Archaeological Investigations of the Evans Site
Montgomery County, Kentucky

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with contributions by
Jack Rossen
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RESEARCH REPORT NO. 12
Kentucky Archaeological Survey

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Research Report No. 12

Jointly Administered by: The University of Kentucky Department of Anthropology and
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Kentucky Archaeological Survey

The Kentucky Archaeological Survey is jointly administered by the Kentucky Heritage Council (State Historic Preservation Office) and the University of Kentucky Department of Anthropology. Its mission is to provide a service to other state agencies, to work with private landowners to protect archaeological sites, and to educate the public about Kentucky's rich archaeological heritage.

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CHAPTER ONE:
INTRODUCTION

Most of what is known about Adena comes from the many mounds excavated by William S. Webb and his colleagues during the late 1930s. Among these sites are the Wright, Ricketts, and Camargo sites in Montgomery County (Figure 1-1). While much is known about mound construction and how the dead were interred in these facilities, less is known about the rituals that were undertaken in the vicinity of Adena mounds. The investigation of the Evans site (15Mm182), provided us with an opportunity to learn more about off-mound Adena activities.

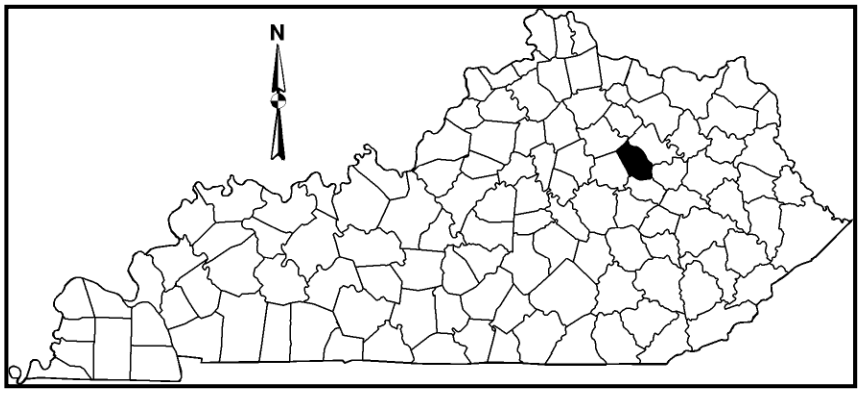

Figure 1-1. Location of Montgomery County, Kentucky.

The Evans site was identified by Cultural Resource Analysts (CRA) during the course of an archaeological survey conducted in advance of the realignment of U.S. 11 (Bundy 2005). It measures 110 m north-south by 60 m east-west and is located on a dissected upland ridge spur at an elevation of 283.5 m AMSL (Figure 1-2). The site overlooks a small stream that flows into nearby Hinkston Creek. This locality was primarily used during the late Early Woodland to early Middle Woodland subperiods, but the site also contains a minor Late Archaic and Late Woodland component

Shortly after the initial location and delineation of the site, a geophysical survey covering 3,600 m^2 was conducted in order to locate subplowzone features (Bundy 2005). Several magnetic anomalies were documented throughout the site; however, most were attributed to erosion gullies that had been filled with surrounding soils. The geophysical survey did locate a small anomaly along the eastern edge of the site that had the potential to represent subplowzone midden or intact cultural features (Bundy 2005).

Four 1 x 1 m units were excavated to assess this anomaly (Figure 1-3). These units yielded chipped stone debris, a Dickson Cluster Stemmed point, Adena Plain ceramics, and mica fragments. The only subsurface deposit documented was interpreted as representing a large tree root. Nonetheless, based on the high density of cultural materials recovered and the potential for intact subplowzone deposits, Bundy (2005) considered the site to be potentially eligible for listing in the National Register of Historic Places.

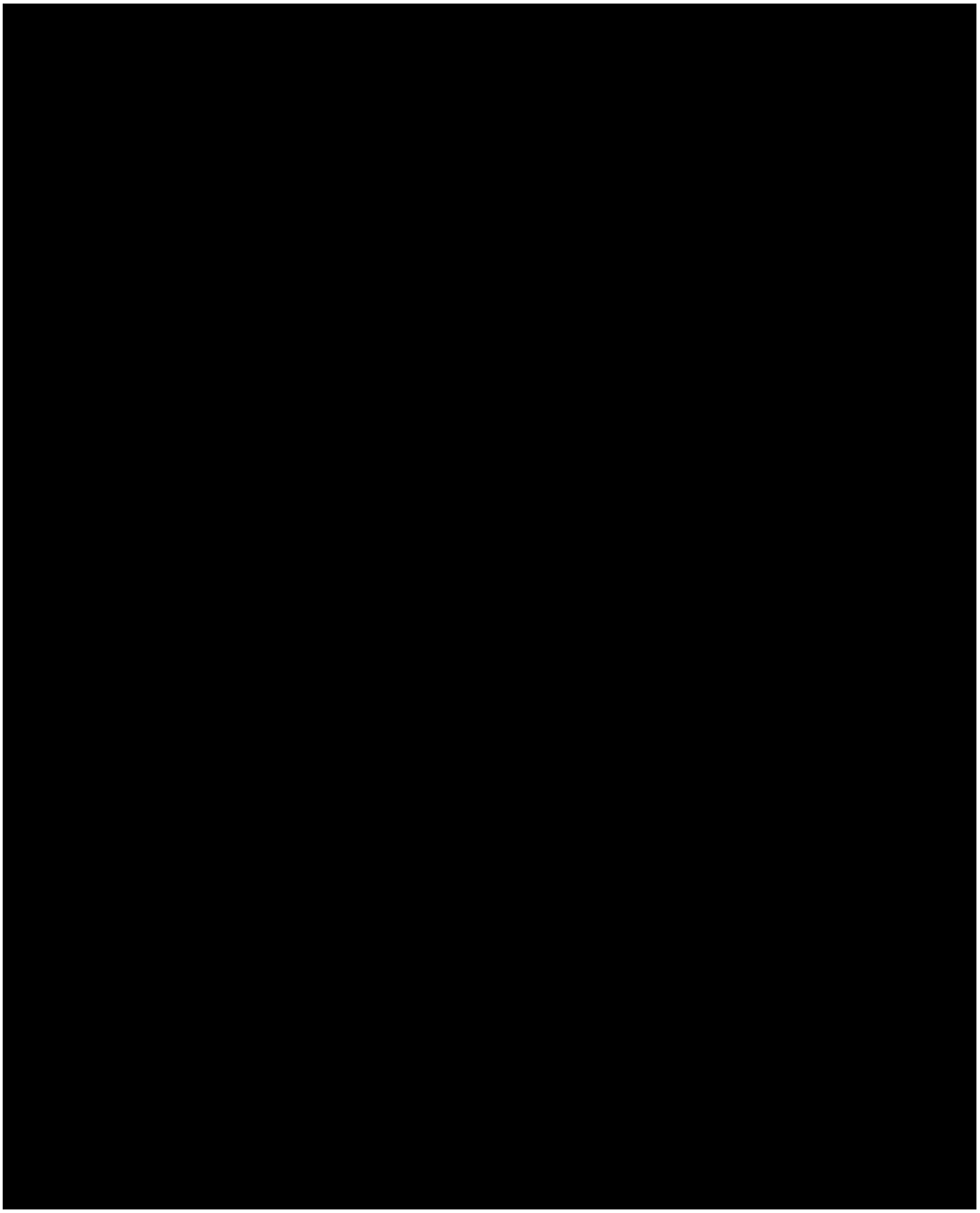

Figure 1-2. Location of Evan site in relationship to Sites 15Mm11, 15Mm180, 15Mm181, 15Mm188, and 15Mm192 (1965 Mount Sterling, Kentucky USGS 7.5 minute map).

KAS INVESTIGATIONS

KAS's investigation of the site consisted of the excavation of 12 units (17 m^2), and the use of mechanical equipment to remove the plowzone from two blocks (782 m^2). Units ranged in size from 1 x 1 m to 1 x 2 m. The hand units were excavated in order to recover a larger sample of artifacts from the site, to reevaluate the subplowzone deposits interpreted

by CRA as representing a tree root, and to determine if the site contained additional subplowzone cultural deposits. Overall the types of materials recovered by CRA and KAS archaeologists from hand excavated units was very similar, though larger quantities of artifacts were recovered from KAS units relative to those dug by CRA staff.

A reexamination of the anomaly investigated by CRA led to the determination that it was part of a large Woodland pit. The dark organic soil interpreted by CRA archaeologists as representing a tree root, actually represented organically enriched soil that had been used to line the pit. Though no other features were documented during the excavation of hand units, the mechanical removal of the plowzone resulted in the documentation of an additional eight pits and 14 posts. Of the nine pits, two were classified as large clay storage facilities, two as ritual feasting locales, and one as a mortuary processing area. The remaining four pits were classified as bowl-shaped or shallow basins.

Although none of the posts could clearly be associated with a structure, one cluster appears to have been associated with a tripod that may have been used to hang pots and baskets. Others may have been associated with screens that served to separate food preparation from mortuary rituals.

The distribution of pits and posts at the Evans site, points to a clear demarcation of space. Within this locale three primary activities were noted. The eastern most activity area was associated with the processing and storage of clay; the central activity area the preparation of the body for placement in a nearby mound; and the western activity area ritual feasts. The yellow clay stored in the eastern most pits was utilized in the cremation of human remains and in ritual feasts on site, and perhaps at nearby mounds.

The subsistence remains associated with several features along with a small amount of calcined bone recovered from the site, indicates that ritual feasting and the processing of human remains for burial elsewhere took place at this locality during the late Early Woodland/early Middle Woodland subperiod. The recovery of leaf-shaped Adena blades, a large number of mica fragments, and a barite fragment, points to the manufacture of objects for use in these rituals. The finished objects also may have been placed with the dead when they were interred in a nearby mound.

ENVIRONMENTAL SETTING

Physiography

Most of Montgomery County lies in the Outer Bluegrass region of central Kentucky (McGrain and Currens 1978: 57). The eastern and southern edges of the county border the Eastern Kentucky Coalfields (McGrain and Currens 1978: 57). The Evans site lies within the Outer Bluegrass in dissected uplands and overlooks Hinkston Creek, a tributary of the Kentucky River (McGrain and Currens 1978). Ridgetop elevations throughout most of the county range between 304.8 and 335.3 m AMSL (McGrain and Currens 1978:57). The lowest elevation in Montgomery County, 215 m AMSL, lies in the southwestern portion of the county where Coperas Creek leaves it (McGrain and Currens 1978). The highest elevation, 441 m AMSL, is located on Westbrook Mountain (McGrain and Currens 1978).

Geology

The Outer Bluegrass is formed from Late Ordovician deposits (McGrain 1983). Many formations in the Outer Bluegrass contain interbedded shale and limestone that are less resistant to erosion (McGrain 1983:42). Streams eroding through these more permeable layers result in a dissected topography consisting of hills with steep slopes (McGrain 1983). The Evans site is underlain by the Upper Ordovician Calloway Creek Limestone, which does not contain chert (Weir 1976). However, Middle Devonian aged Boyle chert, which occurs in dolomites of the Boyle Formation of central and eastern Kentucky could have been procured from streams located within close proximity of the site.

Soils

The soil series documented within the Evans site locale is Lowell silt loam on 2 to 6 percent slopes (LoB). This soil is found on narrow upland ridges (Froege 1986:29). Lowell soils are deep and well-drained. The surface layer consists of brown silt loam that extends to a depth of 25 cm below ground surface. Subsoil consists of yellowish brown silty clay loam extending to a depth of 36 cm below ground surface, yellowish-brown clay from 36 to 89 cm below ground surface, and light olive-brown clay from 89 cm below ground surface to bedrock (Froege 1986:29-30).

Climate

The climate in Montgomery County is temperate in nature. The average temperature in winter is 36 degrees Fahrenheit, with a daily minimum average of 26 degrees Fahrenheit (Froege 1986). In summer the average temperature is 74 degrees Fahrenheit, with a daily maximum temperature of 85 degrees Fahrenheit (Froege 1986). The annual precipitation total average is 47 inches. Fifty-three percent (25 inches) of that total average falls between April and September.

Flora and Fauna

The Outer Bluegrass physiographic region of Kentucky lies within the mixed Mesophytic Forest (Braun 1950). This type of forest is characterized by oak and hickory species. While agricultural practices have greatly altered the pre-settlement vegetation patterns of the region; in general, richer soils support walnut, sugar maple, buckeye, oak, black locust, and hickory trees, while poorer soils support oak, poplar, beech, and sassafras (Campbell 1985). Dense stands of cane and open woodland grasses, such as wild rye and buffalo grass, add to the diversity of vegetation.

Diversity in vegetation creates wide variation in animal habitat. White-tailed deer, elk, buffalo, black bear, rabbit, squirrel, raccoon, opossum, wild turkey, fox, wolf, rattlesnake, otter, muskrat, and beaver were all noted by early Euro-American settlers. These fauna replaced cold adapted species, such as ground sloth, tapir, caribou, mastodon, and grizzly bear, common during the Pleistocene Era.

OVERVIEW

The Evans site appears to have served as a locality where Adena people processed their dead as part of a multi-stage mortuary program. They came to this spot to prepare the dead for placement in a nearby burial mound. While at the Evans site, they procured and purified clay for use in mortuary rituals, and manufactured chert, mica, and barite objects. Some of the clay was used on-site in conjunction with rituals that involved the cremation of dead, the burning of American chestnut, slippery elm and black walnut, and the consumption of native cultigens, such as maygrass, chenopod, and sunflower. Clay also was stored for use in future rituals on site and perhaps at nearby burial mounds.

The specific rituals performed at the Evans site would in part have been dependent on an individual's age, sex, and how they died. Their achieved status and the status of those responsible for leading and organizing the mortuary activities would have influenced the nature of the rituals performed. In addition to status, a leaders/organizers age, knowledge, and past experiences, also would have factored in the types of mortuary rituals selected. At the Evans site, we documented one step in the Adena mortuary program: a place where a group initiated their loved one's safe passage to the afterlife. They would have cremated the remains of family members or relatives at Evans in preparation for interment in a nearby burial mound.

In the following chapter, the history of Adena research in Kentucky is summarized. This is followed by a description of the methods used in the field. Chapter 4 provides the results of the analysis of the chipped stone tools, and Chapter 5 provides a description of the celt, mica fragments, and barite fragment recovered from the Evans site. Chapter 6 provides an overview of the ceramic assemblage, and Chapter 7 the botanical remains. This is followed (Chapter 8) by a description of the work undertaken at the site. Chapter 9 provides a description of the features documented at the site, and examines the internal organization of the Evans site. Finally, Chapter 10 summarizes the results of this study.

CHAPTER TWO:
CULTURE HISTORICAL BACKGROUND

In this chapter, the Evans site is contextualized relative to other late early Woodland/early Middle Woodland sites in Kentucky. The chapter begins with an examination of the Adena/Hopewell relationship as viewed from the Kentucky side of the Ohio River, where by Middle Woodland times both are viewed as being contemporary. In this section, an argument also is made for embracing variability in the Adena archaeological recorded. This is followed by a review of previous Adena research in Kentucky, focusing on submound structures and cremations, earthen enclosures, open habitations, and ritual feasting.

ADENA\HOPEWELL

The concepts of "Adena" and "Hopewell" came to light during the early twentieth century based on investigations of several burial mounds in the middle Ohio Valley (Greenman 1932; Mills 1902, 1907, 1916, 1926). As they began to excavate burial mounds and earthen enclosures in central and northern Kentucky, a major research goal of William S. Webb and his associates was to identify cultural traits, such as mound and tomb construction techniques, and artifact attributes that would eventually lead to the development of regionally distinct cultural complexes (Jefferies 1987:14). To accomplish this Webb compared the earthen mounds of Kentucky's Bluegrass region to Hopewell mounds of southern Ohio (Schlarb 2005:52). Based on this study, a diagnostic trait list was developed and Webb concluded that the burial mounds and earthworks of Kentucky's Bluegrass Region predated Hopewell and he classified all them as Adena (Webb and Baby 1957; Webb and Snow 1945).

Though Webb made a clear temporal distinction between Adena and Hopewell, most archaeologists working in Kentucky today would argue for some degree of temporal overlap and interaction between Middle Woodland Adena and Hopewell (Applegate 2008; Clay 1991:35; Henry 2013; Railey 1996; Schlarb 2005). Railey (1996:100) goes as far as to conclude that "Adena should be viewed as an early regional expression of Hopewell rather than its predecessor." Applegate (2008) suggested a similar interpretation, stating that Adena developed during the late Early Woodland in Ohio and Kentucky. By early Middle Woodland times in Ohio, the Adena mortuary-ritual complex had morphed into or was superseded by Hopewell (Applegate 2008). In Kentucky, the predominate mortuary-ritual complex continued to be Adena with limited and irregular interaction with Ohio Hopewell, Appalachian Summit Hopewell, Copena Hopewell, and to a lesser extent, Illinois Hopewell (Applegate 2008). In essence, the distinction between Adena and Hopewell in Kentucky is much less clear-cut than it is in Ohio. This is not surprising, because Kentucky is located in an area that was a "hinterland" or "periphery" to classic Hopewell (Applegate 2008).

Applegate (2008) outlined Hopewell traits found at three dozen sites throughout Kentucky. Hopewell earthwork traits documented at Kentucky Woodland sites are groups of mounds, associated mounds and geometric earthworks, stone used in mound

construction, and use of special soils. Traits documented in mortuary practices, include individual primary cremations, rectangular submound structures, partitioning of space within submound structures, burning of submound structures, puddled clay platforms, and grave features on the submound surface (see also Henry 2013). Hopewell material culture traits are hooked-beak bird motifs; mica head ornaments and other cut mica; copper head ornaments, rings, gorgets, breastplates, solid bracelets, celts and earspools; modified human remains; marine and mussel shell spoons and dippers; cut canid or feline mandibles; Snyders and Affinis Snyders points; bladelets, including some made of Vanport (a.k.a. Flint Ridge of Ohio) chert; platform and modified tubular pipes; and stamped or cordmarked tetrapodal pottery vessels (Applegate 2008).

During the excavation of the Ricketts Mound (15Mm3), Funkhouser and Webb (1935) found similarities in puddled clay platform graves and a primary cremation in a square clay basin with those at Edwin Harness Mound in Ohio (Mills 1907). Funkhouser and Webb (1935) also noted that the copper bracelets and rings found in association with a burial at Ricketts were significant because copper was rare in Kentucky sites. In addition, Funkhouser and Webb (1935) observed that such ornaments were often reported from Ohio Hopewell sites (Moorehead 1922) and that the copper bracelets were very similar to those found by Mills (1926) in Mound 17 of the Hopewell Group. Webb and Funkhouser (1935:100) concluded that the copper bracelets, stone gorgets, and clay capped graves strongly suggested a northern influence if not actually representing a Hopewell influence on Adena culture. This was the earliest published reference by Webb to Hopewell traits at Kentucky sites (Applegate 2008:359).

Other Woodland sites excavated by Webb showed Hopewell influence in Kentucky's central Bluegrass. Limestone slabs were used in the construction of the Fisher Mound (15Fa152), and human remains from the mound were modified (Applegate 2008:358). Webb and Haag (1947) also noted similarities between copper head ornaments, copper and barite boatstones, barite and hematite cones, and modified tubular pipes from Fisher with those from Tremper, Hopewell, and Mound City (Applegate 2008:358). At the Wright Mounds (15Mm6-8), Hopewell-like artifacts, included mica and copper head ornaments, copper rings, modified tubular pipes, cut mandibles (mammal), and shell spoons (Webb 1940). Fenton and Jefferies (1991) characterized the Camargo Earthworks complex, which includes circular, square, and hexagonal enclosures and two mounds, as Hopewell related. One of the mounds produced a Connestee series tetrapodal vessel, a piece of a platform pipe, and mica fragments. Another covered two in situ crematory features (Applegate 2008:359).

Webb's work made important contributions to our understanding of Adena mortuary practices. The documentation of circular, paired-post patterns beneath many burial mounds was a major contribution to middle Ohio Valley archaeology. The large excavations that WPA crews completed helped to build museum collections, which Webb believed were vital for advancing scientific knowledge and for educational purposes (Crothers 2011). Webb also emphasized the recovery of human skeletal remains because of their importance for understanding the history of paleopathologies and examining human variation (Milner and Smith 1986:14). Webb's administrative skills and regimental control of excavations, led to standardized collections of archaeological remains, field forms, photographs, maps, profiles, notes, and other primary documentation (Crothers

2011). Because of his insistence on standardized documentation, we have good documentation of the size and shape of log crypts or vaults, the internal structure of the mounds, and the use of different types of clay in mound construction and mortuary practices. As it pertains to Evans and other Adena sites, the use of these clays will be discussed later in this report (see Chapter 9).

As archaeological research has advanced in Kentucky and elsewhere, Clay (1991, 1998, 2005) has come to question whether "Adena" is still a viable classificatory term. In particular, he is concerned with the seemingly wide variation in Adena and even Hopewell mortuary programs from ca. 400 B.C.- ca. A.D. 350. This variability has led Clay (2005) to suggest that Adena is no longer a viable or useful archaeological construct. On the other hand, others have argued that archaeologists should embrace this variability (Hays 2010; Henry 2013; Pollack et al. 2005; Rafferty 2005). Towards this end Rafferty (2005:166-167) proposed that more studies be conducted at regional scales within ecologically bounded territories, such as major river drainages, to shed light on the range of variability within and between cultural traditions. Likewise, Hays (2010; see also Henry 2013) has argued that the background and status of the person responsible for organizing a mortuary ritual will greatly influence how it is carried out and reflected in the archaeological record. In essence, Hays (2010:106) views Adena as incorporating a large number of interacting societies that drew upon a common repertoire of mortuary practices, symbols, and ideas, with each region developing its own unique mortuary traditions. In a 2014 article, Clay appears to have come around to this line of thinking. He even goes as far as to propose an interpretive shift from trying to identify patterning in the treatment of the dead to viewing mortuary events as the products of individuals and groups performing ritual acts using relics of their dead (Clay 2014:143).

PREVIOUS ADENA RESEARCH

As far back as the early nineteenth century, Woodland mounds and earthworks in Kentucky have drawn attention from scholars and lay persons alike (e.g., Atwater 1820; Linney 1881; Rafinesque 1824; Squier and Davis 1848). Years later during the 1930s and early 1940s, University of Kentucky professors William S. Webb and William D. Funkhouser investigated numerous Woodland sites, most of which were Adena burial mounds. These sites were primarily located in central and northern Kentucky, and include Ricketts (15Mm3) (Funkhouser and Webb 1935; Webb and Funkhouser 1940), Wright (15Mm6-8) (Webb 1940), Drake (15Fa11) (Webb 1941a), Fisher (15Fa152) (Webb 1941a, 1943b, 1947; Webb and Elliot 1942), Crigler (15Be20, 15Be27), Hartman (15Be32) (Webb 1943a), Riley (15Be15), Landing (15Be17) (Webb 1943b), and Dover (15Ms27) (Webb and Snow 1959).

Submound Structures and Cremations

Investigations conducted at Adena mounds revealed that many were constructed over circular paired-post structures, some of which had been rebuilt numerous times (Henry 2013). Though most of the submound structures were circular, the one located beneath the Bullock Mound (15Wd10) was rectangular. Excavated in 1947 by William G. Haag, under Webb's direction, it measured 15 m in length and was more than 8 m wide (Schlarb 2005).

Regardless of their size and shape, submound structures would have been places where rituals were conducted that included mortuary ceremonies related to the placement of primary and secondary (cremation) inhumations in the floor of a structure. Though most of the graves associated with Adena mounds were primary inhumations, cremations also were an important component of the Adena mortuary program (Henderson and Schlarb 2007; Henry 2013). Among the mounds where cremations were found were Morgan Stone, Drake and Fisher in Fayette County, the smaller of the two Wright Mounds and Ricketts Mound in Montgomery County, and the Robbins Mound in Boone County (Webb 1940, 1941a, 1941b; Webb and Elliot 1942; Webb and Haag 1947). In general, cremations were associated with the mound floor or the lowest levels of the mound.

Though most cremations associated with Adena mounds have been interpreted as taking place at an off-mound locale, with the dead subsequently interred within a mound as part of a multi-stage mortuary program (Henderson and Schlarb 2007; Webb and Snow 1945), this was not always the case. At Walker-Noe, Robbins, Bullock, and perhaps Camargo there is evidence of in situ crematory locales. Walker-Noe (15Gd56) is a low earthen burial mound that was intensively used to cremate more than 40 individuals for a relatively short period (Herrmann et al. 2014:58; Pollack et al. 2005). The floor of the mound consisted of a central burned area where human remains were cremated and then placed in the mound. Of note, was the presence of a pit filled with fire-cracked rocks that appear to have been curated for future use. Pollack et al. (2005) noted that the internal structure of this mound distinguished it from classic central Kentucky "Adena" mounds. Missing was the previously mentioned circular, paired-post submound structures, extended inhumations, and log crypts. In addition, unlike most Kentucky Adena mounds, which are located on a prominent ridgetop overlooking a stream, the Walker-Noe mound was located on a lower ridge surrounded by landforms of much higher topographic relief.

At Robbins cremated remains were recovered from a centrally burned area (Webb and Elliot 1942:489). As with Walker-Noe, this is suggestive of a primary crematory. At Bullock, the remains of a single cremation were recovered from a centrally located crematory pit that was dug into the floor of a rectangular structure (Schlarb 2005). Finally, at Camargo (15Mm32) cremated remains were recovered from a submound rectangular basin that measured 2.0 m in length, 1.6 m in width, and had a depth of 0.7 m (Fenton and Jefferies 1991). A clay ramp was located to the north of the basin, and posts were situated on either side. In addition to cremated remains, this pit yielded fragments of mica and Adena Plain ceramics. Mica fragments also were recovered from another crematory pit at this site (Fenton and Jefferies 1991:30). Calibrated median radiocarbon dates of A.D. 248 (cal A.D. 89-391, 1780±60 BP, Beta-33159) and A.D. 464 (cal 333-596, 1600±60 BP, Beta-33160) obtained from one of the submound features along with the presence of a Connestee ceramic vessel suggest that the Camargo complex was utilized towards the end of the Middle Woodland subperiod (Fenton and Jefferies 1991:52).

Earthen Enclosures

Webb and his associates also investigated circular and rectangular enclosures, such as the Mt. Horeb Earthwork (15Fa1) (Webb 1941a, 1943b), Camargo (15Mm30-31) (Fenton and Jefferies 1991), Biggs (15Gp8) (Hardesty 1964), and the Old Fort Earthworks (15Gp1) (Henderson et al. 1988). This was followed many years later by Clay's (2005) investigation of Peter Village, and Henry's (2009) investigation of LeBus Circle (15Bb1). Several of these sites, such as Peter Village and LeBus Circle, contained circular ditches that enclosed much larger areas than what are often referred to in the literature as "sacred circles." For instance, LeBus measured 153 m in diameter from outer embankment to outer embankment, while Mt. Horeb measured only 75 m in diameter (Henry 2009). Henry (2011) found that the LeBus Circle was initially constructed sometime between 152 B.C. and A.D. 3 and continued to be maintained and used into A.D. 1500s. Clay (1985) suggested that the circular enclosure at Peter Village was constructed ca. 300-200 B.C. (cal median 294 B.C. [411-168 B.C., 2260±60 BP, Beta-7755]; cal median 268 B.C. [518 B.C. – A.D. 2, 2220±100 BP, Beta-7757]; cal median 182 B.C. [395 B.C. – A.D. 50, 2140±60 BP, Beta 7756]).

Henry (2009) suggests that large circular earthworks, such as LeBus, may be linked to a rise in social complexity during the Early Woodland subperiod. These circles may reflect the need to demarcate large ritual spaces during the gathering of social units or kin groups. As the size of these gatherings grew, late Early Woodland populations may have fissioned into smaller groups who centered their ceremonial life around smaller enclosures, such as Mt. Horeb and Camargo, where less space is available, and possibly required, for ritual gatherings (Henry 2009:160). A reduction in the size of circular enclosures may represent an effort to restrict access to the ceremonies conducted at these special places as a way to enhance the prestige of some individuals.

While a great deal is known about the Adena burial mounds and enclosures, much less attention has been paid to off-mound activity areas. Clay's (1976:4, 1983) investigation of an area some distance from the skirt of the Auvergne Mound (15Bb16) (cal median A.D. 357 [cal 87-602, 1680±115 BP, Uga-3617]) revealed an ephemeral habitation area. Likewise, Jefferies' (1987:23) investigation of an off-mound activity area in the vicinity of the Greene Mound (15Mm8) in Montgomery County documented a discontinuous midden deposit beneath the plowzone that was suggestive of off-mound activity (Jefferies 1987:23).

Open Habitations

Because of a past emphasis on investigating mortuary behavior, over the years professional archaeologists have acquired very little knowledge regarding Adena settlement and subsistence practices at domestic sites (Jefferies 1987). As such, we know very little about localities where daily activities were carried out away from, but within sight of, a mound. Unlike large burial mounds, these localities did not leave a lasting visual imprint on the landscape. Because many of these sites were used for very short periods of time, the activities conducted at them rarely result in a large material culture signature. Thus, to date only a few Adena open habitation sites have been documented in Kentucky and elsewhere.

In close proximity to the Evans site, Adena Plain ceramics were recovered from sites 15Mm180, 15Mm181, Site 15Mm188 and15Mm192. At these sites, all of the Adena materials were recovered from plowzone contexts (Schlarb et al. 2016). This was not the case at Site 15Mm140, which is located 18 km to the south of Evans. At this site Adena Plain ceramics were recovered from a shallow basin-shaped refuse pit (Anderson 2003:101). These materials consisted of body sherds, and two bases with flat bottoms and a rounded base/body juncture. Unfortunately no rims were recovered from this feature, which yielded a calibrated median of A.D. 28 (cal 48 B.C. to A.D. 124, 1970±40 BP; Beta-174895). The small quantity of botanical remains recovered from this feature consisted primarily of ragweed, with only a few chenopod seeds and a single nut fragment being present. As a group these sites reflect settlement and subsistence activities that often took place within close proximity of a mound or earthen enclosure. In the case of Site 15Mm180, based on the recovery of groundstone celts, mortuary rituals similar to those undertaken at the Evans site may have been conducted at this site (see Chapter 9).

Martin Justice (15Pi92), which is located in Pike County, is one of the best documented Adena habitation sites (Kerr et al. 1995; Kerr and Creasman 1998). This site contains the remains of a single and paired post rectangular structure. The posts ranged in diameter from 17-24 cm with a mean of 20.8 cm, and ranged in depth from 6-28 cm with a mean of 14.3 cm. Most posts had a rounded bottom, but a few were pointed. Adena Plain *var. Inez* and Johnson Plain ceramics, and stemmed dart points were recovered from late Early Woodland (cal median 289 B.C, cal 406-170 B.C., 2250±60 BP, Beta-79597), and Middle Woodland (cal median A.D. 146; cal 21 B.C.-A.D. 332, 1870±70 BP, Beta-80889) contexts at this site (see Kerr and Creasman 1998:149; Applegate 2008:Table 5.37). Evidence of late Early Woodland/Middle Woodland subsistence is suggestive of a continued reliance on hickory and walnut remains (nutshell density of 5.5/liter; see Table 7-5), supplemented with wild plants (chenopod and spurge). Native cultigens (maygrass; n=27 seed from 467 liters) appear to have been a minor component of the diet. The Martin Justice site appears to have been periodically used as a residential base camp for short periods of time, with domestic activities focusing on acquisition and processing of food resources.

Other Adena domestic sites, include Calloway (15Mt8) (Niquette and Boedy 1986), Graham (15La22) (Niquette 1989); and the McKenzie Farmstead (15Jo67) (McBride 1994). These sites are located in eastern Kentucky, and all have yielded Johnson Plain ceramics, a siltstone variant of Adena Plain (Haag 1940). Little is known about how space was organized within these sites, but all contain subplowzone features and midden deposits, and yielded limited subsistence data.

Though Adena Plain ceramics were not recovered from the northern Kentucky Gibson Creeting Card (15KT4) site, this site is one of the few Middle Woodland habitation sites in this region. The site consisted of a sub-plowzone midden, three pits, and a hearth within an area measuring 7 m in diameter (Applegate 2008:481). Artifactual debris was concentrated in close proximity of the features, suggesting activity areas. Based on a calibrated median of A.D. 235 (cal A.D. 80-391, 1790±70 B.P., Beta-65617), this site was occupied during the Middle Woodland subperiod (Duerksen et al. 1994; Schock 1984).

Ritual Feasting

Evidence of ritual feasting has been documented at Amburgey (15Mm137) and Walker-Noe. At the former, this feasting took place within and adjacent to an area demarcated by 11 postholes that formed an oval pattern measuring 12.0 x 17.5 m. The distribution of the posts is suggestive of a large temporary structure or screen, with a large central pole (Richmond and Kerr 2005). Based on the recovery of a copper bicymbal ear spools and a Connestee Brushed tetrapodal vessel from a feature located within this possible structure, this pit was interpreted by Richmond and Kerr as containing a ritual artifact cache. This feature yielded calibrated median radiocarbon dates of A.D. 315 (cal A.D. 135-426, 1720±60 BP, Beta-174892) and A.D. 115 (cal 28-230, 1890±40 BP, Beta-158296). These dates are similar to those obtained from Camargo, and suggest some degree of contemporaneity between these two sites.

Just outside the structure, there was a thermal feature, which in addition to a variety of plant remains, yielded a copper celt, mica fragments, and a Snyders point. Plant remains, including small amounts of chenopod, purslane, bedstraw, sticky catchfly, pokeweed, chokeberry, eastern redbud, and St. John's wort, were recovered from this feature. Native cultigens consisted of squash seeds, and a small amount of walnut and hickory nutshell also was recovered. Richmond and Kerr (2005:83) suggest that the archaeobotanical remains recovered from the site were utilized for a variety of purposes, including feasting or ritual offerings, medicinal purposes, incense, fiber, and basketry.

Other evidence of ritual feasting comes from the somewhat earlier Walker-Noe Mound (cal median 8 B.C. [166 B.C. – A.D. 125, 2000±60 BP, Beta-152838]; cal median A.D. 4 [164 B.C. – A.D. 129, 1990±60 BP, Beta-152838]) (Pollack et al. 2005). Relative to Amburgey, at Walker-Noe there was greater consumption of native cultigens (chenopod, maygrass, erect knotweed, and sunflower) in conjunction with the rituals carried out at this mound (see Table 9-11). But as with Amburgey, the consumption of nuts does not appear to be an important component of Middle Woodland mortuary rituals undertaken at Walker-Noe.

As noted by Richmond and Kerr (2005), the distribution of posts at Amburgey is suggestive of a defined ritual locality over which a subsequent mound was never constructed. A similar interpretation was offered by Clay and Niquette (1992) for the Neibert site in West Virginia. Though the structure at Neibert is definitely better defined and more substantial, the structures at both sites may have been used for similar purposes.

SUMMARY

Research conducted at Adena sites for almost a century has documented a multi-stage mortuary program represented by mounds with both primary inhumations and cremations. The few habitation sites that have been documented tend to be small and to have been occupied for short periods of time. Prior to the investigation of the Evans site, Amburgey was the only off-mound/earthen enclosure ritual site that had been documented in Kentucky. Calibrated radiocarbon dates suggests that Adena sites date from the late Early Woodland well into the Middle Woodland subperiod.

CHAPTER THREE:
FIELD METHODS

Field methods employed during the course of this study consisted of the excavation of units and the mechanical removal of the plowzone in order to expose subplowzone deposits. These excavation techniques allowed the integrity of cultural deposits to be assessed and permitted the observation of the spatial patterning of features within the site. Over the course of 10 weeks, 12 units were excavated and the plowzone was mechanically removed from two blocks. Units were either 1 x 1 m (n=6) or 1 x 2 m (n=6) in size. Together the blocks resulted in the removal of the plowzone from 782 square meters.

Unit placement was determined after a review of the results of Cultural Resource Analyst's work at the site, which consisted of the systematic excavation of shovel probes across the site to define its boundaries, a near-surface geophysical survey, and excavation of units to ground truth geophysical anomalies (Bundy 2005). The 25-30 cm plowzone was removed as one level, and subsequent levels (plowzone/subsoil interface, and subsoil) were excavated in 5 to 10 cm arbitrary levels. Upon completion of a level, the unit floor was cleaned with a trowel to determine if subplowzone cultural deposits/features were present. Upon completion of a unit, at least one wall was cleaned, photographed, and profiled. All soil was dry screened through 6.35 mm wire mesh to ensure a uniform recovery of artifacts.

Mechanical removal of the plowzone involved the use of a backhoe equipped with a smooth 60 cm wide blade. Once the plowzone was removed, the exposed area was examined for the presence of cultural features (e.g., pits, posts, and hearths). Although the soil removed from these blocks was not screened, the backdirt was periodically visually inspected for artifacts. After mechanical block excavation was complete, all units and blocks were backfilled, leveled, and re-seeded.

When features were identified, they were carefully exposed in order to define their horizontal extent. They were then photographed and a planview was drawn. One half of the feature was excavated and the soils removed were screened through 6.35 mm wire mesh. After the profile of the exposed midsection of the feature was photographed and drawn, the remaining half of the feature was excavated and screened, and a flotation sample(s) taken. If the remaining half of a feature was small, the entire half was taken as a float sample.

Materials recovered from the Evans site were washed, labeled, and catalogued at the University of Kentucky Archaeology Laboratory. After research and analysis was completed, all materials and records documenting these investigations were curated at the University of Kentucky's W. S. Webb Museum of Anthropology in Lexington, Kentucky.

CHAPTER FOUR:
CHPPED STONE

INTRODUCTION

The Evans site chipped stone assemblage (n=6,453) consists of flakes and flake fragments (n=6,350), points and point fragments (n=15), blade-like flake fragments (n=2), edge modified/retouched flakes (n=17), utilized flakes (n=22), bifaces/biface fragments (n=24), cores/core fragments (n=17), and chert hammerstones (n=6).

ANALYTICAL METHODS

Current approaches to the analysis of lithic artifacts include a study of the step-by-step procedures utilized by prehistoric knappers to make tools. The term used to describe this process is referred to as *chaine operatoire* or reduction strategy (Grace 1989, 1993, 1997; Tixier and Roche 1980). The analysis of stone tool assemblages provides insights into the processes by which prehistoric flintknappers produced their implements. It also enables archaeologists to characterize the technical traditions of specific prehistoric cultural groups (Grace 1997).

The production of any class of stone tools involves a process that begins with the selection of a suitable raw material. The basic requirements of any raw material to make flaked stone artifacts include the following: 1) it can be easily worked into a describable shape; and 2) sharp, durable edges can be produced as a result of flaking (Grace 1997). Once an adequate source is located and a raw material is selected, the process of tool manufacture begins. Two different strategies can be utilized. One involves the reduction of a material block directly into a tool form, like a biface, or the production of a core. The second involves the preparation of a block of raw material so that flakes or blanks of a suitable shape and size can be detached. These blanks are then flaked by percussion or pressure flaking into a variety of tool types, including scrapers, bifacial knives, and projectile points.

Experimental work has shown that the former manufacturing strategy, involving a raw material block, begins with the detachment of flakes with cortical or natural surfaces. This is accomplished by direct percussion, usually involving a hard hammer (stone) that more effectively transmits the force of the blow through the outer surface. Having removed a series of flakes and thus created suitable striking platforms, the knapper begins the thinning and shaping stage. The majority of the knapping is conducted with a soft hammer (antler billet). The pieces detached tend to be invasive, extending into the mid-section of the biface. A later stage of thinning may follow, which consists of further platform preparation and the detachment of invasive flakes with progressively straighter profiles in order to obtain a flattened cross-section. By the end of this stage, the biface has achieved a lenticular or bi-convex cross-section. Finally, the tool's edge is prepared by a combination of fine pressure work and pressure flaking if desired. It should be noted that flakes derived from biface reduction are sometimes selected for bifacial, unifacial, and expedient tool manufacture.

The second type of manufacturing trajectory, utilizing a flake or blank, begins with core reduction and the manufacture of a suitable flake blank. The advantages of employing a flake blank for biface reduction include the following: 1) flakes are generally light-weight and can be more easily transported in large numbers than blocks of material; and 2) producing flakes to be used for later biface reduction allows the knapper to assess the quality of the material, avoiding transport of poorer-grade chert.

The initial series of flakes detached from the flake blank may or may not bear cortex. However, they will display portions of the original dorsal or ventral surfaces of the flake from which they were struck. It should be noted that primary reduction flakes from this manufacturing sequence could be entirely noncortical. Therefore, the presence of cortex alone to define initial reduction is of limited value. Biface reduction on a flake involves the preparation of the edges of the piece in order to create platforms for the thinning and shaping stages that follow. In most other respects, the reduction stages are similar to those described above, except that a flake blank often needs additional thinning at the proximal or bulbar end of the piece to reduce the pronounced swelling and achieve a thinned final product.

FORMAL CHIPPED STONE TOOLS

The identification of formal and informal chipped stone tools is useful in addressing questions involving the trajectory of reduction and the general activities undertaken by the occupants of a site(s). Formal tools are defined as implements with a standard morphology. Some, such as projectile points, may in fact be produced for a specific anticipated function or functions. Others were often used to perform a wide variety of tasks. Identification of formal chipped stone tools recovered from this site was based on comparisons with previously defined types (Justice 1987; Railey 1996).

Projectile Points/Fragments (n=15)

If complete, or nearly complete, projectile points (n=7) are examined for size and shape, resharpening methods, flaking characteristics, blade and haft morphology, presence of basal thinning or grinding, notch flake scars, type of fracture(s), and material type. Length, width, and thickness measurements (in millimeters) were taken for the projectile points. Length measurements were taken on points retaining a distal end or working edge. "Length" reflects the maximum length along the axis of the point. "Width" reflects the point of maximum width that is perpendicular to the long axis of the point. "Thickness" reflects the point of maximum thickness on a plane that is perpendicular to the width.

The three defined point types recovered from the Evans site are described in the following section. As the existing archaeological literature suggests (e.g., Justice 1987), the majority of these established point types were utilized, in all likelihood, as both knives and projectile points. Nevertheless, the projectile points recovered from the Evans site are diagnostic of the Late Archaic/Early Woodland, late Early Woodland/early Middle Woodland, and Late Woodland subperiods.

Turkey-Tail (n=1)

A heavily resharpened stemmed point manufactured from Haney chert was recovered from Unit 7 (Figure 4.1). This specimen measured 49.9 mm in length and 28.4 mm in maximum width (measured at the shoulders). Maximum thickness was 7.7 mm. The extensive resharpening of this point resulted in a triangular blade with a length of 30.6 mm. Its contracting stem measured 19.3 mm in length and 12.1 mm in maximum width. Cortex is present along the basal edge and the entire haft area has been ground. Both blade faces are covered with broad, random percussion flake scars. Pressure flake scars and step fractures can be observed along both blade margins. The attributes observed on this specimen are consistent with Turkey-tail projectile points. Turkey-tail points are diagnostic of the Late Archaic/Early Woodland transition (1,500-500 B.C.) (Justice 1987:178).

Figure 4.1. Turkey-Tail Point.

Robbins Points (n=5)

The Robbins points recovered from the site (Figure 4-2) consist of three complete, one nearly complete specimen, and one that was recycled into a hafted scraper/graver (Figure 4.2a-e). Due to differing stages in the life cycle of these tools, they are described separately. According to Dragoo (1963:289-291), Robbins points were primarily used during late Early Woodland/early Middle Woodland times (500 B.C. – A.D. 200), which is consistent with the radiocarbon dates obtained from the Evans site (see Chapter 9).

One of the points was manufactured from Boyle chert and shows no evidence of resharpening (Figure 4-2a – Feature 1). It has a maximum length of 53.4 mm, a maximum width (measured just above the shoulders) of 27.5 mm, and a maximum thickness of 6.1 mm. Blade length is 38.5 mm. The cross-section of the blade is biconvex. The stem is straight, thinned, and fully ground. Stem length is 15.8 mm and stem width is 14.3 mm. Both shoulders are nearly straight. Random percussion flake scars can be observed on both blade faces. Small pressure flake scars are present along both excurvate lateral blade margins.

Figure 4-2. Robbins Points.

Another point was manufactured from Boyle chert and has attributes indicating extensive resharpening (Figure 4-2b – Unit 8). For example, one of the blade margins has a partially incurvate edge and both margins have numerous step fractures. In addition, both shoulders are nearly obliterated. The point has a maximum length of 43.8 mm, a maximum width (measured at the shoulders) of 21.1 mm, and a maximum thickness of 9.4 mm. Blade length is 32.8 mm. The cross-section of the blade is plano-convex. The stem is straight, thinned, and lightly ground. Stem length is 16.0 mm and stem width is 15.5 mm. Random percussion flake scars were observed on both blade faces.

The third point is a nearly complete and was manufactured from Haney chert (Figure 4-2c – Unit 11). It is missing the basal portion of its hafting element. This point has a maximum length of 43.9 mm, a maximum width (measured just above the shoulders) of 35.9 mm, and a maximum thickness of 9.8 mm. Blade length is 31.0 mm. The cross-section of the blade is planoconvex. The extant portion of the stem is straight, thinned, and fully ground. Stem width is 15.6 mm. Both shoulders are nearly straight. Random percussion flake scars can be observed on both blade faces. Small pressure flake scars and step fractures are present along both slightly excurvate (resharpened) lateral blade margins.

The fourth specimen is a heavily resharpened point manufactured from Boyle chert (Figure 4-2d – Surface). The distal portion appears to have been recycled into a hafted drill/perforator and both shoulders are nearly gone. The point has a maximum length of 63.7 mm, a maximum width (measured just above the shoulders) of 22.1 mm, and a maximum thickness of 9.0 mm. Blade length is 45.6 mm. The cross-section of the blade is biconvex. However, the distal area displays a steep bevel and has a diamond cross-section. The stem is straight to slightly expanding. It is thinned, and fully ground. Stem length is 18.0 mm and stem width is 17.2 mm. Random percussion flake scars are present on both blade faces and fine retouching can be seen on the bit of the perforator.

The fifth specimen is a stemmed point recycled into a hafted scraper/graver that was manufactured from Boyle chert (Figure 4-2e – Unit 6). The stem is straight to slightly expanding. It is thinned, and fully ground. Stem length is 18.2 mm and stem width is 16.4 mm.

Jack's Reef Corner Notched (n=1)

A nearly complete corner notched point manufactured from Paoli chert was recovered from Unit 6 (Figure 4-3). Although the distal portion of this specimen has been fractured, the remainder of this point is intact. The flake scar and horizontal hinge fracture on one of the blade faces, suggest that the fracturing of the distal end was the result of impact. This point has a flattened cross-section that measured 4.6 mm in maximum thickness. The maximum width (measured at the shoulders) was 23.0 mm. The stem measured 8.5 mm in length and 15.8 mm in maximum width along the basal edge. The haft area has been thinned and lightly ground. Average notch depth measured 4.1 mm. Both blade faces are covered with fine percussion flake scars. Pressure flake scars are present along the angular edges. The attributes observed on this specimen are consistent with that of Jack's Reef Corner Notched projectile points. These types of points are diagnostic of the Late Woodland subperiod and date to around A.D. 500-1,000 (Justice 1987:215; Ritchie 1961:26).

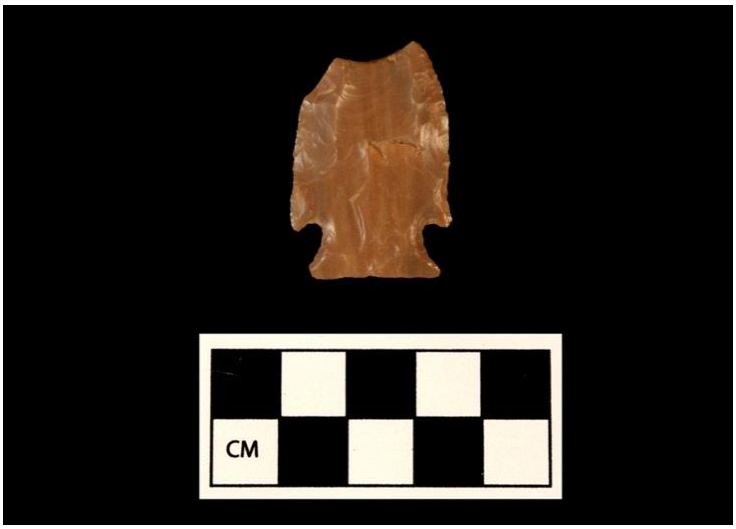

Figure 4-3. Jack's Reef Corner Notched.

Fragments (n=8)

The eight projectile point fragments exhibit attributes of finished formal tools, such as thin profiles and refined flaking. Due to their highly fragmented condition they could not be assigned to any known cluster or type. The fragments consisted of four distal fragments (Units 1, 9, and Feature 6), a mid-section (Unit 10), two blade fragments (Unit 7 and Feature 20) and an indeterminate fragment (Unit 1). The distal fragments were produced from Boyle (n=3) and unidentified (burnt) (n=1) chert. The mid-section (n=1)

was manufactured from Paoli chert. The blade fragments were produced from Boyle (n=2) chert. The indeterminate fragment (n=1) was produced from an unidentified (burnt) chert.

INFORMAL CHIPPED STONE TOOLS

Informal chipped stone tools are those artifacts that were manufactured for a specific task at, or shortly before, the point at which they were to be used. These tools either show evidence of utilization without modification, or minimal modification through nominal retouching. Retouched flakes are an example of an informal tool.

Edge Modified (Retouched) Flakes (n=17)

The edge modified (retouched flakes) were recovered from (Units 2, 3, 4, 5, 7, 8, 9, 12, Features 1 and 6, and General Provenience). They were produced from Boyle (n=15) and thermally altered Boyle (n=2) chert. Possible uses of expedient produced retouched flakes are suggested by Wilmsen's (1968) examination of the measurement of edge angles as an indicator of tool function. He conducted experiments on edges with different angles. His results indicated that edges with angles between 35 and 45 degrees would be most effective at cutting soft material and butchering. Edges with angles between 50 and 75 degrees would be most effective at cutting, scraping, or shaping hard materials, such as bone or wood. The retouched flakes recovered from the Evan site possessed edge angles ranging from 44 to 76 degrees, suggesting their use in a variety of activities, such as cutting and scraping soft plant or animal materials, as well as shaping hard materials, like bone or wood.

Utilized Flakes (n=22)

The utilized flakes were recovered from (Units 2, 3, 4, 6, 7, 8, 10, 11, and Feature 6). They were produced from Boyle (n=20) and thermally altered Boyle (n=2) chert. Utilized flakes show modification through use, not intentional retouch along one or more margins of the tool. The variability in the shape of these flakes and the relatively simple level of modification strongly suggests they are informal tools. These tools were probably expediently produced and used on an as-needed basis for tasks, such as cutting and then discarded.

Blade-like Flake Fragments (n=2)

The blade-like flake fragments (n=2) recovered from the Evans site exhibited a distinctive medial ridge on their dorsal surface (Figure 4-4). They were manufactured from Boyle (n=1) and thermally altered Boyle (n=1) chert. The thermally altered specimen was recovered from Feature 24. The other blade-like flake was recovered from Unit 9.

Both specimens lack the parallel medial margins, prismatic cross-sections, and platform preparation scars that are typical of Middle Woodland (Hopewellian) bladelets. These specimens exhibited intentional retouch on one or both lateral blade margins and polish from use on their ventral surface. One specimen also exhibited polish on the dorsal

surface. Edge angles range from 38-78 degrees, indicating both tools were utilized for cutting plant materials and/or butchering animals.

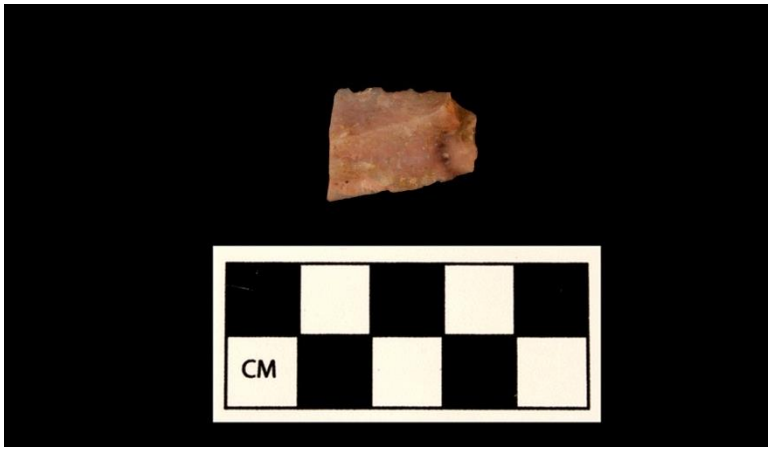

Figure 4-4. Blade-like Flake.

OTHER CHIPPED STONE

Bifaces/Biface Fragments (n=24)

Six complete bifaces and 18 biface fragments were recovered from the site. The complete bifaces were recovered from (Unit 1 and General provenience). The biface fragments were recovered from (Units 2, 7, 10, 12, Feature 1, Feature 24, and General Provenience). To provide some clarity to this group, they were divided into four subcategories: early stage, middle stage, late stage, and fragments. An early stage biface exhibits the initial outline of the chipped stone tool. Flake scars are widely spaced and the biface itself is relatively thick. A middle stage biface is thinned to the point where projections and irregularities are removed. As a result of this shaping they tend to be thinner than early stage bifaces, and their lateral blade margins are more defined. A late stage biface is essentially finished, well-thinned, and symmetrical in outline and cross-section. Biface fragments were further subdivided into distal, proximal, and indeterminate categories.

The complete bifaces consisted of early stage (n=3) and late stage (n=3) specimens. The early and late stage bifaces were manufactured from Boyle (n=5) and thermally altered Boyle (n=1) chert. The biface fragments were made up of distal (n=2), proximal (n=12), and indeterminate (n=4) portions. The fragments were derived from early stage (n=2), middle stage (n=1), late stage (n=7), and indeterminate stage (n=8) bifaces. The distal fragments (n=2) are derived from late stage bifaces. The proximal portions represent fragments of early stage (n=2), middle stage (n=1) and late stage (n=5) bifaces. The fragments were produced from Boyle (n=16) and thermally altered (n=2) chert.

Leaf-Shaped Blades/Knives (n=2)

Of the two leaf-shaped blades or knives recovered from the Evans site, one was associated with Feature 20 and one with Feature 6 (Figure 4-5). One of the specimens has been broken and the other is complete. Both were manufactured from Boyle chert; however, the broken specimen has been thermally altered. The complete specimen has a maximum length of 81.8 mm, a maximum width of 33.4 mm, and a maximum thickness of 7.1 mm. The cross-section of the blade is biconvex. Random percussion flake scars are present on both blade faces. Small pressure flake scars and hinge fractures located along both lateral blade margins indicate resharpening. The thermally altered, fractured specimen has a maximum thickness of 8.2 mm. Random percussion flakes scars are present on both blade faces, with smaller pressure flake scars appearing only along one blade margin. This suggests that the tool may have been broken during the manufacturing process.

Figure 4-5. Leaf-Shaped Adena Blades.

According to Webb and Snow (1945), leaf-shaped blades or knives are found in abundance on Adena sites and are listed as Greenman's (1932) Trait No. 8. Blades/knives often show evidence that they were used for cutting, became dull, and were retouched by secondary chipping (Webb and Snow 1945:82).

Leaf-shaped blades have been recovered from both Adena burial and non-burial contexts. For instance, 55 leaf-shaped and ovate blades were recovered from Peter Village (Webb 1943b), and a cache (n=41) of leaf-shaped blades was found at the Tarlton Mound (15Fa15) by Dr. Robert Peter in October 1872 (Webb 1943b). This particular cache of blades was sent to the Smithsonian Institution. They were described as long, thin, leaf-shaped blades, well-chipped, fairly uniform in size, and made of very similar brown gray flint (Webb 1943b:660). The brown gray flint mentioned by Webb, most probably refers to Boyle chert.

A cache of 75 leaf-shaped/ovate blades was found in association with Burial No. 3 at the Fisher Site mound (Webb 1947). An additional two leaf-shaped blades were found in association with Burial No. 6 and a single leaf-shaped blade was recovered from general excavations at this site (Webb 1947:62, 68-71). An examination of the blades recovered from the Fisher site by the author, indicates that most were manufactured from Boyle chert. Since caches of leaf-shaped blades were interred with the dead, Webb and Snow (1945) suggested that these blades may have been intended to be finished in the afterlife. The leaf-shaped blades could be made into knives, scrapers, projectile points, drills, reamers, or gravers.

Cores/Core Fragments (n=17)

Eight complete cores and nine core fragments were recovered from the Evans site. The cores were produced from Boyle (n=16) and Ste. Genevieve (n=1) cherts (Figure 4-6). All exhibit areas of crushing and battering, with flake scars in succession between these areas. For purposes of this study, they were classified as free-hand cores, or cores that were produced without the aid of an anvil.

Figure 4-6. Large Core Produced from Ste. Genevieve Chert.

Chert Hammerstones (n=6)

Six complete chert hammerstones were recovered from the Evans site. All were produced from Boyle chert. One of the hammerstones has battered riverine cortex, suggesting it was procured from a stream. It is small in size, most likely being used for late stage thinning and finishing of a chipped stone tool.

DEBITAGE

The French term debitage has two related meanings: 1) it refers to the act of intentionally flaking a block of raw material to obtain its products, and 2) it refers to the products themselves (Grace 1989, 1993). Commonly, the term debitage is used by archaeologists to describe flakes that have not been modified by secondary retouch and

make into tools. For the purpose of this analysis, which is based on the research of Grace (1989, 1993), each type of debitage has been assigned to a specific class. These classes are as follows:

1) Initial reduction flakes: produced from hard hammer percussion; are typically thick; display cortex on all or part of their dorsal surfaces; and have large plain or simple faceted butts (striking platforms).

2) Flakes (Unspecified reduction sequence): applies to those pieces to which a specific reduction sequence cannot be assigned. With these pieces, it is impossible to tell whether they have been detached by simple core reduction or biface manufacture. For example, cortical flakes initially removed from a block of material can appear similar in both core and biface reduction strategies.

3) Biface initial reduction flakes: produced from hard or soft hammer percussion; are typically thick; display cortex on part of their dorsal surfaces; and have large plain or simple faceted butts (striking platforms). These flakes display more dorsal scars than initial reduction flakes.

4) Biface thinning flakes: result from shaping the biface while its thickness is reduced; generally lacking cortex; are relatively thin; and have narrow, faceted butts multi-directional dorsal scars, and curved profiles. Bifacial thinning flakes are typically produced by percussion flaking.

5) Biface finishing or trimming flakes: produced during the preparation of the edge of the tool. These flakes are similar in some respects to thinning flakes, but are generally smaller and thinner and can be indistinguishable from tiny flakes resulting from other processes, such as platform preparation. Biface finishing flakes may be detached by either percussion or pressure flaking.

6) Chips: are flakes (<1cm in length) that are detached during several different types of manufacturing trajectories. First, they can result from the preparation of a core or biface edge by abrasion, a procedure that strengthens the platform prior to the blow of the hammer. Second, tiny flakes of this type also are removed during the manufacture of tools like endscrapers.

7) Shatter: produced during the knapping process and through natural agents. Naturally occurring shatter is usually the result of thermal action shattering a block of chert. During biface reduction, shatter results from an attempt to flake a piece of chert with internal flaws (fossils) and fracture line. For the purpose of this analysis, shatter is defined as a piece of chert that shows no evidence of being struck by a human (i.e., bulb of percussion and faceted butts [striking platform]), but may nonetheless be a waste product from a knapping episode.

8) Janus Flakes: produced during the initial reduction of a flake blank (Tixier and Roche 1980). The removal of a flake from the ventral surface of a larger flake results in a flake, of which the dorsal surface is completely or partially composed of the ventral surface of the larger flake.

Discussion

The majority of the unmodified flakes recovered from the Evans site consist of unspecified reduction sequence flakes (n=4,001) (Table 4-1). These are followed in frequency by biface initial reduction flakes (n=556), biface thinning and shaping flakes (n=486), shatter (n=442), biface finishing or trimming flakes (n=312), initial reduction flakes (n=81), and chips (n=472) (Table 4-1).

Table 4-1. Flake Types Recovered from the Evans Site.

Flake Type	Frequency	Percent	Percent Classes 1, 3-5
Class 2			
Unspecified Reduction Sequence Flakes	2,357	37.0	
Unspecified Reduction Sequence Flakes (HEATED)	1,644	25.9	
Class 1			
Initial Reduction Flakes	45	0.7	3.1
Initial Reduction Flakes (HEATED)	36	0.6	2.5
Class 3			
Biface Initial Reduction Flakes	212	3.4	14.8
Biface Initial Reduction Flakes (HEATED)	344	5.0	24.0
Class 4			
Biface Thinning and Shaping Flakes	186	2.0	13.0
Biface Thinning and Shaping Flakes (HEATED)	300	4.0	20.9
Class 5			
Biface Finishing or Trimming Flakes	91	1.4	6.3
Biface Finishing or Trimming Flakes (HEATED)	221	3.5	15.4
Total	5,436		100.0
Class 6			
Chips	451	7.0	
Chips (HEATED)	21	0.3	
Class 7			
Shatter	284	4.5	
Shatter (HEATED)	158	2.5	
Total	6,350	100.0	

A little over twenty-one percent of the debitage can be attributed to biface manufacture (Table 4-1: Classes 3-5), with early stage biface reduction flakes derived from the initial thinning of bifaces, being well-represented in the assemblage. The low percentage of initial reduction flakes suggests that relatively few cortex-bearing blanks or preforms were transported to the site and knapped into their finished form. In addition, the relatively high percentages of Classes 4 and 5 (thinning, shaping, finishing, and trimming flakes) suggests that formal tools were being produced at the site.

Slightly more than forty percent of the debitage was thermally altered, with only Boyle chert being heat treated (Table 4-1). The ability to knap Boyle chert can be enhanced by thermal alteration. Heat treating, improves the ability to thin and shape Boyle chert using either percussion or pressure flaking methods. Thermal alteration also produces changes in luster or color. High quality Mississippian age cherts, such as Haney, Paoli, and Ste. Genevieve, would not have required thermal alteration.

CHIPPED STONE RAW MATERIAL

Raw material identification was conducted on the entire chipped stone assemblage (Table 4-2). Raw material types were identified on the basis of personal experience, physical properties of the raw materials (i.e., color, luster, fracture, and texture), reference to published descriptions (Applegate 1996; Gatus 1980; Meadows 1977; Ray 2003; Vento 1982), and comparisons with chert specimens housed at the William S. Webb Museum of Anthropology in Lexington. A 10X hand lens and a Swift M27LED Stereo Microscope (4X) was used to identify inclusions and to evaluate texture and structure.

Cortex was described as being present or absent in residual (block) or cobble form. The presence of residual or block cortex denotes lithic procurement from primary sources or outcrops, while cobble cortex indicates procurement from secondary sources (i.e., stream gravel bars). Generally, residual cortex is rather coarse, while cobble cortex is smooth and often pitted or polished. It was noted that the overwhelming majority of the cortex- bearing specimens recovered from the site exhibited cobble cortex, strongly indicating that raw materials were being procured from local streams.

Boyle Chert

Boyle chert (n=5,640) makes up 87.4 percent of the lithic raw materials utilized at the site (Table 4-2.). This chert type if associated the Middle Devonian aged dolomites of the Boyle Formation of central and eastern Kentucky, and occurs as nodules and discontinuous layers (Meadows 1977:102). The nodules are large and blocky, and can be found eroding out of its parent dolomite in a clayey soil environment, and often exhibit a white, chalky cortex. In comparison, stream transported cobbles frequently exhibit a smooth, polished brown cortex. This chert type is somewhat variable in color, with a mottled mixture of tan, gray, light brownish gray, light bluish gray, bluish gray, pinkish gray, yellow, and different shades of brown and white (Ray 2003). Boyle chert can range from earthy to waxy in appearance. Moderate changes in color, texture, and luster occur when it is thermally altered (Ray 2003:8). Color changes primarily, include pinkish gray and pale to weak red. Almost half (48.2 percent) of the Boyle chert recovered from the site was thermally altered (Table 4-2). Boyle chert is generally opaque, but can be translucent. This material also can be highly fossiliferous, containing bryozoans, brachiopods, corals, crinoids, and echinoderms (Vento 1982).

Newman Limestone Cherts

Mississippian age Newman Limestone cherts are known to outcrop along the western boundary of the Eastern Coalfields (Applegate 1996; Meadows 1977). Newman Limestone also crops out near the Pine Mountain over thrust of southeastern Kentucky. The Newman Limestone contains several chert-bearing members, including Haney, Paoli, and Ste. Genevieve. All three chert types are relatively rare at the Evan's site, where they account for less than two percent of the debitage assemblage.

Table 4-2. Chipped Stone Raw Material Types and Frequencies.

Chert Type	Flakes	Points	Point Frags	Edge Mod & Utilized Flakes	Blade-like Flakes	Biface/ Frags	Cores/ Frags	Hammer -stones	Total	Perc
Boyle	2,836	4	5	35	1	20	16	6	2,923	45.3
Heat Boyle	2,708			4	1	4			2,717	42.1
Haney	5	2							7	0.1
Paoli	7	1	1						9	0.1
Ste. Gen	62						1		63	1.0
UID Burned	732		2						734	11.4
Total	**6,350**	**7**	**8**	**39**	**2**	**24**	**17**	**6**	**6,453**	**100.00**

SUMMARY

The chipped stone artifact assemblage recovered by KAS is similar that recovered by CRA (Bundy 2005). Bifaces in various stages of manufacture, informal chipped stone tools, other chipped stone, and debitage related to biface manufacture are present in both collections. Reduction stage analysis of the CRA assemblage by Bundy (2005) placed more of an emphasis on the early and late stages of biface reduction, while the KAS assemblage points to greater emphasis on middle stage biface reduction. Proportions of informal tools in the assemblages are dissimilar, as the CRA assemblage did not contain any retouched or utilized flake tools.

Based on the recovery of diagnostic projectile points, the Evans site contains minor Terminal Archaic (Turkey-Tail) and Late Woodland (Jack's Reef Corner Notched) components, and a major late Early Woodland/early Middle Woodland Adena (Robbins Stemmed) component. Both of the minor components are represented by a single projectile point manufactured from Haney (Turkey-Tail) or Paoli (Jack's Reef Corner Notched) chert. As evidence by the paucity of these cherts in the debitage collection, these points were manufactured elsewhere and brought to the Evans site as finished tools. Both may represent short-term utilization of the Evans site locality.

It should be noted that Bundy (2005) classified the one stemmed point recovered from Evans and the two found at Site 15Mm188 as Late Archaic-Early Woodland Dickson Cluster projectile points (Justice 1987). The author's reexamination of these points indicates that they are very similar to the Robbins points recovered by KAS from the Evans site. Thus, for the purposes of this report they are considered to be associated with Adena use of this locality as well as Site 15Mm188 (see Henry and Schlarb 2016).

The late Early Woodland/early Middle Woodland component at Evans is represented by Robbins points and leaf-shaped bifaces/knives. The latter may possibly have been intended to be used as burial goods, but the association of one of the leaf-shaped bifaces with Feature 6 suggests that it may have been used during mortuary rituals associated with the cremating of the dead (see Chapter 9). All but one of the Adena diagnostics, and other formal and informal tools were manufactured from Boyle chert. The remaining point and a projectile point mid-section were manufactured from Haney chert. As with the early and later projectile points given the paucity of Haney debitage in the

assemblage these two tools were manufactured elsewhere and brought to the site as finished products.

The recovery of resharpened/reworked Robbins points and the recovery of bifaces/fragments in differing stages of production, cores, and chert hammerstones, indicates that both bifacial and core reduction was carried out at the Evans site. The debitage profile also is indicative of tool manufacturing and maintenance. Much of the tool production/maintenance is probably not directly related to feasting and mortuary rituals discussed in Chapter 9.

The presence of edge modified (retouched) flakes, and utilized flakes points to repeated activities aimed at processing both plant and animal materials, including the preparation of animal hides and quite possibly the processing of human remains during the mortuary process.

Boyle chert appears to have been the most heavily utilized lithic raw material and much of it was thermally altered. All of the raw material types could have been procured from nearby Hinkston Creek and its tributary streams. Although the Mississippian-age cherts found on the site are considered to be high quality, the high percentage of Boyle chert probably reflects its availability, as it is abundant in the aforementioned streams.

Though no tools manufactured from Ste. Genevieve cherts were recovered from the Evans site, and debitage derived from this chert type is limited, a large Ste. Genevieve core was recovered from Feature 20, one of the ritual feasting locales. The core's association with a celt, a portion of a large ceramic vessel and mica fragments, suggests that it was intentionally placed in this pit. Thus, at the Evans site Ste. Genevieve appears to have been a highly valued chert type.

CHAPTER FIVE:
GROUNDSTONE AND MICA

Two groundstone artifacts and a large number of mica fragments were recovered from the Evans site. Of the two groundstone artifacts one was a celt. The other may have been intended to be an atlatl weight. The mica represents the byproduct of the manufacturing of objects, such as crescents or pendants, to be attached to garments. This section presents a brief overview of groundstone technology, and the methods used to describe and classify groundstone tools before presenting the specific analysis of the two groundstone artifacts recovered from this site. This is followed by a description of the mica fragments recovered from the Evans site.

GROUNDSTONE

Groundstone artifacts are manufactured from lithic materials that do not fracture concoidally like chert. Often igneous or metamorphic rocks like basalt, quartzite or gneiss are selected, but sedimentary rocks are sometimes suitable. Because of the different fracturing properties of materials used in groundstone technology, these tools may be considered a distinct industry of Native American lithic manufacturing activities (Burdin 2005). While groundstone tools may be roughly shaped by driving off large pieces of raw material, they are finished by pecking or grinding, or both, of at least some portion of the surface of the tool.

Groundstone tools may result from a variety of design plans and manufacturing intensities. They may range from expedient tools requiring a minimal amount of preparation to formal tools that are worked until they achieve a specific shape suitable for an intended purpose. One example of informal groundstone tools are hammerstones, which are used to hammer or batter another object. Although hammerstones may receive some initial shaping and grinding to modify their surfaces, the majority of the pecking, grinding, and polishing comes from subsequent use. While informal groundstone tools attain many of their attributes through use, formal groundstone tools are deliberately shaped with a specific form, shape, and finish in mind (Burdin 2005). Examples of formal groundstone items are axes, celts, adzes, manos, metates, pestles, net weights, bannerstones, and beads (Sassaman 1996).

Like other categories of stone implements, groundstone tools can be classified by their morphological attributes that suggest their intended or actual use, by the particular manufacturing processes used to create them, and by their physical attributes, such as raw material, size, weight, and edge characteristics (e.g., angle and polish). These attributes are used to provide clues about the ways that groundstone artifacts functioned. Many of the grinding, cutting, and shaping activities performed with groundstone tools may be considered utilitarian, and these uses are largely reflected by the tool's morphology. Utilitarian items may also convey symbolic information, and some groundstone objects were created for ceremonial or symbolic purposes (Chilton 2000; Sassaman 1996). Differentiating these meanings relies on a consideration of the context from which the artifact was recovered. For example, grinding stones that served utilitarian functions in

daily use in some Mesoamerica contexts, take on additional symbolic value when placed in burial contexts (e.g., Mountjoy and Sandford 2006:320). Other examples of utilitarian forms that probably served symbolic functions, are bannerstones recovered from Green River shell midden burials (Sassaman 1996:62-63). Examples of groundstone forms whose intended use was likely non-utilitarian are stone beads that were made for symbolic or social purposes (Burdin 2004; Sassaman 1996). Beside site context, elaborate decoration, exotic raw materials, or other physical properties (e.g., heavy weight that would have made practical use difficult) can provide additional information that reflects the use of groundstone objects. In short, cultural modification to groundstone items can be considered the by-product of expedient needs or usage, the deliberate manufacturing of specific tool forms or types, or of the desire to produce socially valuable goods. The analysis of the groundstone artifacts from the Evans site considered morphology, raw material, and the degree to which the artifacts were shaped to make initial inferences about the function of these objects.

Celt

A celt was recovered from Feature 21 (Figure 5-1). It was a nearly complete greenish-gray celt that exhibited damage to the bit. The celt measured 95.2 mm in length and had a thickness of 37.1 mm. Mid-section width measured 23.2 mm. The poll end of the tool is battered, indicating that this portion of the celt was probably used for hammering. Overall, the length and thickness of this tool is similar to the celt recovered from neighboring Site 15Mm180 (Venter and Gunn 2016), but the specimen from Evans is not as wide.

Figure 5-1. Celt.

A Stereomicroscope examination of a petrographic thin section by Dr. David Moecher (personal communication 2007), a geologist at the University of Kentucky's Department of Earth and Environmental Sciences, revealed that the celt had been

manufactured from a sedimentary sandstone conglomerate. The presence of abundant granitic feldspar clasts within the conglomerate suggested that the sandstone originated from the Ocoee Supergroup of the Appalachian Mountains). This is the same material that was used to manufacture one of the celts recovered from Site 15Mm180. Given the close proximity of the two sites, both celts may have been acquired at the same time, or at least from the same exchange partner.

Barite

A single piece of worked barite weighing 20.6 grams was recovered from Feature 24 (Figure 5-2). Barite is a sulfate that usually occurs as a white mass, thought it also can occur as light shades of blue, brown, yellow, or red (Anderson 1994). The barite fragment recovered from the Evans site appears to have been cut along two surface planes. In addition, the remnant of a hole that resulted from perforating/drilling is evident. This perforated area suggests that this object may represent a fragment of an atlatl weight.

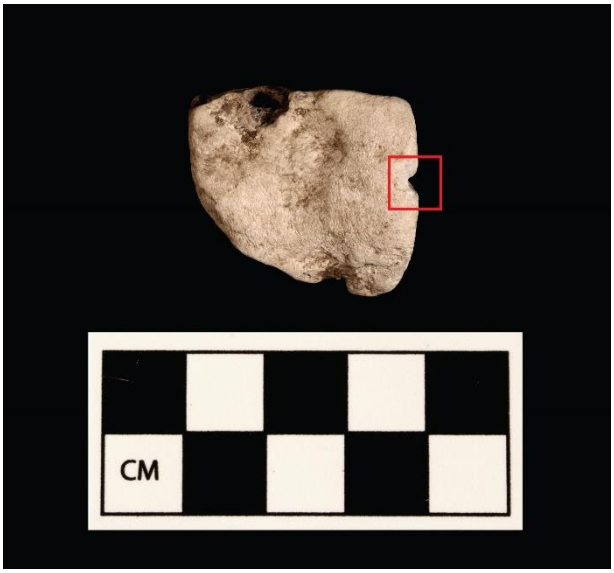

Figure 5-2. Worked Barite (note area inside of red box is the remnant of a drilled/perforated hole).

In addition to atlatl weights barite was used by the Adena people to manufacture hemispheres/cones interpreted as polishing stones (Webb and Snow 1974). Barite outcrops in central Kentucky, and Clay (1985) has suggested that Peter Village may have been situated so as to better exploit nearby barite deposits.

MICA

A total of 9.27 g of mica was recovered from the Evans site. Almost all of the mica was recovered from Features 20 (6.70 g) and 21 (2.40 g), with only 0.17 g being recovered from plowzone contexts (Units 4, 7, and 9). Although much of it had crumbled into small

pieces, some of the larger fragments ranged from 21.0 to 24.0 mm in diameter. The mica probably originated in the Blue Ridge Mountain ranges of the southeastern United States, the closest known source of mica (Sterrett 1923).

The mica recovered from the Evans site may represent pieces that were left over from the production of burial objects, such as mica crescents. Such objects have been recovered from the large Wright Mound (15Mm6) (Webb 1940) as well as Robbins (15Bn3) (Webb and Elliott 1942), Crigler (Webb 1943a), and Dover (Webb and Snow 1959). Webb (1940) was able to partially restore two of the mica crescents recovered from the Wright Mound in the late 1930s. Both crescents were made from many sections of mica that were cut into crescentic shapes, perforated, and sewed together with textile thread. They were found at the right shoulder of Burial 1 and may have constituted a portion of a headdress suspended about the neck, as gorgets, or breast ornaments (Webb 1940:69; Webb and Snow 1974:102)

DISCUSSION

The recovery of nonlocal materials from the Evans site points to Adena participation in long distance exchange networks. It also reflects the use of these materials in Adena rituals. The mica fragments and barite fragment point to the production of ritual items at the Evans site.

CHAPTER SIX:
CERAMICS AND NON-VESSEL CLAY OBJECTS

By
Melissa L. Ramsey and David Pollack

INTRODUCTION

The Evans site ceramic assemblage consisted of 760 prehistoric sherds and sherdlets, and 181 fired clay fragments. Although most (84.2 percent) of the sherds, were recovered from features, 15.8 percent were recovered from units and from general provenience contexts. All sherds that measured 4 cm² or greater and any rim or basal sherds that measured less than 4 cm² were analyzed. Any cross-mended sherds were considered a single sherd. This resulted in the analysis of 22.1 percent of the recovered vessel fragments (Table 6-1). Nondiagnostic body sherds (n=592) that measured less than 4 cm² were examined to determine if they were decorated or a part of a rim or base, and then simply counted and weighed (Table 6-1).

Fired clay fragments (n=181) recovered were primarily recovered from features (n=167), with only 13 being recovered from units or general provenience contexts within one of the two blocks. These types of artifacts were examined to determine if any represented portions of a ceramic vessel or effigy.

Analysis of the Evans site ceramic assemblage had two primary goals. The first was to describe the salient characteristics of the assemblage and define a minimum number of vessels. The second was to compare the assemblage to previously defined types and establish a time period for manufacture.

Table 6-1. Ceramic Assemblage.

Artifact	Frequency	Percent
Ceramics		
Adena Plain (analyzed)	147	19.3
Eroded Leached tempered (probably limestone)	21	2.8
Body Sherds < 4 cm² (not analyzed)	592	77.9
Subtotal	760	100.0
Fired Clay	181	
Total	**941**	

METHODOLOGY

Analyzed specimens were examined using a Fisher Scientific Stereomaster II binocular microscope at 15x magnification. Basic attributes were recorded for all analyzed sherds, where germane. These included temper; paste inclusions; exterior and interior surface treatment and color; vessel fragment (i.e., lip, rim, neck, base, or body); lip shape; rim orientation and modification; sherd thickness (body, neck, base, lip, rim); sherd size; and sherd weight. Photographs, profiles, and line drawings were made of representative specimens.

Information recorded about added temper, included particle shape, size, and color. Temper density was estimated based on inspection of the assemblage as a whole and was categorized as low, medium or high density. The types of paste inclusions present in each ceramic sherd were recorded, while density of paste inclusions was observed but not recorded. When present, sherd surfaces were assigned to four different categories: 1) eroded smoothed (weathered or worn but still exhibited extant), 2) poorly smoothed (lumpy and irregular), 3) smoothed (lacked lumps and were fairly regular in smoothness), and 4) well-smoothed (clear and even, as if more care had been taken when preparing the vessel). Sherds were assigned to three basic surface color categories (orange, gray, and brown). Variations were noted within each category, ranging from orange, light orange, reddish-orange, and orange-brown for "orange," medium gray, gray-brown, dark gray-brown, black, and light gray for "gray," and brown, dark brown, dark reddish-brown and light brown/tan for "brown." Munsell soil color charts (Munsell Color 1975) were not used. Finally, represented vessel portion (e.g., base, body, and rim) was recorded for each analyzed specimen.

Two types of lip shape were identified: flat or flat-rounded, and narrow and pointed. Rims were categorized as direct or slightly flared. Rim orientation and lip shape were determined by using charts in Turnbow and Henderson (1992:337-338). Helios needle-nose calipers were used to measure sherd thickness to the nearest 0.05 mm. Thickness for all bodies and necks was taken at the thickest spot. Basal sherd thickness was taken at the tangent point where the vessel side wall met the base; this may or may not have been the thickest spot. Lip thickness was taken at the thickest point of the lip. Rim sherds were measured 1 cm below the lip to determine rim thickness. Sherd size was estimated by placing each specimen on a 1 cm grid template and counting the number of squares the specimen covered. Provenience information and morphological differences, along with differences in color and paste of rim and basal sherds, were used to estimate MNV. Body sherds were not used in the determination of MNV.

ARTIFACT DESCRIPTIONS

Ceramics

Of the 168 analyzed sherds, 147 were classified as Adena Plain. The exterior surfaces of the remaining 21 sherds were too eroded to classify. In all other respects, however, these sherds are similar to those classified as Adena Plain and most probably represent Adena Plain body sherds.

Adena Plain (Haag 1940)
(n=147; 10 rims, 9 necks, 120 body sherds, and 8 bases)

Each sherd exhibited subangular voids in the paste. These voids likely once contained limestone that has leached away. Temper density ranged from low to very high, with over three-quarters (78.1 percent) of the sherds being classified as low to moderate temper density. Only a few (7.5 percent) were densely tempered. Paste inclusions consisted primarily of hematite/manganese concretions. These inclusions, which were

moderate to dense, were rounded and ranged in size from less than 1 to 2 mm in diameter. Sherd size ranges from 1-60 cm², with a mean of 10 cm².

Most sherds (76.7 percent) had smoothed exterior surfaces. The next most frequent surface was eroded smoothed (19.2 percent). Few were classified as poorly (2.7 percent) or well smoothed (1.4 percent). Exterior surface color was generally orange-brown (32.2 percent), followed by orange (17.1 percent), light brown/tan (15.1 percent), and dark gray-brown (10.3 percent). Light orange, reddish orange, black, medium gray, brown, dark brown, and dark reddish brown exterior surface colors account for the remaining 25.3 percent of the sherds. Interior surfaces also were primarily smoothed (75.3 percent), with eroded smoothed (21.9 percent) being the next most common surface treatment. The remaining sherds were classified as poorly smoothed (2.1 percent) and well-smoothed (0.7 percent). Interior surfaces were mainly black (27.4 percent) with orange-brown being the second most frequent color (23.3 percent). Black (27.4 percent), orange brown (23.3 percent) and dark gray brown (11.0 percent), orange (7.5 percent), and light gray (6.8 percent) were the primary interior surface colors. Light orange, reddish orange, medium gray, gray brown, brown, dark brown, and dark reddish brown account for the remaining 24.0 percent of the sherds. Body sherd thickness ranged from 4.5-8.7 mm, with a mean thickness of 6.5 mm. Neck thickness ranged from 5.5-8.9 mm, with a mean of 7.5 mm.

Though none of the sherds were decorated, a few (n=18) had smoothing marks on either their interior or exterior surfaces. One body sherd, given its rounded shape and might have been a disk, though the edges did not appear to have been modified. This sherd measured approximately 3.5 x 4.0 cm, with a thickness of 6.0 mm, and was orange-brown in color on both the interior and exterior surfaces.

The eight bases were assigned to one to two types, based on morphological characteristics. Type A (n=6), which made up the majority of the bases, was characterized by a clear, distinct exterior tangent point and interior thickening (Figure 6-1). Type B (n=2) had parallel interior and exterior walls at the tangent point, and the tangent point on these specimens was not distinct (Figure 6-2). The underside of the base for Type A was flat compared to Type B. Thickness for Type A bases ranged from 8.8 to 13.5 mm, with a mean thickness of 10.6 mm. Type B thickness ranged from 5.5-6.8 mm, with a mean thickness of 6.2 mm.

Rims (n=10) ranged in size from 1-26 cm² and in thickness from 4.5-7.9 mm, with a mean of 6.0 mm. The rims had a chalky paste, and mainly orange-brown exteriors, and orange-brown or black interiors. Rim orientation could not be determined for three specimens. For the remaining six rims, five were slightly flared and one was direct. Only three rims was large enough to determine orifice diameter. The largest had an orifice diameter of 20 cm. Two smaller rims had orifice diameters of 6 and 8 cm, respectively.

Lip thickness ranged from 6.0 to 9.0 mm, with a mean of 7.7 mm. Lip shape was flat-rounded (n=9) or narrow and pointed (n=1). Half thicken towards the lip, and two thin towards the lip, and two exhibited no rim modification. A rim strip is associated the remaining rim.

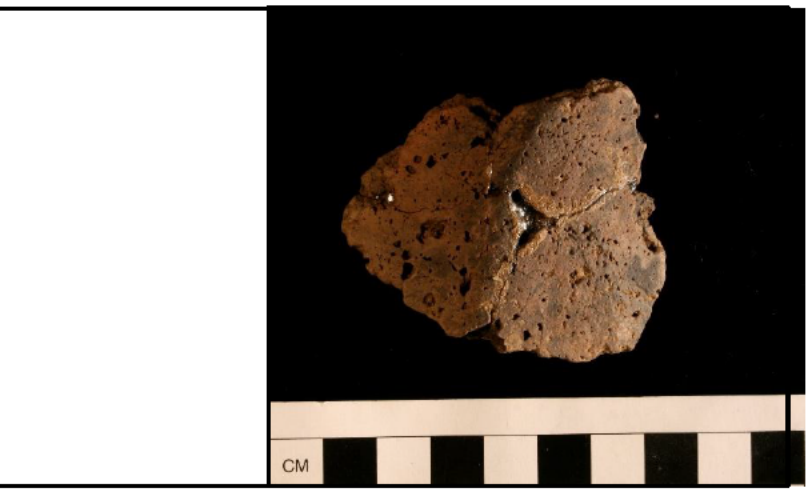

Figure 6-1. Type A Basal Sherd: left photograph; right, profile.

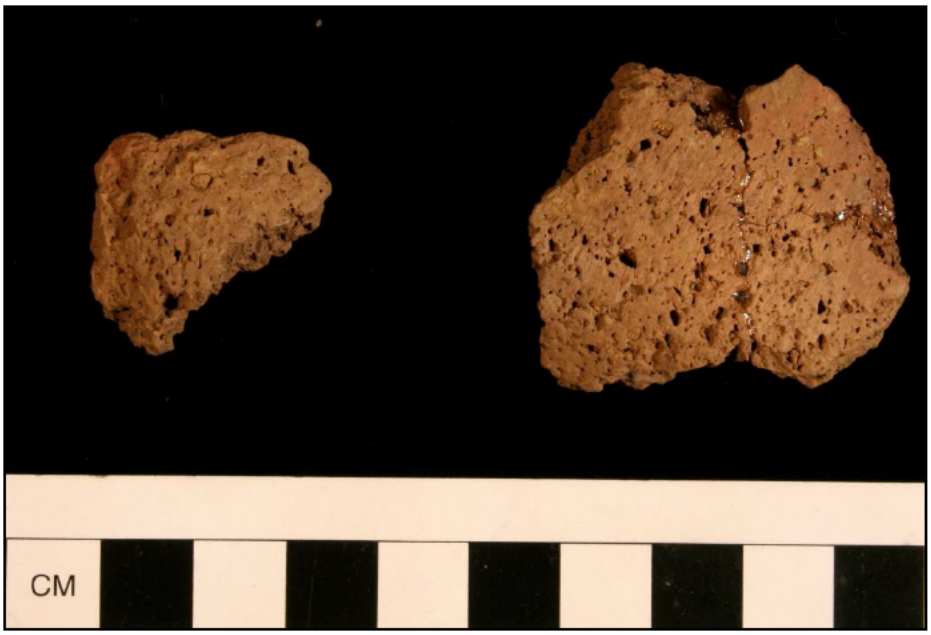

Figure 6-2. Type B Basal Sherd.

Vessels

Because the assemblage was recovered almost exclusively from feature contexts, the potential for identifying individual vessels was fairly high. Using a combination of rim and basal attributes (i.e., thickness, temper and paste, characteristics of exterior and interior surface treatment, and surface color) and provenience, a minimum of eight vessels were identified in association with the following: Feature 1 (n=2); Feature 6 (n=2); and one each from Feature 4, Feature 20, Feature 21, and Feature 24 (Table 6-2).

Vessel 1 was recovered from Feature 20 and consisted of seven rims, and 84 neck and body sherds. Though these rim sherds did not mend, they and the body sherds were similar enough in paste and color to be considered part of the same vessel. The rim is

slightly outflaring and thickens towards a flat-rounded lip. This vessel has an average rim thickness of 5.9 mm, an average lip thickness of 8.1 mm, and an orifice diameter of 20 cm (Figure 6-3).

Figure 6-3. Vessel 1 - Slightly Flared with flat lip and no rim modification.

Table 6-2. Analyzed Ceramic Fragment Type by Provenience.

Provenience	Fragment				Total
	Rim	Base	Body	Neck	
Feature 1	1	1	16	0	18
Feature 4	0	3	5	0	8
Feature 6	0	4	15	0	19
Feature 20	7	0	97	9	113
Feature 21	1	0	3	0	4
Feature 24	1	0	3	0	4
Unit 3	0	0	1	0	1
Unit 8	0	0	3	0	3
Total	**10**	**8**	**143**	**9**	**170**

Vessels 2 and 3 were recovered from Feature 1. Vessel 2 consists of a rim sherd with an orifice diameter of 6 cm. The rim has a direct orientation and thickens towards a flat-rounded lip. It has a lip thickness of 5.9 mm and a rim thickness of 4.5 mm. This rim was distinguished from other sherds by its exterior dark gray-brown and interior black colors, and a more consolidated, less chalky paste.

Vessel 3 consists of a Type B base that was derived from a much larger and thicker jar than the rim recovered from Feature 1. The exterior surface was orange-brown and the interior was dark gray-brown. It had maximum thickness of 6.4 mm.

Vessel 4 is represented by a rim recovered from Feature 24 (Table 6-2). The rim had a direct orientation, narrows toward a pointed lip, and its exterior exhibits evidence of burnishing. Rim thickness was 8.9 mm and lip thickness was 4.9 mm. There is a notch on the lip that looks like decoration, but may simply have been an indentation made during manufacture. This rim is distinguished from the body sherds recovered from Feature 24 as well as other ceramics recovered from the site by dense inclusions of hematite/manganese concretions and very few voids left behind by the leaching of limestone temper.

Vessel 5 is represented by a rim recovered from Feature 21. The rim has a flat lip and an applied rim strip that has a height of 6 mm and protrudes about 4 mm from the body of the vessel. Thickness measurements could not be taken as the rim is missing its interior surface. Nor could its orientation or orifice diameter be determined.

Vessel 6 is represented by three Type A basal sherds recovered from Feature 4. All exhibited more gradual internal thickening than the other Type A bases recovered from the site. As with the basal sherds recovered from Feature 6, these specimens are similar enough in paste and color to be considered part of the same vessel, even though they did not mend.

Vessels 7 and 8 were both recovered from Feature 6. Vessel 7 is represented by three Type A basal sherds. All three bases have dark brown exterior and gray brown interior colors. Because of similarities in paste, color, and thickness, these three bases are considered to be part of the same vessel, even though they did not mend. Vessel 8 is represented by one Type B basal sherd that is derived from a smaller vessel with thinner walls (5.2 vs 9.0 mm thick). The Type B basal sherd has a light brown exterior and interior surface color.

Summary

The Evans site ceramic assemblage is characterized by its smoothed, plain surfaces and limestone temper. William Haag's (1940) description of Adena Plain ceramics, recovered from the Morgan Stone Mound (15Ba15) in Bath County and the two Wright Mounds (15Mm6 and 15Mm7) in Montgomery County (Haag 1940:75-79; Haag 1940:266), is consistent with the Evans site assemblage. According to Haag (1940:76), Adena Plain ceramics are "tempered with angular particles of crushed limestone up to 5 mm in diameter." The paste is medium to coarse, with the outer surfaces mottled with color variations, including dark brown, orange, red, and tan. The exterior surfaces have been "smoothed and frequent striations attest to the use of a smoothing tool" (Haag 1940:76). These are all characteristics exhibited by the Evans site ceramics.

At the Wright Mounds, Adena Plain, slightly outflaring jars tend to have thickened lips, with many of the vessels being classified as collared (O'Malley 1988). Of the eight Evans vessels, only one may have had a collar. At both sites jars often had flat to rounded bases with an angled base/body juncture (Haag 1940; O'Malley 1988). Where Evans differs from the Wright Mounds is with respect to vessel wall thickness. At Evans as well as the slightly later Walker-Noe site in Garrard County, vessel bodies are somewhat thinner (mean 6.5 and 7.1 mm, respectively) than those recovered from the Wright Mounds (8-9 mm) (Pollack et al. 2005). This may be related to vessel function: Evans and Walker-Noe

ceramic vessels were associated with the processing of the dead and ritual feasting during mortuary rituals. At Wright most of the vessels were derived from mound fill and mound stage surfaces. Given these contexts these vessels may have been associated with domestic activities and incorporated within mound fill, or were intentionally placed on various mound stage surfaces during maintenance/remembrance of the dead rituals (O'Malley 1988).

Adena Plain sherds also were recovered from Site 15Mm140, a slightly later habitations site (cal median 28 cm). Most were body sherds that ranged in thickness from 3.6 to 6.6 mm, with a mean of 5.0 mm. The two bases had a flat bottom and a rounded base/body juncture that did not exhibit any thickening. These bases are more similar to the Evans Type B than Type A bases. The primary difference being that the Type B bases at Evans have a well-defined base/body juncture. Overall, the ceramics from Site 15Mm140 are somewhat thinner (mean thickness 5.0 vs 6.5 mm) than those recovered from the Evans site. In part this may be due to the fact that all were recovered from one feature. It does not appear to reflect temporal trends in Adena ceramic production, as the ceramics from Site 15Mm140 also are thinner (mean thickness 5.0 vs 7.1 mm) than the sherds recovered from Walker-Noe.

Non-vessel Clay Objects

Fired Clay (n=181)

This category includes fragments of fired clay that can yield valuable information on architectural and residential patterns, methods of house construction, pottery production, and other activities that resulted in the baking of clay-bearing deposits (Hoag 2003). Primary functional classes of fired clay materials in the Eastern Woodlands include daub and hearth debris.

Daub represents the adobe or mud that is applied to a pole understructure that, when dried, together form walls. Because daub is dried mud that would rapidly disintegrate once becoming part of archaeological contexts, when it is recovered, we know that episodes of burning, either accidental or intentional, hardened the clay, and created a permanent impression of the poles and other fibers used in the wall matrix. Besides impressions of poles and fibers in daub fragments, attributes that can be quantified include the smoothed surfaces of walls.

Fired clay may also occur in hearth features, or other contexts where localized burning occurred, such as earth ovens or ceramic firing pits. It is often associated with localized burning features that are not likely to contain fiber or pole impressions. Fired clay associated with particular types of burned features can potentially be distinguished on the basis of embedded objects, such as wood charcoal, burned bone, lithics, sherds or other archaeological materials that were in associated contexts at the time of burning. When associated with hearth features or house floors, one surface may be flat. The recovery of embedded artifacts and impressions is rare; however, and most fired clay is small and amorphous.

The fired clay objects recovered from the site were examined for evidence of use as daub, which would leave cane, stick, twig, or grass impressions, but none was found. Hematite/manganese concretions that were identical in size and shape to those present in the analyzed sherds were present in the paste. There was no evidence of temper that might suggest these fragments were associated with ceramic production, and there were no smoothed surfaces to suggest they were directly associated with hearths. Fired clay objects usually formed in association with fires used for cooking or heating (Turnbow and Henderson 1992:334).

Several fragments (n=16) of fired clay were recovered from beneath burned sandstone and limestone rocks associated with Feature 6D. Of these, five were smoothed on one side. The smoothed surfaces suggest that they were derived from the sides of a formal hearth.

SUMMARY

The Evans site produced a small Woodland ceramic assemblage that consisted entirely of Adena Plain ceramics. Based on the feature contexts, and rim and basal attributes, a minimum of eight vessels were recovered from the site. All represent jars with flat or rounded bottoms. Two of the jars are relatively small, having orifice diameters of 6 and 8 cm, respectively. The third rim for which orifice diameter could be determined was much larger, having an orifice diameter of 20 cm. As with other sites, the Adena plain jars recovered from Evans tend to have restricted necks, and slightly outflaring or direct rims that thicken towards the lip.

CHAPTER SEVEN:
ARCHAEOBOTANICAL REMAINS

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INTRODUCTION

This report discusses plant remains recovered from 23 flotation samples representing 270 liters of soil. A substantial archaeobotanical collection was recovered, including seven species of wood charcoal, five species of nuts, four cultigens (squash, maygrass, chenopod, and sunflower) and the seeds of five wild plants (Tables 7-1 and 7-2). This collection adds to our regional knowledge of the mixed collecting and gardening plant economy of Early/Middle Woodland times.

Table 7-1. Frequencies and gram weights of general categories of plant remains.

Category	Frequency	Percent	Gram Weight	Percent
Wood charcoal	3,070	88.0	29.5	90.2
Nutshell	243	7.0	3.0	9.2
Cultigens	147	4.2	---	---
Wild plant seeds	14	0.4	0.2	0.6
Unidentified - general/seeds	15	0.4	---	---
Total	**3,489**	**100.0**	**32.7**	**100.0**

METHODS

Botanical remains are produced from archaeological sites using a method known as water flotation. Soil samples are placed in a tank with agitated water, and the lighter charcoal and roots float to the surface and are collected in a nylon bag. Portions of the sample that sink are caught below in fine screen. After drying the floated samples, they were passed through a 2 mm geological sieve, before sorting charcoal from uncarbonized contaminants such as roots. For open prehistoric sites, such as Evans, only carbonized plant remains may be considered archaeological. Material, such as wood and nutshell, from the larger than 2 mm sample were identified, counted, and weighed. Sievings smaller than 2 mm were scanned carefully for seeds. This procedure is followed because fragments of wood and nutshell smaller than 2 mm are difficult to reliably identify. Specimens larger than 2 mm are representative of smaller specimens, with the possible exceptions of acorn and squash rind (Asch and Asch 1975). Laboratory sieving thus saves considerable laboratory sorting time without a loss of information.

The samples were examined under a light microscope at magnifications of 10 to 30x. Identification of materials was aided by a comparative collection of both archaeological and modern specimens, along with standard catalogs (Delorit 1970; Martin and Barkley 1973; Panshin and deZeeuw 1970; U.S. Department of Agriculture 1948). When applicable, specimens were sorted by species, counted, and weighed to the nearest tenth of a gram. Macroscopic wood characteristics were observed from specimen

Table 7-2. Botanical Remains by Context.

Context	Species	Freq	Gm Wt
Feature 1, FS 146	wood (unidentified - small)	13	0.2
black below clay	black walnut (*Juglans nigra*)	5	0.0
22.5 liters	acorn (*Quercus* sp.)	1	0.0
Feature 4 w ½	wood (red oak 30%, bl walnut 25%, Am chestnut 10%, unid 35%)	355	2.7
Zone III	black walnut (*Juglans nigra*)	3	0.0
FS 48	chenopod (*Chenopodium berlandieri*)	1	--
4.5 liters	bedstraw (*Galium* sp.)	1	--
	grass (Poaceae)	1	--
Feature 4 e ½	wood (unidentified – twigs)	80	0.6
FS 51	black walnut (*Juglans nigra*)	12	0.1
12.5 liters	squash – rind (*Cucurbita* sp.)	4	0.0
	chenopod (*Chenopodium berlandieri*)	1	--
Feature 6 se ¼	wood (yellow poplar 10%, maple 5%, unidentified 85%)	192	1.4
FS 65	hickory (*Carya* sp.)	15	0.3
8 liters	black walnut (*Juglans nigra*)	3	0.1
	butternut (*Juglans cinerea*)	8	0.2
	unidentified – general	1	0.0
Feature 6A	wood (unidentified – twigs)	116	0.8
Medium-Sized Post	hickory (*Carya* sp.)	5	0.0
FS 106, 8 liters	black walnut (*Juglans nigra*)	6	0.1
	acorn (*Quercus* sp.)	2	0.0
	squash – rind (*Cucurbita* sp.)	6	0.0
	chenopod (*Chenopodium berlandieri*)	6	--
	maygrass (*Phalaris caroliniana*)	2	--
	unidentified – seed fragment	1	--
Feature 6B	wood (unidentified)	11	--
Large Post			
FS 115, 3.5 liters			
Feature 6C	wood (unidentified – twigs)	40	0.5
Cremation Pit	black walnut (*Juglans nigra*)	16	0.4
FS 71, 11 liters	butternut (*Juglans cinerea*)	1	0.0
Feature 6C	wood (American beech, unidentified)	21	0.3
Cremation Pit	black walnut (*Juglans nigra*)	17	0.3
FS 66. 10 liters	butternut (*Juglans cinerea*)	3	0.1
Feature 6C	wood (American chestnut 50%, unidentified 50%)	45	0.7
Cremation Pit	hickory (*Carya* sp.)	15	0.3
FS 70	black walnut (*Juglans nigra*)	3	0.1
12 liters	butternut (*Juglans cinerea*)	8	0.2
Feature 6D sw ¼	wood (red oak 40%, black walnut 20%, unidentified 40%)	66	0.5
Rock-filled pit	black walnut (*Juglans nigra*)	4	0.0
FS 74, 12 liters	acorn (*Quercus* sp.)	1	0.0
Feature 13	wood (slippery elm 35%, maple 25%, unidentified 40%)	402	6.1
FS 102	black walnut (*Juglans nigra*)	7	0.0
15 liters	chenopod (*Chenopodium berlandieri*)	1	--
Feat 14B FS 73, 3.5 liters	wood (unidentified – twigs)	14	0.2
Feature 14C e ½	wood (unidentified – twigs)	168	1.5
FS 63	black walnut (*Juglans nigra*)	6	0.0
12 liters	squash – rind (*Cucurbita* sp.)	1	0.0
Feature 18 w ½	wood (unidentified - twigs)	128	1.5
FS 68	black walnut (*Juglans nigra*)	6	0.1
10 liters	hazelnut (*Corylus* sp.)	1	0.0
Feature 20 sw ¼	wood (American chestnut)	85	0.8
Level 1, 1st 10 cm	black walnut (*Juglans nigra*)	10	0.1
FS 75, 76	butternut (*Juglans cinerea*)	3	0.0
30 liters	acorn (*Quercus* sp.)	2	0.0
	squash – rind (*Cucurbita* sp.)	5	0.0
	maygrass (*Phalaris caroliniana*)	7	--
	chenopod (*Chenopodium berlandieri*)	4	--
	unidentified – general	1	0.0
Feature 20	wood (American chestnut)	515	4.6
ceramic conc 1	hickory (*Carya* sp.)	49	0.7
FS 112	black walnut (*Juglans nigra*)	5	0.1
15.5 liters	acorn (*Quercus* sp.)	1	0.0
	squash – rind (*Cucurbita* sp.)	22	0.1
	maygrass (*Phalaris caroliniana*)	14	--
	chenopod (*Chenopodium berlandieri*)	9	--

Table 7-2. Continued.

Context	Species	Freq	Gm Wt
Feature 20 ceramic conc FS 113 16 liters	wood (*American chestnut*) black walnut (*Juglans nigra*) squash – rind (*Cucurbita* sp.) maygrass (*Phalaris caroliniana*) unidentified – seed fragment unidentified – general	185 15 21 4 1 3	1.6 0.2 0.1 -- -- 0.0
Feature 20 ceramic conc 2 FS 114 10 liters	wood (unidentified – twigs) black walnut (*Juglans nigra*) maygrass (*Phalaris caroliniana*) chenopod (*Chenopodium berlandieri*) strawberry (*Fragaria* sp.)	100 1 3 2 1	1.1 0.0 -- -- --
Feature 21 ne ¼ FS 77 10 liters	wood (slippery elm, unidentified) hickory (*Carya* sp.) black walnut (*Juglans nigra*) hazelnut (*Corylus* sp.) squash – rind (*Cucurbita* sp.) maygrass (*Phalaris caroliniana*) chenopod (*Chenopodium berlandieri*) unidentified – seed fragment unidentified – general (amorphous)	112 5 1 1 5 5 5 1 6	0.6 0.0 0.0 0.0 0.0 -- -- -- .0
Feature 21 nw ¼ FS 95 9.5 liters	wood (black walnut 10%, unidentified 90%) hickory (*Carya* sp.) black walnut (*Juglans nigra*) acorn (*Quercus* sp.) squash – rind (*Cucurbita* sp.) sunflower (*Helianthus* sp.) maygrass (*Phalaris caroliniana*) persimmon (*Diospyros virginiana*)	298 2 1 8 1 1 8 9	2.5 0.0 0.0 0.1 0.0 -- -- --
Feature 24 se ¼ FS 141, 14 liters	wood (unidentified – twigs) black walnut (*Juglans nigra*)	58 2	0.4 0.0
Feat 24, Zone II FS 142, 13 liters	wood (unidentified - small) hickory (*Carya* sp.)	1 1	0.0 0.0
Feature 37 e ½ Post FS 151 7.5 liters	wood (unidentified – twigs) hickory (*Carya* sp.) squash – rind (*Cucurbita* sp.) chenopod (*Chenopodium berlandieri*) maygrass (*Phalaris caroliniana*) bedstraw (*Galium* sp.) purslane (*Portulacca* sp.) unidentified – general	66 3 4 2 3 1 1 1	0.8 0.0 0.0 -- -- -- -- 0.0

cross-sections. Changes in the visibility of macroscopic characteristics that occur during carbonization were also accounted for, to insure maximum accuracy of identification (Rossen and Olson 1985). Very small wood specimens or specimens that were badly deformed during the carbonization process were classified as "unidentified." Similarly, non-wood specimens that are badly deformed were classified as "unidentified-general" and deformed or fragmented seeds were classified as "unidentified-seeds."

PRESERVATION

Archaeobotanical preservation varies greatly between sites for reasons that are only partially understood. Two factors that influence preservation are soil drainage and chemical composition of midden deposits (such as soil pH and ash content). The circumstances surrounding plant carbonization, including firing temperature and the amount of oxygen reduction present, also influence preservation. Soil particle size and inclusions affect whether or not carbonized plant remains are eroded or destroyed by mechanical grinding.

Preservation of carbonized plant material at the Evans site was variable. Most of the samples (n=15) were characterized by wood and nutshell specimens that are highly eroded and contained relatively few seeds. For the remaining eight samples, which were recovered from four different contexts, Features 6E, 20, 21, and 37, preservation was much better. In these features, the carbonized nutshell and seeds were not eroded, with many specimens retaining fine surface reticulations and markings. The presence of fragile materials, like squash rind and maygrass seeds, also are indicators of good plant preservation in those four contexts.

WOOD CHARCOAL

Seven species of wood charcoal (n=3,070) were recovered from the site (Table 7-3). In order of frequency, they are American chestnut *(Castanea dentata*), slippery elm (*Ulmus rubra*), red oak group (*Quercus* sp.), black walnut (*Juglans nigra*), maple (*Acer* sp.), yellow poplar (*Liriodendron tulipifera*), and American beech (*Fagus grandifolia*). This is an unusual wood assemblage because of the relative frequencies of the species present and those species that are notably absent. In particular, the dominance of American chestnut (61.1 percent by frequency) is rare at Kentucky sites. American chestnut is often present, but usually accounts for less than ten percent of the wood charcoal. Absent are primary species, such as white oak and hickory, and secondary species, such as ash, that are usually conspicuous in the Kentucky archaeobotanical record (Rossen 1991).

Table 7-3. Wood charcoal.

Category	Frequency	Percent	Gram Weight	Percent
American chestnut (*Castanea dentata*)	844	61.1	7.7	56.2
slippery elm (*Ulmus rubra*)	142	10.3	2.1	15.3
red oak group (*Quercus* sp.)	133	9.6	1.0	7.3
black walnut (*Juglans nigra*)	132	9.6	1.1	8.0
maple (*Acer* sp.)	111	8.0	1.6	11.7
yellow poplar (*Liriodendron tulipifera*)	19	1.4	0.2	1.5
American beech (*Fagus grandifolia*)	1	0.0	0.0	0.0
Total identified wood charcoal	1,382	100.0	13.7	100.0
unidentified wood charcoal	1,688		15.8	
Total wood charcoal	3,070		29.5	

The recovered tree species are all native to the eastern Kentucky forests that were dubbed “mixed mesophytic” by E. Lucy Braun (1950) because of their diversity and the absence of dominating species. A few studies have tried to confirm or alter Braun’s observations of the eastern Kentucky forests, which were completely cut in the early twentieth century (Campbell 1985, 1987; Martin 1987; Rossen 1991). In particular, the Bailey site (15Bll00) archaeobotanical collection displayed the high diversity and lack of dominating species that confirmed Braun’s observations (Rossen 1999). In that collection, white oak was the most numerous species accounting for 29.0 percent of the wood charcoal, with no other species accounting for more than fifteen percent of the wood charcoal assemblage. In contrast, the Evans site collection may represent the specialized use of and intentional selection of woods like American chestnut and slippery elm rather than their prevalence in the local environment.

PLANT FOOD REMAINS

Prehistoric plant food remains from the Evans site, include nutshell, starchy or oily seeds of three native eastern U.S. cultigens (maygrass, chenopod, and sunflower), squash rind, and wild plant seeds (Table 7-4). These remains are described and discussed in this section.

Nutshell

Black walnut (*Juglans nigra*) and hickory (*Carya* sp.) nutshell are the most abundant nutshell remains recovered (Table 7-4). It is unusual in Kentucky sites for black walnut to be more numerous and ubiquitous than hickory. Black walnuts contain over three times more nutmeat (Styles 1981:82) and approximately ten percent more protein and fat than hickory (Lopinot 1982:858-859). They may be more difficult to collect and utilize, however, because walnut trees do not grow in stands like hickories, and shelling and processing is more time-consuming. The dominance of black walnut may represent local environmental conditions, a local food preference, or sampling bias.

Table 7-4. Non-wood plant remains.

Category	Frequency	Gram Weight	Ubiquity
Nutshell			
hickory (*Carya* sp.)	83	1.0	.35
black walnut (*Juglans nigra*)	126	1.6	.83
butternut (*Juglans cinerea*)	17	0.3	.22
acorn (*Quercus* sp.)	15	0.1	.27
hazelnut (*Corylus* sp.)	2	0.0	.09
Cultigens			
squash rind (*Cucurbita* sp.)	69	--	.39
maygrass (*Phalaris caroliniana*)	46	--	.35
chenopod (Chenopodium berlandieri)	31	--	.39
sunflower (Helianthus sp.)	1	--	.04
Wild plant seeds			
persimmon (*Diospyros virginiana*)	9	0.2	.04
bedstraw (*Galium* sp.)	2	--	.09
strawberry (*Fragaria* sp.)	1	--	.04
purslane (*Portulacca* sp.)	1	--	.04
grass (Poaceae)	1	--	.04
Miscellaneous			
unidentified – general	12	0.0	
unidentified - seed fragments	3	--	

Throughout much of the Archaic and Woodland periods in Kentucky, hickory was a focal resource. Hickory nuts were valuable for their high protein and fat content, and relative ease of collection, preparation, and storage. Swanton (1946) reviewed at length the ethnographic data on hickory nut use by southeastern Native Americans. The most common use was in a "hickory nut soup," prepared by cracking nuts and placing them into a pot of boiling water, where the nutshell would settle to the bottom leaving an oily white broth that was considered a delicacy.

The Evans site nutshell remains may be compared to other Kentucky sites within a broad diachronic scheme of frequency and gram weight density per soil liter, as they presumably reflect changes in Native American utilization of nut resources through time (Table 7-5). As a late Early Woodland/early Middle Woodland site, nutshell utilization at the Evans site should fit between the very high nutshell densities of late Middle/Late Archaic sites (e.g., Hedden [McCracken County], Highland Creek [Union County], and Withrow Creek [Nelson County]), and the intermediate nutshell densities of Late Woodland sites (Shelby Lake [Shelby County], Hansen [Greenup County], and Dreaming Creek [Madison County]). These trends may reflect a de-emphasis of nuts as native cultigens became important components of the diet. Surprisingly, the Evans site yielded a nutshell density of 0.9 fragments per liter and 0.01 grams per liter. These values are lower than most Woodland sites but are somewhat similar to Fort Ancient nutshell values.

That the Evans site nutshell values are similar to that of Walker-Noe in Garrard County, could be related to site function (Table 7-5). Both sites were associated with the Adena multi-stage mortuary program and ritual feasting that in part involved the consumption of native cultigens. In terms of hickory nut, which usually dominates most nutshell assemblages (Rossen 2000, 2010), its frequency/density is particularly low at Evans. Like the wood charcoal described above, the Evans site defies the expected botanical patterns, suggesting specialized plant use contexts that may not be indicative of domestic plant use (see Chapter 9). These may be cultural patterns to be verified by future studies, or may reflect the relatively poor archaeobotanical preservation throughout much of the site.

Native cultigen seeds

The Native American use of a complex of starchy and oily-seeded native cultigens has been archaeologically documented throughout much of the midwestern and southeastern United States stretching from Illinois to West Virginia. The Woodland period was the height of this seed plant gardening. Rockshelter sites in eastern Kentucky were instrumental in defining this cultivated seed complex (Cowan 1979; Cowan et al. 1981; Jones 1936), and continue to produce large amounts of the starchy and oily seeded plants. The Evans site contains three of the six known plants of this complex: maygrass (*Phalaris caroliniana*, n=46), chenopod (*Chenopodium berlandieri*, n=31), and sunflower (*Helianthus* sp., n=1) (Table 7-3).

Maygrass (*Phalaris caroliniana*) was cultivated for its starchy seeds throughout the southeastern United States by Early Woodland times (Cowan 1978; Johannessen 1984; Jones 1936; Lopinot 1988; Wymer 1990). During the Late Prehistoric period, maygrass continued to be consumed at western Kentucky Mississippian sites (Edging 1995; Rossen 1987). Maygrass was apparently abandoned, however, by central and northeastern Kentucky Fort Ancient groups (Rossen and Edging 1987; Rossen 1992).

Maygrass seeds contain more protein and fat than cultivated grains, such as corn, wheat, and barley (Cowan 1978:269-270). However, its trait of indeterminate inflorescence, or sequential seed ripening, would have complicated systematic cultivation and harvesting. In eastern Kentucky, substantial amounts of maygrass were recovered from the Newt Kash Rockshelter by Volney Jones, the first scholar to identify the plant

archaeologically (Jones 1936:152). Maygrass has since been recovered from various other shelters within this region (Cowan 1979; Cowan et al. 1981, Gremillion 1995; Ison 1988). At the Evans site, it was recovered from four contexts (Features 6, 20, 21, and 37) (Table 2), with most of the Maygrass seeds being recovered from Features 20 (60.1 percent) and 21 (28.2 percent), which have been interpreted as ritual feasting locales (see Chapter 9).

Table 7-5. Nutshell densities (frequencies and gram weights per liter of floated soil) at selected Kentucky archaeological sites and site groupings, listed in approximate chronological order from top to bottom.

Category	Frequency	Percent	Gm Wt
Main (15BL35) - Bell County[3]	Early Archaic	3.5	0.05
	Middle Archaic	2.9	0.04
	Late Archaic	13.3	0.01
Withrow Creek (15Ne55) Nelson County[1]	Archaic component	40.8	0.53
Highland Creek (15Un127) Union County[4]	Late Archaic	35.9	0.55
Hedden (15McN81) McCracken County[4]	Late Archaic	35.3	0.48
Withrow Creek (15Ne55) Nelson County[1]	Archaic component	40.8	0.53
Mills (15BL80) - Bell County[3]	Early Woodland	4.2	0.10
	Middle Woodland	2.6	0.05
Bailey (15BL100) - Bell County[4]	Early Woodland	8.2	0.14
	Middle Woodland	0.4	0.01
Martin Justice (15PI92) - Pike County[6]	Middle Woodland	5.5	0.08
Evans Site (15MM182) Montgomery County	**Early/Middle Woodland**	**0.9**	**0.01**
Walker-Noe (15Gd56) Garrard County[4]	Middle Woodland	1.8	0.02
Slack Farm (15Un28) Union County[4]	Middle Woodland	15.4	0.22
Shelby Lake (15Sh17) Shelby County[4]	Late Woodland	16.9	0.28
Hansen (15Gp14) Greenup County[2]	Late Woodland	10.5	0.27
Withrow Creek (15Ne55) Nelson County[4]	Late Woodland component	5.8	0.13
Dreaming Creek (15Ma97) Madison County[4]	Late Woodland	1.3	0.02
Watson (15Be249) Boone County[5]	Terminal Late Woodland	2.9	0.07
Howard (15Ma427) Madison County[4]	Early FA component	5.1	0.07
	Late FA component	18.4	0.33
Dry Branch Creek (15Me62) Mercer County[4]	Fort Ancient	2.8	0.03
Kentucky *Fort Ancient* sites** (northern Ky/southern Ohio - 3 sites)	Late Prehistoric	4.2	0.06
Kentucky *Fort Ancient* sites*** (central Kentucky - 6 sites)	Late Prehistoric	3.2	0.07
Kentucky *Fort Ancient* sites* (northeastern Kentucky - 3 sites)	Late Prehistoric	1.7	0.04
Kentucky *Mississippian* sites+ (western Kentucky - 6 sites)	Late Prehistoric	10.9	0.23

[1]Davis et al. 1997:182; [2]Lopinot 1988; [3]Creasman 1994, 1995; [4]Rossen 1995b, 1999, 2000, 2002; 2005, 2006, 2007, 2008; [5]Rossen and Hawkins 1995; [6]Kerr et al. 1995;
* after Rossen 1992, 1993:57; ** after Cowan et al. 1990; Dunavan 1993; Rossen 1993; *** after Rossen 1993; + after Edging 1995; Rossen 1987

Chenopod, also known as goosefoot or lambsquarters, was utilized for both its greens and its abundant starchy seeds. A cultivated variety (*Chenopodium berlandieri*) was widely utilized in the southeastern United States during Woodland times (Jones 1936; Smith 1987; Watson 1989). The cultivated chenopod is distinguished from wild populations by its distinctive "truncate-margin" profile (as opposed to a simpler biconvex profile in wild seeds) and a thinner or absent seedcoat. Cultivated chenopod has been

recovered from several Late Archaic and Woodland contexts in eastern Kentucky rockshelters (Cowan 1979; Cowan et al. 1981; Jones 1936; Gremillion 1995; Ison 1988) and was recovered from Early Woodland contexts at the Main site (Bell County) (Crites 1994). Chenopod was one of the few native cultigens that were consistently grown by Kentucky Fort Ancient farmers (Rossen 1992:199-200).

Chenopod was recovered from Features 4, 6, 13, 20, and 21. As with maygrass, almost half (48.4 percent) of the chenopod seeds were recovered from Feature 20, one of the ritual feasting locales (Table 7-2). Several specimens display the distinctive equatorial band that is typical of the cultivated variety, *C. berlandieri*. There are also smaller specimens that look ruderal or wild. Larger, banded and much smaller carbonized chenopod specimens are mixed together within individual flotation samples. Seed diameters range from 0.6 to 1.5 mm, well within the range of other cultivated chenopod collections and substantially larger than wild populations (Rossen 1992; Smith 1987).

Only one specimen of sunflower (*Helianthus* sp.), an oily-seeded native cultigen, was recovered from the site (Feature 21). The cultivation of this plant in Kentucky is demonstrated by a steady increase in seed size from the Late Archaic through the Woodland and Late Prehistoric periods. Yarnell considered the case of sunflower in detail in his now-classic study, noting that original wild sunflower achene lengths range from 4.5 to 5.0 mm, and that modern ruderal sunflowers have mean achene lengths of 4.0 to 7.0 mm, which is intermediate between wild and fully domesticated varieties (Yarnell 1978:291). According to Yarnell's compilations, the Kentucky trajectory of sunflower achene growth was as follows: sunflowers from Late Archaic to Early Woodland sites, such as Salts Cave, Mammoth Cave, Carlston Annis and Newt Kash Hollow, and from Middle to early Late Woodland sites, such as Hooten Hollow, Haystack Shelter, and Rogers Shelter, exhibit achenes varying from 7 to 10 mm in length (Cowan 1979; Cowan et al. 1981; Yarnell 1969, 1978:292). Sunflower domestication further intensified during the Late Prehistoric period at Mississippian sites in Missouri and Ohio, where mean achene length reached 10 to 12 mm (Yarnell 1978:293).

The one sunflower specimen from the Evans site is incomplete. Its broken length of 6+ mm probably falls within the lower end of the size range of prehistoric cultivated specimens (Yarnell 1978). The low frequency of sunflower at Evans and most other Kentucky sites suggests the plant was locally less important than other native cultigens.

Squash rind

Squash rind is common at the Evans site, in particular given the fact that the rind is fragile and considered underrepresented in the archaeobotanical record. Squash (n=69) was present in Features 4, 13, 20, 21, and 37 (Table 7-2). It is particularly abundant in Feature 20, where 48 specimens were recovered from three flotation samples.

Prehistoric squashes in the southeastern U.S. were hard-shelled and probably primarily used for their edible seeds. Squash appears very early in the archaeological record, and has been found sporadically in Archaic contexts (Cowan et al. 1981; Kay et al. 1980; Marquardt and Watson 1977). There is ongoing debate if the early specimens were cultivated or wild, and whether or not squash had native North American origins (see Fritz

1988; Heiser 1989; Smith 1987; Watson 1989 on this debate). Allozyme, morphology, and phytogeography studies are now convincing more scholars that squash was independently domesticated in the eastern United States from wild populations in Arkansas and Missouri (Decker-Walters 1990; see discussions in Crites 1994:G-15-G-18 and Edging 1995:170). Whether or not squash was cultivated during Archaic times, by the Woodland period it was certainly a garden plant. In central Kentucky, squash was well-represented in Late Woodland contexts at the Dreaming Creek (Madison County), Shelby Lake (Shelby County), and Withrow Creek (Nelson County) sites (Hockensmith et al. 1998; Davis et al. 1997:184; Rossen 2007). In the eastern Kentucky mountains, squash was present in the Early Woodland deposits at the Main site (Crites 1994:G-76).

Wild plant seeds

Wild plant seeds recovered from the Evans site represent probable and possible utilized plants: persimmon, bedstraw, strawberry, purslane, and grass. (Table 7-3). Persimmon (*Diospyros virginiana*) is the one-inch long fruit of the American persimmon tree. The tree prefers moist, well-drained soils. Kentucky is included within the northern edge of its natural range. Archaeologically, persimmons are more common at western Kentucky sites, such as Slack Farm (Union County), than at central and eastern Kentucky sites (Rossen 1995a). The fruits can be eaten fresh, dried, or cooked within a variety of puddings, and are known for their high fructose content. The seeds may be dried, roasted, and ground for use in a drink that was historically considered a coffee substitute. Either fire-drying of fruits or roasting of seeds may thus explain the carbonization of persimmon seeds. Nine persimmon seeds were recovered from Feature 21, one of the ritual feasting locales (Table 7-2).

Bedstraw (*Galium* sp.) was recovered from the Features 4 and 37 (Table 7-4). *Galium* is one of the largest and most diverse plant genera of North America. Some archaeobotanists consider the persistent presence of bedstraw in the archaeological record to represent accidental inclusions, because the seeds readily stick to clothing and hair (Asch et al. 1972). Bedstraw has now been recovered in low frequencies at many Kentucky sites (cf., Rossen 1992:194). Most notable are the high bedstraw frequencies at sites, such as in the multicomponent deposits of Site 15Sp26 (Spencer County) (Dunn 1984), the Late Woodland contexts at Dreaming Creek (Madison County) (Rossen 2007), and the Fort Ancient contexts at Capitol View (Franklin County) (Henderson 1992; Rossen 1995a). In the last case, bedstraw was recovered in distinctive spatial distributions inside houses (Rossen 1995a.).

As the archaeological occurrences proliferate, it becomes clear that bedstraw must be viewed as a Native American economic plant of considerable importance. As its name suggests, bedstraw could be used as bedding material, as suggested by its spatial distribution at Capitol View (Rossen 1995a.). The plant may also be eaten in salads and used as a dye. In other regions of the United States, the plant was historically used as a diuretic by the Ojibwa and a perfume among the Omaha and Ponca (Gilmore 1931:63).

The low frequency of occurrence of purslane (*Portulaca* sp.) seeds at archaeological sites may indicate either its accidental inclusion in the archaeological record

or the low archaeological visibility of lesser-utilized plants. Purslane has edible greens. One purslane seed was recovered from Feature 37.

Although probably a commonly eaten spring fruit, strawberry (*Fragaria* sp.) is only rarely recovered archaeologically because of the minute size of its seeds. It is noteworthy that the one seed recovered is from Feature 20, one of the ritual feasting locales at the site. As in the case of persimmon, fire-drying of fruit can account for the carbonization of this seed, and dried fruits could have been stored in ceramic containers.

One grass seed (Poaceae) was recovered from Feature 4. This could represent an accidental inclusion or perhaps the thatched roof of a structure.

SUMMARY

The Evans site collection fills an important gap in our understanding of Native American plant use in Kentucky. Although there are quite a few Late Archaic collections and an array of Middle Woodland period sites, there are relatively few late Early/early Middle Woodland collections. The Evans site produced a substantial and varied collection of plant remains from a moderate flotation effort (23 samples representing 270 liters of soil). Wood charcoal may reflect a preference for American chestnut for firewood or burning during off-mound mortuary rituals. The nutshell density is quite low, considering the much higher nutshell densities that occur in preceding Late Archaic sites and the moderately higher densities that are often associated with subsequent Middle and Late Woodland sites in Kentucky.

Three of the six members of the "Eastern Agricultural Complex," starchy and oily seeded native plants that represent horticultural activities during the Late Archaic and Woodland periods, are present. Two of the three, maygrass and chenopod, are well-represented, and the third, sunflower, is present as only a single specimen. In central and eastern Kentucky, maygrass and chenopod appear to have been the most important native cultigens, and this collection reinforces that idea. Squash rind is abundant, especially considering its preservation difficulties, and was probably a common garden plant. Corn, which is present in some Early and Middle Woodland contexts elsewhere in Kentucky, Tennessee, and the Midwest, is absent (Chapman and Crites 1987; Crites 1978; Ford 1987; Johannessen 1988).

The wild plant seeds primarily represent fleshy fruits, like persimmon and strawberry, and their carbonized presence suggests fire-drying or perhaps seed roasting in the case of persimmon. Bedstraw and purslane may be economic plants or accidental inclusions in the archaeological record. Grass may represent the flora growing near the site or a thatched house roof.

As a late Early/early Middle Woodland assemblage, this botanical collection looks much more like subsequent Middle and Late Woodland sites than earlier Late Archaic sites. The transition to starchy-oily seed plant gardening has occurred at Evans, with an emphasis on maygrass and chenopod cultivation. Nut use appears to have been relatively light at the site in comparison to the much heavier nut use that occurred in preceding Archaic times.

The wetlands plants that were present in Archaic sites are absent and the wild plant component instead emphasized the collection and storage of fleshy fruits.

Most of the significant plant materials were recovered from four contexts, Features 6E, 20, 21, and 37. In all four contexts, small amounts of nutshell of various species were associated with squash, chenopod, and maygrass. Sunflower and persimmon was added to this mix in Feature 21. Two of the four features (20 and 21) were clearly associated with ritual feasting and one was associated with processing of human remains. This reinforces the suggestion that the consumption of native cultigens was an important component of Adena rituals.

Future Early/Middle Woodland assemblages of water flotation collected plant remains will resolve some issues raised by the Evans site. As examples, do the nutshell densities at Evans represent a sampling error or a true reduction in the intensity of nutshell use between periods of heavier nut use? Were native cultigens utilized selectively at different sites during the Early Woodland subperiod? To what extent did wild plant exploitation shift from wetlands plants to collecting and preserving fleshy fruits? And to what extent are the botanical patterns depicted here typical of the activities and associated depositions at sites where communal feasting takes place? In raising these questions, the Evans collection has provided a glimpse into plant use during a relatively little-known time period and site type.

CHAPTER EIGHT:
RESULTS

The Evans site was initially recorded during a systematic shovel probe survey, with probes dug on transects spaced 20 m apart (Figures 8-1 and 8-2). Along each transect shovel probes were excavated at 20 m intervals. The site's boundaries were further delineated by shovel probing at 10 m intervals (Bundy 2005:164) (Figure 8-2). Following the initial location and demarcation of the site, a gradiometer survey covering 3,600 m^2 was conducted (Figure 8-3). Though a number of magnetic anomalies were found, those located in the western portion of the site were considered to be gullies that had been backfilled with surrounding soils (Bundy 2005:165). A small area (Figure 8-2:182-A1) along the site's eastern edge, however, was considered to possibly contain subplowzone cultural deposits (Bundy 2005:166-167 [Figures 6.36 and 6.37]). This area was targeted by CRA archaeologists for limited investigation (Figure 8-3).

Figure 8-1. Aerial view of Evans site.

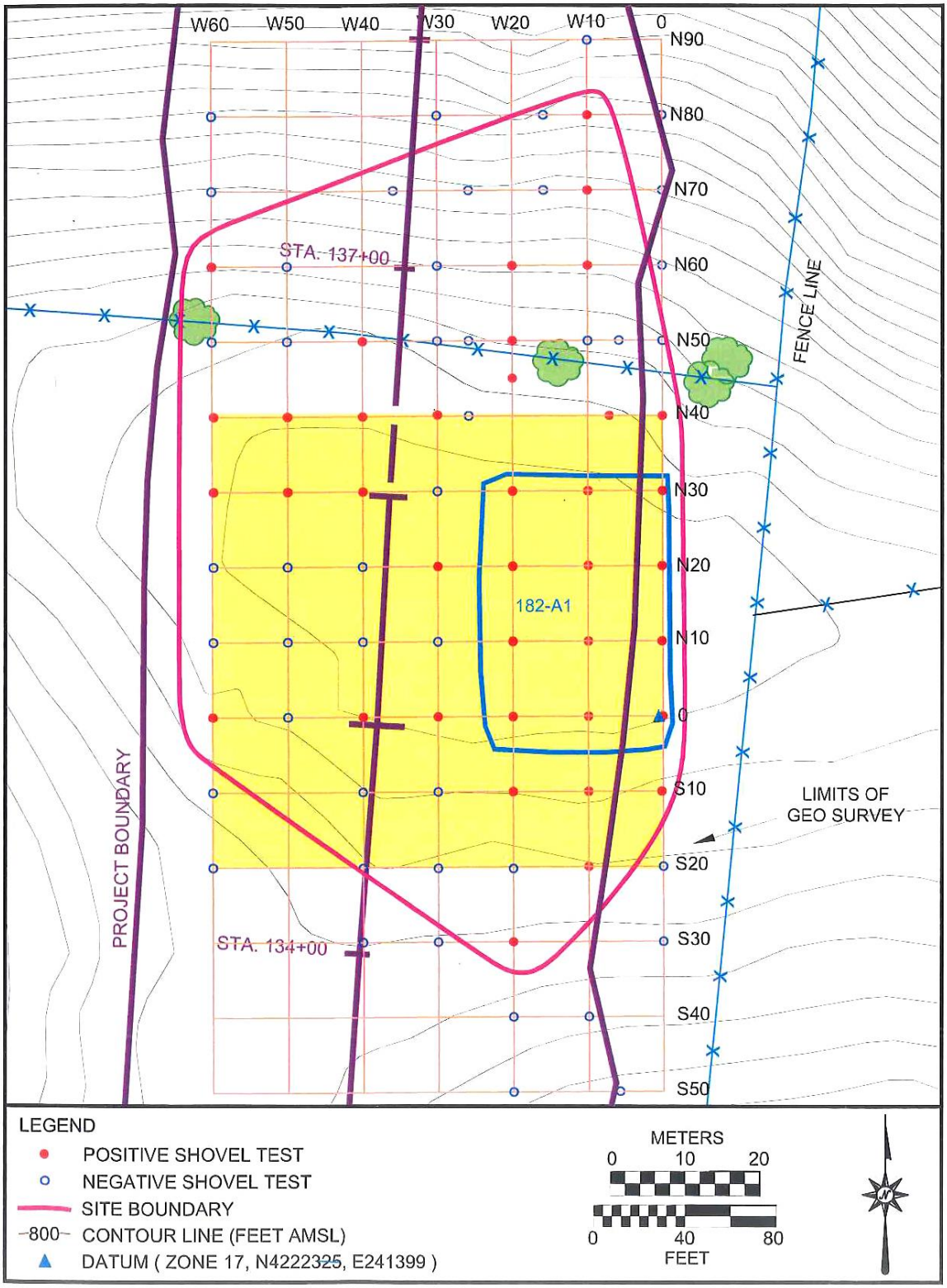

Figure 8-2. Distribution of positive and negative shovel probes (yellow shaded represents geophysical survey area and blue line represents area with magnetic anomalies most likely to contain features) (taken from Bundy 2005:Figure 6.36).

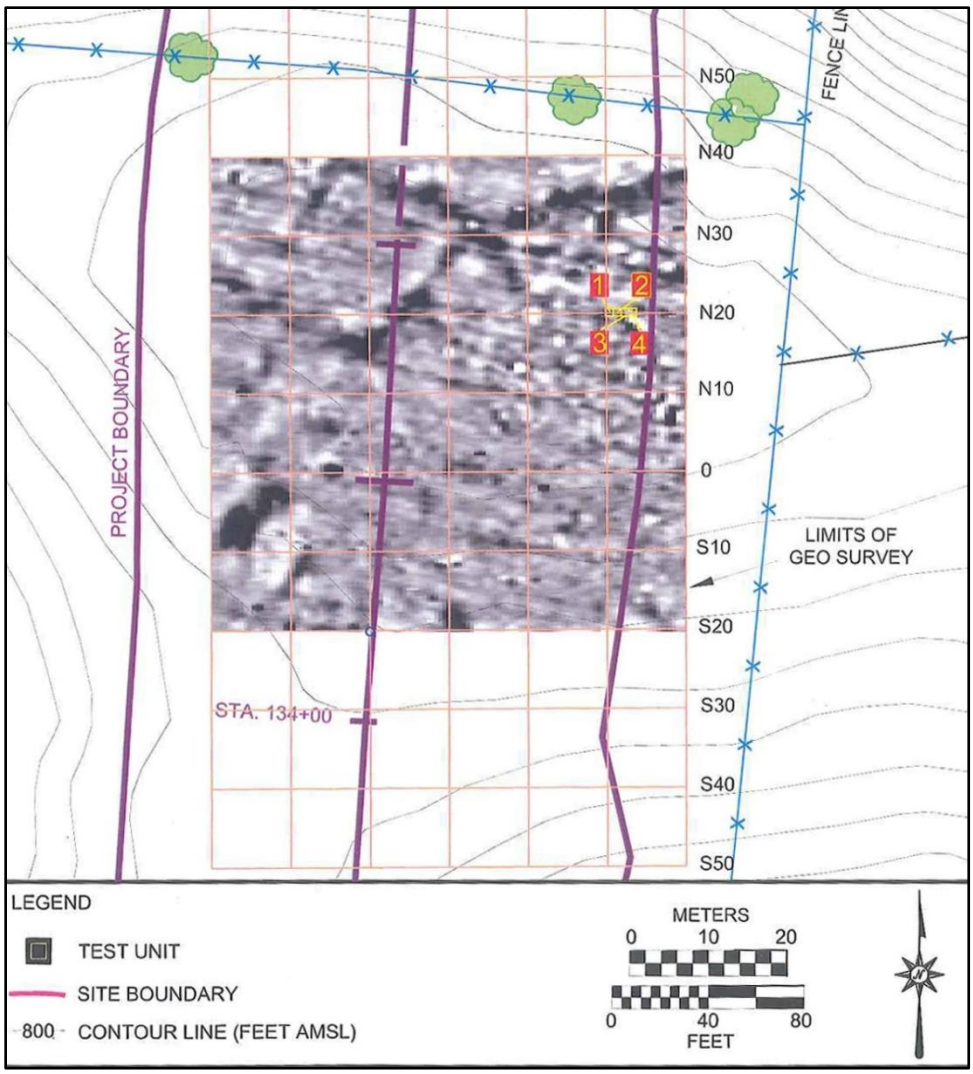

Figure 8.3. Geophysical Survey map showing location of CRA units 1-4 (after Bundy 2005:Figure 6.37).

Materials (n=195) recovered from shovel probes consisted of flakes, a rim sherd, a neck sherd, and two sherdlets, with all of the pottery being recovered from one shovel probe (N0W40) (Bundy 2005:172). Artifact density was very low to the north of the fence line, with most of the artifacts being recovered from the area examined by the geophysical survey.

To evaluate the results of the geophysical work, CRA archaeologist excavated a 1 x 4 m long trench across one of the identified anomalies (Figure 8-3). Though they were able to locate subplowzone deposits, they interpreted them as representing a tree root, that extend into the west and south walls of the trench (Figure 8-4). Subsequent investigation of this anomaly determined that it was a late Early Woodland/early Middle Woodland pit that was used to store clay for use in mortuary rituals (see Chapter 9: Feature 1).

Unit excavation resulted in the recovery of 491 artifacts. On average, the four 1 x 1 m units yielded 122.8 artifacts. In addition to debitage (n=642) and ceramics (n=28),

two multi-directional cores, an indeterminate core fragment, and four burnt clay fragments, were recovered from the four units. Also found was a hafted biface that was assigned to the Early Woodland Stemmed Cluster (Unit 4 [Level 3]) (Bundy 2005:172-173), and four mica fragments (Unit 3 [Level 2]).

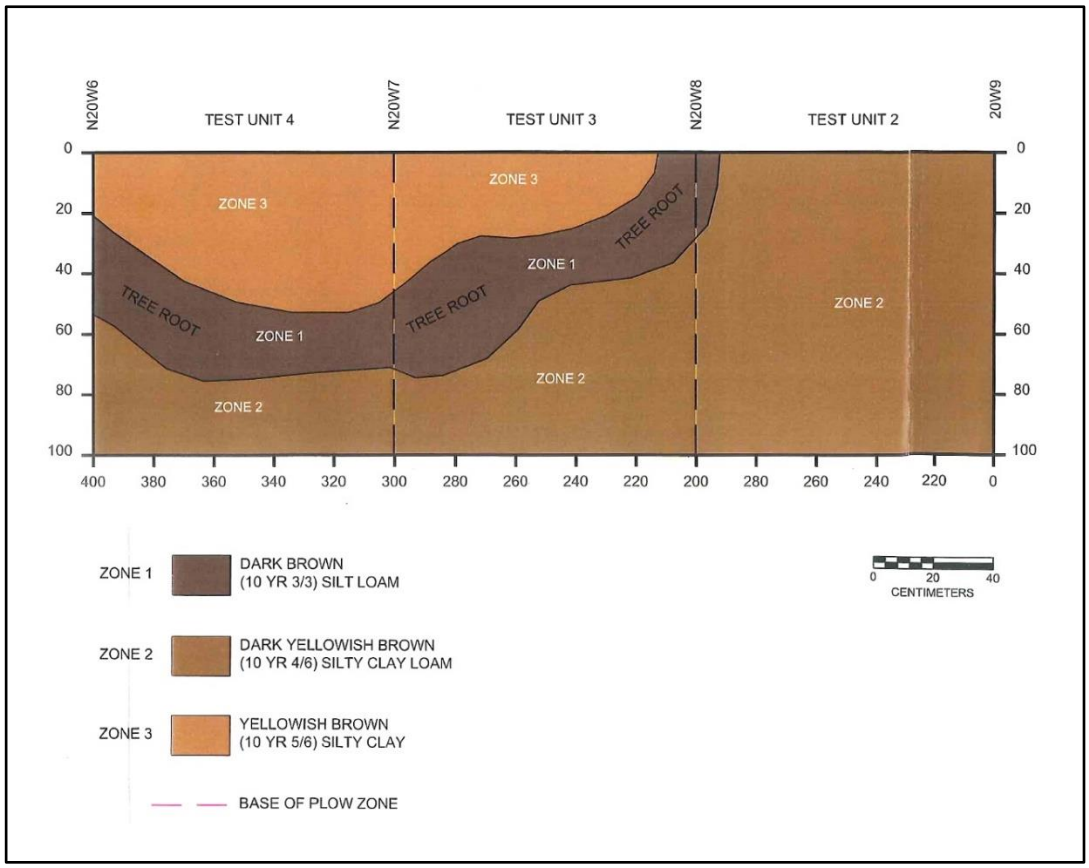

Figure 8.4. Planview Units 2-4 looking west (after Bundy 2005:Figure 6.38) (Note the differences in soil color between the Zone 2 subsoil and the Zone 3 feature fill).

Reduction stage and mass analysis of lithic artifacts recovered by CRA indicated core reduction, and tool production and maintenance were conducted at the site. These activities focused on the full range (early and late stage) of tool production (Bundy 2005:173). The hafted biface was assigned to the Early Woodland Stemmed Cluster (Bundy 2005:177). The inhabitants of the Evans site showed a strong preference for Boyle chert, with 97.0 of the lithic artifacts, including the hafted biface and the cores, being manufactured from this raw material. The other chert types utilized by the inhabitants of this site was Ste. Genevieve and Local Indeterminate chert. Both Boyle and Ste. Genevieve cherts are locally available.

All of the mica fragments were very small, and none appear to have been worked. The ceramic assemblage consisted of limestone tempered plain ceramics (Bundy 2005:177). The recovered rim was described by Kerr (2005) as being extruded. It had a flat lip with rounded corners. This specimen had a lip thickness of 8.22 mm and a rim thickness of 6.25 mm.

Taken together, the ceramic and lithic data recovered during the initial work at the site suggested that the Evans site was primarily occupied during the Early to Middle Woodland subperiods. Based on the artifacts recovered, the site was interpreted as representing a residential location (Bundy 2005:177).

KAS INVESTIGATION

During the course of fieldwork, 12 hand units (17 square meters) (seven 1 x 1 m [Units 3-6, 9, 11, and 12] and five 1 x 2 m [Units 1, 2, 7, 8, 10]) were excavated and the fill was removed from CRA's trench (Figures 8-5). The goals of this study were to: 1) recover additional lithic and ceramic artifacts; 2) further evaluate the magnetic anomalies identified during the course of the geophysical survey; and 3) determine if intact cultural deposits were present at the site. Based on this work, two large blocks were selected for the mechanical removal of the plowzone (Figure 8-5). The units were placed across the crest of an east-west trending upland ridge, and encompassed most of the area that was the focus of the geophysical survey.

Units 3, 4, and 5 (1 x 1 m) were located 9 m to the north, south, and east, respectively, of the northeast corner of CRA's trench (Figure 8-5). The identification of a possible feature in the north wall of Unit 4, resulted in the excavation of an adjoining 1 x 1 m (Unit 12). The potential feature turned out to be a disturbance. Of the four units, only Unit 5 yielded a large quantity of artifacts (Table 8-1). All of the units yielded retouched flakes and two units yielded utilized flakes. An Adena Plain body sherd was recovered from Unit 3, five unanalyzable sherds (less than 4 cm^2) were recovered from Unit 5, and a small amount of mica was recovered from Unit 4.

Units 2 (1 x 2 m) and 6 (1 x 1 m) were situated in the northern portion of the Evans site (Figures 8-5 and 8-6). These units were placed close to the northern fence line (24 m north and 3 m west of the northeastern corner of CRA's trench). The goal was to investigate a magnetic anomaly identified in this area and to sample this portion of the site. Based on this work it was not possible to determine the nature of the anomaly detected by the geophysical equipment. Several biface fragments, utilized and retouched flakes, and eight unanalyzable sherds (less than 4 cm^2) were recovered from Unit 2, and two projectile point fragments were recovered from Unit 6 (Table 8-1). Of the latter, one was the basal portion of a Robbins point that had been reworked into a scraper/graver (Figure 4-2e). The other was classified as a Jack's Reef Corner Notched (Figure 4-3). In addition to chipped stone tools, two unanalyzable sherds were recovered from Unit 6.

Unit 1 (1 x 2 m) was placed 12 m south and 34 m west of the northeast corner of CRA's trench to investigate an magnetic anomaly located in this area. Only 73 artifacts were recovered from this unit, though it did yield two projectile point fragments (distal and indeterminate), and two unanalyzable sherds (less than 4 cm^2) (Table 8-1). Evidence of intact subplowzone deposits in this unit was lacking.

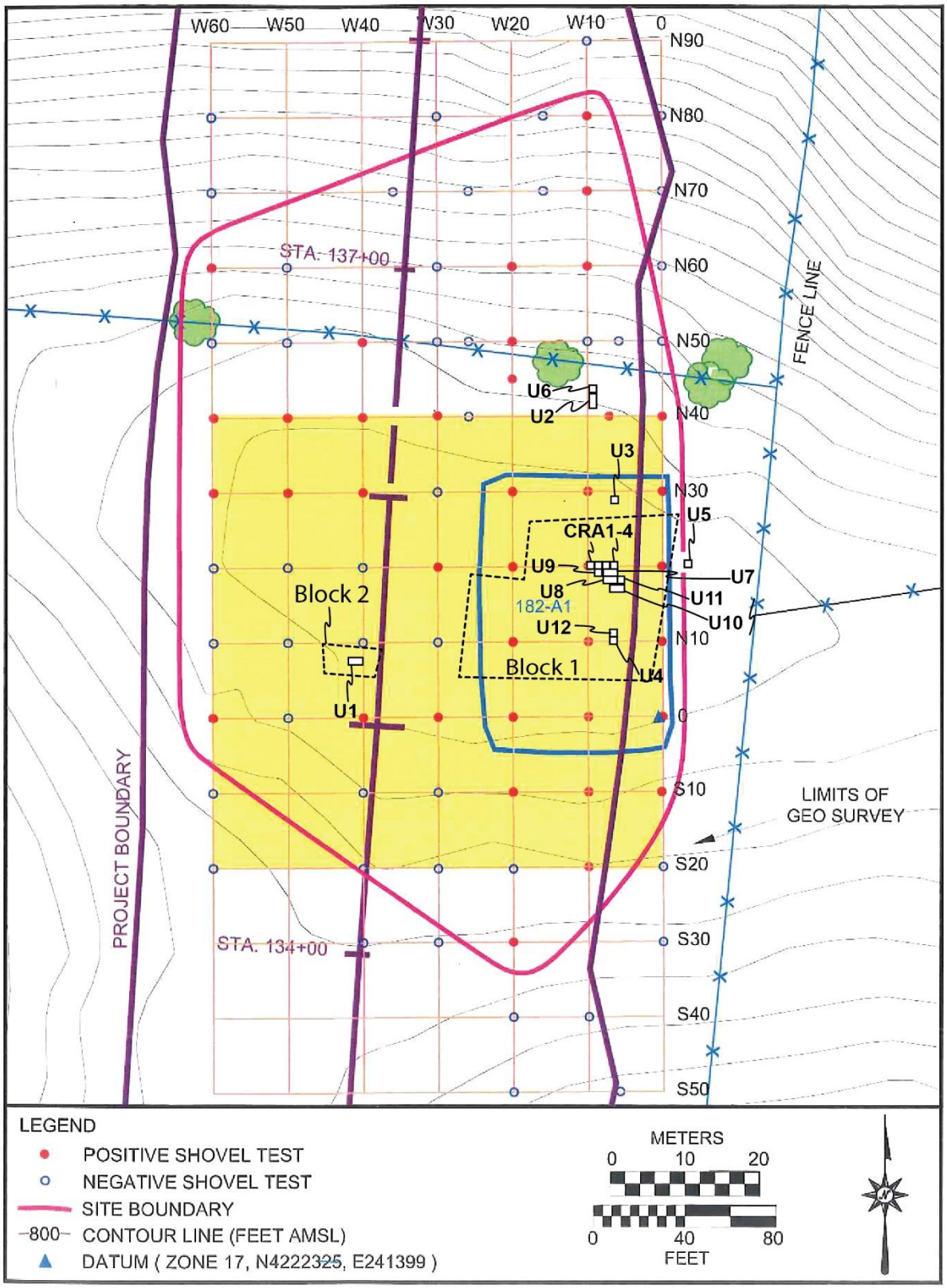

Figure 8-5. Distribution of KAS units and blocks (yellow shaded represents geophysical survey area and blue line represents area with magnetic anomalies most likely to contain features) (taken from Bundy 2005:Figure 6.36)

Table 8-1. Artifacts Recovered from Units.

Cultural Materials	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	Unit 12	Total
Size	1 x 2	1 x 2	1 x 1	1 x 1	1 x 1	1 x 1	1 x 2	1 x 2	1 x 1	1 x 2	1 x 1	1 x 1	
Projectile point						2	1	1			1		5
Projectile point fragment	2						1		2	1			6
Biface	1												1
Biface fragment		4					2			2		1	9
Core/Core fragment	1	1		1								1	4
Blade-like flake									1				1
Retouched flake		2	1	1	1		1	3				3	12
Utilized flake		4	2	2		1	3	4		3	3		22
Initial reduction flake		1					1	1		1			4
Initial reduction flake heated (HEATED)		1											1
Unspecified reduction sequence flake	37	216	82	113	168	94	277	405	51	295	133	83	1,954
Unspecified reduction sequence flake (HEATED)	7	152	24	37	94	32	119	114	10	88	60	34	771
Biface initial reduction flake	5	24	4	4	15	6	12	16	2	13	4	1	106
Biface initial reduction flake (HEATED)		2			4	3	2	6		3	1	2	23
Biface thinning and shaping flake	7	14	7	6	15	5	19	20	4	17	15	11	140
Biface thinning and shaping flake (HEATED)		5		1	7	2	4	6		6	1	1	33
Biface finishing or trimming flake	1	8	2	4	10	6	7	14	3	7	5	3	70
Biface finishing or trimming flake (HEATED)		3	1		7	1		9	2	7	1	1	32
Chip					8	2	3				3		16
Chip (HEATED				2							3		5
Shatter	9	32	9	9	8	7	27	36	2	26	21	5	191
Shatter (HEATED)			2		18	11	19	8	2	1	3		64
Mica				.04g			.03g		.10g				.17g
Ceramics	2	8	1		5	2	13	55	4	13		7	110
Fired clay	1			2		1		3		3		1	11
Faunal			1						1				2
Total	**73**	**477**	**136**	**182**	**360**	**175**	**511**	**701**	**84**	**486**	**254**	**154**	**3,593**

The remaining units were situated adjacent to CRA's trench. Upon removal of the backdirt and reexamination of the floor of CRA's trench it became apparent that rather than being the remains of a decomposed tree root as initially suggested by Bundy (2005), the dark soil bordering the yellowish brown clay represented the lining of a large pit. To get a better handle on this feature, Units 7-11 (eight square meters) were placed adjacent to the west side of CRA's trench to form a small (12 m^2) block (Figures 8-5). Excavation of these units documented the southern half of Feature 1. Given the size of this large pit (3.50 x 4.12 m), mechanical equipment was used to remove the plowzone and expose the remainder of this Feature (see Figure 9-2).

With the excavation of the small block it became evident that the anomaly initial investigated by CRA staff, was in fact a large pit that had been lined with dark organically enriched soil (Figures 8-6 and 8-7). The pit was then filled with a yellowish brown plastic

clay that contained few mineral inclusions. This clay was clearly distinguishable from the yellowish brown silty clay subsoil (Figures 8-7 and 8-8) .

Figure 8-6. Working on the walls of Units 2 and 6.

Figure 8-7. Feature 1 (CRA Trench, Units 7-9) looking south (prior to excavation of Units 10 and 11).

Figure 8-8. Feature 1 (CRA Trench, Units 7-9) looking north (prior to excavation of Units 10 and 11).

As with the units excavated by CRA in the vicinity of Feature 1, Adena Plain (n=5) ceramics were recovered from Unit 7 and unanalyzable ceramics (less then 4 cm^2) were recovered from four of the five units (Table 8-1). In addition, mica was recovered from Units 7 and 9. Surprisingly, no mica was recovered from the organic fill that lined the sides of Feature 1 (see Chapter 9). Substantially more artifacts (278.8 artifacts per 1 x 1 m unit) were recovered from Units 7, 8, 10, and 11, relative to Unit 9 (n=84) and CRA's units 1-4 (122.8 artifacts per 1 x 1 m unit). This suggests a decrease in artifact density to the north and west of Feature 1. A large amount of debitage also was recovered from the dark grayish brown silty clay loam soil that was used to line the sides of the feature (see Table 8-1).

Stratigraphy

Excavation of Units 1-12 revealed that the plowzone was variable in thickness but on average extended to a depth of 24 cm below ground surface. The typical soil profile (Figure 8-9) consisted of three zones; however, only two zones were documented for Unit 5 (Figure 8-10). Below, the stratigraphic profiles of two units are described.

Units 2

Zone I (plowzone) consisted of a (10YR4/4) dark yellowish brown silt loam that extended 18-24 cm below the ground surface (Figure 8-9). It was underlain by Zone II, a (10YR4/6) yellowish-brown silty clay (old plowzone/transition to subsoil) that extended 28-30 cm below the ground surface. Directly beneath Zone II was a (10YR5/6) yellowish brown silty clay subsoil. All of the cultural materials were recovered from the plowzone, and no subplowzone features were observed (Table 8.1).

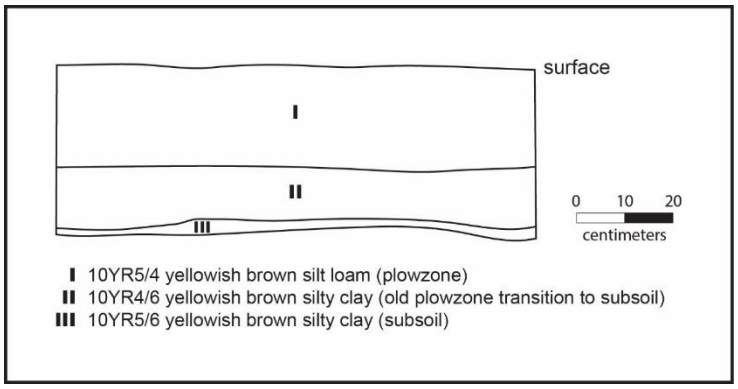

Figure 8-9. Unit 2, North Profile.

Unit 5

Unit 5 (1 x 1 m) was placed 10 m east of the CRA trench (Figure 8-5). The plowzone (Zone 1) consisted of a (10YR3/3) dark brown silt loam that extended 30-35 cm below ground surface (Figure 8-10). It was underlain by Zone II, a (10YR5/6) yellowish brown silty clay subsoil. Overall, the plowzone was thicker in Unit 5 relative to Unit 2, and did not exhibit a transition to subsoil. A rodent burrow was observed, but no subplowzone features were encountered. Though a relatively large amount of debitage was recovered from this unit, all of the cultural materials were recovered from the plowzone (Table 8-1).

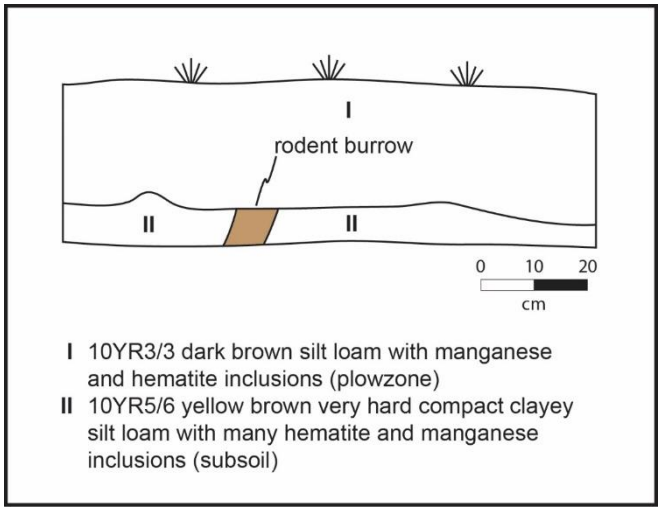

Figure 8-10. Unit 5, South Profile.

Artifacts

Of the 3,593 artifacts recovered from the 12 units excavated at the Evans site (Table 1), the majority were classified as debitage (n=3,410). Formal tools/fragments, bifaces and biface fragments, cores and core fragments, retouched flakes, and utilized flakes also were recovered (Table 8-1). Of note was the presence of seven Adena Plain sherds, 103 unanalyzable sherds (less then 4 cm^2), and 0.17 g of mica.

Artifact quantities ranged from 72 to 360 artifacts per square meter, with a mean of 210.5 artifacts. The fewest artifacts were recovered from Units 1, 3 and 9, with Units 2, 7, 8 and 10 yielded the most (Table 8-1). In general, the average artifact quantity of per 1 x 1 m units was almost twice that documented by CRA (210.5 to 122.8).

Chipped Stone

The chipped stone artifacts consisted primarily of debitage, which comprised 97.8 percent of all artifacts recovered from units at the Evans site. The overwhelming majority of flakes recovered from units, consisted of unspecified reduction sequence flakes (n=2,725; 79.90 percent) (Table 9-1). These were followed by shatter (n=255; 7.5 percent), biface thinning and shaping flakes (n=173; 5.1 percent), biface initial reduction flakes (n=129; 3.8 percent), biface finishing or trimming flakes (n=102; 3.0 percent), chips (n=21; 0.6 percent), and initial reduction flakes (n=5; 0.2 percent). Of the 3,410 pieces of debitage 27.2 percent (n=929) were thermally altered (Table 9-1). The dearth of initial reduction flakes indicates that early stage reduction activities were limited at this locale. The combination of biface initial reduction flakes, biface thinning and shaping flakes, and biface finishing or trimming flakes account for only 11.9 percent of the debitage assemblage, which indicates that formal tool production was being carried out at the site. At one time, a much higher frequency of the aforementioned flakes were probably present at the site. The fragmentation of these flake types can probably be attributed to many decades of plowing by heavy farm machinery at the Evans site. Thus, resulting in the extremely high frequency of unspecified reduction sequence flakes.

Informal tools recovered from units, included retouched flakes (n=12), utilized flakes (n=22), and a blade-like flake fragment (Table 9-1). Other chipped stone tools, include a complete biface and biface fragments (n=9), as well as a single core and core fragments (n=3) (Table 9-1). The complete biface was classified as early stage and the fragments as early stage (n=3), middle stage (n=1), and late stage (n=5) bifaces.

The formal tools recovered from units consisted of a Late Archaic/Early Woodland Turkey-Tail point recovered from Unit 7, Early to Middle Woodland Robbins points recovered from Units 6, 8 and 11, and a Late Woodland Jack's Reef Corner Notched point recovered from Unit 6. Projectile point fragments that could not be given a cultural or temporal assignment were recovered from Unit 1 (n=2), Unit 7 (n=1), Unit 9 (n=2), and Unit 10 (n=1).

The complete core recovered from Unit 4 was a free-hand core that had been exhausted. Core fragments were recovered from Unit 1 (n=1), Unit 2 (n=1), and unit 12 (n=1) (Table 9-2).

Based on the recovery of Turkey-Tail, Robbins, and Jack's Reef Corner Notched projectile points, the Evans site appears to have been periodically inhabited during the Late Archaic/Early Woodland, Middle Woodland, and Late Woodland subperiods. The presence of retouched flakes, a blade-like flake fragment, and utilized flakes indicates that the processing of both plant and animal materials took place at this locale. The recovery of an early stage biface and biface fragments in differing stages of production and a free-hand core/fragment, indicates that both bifacial and core reduction methods were utilized

by the prehistoric inhabitants of the site. The debitage profile indicates that that though early stage lithic reduction was not emphasized, formal tool production was carried out at the Evans site.

Although chipped stone tool manufacturing at the Evans site utilized a variety of raw materials, Boyle chert was, by far, the most common chert used at the site. It was identified as the raw material for 80.4 percent of the chipped stone artifacts. Of these, 21.6 percent were heat-treated (Table 8-2). Boyle chert outcrops close to the site and is, thus, locally available. Other chert types present in the Evans site lithic assemblage were Ste. Genevieve, Haney, and Paoli. Unidentified (burned) chert accounted for 18.0 percent of the chipped stone artifacts recovered from units at the Evans site (Table 8-2).

Table 8-2. Lithic Raw Material Recovered from the Evans Site.

Chert Type	Total	Percent
Boyle	2048	58.8
Boyle (heat treated)	752	21.6
Haney	7	0.2
Paoli	3	0.1
Ste. Genevieve	46	1.3
Unidentified (Burned)	626	18.0
Total	**3482**	**100.0**

Discussion

The chipped stone artifact assemblage recovered by KAS is similar that recovered by CRA (Bundy 2005:). Bifaces in various stages of manufacture, informal chipped stone tools, and debitage related to biface manufacture are present in both collections. Reduction stage analysis of the CRA assemblage by Bundy (2005) placed more of an emphasis on the early and late stages of biface reduction, while the KAS assemblage points to greater emphasis on middle stage biface reduction. Proportions of informal tools in the assemblages are dissimilar, as CRA archaeologists did not recover any retouched or utilized flake tools. In contrast to the Late Archaic/Early Woodland Dickson Cluster point recovered by CRA, KAS archaeologists only recovered one diagnostic chipped stone tool dating to the Late Archaic/Early Woodland subperiod, with most of the diagnostics being suggestive of site occupation during the late Early Woodland/early Middle Woodland subperiod. The presence of both Dickson and Robbins points in units directly above Feature 1 could indicate some degree of contemporaneity between these two types.

Mica

Mica was recovered from Unit 4 (.04 g), Unit 7 (.03 g), and Unit 9 (0.1 g) (Table 8-2). The fragments recovered from the plowzone were much smaller than the larger fragments recovered from features at the site (see Chapter 9). The mica probably originated in the Blue Ridge Mountain ranges of the southeastern United States, the closest known source of mica.

Ceramics

All of the ceramics (n=110) recovered from units were body sherds (Table 8-1). Of these, only seven were larger than 4 cm^2 and thus subjected to further analysis. Of the seven analyzed sherds, four were classified as Adena Plain. The remaining three sherds had eroded exterior surfaces. Analyzed sherds were only recovered from units 3, 7, and 8.

Fired Clay

A small amount of fired clay objects (n=11) were recovered from half of the units (Table-8-1). All were relatively small and lacked temper. They may represent the remains of plowed out hearths.

Faunal

A single faunal remain was recovered from Unit 3 (unidentified mammal) and Unit 9 (unidentified vertebrate), respectively (Table 8-1). These bones do not appear to have been associated with the Adena site occupation, and probably represent the remains of animals that died in the last few years and whose remains were incorporated into the plowzone.

BLOCKS

A backhoe was used to remove the plowzone from two blocks (Figure 8-5). Block 1, the larger of the two blocks was situated as to fully expose Feature 1 and to determine if other features were located nearby. This work resulted in the documentation of an additional eight pits and 14 posts, within a roughly 15 x 25 m area. The cultural materials (Adena Plain pottery and Robbins projectile points) recovered from these features and associated calibrated radiocarbon assays indicates that they date to the late Early Woodland/early Middle Woodland subperiod (Table 8-3).

With the exception of Feature 24, another large clay storage pit, the remaining features and posts were located to the southwest of Feature 1. All of the features are described and their spatial distribution examined in the following chapter. It is worth noting; however, that as evidenced by Figure 8-11 the distribution of features at Evans corresponds nicely with the geophysical anomalies identified by CRA as having a high potential for representing prehistoric features.

Table 8-3. Evans Site Radiocarbon Dates.

Lab. No.	Context	B.P.	Cal Median	Cal Range (two standard deviations
ISGS-6034	Feature 20	2130±70	170 B.C.	364 B.C. – A.D. 0
ISGS 6035	Feature 4	2350±70	458 B.C.	754-209 B.C
ISGS 6036	Feature	2300±140	385 B.C	771-50 B.C
ISGS-6037	Feature 21	2090±80	121 B.C.	359 B.C.-A.D. 60

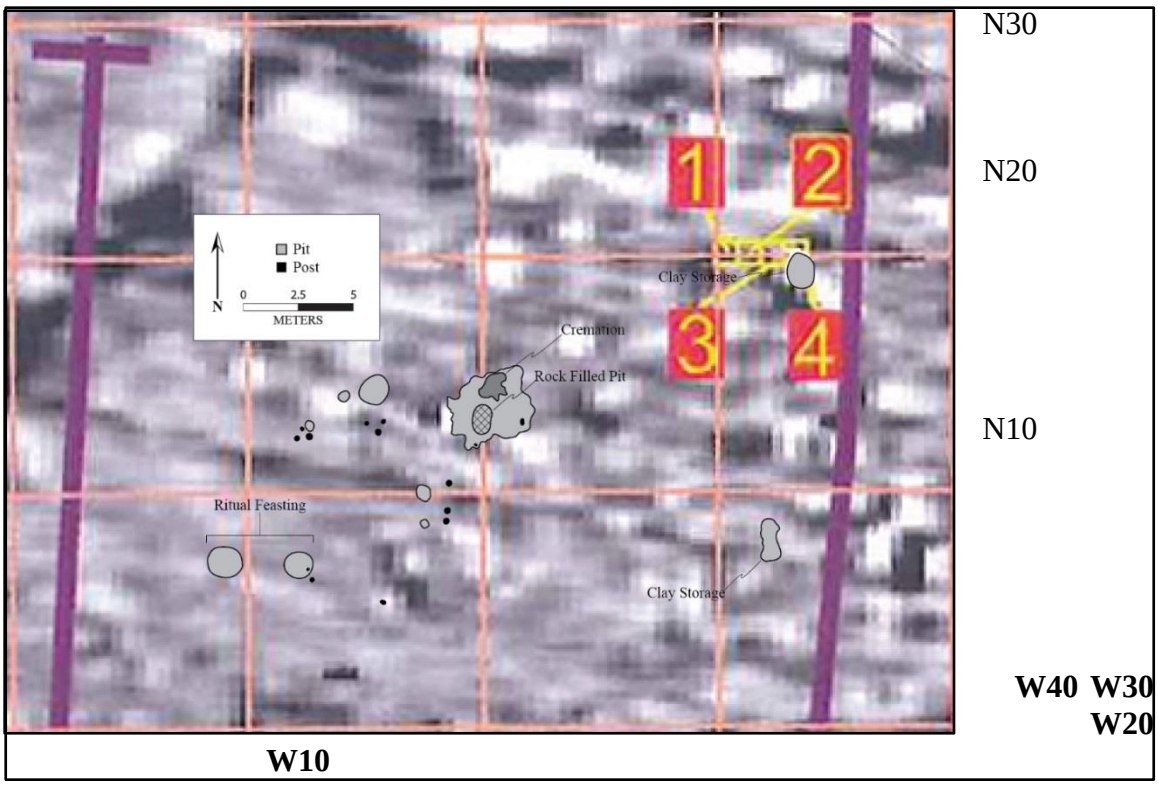

Figure 8-11. Distribution of pits and posts relative to geophysical anomalies.

The smaller block was situated over Unit 1 to examine an area removed from the main concentration of features (Figure 8-5). No subplowzone features were documented in this block.

Only a few artifacts were recovered from the mechanical removal of the plowzone from both blocks. These materials consisted of early stage bifaces (n=2), late stage bifaces (n=2), biface fragments (n=6), cores (n=5), core fragments (n=2), and hammerstones (n=6). All of the chipped stone artifacts were produced from Boyle chert. In addition to chipped stone materials, 17 unanalyzable sherds (less then 4 cm^2) and three fragments of fired clay were recovered from the blocks.

SUMMARY

Investigation of the Evans site documented that it had been primarily occupied during the late Early Woodland/early Middle Woodland subperiod. A reexamination of an anomaly initially interpreted as being a tree root, indicated that it represented a large Adena pit (Feature 1) that was used to store clay for later use at the site. Though other features were not documented in units excavated elsewhere on the site, the mechanical removal of the plowzone documented several other features and posts within a relatively small area to the south and southwest of Feature 1. As will be discussed in the following chapter, as a group these features represent off-mound activities that involved ritual feasting and the preparing the dead for interment in a nearby burial mound.

CHAPTER NINE:
SITE ORGANIZATION

INTRODUCTION

Most of the pits (n=9) and all of the posts (n=14) were found in a relatively restricted area within Block 1. With the exception of Features 1 and 24, the two easternmost pits, they were found within a 15 x 15 m area in the western two-thirds of the block (Figure 9-1). Classification of the pits was based on a combination of factors, including length, width, depth and shape, and the type of materials/soils associated with it. Taking into consideration all of these characteristics, features were classified as clay storage pits (n=2), ritual feasting locales (n=2), a mortuary processing area, bowl-shaped and shallow basins (n=4), or posts (n=14). Of the 14 posts, 13 were circular and one was oval.

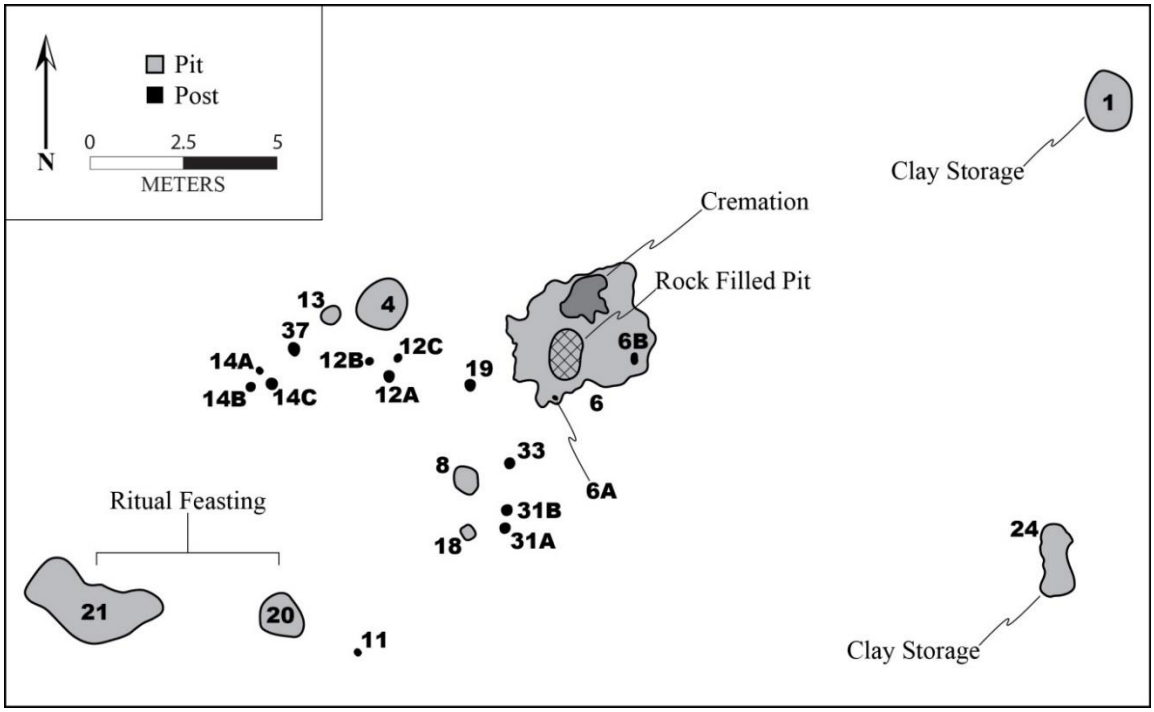

Figure 9-1. Planview of the Evans Site.

The distribution of pits and posts at the Evans site, points to a clear demarcation of space. Within this locale three primary activities were noted. The eastern most activity are was associated with the processing and storage of clay (Features 1 and 24); the central activity involved the preparation of the body for placement in a nearby mound (Features 6, 6A, and 6B); and the western activity area was associated with ritual feasting (Features 20 and 21). The yellow clay stored in the eastern features was utilized in the cremation of human remains (central activity area) and in ritual feasting (western activity area).

Based on the material culture (Adena Plain ceramics and Robbins projectile points) recovered from the plowzone and pits, and calibrated radiocarbon dates, the Evans site was

primarily occupied for relatively short periods of time during the late Early Woodland/early Middle Woodland subperiods. In this chapter, the pits and the posts are described. The descriptions of the pits is organized as follows. First the clay storage pits are described, followed by those that are interpreted as representing ritual feasting, and the mortuary processing area. Finally, the four bowl-shaped and shallow basins are described. This is followed by a description of the posts. The description of the pits and posts, is followed by an examination of the use of clay in Adena mortuary rituals, and ritual feasting as seen at the Evans site.

PITS

Of the nine pit features, the two largest were the two clay storage facilities (Feature 1 and 24). They had a maximum long axis of 4.12 m, a minimum short axis of 1.1 m, and an average depth of 72.5 cm. Both pits consisted of a bowl-shaped basin, and both were located approximately 6.0 m to the northeast and southeast, respectively, of the mortuary processing area (Feature 6) (Figure 9-1).

The two features associated with ritual feasting had a maximum long axis of 3.95 m and a minimum short axis of 1.10 m. Their average depth was 23.0 cm. The shape of Feature 20 was characterized as a bowl-shaped basin. Feature 21 had a more irregular-shape and may represent two or more overlapping pits. Both features were located 6.5 to 8.5 m southwest of the mortuary processing area (Feature 6) (Figure 9-1).

Feature 6 was a large shallow basin. It measured 3.48 m north-south by 3.75 m east-west, and extended about 15.0 cm below the base of the plowzone. Two posts (Features 6A and 6B) and two small pits (Features 6C and 6D) were associated with the basin. All were centrally located within the distribution of features at the Evans site.

The bowl-shaped (Features 4, 8, 13, and 18) basins were round to oval in planview. They had a maximum long axis of 1.60 m and a minimum short axis of 31.0 cm. The bowl-shaped basins had an average depth of 19.0 cm. All were located west-southwest of the mortuary processing locale and north-northeast of the ritual feasting area.

Clay Storage

Two extremely large and deep pits (length in excess of two meters and a depth of nearly one meter below the base of the plowzone) were found along the eastern edge of the distribution of Adena features (Figure 9-1). Each had been filled with a very dense yellowish-brown, plastic clay that was devoid of concretions and was extremely workable. The fact that this clay contained a paucity of hematite and manganese concretions, both typical Kentucky ridgetop soil inclusions, suggests that it had been processed and stored for use at a later date.

Feature 1

Feature 1 measured 4.12 m north-south by 3.50 m east-west (Figure 9-2). It was bowl-shaped in profile with gradually sloping sides that extended to a depth of 75.0 cm below the base of the plowzone. It consisted of two zones. Zone I was made up of a (10YR5/8) yellowish brown plastic clay that contained a minor amount of mineral inclusions. The general lack of inclusions distinguished this clay from the surrounding subsoil. Zone II consisted of a (10YR3/2) very dark grayish brown silty clay loam. This organically enriched soil contained pockets of a (10YR6/1) gray ashy silt. Zone II, which bordered and underlaid Zone I, ranged in thickness from 4.0 to 10.0 cm. Directly adjacent to and beneath Zone II was a (10YR5/6) yellowish brown silty clay subsoil.

Materials Recovered

Cultural materials recovered from this feature consisted of a retouched flake, a core fragment, a biface fragment, a Robbins projectile point, and 660 flakes (Table 9-1). The flakes consisted of unspecified reduction sequence flakes (n=306; 46.4 percent) followed by biface initial reduction flakes (n=128; 19.4 percent), biface thinning and shaping flakes (n=81; 12.3 percent), shatter (n=80; 12.0 percent), biface finishing or trimming flakes (n=42; 6.4 percent), and initial reduction flakes (n=23; 3.5 percent). The presence of initial reduction flakes indicates that lithic raw material or cortex bearing blanks were being transported to the site. In addition, the combination of biface initial reduction flakes, biface thinning and shaping flakes, and biface finishing or trimming flakes constitutes 38.1 percent of the debitage recovered from the feature. The overwhelming majority of flakes were produced from Boyle chert. Only two flakes of Paoli and four flakes of Ste. Genevieve chert were recovered from the feature. The rest of the chipped stone tools from this feature also were manufactured from Boyle chert.

Ceramics recovered from Feature 1 consisted of an Adena Plain rim, a base, and 13 body sherds (Table 9-1). These sherds represent a minimum of two vessels. One vessel is represented by a direct rim that has an orifice diameter of 6.0 cm. The other is represented by a larger vessel that had a rounded base (see Figure 6-3).

A flotation sample obtained from Zone II yielded little in the way of carbonized plant remains. Those that were recovered consisted of a small amount of black walnut, acorn, and unidentified wood species (Table 9-1; see Table 7-2). Faunal remains recovered from the feature consisted of unidentifiable calcined fragments of a large mammal (n=4), and a white-tailed deer tooth root (Table 9-1).

The limited amount of botanical and faunal remains, and ceramics recovered from the organically enriched soils represented by Zone II suggests that these deposits do not represent food refuse. When the debitage profile is examined, it is quite possible that these soils were derived from activities associated with biface and formal chipped stone tool production. The presence of a biface fragment and a Robbins projectile point further supports this assessment.

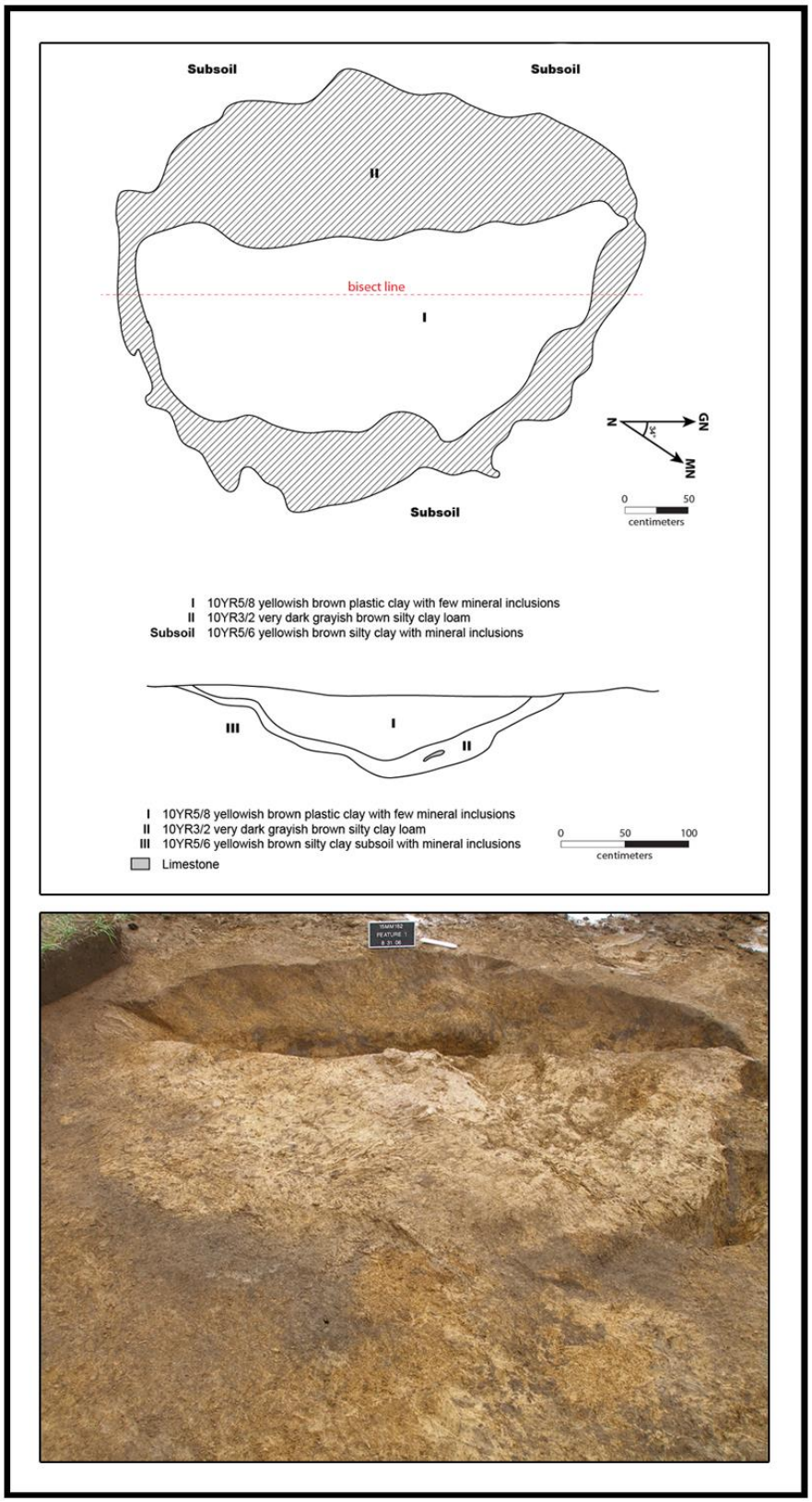

Figure 9-2. Feature 1 (Note: yellow clay bordered by dark grayish brown silty clay in planview and profile – looking west).

Table 9-1. Cultural Materials Recovered from Feature 1.

Objects/Botanical Remains	Frequency
Lithics	
flakes	660
retouched flake	1
core fragment	1
biface fragment	1
projectile point	1
Ceramics	
body sherds	119
rim sherd	1
basal sherd	1
fired clay	19
Wood Charcoal	
Unidentified	13
Nutshell	
black walnut (Juglans nigra)	5
acorn (Quercus sp.)	1
Faunal	
Unidentified large mammal	4
White-tailed deer, (*Odocoileus virginianus)*	1

Feature 24

Feature 24 was recognized by the presence of yellowish brown clay bordered on the east side by a grayish brown silty ash. The feature measured 2.6 m north-south by 1.1 m east-west (Figure 9-3). The profile was bowl-shaped with moderately sloping sides, with a maximum depth of 70.0 cm below the base of the plowzone.

Three distinct soil zones were documented in planview. Zone I consisted of a (10YR5/8) yellowish brown plastic clay with few mineral inclusions, and Zone II was a (10YR3/2 very dark grayish brown silty clay loam. Zone III was comprised of a (10YR5/2) grayish brown silty ash. A 2.90 m profile of the east wall was drawn (Figure 9-3). Zone I extended 70.0 cm below the base of the plowzone, with Zones II and III extending only 14-16 cm below the base of the plowzone. Several flakes, many of which were burned, and Adena Plain ceramics were recovered from Zones II and III, which appear to represent deposits of silty clay loam and silty ash, respectively. Live roots from trees located along the frnce line also had penetrated/disturbed the feature. Pockets of the very dark grayish brown silty clay loam (Zone II) also lined areas between the base of the feature and the surrounding subsoil. Subsoil consisted of a (10YR5/6) yellowish brown silty clay.

Materials Recovered

Cultural materials recovered from this feature, included a blade-like flake, a core fragment, a biface fragment, a worked barite fragment, and 658 flakes (Table 9-2). The flakes recovered from Feature 24 consisted of unspecified reduction sequence flakes (n=346; 52.6 percent) followed by biface initial reduction flakes (n=103; 15.7 percent), biface thinning and shaping flakes (n=84; 12.8 percent), biface finishing or trimming flakes (n=59; 9.0 percent), shatter (n=44; 6.6 percent), and initial reduction flakes (n=22; 3.3

percent). Except for a single flake of Paoli chert, the remainder of the chipped stone tools recovered from this feature were produced from Boyle chert The debitage profile from Feature 24 is very similar to Feature 1's profile, including the presence of initial reduction flakes, which further suggests that lithic raw material or cortex bearing blanks were being transported to the site. In addition, the combination of biface initial reduction flakes, biface thinning and shaping flakes, and biface finishing or trimming flakes, which constitutes (37.5 percent) of the assemblage from this feature, were nearly identical to those recorded for Feature 1.

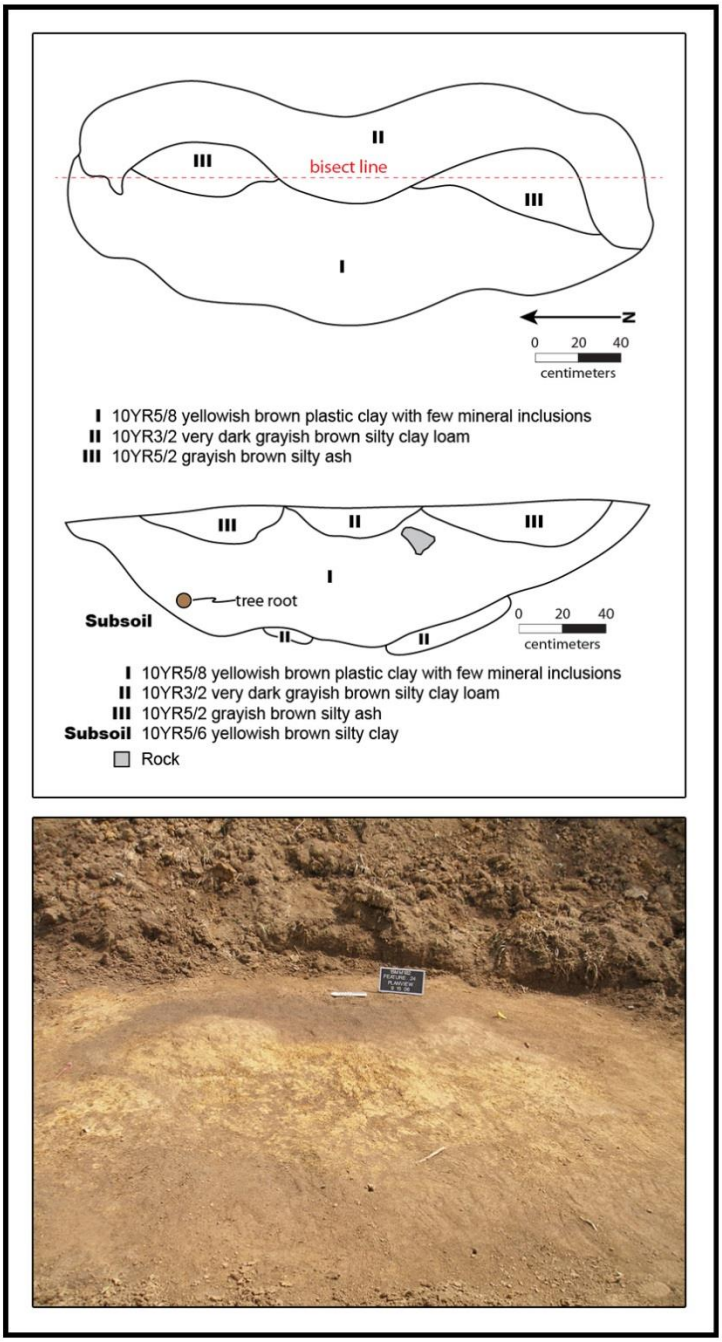

Figure 9-3. Feature 24.

Ceramic sherds recovered from the feature consisted of an Adena Plain rim sherd and two Adena Plain body sherds. The rim exhibited evidence of burnishing and had a direct orientation. These sherds represent a minimum of one vessel.

Of note was the recovery of a worked barite fragment. Barite, which outcrops primarily in Fayette, Jessamine, and Woodford counties in central Kentucky, was used by Adena people to manufacture atlatl weights, cones, and hemispheres.

The two flotation samples recovered from the dark organically enriched soils and the ashy deposits, yielded little in the way of carbonized plant remains (Table 9-2; see Table 7-2). Food remains recovered from Feature 24 consisted of a few black walnut and hickory nut shell fragments (Table 9-2). Carbonized wood recovered from the feature was comprised of unidentified wood species (primarily twigs) (Table 9-2). Faunal remains consisted of three unidentified vertebrate remains.

Table 9-2. Cultural Materials Recovered from Feature 24.

Objects/Botanical Remains	Frequency
Lithics	
flakes	658
core fragment	1
blade-like flake	1
Ceramics	
rim sherd	1
body sherd	56
fired clay	94
Groundstone	
Barite	1
Wood Charcoal	
Unidentified (primarily twigs)	59
Nutshell	
black walnut (*Juglans nigra*)	2
hickory (*Carya* sp.)	1
Faunal	
Unidentified vertebrate	3

As with Feature 1, the limited amount of botanical and faunal remains, and ceramics recovered from the organically enriched soils represented by Zones II and III suggests that these deposits do not represent food refuse. When the debitage profile is examined, it is quite possible that these soils were derived from activities associated with biface and formal chipped stone tool production.

Discussion

The presence of yellowish-brown clay with a high degree of plasticity, and which relative to the surrounding subsoil is free of mineral inclusions, suggests that the clay stored within both pits had been processed to remove impurities. Both features also contained organic deposits that yielded little in the way of carbonized food or wood remains. Where they differ, is that the dark organic deposits appear to line Feature 1, while within Feature 24 they were primarily associated with the eastern half of the feature. The use of colored clays played an important role in the construction and maintenance of Adena mounds and sacred places. That an effort appears to have been made to remove impurities from the

clay, points to storage of the clay for later use, either at the site (see Feature 6 below) or a nearby burial mound.

That the organically rich soils associated with both features contained little in the way of plant remains and ceramics, suggests that they were not initially associated with food preparation and consumption. The presence of fragments of barite and the presence of a fair amount of Boyle chert debitage, suggests that these deposits were initially associated with activities that involved chipped and barite tool or ornament production.

Ritual Feasting

Two features yielded a variety of botanical remains, mica fragments, and several other artifacts that distinguished them from others at the site. The presence of native cultigens is suggestive of ritual feasting. That mica fragments were found in both of these features suggests that objects intended for interment with the dead were manufactured during the course of these feasts.

Feature 20

Feature 20 was a relatively round pit that measured 1.1 m north-south by 1.2 m east-west. It was bowl-shaped in profile and extended 24.0 cm below the base of the plowzone (Figure 9-4). The feature's profile consisted of a (10YR3/2) very dark grayish-brown silty clay loam (Zone I) that overlaid a (10YR4/3) brown silty clay loam that extended 24.0 cm below the base of the plowzone. The latter was not evident in planview. Zoned II overlaid Zone III, a (10YR5/6) yellowish brown plastic clay subsoil.

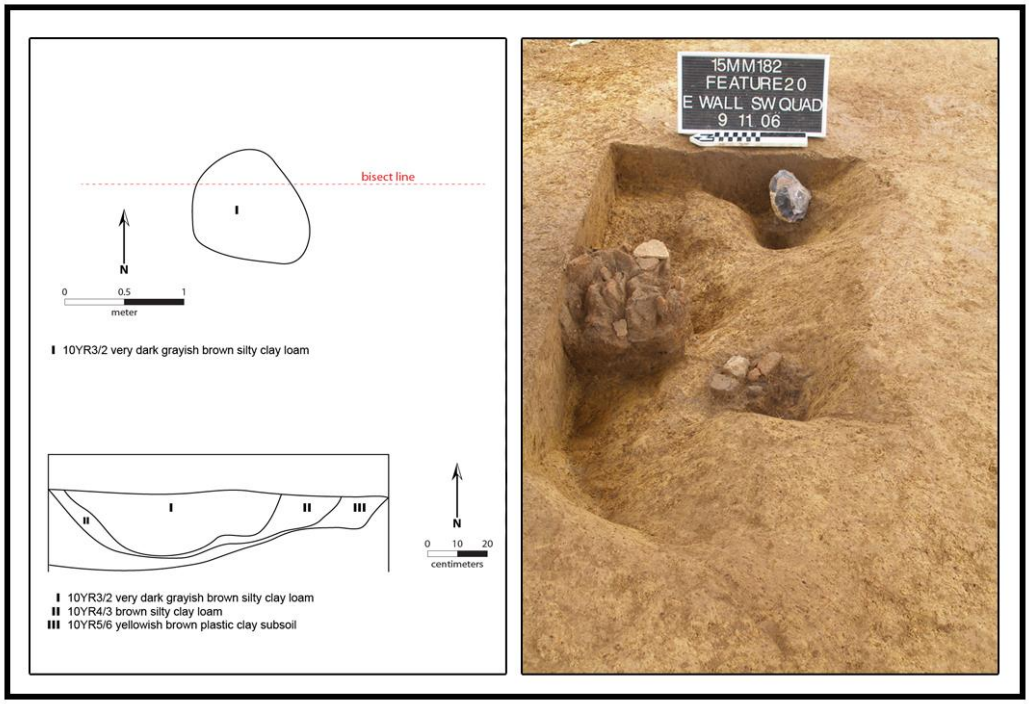

Figure 9-4. Feature 20 (Note presence of pottery concentrations and chert core).

Most of the cultural materials associated with Feature 20 were recovered from its southern half, with little in the way of cultural materials being recovered from the shallower northern portion. These cultural materials were associated with the very dark grayish-brown silty clay loam (Zone I).

Among the more notable materials recovered were a large concentration of Adena Plain ceramics (Figure 9-4; see also Figure 6-3). A smaller ceramic concentration was located approximately 15.0 cm southwest of the first concentration. Other artifacts of note consisted of a large core of Ste. Genevieve chert located about 45.0 cm to the southeast of the large ceramic concentration (Figure 9-4) and mica fragments that were found throughout the feature fill.

Materials Recovered

Unlike Features 1 and 24, little in the way of chipped stone materials was recovered from Feature 20. In fact, only 32 flakes consisting of unspecified reduction sequence flakes (n=16; 50.0 percent), biface initial reduction flakes (n=7; 21.9 percent, biface thinning and shaping flakes (n=4; 12.5 percent, and shatter (n=5; 15.6 percent) were found in association with Feature 20 (Table 9-3). In addition to the previously mentioned core, a biface fragment and an unidentified projectile point fragment were recovered from this pit (Table 9-3). Except for a flake of Paoli and a flake of St Genevieve, almost all of the debitage and tools was derived from Boyle chert,

Table 9-3. Cultural Materials Recovered from Feature 20.

Objects/Botanical Remains	**Frequency or Weight**
Lithics	
flakes	32
core	1
biface fragment	1
Unid. projectile point fragment	1
Mica	6.7g
Ceramics	
rim sherds	7
neck sherds	9
body sherds	266
fired clay	4
Wood Charcoal	
American chestnut (*Castanea dentata*)	785
Unidentified	100
Nutshell	
black walnut (*Juglans nigra*)	31
acorn (*Quercus* sp.)	3
hickory (*Carya* sp.)	49
butternut (*Juglans cinerea*)	3
Native Cultigens	
squash-rind (*Cucurbita* sp.)	48
chenopod (*Chenopodium berlandieri*)	15
maygrass (*Phalaris caroliniana*)	28
Wild Plants	
Strawberry (*Fragaria* sp.)	1
Faunal	
unidentified vertebrate	3

More than six grams of mica was recovered from this feature (Figure 9-3). These fragments ranged in size from 3.0 to 24.0 mm, with most being about 7.0 mm in diameter.

Not surprisingly most of the Adena Plain sherds recovered from Feature 20 were found in association with the large ceramic concentration, with the remainder being associated with a smaller concentration. The ceramics from both concentrations were very similar and may represent just one vessel. This vessel was relatively large having an orifice diameter of 20.0 cm. Its rim was slightly outflaring and thickened towards a flat-rounded lip.

The botanical remains associated with both ceramic concentrations consisted of several different nut species (hickory, black walnut, acorn, and butternut) and native cultigens (maygrass and chenopod) (Table 9-3; see also Table 7-2). In addition, 48 squash rind fragments were found in association with ceramic concentration 1 (see Table 7-2). Wild plants were represented by a single strawberry seed. Carbonized wood recovered from this feature was dominated by American chestnut (n=785), with the remainder being unidentifiable twigs (n=100) (Table 9-3). Faunal remains consisted of unidentified vertebrate (n=3).

A sample of wood charcoal recovered from Feature 20 yielded a calibrated median of 170 B.C. (two standard deviations the range is 364 B.C – A.D. 0 [2130±70 BP; ISGS 6034]). This early Middle Woodland date is consistent with the Adena Plain ceramics recovered from Feature 20.

Feature 21

Feature 21 consisted of an oval, dark grayish brown silty clay loam. It measured 1.12 m north-south by 2.40 m east-west (Figure 9-5), and had a maximum depth of 24.0 cm below the plowzone. A concentration of mica, and a large piece of burned sandstone were noted on the surface of the feature. Two distinct soil zones were documented on the planview of this feature. Zone I, which was present throughout most of the pit, was comprised of a (10YR4/2) dark grayish brown silty clay loam. Zone IA, which was located on the north-central and northeast edge of the feature, was comprised of a (10YR5/8) yellowish brown plastic clay with few mineral inclusions (Figure 9-5).

In the eastern portion of the feature, Zone I quickly gave way to Zone III, a (10YR4/6) dark yellowish brown silty clay loam, but in the western portion it intruded into Zone III. Both zones extend to a similar depth below the plowzone and are underlain by Zone II, a (10YR5/6) yellowish brown silty clay subsoil. Thus it appears that Feature 21 consists of two overlapping pits. There was a fairly sharp transition from Zone I to Zone III, which was primarily found in the eastern two-thirds of the feature.

The pit represented by Zone III had a maximum thickness of 22.0 cm and measured 84.0 cm east-west. This pit had a diameter of 1.56 m and contained pockets of (10YR5/2) grayish brown ashy silt. Pit fill consisted of burned soil and ash, as well as chipped stone artifacts, charcoal, burned ceramics, mica, flakes, sandstone, and bone. At a depth of 12-14 cm below the surface of the feature, the burning became more pronounced, and at a depth of 16.0 cm, a nearly complete celt was found.

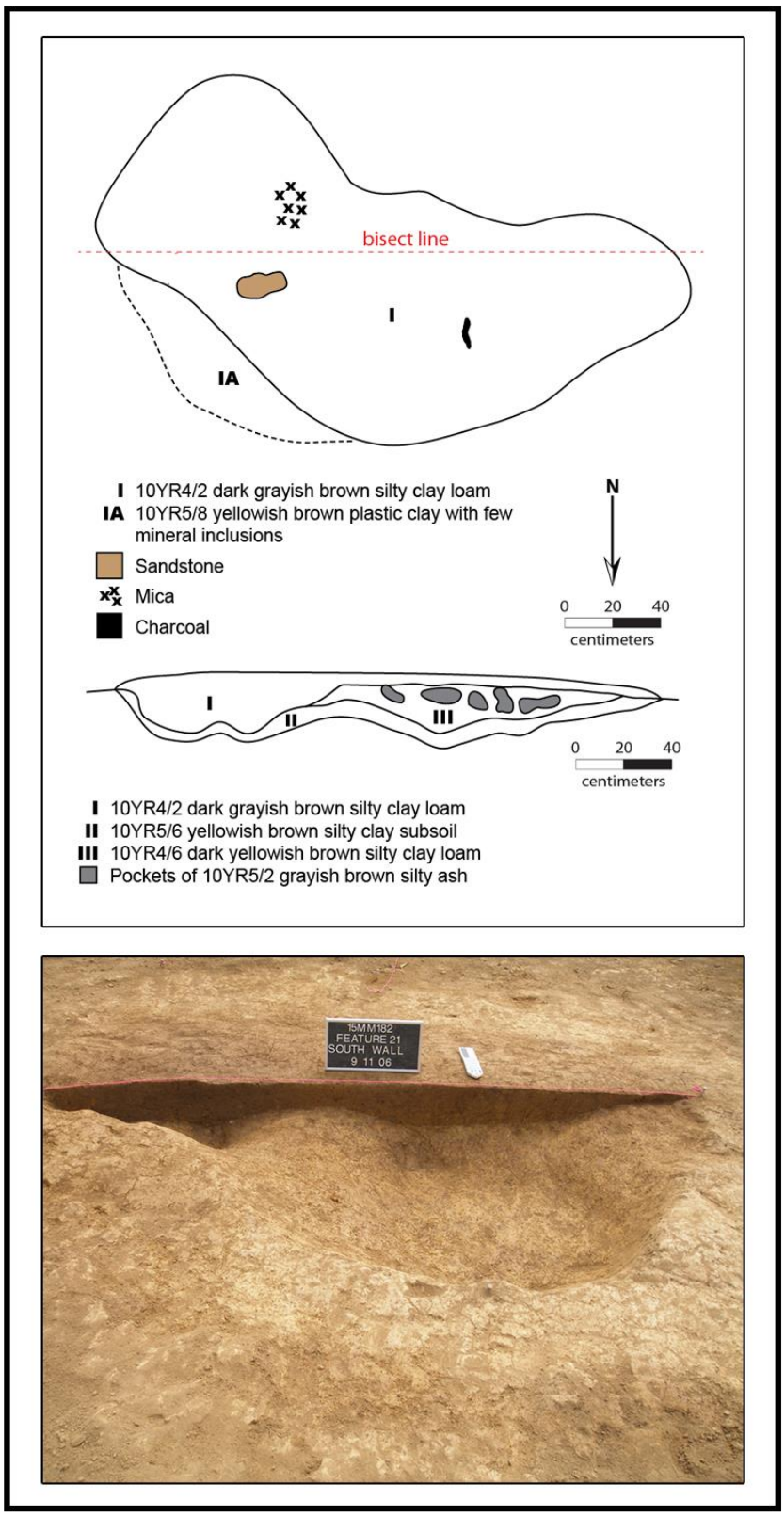

Figure 9-5. Feature 21 (profile is looking south).

The yellowish brown plastic clay, designated Zone IA, penetrated 2-3 cm into the surrounding subsoil. As with other clay deposits found at the site, Zone IA was relatively

free of mineral inclusions. The clay deposits appears to have been deposited prior to the the pit represented by Zone I, but its relationship to the two overlapping pits could not be discerned.

Materials Recovered

As with feature 20, little in the way of chipped stone materials was recovered from Feature 21. Those that were recovered consisted of 59 flakes and two core fragments (Table 9-4). The debitage assemblage consisted primarily of unspecified reduction sequence flakes (n=32; 54.2 percent), followed by biface initial reduction flakes (n=10; 16.9 percent), biface thinning and shaping flakes (n=6; 10.2 percent), initial reduction flakes (n=5; 8.5 percent), shatter (n=4; 6.8 percent), and biface finishing or trimming flakes (n=2; 3.4 percent). With the exception of three flakes of Ste. Genevieve chert, the remainder of the debitage and the core fragment were produced from Boyle chert.

Table 9-4. Cultural materials Recovered Feature 21.

Objects/Botanical Remains	Zone I Frequency	Zone III Frequency or Weight
Lithics		
flakes	25	34
core fragment	1	1
mica		2.4g
Ceramics		
rim sherd		1
body sherds		10
fired clay		12
Groundstone		
Celt		1
Wood Charcoal		
black walnut (*Juglans nigra*)		30
slippery elm (*Ulmus rubra*)	112	
unidentified		268
Nutshell		
black walnut (*Juglans nigra*)	1	1
acorn (*Quercus* sp.)		8
hickory (*Carya* sp.)		2
hazelnut (*Corylus* sp.)	1	
Native Cultigens		
squash-rind (*Cucurbita* sp.)	5	1
chenopod (*Chenopodium berlandieri*)	5	
maygrass (*Phalaris caroliniana*)	5	8
sunflower (*Helianthus* sp.)		1
unidentified	6	
Wild Plants		
persimmon (*Diospyros virginiana*)		9
Faunal		
Unidentified vertebrate		1

Ceramics recovered from the feature consisted of an Adena Plain rim, three body sherds, and seven body sherds that were too small to analyze (less than 4 cm^2). The rim has a flat lip and an applied rim strip. These sherds represent a minimum of one vessel.

Of note was the presence of 2.4 g of mica. These fragments ranged in size from 3.0 to 20.0 mm. A celt manufactured from a very fine-grain sedimentary siltstone or sandstone, with angular clasts of quartz and feldspars also was recovered from Feature 21 (Figure 5-1).

The botanical remains associated with Feature 21 consisted of several different nut species (hickory, black walnut, and acorn) and native cultigens (maygrass, chenopod, and sunflower) (Table 9-4; see also Table 7-2). In addition, five squash rind fragments were recovered from this pit (see Table 7-2). Wild plants were represented by nine persimmon seeds. Carbonized wood recovered from this feature was dominated by slipper elm, with the remainder being black walnut (Table 9-3). Faunal remains consisted of an unidentified vertebrate.

A sample of wood charcoal recovered from the feature yielded a calibrated median date of 121 B.C. (two standard deviations the range is 359 B.C.-A.D. 60 [2090±80 B.P.; ISGS 6037]). This early Middle Woodland date is consistent with the Adena Plain ceramics recovered from the feature.

Discussion

Located in close proximity to each other along the western edge of the site, Features 20 and 21 together represent a series of activities that involved the consumption of nuts, native cultigens and fruits, the use of American chestnut and slippery elm as fuel, the production of mica objects, the use of symbolically laden yellow clays, and the placement of offerings (ceramic vessel, celt, and core). Coupled with the absence of calcined human bone, these activities do not appear to be directly involved in the cremating of human remains. Rather, they may have been undertaken in support of such activities, and during visits to the site that commemorated those interred within nearby mounds.

The presence of native cultigens suggests feasting similar to those documented at Walker-Noe and the nearby Amburgey site took place as part of mortuary rituals conducted at the Evans site (Pollack et al. 2005; Richmond and Kerr 2005). The recovery of persimmon seeds from Feature 21 and a strawberry seed from Feature 20, points to the eating of fruits during these rituals. In Chapter 7, it was noted that persimmon seeds may be dried, roasted, and ground for use in a drink that was historically considered a coffee substitute. Perhaps, the consumption of this drink was an element of the mortuary rituals conducted at the Evans site.

American chestnut is often present in Kentucky sites, but usually accounts for less than 10.0 percent of the identifiable wood (see Chapter 7). At Evans, it was the only wood type associated with Feature 20, and also accounted for most of the wood associated with Feature 6D, and what was left of a cremation (Feature 6C). The large amount of American chestnut (61.1 percent of the identifiable wood) in the Evans site archaeobotanical assemblage and its association with features that were used to process the dead and in ritual feasting suggests that it may have been purposely selected for use at this site, and its presence could have had some ritual significance.

The large number of mica fragments recovered from these pits is unusual and is suggestive of the manufacture of mica objects for use in rituals conducted at the Evans site and at nearby burials mounds. Both the mica and celt would have been obtained through exchange relationships with groups living more than 200 km to the southeast of Montgomery County. The paucity of Ste. Genevieve chert recovered from the site in general and the presence of a core produced from the same raw material within Feature 20, suggests the initial reduction of this large nodule of Ste. Genevieve chert took place off-site. The presence of debitage and core fragments also indicates that some form of core reduction strategy may have been carried out within this portion of the site. The association of yellow clay with Feature 21 also reflects a connection between these features and the processing of the dead for interment at a nearby mound.

Mortuary Processing Area

A large shallow basin (Feature 6) was centrally located within the distribution of features at the site (Figure 9-1). Internal features associated with this basin consisted of two posts (Features 6A and 6B) and two small pits (Features 6C and 6D). Burned and calcined human bone was only recovered from Features 6C and 6D. In neither case did the recovered remains occur in sufficient quantities to represent the final resting place of one or more individuals. Rather, the human bone appears to be what remained from rituals that involved the processing/cremating of an individual or individuals, whose remains were subsequently transported to another location for final interment. The association of yellow clay, similar to that associated with Features 1, 21, and 24, with the cremated remains suggests that the use of clay was an important component of these rituals. The concentration of burned rocks associated with Feature 6D, may represent materials used during the cremation process that were being stored for reuse at a later date. A similar pattern was documented at Walker-Noe in Garrard County (Pollack et al. 2005:71).

Feature 6

Feature 6 was a shallow basin that measured 3.48 m north-south by 3.75 m east-west, and extended about 15.0 cm below the base of the plowzone. Within the basin several different soil zones were noted in planview (Figure 9-6). The most prevalent were Zone I, which was comprised of a (10YR3/4) dark yellowish brown silt loam, and Zone IV, which consisted of a (10YR2/2) very dark brown silt loam. Zone I had an average thickness of 10.0-12.0 cm (Figure 9-6). In comparison, Zone IV exhibited more variability, ranging in thickness from 3.0 to 15.0 cm. It was thinnest in the northwest portion of the basin and thickest in the northeast corner.

Zone III consisted of a (10YR5/8) yellowish brown plastic clay that was very similar to the clay stored in Features 1 and 24, and noted in Feature 21. It was bordered by and overlaid Zones I and IV, but was intruded by Feature 6C (small cremation pit) (Figure 9-6). Zone II consisted of a (10YR5/6) yellowish brown clay loam that overlaid

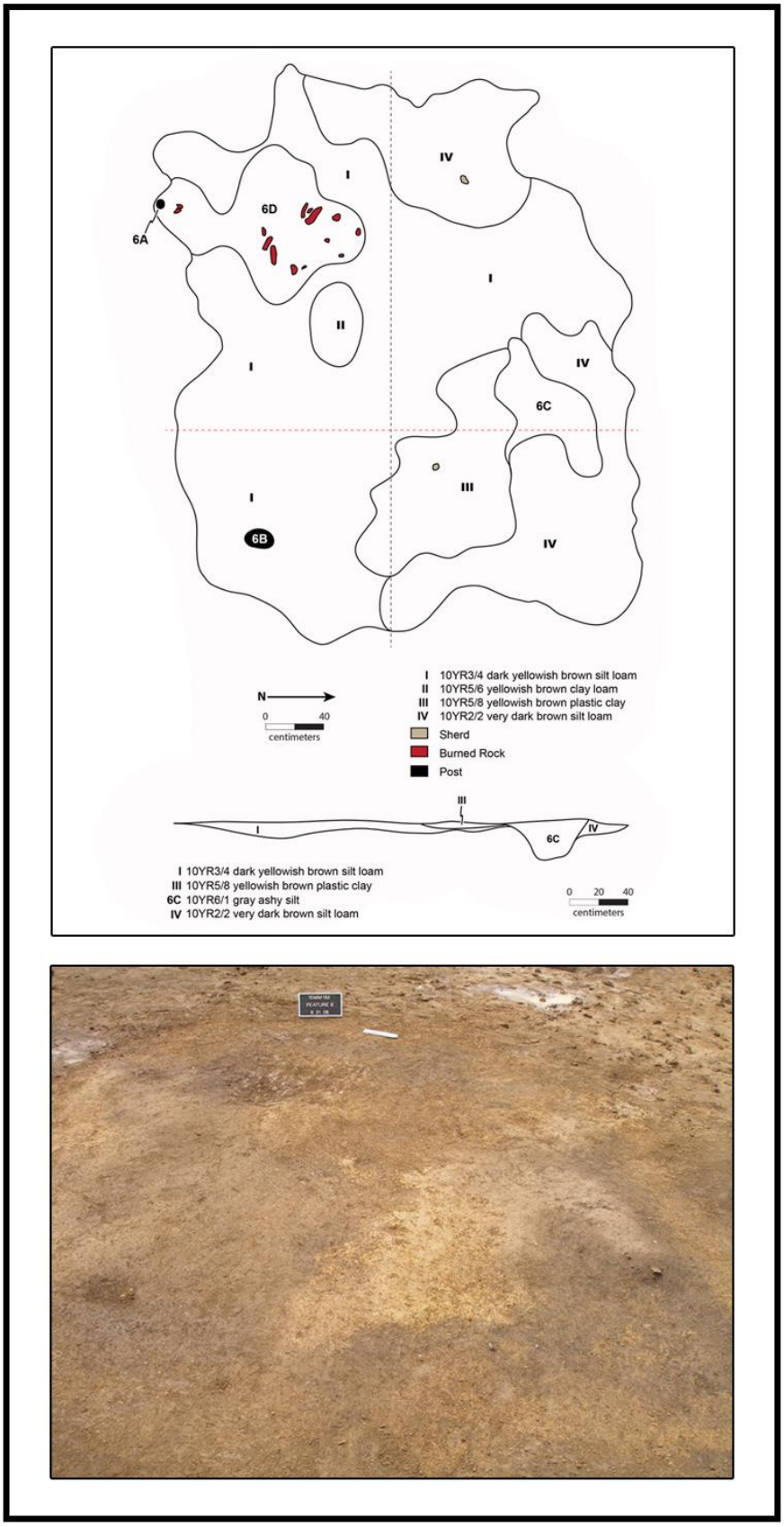

Figure 9-6. Feature 6.

Zone I. This zone was oval in shape, relatively thin (1.0-3.0 cm thick), and measured 18.0 cm north-south by 28.0 cm east west (Figure 9-6).

In profile, the shallow basin had sloping sides and a relatively flat bottom. Along the edges it had been intruded by a medium-size post (Feature 6A), a large post (Feature 6B), a cremation pit (Feature 6C), and a rock-filled pit (Feature 6D). Activities reflected by the Zone IV deposits along northeast edge of the basin may represent an additional feature whose boundaries were rather defuse. As the post excavation shot illustrates this feature represents a series of overlapping activities (Figure 9-8).

Figure 9-7. Post Excavation View of Feature 6.

Medium-Sized Posthole (Feature 6A)

Feature 6A, was a posthole located along the southwestern edge of the basin (Figure 9-7). It measured 19.0 cm north-south by 22.0 cm east west, and extended to a depth of 24.0 cm below the base of the plowzone. The post had straight sides and a rounded bottom. Botanical remains recovered from this post consisted of nutshell (hickory, black walnut, and acorn), native cultigens (chenopod and maygrass), squash rind fragments, and carbonized twigs (see Table 7-2).

Large Posthole/Pole-Pit (Feature 6B)

About 2.0 m to the east-northeast of Feature 6A, a depression discovered on the surface of the shallow basin turned out to be a large posthole/pole-pit (Feature 6B). It measured 54.0 cm north-south by 51.0 cm east-west, and extended to a depth of 50.0 cm below the base of the plowzone. This feature had relatively straight sides and a flat bottom. Flakes, Adena Plain ceramics, and charcoal were recovered from the fill within the post hole/pit. The only botanical remains associated with this feature were unidentified carbonized wood (see Table 7-2).

Cremation Pit (Feature 6C)

On the surface this pit was represented by a compact concentration of a (10YR6/1) gray ashy silt flanked to the south by the same yellowish brown clay found in the large storage pits (Zone III) (Features 1 and 24) (Figure 9-1). This irregular-shaped pit measured 62.0 cm north-south by 70.0 cm east-west and extended to a depth of 23.0 cm below the base of the plowzone. It had sloping sides and a flat bottom.

Below the ash and clay were alternating layers of yellow clay, and a mixture of ash, and burned and calcined human bone (a rib fragment), and pockets of a dark brown silty clay loam mottled with yellow clay. Artifacts recovered from this pit, included flakes, Adena Plain ceramics, and charcoal. Flotation samples obtained from Feature 6C yielded primarily nut (hickory, butternut, and black walnut) remains, and wood charcoal (American chestnut and American beech) (see Table 7-2).

Rock-Filled Pit (Feature 6D)

The concentration of burned rocks observed on the surface of the large shallow basin was associated with a pit that measured 1.60 m north-south by 1.15 m east-west and had a maximum depth 13.0 cm below the base of the plowzone (Figures 9-6 and 9-8). The pit had moderately sloping sides and a flat bottom. In addition to 32.0 kg of fire-cracked limestone and sandstone, the soil matrix contained a high concentration of ash and charcoal. A few flakes, a small biface, and Adena Plain ceramics also were recovered from this pit. Faunal remains associated with the feature consisted of deer or elk antler shaft fragments, and unidentified large mammal bones. Of note was the presence of one burned and calcined human bone. It consisted of a small ilium fragment.

Figure 9-8. View of Exposed Rocks in Feature 6D.

Materials Recovered

Cultural materials recovered from the entire basin area, consisted primarily of flakes (n=600) (Table 9-5). The assemblage of flakes was comprised of unspecified reduction sequence flakes (n=326; 54.3 percent) followed by biface initial reduction flakes (n=105; 17.5 percent), biface thinning and shaping flakes (n=82; 13.7 percent), biface finishing or trimming flakes (n=47; 7.8 percent), shatter (n=30; 5.0 percent), and initial reduction flakes (n=10; 1.7 percent). Much like Features 1 and 24, the debitage profile from this large basin suggests that biface (perhaps leaf-shaped blades) or formal tool production also was taking place within this portion of the site. Other chipped stone materials, included a retouched flake, a utilized flake, a projectile point fragment, a complete (leaf-shaped) biface, and a core fragment. With the exception of four flakes of Ste. Genevieve chert, the remaining chipped stone artifacts were manufactured from Boyle chert.

Table 9-5. Cultural Materials Recovered from Feature 6.

Objects/Botanical Remains	Frequency
Lithics	
flakes	600
retouched flake	1
utilized flake	1
core fragment	1
biface (leaf-shaped)	1
projectile point fragment	1
Ceramics	
basal sherds	4
body sherds	138
fired clay	36
Wood Charcoal	
yellow poplar (*Liriodendron tulipifera*)	19
American beech (*Fagus grandifolia*)	21
maple (*Acer* sp.)	10
American chestnut (*Castanea dentata*)	23
red oak (*Quercus* sp.)	26
black walnut (*Juglans nigra*)	13
unidentified	407
Nutshell	
black walnut (*Juglans nigra*)	49
acorn (*Quercus* sp.)	3
hickory (*Carya* sp.)	35
butternut (*Juglans cinerea*)	20
Native Cultigens	
squash-rind (*Cucurbita* sp.)	6
chenopod (*Chenopodium berlandieri*)	6
maygrass (*Phalaris caroliniana*)	2
Faunal	
unidentified large mammal	6
unidentified vertebrate	5
white-tailed deer/elk-antler (*Odocoileus virginianus)*	8
Human	
rib fragment	1
ilium fragment	1

Ceramics consisted of Adena Plain basal fragments (n=4) and body sherds (n=14) (Table 9-5). Of the four, basal sherds recovered from this feature, three were classified as Type A (a clear, distinct exterior tangent point and interior thickening, with a flat bottom) and one as Type B (parallel interior and exterior walls at the tangent point and a rounded bottom). These bases represent a minimum of two vessels.

Food remains recovered from the large basin primarily consisted of black walnut, hickory, and butternut, followed by native cultigens, such as chenopod and maygrass (Table 9-5). Several squash-rind fragments also were recovered from this feature. A variety of carbonized wood species, including red oak, American chestnut, American beech, yellow poplar, black walnut and maple also were found in association with this feature (Table 9-5).

Slightly more than fifty percent of the faunal remains had been burned. The calcined bone consisted of long bone shaft fragments of an unidentified large mammal (n=3), calcined unidentified large mammal fragments (n=2), and unidentified calcined fragments from a vertebrate (n=5). Most of the unburned bone consisted of fragments of deer or elk antler shafts (n=8). The remaining unburned bone was an unidentified large mammal fragment. Two fragments of calcined human bone also was recovered from this feature. They consisted of a small rib (n=1) and an ilium (n=1) fragment.

Discussion

Excavation of the feature revealed that it consisted of several different activity areas. These activities may be related to the use of clay and fire to process human remains for placement in nearby burial mounds. Evidence for this comes from the calcined human bone recovered from the layers of yellow clay and ash associated with the Cremation Pit (Feature 6C). This ash-filled pit may have served as the locale where the cremations were prepared for possible interment in a nearby mound. The concretion-free plastic clay may have played an important role in association with the cremation process.

The rock-filled pit (Feature 6D) did not exhibit any evidence of in situ burning in the form of fire-reddened earth or layers of ash or charcoal, though five of the 15 fired clay fragments recovered from beneath burned the sandstone and limestone rocks placed in this pit were smoothed on one side. The smoothed surfaces suggest that they were derived from the cleaning out of a formal hearth. As was case at the Walker-Noe site, the rocks associated with this pit may represent materials that were being curated for later use. That they were initially used in the cremation process is suggested by the calcined human bone fragment found in association with these rocks.

That calcined human bones were only recovered from Features 6C and 6D, suggests that both were associated with the processing of the dead. The human remains and the presence of yellow clay, native cultigens, and the use of American chestnut as a fuel source, suggests that the primary activity associated with Feature 6 was to prepare human remains for interment in a nearby mound.

Though Features 6A and 6B were classified as posts, attributes of these features raise questions concerning their initial or final function. The medium-size posthole

(Feature 6A) contained botanical remains, including nutshells and native cultigens, that are similar to those associated with Features 20, 21, and 37 (another post-like feature). This raises the possibility that these remain were intentionally placed in this medium-sized post/small pit during mortuary rituals. Likewise, the size of Feature 6B (diameter greater than 50 cm and a depth of 50 cm) suggests that rather than supporting a post associated with a screen or rack, it was intended to hold a large pole that was used during mortuary rituals conducted at the Evans site.

That only a few human remains were recovered from this feature suggests the processing of a single individual. At this time it is not clear if the human remains were cremated in place at the Evans site or if the initial processing that took place elsewhere, with secondary processing taking place at Evans as part of a multi-stage mortuary program that ultimately led to the remains being interred in a mound.

Bowl-Shaped or Shallow Basins

Feature 4

Feature 4 was defined by the presence of a round, dark yellowish-brown stain at the base of the plowzone. It measured 1.60 m north-south by 1.52 m east-west (Figure 9-9). The feature was bowl-shaped with steeply sloping sides and extended downward 37 cm below the base of the plowzone. The soil matrix consisted of three distinct zones. Zone I consisted of a (10YR4/3) brown silty clay loam that contained flakes and some burned clay. It had a maximum thickness of 26.0 cm and appears to represent a small pit that intruded into a larger pit represented by Zones II and III (Figure 9-9).

Zone II, a (10YR3/2) very dark grayish brown silty clay loam, was mottled with concentrations of charcoal. An area of burned clay and a lens of charcoal that measured 27.0 cm in length and 2.0-3.0 cm in thickness also was associated with this zone. Zone III was a (10YR4/4) dark yellowish brown silty clay loam mottled with a (10YR5/6) yellowish brown silty clay. It had an overall thickness of 17.0 cm and terminated at the base of the feature. Much of the organic content of Zone III had been leached out, giving it a more mottled appearance. Subsoil was a (10YR5/6) yellowish brown silty clay.

Materials Recovered

Cultural Materials recovered from the feature, include flakes (n=480), Adena Plain basal sherds (n=3) and Adena Plain body sherds (n=3) (Table 9-6). Debitage recovered from the feature mainly consisted of unspecified reduction sequence flakes (n=250; 52.1 percent), followed by biface initial reduction flakes (n=74; 15.4 percent), biface finishing or trimming flakes (n=60; 12.5 percent), biface thinning and shaping flakes (n=56; 11.7 percent), shatter (n=24; 5.0 percent), and initial reduction flakes (n=16; 3.3 percent). All of the debitage recovered from this feature was produced from Boyle chert. As noted in other areas of the site, the debitage profile for Feature 4 is very similar to those of Features 1, 6, and 24. The combination of biface initial reduction flakes, biface thinning and shaping flakes, and biface finishing or trimming flakes constitutes (39.6 percent) of this feature's debitage assemblage.

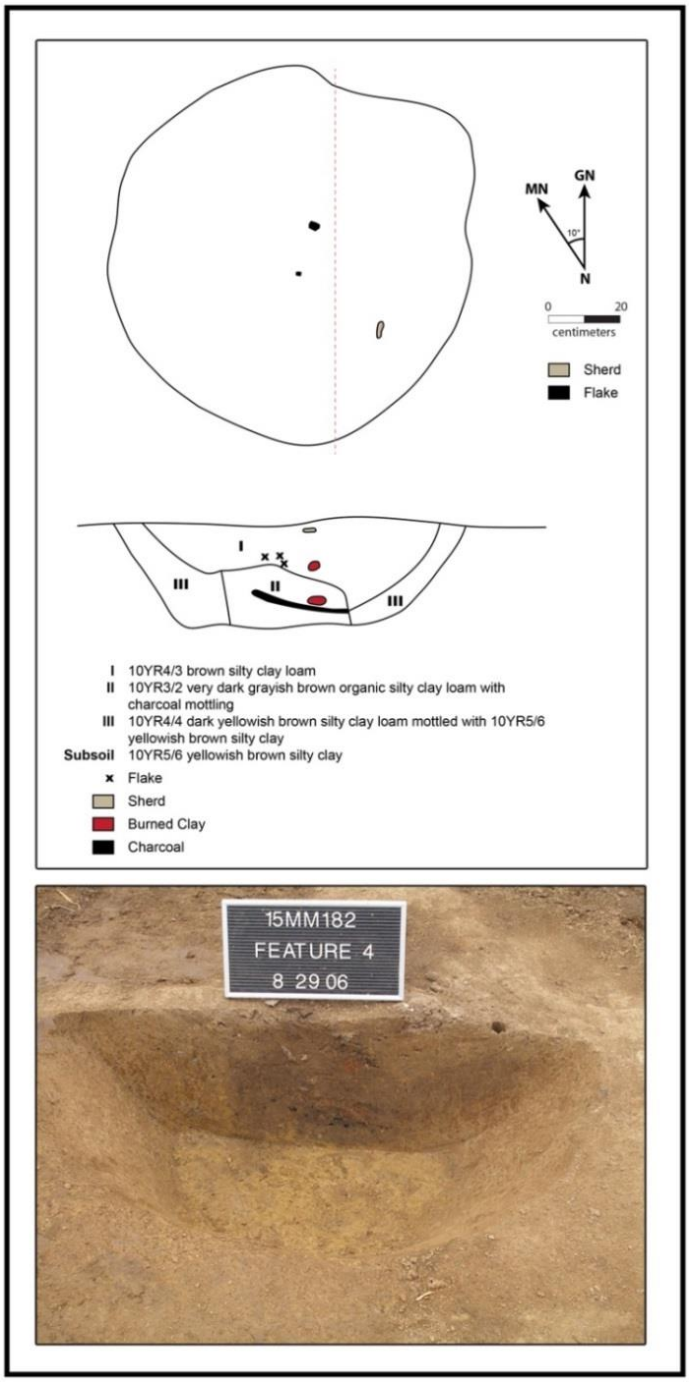

Figure 9-9. Feature 4.

Though all of the basal sherds were classified as Type A, they exhibited more gradual internal thickening than the other Type A bases recovered from the site. All of the specimens were similar enough in paste and color to be considered part of the same vessel, even though they did not mend.

Table 9-6. Cultural Materials Recovered from Feature 4.

Objects/Botanical Remains	Frequency
Lithics	
Flakes	480
Ceramics	
basal sherds	3
body sherds	30
fired clay	2
Wood Charcoal	
red oak (*Quercus* sp.)	106
black walnut (*Juglans nigra*)	89
American chestnut (*Castanea dentata*)	36
Unidentified	204
Nutshell	
black walnut (*Juglans nigra*)	15
Native Cultigens	
chenopod (*Chenopodium berlandieri*)	2
squash-rind (*Cucurbita* sp.)	4
Wild Plants	
bedstraw (*Galium* sp.)	1
grass (*Poaceae*)	1

A variety of plant remains were recovered from this pit (Table 9-6; see also Table 7-2). Food remains (Table 9-6) recovered from Feature 4 consisted primarily of black walnut and chenopod. Several squash-rinds also were recovered as were bedstraw and grass seeds. The carbonized wood recovered from the feature consisted of red oak, black walnut, and American chestnut (Table 9-6).

Two wood charcoal samples from this feature yielded calibrated radiocarbon dates of 754-209 B.C. and 771-50 B.C. (2350±70 B.P. [ISGS 6035] and 2300±140 B.P. [ISGS 6036], respectively). These dates have calibrated medians of 458 B.C. and 385 B.C., respectively. The ranges for both dates overlap somewhat with the dates obtained from Features 20 and 21, but in general they are suggestive of a somewhat earlier Adena occupation of the site. One of the dates has an extremely large standard deviation, and the laboratory reported having a difficult time extracting enough carbon to get a reliable date. They did not encounter a similar problem with the second submitted sample, and both dates have a similar calibrated median. Thus, based on the radiocarbon dates from this feature it appears to predate the ritual feasting associated with Features 20 and 21. While this is certainly a plausible explanation, the ceramics recovered from this feature are very similar to those recovered from other contexts at the site, which suggests some degree of contemporaneity.

Feature 8

Feature 8 measured 1.25 m north-south by 1.50 m east-west (Figure 9-1). The feature was bowl-shaped with gently sloping sides and extended 15.0 cm below the base of the plowzone. The feature soil matrix consisted of two zones (Figure 9-10).

Zone I was made up of a (10YR3/3) dark brown silty clay loam that contained a concentration of charcoal. The charcoal concentration, which was located near the center of the feature, measured 30.0 cm north-south by 17.0 cm east-west, and was about 4.0 cm thick (Figure 9-10). Zone II consisted of a (10YR3/3) dark brown silty clay that contained a large amount (12.0 kg) of fire-cracked rock. It appeared that leaching caused by the

infiltration of water and plant roots, created a mottling of darker and lighter soil matrix near the base of the feature. The surrounding subsoil was comprised of a (10YR5/6) yellowish brown silty clay subsoil.

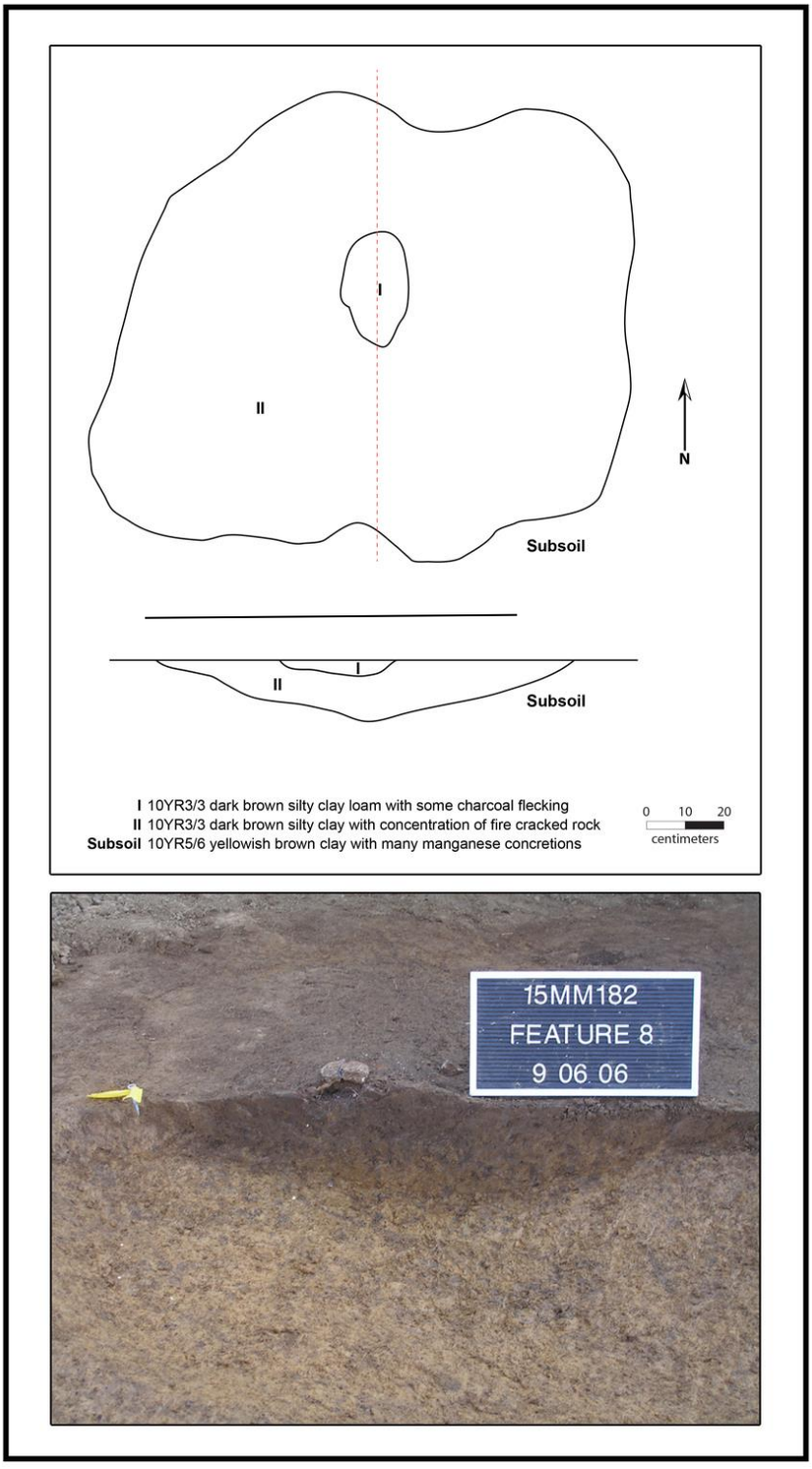

Figure 9-10. Feature 8 (profile looking west).

Materials Recovered

The cultural material recovered from the feature consisted of flakes (n=15) (Table 9-7). Debitage recovered from the feature mainly consisted of unspecified reduction sequence flakes (n=9; 60.0 percent), followed by shatter (n=3; 20.0 percent), a biface initial reduction flake (n=1; 6.7 percent), a biface thinning and shaping flake (n=1; 6.7 percent), and a biface finishing or trimming flake (n=1; 6.7 percent). Except for two flakes of Ste. Genevieve chert, the rest of the debitage recovered from this feature was derived from Boyle chert. Only one small unanalyzable body sherd (less than 4 cm^2) was recovered from this feature. The 12.0 liter flotation sample retained from this feature was not analyzed.

Table 9-7 Artifacts Recovered from Feature 8.

Objects	Frequency
Lithics	
Flakes	15
Ceramics	
Body sherds	1

Discussion

Feature 8 represents a basin-shaped pit that had been truncated by plowing. The presence of wood charcoal, and fire-cracked rock suggest that the pit was probably utilized to heat rocks that were used for cooking.

Feature 13

Feature 13 was located to the west of Feature 4. It had one relatively straight side and one rounded side, and a flat bottom (Figure 9-11). Based on its rounded side, it was classified as bowl-shaped. This pit measured 35.0 cm north-south by 31.0 cm east-west, and had a maximum depth of 28.0 cm below the base of the plowzone (Figure 9-11). This feature consisted of two zones. Zone I was a (10YR3/1) very dark gray silt loam, that extended 26.0 cm below the base of the plowzone. This zone was sandwiched between Zone II, a (10YR2/1) black silt loam (concentration of charcoal) that was noted at the surface and bottom of the feature (Figure 9-11). The heaviest concentration of charcoal was noted at the bottom of the feature. Subsoil consisted of a (10YR5/6) yellowish brown silty clay.

Materials Recovered

Cultural materials recovered from the pit, included 12 flakes and a core fragment (Table 9-8). The debitage consisted of unspecified reduction sequence flakes (n=7; 53.8 percent), biface thinning and shaping flakes (n=2; 15.4 percent), and shatter (n=4; 30.8 percent). All of the chipped stone artifacts recovered from this feature were produced from Boyle chert. No ceramics were recovered from Feature 13. Carbonized wood recovered from the feature consisted of slippery elm, and maple (Table 9-8; see also Table 7-2). Food remains associated with Feature 13 consisted of black walnut fragments and a single chenopod seed. Faunal remains consisted of unidentified vertebrate (Table 9-8).

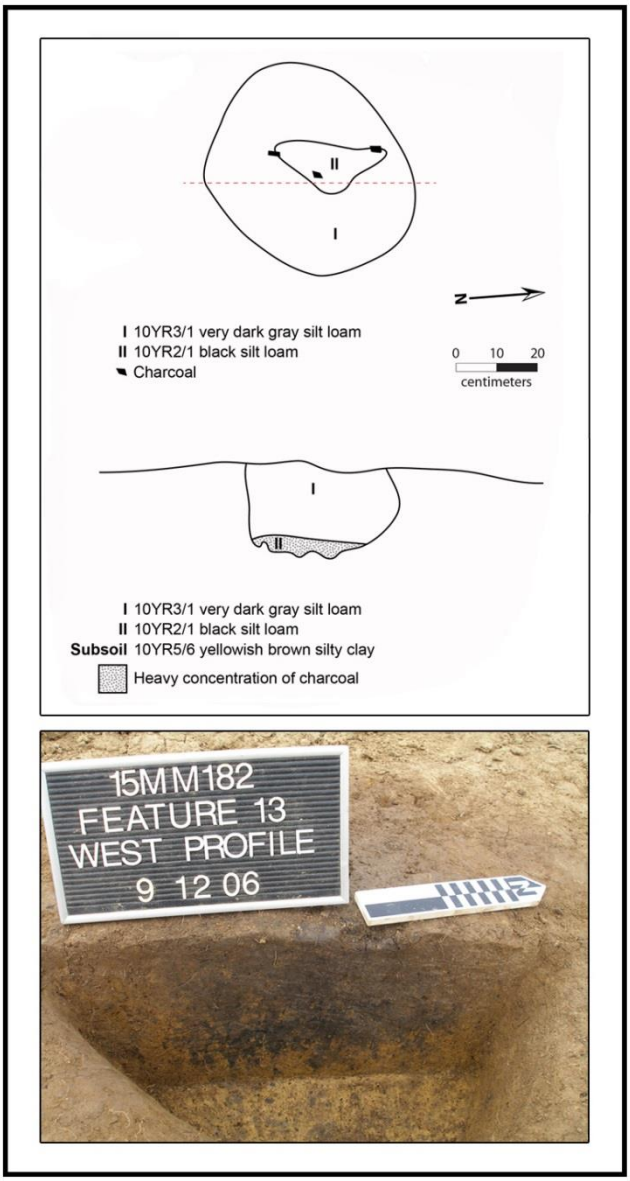

Figure 9-11. Feature 13

Table 9-8. Cultural Materials Recovered Feature 13.

Objects/Botanical Remains	Frequency
Lithics	
flakes	12
core fragment	1
Wood Charcoal	
slippery elm (*Ulmus rubra*)	141
maple (*Acer* sp.)	100
unidentified	161
Nutshell	
black walnut (*Juglans nigra*)	7
Native Cultigens	
chenopod (*Chenopodium berlandieri*)	1
Faunal	
Unidentified vertebrate	3

Discussion

The presence of wood charcoal, nut fragments, and chenopod suggests this pit was utilized for some form of food preparation. As noted in Chapter 7, the presence of slippery elm may represent it's specialized use at the site rather than its prevalence in the local environment.

Feature 18

Feature 18 was kidney-shaped in planview and measured 50.0 cm north-south by 51.0 cm east-west (Figure 9-12). This shallow basin, which was located directly south of Feature 8 was somewhat bowl-shaped with moderate to gently sloping sides and extended 14.0 cm below the base of the plowzone. The feature consisted of two zones. Zone I was comprised of a (10YR2/2) very dark brown clayey silt and had a maximum thickness of 11.0 cm. A high density of charcoal was noted throughout this zone. Zone II consisted of a (10YR2/2) very dark brown clayey silt mottled with a (10YR5/6) yellowish brown silty clay. Similar to nearby Feature 8, this zone was interpreted as leaching created by the penetration of water and plant roots. Zone II had a uniform thickness of 3.0 cm. Directly beneath Zone II was a (10YR5/6) yellowish brown clay subsoil.

Materials Recovered

The vast majority of cultural materials recovered from the feature came from Zone I. The lithic assemblage was made up of flakes (n=7) (Table 9-9). The debitage consisted of unspecified reduction sequence flakes (n=4; 57.1 percent), biface finishing or trimming flakes (n=2; 28.6 percent), and shatter (n=1; 14.3 percent). All of the debitage recovered from this feature was produced from Boyle chert. No ceramics were recovered from this feature. The only plant remains recovered were a few carbonized nut shells and unidentified wood species that primarily consist of twigs (Table 9-9; see also Table 7-2).

Table 9-9. Cultural Materials Recovered from Feature 18.

Objects and Botanical Remains	Frequency
Lithics	
Flakes	7
Wood Charcoal	
Unidentified	128
Nutshell	
black walnut (*Juglans nigra*)	6
Hazelnut (*Corylus* sp.)	1

Discussion

The presence of wood charcoal and nut fragments suggests this pit was utilized for some form of food preparation.

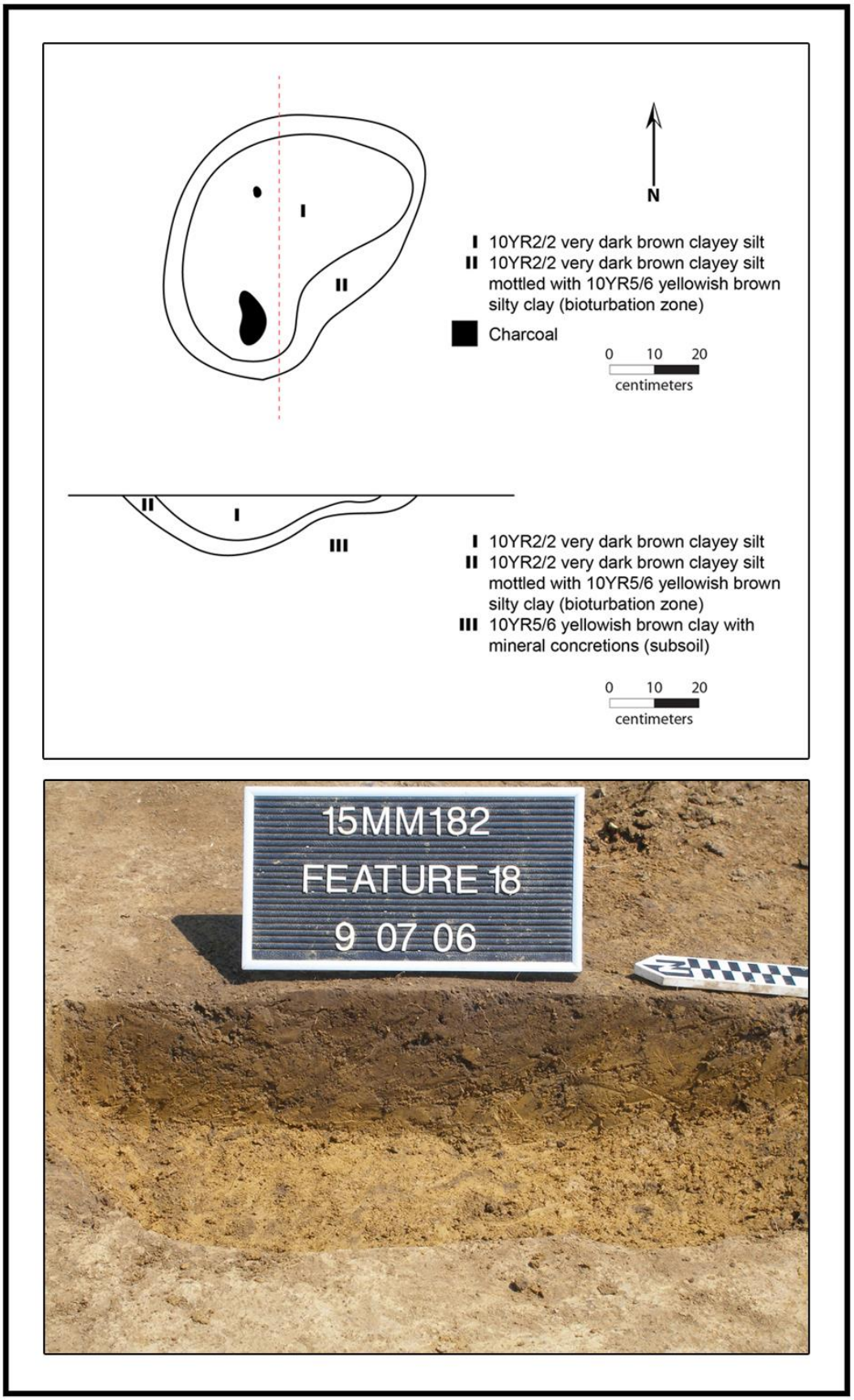

Figure 9-12. Feature 18 (profile looking east).

POSTS

Of the 14 posts, 13 were circular and one was oval (Table 9-10). The circular posts ranged from 20.5 to 52.5 cm in diameter, with a mean of 26.5 cm. The oval posts had a diameter of 26.0 cm. Most posts have diameters that range from 19.0 to 29.0 cm, with only three having diameters greater than 30.0 cm, and of these one has a diameter of 52.5 cm. The latter (Feature 6B), was associated with the Feature 6 mortuary processing area, and may represent a pole-pit. Feature 6A also was associated with the mortuary processing area. Both were previously described.

As a group the posts ranged in depth from 12.0 to 52.5 cm below the base of the plowzone, with a mean of 24.5 cm. Slightly more than one-third of the posts have depths of less than 20.0 cm below the base of the plowzone, with three having depths of 20.0-30.0 cm, one of 41.0 cm, and one a depth of 52.5 cm. In general, the wider the post hole the greater its depth.

A majority of the posts (n=8) (Features 6A, 12A, 12B, 14C, 31A, 31B, 33, and 37) had straight sides and a round bottom (Table 9-10). Two of the posts had straight sides and a flat bottom, and two had straight sides and a pointed bottom (Table 9-10). One post had sloping sides and a rounded bottom, and one post had sloping sides and a pointed bottom (Table 9-10). The eight posts with straight sides and rounded bottoms, ranged in depth from 12.0 to 41.0 cm below the base of the plowzone, with a mean of 22.8 cm. The posts with straight sides and flat bottoms (Features 6B and 12C) had depths of 52.5 and 33.0 cm, respectively (Table 9-10) (Figure 9-13). The posts with straight sides and pointed bottoms (Features 14A and B) had depths of 28.0 and 30.0 cm, respectively (Table 9-10) (Figure 9-13). The post with sloping sides and a rounded bottom (Feature 11) had a depth of 13.0 cm and the post with sloping sides and a pointed bottom (Feature 19) had a depth of 16.0 cm (Table 9-10) (Figure 9-13). Of the three posts with the greatest depths, two had straight sides and a flat bottom (Features 6B and 12C), and one straight sides and a rounded bottom (Feature 14C) (Table 9-10).

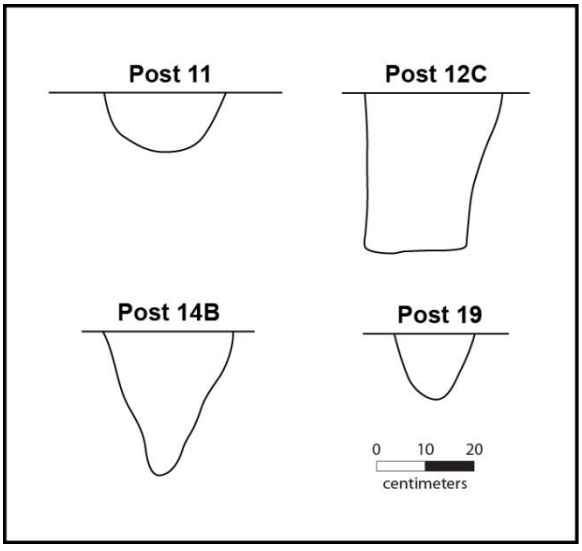

Figure 9-13. Post Profiles.

Table 9-10. Post Diameters, Depths, and Profiles.

Feature No.	Diameter (cm)	Depth (cm)	Side	Bottom
6A	20.5	24.0	Straight	Round
6B	52.5	52.5	Straight	Flat
11	26.0	13.0	Sloping	Round
12A	29.0	13.0	Straight	Round
12B	20.5	27.0	Straight	Round
12C	21.0	33.0	Straight	Flat
14A	34.0	28.0	Straight	Pointed
14B	23.0	30.0	Straight	Pointed
14C	32.0	41.0	Straight	Round
19	26.0	16.0	Sloping	Pointed
31A	20.5	16.0	Straight	Round
31B	21.0	17.0	Straight	Round
33	19.0	12.0	Straight	Round
37	26.0	23.0	Straight	Round

Though the shape of Feature 37, which is described below, is a representative example of the posts found at the Evans site, its contents are not. As with Feature 6A, the plant remains recovered from this feature raise questions concerning its function.

Feature 37 (Post)

This post measured 25.0 cm north-south by 27.0 cm east-west, with a maximum depth of 23.0 cm below the base of the plowzone (Figure 9-14). It had relatively straight sides and a rounded bottom. The feature fill consisted of Zone I, a (10YR3/2) very dark grayish brown silty clay loam. It was underlain by Zone II, a (10YR5/6) yellowish brown silty clay subsoil. Although no artifacts were recovered from this post, a variety of botanical remains were recovered from its fill.

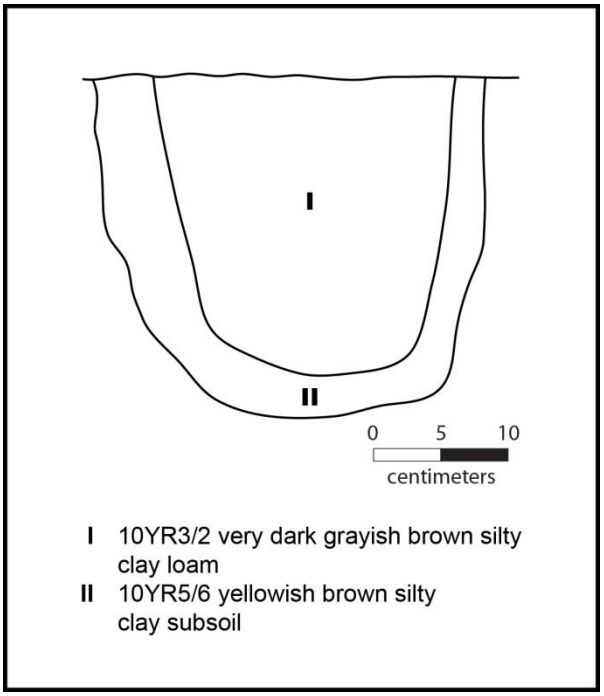

Figure 9-14. Feature 37, East Profile.

Materials Recovered

Carbonized wood recovered from this post consisted of unidentified wood species (twigs) (n=66) (Table 9-11; see also Table 7-2). In addition to wood charcoal, several other plant remains were recovered from the post fill. Among the plant remains were food residues, including hickory nutshell fragments, and seeds of native cultigens (maygrass and chenopod). Wild plants were represented by bedstraw and purslane. A few squash rind fragment also were recovered from Feature 37.

Table 9-11. Botanical Remains Recovered from Feature 37.

Botanical Remains	Frequency
Wood Charcoal	
unidentified (twigs)	66
Nutshell	
hickory(*Carya* sp.)	3
Native Cultigens	
chenopod (*Chenopodium berlandieri*)	2
maygrass *(Phalaris caroliniana)*	3
squash – rind (*Cucurbita* sp.)	4
Wild Plant Seeds	
bedstraw (*Galium* sp.)	1
purslane (*Portulacca* sp.)	1

Discussion

The botanical remains recovered from Feature 37 are very similar to those associated with Feature 6A. These two features also are similar in size and shape. The plant remains recovered from both postholes may have washed in after the wooden post decayed or was pulled by the site's inhabitants, but it is also possible that the plant remains were intentionally deposited in these features after the post was pulled, perhaps at the conclusion of a ritual feast. We also cannot rule out the possibility that Feature 37 was never intended to support a post, but dug in conjunction with a ritual feast as was suggested for nearby Feature 4. If this was the case then perhaps Features 4, 13, and 37 represent an activity area associated with posts 14A-C and posts 12A-C.

Discussion

Within the site, two small clusters of posts and a pair of posts were identified (Figure 9-15). Cluster 1 consisted of three posts (Features 12A-C). Of these, two (Features 12B and 12C) have very similar diameters and depths, and may be contemporary. The third (Feature 12A) is wider and much shallower than the other two posts. This suggests that it may predate or postdate the other two posts. Artifacts associated with these posts consisted of two unanalyzable sherds (less than 4 cm^2) and eight flakes.

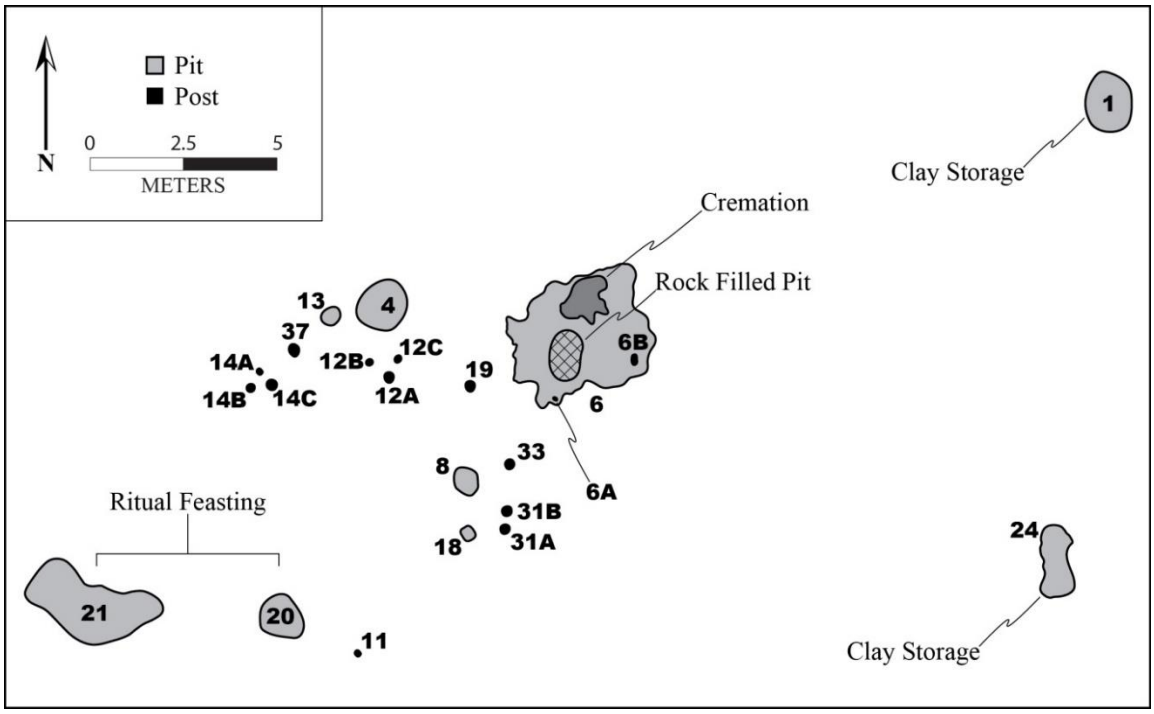

Figure 9-15. Planview of the Evans Site.

Cluster 2 also consisted of three posts (Features 14A-C) that formed a roughly equilateral triangle. Of the three posts, two (Features 14A and 14C) have similar diameters, and two (Features 14A and 14B) extend to similar depths. That 14A has attributes in common with each of the other posts, suggests that these three posts may be contemporary and associated with some type of tripod that was used to hang objects. Artifacts associated with these posts consisted of eight flakes from Feature 14A, six flakes from 14B, and 10 flakes and 10 unanalyzable sherds (less than 4 cm^2) recovered from Feature 14C.

The paired posts (Features 31A-B) have similar diameters and depths, which as with the Feature 14 post cluster could indicate that both posts were placed in the ground at the same time. Both posts were located approximately 2.0 m east of Features 8 and 18, and as a group these four features may represent an activity area (Figure 9-15).

Of the remaining posts, Features 11, 19, 33, and 37 appear to have no clear associations with other posts or features, though Feature 37 is located in the vicinity of the two post clusters, and Features 4 and 13. Artifacts recovered from these posts, include 32 flakes and an unanalyzable sherd (less than 4 cm^2) recovered from Feature 19.

ADENA USE OF CLAY IN MORTUARY RITUALS

The presence of clay storage pits (Features 1 and 24) coupled with its use in cremations (Feature 6) and association with pits (Feature 21) that contained evidence of feasting, led us to examine the extent to which clay was used in other Adena contexts. A review of Kentucky Adena reports revealed extensive use of clays similar to those found

at the Evans site (Applegate 2008; Funkhouser and Webb 1935:80; Schlarb 2005; Webb 1940, 1943; Webb and Elliott 1942; Webb and Funkhouser 1940:213). At these sites clays were often used in the construction of mound stages, to build platforms on which the dead were placed (Henry 2013), to permanently seal individual graves, to construct log tombs, and to create crematory basins. In a few instances, as with Evans it appears to have been incorporated into the cremation process (see below). Evidence of the use of clay at domestic sites has not been noted, though the sample is relatively small (Kerr and Creasman 1998; McBride 1994; Niquette and Boedy 1986).

In Montgomery County, the nearby Wright and Ricketts mounds are good illustrations of how clay was used in mound and grave/tomb construction. At Wright, mounds were built of tough clays of contrasting colors (Webb 1940:11-13). Webb's description of these clays sounds very much like the clay encountered in the large eastern storage pits at the Evans site. Webb (1940:11-13) states:

> …the secondary, tertiary, and quaternary mounds were built of exceedingly tough yellow and red clays, apparently gathered from the hilltop nearby…The particular clay used for most of this mound construction was pure and tough. It was largely sterile of artifacts or midden…the obliteration of individual loads did not prevent the formation of varicolored clays distinguished from each by color, texture, and density. This clay was very tough and hard and nearly impervious to water.

From Webb's description, it is clear that the builders of the Wright Mound purposely selected clays for their color and texture, and constructed the mound in such a way as to highlight these differences. Clay also was used in the construction of graves within this mound: the graves of five individuals had a puddled-clay bottom and top, one had just a puddled-clay bottom, and two had only a puddled-clay top (Webb 1940:112). During the construction of log tombs within this mound, the logs were often pressed into wet clay or set together with clay (Webb 1940:17-19).

At Camargo, clay was used to construct a ramp adjacent to a rectangular basin that yielded cremated remains (Fenton and Jefferies 1991), and at the Ricketts site, 12 of the 18 burials had been laid in a puddled-clay basin and then covered with puddled-clay (Funkhouser and Webb 1935:80; Webb and Funkhouser 1940:213). Use of clay to cover graves also was noted at Morgan Stone Mound in nearby Bath County (Webb 1941a). At this site, one grave was covered with 15 cm of clay, and during the initial phase of mound construction, a clay platform was laid over the original ground surface (Webb 1941a:226, 228, 230).

Use of clay for special purposes also was noted at several mounds in northern Kentucky (Figure 1). For instance, a dark blue clay was used in the construction of the Crigler Mound in Boone County (Webb 1943a:509-509). Webb (1943a:509-509) suggests that this clay may have been obtained from a pond located 30 m southeast of the mound. At the Robbins Mound, also in Boone County, seven burials or tombs were covered with puddled-clay. Though the color of the clay is not described for most of these tombs, mention is made of a 24 cm-thick layer of grey-yellow clay that covered one burial (Webb

and Elloitt 1942:399-399). Also of note is the use of blue clay to line the floor of a tomb (Webb and Elliott 1942:401).

At the Hartman Mound, also in Boone County, the fill of a fired basin consisted of a mixture of yellow clay and "humus," with charcoal and some burned human bone. While the sides of this pit had been burned, the yellow clay fill had not been fired, and the charcoal and clay had not been burned in situ. The contents of this pit are very similar to the contents of Feature 6C, which as previously noted consisted of alternating layers of yellow clay, and ash with a small amount of burned and calcined human bone. The fill within the pits at Hartman and Evans represent the end products of a cremation that involved the use of yellow clay and resulted in most of the cremated remains being interred in another location(s). In the case of Hartman, perhaps in the mound itself, but in the case of Evans at a nearby mound.

At the central Kentucky Drake Mound, in Fayette County (Webb 1941a:171-175), describes a 3 to 9 cm thick lens of red clay was found encircling a large pit. Within this pit

> a layer of mixed, divided, yellow and red clay was laid over a thin layer of red ochre. In the center of this clay layer which spread to the walls of the pit an elliptical lens of white puddled-clay, about 6.5 x 5.5 feet and .3 of a foot thick at the center was laid down.

The remains of eight individuals were placed on this clay bed before the pit was covered. Use of puddled-clay with two burials was noted at Fisher Mound also in Fayette County (Webb and Haag 1947) and puddled-clay use was noted in association with a hearth and a cremation at the Bullock Mound in Woodford County (Schlarb 2005).

Use of special clays also was noted at the eastern Kentucky C & O mounds in Johnson County (Webb et al. 1942). For instance, a layer of gray clay was spread over one body, being thickest at the head and shoulder (Webb et al. 1942:323), and several cremations were capped with clay.

It is clear from these examples, that as part of their multi-stage mortuary program Adena groups used colored processed clays for a variety of purposes. Likewise it is evident that by their use in the cremation process, to encase burials, and to construct graves/tombs and mound stages that these clays had some symbolic importance for Adena groups. The Evans site provides the first documentation of clay storage and use in off-mound rituals.

RITUAL FEASTING

Evidence of ritual feasting that involved the consumption of cultivated plants has been documented at both Adena and Fort Ancient sites. At Evans, Walker-Noe, and Amburgey ritual feasting is represented by native cultigens, including maygrass (Phalaris caroliniana), chenopod (Chenopodium berlandieri), and sunflower (Helianthus sp). The consumption of nuts, however, does not appear to have been an important component of Adena ritual feasting (see Table 7-5). As discussed in Chapter 7, this represents a de-emphasis of the consumption of nuts relative to earlier Archaic sites and contemporary Early and Middle Woodland domestic habitation sites.

At Walker-Noe, native cultigens were found in association with the cremated remains of more than 40 individuals (Hermann 20144; Pollack et al. 2005; Rossen 2002) (Table 9-12). At Evans, in addition to a cremation pit (Feature 6C), native cultigens were recovered from feasting locales (Features 20 and 21) not directly involved with preparing cremated remains for placement in a nearby mound, but with rituals that took place in conjunction with these events.

In comparison to Adena mortuary related sites, where feasting took place at mounds or off-mound activity loci, Fort Ancient ritual feasting appears to have primarily taken place within villages. At sites, such as Larkin and Fox Farm, concentrations of beans and corn have been found in the grave shaft fill, or on the upper torso of the deceased. In addition, to the consumption of plant remains, feasting that involved the consumption of wild animals has been noted at Petersburg (at least six deer skulls and other skeletal elements were recovered from the fill of one grave shaft), and at Bentley (WPA photographs show large concentrations of animal bone that are suggestive of a ritual feast).

The selection of certain woods also may have been an important component of Adena mortuary rituals. That more than 50 percent of the wood recovered from the Evans site was classified as American chestnut is unusual and rare for Kentucky archaeological sites where this species usually accounts for less than ten percent of the wood charcoal assemblage. Among the three features (4, 6C, and 20) that yielded American chestnut it was most common in Feature 20, where it was the only identifiable wood species present. The association of American chestnut with a feature that also yielded native cultigens, a portion of a large Adena Plain vessel, numerous mica fragment, and a celt suggests that it was selected in conjunction with ritual feasting. This suggestion is reinforced by American chestnut's association with Feature 6C, the cremation pit.

Slippery elm is another species that is over-represented at Evans relative to other Kentucky sites. It was the primary wood species associated with Feature 21, and accounted for more than fifty percent of the identifiable wood specimens associated with Feature 13. As with nearby Feature 20, Feature 21 yielded native cultigens and mica fragments, and appears to have been associated with ritual feasting. Though Feature 13 appears to have been associated with food preparation its association with ritual feasting is not as evident.

Though American chestnut and slippery elm were minor wood species at Walker-Noe, a similar pattern was noted relative to another wood type that is usually a minor component at Kentucky sites. In this case black walnut, which accounted for almost fifty percent of the carbonized wood by weight at Walker-Noe (Table 9-12). Though not as common at Evans (8.0 percent by weight), black walnut was found in association with Feature 6D, the rock-filled pit. Its association with rocks that are interpreted as having been used in the cremating of human remains, suggests that as with American chestnut it was being selected in conjunction with mortuary rituals/feasting.

Table 9-12. Comparison of the Evans and Walker-Noe Botanical Collections.

	Evans (270 liters)		Walker-Noe (147 liters)	
Category	**Gm Wt**	**Percent**	**Gm Wt**	**Percent**
Wood				
American chestnut (*Castanea dentata*)	7.7	56.2	2.3	4.3
slippery elm (*Ulmus rubra*)	2.1	15.3	0.1	0.2
red oak group (*Quercus* sp.)	1.0	7.3	4.3	8.1
black walnut (*Juglans nigra*)	1.1	8.0	22.4	42.3
maple (*Acer* sp.)	1.6	11.7		
yellow poplar (*Liriodendron tulipifera*)	0.2	1.5	7.7	14.6
American beech (*Fagus grandifolia*)	0.0	0.0		
white oak group (*Quercus* sp.)			7.5	14.2
butternut (*Juglans cinerea*)			6.3	11.9
American elm (*Ulmus americana*)			0.4	0.8
hickory (*Carya* sp.)			0.3	0.6
Mulberry			0.0	---
cane (*Arundinaria gigantea*)			1.6	3.0
Total identified wood charcoal	13.7	100.0	52.9	100.0
unidentified wood charcoal	15.8		17.0	
Total wood charcoal	29.5		69.9	
	Freq	**Gm Wt**	**Freq**	**Gm Wt**
Nutshell				
hickory (*Carya* sp.)	83	1.00	234	2.8
black walnut (*Juglans nigra*)	126	1.60	9	0.1
butternut (*Juglans cinerea*)	17	0.30	6	0.2
acorn (*Quercus* sp.)	15	0.10	1	0.0
hazelnut (*Corylus* sp.)	2	0.00	5	0.0
pecan (*Carya illinoiensis*)			3	0.0
Cultigens				
squash rind (*Cucurbita* sp.)	69	--	27	0.1
gourd - rind (*Lagenaria* sp.)			2	
maygrass (*Phalaris caroliniana*)	46	--	84	
chenopod (Chenopodium berlandieri)	31	--	161	
sunflower (Helianthus sp.)	1	--	15	
erect knotweed (*Polygonum erectum*)			225	
marshelder (*Iva annua*			3	
Wild plant seeds				
persimmon (*Diospyros virginiana*)	9	0.20	3	
bedstraw (*Galium* sp.)	2	--	3	
strawberry (*Fragaria* sp.)	1	--		
purslane (*Portulacca* sp.)	1	--		
grass (Poaceae)	1	--	6	--
sumac (*Rhus* sp.)			43	--
grape (*Vitis* sp.)			6	--
honeylocust ( )			3	--
blackberry/raspberry (*Rubus* sp.)			1	--
spikerush (*Eleocharis* sp.)			1	--
Miscellaneous				
unidentified – general	12	0.00		
unidentified - seed fragments	3	--		

At the Evans site, American chestnut, slippery elm, and perhaps black walnut may have been intentionally selected for. Not only are American chestnut and slipper elm more common at Evans relative to other sites, but absent are primary species, such as white oak

and hickory (only trace amount at Walker-Noe), which as noted in Chapter 7 are usually well-represented in Kentucky's archaeobotanical record.

Though Amburgey yielded similar quantities of native cultigens as Evans and Walker-Noe, it did yield a variety of other plants, including purslane, bedstraw, sticky catchfly, pokeweed, chokeberry, eastern redbud, and St. John's wort. Richmond and Kerr (2005:83) suggest that these remains may have been utilized for a variety of purposes, including feasting and/or ritual offerings, medicinal purposes, incense, fiber, and basketry. Relevant to the Evans site, Amburgey also exhibits evidence of the manufacturing of mica objects during ritual feasts that did not involve the consumption of nuts, but that involved caching/offering of objects. In the case of Amburgey, copper ear spools and celts, and in the case of Evans a groundstone celt and a chert core.

Mica also appears to be an important component of Adena ritual life. At Evans fragments of mica was recovered from four contexts (cremations and feasting) and at Amburgey it was recovered from one context (feasting). At both sites, mica fragments appear to have been associated with the production of objects that were probably used elsewhere. Mica fragments also were recovered from the Gate Eleven site (15Ma218). As with Evans, this open habitation site is situated in close proximity to a burial mound. The Gate Eleven site yielded limestone tempered plain and cordmarked ceramics in association with Lowe Flared Base/Chesser Notched and Copena projectile points. Though the points and a calibrated median date of A.D. 324 (calibrated two standard deviations A.D. 132-534; 1710$\pm$ 80 BP; Beta-111633) suggests that the Gate Eleven site postdates Evans and Walker Noe, the presence of mica at this site appears to represent its continued use in Middle Woodland rituals.

Elsewhere in Montgomery County, mica fragments were recovered from submound contexts: at Camargo, where they were associated with cremations. In eastern Kentucky at Site 15Jo9 of the C&O Mound mica fragments are reported to have been recovered from a burned area.

The primary object manufactured from mica may have been crescent-shaped pendants, examples of which have been recovered from the Robbins (15Bd3) (Webb and Elloitt 1942), Crigler (Webb1943), Dover (Webb and Snow 1959), and the Wright mounds (15Mm 6-8) (Webb 1940). Sheets of mica are reported from the Gaitskill Mound (Funkhouser and Webb 1932; Webb 1940) and the Rogers mounds (Kreinbrink 1992) and from Bentley (15Gp15), an open habitation site located adjacent to a mound and earthwork (Henderson and Pollack 2005).

At sites, such as Evans, Amburgey, and Gate Eleven, the presence of mica fragments points to the production of mica objects as being an important component of the rituals that took place at these sites. It also suggests that it was an important component of the cremation process, with fragments from the manufacturing process often being found in association with cremated remains. The finished products were often interred with primary inhumations.

SUMMARY

The distribution of Adena features and posts at the Evans site, points to a clear demarcation of space. Within this locale three primary activities were noted. The eastern most activity area was associated with the processing and storage of clay; the central activity involved the preparation of the body for placement in a nearby mound; and the western activity area consisted of ritual feasting. The yellow clay stored in the eastern features were utilized in the cremation of human remains and in ritual feasts.

The recovery of Adena Plain vessels along with native cultigens and wild plants indicates that ritual feasting and food preparation took place at the site. In addition to feasting, rituals undertaken in these areas involved the manufacturing of mica objects, and at the conclusion of these rituals the placement and sealing of a celt and a large core of St. Genevieve chert.

The recovery of leaf-shaped Adena blades, large number of mica fragments, and a barite fragment points to the manufacture of objects for use in rituals conducted at the site. The finished objects also could have been placed with the dead for final interment in the mound or mounds located nearby.

Although none of the posts could clearly be associated with a structure, one cluster appears to have been associated with a tripod that may have been used to hang pots and baskets. Others may have been associated with screens that served to separate food preparation from cremation rituals. The large post (Feature 6B) associated with Feature 6 may have served as the location of a ritual/marker pole.

CHAPTER TEN:
SUMMARY AND CONCLUSIONS

It is clear from the kinds of features documented at, and the types of materials recovered from the Evans site that it has little in common with Adena habitations (Kerr and Creasman 1998; McBride 1994; Niquette and Boedy 1986). Domestic site assemblages tend to be dominated by Adena or Johnson Plain pottery and chipped stone artifacts, with non-local materials being rare or absent. Features tend to be small storage or trash pits, and hearths and posts tend to be small and shallow. Few features comparable in either size or complexity to those found at the Evans site have been documented at these habitation locales.

In comparison to burial mounds, in addition to the obvious mound stages, the Evans site lacks the cremations, in-flesh burials, or tombs that are the hallmarks of these mortuary sites. The small amount of burned and calcined bone recovered from the Evans site clearly distinguishes it from sites, such as Walker-Noe, were the cremated remains of more than 40 individuals were found (Hermann et al. 2014; Pollack et al. 2005). The dead may have been processed at Evans as part of an Adena multi-stage mortuary program (Henderson and Schlarb 2007), but they were laid to rest elsewhere.

It has been suggested that mounds were often constructed over ritual spaces, such as circular paired-post structures. As Clay (1986, 1998) has noted, the initial rituals undertaken at these places need not have been conducted in anticipation of mound construction. They may have involved a period of use of a particular locality before a mound was ever anticipated. Construction of a mound represented a stage in the evolving use of a locality, but use of a particular place on the landscape for mortuary rituals did not always result in the construction of a mound (Richmond and Kerr 2005).

It is tempting to speculate that the Evans site is similar to the Niebert site in West Virginia (Clay and Niquette 1992), where a mound was never constructed over circular paired-post enclosures, or even Amburgey where a mound was never constructed over a less substantial enclosure. But unlike Niebert, where the types of structures and features present are consistent with those that have been found beneath many Adena mounds, the same cannot be said of the features found at, and artifacts recovered from, the Evans site. In particular, the large clay storage pits and debris from the manufacture of ritual items clearly distinguish Evans from Niebert. Likewise, the types of features and the organization of space at Evans clearly distinguishes it from Amburgey. Though it is certainly within the realm of possibility that as use of the Evans site evolved, a mound would have been constructed at this locale. This does not appear to have ever happened.

Within the area at the Evans site where Adena rituals were conducted, space appears to have been clearly demarcated. The large shallow basin where the dead were processed, was centrally located. Nearby pits associated with ritual feasting were located to the west. The clay used in the cremating of the dead, and in ritual feasting would have been obtained from the two large pits to the east of the central basin.

It is the uniqueness of this suite of features along with the presence of mica and barite, and the storage and use of yellow-clay that distinguishes the Evans site from Adena mortuary and habitation sites. All of the mica fragments represent the by-products of the production of mica objects, and the barite also was discarded during manufacture. The presence of these materials reflects the production of ritual objects for use at the Evans site and elsewhere. Perhaps mica and barite objects manufactured at the Evans site were placed with the dead interred in a nearby burial mound. Alternatively, they could have been retained by the living and used in other rituals before entering the archaeological record.

CONCLUSION

The Evans site appears to have served as a locality where Adena people processed their dead as part of a multi-stage mortuary program. They came to this spot to prepare the dead for placement in a nearby burial mound. While at the Evans site, they procured and purified clay for use in mortuary rituals, and manufactured chert, mica, and barite objects. Some of the clay was used on-site in conjunction with rituals that involved the cremation of the dead; the burning of American chestnut, slippery elm and black walnut; and the consumption of native cultigens, such as maygrass, chenopod, and sunflower. Clay also was stored for use in future rituals, as were fire-cracked rocks.

The specific rituals performed at the Evans site would in part have been dependent on an individual's age, sex, and how they died. Their achieved status and the status of those responsible for leading and organizing the mortuary activities, would have influenced the nature of the rituals performed. In addition to status, a leaders/organizers age, knowledge, and past experiences, also would have factored in the types of mortuary rituals selected.

The Evans site's ridgetop location would have provided a clear line of sight for the burial mound located on an adjacent ridgetop. Thus, any procession going to and from these two localities could have been observed from either site. The symbolic importance of this ritual landscape may have been further enhanced during activities conducted at night when fires were set on or adjacent to the mound. If this was the case, then any examination of the Adena mortuary landscape, must take into consideration not only the burial mound and the off-mound activity locality, but the intermediate area between them. All need to be treated as an interrelated site complex.

At the Evans site, we have documented one step in the Adena mortuary program: a place where a group initiated their loved one's safe passage to the afterlife. They would have cremated the remains of family members or relatives at Evans in preparation for interment in a nearby burial mound. For short periods of time, the Evans site would have been an important place on the Adena mortuary landscape. But whereas mounds would have remained an important component of the Adena mortuary landscape for many generations, the Evans site would have quickly faded from their corporate memory.

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