taylorsville in Spencer County, Kentucky. The survey was required prior to the planned construction of a sidewalk and associated drainage facilities at the Spencer County High School within a rapidly developing part of Taylorsville (KYTC Item No. 5-3224.00). The planned sidewalk corridor was designed to be 1,447.50 meters, or 4,750 feet, long, extending along the intersection of KY 155/55 and KY 44. The project footprint encompassed 1.36 hectares or 3.35 acres. One previously recorded archaeological site, the Prevallett-McClain Site (15SP243) lay partially within the footprint of the proposed

improvements (Figure 1). This site was known to contain human burials associated with the Archaic period and was considered eligible for listing in the National Register of Historic Places. Roughly 0.2 hectare (0.5 acre) of Site 15SP243 lay within the footprint for sidewalk construction.

The portion of the project area that contains Site 15SP243 was a mown grassy area at the time of the survey. Much of the corridor along KY 44 and KY 155/55 has been disturbed from previous earth moving and grading associated with the construction of a large storm swale and buried utilities. Prior to the fieldwork, the underground utilities were marked, revealing that the corridor contained multiple buried lines of various types that extended north-south through the project area. As discussed below, Site 15SP243 was believed to be destroyed, both by the aforementioned grading, drainage swale, and utility emplacement, but also because it lay within the right-of-way (ROW) of the KY 155/55 corridor. The 2020 survey found that this was not the case.

BACKGROUND

In 1976, the University of Louisville Archaeological Survey (ULAS) conducted a survey of 14 miles of proposed roadway at the request of the Kentucky Transportation Cabinet (KYTC) for the proposed Taylorsville-Fisherville Road Relocation, Kentucky State Road 155 project (DiBlasi 1976). The survey was completed using a combination of pedestrian reconnaissance and the excavation of test units, which resulted in the discovery of eight prehistoric sites (15SP243, 15SP244, 15SP245, 15SP246, 15SP247, 15JF392, 15JF393, and 15JF394). Only two of the sites were tested at the time, namely sites 15SP243 and 15SP244. The remaining six sites were recorded based on pedestrian reconnaissance only. Site 15SP243 was found to be a multicomponent site containing hearths, human burials, and many projectile points, bifaces, and chert tools. Based on the projectile points, the site was occupied from 6500 BCE to 1650 CE. Site 15SP244 was investigated in 1976 using pedestrian reconnaissance and the excavation of test units. The testing recovered nine complete projectile points, eight projectile point fragments, one chert core, one chert flake, and two utilized chert flakes. All artifacts were recovered from the plowzone. The other six sites recovered sparse lithic scatters from surface surveys. Several whole and fragmentary projectile points and chert flakes were found. Three sites (15JF246, 15JF392, and 15JF394) were recommended for further evaluation because of their location within the proposed ROW (DiBlasi 1976).

The DiBlasi 1976 report made it clear that two distinct areas of Site 15SP243 were investigated. An amateur collector, Jerry Hoehler, had assigned designations SP21 and SP10 to areas along the roadway (then called Yoder Road) that he had collected over the years preceding the 1976 survey. SP21 was west of the road on the McClain farm, and SP10 was on the east side of the road on the Prevallett farm. DiBlasi and crew examined those two areas in 1977, referring to them as TF 1 and TF 2 (Figure 2). Later, a decision was made to include both areas into one large site, 15SP243.

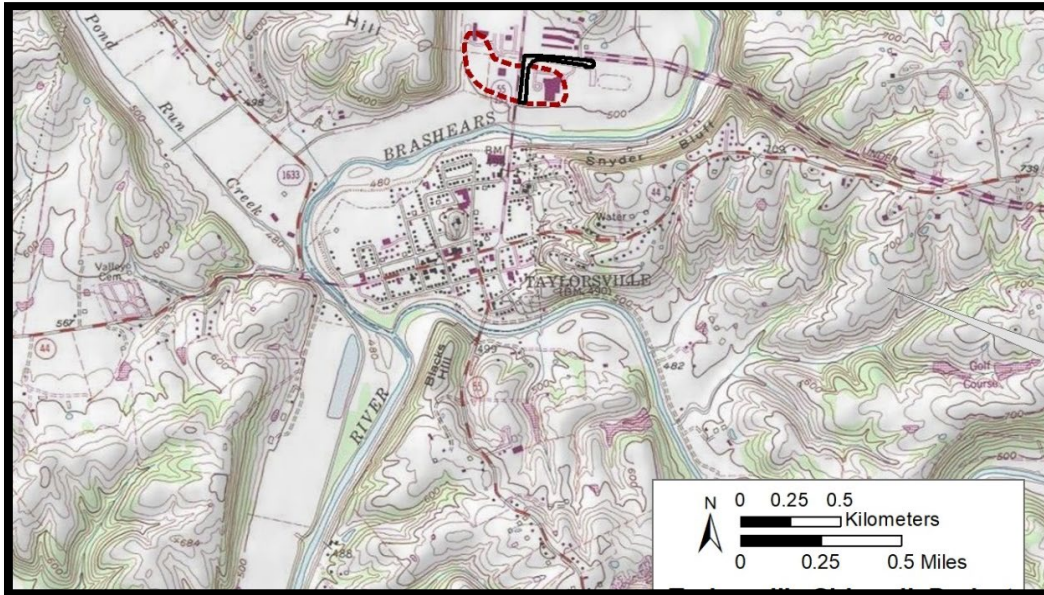


Figure 1. Project area on a segment of the Taylorville, KY 7.5-minute topographic map showing location of Site 15SP243 (U.S. Geological Survey 2013).

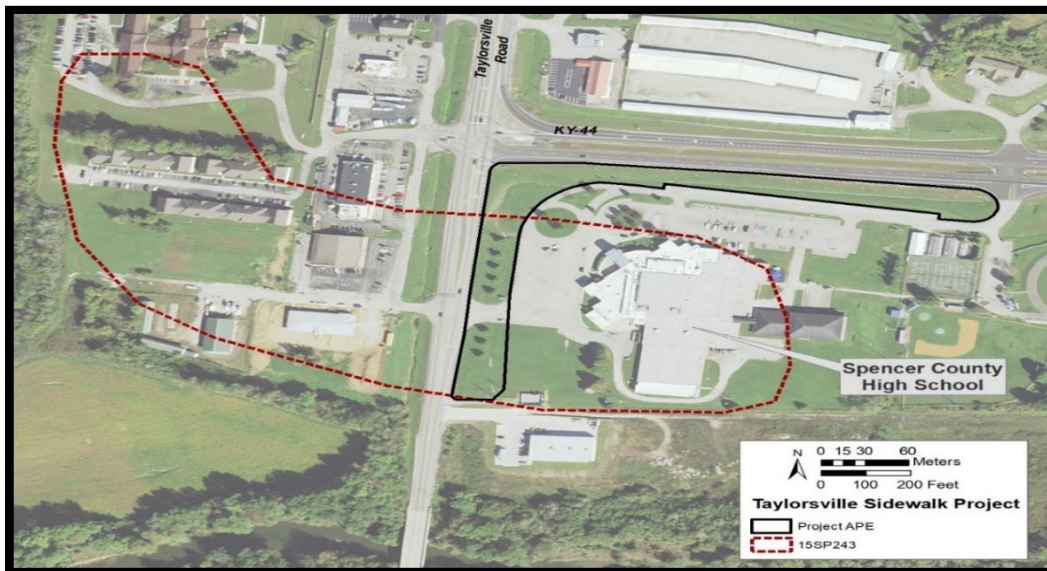


Figure 2. Various Naming Conventions for 15SP243.

In 1977, the KYTC Division of Environmental Analysis (DEA), conducted further investigations on that portion of Site 15SP243 (the Prevallett-McLain Site) that was located within the ROW of the planned KY 155 relocation project (McGraw et al. 1978). Justification for the additional work was due to the reported incompleteness of the 1976 ULAS survey. While it was known that burials were present at the site, they had not been identified within the ROW of the planned relocation (McGraw et al. 1978:1). The additional investigation entailed backhoe profile trenching, hand-excavation of test units, backhoe exploratory trenching, and the disinterment of human burials. The additional backhoe exploratory trenching was done following the excavation of test units, which provided insufficient data to assess the site (McGraw et al. 1978:14). Eleven backhoe trenches were excavated to examine the site's stratigraphy. Eight hand-excavated test units were dug following this initial trenching. Six additional backhoe trenches were then excavated to explore the horizontal extent of the deposits. Although intact deposits were identified, "subsurface" disturbances were noted throughout the area by the investigators, who concluded that natural as well as a cultural mixing of the soils had occurred. Root and rodent bioturbation were noted, as well as "subsoiling" (plowing?), which was noted to a depth of 91 centimeters (36 inches) and confirmed by local cultivators (McGraw et al. 1978:18).

In all, 313 square meters (3,369 square feet) of the site were excavated within the proposed ROW; 110 square meters (1,184 square feet) were located within the roadway construction limits. The area defined as the construction limits was referred to at the time as Area B; 25 percent of Area B was excavated. The remaining 203 square meters lay outside the construction limits (Figure 3). This portion, called Area A, was to be left undisturbed and preserved (McGraw et al. 1978:69). It was further recommended that the construction of the road be monitored for additional archaeological remains.

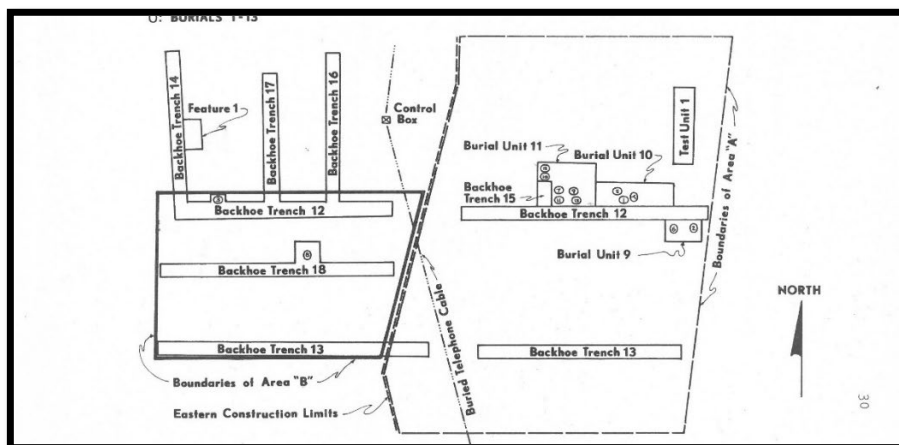


Figure 3. Map showing relationship of Area A and Area B (McGraw et al. 1978).

Based on the recovery of 28 diagnostic artifacts, the site was assigned primarily to the Late Archaic period. However, based on images of these artifacts presented in the report, it is apparent that the site contained materials from the Early Archaic, Middle Archaic, Late Archaic, and Terminal Archaic-Early Woodland (Figure 4 and Figure 5). The diversity of artifacts indicated that the site served multiple purposes; residential activities were indicated by the assemblage and features.

In addition, the site had a mortuary function; in all, 13 sets of human remains were disinterred. The burials were tightly to moderately flexed. Two graves were associated with pits, one of which contained three burials and a second which held one (McGraw et al. 1978:35). The graves were found at a depth of 30 to 100 centimeters below the ground surface, although 12 of the 13 graves were between 30 and 55 centimeters below ground surface. Limestone slabs were present in the cemetery, though no discernable pattern was found in relation to the graves; these were not interpreted to be stone-lined graves. Multiple graves were in generally poor condition (Figure 6). Several graves contained projectile points, and one grave contained an individual who had apparently been shot in the chest with a projectile. Sixty-four drilled canine teeth were found with Burial 2 (McGraw et al. 1978:38).



Figure 4. Diagnostic hafted bifaces recovered from earlier excavations.



Figure 5. Additional diagnostic projectiles recovered during earlier investigations.



Figure 6. Two poorly preserved flexed burials excavated in 1977 (McGraw et al. 1978.)

SITE 15SP243

Site 15SP243 lies upon the crest of a low terrace parallel to Brashears Creek near its confluence with the Salt River (Figure 7 and Figure 8). The planned project is situated within the outer Bluegrass physiographic region near the geographic center of Spencer County. The project area is characterized by a broad, highly dissected alluvial bottom created by the confluence of Brashears Creek and the Salt River, a tributary of the nearby Salt River. The site lies some 52 miles upriver from where the Salt River empties into the Ohio River just below the Falls of the Ohio River (Figure 9). Soils within the site are comprised of Elk silt loam 2 to 6 and 6 to 12 percent slopes. Elk silt loam is found on stream terraces but rarely floods and has no propensity to pond. These soils derived from mixed fine silty alluvium over fine loamy alluvium. The United States Department of Agriculture Natural Resources Conservation Service (Soil Survey Staff 2020). Elk silt loam soils are classed as Alfisols which are found on landforms that formed during the late Pleistocene or earlier (Soil Survey Staff 1999:163-165). Archaeological deposits would be found on or very near the ground surface on landforms mapped with Alfisols.

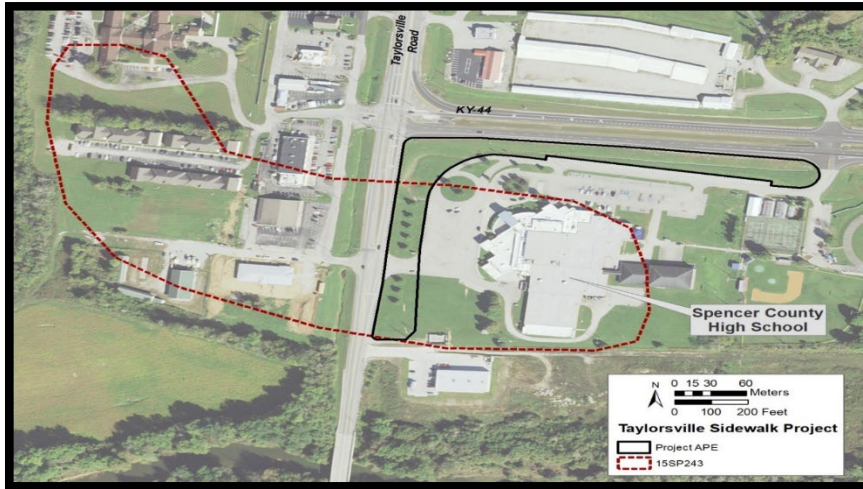


Figure 7. Location of Site 15SP243 in relation to Brashears Creek (at bottom of the image).



Figure 8. View of 15SP243 facing north; Brashears Creek to the south.

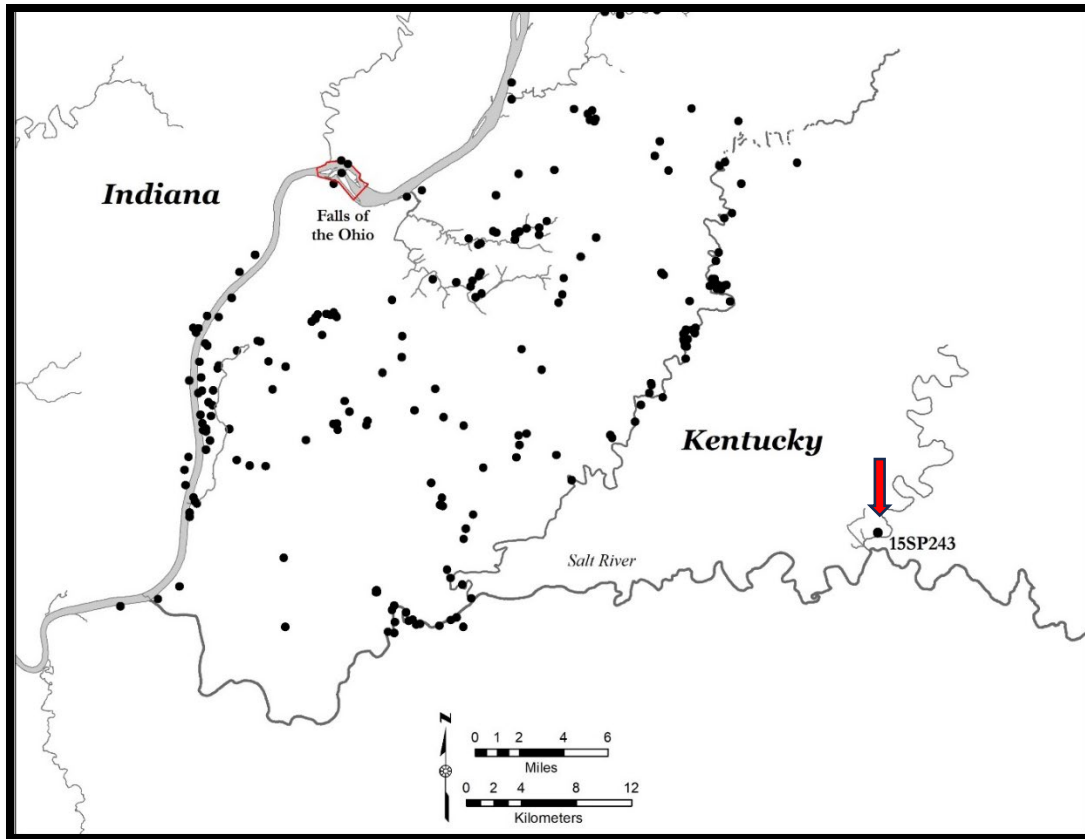


Figure 9. Location of Site 15SP243 in relation to the Falls of the Ohio River.

2020 FIELDWORK

Preceding the 2020 survey, the area was marked for belowground utilities, revealing a broad extent of buried utilities north-south through the center of the project area. Intensive pedestrian reconnaissance was conducted across the entirety of the project area. The objective of the reconnaissance was to locate, describe, and evaluate any aboveground evidence of archaeological resources such as artifact concentrations, structural foundations, refuse dumps, wells, and cisterns, stacked stone walls, gravestones, quarry pits, and earthen or stone mounds. In accordance with state requirements, the area was examined by means of visual inspection along linear transects spaced no more than 20 meters (65.6 feet) apart. Because portions of the area were narrow, the survey interval was in fact closer than 20 meters (65.6 feet) in some areas. Areas in which ground disturbances were readily apparent were visually inspected to determine and document the nature and degree of disturbance and delineated using a handheld GPS device. As can be seen from Figure 10, these disturbances were extensive across the western and central portions of the site that was contained within the project boundaries.

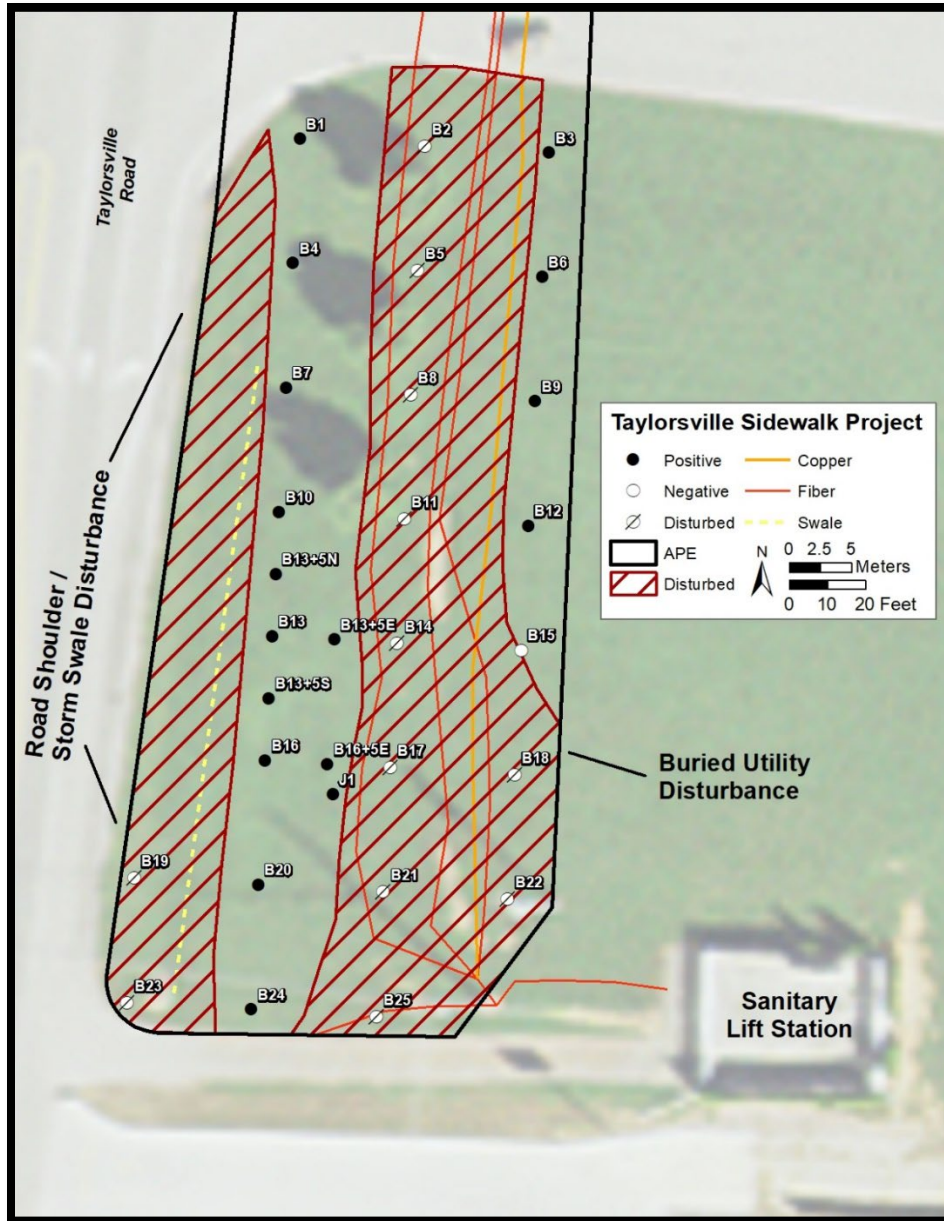


Figure 10. Disturbances at the portion of Site 15SP243 with the project area.

Following the pedestrian survey, shovel test probes (STPs) were excavated at 10-m (32.8-ft) intervals within the undisturbed areas. The utility corridor was avoided. Some STPs were excavated in areas of apparent disturbance to ground truth conditions at those locations. To provide greater accuracy when delineating the buried extent of a site, bracketing or radial STPs were selectively excavated at a defined distance from previously documented positive shovel probes. Bucket auger testing was conducted due to the presence of deep soils containing cultural deposits. An 18-centimeter (7-inch) long, 9.5-centimeter (3.7-inch) diameter bucket auger with a 140-centimeter (55.1-inch) extension

was used to further extend those STPs with deeper soils. All bucket auger tests were placed within the bases of excavated STPs. Figure 11 shows the locations of the excavated STPs in relation to the trenches dug by McGraw (McGraw et al. 1978). As seen from this figure, the 2020 project contained much of Area A and Area B as defined in 1977.

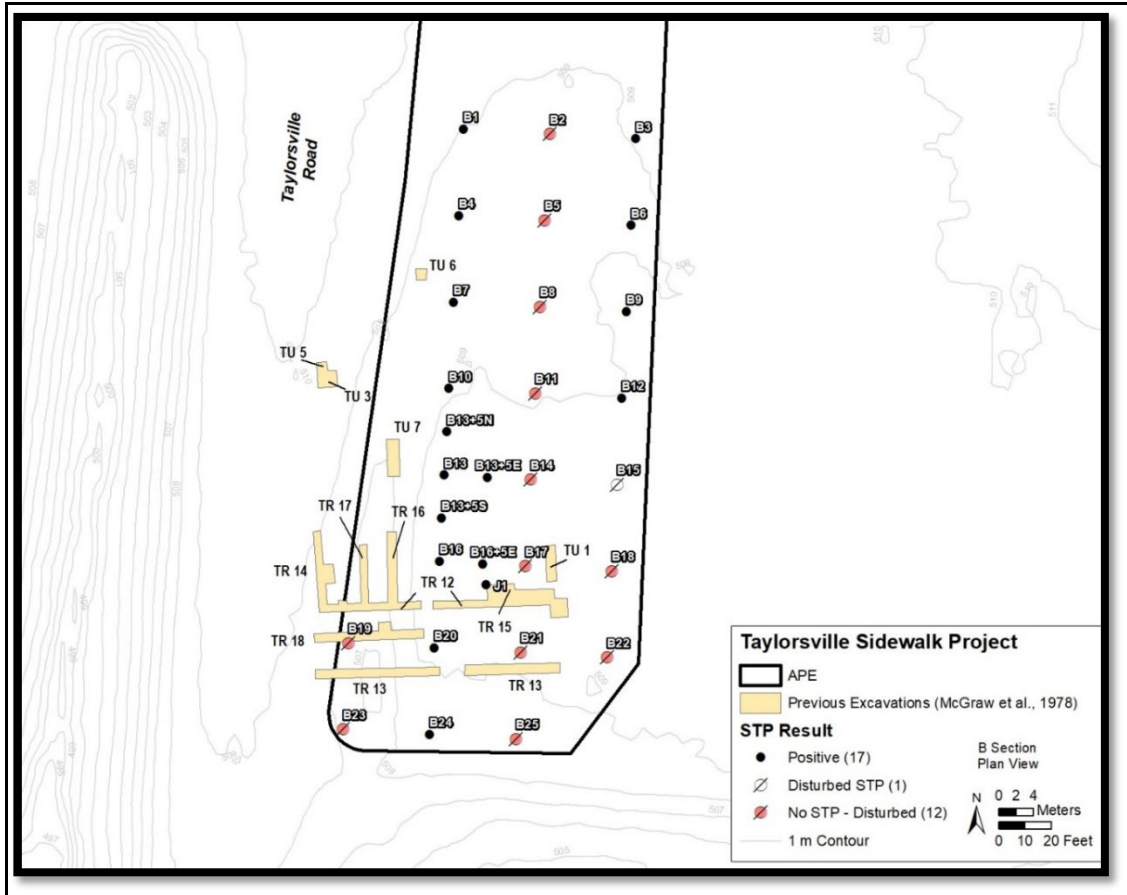


Figure 11. STP locations in relation to 1977 trenches at Site 15SP243.

At the same time as the shovel probing, Cardno, Inc. completed a magnetometer and ground-penetrating radar (GPR) survey that encompassed the previous excavations at Site 15SP243 and the primary levee position on which the site is focused. A Bartington Grad601-D gradiometer was used to complete the magnetometer survey of the site. A GSSI Utility Scan GPR unit with a 350 MHz antenna was used to complete the GPR survey of the site. The two geophysical instruments were meant to complement each other in their ability to explore different aspects of the physical properties of soil contained at the site. These two techniques were also chosen to deal with different issues related to modern impacts to the site.

Cardno concluded that extensive disturbance caused by buried utility lines, surface guy wires and service plates (manholes) significantly reduced the overall

effectiveness of the data. While sections of the center of the survey area were especially affected, the western third of the site corresponded to the focus of previous archaeological investigations at the site and significant archaeological deposits. However, data from this area was still obscured by random metallic debris. Importantly, the magnetometer data did not identify any of the previous excavation units or trenches placed at the site during the 1977 investigation, but this may be due to the disturbances occasioned by the later utility emplacement.

Three potential anomalies were identified within the data that appeared consistent with precontact Native American features. Anomaly 1 (A1) was roughly 100-120 centimeters (39-47 inches) in diameter and possessed a maximum signature range that placed it perfectly within the expected range and size for precontact features. A review of the GPR data by Cardno provided an estimated depth of 60 centimeters (23.6 inches) below ground surface. Anomaly 2 (A2) was ovoid in form and approximated 60-x-100 centimeters (23.6-x-39 inches) in dimensions and occurring between 60-80 centimeters (23.6-31.5 inches) below ground surface. Anomaly 3 (A3) measured roughly 75-x-100 centimeters (30-x-39 inches) in size and a depth of 50-60 centimeters (19.7-23.6 inches) below ground surface was estimated for the potential depth of the anomaly (Simpson 2020, in Bader and Blair 2020:64).

Collectively, the excavations and geophysical data suggest the western 2020 survey transect contains buried intact archaeological deposits and features. Because of the proximity to human burials excavated in 1977, the presence of intact interments could not be ruled out. In some areas, the deposits were deep, below any disturbances that may have been due to plowing. Zone I in the western portion of the site averaged about 40 centimeters (15.7 inches). However, depths in three STPs (B10, B13, and J1) extended to between 64 and 83 centimeters (25.19 and 32.67 inches). STPJ1 almost certainly intersected a thermal feature (Feature 1), and it is possible that the other two deep STPs did as well. The only notable disturbances along the western transect were observed in STP B13+5S, which contained a mix of flakes, whiteware, glass, and modern debris within the upper portion of Zone I and is considered somewhat disturbed likely due to a history of mid twentieth century plowing and early twenty-first century construction and development.

The eastern transect exhibited similar if slightly shallower deposits, with most being 35 centimeters (13.77 inches) deep or less. STPs B3, B6, B9, and B12 all showed a Zone I between 17 and 40 centimeters (6.7 and 15.75 inches) bs. Three of the seven STP locations were disturbed (STPs B15, B18, and B22.) The overall artifact yield from STPs B3, B6, B9 and B12 was less than the western, and the artifacts originated from different zones. Collectively, the data suggests less site integrity east of the utility lines. However, since the site was not investigated beyond the project footprint, it is not known if disturbances in the eastern transect relate to the utility lines. There may be a higher degree in site integrity east beyond the project boundaries. However, at some point, site disturbances associated with the construction of the high school would be a factor.

Figure 12 is a five-class thematic map showing the relative depth of Zone I within the survey area. Shovel probing along the western STP transect revealed an undisturbed lens of soil just west of the utility lines associated within Site 15SP243. The lens of archaeological deposits is bounded by the swale to the west and utility lines to the east and is the densest and least disturbed portion of the project area. The depth of Zone I varies but is clearly deepest and least disturbed west of the utility corridor, very near the locations where human burials were encountered in 1977.

By contrast, given the variability of stratigraphy and the limited numbers of recovered artifacts, it is likely that the eastern portion of the survey area is: 1) more disturbed than the area along the western transect and/or, 2) that it reflects a less intensive utilization than to the west of the project area. While this portion of the project area lies within the recorded center of Site 15SP243, which extends much further to the east, it appears that Native American activities in this part of the site was not as intensive with few associated features, less midden accretion, and lower artifact deposition than on the west. Further, the more significant site activities occurred on the higher ground nearest Brashears Creek.

FEATURE 1

STP J1 was emplaced in the southwestern corner of the site to test one of several anomalies (Anomaly A2) indicated by the geophysical data (Figure 12). The highest concentration of artifacts from any of the excavated STPs was collected from STP J1. STP J1 was approximately 2.5 meters (8 feet) south of STP B16+5E. This STP was located very near one of the trenches (Trench #15) excavated by McGraw in 1977. The excavation at STP J1 appears to have encountered a feature and yielded a large amount of charred and calcined faunal bone fragments, FCR, debitage, nut and wood charcoal, burnt clay, one Native American grit and one limestone-tempered sherd fragment. The density of bone was highest at approximately 55 centimeters (21.65 inches) below ground surface. The presence of FCR, charcoal, burned and unburned animal bone, and some fired clay suggests that a feature, possibly a hearth, was intersected at this location.

A charcoal sample was retained for radiocarbon dating. The radiocarbon report was received and subjected to calibration. The returned date is 3786 BP (D-AMS 039480) (Figure 13). At a two-sigma range, the calibrated date is 2290-2140 BC and 4089-4239 BP. This places the sample within the Late Archaic period, as expected.

DirectAMS code	Submitter ID	Sample type	Fraction of modern		Radiocarbon age	
			pMC	1 σ error	BP	1 σ error
D-AMS 039480	155P243 Bag 28	wood	62.42	0.20	3786	26

Figure 12. Radiocarbon information from Direct AMS Radiocarbon Dating Service.

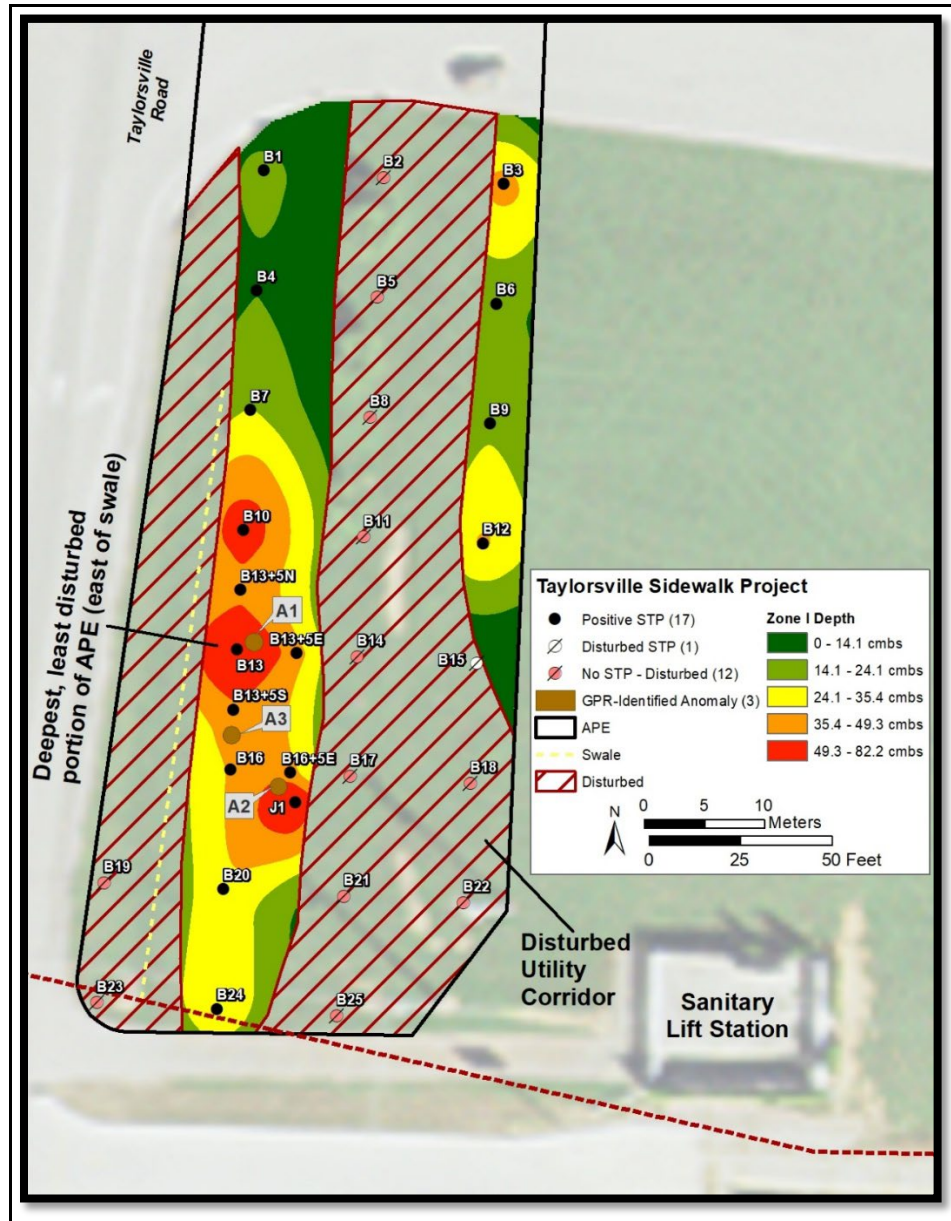


Figure 13. Five-class thematic map showing relative depth of Zone I across the site.

MATERIALS RECOVERED

All 349 items from Site 15SP243 were recovered through shovel probing. The assemblage consists of lithic items that include debitage, mid-stage bifaces, a fractured projectile point, one drill, one pottery sherd, burnt clay, calcined bone, charred wood and nutshell, and FCR (Table 1). The projectile is tentatively typed as a Kirk Stemmed (Figure 14). The T-shaped drill is shown in Figure 15 and mid-stage bifaces are presented in Figure 16. One body sherd fragment was recovered from Site 15SP243. The sherd appeared to be grit and limestone tempered. All the limestone was leached from the artifact, leaving voids in the surface. The sherd was not large enough to possess characteristics distinctive of a vessel type.

Table 1. Project Artifact Assemblage Summary.

Artifact Group and Type	N	Percent	Wt. (g)
Biface	5	1.4%	35.2
Drill	1	0.3%	2.5
Mid-stage	3	0.9%	18.7
Projectile point	1	0.3%	14
Burnt clay	19	5.5%	11.4
Burnt clay	19	5.4%	11.4
Ceramic	1	0.3%	3.3
Vessel	1	0.3%	3.3
Debitage	195	55.6%	208.4
Flake	98	27.4%	101.2
Angular shatter	38	10.8%	98.9
Smaller than 0.25 inch	59	17.0%	8.3
Organic (Faunal)	86	24.8%	26.4
Tooth	1	0.3%	0.3
Bone	85	24.2%	26.1
Organic (Floral)	n/r	n/a	0.84
Nut/wood charcoal	n/r	n/a	0.84
Other Lithic	11	3.2%	96.4
Manuport	11	3.2%	96.4
Use-Modified	32	9.2%	320.8
FCR	32	9.2%	320.8
Total	349	100.0%	702.8

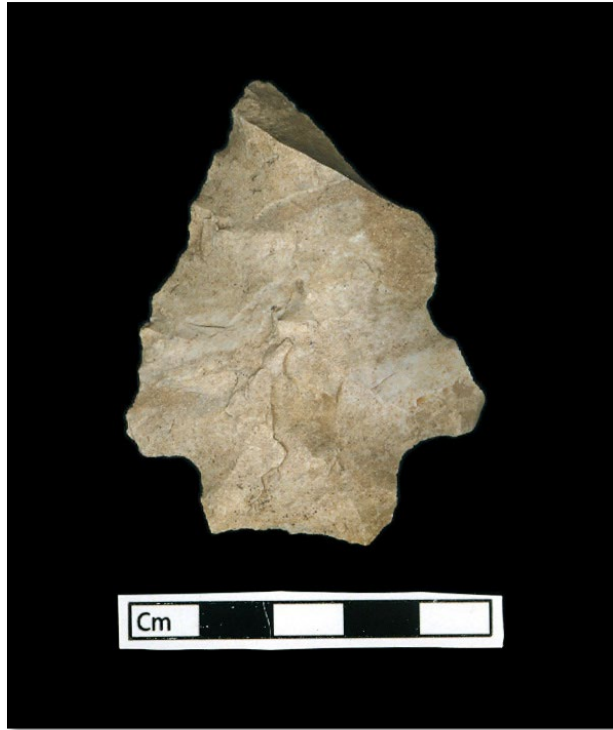


Figure 14. Possible Kirk Stemmed projectile point broken during production, Muldraugh chert (27).



Figure 15. Drill, Muldraugh chert (Artifact 124).



Figure 16. Representative sample of middle-stage bifaces: A) Muldraugh chert (26); B) Muldraugh chert (114); and C) Allens Creek chert biface (115).

Including the bifaces, a total of 199 chipped stone artifacts were recovered during the Phase I investigation from Site 15SP243 (Table 2). Most of the chipped stone assemblage consists of debitage (n=193, 97.5 percent). The reduction stage analysis revealed that the debitage recovered from Site 15SP243 is indicative of all stages of lithic reduction. Nearly 30 percent of the debitage greater than 0.25 inch was attributed to the early stage of lithic reduction. Interestingly, no cores or early-stage bifaces were recovered (Table 2 and Table 3). Only one manuport, defined here as an unmodified item of chert, was recovered. This was from an unidentified chert type. While no cores were recovered, the presence of angular fragments and early-stage reduction flakes suggests that some core reduction may have occurred for Muldraugh and Laurel chert (Hill 2020, in Bader and Blair 2020:86).

Table 2. Chipped Stone Artifact Assemblage Summary.

Group	Artifact Type	Named Type	Count	Weight (g)
Biface	Drill		1	2.5
	Mid-stage		3	18.7
	Projectile	Kirk Corner Notched preform	1	14
Manuport	Unmodified		1	96.4
Debitage	Angular shatter		38	98.9
	Flakes	Lipped	92	99.9
			4	1.34
	Smaller than 0.25 inch		59	8.28
Total			199	340.02

Table 3. Debitage Reduction Stage Analysis. *

Material Type	Angular	Early	Middle	Late	Total
Allens Creek		1			1
Brassfield	1	2	2		5
Harrodsburg	1		1		2
Indeterminate chert	6	3	2	2	13
Jeffersonville	1	1	1		3
Laurel	15	8	6	3	32
Muldraugh	8	19	12	7	46
Quartzite		1			1
St. Louis Fossiliferous	1	1	1		3
Ste. Genevieve/St. Louis	5	3	12	5	25
Total	38	39	37	17	131

**Flakes greater than the quarter-inch size grade.*

The chipped stone materials utilized are semi-locally or regionally occurring. Ten material types comprise the chipped stone assemblage. Muldraugh (n=62, 31.3 percent), Ste. Genevieve/St. Louis (n=54, 27.3 percent), and Laurel (n=46, 23.2 percent) comprise the majority, while other material types occur in minor amounts (Table 4).

Table 4. Chipped Stone Material Types.

Material Type	Artifact Group Count		Artifact Group Percent		N	Percent
	Biface	Debitage	Biface	Debitage		
Allens Creek	1	1	20.0%	0.5%	2	1.0%
Brassfield		5	0.0%	2.6%	5	2.5%
Harrodsburg		2	0.0%	1.0%	2	1.0%
Indeterminate chert		16	0.0%	8.3%	16	8.1%
Jeffersonville		6	0.0%	3.1%	6	3.0%
Laurel		46	0.0%	23.8%	46	23.2%
Muldraugh	4	58	80.0%	30.1%	62	31.3%
Quartzite		1	0.0%	0.5%	1	0.5%
St. Louis Fossiliferous		4	0.0%	2.1%	4	2.0%
Ste. Genevieve/St. Louis		54	0.0%	28.0%	54	27.3%
Total	5	193	100.0%	100.0%	198	100.0%

In addition to the tripartite reduction stage analysis, the percentage of corticaldebitage across material types was also considered as an additional line of evidence for assessing the organization of technology at Site 15SP243. The results indicate that the

percent of Ste. Genevieve/St. Louis debitage exhibiting cortex is relatively low (2.1 percent) compared with other chert types whose sources are less distant (Hill 2020 in Bader and Blair 2020:86).

As seen in Figure 17, there are few known locally occurring chert sources nearby Prevallett-McClain. Based on the high percentage of early-stage flakes, angular fragments, and cortical debitage of Laurel chert, there could be undocumented outcrops within the Laurel Dolomite geologically mapped 8.7 miles to the west, which is considerably closer than the more distant but known outcrops of Laurel chert located 44.7 miles to the northwest. This could explain the relatively high percentage of Laurel chert early-stage reduction flakes, angular fragments, and cortical debitage from Laurel chert. The closest source of Muldraugh chert, the most heavily utilized material at Prevallett-McClain, is found to the west in the Knobs south of the Falls of the Ohio River. This material would likely have been accessed most easily by water travel, as Brashears Creek empties into the Salt River near the site. From the site, it is roughly 52 river miles along the Salt to its mouth at the Ohio River (see Figure 18). St. Genevieve/St. Louis, the most distant of the favored cherts, was available even further to the southwest in Meade and Breckinridge counties of Kentucky as well as Harrison and Crawford counties of Indiana. As noted by Hill, archaeological sites located in areas where local cherts are not readily available might be expected to contain substantial amounts of moderate to high quality lithic materials acquired from distant sources. This is because foragers tend to curate higher quality lithics over the course of their travel (Hill 2020 in Bader and Blair 2020:86). This would explain the presence of St. Genevieve/St. Louis in the assemblage. Hill concludes that both Laurel and Muldraugh chert were transported to the site as roughed-out blanks to be used for the production of a variety of tools, and that St. Genevieve/St. Louis material was entering the site as finished bifaces or possibly curated forms that were finalized and/or maintained on site.

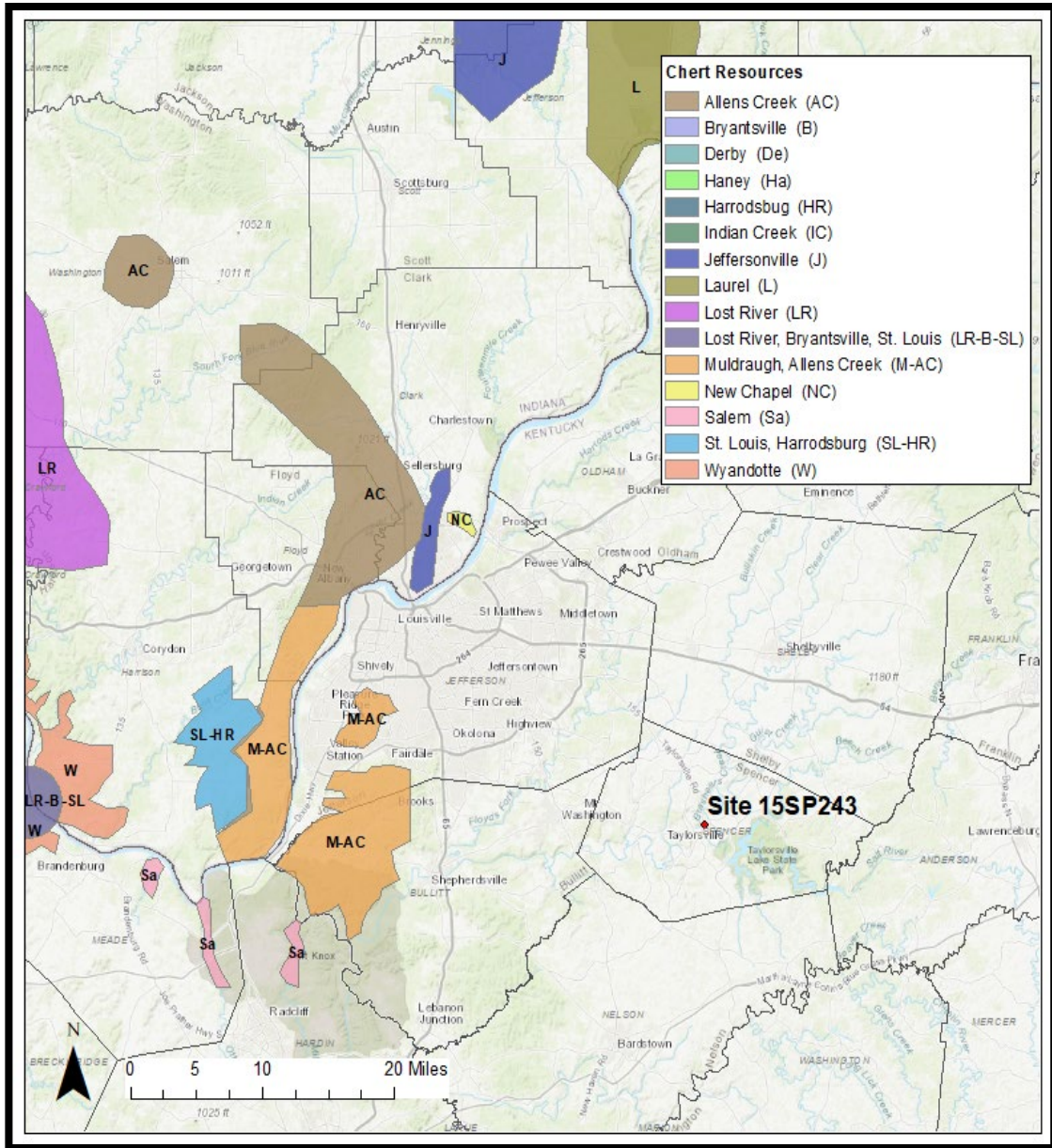


Figure 17. Map showing recorded locations of raw materials in relation to Site 15SP243.

ARTIFACT ANALYSIS SUMMARY

Overall, the diversity of artifact types recovered during the survey was low, consisting of one projectile point, one drill, and three bifaces, along with debitage. The artifacts recovered in 1977 however broaden the range of artifact types and functions to include scrapers and knives. A review of the previously recovered artifacts at the site indicates an extensive practice of tool recycling, potentially due to the paucity of nearby raw materials for tool manufacture. The FCR recovered from an apparent thermal feature

indicates that heating and food preparation activities at the site occurred. Nineteen burned and baked clay fragments also support the presence of thermal features at the site. Faunal and floral materials, including burned bone and carbonized nutshell, indicate processing activities of both floral and faunal resources. While no attempt was made to assign all the organic materials to species, one tooth recovered appears to be deer.

DISCUSSION

Site 15SP243 is a multicomponent site with a Native American open habitation and cemetery. The projectile point assemblage from 1977 suggests a strong Early Archaic presence with a Kirk Serrated projectile as well as small bifurcate forms. Several side-notched points are attributable to the Middle Archaic, while the late Middle Archaic and Late Archaic periods are better represented with Matanzas and McWhinney examples. A Terminal Archaic/Early Woodland occupation is indicated by the presence of Buck Creek Barbed and Wade projectiles. No lobate based Early Woodland bifaces are among the known assemblage, but the presence of a single pottery sherd suggests at least a light Woodland presence. The single radiocarbon date obtained from Feature 1 confirms a Late Archaic age for this site. Bone preservation at the site is good. Bone artifacts (drilled canines used in ornamentation) found with burials are likely associated with the late Middle-Early Late Archaic periods. These are consistent with other late Middle to early Late Archaic sites of the region. The potential presence of surviving features is high. The presence of features and the diversity of artifact types indicate that this was a favored settlement locale over an extensive period of time with intensive recurring occupations.

Site 15SP243 appears to be culturally similar to sites within the greater Falls of the Ohio River. The site had a direct connection to the Falls area via the Salt River which empties into the Ohio River below the Falls. The site appears to have been dependent on the Falls area for raw materials, predominantly Muldraugh chert. At a distance of 52 river miles from the Ohio, the inhabitants of Site 15SP243 could make the trip in roughly two days by water (Figure 18). Site 15SP243 is one of at least three known important sites that are of similar age with apparent connections to the Falls area via the waterways. The Hawesville Shellmound is located roughly 90 rivermiles downriver in Hancock County, and the Panther Rock site is 70 miles upriver several miles from the mouth of the Kentucky River. These outlying sites may reflect the geographic extent of the economic and social sphere of influence of the Falls Archaic.

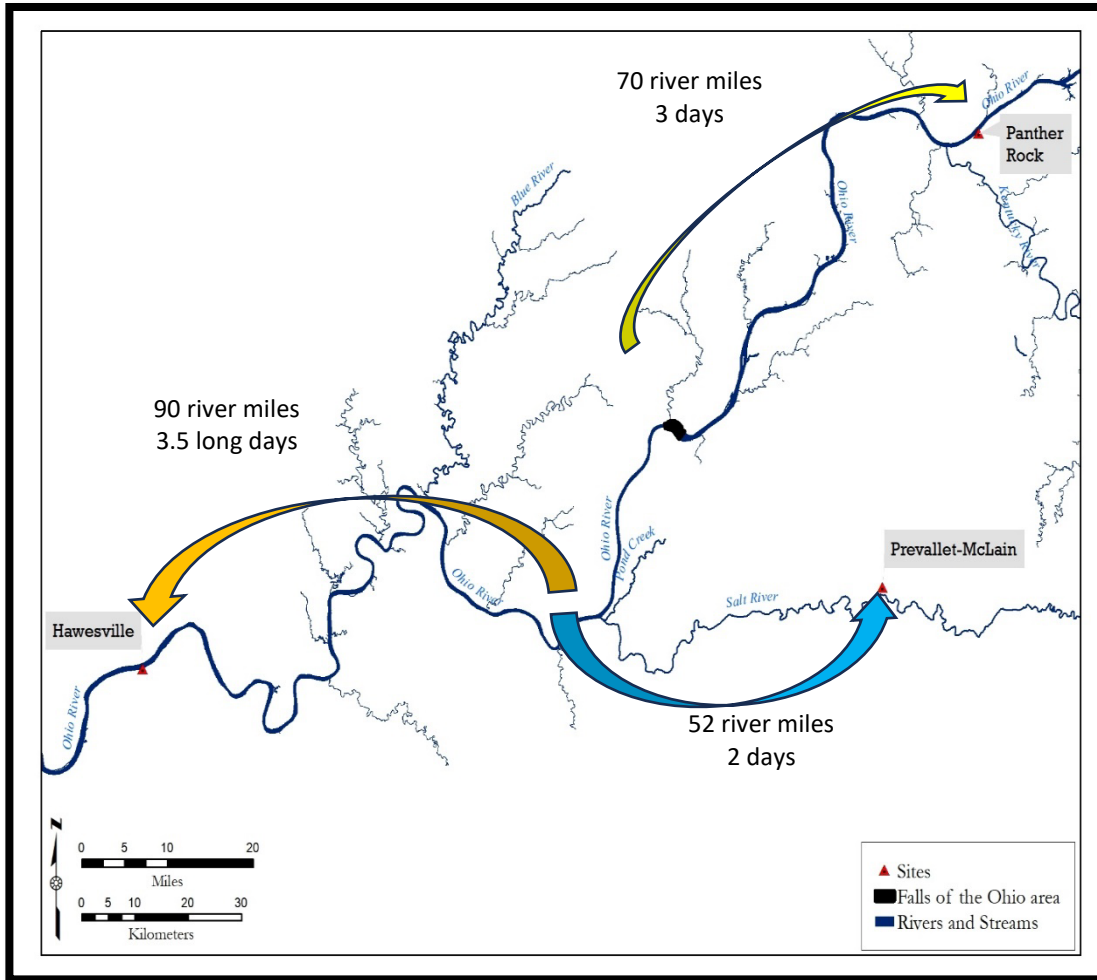


Figure 18. Locations of culturally similar Archaic sites in relation to the Falls of the Ohio River.

The takeaways from this project are both practical as well as academic. In relation to the former, it highlights the potential risks of assuming that all ROWs have been previously disturbed, especially regarding older road construction. While the ROW along KY 55 had indeed suffered significant impacts over time, much of this was not related to the actual roadway improvements but relates to much later utility emplacement. Even so, there remains substantial areas of intact cultural deposits that most likely contain features and human burials.

Second, there is much to be gained by examining the original field notes and physical collections of older archaeological projects, especially those that occurred during the 1960s and 1970s. The actual reports of some of these early studies are often too brief and do not contain much detail. Illustrations are few and often unclear, mapping is approximate, and artifact typologies have changed through the years, especially with the acquisition of new radiocarbon dates. The reliance on the findings generated by current

research without the benefit of comparison to those of the early reports can lead to unsatisfactory interpretations and recommendations.

Finally, this project is one of several that demonstrates the very real need for archaeologists to be more aggressive about finding ways to protect known but unmarked and often forgotten Native American cemeteries. Those individuals within our regulatory agencies, universities, and CRM companies that had long held the institutional knowledge of cemeteries such as at Site 15SP243 are now in their retirement years. Those currently in those positions will have little or vague knowledge of projects such as this. It is not sufficient to simply note in a report that an area will be avoided in the future. Tangible steps have to be taken to ensure that avoidance or preservation actually happens, and in a way that protects but does not endanger the cemetery. Consultation with the State Archaeologist and the affected Tribal groups must work together to determine an appropriate solution.

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SOME RITUALS IN KENTUCKY ROCKSHELTERS

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ABSTRACT

This review of Kentucky shelters considers evidence of fertility rituals using shells, turkeys, flakes, bones, sandals, textiles, fire, bedrock mortars, petroglyphs, feces, and human burials. A large number of shelters in eastern Kentucky have been classified as women's shelters. Ritual elements of burials include burial in the center of the shelter, burials face down and between rocks, and 1 or 2 vs. 4+ individuals. Comparisons with rockshelter surveys from surrounding states emphasize many unique characteristics of Kentucky rockshelter use. Three propositions are made concerning pottery, the origin of the users, and the deities being addressed with these rituals.

INTRODUCTION

When rockshelters have archaeological debris archaeologists typically interpret them to have been camp sites of family units or work parties (Black 2010, Brush *et al.* 2010, Homsey-Messer 2015, Raber 2010, Walthall 1998). Occasionally questions are raised about the time spent and party size (e.g., Brush *et al.* 2010). Relatively few rockshelters are large enough or the debris extensive enough to support interpretations of multiple individuals or lengthy residence. The large rockshelters discussed by Walthall (1998) and Homsey-Messer (2015) are exceptions. Homsey-Messer argues that during the Middle Archaic caves in particular became the loci of mast processing by women (evident in the increased storage pits mentioned by Walthall 1998:225) during which some women's ritual activities occurred. Franklin *et al.* (2016) too, argue that rockshelters in eastern Tennessee were used for mast preparation by Woodland era work parties, an activity evident not only in nut debris but in bedrock mortars, some in large clusters.

In addition to habitation by task groups in large rockshelters, historic accounts tell us that both larger and smaller rockshelters were good places for petitioning for safe river passage (Hanson 2016:46; Sundstrom 2000); for women's coming of age ceremonies and retreating during menstruation (Claassen 2011, 2016b, 2021), birthing and sweating (Moyes 2005), seeking visions (Hanson 2016:46—47), training as a weather specialist (Heyden 2005:23-25), acquiring medicine (Heyden 2005:26; Rajnovich 1994:26), taking medicine (Heyden 2005:26), hiding (Hanson 2016:46), and for burial (e.g. Hanson 2016:23; Heyden 2005:31), particularly of descendants of group founders (Bassie-Sweet

1996), shamans, and the bodies of illegitimate children (Denig 1930). Oracles lived in caves/rockshelters, and some rockshelters became hunting shrines (Brown 2005; Claassen 2016a). “[R]egional ethnohistoric accounts demonstrate the importance of rockshelters, especially those near water, as powerful transformative spaces that served as nodes between different realms of the Algonquin universe and homes to other-than-human entities, called manitous. Oral histories suggest that the power associated with these settings could be accessed through certain activities, such as fasting and producing rock art” (Hanson 2016: abstract).

A study of Michigan Upper Peninsula rockshelters found use for human burials, copper caches and rock art (Hanson 2016). As littoral shelters, the rock art in the Upper Great Lakes may be petitioning the *maymaygwayshiwuk*, little water creatures known as rock medicine men (Hanson 2016:47). Lithic offerings, principally using projectile points, are among the shelter uses she discusses.

Over 300 utilized rockshelters have been recorded along the Killbuck Creek in east central Ohio with testing at 30 of them (Brush *et al.* 2010:306). No bedrock mortars, rock art, or burials were mentioned in this report and all places were assigned long to short term habitation or sheltering function based on flake sizes. Rockshelter use there peaked during Late Archaic and Late Woodland periods but there is no mention of ritual use.

Pennsylvania rockshelter use increased noticeably in the later Woodland period (see Becker 2011 on dating the Late Woodland). Raber (2010:306) believes that the climatic stress brought to northeastern agriculturists by the Little Ice Age resulted in increased foraging and thus the use of rockshelters as camping locations. Becker (2011) argues convincingly that after 1500 CE Pennsylvania and Delaware shelters were used for the storage of pelts. Again, there is no mention of ritual uses of shelters by these two authors.

Western North Carolina shelters show evidence not only of sheltering but also of ritual use (Claassen and Compton 2011). In 2011 there was a minimum of 123 rockshelters on record as sites in western North Carolina, but only 15 had had testing. Few were large enough or the debris sufficient to support the interpretation of a camping place for a family, let alone the hypothesis of a longer-term residence. Instead, their size and their contents better fit the idea of a retreat place for one person or places for private ritual enactment.

Women’s seclusion and birthing shelters in western North Carolina are indicated by occasional burials of a single woman and/or infant. Characteristic artifacts are pecked cupules in boulders and naiad shell valves. Fertility rites involving hunting shrines (bone deposition) and arrow/flake offerings (Claassen 2015, 2016a) are proposed for several North Carolina rockshelters and shelters elsewhere in the Eastern United States (Claassen 2016a).

These examples—and others that could be annotated—make it clear that we should suspect ritual behavior to have occurred in many Kentucky rockshelters and to

leave evidence. What might we find in Kentucky shelters? I have divided the evidence of rituals into two categories: unique rituals and common rituals.

UNIQUE RITUALS IN KENTUCKY ROCKSHELTERS

Unique rituals involved burial of turkey, and turtle carapaces. There are surely more examples to be found.

TURKEY RITE

Near the center of Big Ash Cave, Kentucky on Big Sinking Creek (Funkhouser and Webb 1929:77) lay a huge chunk of breakdown. “On this boulder were found five complete skeletons of wild turkey...placed side by side and covered with ashes.” Another turkey rite was found in Ranger Cave, Arkansas (Rogers 1954:25) where on a small ledge below and between two roof fall rocks were “about a dozen turkey skulls arranged in a row.” Turkey bones outnumbered deer bones in deposits in the vestibule of Salts Cave and on the surface of the passageway beyond the vestibule (Claassen 2015:320). Birds are often associated with rain calling, as are caverns.

TURTLE RITE

In the lower levels of ash and in the center of the Dillard Stamper Shelter 1 (Funkhouser and Webb 1930:270), near a poorly combusted fire was found the extended skeleton of a small child. The skull was covered by four carapaces of the box tortoise. In the Read Rock Shelter below the Read shell mound on the Green River, stones encircled two turtle carapaces. A pecked turtle on stone can be seen in Big Sinking Creek shelter (Coy *et al.* 1997: Figure 93).

COMMON RITES IN KENTUCKY ROCKSHELTERS

Fertility—of lineages, of women, of animals, of plants—was a major concern of all peoples, whether hunter/gatherer/fishers, or farmers. The most frequent type of ritual behavior in Kentucky rockshelters appears to have been rites for fertility petitioning demonstrating that fertility is a placed-based concept (Claassen 2013a). Fertility petitioning used flakes, fauna, textiles, and sandals among other items. Arrowheads in shelters may be petitions for a successful hunt. Rock art, in some cases, may have been used to petition spirits associated with fertility and renewal (as earth, rock, water, forest, animal, tree spirits).

Evidence of women's menstrual, postpartum, and medicine retreat shelters in Kentucky as outlined in detail in several publications by this author are *in toto*: infant burial, cradleboard; textiles, sandals; string making, basket stave materials; bedding; quids; feces; shell spoons, gourd containers; fine ash; copious medicinal plants, cupules, and rock art (Claassen 2011, 2016b, 2021). The Kentucky retreat shelters that I have identified are those with only footwear or those with 2+ of these characteristics: Newt Kash Hollow and Hontoon Hollow (Menifee County); Red-Eye Hollow Shelter, Steven DeHart, and Buckner Hollow (Lee County); Rodgers and Haystack Shelters (Powell County), Two Sandal (Carter County), Mud River Sand Shelter (Logan County), and Mammoth Cave. Considering only fine ash deposits indicates many more Kentucky shelters (see Claassen 2016b: Table 1.2). Let us turn now to types of fertility offerings evident at these shelters.

FERTILITY OFFERINGS WITH ABUNDANT STONE AND FERTILITY PETITIONING WITH BOULDERS

I have made the case elsewhere that flakes, blades and bedrock or boulders were offerings and media appropriate for soliciting fertility (Claassen 2015, 2016a). Briefly, stone is directly linked to fertility among modern Native peoples particularly through its association with water. Dry rocky riverbeds, water seepage from stony cliff faces demonstrate the relationship between rock and life-giving water (see extensive examples in Milne 1994). Hail is rock hard and round. Sweat lodge rocks and hearth rocks produce steam. Other fertility references can be seen in egg-shaped rocks, penis-shaped rocks such as pestles, vulva-shaped rocks such as in mortars and mortar holes, and rocks that form the foundation of houses. Pounding rock mimicked thunder and thus could bring rain (McGowan 1978; Parkman 1992).

Stones are also animate. Sweat lodge rocks and hearth stones hear all that is said in their presence. Rocks in medicine bundles can reproduce. Mountains can move (Irwin 1994).

Recent writings have shed much light on the use of boulders, glacial erratics, and rock piles as fertility shrines (e.g., Claassen 2015, 2016c; Duncan and Diaz-Granados 2016; Greer and Greer 2016; Kehoe 2016; Parkman 1992; Stanley 2004; Wettstaed and Loubser 2023). Many groups believe that the first people were transformed into stone and their spirits continue to reside in stone. The landscape offers examples of human-shaped stones or stone face profiles (Milne 1994:42, 120–123), the petrified Stone People of long ago. The First Beings are also evident in fossils and in their footprints (Mayor 2005).

Flakes in abundance also may have constituted offerings. The Chichimecs of northern and central Mexico and probably other Uto-Aztecan language speakers referred to children as “the chips, the flakes” (Furst 1995:175). In this light, knapping on a large scale and the intentionally abandoned workshop, may have been marking a rite of rain-calling in fertility rituals even as it was an activity to produce useable preforms. I think of

these lithic expanses as performance pieces. Knapping and making and using boulder mortars elicit the sound of thunder, sparks of lightning, and even heat.

It is with these words in mind that I perused the rockshelter excavation reports from Kentucky. Webb and Funkhouser (1936:131) said of Benson Shelter “the upper few inches” of the floor contained “an enormous number of flint spalls and a considerable number of excellent arrowheads, knives and scrapers”. They made similar comments about Flint Cave (both in Menifee County) as well as Worth Creech shelter, in Wolfe County. Stone caches have also been found, such as one with a cremation in Dillard Stamper 1 (Funkhouser and Webb 1930). I wonder if McGrady RS #2 in Coshocton County, Ohio, with a large number of projectile points and a massive amount of small flint debitage isn’t another example of a fertility petitioning shrine (Brush *et al.* 2010:314). Large numbers of bifaces have also been found in some open-air sites in Kentucky and surrounding states negating any interpretation of “lost” points (e.g., Indian Knoll, Olive Branch). William Ritchie (1932) interpreted the points in hearths at Lamoka Lake (NY) as offerings.

FERTILITY OFFERINGS WITH ABUNDANT FAUNA

Harper (1999) provides extensive information on Woodland peoples ritualized treatment of animal meat, bones and skins after the hunt and processing. “The proper disposal of game animals and the keeping of the bones from dogs were especially important precepts associated with hunting feasts and human-animal relations in general” (1999:174).

If the information above from the Great Lakes about arrow offerings, safe passage, and hunting seem too remote from Kentucky, there is closer information that duplicates the use of shelters for hunting shrines. The Cherokee believed that spirit beings from the underworld such as the Little People lived in rockshelters in river bluffs (Witthoft and Hadlock 1946). Mooney learned that hunters often went to isolated locations to leave petitions to the Little People for access to deer and other game (1900:334). This belief has also been found among various Creek groups (Gatschet 1884), and the Catawba (Speck 1934). The keepers of game, the Little People, helped the Wyandot at Big Bone Lick. “The Wyandots could no longer hunt or gather salt there until the Little People wiped out the Witch Buffaloes, leaving the vast heaps of big bones at the spring” (Mayor 2005:28-29).

One means of appeasing the keepers of game was to place the bones of some species in rockshelters. I have documented the evidence for a bone shrine in Tick Creek Cave, Missouri, in Austin Cave in north-central Tennessee, and at White Rocks Rockshelter in Ohio (Claassen 2016a). As of this writing, I know of no hunting shrine in a rockshelter in Kentucky other than in the vestibules of Salts Cave and Mammoth Cave (discussed in Claassen 2012), conceptually, rockshelters, with materials dated to 1200 to 200 cal BCE (Crothers 2012:525).

Abundant flakes may have been deployed in a different type of petition than that using an abundance of points or abundance of bones. Abundant flakes may relate to rain-calling and children, while abundant points and abundant bones might have been deployed more often for game petitioning, hunting rites, and world renewal.

FERTILITY SOLICITATION WITH CUPULE CREATION

Cupules have been recorded inside and around dozens of Kentucky rockshelters in the valleys of the Green River, Kentucky River and Red River and are uniquely related to this topographic form (Ison 2004:180). The records show 1 to 4 cupules to be typical (Claassen 2016b:12). There are only two locations with larger clusters of cupules in Kentucky. For some reason (survey coverage?) boulders with multiple cupules are more frequently found in Tennessee and southern Illinois.

White (1980:26) argues a Late Archaic age for the appearance of bedrock mortars (BRMs). For a supposed processing *technology*, the variation between hole diameters, even in the same shelter, and in depths—most over 9 cm deep and up to 65 cm—cast doubts on the purely functional interpretation so commonplace (see measurements in Claassen 2016b; Franklin *et al.* 2016). Common are one or two holes at a shelter yet the quantity of nut hulls suggest far more holes would have been useful. In some cases, the mortar was found in a boulder at the bottom of the shelter strata, long removed from use. Furthermore, unique in Kentucky, is a co-occurrence of BRM holes, rock art and rockshelters. There are apparently no shelters with art *and* BRMs in the Cumberland Plateau of Tennessee (Franklin *et al.* 2016; Ison 2004) and BRMs are “not as common in surrounding states” (Ison 2004:180). Finally, BRMs are found only in or outside of *sandstone* shelters.

Pestles of stone and wood are frequently associated with mortar holes. In as much as native groups equate the BRM and pestle to vagina and penis, and the grinding act as sexual “drilling” BRMs invoke fertility. Pounding boulders was used explicitly to call rain by Western groups and to prevent rain fall, BRMs would be covered (Heizer 1953). Rockshelters provide that coverage. Pounding stone to process nuts or seeds creates sound like thunder, and rain and semen/seed are bound together in fertility imagery. Cupules were created not only for food processing but also for the generation of powder, the motivation attributed to the hundreds of cupules pecked into the Blood Run, Iowa, cupule boulder, powder that was/is used to treat sterility (Callahan 2004) as it is in California (Callahan 2004; Heizer 1953; McGowan 1978; Parkman 1992).

Whether for processing nuts or medicinal items, extraction of stone powder, or demonstrating marriageability (one motivation for BRM production in California [Jackson 1991]), we may assume that the same sacredness attended the creation and use of BRMs in Kentucky, an attitude that is further attested to by the co-occurrence of rock art with mortar holes (Ison 2004). I propose that BRM holes in Kentucky were primarily formed

during fertility rites conducted at these rockshelters recognizing their repeated occurrence at these locations.

FERTILITY OFFERINGS WITH TEXTILES, WEAVING EQUIPMENT

A number of shelters in eastern Kentucky contain textile, string, and cordage fragments. The abandoned string bags containing domesticated seeds, twisted bark, split canes, quids, textile “fragments” (or are they miniature weavings?)—suggest, like lithic workshop debris, a performance piece, a living offering as it were. And not just the products of industry are offered, the implements are as well left. Salts cave vestibule again comes to our attention. Weaving and sewing tools were recovered amidst the faunal remains of feasting (Claassen 2012). Awls and needles are ubiquitous in the Kentucky rockshelters and among all the “debris” may be battens, bark strippers, and backstrap looms.

In a unique study of weaving and its symbolism among the Wixarika (Huichol) women of northern Mexico, Stacy Schaefer (2002) documents the intimate association between weaving and hunting and weaving and fertility, marked by the deposit of weaving equipment and weavings in the rockshelter shrines of fertility/hunting spirits. Miniature looms and miniature textiles are deposited at the shrines and interesting textiles may be removed and brought home to study and copy. The Wixarika women weavers, as well as all others wishing to perfect whatever craft, pledge to a deity to develop their skills over a 4-year training period and have helper plants and animals and proscribed times to carry their offerings to rockshelter deity shrines (Schaefer 2002). I can easily imagine that among the “litter” of women’s industry and camping, offerings for the perfections of dying, plaiting, weaving, and doctoring skills were deposited in these women’s shelters. (See Claassen 2016b and 2021 for further development of this argument.)

FERTILITY OFFERINGS WITH FOOTPRINTS AND FOOTWEAR

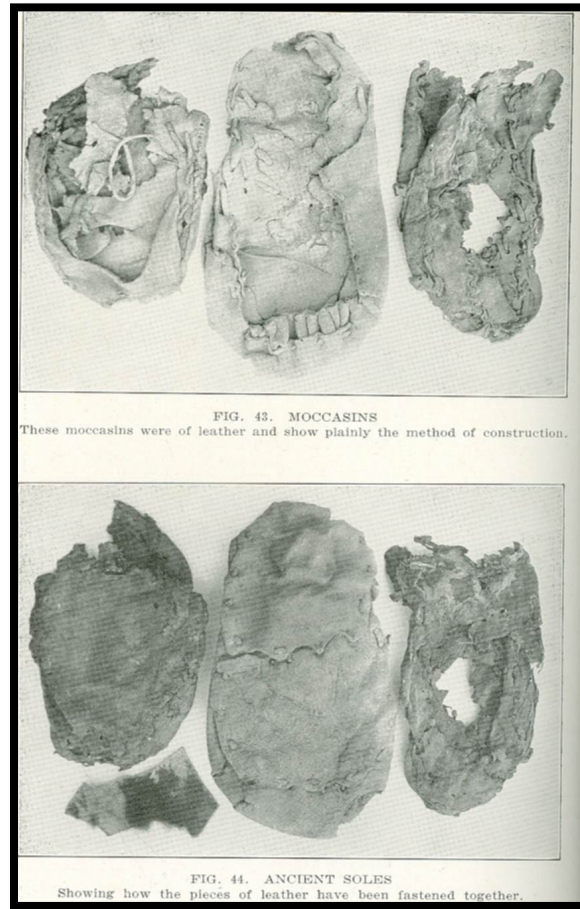


Figure 1. Leather footwear from Steven DeHart shelter (Funkhouser and Webb 1930).

The most frequent design elements in Kentucky rock art are engravings of the footprints of humans, birds, and quadrupeds (Coy *et al.* 1997; Ison 2004:181). Footprints on rock addressing the Little People and bird spirits, and fossil footprints of megafauna are powerful signs of spirits and former creation eras. Furthermore, as found by Coy *et al.* (1997:153) there is a unique relationship between track motifs and BRMs while human footprints often share a common rock face with a BRM. Human footprints can be found in Carter Caves (15CR60), Sparks Indian Rock House (15ES26), McKinney Bluff (15PO107), Ledford Hollow (15PO281), Loman Hill (15RK49), and Jabez Shelter (15RU42) according to Coy *et al.* (1997) as well as other places in the state such as Wickliffe and Lake Cumberland Petroglyph site.

Deposits of deer carpals and tarsals and other mammalian foot bones in rockshelters and open-air contexts (e.g., Indian Knoll) may signal fertility petitions. I believe that sandals and moccasins likewise were deployed in fertility offerings (Figure 1). Vulvas, women, and cloven hoofs are symbolically connected in some Plains groups (Sundstrom 2004). From the rabbit—located on the moon, used as a fertility charm for

human pregnancy-- to the renewal of spiritual Grandparents with annual moccasin presentations by the Iroquois, feet are one source of fertility, in touch, as they are, with the earth, the source of new life. Their deployment as offerings may be seen in the deposition of children's and women's size moccasins deep in caves (Claassen 2012). Where footprints have been found in cave passages, they are predominantly male-size footprints giving rise to my hypothesis that male ritual specialists were carrying in and depositing other people's sandal offerings.

Removed from Mammoth/Salts caves were 100+ (Woodland era) sandals and from Arnold Research Cave in Missouri, another 35, deposited there as early as 9000 years ago (Kuttruff *et al.* 1998). Apparently after 3500 years ago, sandals were once again deposited as offerings, this time in rockshelters and in Mammoth Cave. They have been found in ash layers and in bedding in six rockshelters in eastern Kentucky, ten shelters in the Ozarks, two shelters in Ohio, and one shelter in Wisconsin (Claassen 2016b). The most remarkable of these shelters is Mud River Sand Shelter in Logan County, Kentucky for its 22 sandals (Dossett 1965). Obviously, footwear deposition in rockshelters in the Eastern US is rare, although very common in Western US rockshelters (Claassen 2016b, 2021). Sandals found in rockshelters are typically worn out and do not pair with one another. They too, are overwhelming of infant, child, and women's sizes and were deposited by a mother, doctor, or medicine society.

FERTILITY OFFERINGS OF BURNT MATERIAL AND PURIFICATION WITH FIRE

The so-called "ash caves" of the Cumberland Plateau, specifically Menifee, Lee, Wolfe, and Powell counties in Kentucky, and on the Allegheny Plateau in Ohio were once famous for the tremendous volume of fluffy ashes they contained, unmarred by chunks of charcoal. Such ashes were generated when clothing, matting, thatching, padding, textiles, and the plant residue left from nut processing, fiber production, bark lining and trays, and bedding were burned.

It is the role of fire in purification, renewal, and transformation that I think explains the incredible volumes of ash in these particular rockshelters beginning in Early Woodland times (based on Cowen *et al.* 1981:63). The ash deposits in nearly every one of the Early Woodland shelters of Kentucky's Cumberland Plateau explored by Funkhouser and Webb in the 1920s and 1930s, by Cowan *et al.* (1981), by Dossett (1965), and by Gremillion (1996), (including but not limited to Red-Eye Hollow Shelter, Little Ash Cave, Cave Fork Hill Cliff, Big Ash Rock House, Buckner Hollow, Great Rock House, Sampson Spencer, Worth Creech Shelter, Jim Alexander shelter, Rhoda Smith, George W. Spencer, James Spencer Shelter, Cloudsplitter, Haystack, Hontoon Hollow, and Mud River Sand Shelter) and several of those on the Allegheny Plateau of Ohio, (such as Boston Ledges, Buzzard, Trace RS, Elyvar RS, Ash Cave, Overly, 33Ja13, 33Ho15 (see Mills 1912) evident in site files at the Ohio Historical Connection, are remarkable for the volume of ash and its fineness. In Cloudsplitter (Cowen *et al.* 1981:66) these ashes typically lacked wood charcoal indicating a lack of tree fuel and lacked pollen indicating rapid accumulation.



Figure 2. Ash Cave, Ohio. (CC BY 2.0, <https://commons.wikimedia.org/w/index.php?curid=64396758>)

Ashes were removed from Ash Cave in Hocking County, Ohio by the wagon load (Figure 2). There, ash was said to cover an area 200 feet (61 m) by 30 feet (9.14 m), by 2.5 feet (0.76 m) thick (Andrews 1877). Three feet (0.91 m) of fine ash was removed from Buzzard Rock Shelter, Ohio (33JA04) on Salt Creek, from an area 30 feet (9.14 m) by 75 feet (22.9 m), containing dozens of species of animals and four burials (Mills 1912).

Newt Kash Hollow had an accumulation of ash 48 inches (1.22 m) thick and Red-Eye Hollow Shelter had up to 60 inches (1.52 m) in places (Figure 3) most apparent near the surface. Three feet of ash was reported from the George Spencer Shelter (Funkhouser and Webb 1930:258) and DeHart Shelter both in Kentucky. Mud River Sand Shelter, in Logan County had two feet of soft ash (Dossett 1965). The profile at Little Ash Cave, Kentucky (Figure 4) offers us one of the few stratigraphic profiles available for these shelters. It too shows an extensive ash bed. Clay, and more often sand, was carried in and spread over the ashes to renew a surface and many shelters have successive layers of ashes, sand, and clay, such as that seen in profile at Cloudsplitter (Cowan *et al.* 1981:63). There, the ash strata are in the upper half of the profile. No ash strata have been recorded from eastern Tennessee rockshelters (Franklin *et al.* 2016) or western North Carolina rockshelters (Claassen and Compton 2011).



Figure 3. Trenching Red-Eye Hollow Shelter. (Funkhouser and Webb 1929)

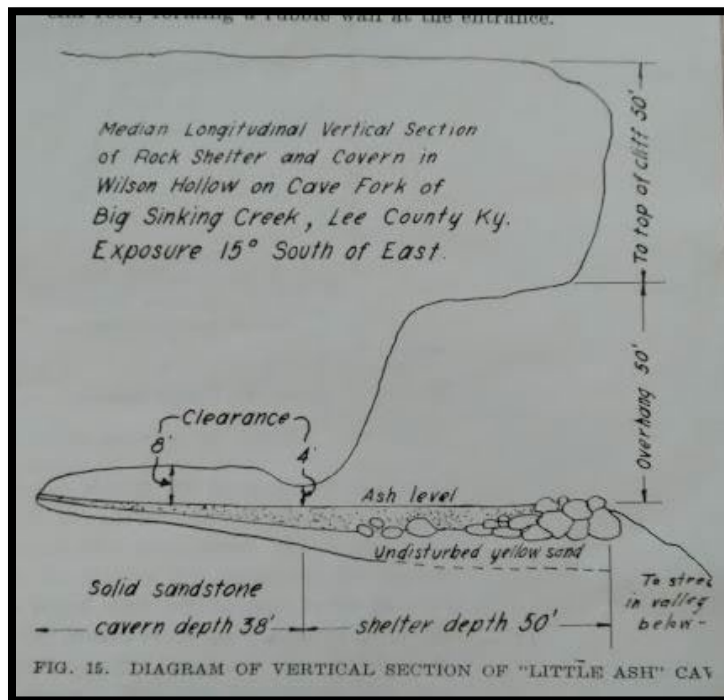


Figure 4. Profile of Little Ash Cave with ash layer darkened. Opening to the right. (From Funkhouser and Webb 1929: Figure 4).

If these shelters served as girls' initiation places, menstrual retreats, birthing, postpartum, and medicine shelters, as I believe they did, then we can project that these women shed old clothing for new, discarded menstrual pads and diapers ("quids"), cradles, sandals, bedding, poultices, rags, wooden tools, food byproducts and the byproducts of industry (cane staves, nut processing, dyeing). These items constituted blood offerings and fertility offerings. They also stored sacred items inside and built ritual structures inside. Throughout Mexican cultures blood offerings were burned and in the archaeological record of the Eastern US, temples, council houses, and medicine lodges were also purified and decommissioned through burning. I propose that the retreat shelters with layers of thick fine ash, were purified (set afire) at the conclusion of a major event such as an initiation period, after several months of use by menstruating or birthing women, when a death occurred in the shelter, or when a calendrical moment dictated.

OTHER RITES

Other rites that may or may not be fertility rites proper but are related to fertility involved rock art and burial.

ROCK ART

In Kentucky, at least, there is a high correlation between shelters and petroglyphs according to Coy *et al.* (1997) and Ison (2004). Furthermore, there is a high correlation between bedrock mortar holes and petroglyphs forcing an acknowledgement that this rock art was produced by women (Ison 2004). In addition to BRMs, there are footprints of birds and humans, vulva forms, concentric circles, turtles, stick beings and enigmatic forms found in shelters and on fallen stones or talus stones. Like the BRMs, vulva forms are interpreted as fertility icons and, as I have argued, the same can be attributed to footprints (and sandals).

Vulva motifs are present in Sparks Indian Rock House and in Trinity Shelter. Sparks faces northeast and contains several marked boulders, some with skeletal faces, rayed circles, and a human hand. Other boulders have footprints and vulva, and one has five shallow pits in a quincunx. Trinity Shelter (Wolfe County) has a boulder with vulva form, stick figure touching vulva, footprint, and possible deer tracks. The list of shelters and pecked forms is lengthy (Coy *et al.* 1997).

Simek *et al.* (2023:158) state that "production of the art itself comprised ritual activities". Tattooing rock is done by one ritually prepared to communicate with the rock, earth, and fertility spirits (e.g., Rajnovich 1994). Numerous accounts speak of shamans tattooing rock, and in the case of these shelters the shamans doing the tattooing were probably women. In California groups, mortar holes are produced by young girls (Jackson 1991).

BURIALS

Rockshelters have long been known to be burial settings. Such is true in Kentucky. In a few cases, body parts were buried. Salts cave vestibule—basically a rockshelter—contained at least 43 individuals, highly fragmented, many burned or with butcher marks, from deep strata. Human bone awls were abundant also. Included were clusters of infant burials, found in the deepest levels of the vestibule, that may indicate rituals having to do with rain calling and site dedication rites (Claassen 2010, 2013, 2012). As for the adults, most of their bones corresponded with the interpretation of “trophy parts”, strongly suggesting that the cave vestibule was an appropriate place to deposit these trophies (More detail is available in Claassen 2012).

“Near the center of the [Dillard Stamper Shelter 1] and at a depth of only two feet were found the bones of a human arm complete, extended and in anatomical order. No other human bones were near, but close by was found a spoon made from the carapace of the box tortoise” (Funkhouser and Webb 1930:271). If this arm was not the remains of a skeleton previously removed by the landowner, then it might be another example of a burial of a trophy part.

Full burials are much more common in rockshelters. For instance, many of the women’s retreats had human burials, both adults and infants. Of course, these burials were accompanied with rituals. Three aspects of burial in rockshelters suggest ritual distinctions—location, number, and mode.

Location. Frequently, we read that burials are found at or near the center of the shelter (Adams 1949:62; Funkhouser and Webb 1929, 1930; Webb and Funkhouser 1936). Just who is placed in the center of shelters will be investigated at a later date but in several cases, this is an infant, face down, between or under two rocks or rock cluster that suggest altars, the case at Newt Kash Hollow (Meniffee County), Sampson Spencer (Wolfe County), Dillard Stamper 1 and at Red-Eye Hollow Shelter where two infants were wedged between two rocks (Bu 3, Bu7). Two of four sandal caches in Red-Eye Hollow Shelter were located “near the center of the shelter” (Funkhouser and Webb 1930:247). This combination of rock and infant is also found in Hidden Valley Rockshelter in Missouri (Adams 1949) and in Russell Cave, Alabama (Claassen 2015:114) where the deepest burial and the oldest c14 date was an infant 20–24-month-old, face down between rocks. Perhaps some of these infants were illegitimate children for Denig (1930) reported that among the Delaware, these babies were killed and buried in rockshelters. Taking the life of an infant, whether that baby was illegitimate, or an offering (see Claassen 2013b) may have invoked a theological point that was associated with “the center” or with rebalancing.

Adolescents and adults are also found in the center of rockshelters. Two extended, superimposed adults were buried near the center in Dillard Stamper Shelter 1. An adolescent in Red-Eye Hollow Shelter was “forced down between two large rocks” (Funkhouser and Webb 1929:54). The combination of 1. face down, 2. between rocks, and 3. in the center of these shelters suggest a specific ritual. Sometimes these individuals are

weighted with rocks. Two stone-weighted burials were encountered in Red-Eye Hollow Shelter (Bu4 and Bu7). Weighting with rocks suggest a death by murder, or accident, which, as premature deaths, resulted in a restless soul. Ritual specialists may also be buried in shelters.

Number. In addition to burial location within the shelters, the number of burials appears to have ritual significance. There are shelters with a single burial, usually a woman or an infant, and shelters with 4+ burials. Single burials or even an infant and adult, suggest death and burial during birthing or taking medicine. In many cases, this burial appears to end the sequence of activity in the shelter. Wounded warriors were also known to take refuge in a rockshelter while healing and may have died while there and be among the buried. Shelters with 4+ burials suggest something different than childbirth or warrior deaths, however. In Mesoamerica, lineage/village founders and their descendants typically were buried in rockshelters and caves and not among the dead of the other lineages. If this was the case in Kentucky, then Red-Eye Hollow Shelter with 14 burials may be a lineage burial shelter and Dillard Stamper 1 with five individuals and Green Gentry with three bundles may be lineage burial shelters or burial places for shamans. The best example of a rockshelter burial for a shaman is that of Horn Shelter in Texas, where the shaman and a possible apprentice were buried in the center of the shelter.

Disposal mode. Yet a third variable in rockshelter burials is disposal mode: inhumations, secondary bundles, and secondary cremations have been uncovered. At the Dillard Stamper 1 shelter, the cremation in the basal layer, at the center of the shelter, under a carved wooden “gorget,” was accompanied by a cache of 20 stone items and 20 bone items deposited in layers. All of these elements suggest a specific ritual, and burial of an unusual person (shaman?), not a “simple” expedient burial of a camper. I presume that secondary bundle burials were remains carried into a shelter after burial elsewhere. Inhumations were most likely those people who died on site.

DISCUSSION AND THREE PROPOSITIONS

Summary papers from both northern Ohio and western Pennsylvania reported peaks in rockshelter use during Late Archaic and Late Woodland times. Late Archaic materials have been found in some Kentucky shelters (e.g., Cloudsplitter) related to women retreating and BRM creation. These two rituals seem to have peaked in Early Woodland times.

In the preceding pages, I have discussed a number of rites that were conducted in and around rockshelters. The floor plan of the Newt Kash Hollow excavation suggests rituals that utilized altars, quincunxes, screens, caches, regularly spaced pits, and seating (Figure 5).

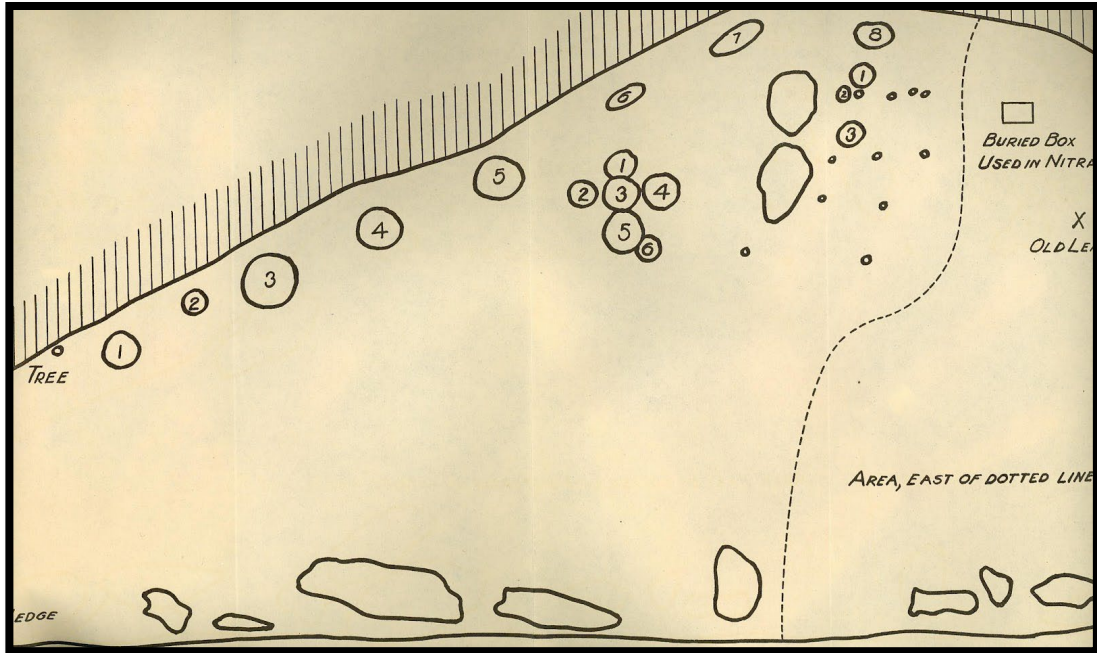


Figure 5. Floor plan of Newt Kash Hollow excavation showing many ritual elements: equal spacing of back wall pits, quincunx of pits, altar stones, small posthole structure/screen, and breakdown seating (Webb and Funkhouser 1936: frontispiece)

All of those rites had to do with fertility—of women, of lineages, of resources. In many cases, there are rockshelters that have a preponderance of artifacts, ecofacts, and rites that indicate that they were shelters used by women in which they conducted fertility rituals and pursued fertility related activities while also engaging in various processing activities. These shelters, and the BRMs demonstrate a general native American belief that fertility is a place-based concept (Claassen 2013a), meaning that the spirits thought responsive to fertility petitions are found in certain places, both natural and created. BRMs and rockshelters document the association of fertility with stone. Not only are rockshelters stone, but they are also cupules, penetrating both the earth and mountains, known homes of rain, game, and fertility spirits. Rock art, lithic offerings, and blade caching show us that this fertility association with stone is much older but, beginning in the Late Archaic, stone takes on yet more associations with fertility.

In a 2011 publication, I identified the use of Newt Kash Hollow Shelter (Webb and Funkhouser 1936) as a women's retreat shelter and since then an addition 26 shelters (Claassen 2011, 2016b, 2021). Historically, in some native groups, menstruating, pregnant, birthing, and post-partum women withdraw from daily life to a women's place to wait out the typical time period (e.g., 4 days, 10 days, 40 days). Rockshelters of the Cumberland, Allegheny, and Ozark plateaus were used for these purposes and probably for girl's initiations as well. The key identifying characteristics are ash beds, textiles, sandals, cradleboards, freshwater shell valves and gourds (utensils) and evidence of some industry. The women in these retreat places appear to have engaged in several tasks

during seclusion including nut mast processing, dye processing, basket stave production, weaving, plaiting, and rituals to petition for and give thanks for fertility. Rituals identified so far in these shelters are offerings of sandals, textiles, purification with fire, creation of bedrock mortars, pecked rock marking, and burial. Perhaps the turtle and turkey rites mentioned at the start of this paper also are addressing a fertility spirit.

Several questions beg addressing with the analysis reported on here. When were the shelters used? Where did the women come from who were using these shelters? Which deities were being solicited?

ERA OF USE

It is clear that some of the shelters were first used for rituals in the Late Archaic. Many shelters appear to have been abandoned shortly after the adoption of pottery. Repeatedly one reads that pottery was found only in superficial levels and that the ash beds lacked pottery. This phenomenon of retreating in rockshelters, burning them off, making rock art and mortar holes nearby, and making textile and footwear offerings may have been very short-lived practice. However, the domesticates found in several of these shelters suggest Early Woodland use as well (Gremillion 1996). It is interesting that *Chenopodium* roots are among the herbal abortatives known in Mexico (personal observation of the author).

ORIGIN OF USERS

Where are the users of retreat shelters coming from? Cowan *et al.* (1981:74) stated that 25% of the lithics in Cloudsplitter Rockshelter came from outside its Red River valley setting during the Archaic and 19% during the Early Woodland suggesting mostly “local” communities of use but with some more distant users as well. Counting the 2nd order streams upon which the ash shelters are located (maps in Funkhouser and Webb reports) and assuming one matriline per stream, I propose that there was a minimum of 21 matriline utilizing the retreat shelters in the counties of Powell (n=2), Wolfe (n=4), Menifee (n=7) and Lee (n=8). Additional streams and matriline could be counted among more recent excavations and surveys.

DEITIES ADDRESSED

To whom were the fertility rituals dedicated? The strongest likelihood is a fertility spirit—giver of rain and babies—honored with birds, vulva-forms, footprints, chips, stones, shells, sandals, and mother/baby burials-- deposited in womb-like rock chambers. But among Uto-Aztecan speakers and other southwestern and northern Mesoamerican groups, a fertility deity was bound up with two other deities: a salt deity and a filth deity—a trinity celebrated with annual ceremonies. The rockshelters considered here in Powell,

Lee, Menifee, and Wolfe counties, and elsewhere on the Allegheny plateau are in watersheds with salt deposits or saline springs. The closest salt deposits to shelters in the four counties named above is Goose Creek (Figure 6) while Ohio ash shelters are near the Scioto salt lick and several others.

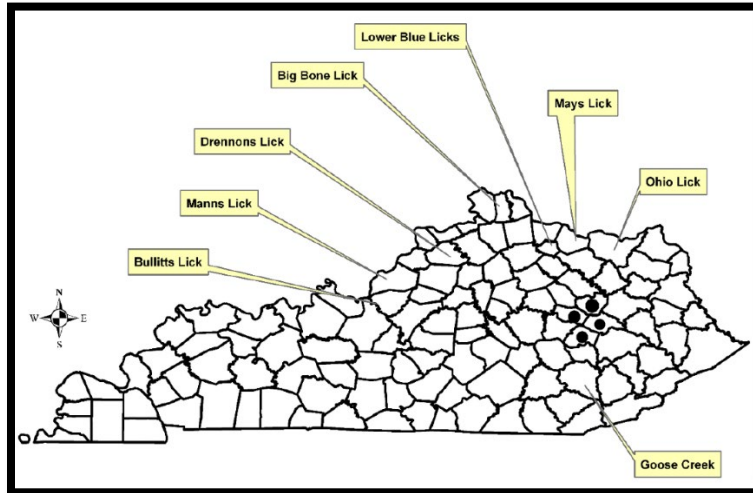


Figure 6. Salt lick locations within the Commonwealth of Kentucky. Powell, Menifee, Lee, and Wolfe counties indicated with a dot. Figure taken from Fiegel and Huser 2019:103. Used with permission of Kurt Fiegel)

Fecal remains have been recovered from Newt Kash Hollow in the bedding, from Hontoon Hollow and from several other shelters, as well as copious feces from deep inside Mammoth and Salts caves (Crothers 2012). Among the Mexica, the filth deity Tlazolteotl was associated with quail, and with human feces (and a sandal-sole shell gorget), and it was specifically to her that Aztecs made confessions. Feces, combined with used menstrual pads, diapers, soiled clothing, sweat lodge thatching and bedding could be suggesting that there was also a filth spirit acknowledged with the combustion of these materials in Kentucky rockshelters. It is possible that the documented historic Mesoamerican, and ancient Southwestern United States trinity of fertility, filth and salt may be quite ancient even among the rockshelter users of the Cumberland, Allegheny, and Ozarks.

CONCLUSION

Similar rituals to those recorded herein and in the Great Lakes area (Hanson 2016) have also been documented in rockshelters in Ohio (recognized by Spurlock *et al.* 2006:456), Tennessee, Alabama, Missouri, Arkansas, and Illinois, yet not in the survey papers cited here. As Homsey-Messer (2015:349) suggested, these rites were conducted in many cases by women's task groups or retreating individuals. Many kinds of evidence for rituals have been highlighted here—artifacts, pit patterns, ash, multiple burials of people and animals, locations inside shelters, associated rock art and BRM, etc. and sets

of characteristics. It will be primarily through pattern recognition that ritual activity will be identified even if the rituals themselves remain opaque. Patterns are made of sets of the elements of evidence such as what has been used to identify retreat shelters. I hope this survey of rituals within these places will spur archaeologists to reexamine old records and to excavate in the future with them in mind.

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INVISIBLE HISTORIES OF NATIVE PRESENCE-THE POTENTIALS, PERILS, AND PITFALLS OF ASSESSING LOOTED ROCKSHELTER SITES

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ABSTRACT

Looted rockshelters hold significant records of Native and Euro-American lifeways that are too often overshadowed by their destruction for both personal enjoyment and saleable artifacts. Assessing the extent of subsurface disturbance requires testing beyond one or several shovel test pits. This paper presents a case study of Native rockshelter use in the Daniel Boone National Forest where an assemblage of features and archaeological deposits with presumed Late Archaic and Woodland associations based on diagnostic lithic and ceramic artifacts were, in fact, created by Native groups during the seventeenth through nineteenth centuries based on a series of AMS assays. For archaeologists working in disturbed rockshelter contexts this example serves as a cautionary lesson for component interpretation, chronology, and assessment; further highlighting the need for more extensive testing and radiometric assays.

INTRODUCTION

“[T]he ongoing plunder of virtually all rockshelters in Kentucky and elsewhere threatens the very survival of such sites” (Railey 1991:100).

Rockshelter sites in Kentucky and beyond have been the targets of both haphazard and systematic looting for well over a century. Early Kentucky archaeologists noted the occurrence of previous excavations and digging by non-archaeologists (Funkhouser and Webb 1928, Webb and Funkhouser 1936). Looted rockshelters potentially hold significant records of human life and lifeways that all too often are overshadowed by the destruction wrought through illicit digging for artifacts – primarily stone tools – for both personal enjoyment and their salability (Lewis and Pollack 1996:214-215). Yet, despite the destruction, many, maybe even most, retain integrity in areas undisturbed by illicit digging and hold potential to produce important information as excavations in several Kentucky rockshelters demonstrate (Des Jean 2004; Feigel and Hixon 1992; Gremillion 1998; Ison 1988; Lane et al. 1995; Railey 1991).

Assessing the extent of subsurface disturbance, stratigraphic integrity, and the kinds and amount of data that remain in a looted rockshelter, activities central to the management of cultural resources and the preservation and protection of historical resources writ large, falls short without subsurface testing beyond the shovel test pit. Looted rockshelters already pose significant challenges for assessment. Compounding an already difficult situation are cultural components that do not produce diagnostic artifacts or have been subjected to cultural and natural bioturbation, commingling artifacts from earlier and later periods, creating temporal ambiguity. What appears to be a Middle Woodland pit feature based on the presence of a few bits of limestone tempered pottery could be something different entirely. In situations like this, archaeologists are left with little recourse but to rely on radiometric assays to identify temporal components. Radiometric assays from contexts impacted by looting or otherwise associated with looting disturbance is not without its difficulties, and careful attention should be paid to the contexts producing samples selected for radiometric assay. Sealed contexts like features are among the best options for sample selection. Opting to rely on the conventional approach of using diagnostic artifacts will inevitably result in the failure to recognize a potentially significant occupation, effectively rendering those people and their history invisible.

A major limitation of contemporary archaeology in the United States has been our approach to Native sites after European contact and colonization, one that is reliant on pottery and projectile points, archaeologists' "diagnostic" artifacts. While these can be helpful, relying on diagnostic material culture to signal a Native presence links identity to chronology, perpetuating essentialist understandings of identity and cultural practices (Lightfoot 2006). This effectively denies Native people the possibility of contemporaneous presence in their own lands, and the persistent social and economic networks that connected communities across broader landscapes (Panich and Schneider 2022:4). Postcontact Native groups differentially accepted and incorporated European and American material culture into their own repertoires (Tuggle 2024), and it is possible that Native sites may altogether lack artifacts archaeologists usually associate with these cultures. Without them, we could entirely overlook Native components after commonly accepted dates for colonization and, in the process, inadvertently contribute to their erasure.

Public misperceptions about Native occupation history abound in Kentucky; the most prominent is the myth of the 'dark and bloody ground.' Henderson (1999) traces the history of this myth, how it arose, and its effect in portraying Kentucky as uninhabited. What the dark and bloody ground myth overlooks is Native perspectives on land "ownership" and how the land was used in the seventeenth and eighteenth centuries. Henderson acknowledges that to outsider (colonist) eyes the apparent absence of Native people could give the impression that Kentucky lacked Native inhabitants. What eluded their observation and understanding was seasonal mobility and historical land use practices, not to mention their limited perspective considering the small amount of

geography they were able to directly observe. Shawnee villages in Kentucky and along the Ohio River were relocated farther north into Ohio out of fear of settler violence (Henderson 1999). Although the larger summer villages were relocated north of the Ohio River, smaller communities and winter hunting camps in Kentucky persisted (Henderson 1999). Encounters between the settlers and small groups Natives (mainly men, women and children remained at remote winter camps) shaped the perception that Kentucky was only used for hunting. The expectation that Native people would be absent from Kentucky's landscape following eighteenth century land cessions and treaties is belied in some small way by three unassuming archaeological features from the Killer Tree (15JA122) rockshelter.

Here I present a case study from the Killer Tree rockshelter, an extensively looted site in the Cumberland Plateau of Eastern Kentucky within the London District of the Daniel Boone National Forest. Excavations during the 2021 ECU archaeology field school produced an assemblage of features and midden deposits with presumed associations with the Late Archaic and Woodland periods based on diagnostic material culture recovered from them. Accelerated Mass Spectrometry (AMS) assays show that the features were almost certainly created through the activities of Native groups from the seventeenth through nineteenth centuries. In the absence of diagnostic artifacts suggesting this timeframe, only radiometric assays remain to indicate this significant component. Moreover, the inability to recognize this component through common practice vis-à-vis relative dating increases the likelihood for a component to be missed entirely during assessments limited to shovel test pits (STPs) or excavations without radiometric dates, limiting the ability to make informed management decisions.

To begin, background on the Killer Tree rockshelter is offered to set the stage and establish the chronological and depositional context producing the features. Following the introduction to Killer Tree, the seventeenth through nineteenth century features are described and discussed. Included are descriptions of their association with the strata present, their dimensions and shape, sediments, contents, AMS assays, and interpretations. Following the description of the features, issues related to the AMS assays and potential cultural attribution of the features are discussed and the case made that they were made by Native people in Kentucky from the late seventeenth through early nineteenth centuries. Also highlighted in the discussion is the need for more substantive field work in assessing and evaluating looted rockshelters, with the material invisibility of seventeenth through nineteenth century Natives serving as the cautionary tale of what could be missed by less intensive testing efforts.

KILLER TREE ROCKSHELTER

The Killer Tree rockshelter was identified and recorded during the Mayapple Branch Timber Sale Survey 40 years ago (Sharp 1997). At the time, significant looting had already occurred. Looting has a deep social history in the area. During the 2016 ECU field school at the Grizzly Newt rockshelter (15JA120) a student who was also local, was informed by another local resident that they had personally dug in the site as early as the mid-1960s. Looting activities are ongoing. Immediately prior to the 2021 field school at Killer Tree fresh looting was discovered by the London District Archaeologist (Figure 1). Minor looting has also occurred since. Destruction of these sites was a motivating factor in their selection as ECU field school locations.



Figure 1. General view of the Killer Tree rockshelter from the southeast, facing northeast.

The purpose of testing at Killer Tree was to evaluate the extent of the damage wrought by looting, determine if any intact cultural deposits remained, and evaluate the site for its the National Register of Historical Places (NRHP) eligibility. Looting is extensive, impacting greater than 75% of the available floorspace in the rockshelter. Activities of the 2021 field school included assessing the level of preservation of the remaining deposits; and collecting information related to the chronology, activities, and nature of the occupation(s). Ultimately, the information gained was used to determine if any

depositional integrity remains, and whether the site meets the eligibility criteria for listing on the NRHP. Pragmatically, investigating this site (and others) provides the USFS with the data necessary to make informed management decisions. It also provided an opportunity to train the next generation of Kentucky archaeologists and engage in meaningful fieldwork activities. Our approach to research in the field schools is inductive. Only after addressing site integrity and NRHP eligibility were avenues for contributing to research taken up, the reverse of the traditional deductive approach to research that takes theory and hypotheses as starting points.

The Killer Tree rockshelter is a multicomponent site with occupations spanning the last 11,000 years of Native history and recent of Euro-American history. Investigations at the site included test excavations within the shelter and a limited Phase 1 survey on the ridgeline outside the shelter that connects it to the Sheltowee Trail. Within the shelter 13.59 m² were excavated and consisted of a combination of 1x1-m and 1x2-m units with smaller extensions to further investigate features (Figure 2). A total of 13 archaeological features were identified and excavated: six thermal features, four pits, and three petroglyphs. Two archaeological strata were encountered within the shelter proper, with additional strata represented in units straddling the dripline at the edge of the bench and outside the shelter proper. Thermal and pit features were mainly found at the interface of Strata I and II.

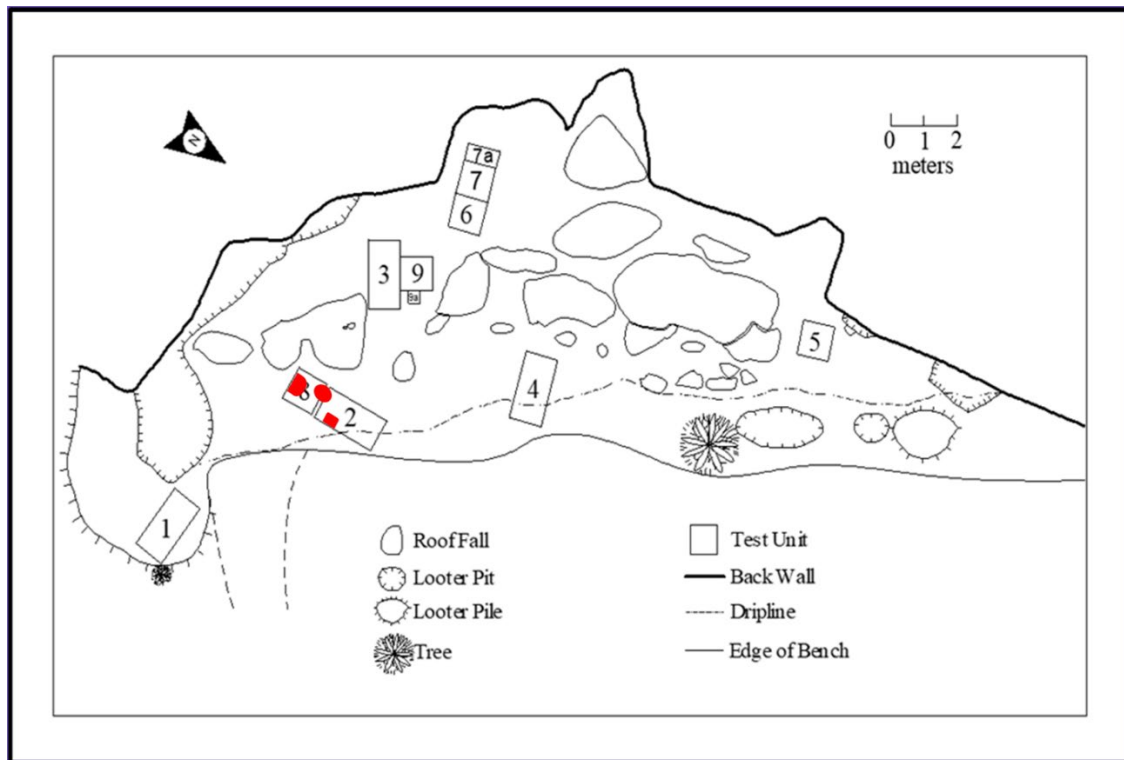


Figure 2. Site map for the Killer Tree rockshelter showing location of excavation units and the features discussed in this paper.

The primary components represented are a deeply buried zone composed almost entirely of Kirk Corner Notched Horizon bifaces, tools, and debitage occupying the lowermost meter of deposits in Excavation Unit (EU)-1, and a slight representation of a late Early Archaic LeCroy component in EUs 1 and 2. A minor Middle Archaic occupation overlies the Kirk, represented by a single side-notched biface. Midden deposits and features likely associated with the Early or Middle Woodland signal a somewhat significant presence during these sub-periods. Diagnostic artifacts included an Adena point fragment and limestone tempered pottery. A corrected AMS assay of (D-AMS 046323) 2182-2347 cal BP from Feature 1 confirms a late Early Woodland component. Save for two triangular projectile points, there is no other diagnostic material culture indicating a Fort Ancient component at the site. An early- to mid-twentieth century historic presence is indicated by a few fragments of colorless lamp and container glass and a handful of .22 cal. cartridge casings dated to the 1920s. Contemporary material culture associated with looting activities, too, was collected and included mainly food, clothing related items, and cigarette butts.

Rendered invisible by the lack of diagnostics is an apparent seventeenth through nineteenth century Native component, with the understanding that there is an outside possibility that the triangular projectile points are part of this assemblage but could very easily predate it by several centuries. Instead, this significant Native presence is rendered mute by the lack of portable material culture produced by, or obtained from, Europeans or Americans. Only through the analysis of feature contents and the AMS assays they provided was this important period of Native history made visible.

FEATURES

Ten subsurface archaeological features were identified during excavations at Killer Tree. Most produced sufficient identifiable carbonized plant remains suitable for radiometric assay (Bonzani and Steenken 2022). Three archaeological features returned assays with date ranges that are considerably younger than anticipated. Only Feature 1, a thermal feature partially impacted by looting, returned an age estimate in line with the Woodland cultural association expected based on field observations of small pottery fragments. Features and diagnostic artifacts led initially to a Late Archaic through Middle Woodland association for the features collectively. Feature descriptions, considerations of their contents, and their temporal placement based on AMS assays form the main body of the discussion that follows.

Feature 5

Feature 5 was identified within EU-2, Stratum I, Level 3 at 34 centimeters below unit datum (cmbd). Recognition was based on the darkened sediments and concentration of sandstone adjacent to, and extending into, the east wall (Figure 3). It measured 40 cm

north-south and 25 cm east-west with a total depth of 6 cm. Overall, its shape in plan view, was circular to ovoid with a basin-shaped cross-section. Fill consisted of dark brown (10YR3/3) somewhat compact sand in the center lightening to brown (7.5YR4/6) towards the periphery. Thermally altered sandstone fragments of varying size were present and charcoal flecking occurred throughout the fill. Fill was collected unprocessed for flotation. Based on the occurrence of thermally altered sandstone and charcoal flecking, Feature 5 was interpreted as a thermal feature (a rock filled hearth). The association of a thermally damaged haftable biface resembling a Merom-Trimble within the same stratum and level immediately south of Feature 5 suggested a Late Archaic association.



Figure 3. Feature 5 before excavation.

Heavy fraction contents are presented in Table 1. A small number of artifacts and vertebrate fauna were recovered. Cultural materials are infrequent. Recovered materials included a small number of lithic debitage, a trace amount of vertebrate fauna, and a single crumb of limestone tempered pottery. In the field and laboratory, this pottery crumb was taken to indicate a Woodland cultural and temporal association, rather than Late Archaic as previously assumed based on the association of the Merom-Trimble point. Most of the materials from the heavy fraction consisted of charcoal and aligned with the results of paleoethnobotanical analysis. The scant material culture assemblage from Feature 5, and the abundance of wood charcoal, further support its interpretation as a hearth.

Table 1. Absolute Frequency of Materials from Feature 5 Heavy Fraction

Material	Count	Weight (g)
<i>Lithic</i>		
Tools	0	0
Debitage	21	5.9
<i>Ceramic</i>	1	0.1
<i>Fauna</i>	4	0.2
<i>Charcoal</i>	761	10.2
TOTAL	787	16.4

Botanical remains identified included wood charcoal (n=317), seeds and/or seed fragments (n=16), and nutshell (n=3). Among a sample of 20 wood charcoal fragments, red oak, white oak, walnut, pine, and possible spruce were identified with an additional seven too small for identification. Among the seeds bedstraw (n=14) was the most abundant with the balance consisting of two goosefoot seeds. The predominance of wood charcoal in the botanical assemblage confirms the interpretation of Feature 5 as a thermal feature.

The abundance of charcoal in Feature 5 provided ample organics for radiometric dating. A single fragment of *Pinus* spp. wood charcoal was submitted for AMS assay and returned a conventional radiocarbon age of (D-AMS 046324) 108 +/-20 radiocarbon years before present (rcybp), or 23-256 cal BP, corrected. The corrected age mainly falls within the late seventeenth through early eighteenth centuries, and the nineteenth century when the probability percentages are considered. An approximately 60% chance exists that the date range represents a nineteenth century (AD 1808-1897), a 30 % probability

for the late seventeenth through early eighteenth centuries (AD 1685-1731), and the remainder being essentially contemporary.

Considering the age estimate for Feature 5, it is clearly a historic period feature and, although no historic or modern artifacts were found within it or in association, historic and modern materials were found in the two levels immediately superior, lending some support for an older historic as opposed to modern chronological association. Heavy fraction materials were sparse and nondiagnostic, and unhelpful in terms of relative dating. Morphologically the feature is more like other Native American hearths at Killer Tree and the nearby Grizzly Newt (15JA120) and Sawdust Pile (15JA447) sites than recent, historic hearths encountered at the Dustbowl rockshelter (15JA121) (Endonino and White 2023). Based on its morphological similarities to other Native American features, Feature 5 interpreted as most likely to have been created by Native Americans using the rockshelter as a short-term encampment as early as the late seventeenth through the early eighteenth centuries, although a nineteenth century association is the most probable.

Feature 8

Feature 8 was initially encountered in the southwest corner of EU-2. It extended into the northeast corner of EU-8 and separated by a 20 cm baulk (Figure 4). Although present in two separate excavation units, only the portion of Feature 8 in EU-2 is considered here. Materials recovered from EU-8 are summarized in Table 2. Excavators first identified the feature at the interface of Strata I and II at 37 cmbd. It initiated higher up in the sediment column but was initially indistinguishable from the dark colored, organically enriched Stratum I sediments. In plan view, it was round to ovoid and has a bowl-shaped cross-section. Within EU-2, dimensions were 23 cm north-south and 65 cm east-west. Feature sediments were moderately compact and dark brown (7.5YR3/3) with very dark brown (10YR2/2) and dark reddish-brown (5YR3/2) mottling. Reddened mottling represents displaced and redeposited thermally modified sediments. Burned sandstone and fire damaged chert was observed during excavation. Feature fill was collected unprocessed for flotation. Based on the available evidence, Feature 8 is interpreted mainly as a refuse disposal pit that received a variety of materials, many subjected to thermal modification like burned sandstone, thermally damaged chert, and lumps and flecks of reddened sediments redeposited from their original context.

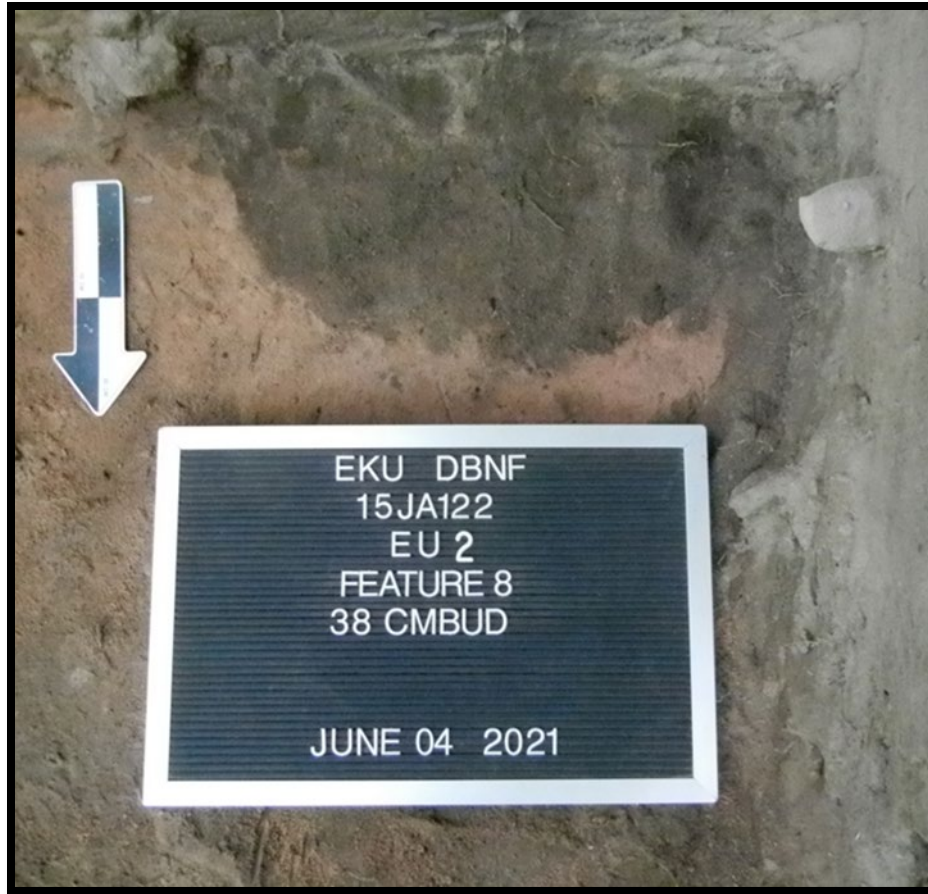


Figure 4. Feature 8 before excavation.

Artifacts and other materials within the heavy fraction are shown in Table 2. A modest assemblage of artifacts and vertebrate fauna are represented. Lithic debitage was frequent and most were small, measuring less than $\frac{1}{4}$ " in size. Two sherds of limestone tempered pottery were also recovered. Vertebrate fauna was somewhat frequent. Wood charcoal was somewhat common and consistent with the results of paleoethnobotanical analysis. Of all the materials recovered from this feature, sandstone fragments were the most abundant (weighing a total of nearly 4 kilograms). A majority of the sandstone fragments exhibited evidence of thermal modification. Considering the small size of the debitage (many showing thermal damage), the moderate amount of vertebrate fauna, high frequency of thermally modified sandstone fragments, moderate amount of charcoal, and diversity of botanical remains, the materials within the feature are consistent with an interpretation as a refuse disposal pit, likely for materials originating in thermal features.

Table 2. Absolute Frequency of Materials from Feature 8 Heavy Fraction

Material	Count	Weight (g)
<i>Lithic</i>		
Tools	0	0
Debitage	266	47.2
<i>Ceramic</i>	2	1.7
<i>Fauna</i>	192	44.8
<i>Charcoal</i>	61	5.4
<i>Sandstone</i>	6603	3887.6
TOTAL	7124	3986.7

Botanical remains identified include wood charcoal (n=526), seeds and/or seed fragments (n=12), and nutshell (n=7). Forty wood charcoal fragments were selected for identification. Among the identified species were red oak, white oak, pine, red cedar, chestnut, possible shagbark hickory, and spruce. Of the identified seeds goosefoot (n=5) was the most abundant. Also present were single examples of pigweed, bedstraw, knotweed, Poaceae spp., and possible plant rind. Nutshell fragments included hickory (n=3), walnut (n=2), and two unidentifiable fragments. The predominance of wood charcoal among the botanicals is suggestive of a thermal feature. However, the occurrence of botanicals used as food such as goosefoot (*Chenopodium* spp.) and other edible seeds, as well as nutshell, provide some evidence that Feature 8 had a function other than a thermal feature, possibly refuse disposal.

A single fragment of burned walnut nutshell identified during paleoethnobotanical analysis was submitted for radiometric assay and returned a conventional age (D-AMS 046325) of 198+/-22 rcybp, or 1-296 cal BP, corrected. The corrected age mainly falls within the mid- to late seventeenth through early eighteenth centuries, and the nineteenth century, when the probability percentages for the date are considered. A 59% chance exists that it falls within the second quarter of the eighteenth to the start of the nineteenth (AD 1736-1805), a 26% probability for the mid-seventeenth century (AD 1654-1683), with the remainder essentially contemporary. When the probabilities are considered, there is an 85% chance that Feature 8 dates from AD 1654-1805.

Feature 8 was thought to be a Woodland period feature based on the occurrence of limestone tempered ceramics during excavation and sorting of the heavy fraction. Considering that the AMS assay was derived from burned walnut nutshell, a potential food resource, Feature 8 is demonstrated as a Native historic period feature. Limestone-

tempered ceramics and lithic artifacts within its fill were initially interpreted to indicate a Woodland temporal association. Rather, it dates from the seventeenth through eighteenth centuries. Thin limestone tempered pottery has been recovered from late Fort Ancient village sites in northern Kentucky on the Ohio River and in the Bluegrass (Pollack and Henderson 1984; Turnbow and Jobe 1984). Like Feature 5, Feature 8 initiates below the occurrence of historic or modern artifacts and its fill did not produce any diagnostic artifacts dating before the nineteenth century. Feature 8 represents the best evidence for a seventeenth through eighteenth century Native occupation of the Killer Tree rockshelter.

Feature 10

Feature 10 was identified within the southern half of EU-8 and expanded to cover approximately half of the unit floor near the top of Stratum II at 49 cmbd (Figure 5). Approximately half of the feature extended into the southern wall. Although only partially exposed, this feature appeared to have an ovoid plan shape with a northwest-southeast orientation and a somewhat asymmetrical, funnel-shaped cross-section. It measured 49-cm north-south, 68-cm east-west, and reached a depth of 43-cmbd. The feature was bisected on a north-south axis. The east half was screened through 1/8" mesh in the field and the west half was collected unprocessed for flotation and paleoethnobotanical analysis.





Figure 5. Feature 10 before excavation (top), and in profile after excavation of the east half (bottom).

Sediments within the feature varied. Zonation was revealed in profile within the west-half following bisection (Figure 5b). A thin lens of light-colored ashy sediments served as the boundary between Zones 1 and 2. Zone 1 sediments consisted of loosely compacted very dark brown (10YR2/2) sand mottled with very pale brown (10YR7/4) fine sand. Charcoal and artifacts (lithic debitage and pottery) were observed within Zone 1 during excavation. The lens separating Zones 1 and 2 was characterized by fine, light (10YR7/2) ashy sand. Zone 2 sediments consisted of dark yellowish brown (10YR3/4) loosely compacted fine sand mottled with very pale brown (10YR7/4) fine sand. Mottling was more pronounced within Zone 2.

Due to the observed zonation, feature fill within the west half required segmentation for sampling and analysis. Sediments from the east half combined Zones 1 and 2. Zones from the west half were separately sampled. Zone 1 sediments included the ashy lens and fill above it. Zone 2 consisted of everything below the ashy lens. Following sampling of both feature halves, the “halo” of organically stained sediments remaining in the floor of EU-8 were excavated separately and 1/8” screened.

Materials recovered in the heavy fraction from Feature 10 are summarized in Table 3. Comparing the east and west halves, the results were similar. The frequency of debitage in Zones 1 and 2 are comparable. However, there was a significant decrease in vertebrate bone between Zones 1 and 2 with the former producing nearly three times the latter. Of note is the absence of limestone tempered pottery in Zone 1 and its somewhat frequent

occurrence in Zone 2. Curious and unexpected was the absence of charcoal in Zone 2, although it does explain the lighter coloration and lower degree of organic enrichment. Sandstone fragments were abundant, small, and part of the general sediment matrix in the shelter and not cultural in origin.

Table 3. Absolute Frequency of Materials from Feature 10, West 1/2) Heavy Fraction.

Material	Count	Weight (g)
<u>Zone 1</u>		
<i>Lithic</i>		
Tools	1	1.1
Debitage	242	14.9
<i>Ceramic</i>	0	0
<i>Fauna</i>	222	13.7
<i>Charcoal</i>	16	0.5
<i>Sandstone</i>	8026	436.2
<i>Sub-total</i>	8507	466.4
<u>Zone 2</u>		
<i>Lithic</i>		
Tools	0	0
Debitage	208	54.6
<i>Ceramic</i>	29	7.6
<i>Fauna</i>	77	5.7
<i>Charcoal</i>	0	0
<i>Sandstone</i>	1435	934.7
<i>Sub-total</i>	1749	1002.6
TOTAL	10,256	1469.0

Of the three features discussed, and among all the features identified and sampled from Killer Tree, Feature 10 was the densest in the volume of macrobotanical remains and the most diverse. It was also the only feature to produce seeds from fleshy fruits. Botanical remains identified include wood charcoal (n=899), seeds and/or seed fragments (n=49),

and nutshell (n=22). Forty wood charcoal fragments were selected for identification. Species identified include pine, white oak, spruce, red oak, black locust, red cedar, maple, and buckeye. Goosefoot, bedstraw, and honeysuckle were well-represented among the seeds. Other seeds included maygrass and giant ragweed. Fleshy fruit seeds included grape, elderberry, silverberry, and blackberry/raspberry.

A single fragment of pine charcoal from Zone 2 in the west half was submitted for AMS assay and returned a conventional age (D-AMS 046326) of 91+/-22 rcybp, or 30-258 cal BP, corrected. The corrected age spans the late seventeenth through early 20th centuries when the probability percentages are considered. An approximately 73% chance exists that it falls within the first quarter of the nineteenth to the start of the 20th (AD 1811-1920), and a 27% for the late seventeenth to early eighteenth century (AD 1692-1728).

Features from Killer Tree discussed above are similar to the others from the same sites nearby and across eastern Kentucky. In form and content, they are like Woodland period features encountered by other researchers (Carman and Sharp 1998; Gremillion 1998). Despite the occurrence of limestone tempered pottery and lithic debitage within or associated with these features, AMS assays demonstrate that they were considerably younger, dating mainly from the middle seventeenth through early-nineteenth centuries. A lack of any diagnostic artifacts that might indicate whether Native Americans or Euro-American colonists created them are lacking. In view of this, a further consideration and discussion of the radiometric chronology and cultural attribution is warranted.

DISCUSSION

Radiocarbon Chronology and Cultural Attribution

Variability in the calibration curves for the AMS assays from the features leaves room for uncertainty to their age and cultural association. More precise age estimates, while desirable, are not currently available and we must work with the dates we have, ambiguity and all. Most unsatisfying is the inclusion of the middle nineteenth through twentieth centuries in the age ranges, opening the possibility they were not created by Native communities. Could European colonists or later non-Native people have created the features? Possibly. While possible, it is unlikely, ambiguity surrounding the AMS assays notwithstanding. However, there are three compelling reasons to doubt non-Native origins for these features:

- 1) They are consistent in form and content with Native American features from Killer Tree and other nearby sites.

- 2) Modern and historic artifacts were stratigraphically above the features and did not occur within the stratum where they initiated, the level above, or the features themselves.
- 3) Native cultigens and/or their wild counterparts occurred within all three features.

Spatially, the features were restricted in distribution. Morphologically they were more consistent with prehistoric features identified at other nearby sites. Feature 5 was like Feature 8 at the Grizzly Newt (15JA120) rockshelter – a shallow pit filled with thermally modified sandstone fragments dating to the Middle Woodland period (1358-1522 cal BP). Feature 10 was like Feature 10 from Grizzly Newt, a pit filled with organically enriched sediments and botanical remains. Similar features from demonstrated Woodland period contexts have also been identified at other rockshelter sites in the Cumberland Plateau (Des Jean 2004; Railey 1991). Notably, thermal features contrasted markedly with a recent historic campfire from the Dustbowl rockshelter (15JA121), the latter lacking a shallow basin or thermally modified sandstone (Endonino and White 2023:107).

We might anticipate that European or American produced material culture (glass, glazed ceramics, metal) would occur within feature fill or the site more generally. Native people during the seventeenth through nineteenth centuries had access to many of these same materials, and yet they are absent (Henderson 1999; Tuggle 2024). Moreover, the features were separated from modern and historic artifacts stratigraphically. Within EUs 2 and 8 these materials occurred within the two uppermost 10-cm excavation levels, and all within Stratum I. Features 5 and 8 initiated at the interface of Strata I and II with at least 10 cm separating the topmost portions of the features and the lowest modern/historic artifact-bearing levels. Feature 10 began approximately 30 cm below the lowest occurrence of modern/historic materials. If these features were the product of Euro-American activities within the shelter, we might well expect that some of these materials would occur within the features or the excavated levels where they begin. That they do not weighs in favor of their Native origin. Could the absence of Euro-American material culture be related to function or duration of use? Possibly. This applies whether they were Native or Euro-American in origin – a transient occupation is less likely to leave materials regardless of who produced them.

Paleoethnobotanical remains from the features by themselves did not provide useful information related to who created them. Wood identification and the occurrence of fleshy fruit seeds constituted a botanical assemblage that was equally available to, and used by, Native groups before and after contact and Euro-Americans alike. However, seeds in the paleoethnobotanical assemblage, and when stratigraphic and artifactual data are considered in concert with the AMS assays, supports Native origins. All three features

produced goosefoot (*Chenopodium* spp.) seeds, and Feature 10 also produced maygrass. Both seeds have long histories of cultivation among Native societies in the Ohio River Valley and eastern Kentucky in particular, providing a food source for millennia before the arrival of European colonists to North America. Their presence within these feature contexts offers compelling support for having been created by Native Americans sometime between the mid-seventeenth through early nineteenth centuries.

Limestone Tempered Pottery – Middle Woodland, Fort Ancient, or What?

Small sherds of limestone tempered pottery were somewhat common at Killer Tree and their presence was interpreted as diagnostic of the Woodland period component prior to obtaining AMS assays from the features. Their inclusion in the features, primarily Features 8 and 10, was initially interpreted as mixing of older Woodland materials into younger features once the AMS assays were available. Shell-tempered pottery is diagnostic of Fort Ancient components within the eastern Mountains (Sharp 1996) and their absence at Killer Tree was notable. The only clearly Fort Ancient associated diagnostic artifacts were triangular stone projectile points. However, investigations at Fort Ancient sites in the Bluegrass region (Hockensmith 1984; Turnbow and Jobe 1984) produced limestone tempered pottery in contexts that were demonstrably undisturbed from Fort Ancient sites across central Kentucky. Sharp (1984) notes that limestone tempering was widespread and apparently persisted longer than elsewhere, and that specimens from the Dry Run Site (15SC10) assemblage was transitional, representing the merging of new Fort Ancient vessel attributes (appendages, mixed shell, and limestone temper) with a preexisting central Kentucky Woodland ceramic tradition with its limestone temper and vessel forms. The Late Fort Ancient Goolman site (15CK146) is instructive here. Features and midden were associated with the Fort Ancient Madisonville phase and returned radiocarbon and thermoluminescence dates ranging from A.D. 1400-1645. Approximately 22% of the ceramic assemblage consisted of limestone tempered wares, both plain and cordmarked, with the majority the shell-tempered wares expected for Fort Ancient (Turnbow and Jobe 1984).

Considering the foregoing discussion of limestone tempered pottery, its occurrence spans the Fort Ancient period in the Bluegrass from the twelfth through the seventeenth centuries. Fort Ancient in the eastern Kentucky mountains is poorly understood, but a village/camp settlement pattern has been observed, and the ceramics associated included shell-tempered wares (Sharp 1996:177-178). While it remains to be proven, it is possible that limestone-tempered wares also persisted late into Fort Ancient Period in the mountains, perhaps even into the seventeenth and eighteenth centuries. A fruitful avenue for future research will be to obtain age determinations through thermoluminescence. Directly dating the pottery from these features will answer the question of whether they were the result of inadvertent mixing of older Woodland materials within these later features, or limestone tempered pottery made and used by late Fort Ancient groups who visited Killer Tree in the seventeenth and early eighteenth centuries, or the Shawnee and other Native groups afterwards.

Assessing Looted Rockshelters

A substantially damaged rockshelter is discouraging for any archaeologist, and assessing looted, damaged, and “destroyed” rockshelters can be daunting. We would do well to guard against becoming jaded, especially the cultural resource and land managers who regularly work with these kinds of sites. Expectations for the Killer Tree rockshelter were low from the first time I set eyes on it in 2015 up through the first week of field school in 2021. With little in the way of floor space that was not occupied by roof fall or looter pits, optimism was in short supply. As unit excavation progressed and undisturbed (or minimally disturbed) deposits and features began to emerge, my preconceptions about heavily looted rockshelters were obliterated yet again. While it is easy to be persuaded based on visual appearance alone that sites like these could not possibly retain any integrity or possess useful data, the shopworn adage “You can’t judge a book by its cover” rings true. A turn of phrase apropos for this situation might be “You can’t judge a rockshelter by its potholes.”

I am not the first to make this observation, other archaeologists working in Kentucky have also encountered well-preserved deposits producing important data in looted rockshelters (Des Jean 2004; Feigel and Hixon 1992; Gremillion 1998; Ison 1988; Lane et al. 1995; Railey 1991), and EKUs work continues this tradition. Commonalities among these fruitful investigations include test excavation and radiometric assay (both standard and AMS). Benefits of test excavation include the recognition of deposits retaining integrity, feature identification, sample collection for paleoethnobotanical and zooarchaeological analysis, recovery of material culture assemblages to aid in chronology and understanding on-site activities and a host of other social phenomena like exchange and mobility, to name a few. The quality and kinds of data these produce, and the stratigraphic observations they permit, cannot be achieved from a visual inspection of the surface, or one much less a handful of STPs.

Radiometric assays, while costly, pay dividends through a better understanding of the societies we study through refined chronologies that in turn enable refined behavioral interpretations. Cumulatively, improved chronological resolution and the nuanced behavioral interpretations they make possible enhance archaeologists’ efforts to recognize and interpret change through time. Cultural resource management must play a central role in the growth of radiometric databases (Garland et al. 2024). They are particularly well-situated for this given the geographically broad areas across which they operate. Greater use of radiometric assays as a matter of course in professional practice will enhance our understanding of the past generally, but situating features and deposits from looted and damaged sites only enhances the value of the recovered data, providing reliable cultural and temporal attribution and facilitating intersite and regional comparisons.

Ultimately the additional effort results in more accurate assessments and better management decisions. It also engenders additional time and increased cost, and both are frequently limited, thus implementation is easier said than done. Rather than serving as a template for assessing damaged and looted rockshelters, the recommendations above are best viewed as suggestions, and the “invisible” seventeenth to nineteenth century Native component unrecognizable with conventional methods as a cautionary tale of what we are potentially missing during lower intensity investigations.

CONCLUSIONS

In his paper on Cold Oak Shelter (15LE50), Cecil Ison (1988:205) notes that the work he undertook was to “determine if rockshelter sites which appear to be totally destroyed on the basis of surface indications still contained sufficient integrity and scientific data content for inclusion in the National Register of Historical Places.” Ison and many others made significant contributions to the study of rockshelters. Eastern Kentucky University continues this tradition and has centered the investigation of looted and damaged rockshelters in eastern Kentucky and Daniel Boone National Forest in its field schools and other CRM focused fieldwork (Endonino and White 2023, Endonino et al. 2024a, Endonino et al. 2024b). This work has never been more important.

Looted, damaged, and “destroyed” rockshelters still hold well-preserved deposits containing numerous data classes. Some like Cold Oak and Cloudsplitter yield rare glimpses of organic material culture like textiles, baskets, and both produced wild and domesticated plants important to Native communities dating back millennia. Efforts evaluating and assessing these sites requires testing at the Phase II level. A visual assessment or a few STPs will not suffice and runs the risk of missing or misidentifying significant components and data classes. Moreover, any testing ought to include several AMS assays, and budgets structured accordingly. AMS assays are an investment in the future of archaeology in Kentucky and beyond. Were it not for the modest funds secured through a Faculty Mini Grant from ECU, the seventeenth through nineteenth century Native component at Killer Tree would have remained invisible and perpetuated the erasure of Native Americans from the histories of the colonization and settlement of Kentucky apart from warfare, raiding, and frontier violence (Fischer 1908). Recognition of a Native American presence during and after colonization reinforces their persistence and challenges conventional historical narratives of colonial displacement and dispossession. All it took to reveal the invisible history of Native presence at Killer Tree in the seventeenth through nineteenth centuries was two bits of burned wood, one bit of charred walnut nutshell, and \$1000.

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