

**THE KING BEE SITE
PUTNAM COUNTY, GEORGIA**

**BY
DANIEL T. ELLIOTT
LAMAR Institute**

AND

**WAYNE C. BOYKO
PENN STATE UNIVERSITY**

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This report is dedicated to our departed colleague and compatriot, Gary Shapiro who died while King Bee was being discovered. The *Slant VI* will miss you.

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I. INTRODUCTION

This report summarizes the archaeological investigation of the King Bee site. The King Bee site (Forest Service Site GA08I852) is located on the Oconee National Forest in northern Putnam County on a ridge plateau overlooking Little Glady Creek situated 200 m to the east (Figures 1 and 2.). The site contains a Lamar period Dyar phase habitation and a quartz quarry and quartz workshop of uncertain time period. The Lamar material contained within Feature 1, a large refuse pit, is the primary focus of this study.

Although survey information has been gathered on well over a thousand Lamar sites in the Oconee area, the King Bee site is only the thirteenth upland site examined by subsurface excavation (Stephen Kowalewski, personal communication 1988). Previous excavations on upland sites have revealed permanent residences. A recent summary of these excavations suggested that these sites were permanently occupied farmsteads (Kowalewski and Hatch 1988). Because so few Lamar sites in upland settings have been excavated, it was decided to investigate King Bee. The LAMAR Institute, under a volunteer agreement with the U. S. Forest Service conducted an excavation of Feature 1.

This report is organized as follows: Chapter 2 contains background information on the archaeological landscape; Chapter 3 details the research field and laboratory methods that were employed in the study; Chapter 4 presents the contents of Feature 1 and derives an interpretation of the lifeways of the Lamar people who once lived at King Bee. The project is summarized in Chapter 5, and this is followed by cited references. Wayne C. Boyko's contribution to this report entitled, "Faunal Remains from Site GA08I852", is included as Appendix I in this report.

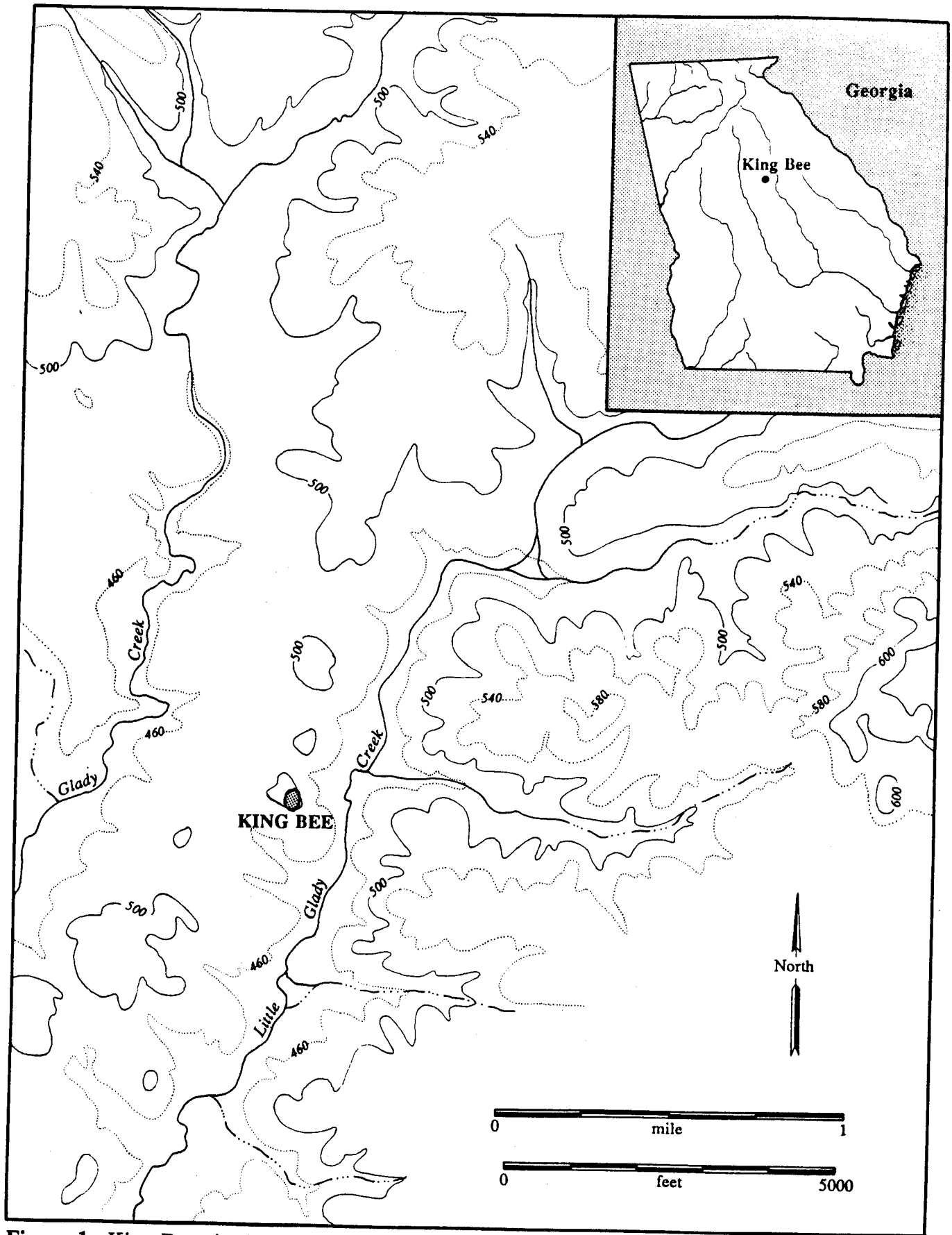


Figure 1. King Bee site location.

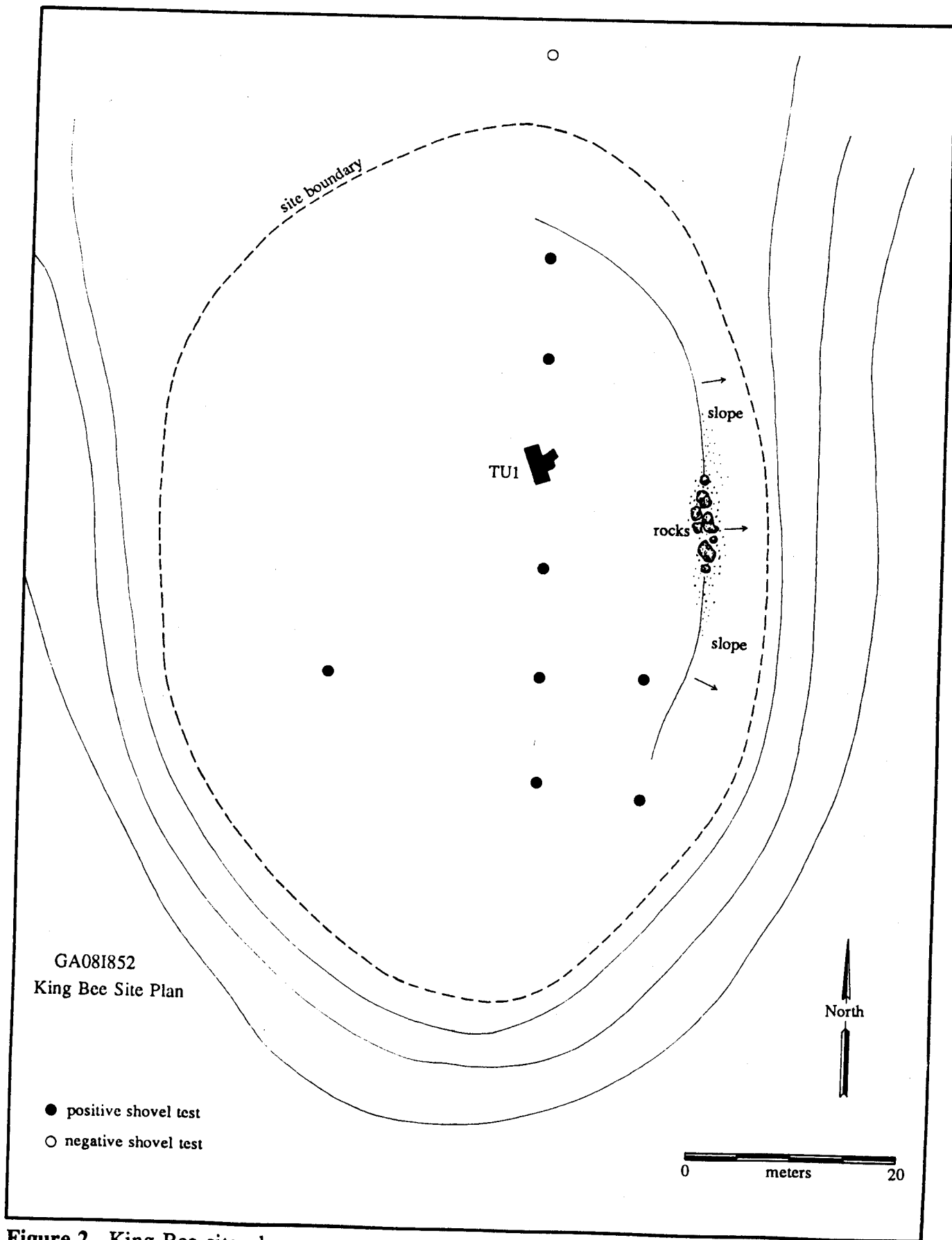


Figure 2. King Bee site plan.

II. ENVIRONMENTAL AND CULTURAL SETTING

ENVIRONMENT

The King Bee site is located on a small knoll on an upland ridge that is flanked by Little Glady and Glady Creeks. This ridge follows a southwest to northeast trend. Little Glady Creek is a tributary of the Little River, itself a tributary of the Oconee River in north central Georgia. The site is located 152 m above mean sea level, 180 m west of Little Glady Creek, and 17 km west of the Oconee River.

The area between Little Glady and Glady Creeks is referred to locally as *the Glades*. This is a curious appellation as a glade is an open area surrounded by wood. Perhaps during the period of first white settlement (in the late 1700s), Indian Old Fields were present and gave the area a glade-like appearance.

The site is currently in a mixed pine and hardwood forest, no more than 50 years old. A quartz outcrop is situated on the southeastern part of the site. The soil consists of Davidson clay loam (U.S.D.A. 1976).

CULTURAL BACKGROUND

The Oconee Valley has been the focus of considerable archaeological study over the past two decades. The greatest infusion of research resulted from the construction of the Wallace Reservoir (Lake Oconee) in the late 1970s. This reservoir inundated approximately 19,000 acres in portions of Greene, Morgan, Putnam, and Hancock counties. Archaeological survey, backhoe testing, and large scale excavations provided a massive body of information covering all periods of prehistory. These data have yet to be thoroughly reported. Unpublished manuscripts (cf. Ledbetter 1978, Gresham 1987) and laboratory analysis documents comprise much of the data on upland Lamar settlements.

Excavated Lamar Sites in the Oconee Valley

Many Lamar sites have been excavated in the Oconee Valley. Most of these were located within the Wallace Reservoir. Fewer than 14 upland sites located away from the Oconee River have received any excavation. Several of these are in close proximity to the King Bee site (Kowalewski and Hatch 1988).

The Dyar site (9Ge5), a platform mound and small settlement occupied during the Lamar period is located within the broad expanse of Oconee river floodplain north of the Fall Line (Smith 1981). This excavation provided a ceramic sequence that permitted the subdivision of the Lamar period into phases. This ceramic sequence has wide application within the Oconee drainage.

Further investigation of other Lamar period mound sites, including: Scull Shoals (9Ge4), Little River (9Mg46), Shinholser (9B11), and Shoulderbone (9Hk1), resulted in refinement of the Lamar period ceramic sequence, as well as provided a better understanding of sequence of growth of the mound centers within the valley (Williams and Shapiro 1987). The Little River mound group is the nearest known mound center to the King Bee site.

Excavations of non-mound sites have also yielded information on Lamar ceramics. Williams' (1983) examined a Bell Phase village at the confluence of the Apalachee and Oconee rivers. This excavation resulted in the definition of the Bell Phase-- the final phase of Lamar settlement within the Oconee Valley. Mound construction is not associated with Bell Phase sites. The ceramic criteria used to define the ceramic components at the King Bee site were provided by Smith (1981), Williams (1983), and Williams and Shapiro (1987).

Excavations during 1936 at the Carroll site (9Pm85), are the most extensive excavation in the vicinity of the King Bee site to date. The details and findings of this WPA period excavation have recently been reconstructed (Kowalewski and Williams 1989). The Carroll site had structures, burials, and refuse features. It is likely that the occupation there was contemporaneous with King Bee.

Petrullo (1954) examined several Lamar sites in northern Putnam County. He excavated a large pit, post molds, and several burials at the Jordan site (9Pm60). This site has a Bell Phase component, and was probably not occupied at the same times as King Bee.

At the Barker site (9Pm77), Petrullo excavated a refuse pit similar to the feature identified at the King Bee site (Petrullo 1954). The Barker site is located on the opposite side of Glady Creek from the King Bee site. Unfortunately, a detailed description of this feature, its contents, and phase association is not available.

Hatch conducted excavations at the Woodlief, Lindsey, and Sugar Creek (9Mg4) sites in Putnam and adjacent Morgan counties (Hatch 1987; Kowalewski and Hatch 1988). Of these three sites, the Woodlief site is closest to the King Bee site. Woodlief (9Pm137) contained five burials and several refuse pits. This site has a Dyar phase component and may have been contemporary with the King Bee site.

In summary, these excavations tell us that upland Lamar sites in the vicinity contain structures, burials, and refuse pits. Collectively, these features attest to the permanent nature of upland settlement in this area.

Archaeological Survey and the Definition of the Oconee Province

Wood and Lee (1974) and Wood (1975) surveyed the uplands surrounding the Wallace Reservoir. Their research was simply aimed at increasing the inventory of sites in the Lake Oconee area. Several sites located by them were near the King Bee site.

From 1977 to 1979, the University of Georgia conducted intensive survey research within the Lake Oconee area (Gresham, 1987). These data were supplemented by survey of four upland transects, extending out five miles from the Oconee River. Elliott's (1981) survey of the Finch's Tract, a large upland timber clearcut in Greene County, near the outer boundary of the Oconee drainage basin, contained a high frequency of Lamar sites, particularly during the Dyar and Bell phases. This upland clearcut study spawned many subsequent studies. All other full coverage surveys since the Finch's survey have been located well to the north of the King Bee site.

Previous Research at King Bee

The King Bee site was first located in June 1988 during a reconnaissance level survey of Forest Service Compartment 157 (Elliott 1989). Ten shovel tests were excavated during the initial investigation of the site (Figure 2). These tests revealed a plow disturbed zone 13-15 cm in thickness. Quartz debitage was widespread, but ceramics were found in only two of the 10 shovel tests. One shovel test (Shovel Test 5) intruded into a Lamar period refuse pit feature. This feature (Feature 1) was further examined by the excavation of two 50 x 50 cm tests placed adjacent to Shovel Test 5. Feature 1 contained an important deposit of artifacts and food remains. Plans were immediately outlined for excavating this feature.

III. RESEARCH METHODS

FIELD METHODS

Additional fieldwork was conducted by a seven person crew during July 1988 under the direction of Daniel Elliott. Investigations included the excavation of a 3 x 1 m test unit placed over the suspected location of the Lamar period pit feature initially defined during the survey. This unit was placed with the long axis oriented 28 degrees west of north.

Approximately 1/3 of Feature 1 was contained within the 3 x 1 m unit and in the previously excavated Shovel Test 5 and its two 50 x 50 cm shovel test extensions.

All fill from the excavations was screened through 1/4 inch hardware cloth. Photographs of the excavations were taken and plan and profile drawings were made. Soil samples were collected from within the feature for fine screening.

LABORATORY METHODS

After the completion of fieldwork, all artifacts, notes, and maps were returned to Athens, Georgia for analysis. The artifacts were cleaned by volunteers from the Northeast Georgia Chapter of the Society for Georgia Archaeology at the University of Georgia, Laboratory of Archaeology, and rebagged for analysis. Laboratory analysis was directed by Daniel Elliott and assisted by Rita Folse Elliott and R. Jerald Ledbetter during August 1988. Shovel Test 5 and the two extensions excavated during the original survey (Elliott 1988) were reanalyzed during this study.

The ceramic analysis included sorting by surface decoration, vessel portion, and vessel form. An exhaustive attempt to mend sherds from the same vessel was conducted. Following this, a minimum vessel count was done. Lithics were grouped into two major categories--tools and debitage. For lithic tools, tool type and function and lithic raw material were noted. Soil samples were fine screened and examined for floral remains. All faunal materials were submitted to Wayne C. Boyko of Penn State University for analysis.

All collections, notes, maps, and other records from this study are the property of the U.S.D.A. Forest Service and will be curated at their designated facility.

IV. RESULTS AND INTERPRETATIONS

RESULTS

The test unit was divided into three one meter wide sections designated the north, central, and south sections. Level 1 consisted of a plowzone layer that varied from 12 to 15 cm in thickness. Level 2 in the northern third extended from 12 to 22 cm B.S. Level 3 in this section extended from 22 to 32 cm B.S. Level 2 in the central section consisted of a natural stratum of dark brown clay loam. Level 3 in the central section consisted of an ash lens. Level 4 in the central area extended from 20 to 30 cm B.S. Level 2 in the southern third of the unit extended from 13 to 25 cm B.S. Level 3 in the southern section extended from 25 to 35 cm B.S. These two levels were arbitrarily defined.

The area overlying a portion of Feature 1 was exposed to the base of the plowzone and resulted in an irregular block excavation (Figures 3 and 4). Approximately 1/3 of the feature was excavated.

The stratigraphy revealed a shallow plow zone (12-15 cm thick) overlying an undisturbed refuse pit that had been filled during at least three distinct episodes. The basin shaped pit was circular with a maximum dimension of 3.4 m and a maximum depth of 35 cm B.S. The stratigraphy consisted of: A) a midden and humus clay loam; B) a reddish brown sandy clay; C) a medium brown sandy clay with high ash content; D) a reddish brown clay; and E) dark brown clay loam. The floor of the pit was an irregular reddish brown clay surface.

The period of time between each deposition episode was slight, inferred from the lack of evidence for prolonged exposure and lack of rodent gnawing on the faunal assemblage contained within each of the pit strata. The sherd sample size from each level was not sufficient to show any significant differences between the ceramic assemblages.

Ceramics

543 clay artifacts were recovered from the excavation. These include 509 Lamar period vessel fragments, three smoking pipe fragments, and 31 daub chunks. These artifacts are summarized on Table 1.

Surface decorations included plain, incised, complicated stamped, and combination of incising and stamping. Plain sherds (N=302) dominated the assemblage representing 59 percent. Incising (N=87) was next most frequent constituting 17 percent of the assemblage. Medium Incised (N=54) were most common, followed by Bold Incised (N=29), and Fine Incised (N=4). Complicated stamping (N=62) constituted 12 percent of

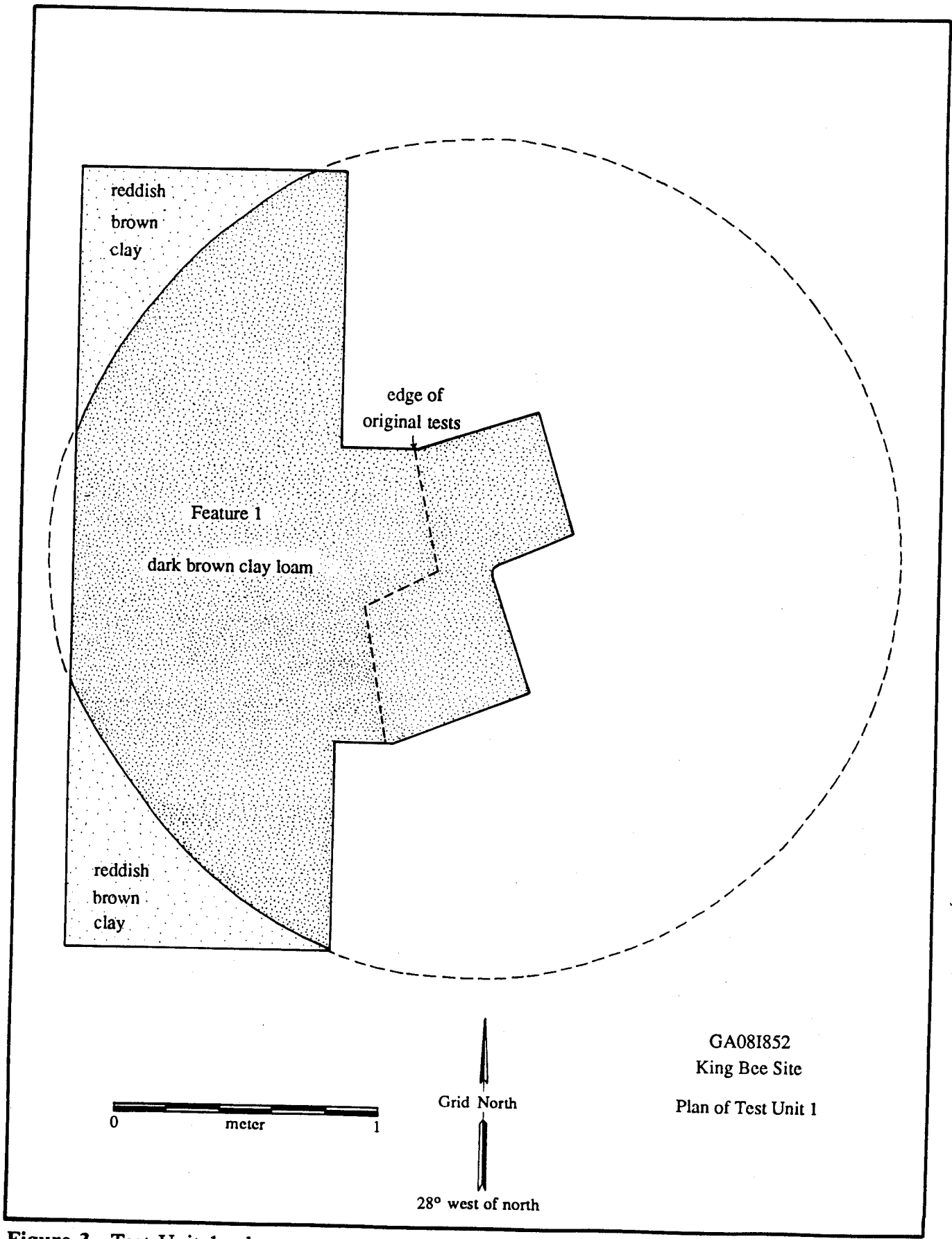
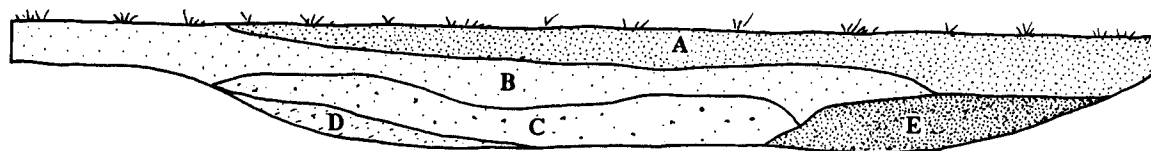


Figure 3. Test Unit 1, plan.



- A - Dark brown loamy clay humus.
- B - Reddish brown sandy clay.
- C - Medium brown sandy clay with high ash content.
- D - Reddish brown clay.
- E - Dark brownish-black clay.

GA081852
King Bee Site
Test Unit 1
East Wall Profile

Figure 4. Test Unit 1, east wall profile.

the assemblage. Curvilinear complicated stamping was slightly more common than rectilinear motifs, although the design motif of most complicated stamped sherds could not be determined because of sloppy execution or over stamping.

A minimum vessel count was estimated for the rim sherd assemblage resulting in the identification of 26 distinct vessels. The ceramic assemblage contains the remains of at least 14 jars, 12 bowls, and three smoking pipes. The functional interpretation for jars vs. bowls is that jars were used primarily for food storage, while bowls were used for preparation and food serving. Food storage, preparation, and consumption were activities conducted at King Bee. The three smoking pipes were used for consuming tobacco and other medicinal/ritualistic herbs.

Rim treatment of jars included five plain vessels and nine folded-pinched rim vessels. Incising was more common on bowls, although four jars were also incised, usually on the interior of the vessel. Complicated stamping was most common on jars. Of the 17 incised vessels, 12 were decorated by medium incision, four by bold incision, and one by fine incision. Bowls included small and large forms. Some of the smaller bowls may represent

TABLE 1. CERAMIC SUMMARY, KING BEE SITE.

| <u>SHERD TYPE</u> | <u>COUNT</u> |
|---|--------------|
| Lamar Bold Incised body | 17 |
| Lamar Bold Incised rim | 12 |
| Lamar Medium Incised body | 29 |
| Lamar Medium Incised rim | 24 |
| Lamar Medium Incised & Complicated Stamped body | 2 |
| Lamar Medium Incised & Punctate body | 1 |
| Lamar Fine Incised body | 4 |
| Lamar Curvilinear Complicated Stamped body | 10 |
| Lamar Rectilinear Complicated Stamped body | 4 |
| Lamar Rectilinear Complicated Stamped rim | 2 |
| Unidentified Complicated Stamped body | 45 |
| Unidentified Complicated Stamped rim | 1 |
| Lamar Plain body | 269 |
| Lamar Plain rim | 33 |
| Tobacco pipe fragments | 3 |
| Residual sherds | 56 |
| Daub chunks | <u>31</u> |
| TOTAL SHERDS | 512 |

Rim treatment included folded pinched rims, notched/folded pinched rims, and plain rims. Folded pinched rims were found on plain, rectilinear complicated stamped, and unidentified complicated stamped vessels. A previously unstudied attribute, the horizontal distance from pinch to pinch, was measured for 16 folded pinched rim sherds. The results of this analysis are shown on Table 2. The pinches on the majority of sherds averaged 10 mm or less.

The rim treatment on incised vessels was almost exclusively plain, although two Medium Incised sherds with notched rims were found. The same type of notched lip also was observed on a plain vessel sherd. Two selected Lamar incised cazuela vessel fragments are illustrated on Figure 5. Selected rim profiles are shown on Figure 6.

The smoking pipe fragments included two fine incised pipe fragments and one plain elbow fragment. All three fragments were too small to offer a description of the overall pipe design. The presence of three different smoking pipe fragments suggests that

TABLE 2. PINCH WIDTH ANALYSIS, KING BEE SITE.

| <u>WIDTH (mm)</u> | <u>COUNT</u> |
|-------------------|--------------|
| 7 | 1 |
| 8 | 2 |
| 9 | 3 |
| 10 | 6 |
| 11 | 0 |
| 12 | 1 |
| 13 | 0 |
| 14 | 1 |
| Unknown | <u>2</u> |
| TOTAL SAMPLE (N=) | 16 |

tobacco, or other herbs, were consumed at King Bee. Notably absent from the collection were pottery discs--a common artifact on many Lamar ceramic assemblages.

The absence of Lamar folded punctate rims, relative rarity of bold and fine incision, absence of T-rims, and the use of multiple incised lines in the design motifs, support a late Dyar phase age for the ceramics recovered from Feature 1.

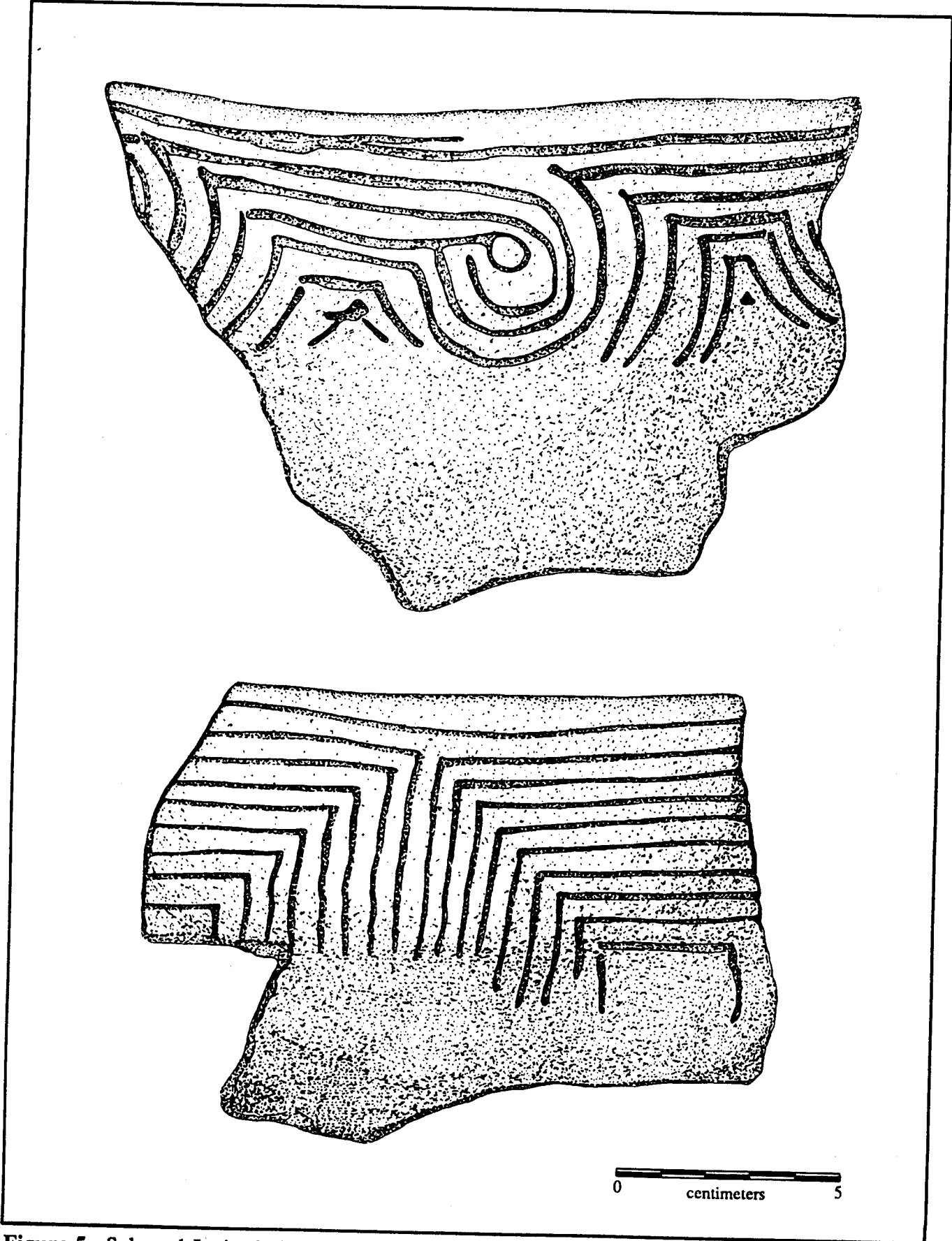


Figure 5. Selected Incised sherds.

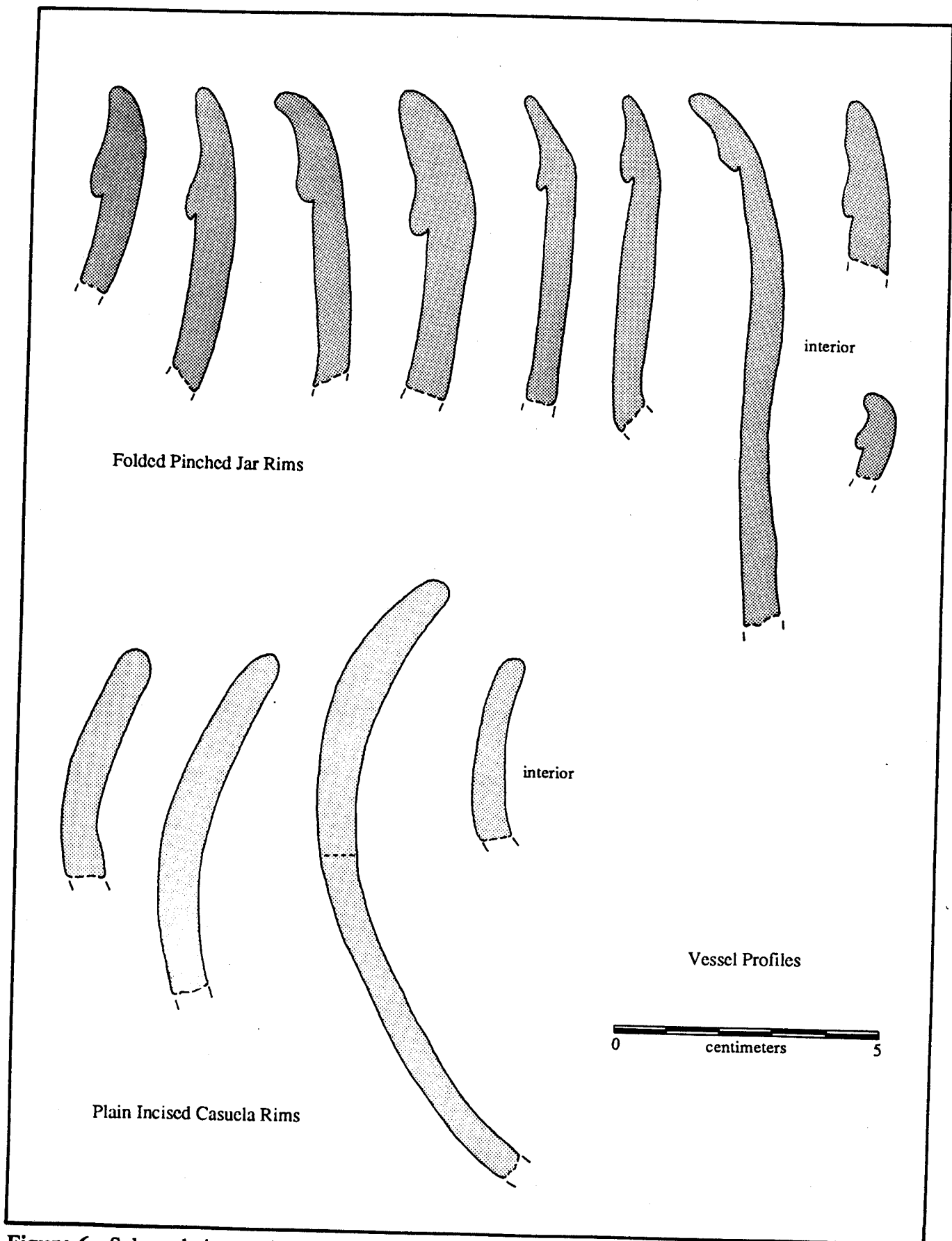


Figure 6. Selected rim profiles.

Lithics

A total of 587 lithic artifacts was recovered from the excavation. All of these were debitage except for 16 undiagnostic tools. These artifacts are summarized in Table 3. Whether this debitage is the product of the Lamar people living at King Bee is inconclusive. The absence of diagnostic artifacts (particularly small triangular projectile points) argues against knapping during the Lamar period, but the sheer abundance of lithic debitage within the feature argues for a possible association with the Lamar occupation. Certainly, the excellent quality quartz was visible and available to the Lamar people.

TABLE 3. LITHIC SUMMARY, KING BEE SITE.

| <u>ARTIFACT</u> | <u>COUNT</u> |
|--|--------------|
| TOOLS | |
| Quartz hammerstone fragment | 1 |
| Gneiss hammerstone | 1 |
| Light colored chert drill medial fragment | 1 |
| Quartz biface fragments | 7 |
| Quartz informal flake tools | 5 |
| Light colored chert informal flake tool | <u>1</u> |
| TOTAL TOOLS | 16 |
| DEBITAGE | |
| Light colored chert debitage | 13 |
| Quartz debitage | 557 |
| Diabase debitage (possible hammerstone fragment) | <u>1</u> |
| TOTAL DEBITAGE | 571 |
| OTHER STONE | |
| Fire cracked rocks | 52 |
| Quartz pebbles | <u>17</u> |
| TOTAL OTHER STONE | <u>69</u> |
| TOTAL STONE ARTIFACTS | 656 |

The faunal assemblage recovered from Feature 1 was analyzed by Wayne C. Boyko. His report is included as Appendix I in this report. The following summary has been extracted from his study.

Bone tools

Five mammal bone fragments were modified into tools. Four awls were fashioned from long bone shaft fragments. One knife-like tool was ground flat.

Food remains

The faunal sample was dominated by box turtle (*Terrapene carolina*) and white-tailed deer (*Odocoileus virginianus*). Other species represented include mud and musk turtles (*Kinosternon* sp. and *Sternothaerus* cf. *odoratus*), raccoon (*Procyon lotor*), cottontail (*Sylvilagus floridanus*), gray squirrel (*Sciurus carolinensis*), eastern rice rat (*Neotoma floridana*), unidentified bird, amphibian, fish, and reptile. Shellfish remains included two genus of bivalves (*Elliptio* sp. and *Lampsilis* sp.) and four genus of gastropods (*Campelona* sp., *Goniobasis* sp., *Triodopsis* sp., & *Heliodiscus* sp.).

Boyko concluded that most of the bones were cooked by boiling and stewing rather than roasting. Although present in the assemblage, fish was probably not a significant element of the diet. Shellfish were interpreted as a dietary supplement rather than a main part of the diet. Large mammal bones were fractured to obtain marrow. The minimal evidence of rodent and carnivore damage and weathering indicates a relatively rapid burial of the assemblage.

Floral remains recovered from Feature 1 include one corncob and several hickory nut shell fragments. Examination of a 6 liter fine screened sample from the feature yielded only hickory nut fragments and wood charcoal.

INTERPRETATIONS

King Bee is an upland site that contains subsurface features from the Dyar phase of the Lamar period. This site was probably occupied sometime between A.D. 1520 and A.D. 1580. This site is not unique to the Oconee valley. It was probably typical of many thousands of farmsteads that dotted the upland landscape within the archaeologically defined Oconee province (Smith and Kowalewski 1980). The horizontal extent of the Lamar occupation at the King Bee site is not extensive. The entire site measures only 85 x 55 m.

Sometime during the 1500s, a big hole was dug at King Bee. The original function of the hole is unknown. It may have been excavated to procure clay for house construction or it may have been a large cooking pit. At some point following its excavation, the pit was intentionally filled with domestic refuse and fire ashes from a household. Approximately one-third of this pit was examined archaeologically. The desire to fill the pit suggests that it

was within the yard, rather than off the site. Excavations by Hatch at the Lindsey site and Sugar Creek site have shown that refuse pits tend to be spatially separated from the domestic structures. The identification of a structure would require removal of the plowzone from a large surface area north and west of Feature 1.

A large Lamar site is located 2.4 km northeast of the King Bee site, while another large Lamar site is located on private land .9 km to the southwest. Both sites are located on the same major ridge as King Bee. These two sites either represent multiple overlapping farmsteads occupied at different times or a residential cluster that could be characterized as a hamlet or small village. These sites are much larger than the King Bee site, and probably represent a distinct category within the upland Lamar settlement continuum. Three smaller Lamar habitation sites are located within 1.8 km of King Bee. Scattered sherds, possibly associated with Lamar habitations were observed on four other sites identified during survey of Compartment 157 (Wood and Lee 1974; Wood 1975, Elliott 1988).

The vessels at the King Bee site exhibited much variability in ceramic execution, suggesting more than one potter made them. Since women were the potters in southeastern societies, as observed ethnohistorically, it is inferred that at least two different women made the pots found in Feature 1. The variability could be explained by a mother teaching her daughter ceramic skills, or it could be the product of several adult potters of varying ability.

Perhaps one method for distinguishing between potters would be pinch width analysis. As demonstrated in Table 2, there is variability in pinch width. This variation could be attributable, in part, to differences in finger size of the potters. These differences also may be due to the amount of clay used for the fold.

The clay vessels at the King Bee site were used for preparation, serving, and storage of food. Storage vessels were slightly more common than preparation and serving vessels. The prevalence of storage vessels indicates a concern for extending the use life of seasonally restricted foodstuffs, possibly fruit or grain.

The zooarchaeological and ethnobotanical remains within Feature 1 represent deposition of refuse from more than one season of the year. Year round occupation can be inferred from the contents of Feature 1. Deer hunting is optimal during the fall and winter. Turtle harvest is optimal during late spring through early summer. Corn agriculture is optimal during the summer. Hickory nut harvest is optimal during the fall and winter, but is not restricted to this period.

V. SUMMARY

A Dyar phase pit feature was excavated at the King Bee site (Forest Service Site GA08I852). This project was conducted by the LAMAR Institute under volunteer contract with the U.S.D.A. Forest Service, Gainesville Office. The feature contained a variety of artifacts discarded by a household associated with a late prehistoric/protohistoric culture that archaeologists have defined as Lamar. This trash feature provided clues to settlement and subsistence strategies that were employed by the residents of a upland setting on the extreme western margin of the Oconee River valley.

These investigations have demonstrated that the archaeological contents of the King Bee site have research value. The site has potential for addressing topics such as late prehistoric and protohistoric settlement, social organization, subsistence, and residential structure. This site is recommended as eligible for nomination to the National Register of Historic Places.

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APPENDIX I. FAUNAL REMAINS FROM SITE GA08I852

By Wayne C. Boyko, Pennsylvania State University.

FAUNAL REMAINS FROM SITE GAO8I852

Wayne C. Boyko

A total of 437 bone or bone fragments and 626 shell fragments were recovered from test excavations of a midden feature on site GAO8I852 and submitted for analysis.

All excavated material was screened through 1/4" hardware cloth at the site, except for control samples which were screened through window screen. Comparison of the two subsets of faunal material showed that no significant bias was present in the sample from the 1/4" screen as opposed to that from the window screen. Only one new category of animal, Neotoma floridana-the eastern rice rat, was represented in the window screened sample that was not present in the 1/4" screen sample, and this animal was represented by a single calcaneus. This animal was probably of no importance in the subsistence economy. It appears there was no major information loss due to screening almost exclusively through 1/4" hardware cloth.

Although the entire feature was not excavated the faunal sample is viewed as representative for the entire feature- there was essentially no difference in sample composition in the material collected in the two screen sizes, the preservation of the faunal materials was very good, and middens such as this one are the main depository of household trash in late prehistoric upland sites in the region.

The faunal data from the midden feature are presented in Table 1. As can be seen, a small variety of taxa are present in the

sample. It can be argued that this lack of variety reflects the small size of the faunal sample, or alternatively, that it may be in part due to the small number of species actually exploited (cf. Rudolph and Hally 1982). Since fine screening did not increase the species diversity in the sample appreciably (only one new species added), the latter explanation seems the more probable.

Table 1. Faunal Material From Site GAO8I852

| | <u>No.</u> | <u>%</u> | <u>Wt.(g)</u> | <u>%</u> |
|---|------------|----------|---------------|----------|
| <u>Elliptio</u> sp. | 67 | 10.7 | 179.8 | 37.1 |
| <u>Lampsilis</u> sp. | 10 | 1.6 | 49.9 | 10.3 |
| Unidentified Bivalve | 401 | 64.1 | 206.8 | 42.7 |
| Unidentified Bivalve (Burned) | 97 | 15.5 | 18.1 | 3.7 |
| <u>Campelona</u> sp. | 1 | 0.2 | 4.9 | 1.0 |
| <u>Goniobasis</u> sp. | 11 | 1.8 | 2.7 | 0.6 |
| <u>Triodopsis</u> sp. | 34 | 5.4 | 22.4 | 4.6 |
| <u>Heliodiscus</u> sp. | 5 | 1.0 | 0.2 | 0.04 |
| | <u>626</u> | | <u>484.8</u> | |
| <u>Terrapene carolina</u> | 85 | 30.2 | 200.5 | 61.5 |
| <u>Kinosternon</u> sp. | 6 | 2.1 | 6.8 | 2.1 |
| <u>Sternotherus</u> cf. <u>odoratus</u> | 3 | 1.1 | 2.0 | 0.6 |
| Unidentified turtle | <u>187</u> | 66.5 | <u>116.7</u> | 35.8 |
| | 281 | | 326.0 | |
| Unidentified reptile | 3 | 100.0 | 0.3 | 100.0 |
| Unidentified fish | 1 | 100.0 | 0.1 | 100.0 |
| Unidentified amphibian | 6 | 100.0 | 0.3 | 100.0 |
| Unidentified large bird | 2 | 16.7 | 1.1 | 45.8 |
| Unidentified bird | <u>10</u> | 83.3 | <u>1.3</u> | 54.2 |
| | 12 | | 2.4 | |
| <u>Odocoileus virginianus</u> | 31 | 23.1 | 153.9 | 54.7 |
| <u>Procyon lotor</u> | 3 | 2.2 | 1.7 | 0.6 |
| <u>Sylvilagus floridanus</u> | 1 | 0.7 | 0.6 | 0.2 |
| <u>Sciurus carolinensis</u> | 1 | 0.7 | 0.4 | 0.1 |
| <u>Neotoma floridana</u> | 1 | 0.7 | 0.1 | 0.04 |
| Unidentified large mammal | 57 | 42.5 | 111.5 | 39.6 |
| Unidentified small mammal | 5 | 3.7 | 0.5 | 0.2 |
| Unidentified mammal | <u>35</u> | 26.1 | <u>12.8</u> | 4.5 |
| | 134 | | 281.5 | |

The sample is dominated by two animals: the box turtle (Terrapene carolina) and the white-tailed deer (Odocoileus virginianus).

In the turtle sample, the box turtle accounts for 30.3% of the fragments identifiable at least to the level of turtle, as well as 61.5% of the weight of the turtle bone in the sample (mostly carapace and plastron fragments). Most of the unidentified turtle bone, again mostly carapace and plastron fragments, is likely to be box turtle. The other turtles present (mud and musk turtles), combining for 3.2% of the turtle fragments and 2.7% of the weight of turtle fragments, cannot be considered as playing a major role in the subsistence economy, given their low frequency of occurrence in the sample.

In the mammal sample, no other identifiable animal category comes close to that of the white-tailed deer, in number of fragments or in weight. Many of the bone fragments in the categories of large mammal and mammal are undoubtedly deer bone also. In light of this, deer appears to be the primary mammal food source, as it is throughout the southeast at this time. The raccoon, Procyon lotor, is represented by three fragments (2.2% of the mammalian assemblage), while the cottontail Sylvilagus floridanus, the gray squirrel Sciurus carolinensis, and the eastern rice rat Neotoma floridana are represented by one element each. That no other animal category besides the white-tailed deer appears with any frequency suggests that other animals were not taken on anything more than a chance basis.

Even though a portion of the midden fill was screened through window screen, only one fish bone was noted, and it was not from the fine screened portion of the assemblage. Fish does not appear to be a major component of the subsistence economy. The same could be said of reptiles other than turtles, represented by 3 elements; amphibians, represented by six elements; and, birds, represented by twelve elements.

Molluscs do appear to have contributed to the diet at this site, but given their numbers in the assemblage and since they are of relatively low nutritional value (Parmalee and Klippel 1974), they were probably more of a supplement to the diet rather than a primary food resource. Two types of molluscs were identified to the species level, with representatives of the genus Elliptio being more numerous (67 identified fragments) than those of the genus Lampsilis (10 identified fragments). Two types of aquatic gastropods were identified- Campelona sp. (1 identified specimen) and Goniobasis sp. (11 identified specimens)- as well as two types of land gastropods- Triodopsis sp. (34 identified specimens) and Heliodiscus sp. (5 identified specimens). Neither the land or aquatic gastropods appeared to have contributed to the diet significantly. The wide range of habitats to which these molluscs and gastropods can adapt precludes any type of environmental reconstruction using them as indicators.

Thirty-four fragments of mammal bone (25.4%) exhibit some evidence of burning, as does 29 fragments of turtle (10.3%). Seven bird fragments are burned (58.3%). This argues that the

main method of cooking meat was not roasting it over an open fire. Rather, it confirms ethnographic accounts (Swanton 1946) that claim boiling and stewing were the cooking techniques used most often.

Carnivore damage to the faunal assemblage was minimal, with 11 fragments of mammal bone (8.2%) and one fragment of turtle (0.4%) exhibiting carnivore damage.

Consistent with more intense utilization of faunal resources is the occurrence of spiral fractures in the larger mammal bones, the result of cracking bones to get at marrow. Forty-six mammal bone fragments (34.3%) are spiral fractured, and although carnivores such as dogs or wolves have been known to spiral fracture mammal long bones, the fact that carnivore damage to the faunal assemblage is minimal would argue against this as a major causal agent. A more realistic view is that the inhabitants of the site used everything of nutritional value from these animals including bone marrow.

Rodent modification was evident on four mammal bone fragments (3.0%) and two turtle carapace fragments (0.7%).

The relative lack of split-line cracks and exfoliation in the mammalian faunal assemblage indicates that the mammalian assemblage, at least, did not spend much time on the surface. Split-line cracks and exfoliation have been shown to be indicators of the amount of surface weathering a mammalian assemblage has undergone (Behrensmeyer 1978; Tappen and Peske 1970), and their lack indicates the assemblage has undergone relatively rapid burial.

Seasonality

Since there are two main species represented in the assemblage, the focus will be on the box turtle and the white-tailed deer.

Although the amount of meat that box turtles can provide is small (about 1/8 of a kilogram from a 0.5 kilogram box turtle), their population densities can be fairly high (4 to 5 per acre in Maryland (Barbour 1973:94)). During some parts of the year they can be harvested quickly and easily. In the period from about mid-May to mid June, box turtles are extremely mobile and are easily spotted as one goes about daily activities (Boyko 1987:80). Besides their meat value, box turtles were also valued for their carapaces.

Although fewer in number than box turtle remains, the meat represented by the white-tailed deer remains make this animal the most important in the subsistence economy. Prime deer hunting season would have been in the fall and winter, although deer could be taken in any season (Swanton 1946). Hunts using any type of drive would be most efficient during the fall and winter, when deer would have been in the uplands. Upland forests would have had fewer obstructions from brush, fallen timber, and water- all of which are a hindrance to driving and provide opportunities for deer to escape. Decoy hunting and stalking would have been more efficient during the rut (fall to early winter). During the rut, bucks become gregarious and seek to engage other deer in fighting (Boyko 1987:59).

Each of the major food resources at the site would have been hunted most efficiently at different times of the year. Box turtles would be taken easiest in the spring-early summer, while white-tailed deer would most efficiently taken during the fall-early winter.

Bone Tools

Five modified fragments of mammalian bone were observed in the assemblage. No modified shell was present. One of the fragments was identifiable as a white-tailed deer metapodial. The other four were identified as large mammal longbone shaft fragments. All five had the same traits- one end was ground down and polished from use. In four of the cases, the edge was ground down to fashion an awl-like implement. All four were broken. The fifth was ground down flat-similar to a knife blade in appearance.

Three box turtle carapaces were observed to have the vertebrae removed. Cut marks were apparent on two mammal bone fragments, one other box turtle carapace, and a bird bone. The box turtle carapaces with the vertebrae cut out may have been in the first stages of manufacture of cups or scoops. Several other box turtle carapaces in the sample were broken along the neural crest, so it was not possible to see whether vertebrae were present.

Conclusions

The vertebrate faunal sample assemblage submitted for analysis

was representative of the larger feature from which it was taken. Preservation of the faunal material was very good, and screening through 1/4" hardware cloth introduced no significant biases into the assemblage.

Species diversity in the assemblage is low, but this is taken as a reflection of actual animal exploitation rather than a sampling artifact. Two taxa make up the vast majority of the identified taxa. These two major animal categories were the box turtle and the white-tailed deer.

The faunal assemblage has undergone minor modification: including modification from weathering, carnivore and rodent damage, and the manufacture of utilitarian and ornamental objects. The actual manipulation of the faunal assemblage was not great by the site's inhabitants, but they did tend to extract the most nutritional material from the animal possible.

That the two major taxa represented are most efficiently taken at different times of the year could indicate occupation of the site during spring-early summer and fall-early winter. Alternatively, it could indicate that the site was occupied year round.

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