

ARCHAEOLOGICAL TESTING AT THREE NON-MOUND
MISSISSIPPIAN SITES IN THE BLACK WARRIOR
VALLEY, ALABAMA

*Final Report of Season IV of the
Black Warrior Valley Survey*

Jennifer L. Myer



**Archaeological Testing at Three Non-mound Mississippian Sites in the
Black Warrior Valley, Alabama: Final Report of Season IV of the
Black Warrior Valley Survey**

**Final Report
Project Number: PT02-SP226**

by

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Chapter 1: Introduction

The fourth season of the University of Alabama Department of Anthropology's Black Warrior Valley Survey was carried out in the winter and summer of 2002. Having spent the previous three field seasons locating and characterizing small outlying sites by means of surface collections and shovel testing, this year we wanted to begin to assess the integrity and research potential of the sites and the site clusters we have identified to date. To this end, three sites were selected for testing during this season of fieldwork. We had several goals, all related to archaeological resource management at the regional level.

First, at a basic level, we wanted to obtain information on the degree of preservation shown by these small sites. The few non-mound Mississippian sites in the Black Warrior Valley that have been tested before our project all had preserved subsurface features such as post holes and refuse-filled pits. Preserved sheet middens below the plow zone, in contrast, have been rarely encountered. We needed more data bearing on whether or not this pattern is a general one. Beyond this, it was important to learn whether well-preserved faunal and botanical remains could be located.

Second, where subsurface features could be located, we wanted to know what kinds of features were present, how ubiquitous these features were, and how densely clustered they were. Because such small sites have long been assumed to be farmsteads, or small year-round domestic farming settlements, it was especially important to learn if the remains of domestic houses could be located as patterns of post holes or wall trenches, and if so, what other kinds of features were associated with them.

Third, given the depth, feature density, and feature clustering in these sites, we wanted to ascertain the best methods for their investigation, by evaluating several methods of subsurface testing.

Fourth, given the now-extensive data base of surface collections, we wanted to determine the relationship of surface-collected and plow zone evidence to subsurface deposits. More specifically, we wanted to further test the idea proposed in previous seasons of survey that shell-tempered pottery quickly disintegrates in the plow zone relative to grog-tempered pottery, thereby biasing samples from surface collection and shovel tests.

Fifth, having proposed that certain clusters of non-mound sites are contemporaneous and form dispersed communities, we wanted to test the validity of one such site cluster. We chose the Braughton site cluster for this test (now renamed the Landbridge mound cluster), and proposed to re-survey it with a more precise, controlled surface collection guided by differential global positioning with sub-meter accuracy.

The fieldwork was successful in all of these goals, with the exception of the last (to be explained below), thanks in large part to the help of 72 volunteers who contributed over 500 labor hours to the project.

Project Background

The University of Alabama Department of Anthropology's Black Warrior Valley Survey was begun in 1999 in order to produce survey data which, when combined with those of previously recorded sites, could be used to more thoroughly describe and analyze the Moundville settlement pattern. Survey areas were chosen with the goal of providing more representative coverage of the different environmental types within the valley walls. This included surveying the more marginal areas within the Black Warrior Valley where few Mississippian sites had previously been recorded. The reason for this was that prior surveys, with the exception of those conducted as cultural resource management projects, were generally opportunistic, focusing in most cases on easily surveyed agricultural fields, which are located for the most part on well-drained soils. This practice resulted in tentative conclusions that rural settlements tended to be located in this specific type of environment, even though more marginal areas had yet to be investigated (Welch 1998; Hammerstedt and Myer 2001b).

The first season of the Black Warrior Valley Survey, which took place in the summer of 1999, focused on surface collection of plowed fields and resulted in a preliminary analysis of the environmental characteristics of non-mound Mississippian sites in the Black Warrior Valley (Hammerstedt 2000). This season was an unfunded pilot project designed to determine the feasibility of this type of survey and to gain familiarity with the area, as well as its landowners. The second and third seasons of the project were funded by the Alabama Historical Commission. During the second season, the surface collection of plowed fields continued, while shovel testing of marginal environments was begun in order to increase the representativeness of survey coverage (Hammerstedt and Myer 2001b). The third season of the survey focused mainly on shovel testing areas whose coverage was thus far poorly represented, but also involved a limited amount of surface collection in plowed fields.

The most current, fourth season of the Black Warrior Valley Survey was intended to focus on a selected cluster of 18 Mississippian sites recorded during the 2000 season of the project. This site cluster is located in a single field on the Black Warrior River approximately 12 kilometers north of the Moundville site. Although the field had previously been surface collected, we planned to re-collect it in 10-meter grid squares. This would help to define site boundaries more precisely and to further establish that the large Late Woodland artifact scatters in the field were in fact overlain by smaller Mississippi period sites, as has been previously hypothesized (Bozeman 1982; Hammerstedt 2000; Hammerstedt and Myer 2001a). Once the field had been surface collected, several sites were to have undergone subsurface testing. Shovel testing, as well as limited amounts of excavation were to have taken place at these sites.

Unfortunately, we were unable to carry out the plan exactly as described above. Because our field season was to occur during the growing season and because the farmer would not grant us permission to excavate during this time, we decided to undertake test excavations at one of the sites in February before the field was planted. This was the

Gilliam site, 1Tu904. The plan was to then complete the gridded surface collection during the summer field season. Due to a misunderstanding, the renting farmer later decided that he would rather us not conduct any operations in his field during the summer. Thus, we had to change our plans. A second proposed site cluster, near the Gray's Landing mound, was accessible to us, and so we began operations there. The 11 sites in this cluster were recorded in the late 1970s by the University of Michigan Museum of Anthropology (UMMA) survey. Unfortunately, the field in which these sites are located has not been plowed in over ten years and thus had to be cleared and disked, upon our request. We chose to focus on an area of the field where three sites were located according to the Alabama State Site File. Unfortunately, once this area had been cleared and disked, further attempts at systematic surface collections did not result in the rediscovery of the previously recorded archaeological sites in this area. We were thus also unable to test any of the sites in the Gray's Landing mound cluster.

As a fallback, it was decided that the best option was to conduct test excavations at two small non-mound sites believed to be part of a third cluster of Moundville-related sites around the Foster's Landing or Wiggins mound. The two sites, recorded during the 2001 survey season, are the Fitts site, 1Tu876, and the P.J. site, 1Tu877. This report documents the archaeological testing conducted at these sites, as well as the Gilliam site. Additionally, the results of these activities are presented, in terms of features and artifacts recovered, as well as general interpretations of these data. Though this report includes only a descriptive analysis of these three sites, the general goals and research questions of interest to this project are addressed.

Chapter 2: Fitts Site (1Tu876)

The Fitts site is located in a plowed field in the Black Warrior River floodplain on the Ellisville soil type. It is located within a cluster of at least 38 non-mound Mississippian sites around the Foster's Landing or Wiggins mound (Figure 1). This cluster of sites is different from the other known mound-based clusters of Mississippian sites in that the distribution of sites forms a virtual ring around the Foster's Landing or Wiggins mound. The Fitts site was chosen for subsurface testing because shell was recovered from the site during surface collection, indicating the possible existence of intact deposits beneath the plowzone.

The Fitts site was recorded by the Black Warrior Valley Survey during the summer of 2000. It was relocated through surface collection at the beginning of the 2002 field season. In the case of the Fitts Site (1Tu876), the field was first disked in order to aid in this process. So as to choose the portion of the site most likely to yield intact features, excavation units were placed in the areas with the densest scatters of artifacts.

Test excavations were begun at the Fitts site on May 13th and were completed on June 27th, 2002. The plowzone was between 20 and 30 cm thick below which features were present. Features were dug by hand and screened through ¼-inch mesh screen. Soil

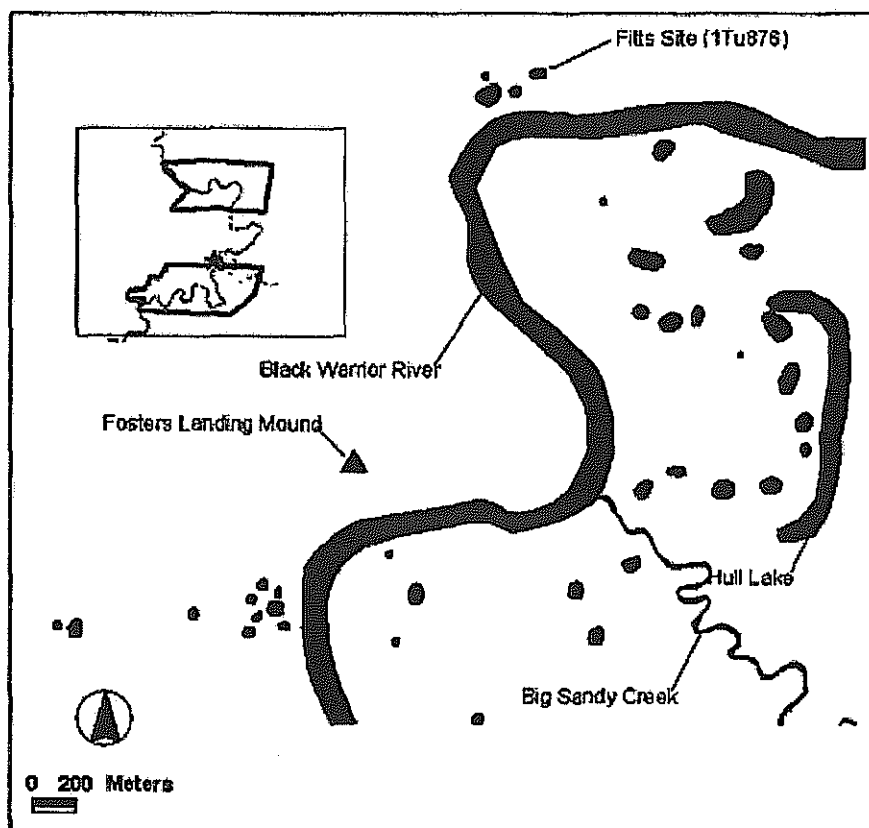


Figure 1. The Foster's Landing or Wiggins mound cluster and the location of the Fitts Site.

samples for floatation were removed from some of the features. Once a feature had been excavated, cross-section and plan views were drawn to scale on graph paper and photographs were taken. Feature information was recorded on standard feature forms. In addition to mapping features at each site, site plans were drawn which included all excavation units and grader trenches. In order to recover a representative sample of artifacts from the plowzone, five two-by-two meter units were dug through the plowzone

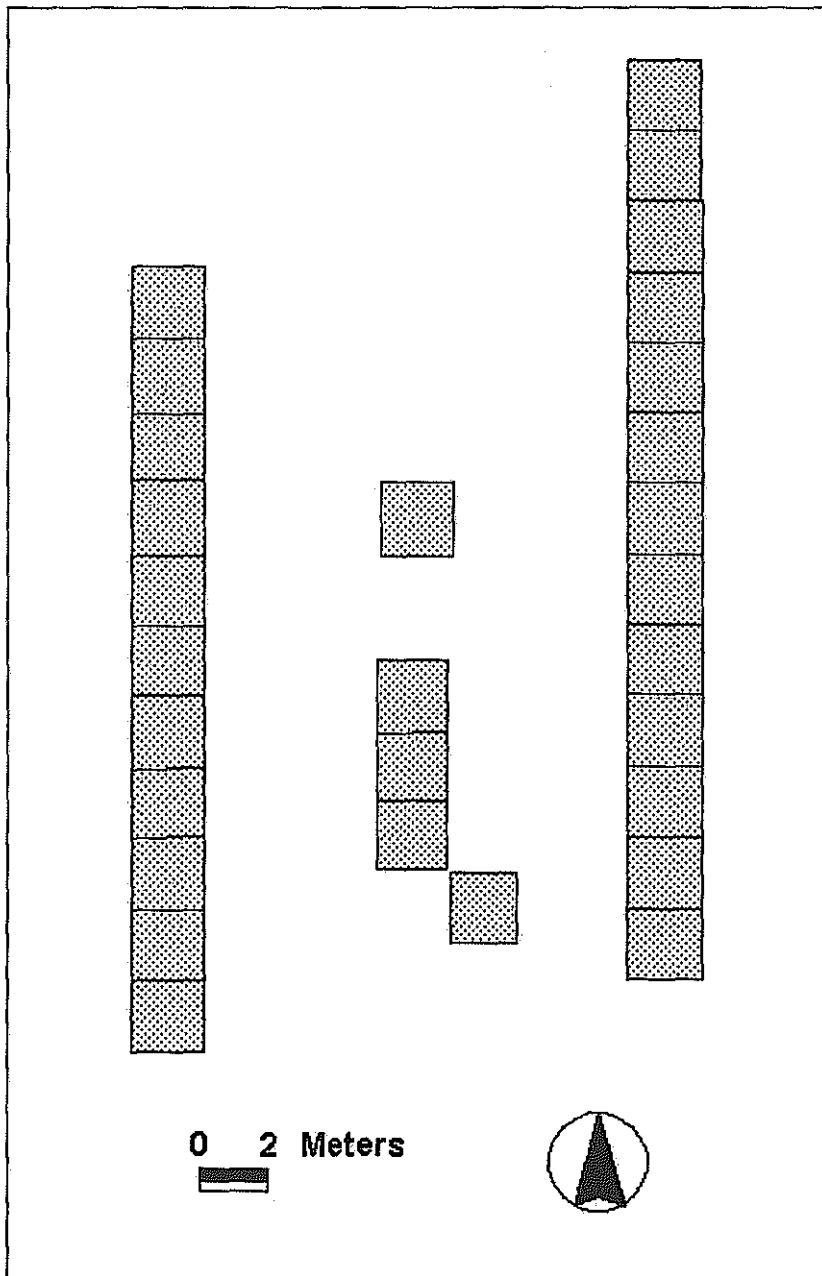


Figure 2. Excavation units and grader strips at the Fitts site, summer 2002.

to subsoil. All excavated soil was sifted using ¼-inch mesh screen. In order to determine the presence of intact features, a road grader was used to scrape away the plowzone from two parallel trenches, one 22 meters and the other 26 meters in length (Figure 2). The trenches were subsequently divided into two-by-two meter squares to aid in troweling the floor of each trench and in mapping features. Within both the hand excavated test units and the stripped trenches, a total of 49 soil discolorations, or possible features were mapped. Of these, 40 were excavated, including 25 postholes, 8 pits, and 2 burials (Table 1; Figure 3). The remaining soil discolorations were determined to have been tree roots. At least 10 of the postholes appear to be the remains of a rectangular structure.

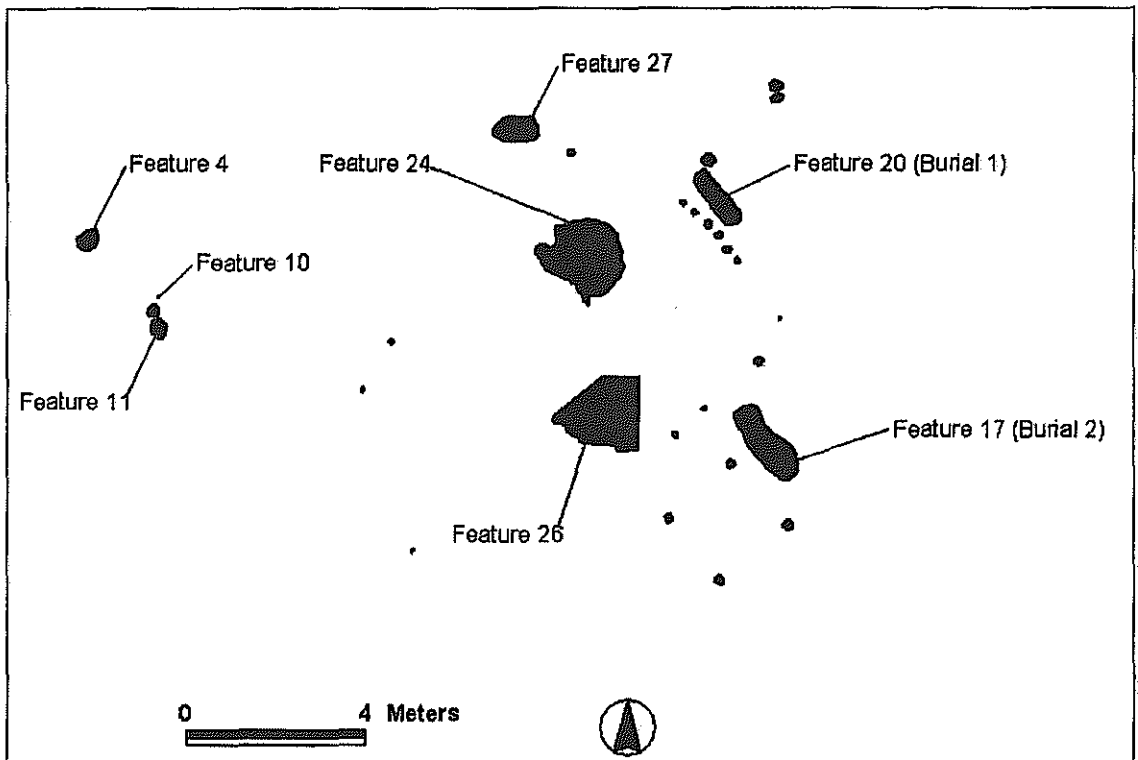


Figure 3. Excavated features at the Fitts site, summer 2002.

The processing of artifacts from the Fitts site began shortly after the fieldwork was completed in July, 2002. Soil samples from 16 features were removed and subjected to flotation. Once the recovered material was washed, it was rough sorted based on material type into standard categories (pottery, stone, daub, C-14 samples, botanical, faunal, and non-aboriginal), with the exception of the human remains which were taken to the University of Alabama Laboratory for Human Osteology. Artifacts from each of these categories were present at the site. Analysis of the pottery from the site was analyzed using two complementary approaches: (a) the type-variety system of ceramic classification (Table 2, Table 3) and (b) by diagnostic modes of decoration (Table 4) and vessel shape (Table 5). The vast majority of the chronologically diagnostic ceramics

analyzed thus far indicate that the Fitts site was inhabited during the Moundville III phase. However, both Baytown Plain pottery (n=10) and a single folded rim sherd were recovered from features at the site. The presence of these sherds in the fill of Moundville III phase features can be explained by the fact that a large amount of earlier pottery was recovered from the surface of the site, possibly indicating an earlier West Jefferson and/or Moundville I phase occupation. As these features were filled in, it is probable that potsherds from this earlier occupation were mixed with the Moundville III phase fill.

<i>Feature #</i>	<i>Type</i>
1	post hole?
2	post hole?
3	post hole?
4a-c	pits
6	post hole
10	pit
11	pit
12	post hole
13	post hole
15	post hole
16	post hole
17	burial 2
18	post hole
19a-o	post holes
20	burial 1
21	post hole
22	post hole
23a-b	post holes
24a-b	pits
24c	post hole?
25	post hole
26a	pit/remnant midden
26b-c	post holes (paired?)
27	pit/remnant midden
28	post hole
29	pit? (unexcavated)
30	post hole?

Table 1. Features excavated at the Fitts site.

	F. 4	F. 10	F. 11	F. 24	F. 26	F. 27	TOTAL
Baytown Plain					3	1	4
Residual grog and shell tempered				1	2		3
Mississippi Plain	46	1	10	940	423	12	1423
Bell Plain	7			117	20		144
Carthage Incised var. Carthage				1			1
Carthage Incised var. Akron				2			2
Carthage Incised var. unspecified				2			2
Moundville Engraved var. Stewart				3	1		4
Moundville Engraved var. Hemphill				7			7
Moundville Engraved var. unspecified				8	2		10
Barton Incised var. Barton				1			1
Barton Incised var. unspecified				3			3

Table 2. Ceramic assemblage recovered from pit features at the Fitts site during the summer of 2002.

The chipped stone artifacts from the Fitts site are being analyzed by Steven Barry for his Masters thesis research at the University of Alabama. Two types of analysis of lithic debitage are being undertaken as part of his research: (a) mass analysis and (b) individual flake analysis. Raw material typing, cortex presence or absence, flake size, and heat-treatment presence or absence have been determined. The results from the Fitts site will be compared to those of a contemporaneous assemblage from Mound Q at Moundville. The results of this analysis are not yet finished and thus were not available for inclusion in this report. In this report, the stone from the site is divided into three categories: (a) chipped stone (Table 6, Table 7), (b) ground stone (Table 8), and (c) unmodified stone (Table 9, Table 10). Within each of those categories, the assemblage was analyzed by both artifact type and raw material. Although a small amount of faunal bone was collected, soil preservation at the site is too poor to allow a thorough analysis. Botanical samples recovered by flotation have been sent to paleoethnobotanist C. Margaret Scarry at the University of North Carolina for analysis. When the results are obtained, an addendum to this report will be forwarded to the Alabama Historical Commission. Two carbon samples from the Fitts site have been dated by Beta Analytic, Inc. One sample was recovered during the 2002 season from Feature 24, while the other was recovered during the subsequent 2003 season from another pit feature. The former yielded an uncorrected radiocarbon age of 330 ± 40 BP with a 1 Sigma calibrated date of

	Surface/ plowzone	Pit Features	Other features	TOTAL
Baytown Plain	283	4	6	293
Grog-tempered Incised	2			2
Residual limestone and grog tempered	1			1
Residual sand and shell tempered	1			1
Residual grog and shell tempered	4	3		7
Mississippi Plain	1087	1423	104	2614
Bell Plain	121	144	14	279
Carthage Incised var. Carthage	1	1		2
Carthage Incised var. Akron		2		2
Carthage Incised var. unspecified	4	2		6
Moundville Engraved var. Stewart		4		4
Moundville Engraved var. Hemphill	6	7		13
Moundville Engraved var. unspecified	1	10		11
Barton Incised var. Barton		1		1
Barton Incised var. unspecified		3		3

Table 3. Ceramic assemblage recovered from the Fitts site during the summer of 2002.

AD 1490 to 1640. The latter sample yielded an uncorrected radiocarbon age of 500 ± 40 BP with a 1 Sigma calibrated date of AD 1410 to 1435. Since these dates do not overlap, it is most likely that one of them is incorrect. Based on the ceramic assemblage from the site, a late Moundville III phase date seems appropriate, indicating that the latter date is probably more accurate. The human remains from the Fitts site are housed at the University of Alabama Osteology Laboratory and have been analyzed by physical anthropologist Ben Shields (see Appendix 2).

Discussion and Conclusions

Excavations at the Fitts site yielded a large number of both features and artifacts. The ceramic analysis suggests that the site dates primarily to the late Moundville III phase based on the presence of several chronologically sensitive pottery

types represented. Although a small amount of grog-tempered potsherds and a folded rim sherd were recovered from feature contexts, it is likely that the features excavated are all Mississippi period features, into which grog tempered pottery from previous occupations was inadvertently included in the feature fill. Based on the pottery recovered from feature 24, this feature may be the result of a feasting event, as the pit did not appear to remain open to the elements and contains a relatively large amount of serving vessel fragments. Unfortunately, faunal preservation at the site was poor, making faunal analysis from this or any other feature impossible.

	Surface/ plowzone	F. 17	F. 24	F. 26	TOTAL
White-filmed fineware	3				3
White filmed coarseware	2		2	1	5
Red filmed fineware	2		1		3
Red filmed coarseware	4		2	3	9
Red on white fineware			1		1
Negative painted			2		2
Beaded rim	6		4	2	12
Folded rim		1			1
Fish effigy features			1	1	2
Frog effigy features			3		3
Perforation			1		1
Horizontal lug			1		1

Table 4. Decorative modes recovered from the Fitts site during the summer of 2002.

	Surface/ plowzone	F. 4	F. 15	F. 17	F. 24	F. 26	F. 28	TOTAL
Bowl rim	3				2			5
Jar collar	3			2	10	8		23
Jar handle					3	1	1	5
Jar handle with node	1							1
Flaring rim bowl		1			2	2		5
Bottle neck			1		6			7

Table 5. Vessel modes recovered from the Fitts site during the summer of 2002.

	F. 4	F. 10	F.11	F. 24	F. 26	F. 27	TOTAL
Flake (local)	29	5	2	122	102	3	263
Flake (nonlocal)	1			1			2
Shatter (local)	18.9 g	1.3 g	3.7 g	637.2 g	181.2 g	36.5 g	878.8 g
Shatter (nonlocal)	.7 g			1 g			1.7 g
Tested Pebble (local)				2		1	3
Microdrill (local)	3		2	11			16
Perforator (local)	1			1			2
Biface (local)			1		1		2
Biface (nonlocal)				1			1
Flake tool (local)				2			2
Scraper (local)				1			1

Table 6. Chipped stone artifacts recovered from pit features at the Fitts site during the summer of 2002.

	Surface/ plowzone	Pit Features	Other Features	TOTAL
Flake (local)	1003	263	96	1362
Flake (nonlocal)	12	2	7	21
Shatter (local)	4130 g	878.8 g	102.4 g	5111.2 g
Shatter (nonlocal)	23.7 g	1.7 g	23.3 g	48.7 g
Core fragment (local)	12			12
Core fragment (nonlocal)	2			2
Tested Pebble (local)	20	3		23
Microdrill (local)	27	16	3	46
Microdrill (nonlocal)	1			1
Perforator (local)	1	2		3
Biface (local)	11	2		13
Biface (nonlocal)	5	1	1	7
Flake tool (local)	4	2		6
Retouched shatter (nonlocal)	1			1
Hoe fragment (nonlocal)	1			1
Scraper (local)		1		1
Drill (local)	2			2
Graver (local)	1			1

Table 7. Chipped stone artifacts recovered from the Fitts site during the summer of 2002.

The stone assemblage from the Fitts site suggests that the inhabitants may have been involved in certain crafting activities. This is indicated by the presence of a partially finished portion of a tabular stone pendant. It had been previously believed that such pendants of tabular stone were made only at the Moundville site itself. Further, their distribution was thought to be focused mainly at Moundville, although one has been recovered from the non-mound Powers site (1Ha11). The large number of hematitic sandstone saws (n=96) recovered at the site may be further evidence of the production of tabular stone pendants. A relatively large number of microdrills (n=46) was also recovered from the Fitts site. These artifacts are generally believed to have been used in the production of shell beads, although the high acidity of the soil at the site would have destroyed evidence of this activity. Use-wear analysis of the microdrills will help to determine what these tools were being used for. It should be noted that further excavations were carried out at the Fitts site during the summer of 2003, as part of my ongoing dissertation research on outlying Mississippian sites. The results of those excavations are not included here and will obviously alter the artifact counts and results from the 2002 field work.

	Surface/ plowzone	F. 4	F. 11	F. 17	F. 21	F. 24	F. 26	F. 27	TOTAL
Sandstone (ground)	16				1	3			20
Sandstone (snapped, ground)	4					1			5
Sandstone discoidal	1								1
Hematitic sandstone saw	75	2	1	1		9	7	1	96
Limonite (sawed)						1			1
Abrader (single groove)	2								2
Abrader (double groove)	1								1
Celt fragment	3								3
Celt (reused as hammerstone)	1								1
Hammerstone	8								8
Polished greenstone chip	2						4		6

Table 8. Ground stone artifacts recovered from the Fitts site during the summer of 2002.

	F. 4	F. 11	F. 24	F. 26	F. 27	TOTAL
Sandstone (brown/hematitic)	21.3 g	.4 g	679.1 g	254.8 g	1.2 g	956.8 g
Sandstone (fine gray micaceous)			22.5 g			22.5 g
Sandstone (tabular hematitic/limonitic)	.7 g	.4 g	214 g	16.8 g		231.9 g
Sandstone (hematitic conglomerate)			89.3 g	7.1 g		96.4 g
Hematitic/limonitic concretion				1.4 g		1.4 g
Petrified wood	.2 g		43.1 g	10.5 g	4.4 g	58.2 g
Greenstone shatter			3	4		7
Hematite (pigment quality)			3	1		4
Muscovite			3			3
Limonite			2			2
Coal			.6 g			.6

Table 9. Unmodified stone recovered in pit features at the Fitts site during the summer of 2002.

	Surface/ plowzone	Pit features	Other features	TOTAL
Sandstone (brown/hematitic)	5453.6 g	956.8 g	5.6 g	6416 g
Sandstone (fine gray micaceous)	1590.8 g	22.5 g	.7 g	1614 g
Sandstone (tabular hematitic/limonitic)	710.8 g	231.9 g	38.7 g	981.4 g
Sandstone (hematitic conglomerate)	96.6 g	96.4 g		193 g
Hematitic/limonitic concretion		1.4 g		1.4 g
Petrified wood	407 g	58.2 g	1 g	466.2 g
Greenstone shatter	7	7		14
Limestone fragments	63.6 g	2.7 g		66.3
Hematite (pigment quality)		4		4
Muscovite		3		3
Limonite		2		2
Coal		.6 g		.6 g

Table 10. Unmodified stone recovered from the Fitts Site during the summer of 2002.

Chapter 3: P.J. Site (1Tu877)

The P.J. site is located in the Black Warrior Valley floodplain approximately six kilometers north of Moundville (Figure 4). The site is currently situated in the same agricultural field as the Fitts site (1Tu876), along with two other recorded, though untested sites (1Tu962 and 1Tu963). P.J. is approximately 240 meters north of the Black Warrior River and approximately 230 meters east of Cypress Creek which drains the oxbow named Cypress Pond. The confluence of the Black Warrior River and Cypress Creek is approximately 190 meters downstream from the P.J. site. While the P.J. site is located on agriculturally productive, well-drained Ellisville soil type, much of the surrounding area consists of low-lying, poorly-drained Adaton soil type. In fact, much of the area in the general vicinity of the site, especially between it and Cypress Pond, currently remains underwater year-round.

As noted in chapter one, testing the P.J. site was not initially part of the planned fieldwork for this field season. However, since the initial plan did not work out, and since logistically, testing the P.J. site was most convenient, the final three weeks of the field season were spent at the site. Additionally, testing this site was of interest archaeologically for two main reasons. The first is, unlike that

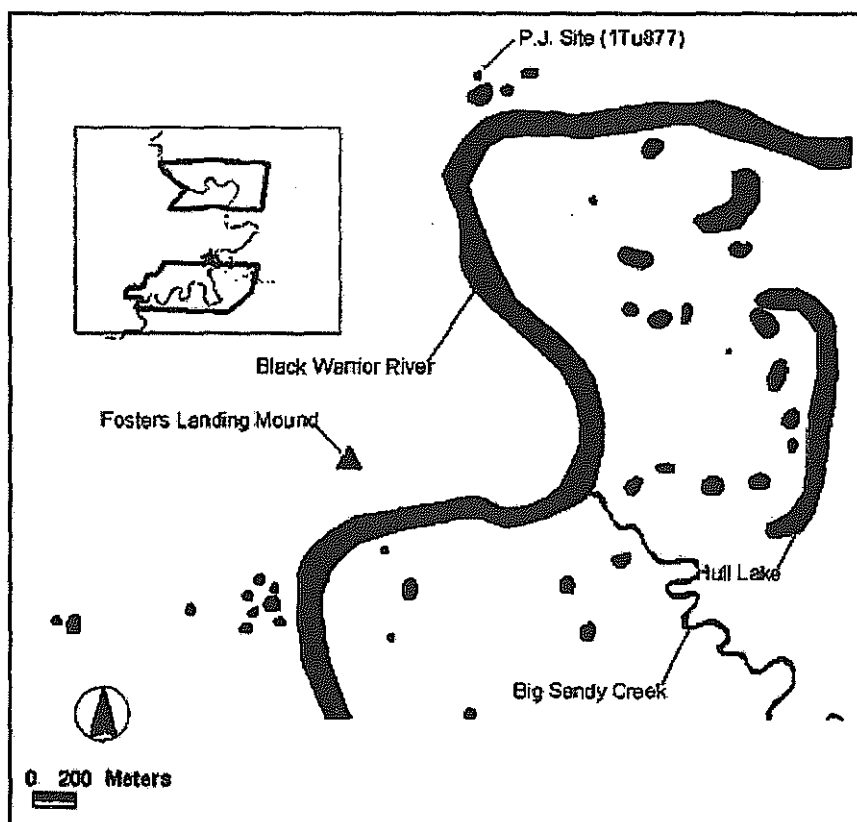


Figure 4. The Foster's Landing or Wiggins mound cluster including the P.J. Site (1Tu877).

of the nearby Fitts site, the surface collection yielded a great deal of grog-tempered potsherds along with shell-tempered sherds. This site, then, had a great deal of potential for aiding in our understanding of the apparent continuity of land usage between the Late Woodland period West Jefferson phase and the Mississippi period Moundville phases. Secondly, the existence of clusters of sites has been recently discussed and demonstrated (Hammerstedt and Myer 2001a; Myer 2001, 2002). An assumption in assigning sites to a given cluster is that their occupations overlapped for some period of time. Thus, if both the Fitts site and the P.J. site were contemporaneous at some level, the clustering hypothesis would be supported. Despite not being part of the initial plan, the testing of the P.J. site was logistically convenient, as well as important to the aims of this project.

The P. J. site was originally recorded during the second season of the Black Warrior Valley Survey (Hammerstedt and Myer 2001a). The surface collections from that season yielded a small amount of grog-tempered, as well as shell-tempered potsherds, in addition to chipped stone debitage, a projectile point fragment, and a small beveled stone disk. Prior to excavations at the site during the summer of 2002, another surface collection was conducted in order to determine the area of the site with the highest density of artifacts. Test excavations were begun at the P.J. site on June 24, 2002 and were finished on July 6th. In order to obtain a sample of artifacts from the plowzone, one two-by-two meter unit and two one-by-one meter units were manually excavated to subsoil (Figure 5). Additionally, as at the Fitts site, a road grader was used to remove the

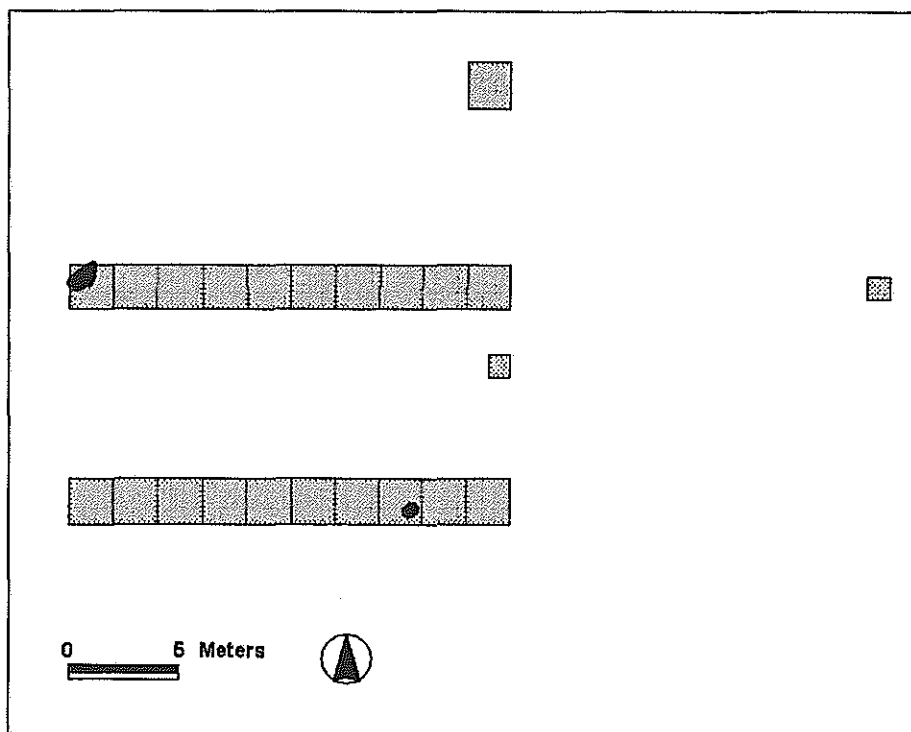


Figure 5. Units, grader strips, and features excavated at the P. J. site.

plowzone from two parallel trenches. The trenches were each 20 meters long and were divided into two-by-two meter squares to aid in troweling the floor of the trench and in mapping features. Although no features were observed in the subsoil of the hand-excavated units, 6 soil discolorations, or possible features were observed within the trenches (Table 11, Figure 5). One stain, which appeared to be a tree root was not excavated. Of the other five soil discolorations, two pits were only partially excavated. The remaining 3 soil discolorations were excavated, one being a tree root and the other two being pits.

<i>Feature #</i>	<i>Type</i>
1	post hole?
2a-b	Pits
4a-b	pits

Table 11. Features excavated at the P. J. site.

The processing of artifacts from the P.J. site began shortly after the field work was completed in July 2002. Because of time constraints in the field, feature fill from two features was bagged and then wet-screened later during the summer of 2002. Additionally, soil samples from two features were removed and subjected to flotation. Once all artifacts had been washed, they were rough sorted based on material into nine standard categories (pottery, stone, daub, C-14 samples, botanical, faunal, and non-aboriginal, in this case). The pottery from the site was analyzed using two complementary approaches: (a) the type-variety system of ceramic classification (Table 12) and (b) by diagnostic modes of decoration and vessel shape. The stone from the site was divided into three

TYPE	Surface/ plowzone	F. 2	F. 3	F. 4	TOTAL
Mississippi Plain	235	1		1	237
Bell Plain	1				1
Mixed shell and grog tempered	69			6	75
Baytown Plain	288		1	94	383
Mulberry Creek Cord-marked var. Aliceville	3			8	11
Withers Fabric Marked var. Gainesville	3				3
Baldwin Plain var. Lubbub				2	2

Table 12. Pottery types recovered at the P. J. site (1Tu877) per context.

	Surface/plowzone	Feature 2	Feature 4	TOTAL
Preform I	1			1
Preform II	2			2
Core Fragment	1			1
Tested Pebble	2			2
Flake	30	1	12	43
Flake (Bangor chert)			1	1
Flake (Ironstone)			1	1
Shatter	574.9 g	4.2 g	13.3 g	592.4 g

Table 13. Chipped stone assemblage from the P. J. site. (Unless noted, all counts and weights are locally available resources).

categories: (a) chipped stone (Table 13), (b) ground stone (Table 14), and (c) unmodified stone (Table 15). Within each of those categories, the assemblage was analyzed by both artifact type and raw material.

Discussion and Conclusions

In summary, subsurface testing at the P.J. site yielded 3 archaeological features. Based on the ceramic contents of the two pit features, they most likely date to the Late Woodland period West Jefferson phase. The surface collections, however, also yielded more abundant shell-tempered pottery than can be accounted for by a West Jefferson phase site component, suggesting that there is also a Mississippi period component at the site that was missed by the trenches and hand-excavated units. Unfortunately, only one artifact that is diagnostic of a particular Moundville phase, a potsherd with a beaded rim mode, was recovered. This decorative mode suggests that the site may be contemporaneous with the Fitts site, dating to the late Moundville II or Moundville III phase. It should also be noted, however, that shell-tempered pottery was recovered from only two of the features and only one such sherd was found in each. Feature 4 also contained a large amount of grog-tempered potsherds, suggesting that it may date to the Late Woodland period West Jefferson phase. This suggests that the site was either reoccupied after the West Jefferson phase in the Moundville II or III phases, or

	Surface/plowzone	Feature 4	TOTAL
Polished greenstone chip	3	1	4
Ground sandstone	2		2

Table 14. Ground stone assemblage from the P. J. site

that the occupation at the site was continuous from the West Jefferson through Moundville II or III. The latter possibility is extremely unlikely considering the light feature density and the small size of the surface scatter.

The stone assemblage from the P. J. site is composed of mostly locally available raw materials, especially sandstone and chert (Table 13 and 15). Additionally, polished greenstone chips, most likely celt fragments, were recovered (Table 14). With the exception of the three projectile point preforms, no tools were recovered. The amount of shatter and number of flakes recovered are both rather small for a site occupied from the Late Woodland period through the Mississippi period. This suggests that the site was abandoned in the Late Woodland and then reoccupied in the Mississippi period. Botanical samples recovered by flotation have been sent to paleoethnobotanist C. Margaret Scarry at the University of North Carolina for analysis. We are currently awaiting the results of this analysis. An addendum to this report will be forwarded to the Alabama Historical Commission once these results are obtained.

	Surface/ plowzone	Feature 2	Feature 4	TOTAL
Sandstone (brown/hematitic)	1270.3 g		111.4 g	1381.7 g
Sandstone (fine gray micaceous)	25.5 g		43 g	68.5 g
Sandstone (tabular hematitic/limonitic)	283 g		41.1 g	324.1 g
Sandstone (hematitic conglomerate)		.4 g		.4 g
Hematite (pigment quality)	1			1
Petrified wood	38.6 g			38.6 g
Greenstone shatter	2			2

Table 15. Unmodified stone assemblage from the P. J. site.

Chapter 4: Gilliam Site (1Tu904)

The Gilliam site is located in a plowed field in the Black Warrior River floodplain, 400 meters southwest of the river on the Choccolocco soil type. This site is located within a cluster of 18 non-mound Mississippi period sites, all of which were recorded by the Black Warrior Valley Survey in the summer of 2000 (Figure 6). Although not recognized when the cluster was originally recorded, the cluster was located in close proximity to a mound site (Myer 2002b). The mound, though completely eroded now, was recorded as a remnant mound by C. B. Moore (1905:22) in the early twentieth century. The approximate location of the mound was determined by digitizing Moore's map using sites with known locations as control points (Myer 2002b). The spatial clustering of these sites was statistically demonstrated using k-means analysis (Myer 2001). This analysis showed that the centroid of the site cluster is located adjacent to the Gilliam site. Further, some of the artifacts recovered through surface collection of this site, including sandstone palette fragments, were not found at any of the other sites within the cluster. The presence of these artifacts, coupled with the central location of the site within the Landbridge mound cluster made the Gilliam site a good choice for test excavations.

Test excavations were undertaken over two three day weekends in February 2002. A total of 31 one-by-two meter test units were dug through the plowzone over the first

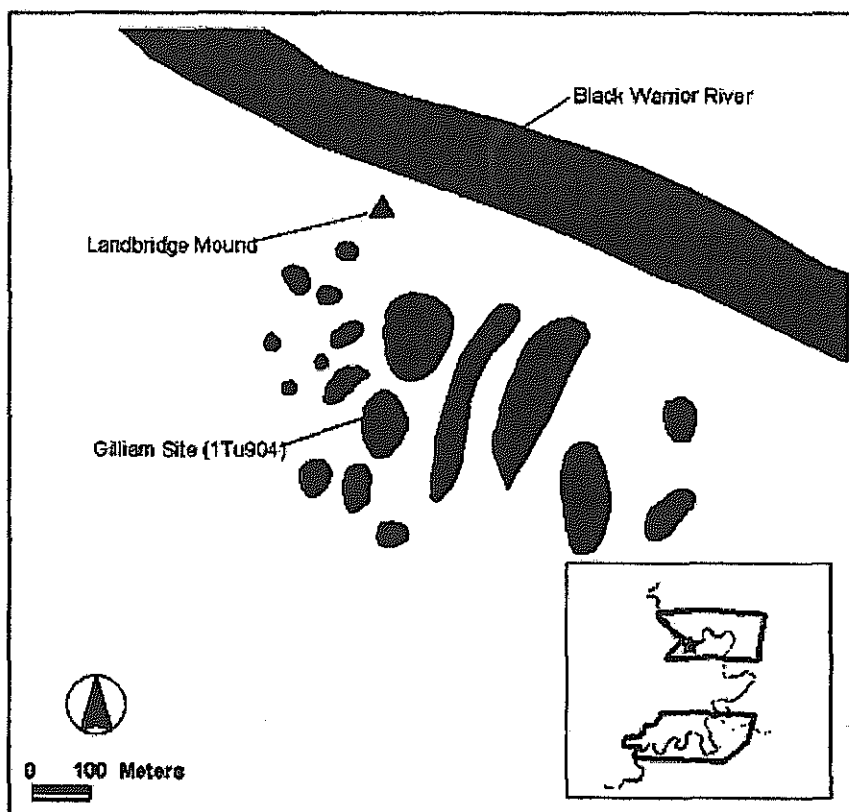


Figure 6: The Landbridge mound cluster and the location of the Gilliam site.

weekend, forming two perpendicular trenches across the site (Figure 7). Although the plowzone was not screened in most of these units, artifacts large enough to be seen during excavation were collected. To insure that an adequate sample of the plowzone was obtained, the plowzone in two of the units was screened using $\frac{1}{4}$ " mesh. During the following week, a preliminary analysis of these artifacts was completed in order to determine where additional units should be placed over the next weekend. Since the shell

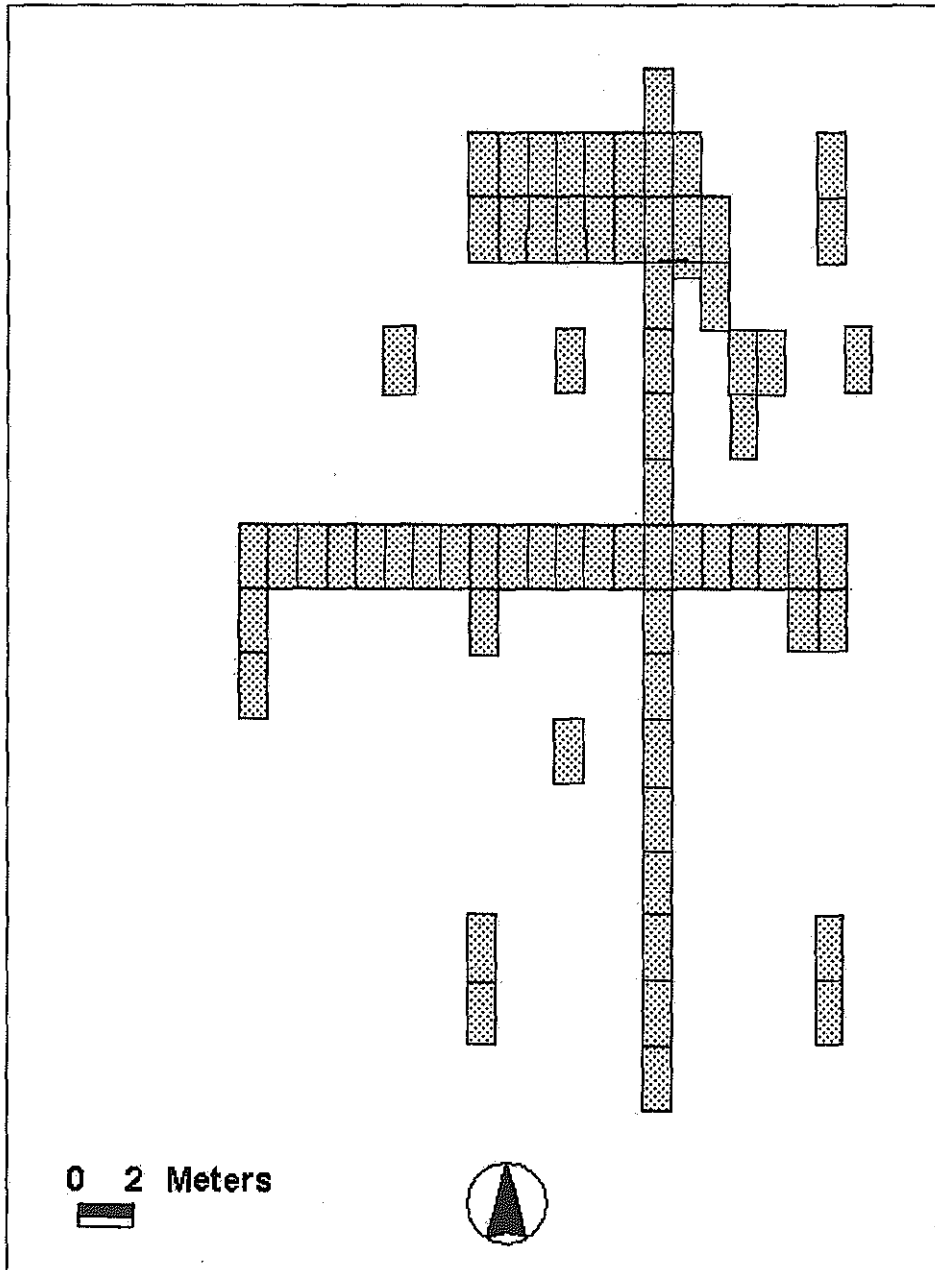


Figure 7. Excavated units at the Gilliam site.

in shell-tempered pottery tends to leach out in the plowzone, the presence of several potsherds from one unit with shell temper still present in them indicated that a feature had recently been disturbed by the plow. Additional units were excavated around this unit, yielding a total of ten features, including five pits and five postholes (Figure 8, Table 16).

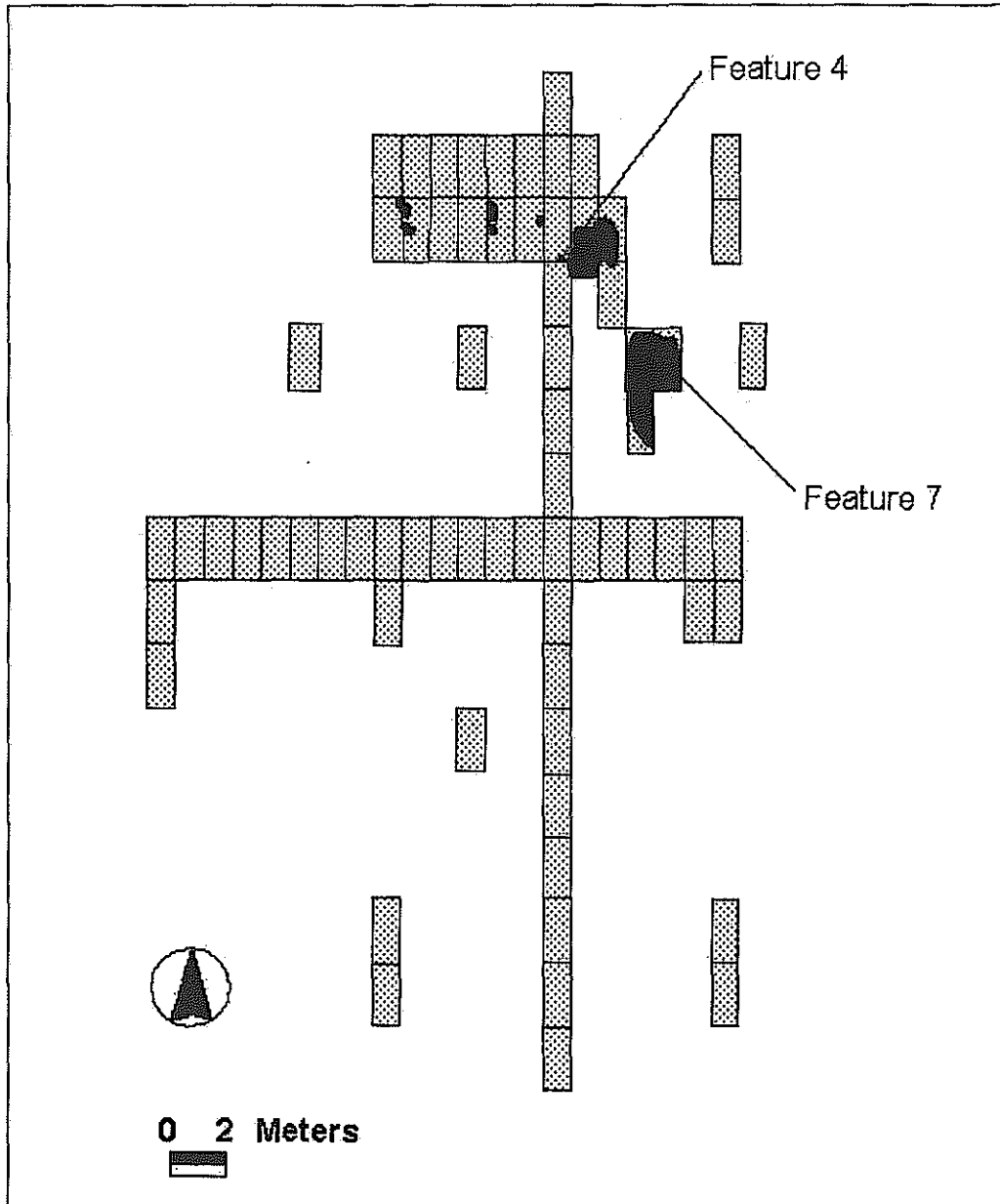


Figure 8. Features excavated at the Gilliam site.

Feature #	Type
1	pit
2	pit
3a-c	post holes
4a	pit
4b	midden remnant
4c	post hole
5	post hole?
7	midden remnant

Table 16. Features excavated at the Gilliam site.

The processing of artifacts from the Gilliam site began shortly after the field work was completed in February, 2002. Because of time constraints in the field, feature fill from nine features was bagged and then wet-screened during the summer of 2002. Additionally, soil samples from two features were removed and subjected to flotation. Once all artifacts had been washed, they were rough sorted based on material into standard categories (pottery, stone, daub, C-14 samples, botanical, faunal, and non-aboriginal). The pottery from the site was analyzed using two complementary approaches: (a) the type variety system of ceramic classification (Table 17) and (b) by

TYPE	Surface/ Plowzone	F. 1	F. 2	F. 3	F. 4	F. 7	TOTAL
Mississippi Plain	41	26	1	20	244	153	485
Moundville Incised var. Carrollton					1	1	2
Moundville Incised var. Moundville						3	3
Bell Plain					4	2	6
Carthage Incised var. Akron			2		2		4
Carthage Incised var. unspecified	1	1			2		4
Kimmswick Fabric Impressed	1						1
Residual shell and sand tempered		1					1
Residual shell and grit tempered					2		2
Baytown Plain	24				1		25
Mulberry Creek Cord- Marked	2				1		3

Table 17. Pottery types recovered at the Gilliam site (1Tu904) per context.

diagnostic modes of decoration (Table 18) and vessel shape (Table 19). The stone from the site was divided into three categories: (a) chipped stone (Table 20), (b) ground stone (Table 21), and (c) unmodified stone (Table 22). Within each of those categories, the assemblage was analyzed by both artifact type and raw material. One carbon sample from Feature 4 was dated by Beta Analytic, Inc. This sample yielded an uncorrected radiocarbon age of 660 ± 60 BP with a 1 Sigma calibrated date of AD 1290 to 1400. This range is entirely encompassed by the Moundville II phase. However, the ceramic assemblage, especially the folded, folded-flattened, and scalloped rim modes suggests a Moundville I phase date. Other diagnostic types, especially Moundville Incised varieties Carrollton and Moundville are present during the Moundville I and early Moundville II phases.

	Feature 4	Feature 7	TOTAL
Jar Collar	8	6	14
Jar Handle	6		6
Flaring Rim Bowl		2	2
Other Bowl	1		1

Table 18. Pottery vessel modes recovered at the Gilliam site.

	Surface/ plowzone	Feature 2	Feature 4	Feature 7	TOTAL
Scalloped rim	1				1
Folded-flattened rim			1		1
Folded rim			1		1
White filmed fineware		2		1	3
White filmed coarseware				5	5

Table 19. Sherd modes recovered at the Gilliam site.

Discussion and Conclusions

In summary, a total of 6 features were excavated at the Gilliam site, although due to time constraints, not all were completely excavated. The type-variety counts from the site suggest that the site dates to the Moundville I and/or early Moundville II phase in the Mississippi period chronology of the Black Warrior Valley, as well as to the Late Woodland period West Jefferson phase. The radiocarbon date obtained from this site suggests a secure Moundville II phase date for the site. If this date is excepted, this means that both folded and folded-flattened rim modes were still being used in the Moundville II phase, despite the fact that the accepted ceramic chronology limits these

	Surface/ plowzone	Feature 1	Feature 3	Feature 4	Feature 7	TOTAL
Small Triangular Point				1		1
Projectile Point (Ironstone)				1		1
Preform I	1			1		2
Preform II	1			2		3
Biface	3					3
Core Fragment	1					1
Tested Pebble	2					2
Flake	54	4	1	16	3	78
Flake (Bangor Chert)					1	1
Shatter	276.4 g			86.8 g	2.4 g	365.6 g

Table 20. Chipped stone assemblage from the Gilliam site. (Unless noted, all counts and weights are locally available resources).

modes to the Moundville I phase. Without further excavation at the Gilliam site, it is difficult to confidently date this site.

As at the Fitts site, no West Jefferson phase features were found. As with the P. J. site, it is not clear whether the site was occupied continuously from West Jefferson through Moundville I and/or early Moundville II phases or whether the area was abandoned sometime during the West Jefferson phase and then reoccupied later. I suspect, based on survey data from the cluster, that the area was covered with a relatively

	Surface/ plowzone	F. 3	F. 4	F. 7	TOTAL
Ground sandstone	19	1	6		26
Sandstone palette fragment			2	1	3
Hematitic sandstone saw	2				2
Polished greenstone chip	1				1

TABLE 21. Ground stone assemblage from the Gilliam site.

large village during the West Jefferson phase and then abandoned. Later, the area, already relatively clear and comprised of agriculturally profitable soils, was reoccupied.

The stone assemblage is comprised mostly of locally available raw materials with few exceptions. The relatively small amount of chipped stone from the surface and plowzone is most likely due to our recovery method which did not include screening the plowzone. Visible artifacts were, however, collected. This explains the large amount of unmodified sandstone from that context since it often occurs in larger, and thus more visible fragments. The tools represented in the assemblage, including several points and performs, bifaces, sandstone saws, and polished greenstone fit well with the general model of activities undertaken at outlying non-mound Mississippian sites. The ironstone projectile point recovered from Feature 4 was most likely an Archaic period point

	Surface/ plowzone	F. 1	F. 2	F. 3	F. 4	F. 5	F. 7	TOTAL
Sandstone (brown/ hematitic)	5161.6 g	7.7 g	1.6 g	6.7 g	4133.9 g	.2 g	321.7 g	9633.4 g
Sandstone (fine gray micaceous)	272.3 g			.5 g	172.3 g			445.1 g
Sandstone (tabular hematitic/ limonitic)	2003.4 g			25.5 g	873.1 g		70.6 g	2972.6 g
Sandstone (hematitic conglomer- ate)	285.5 g							285.5 g
Hematitic/ limonitic concretion	333.5 g				7 g			340.5 g
Petrified wood	6							6
Greenstone shatter	1							1
Limestone fragment	19.8 g				80.3 g			100.1 g
Hematite (pigment quality)	7	1			1		5	14
Ironstone fragment					4.2 g		11.8 g	16 g

Table 22. Unmodified stone assemblage from the Gilliam site.

collected by the Mississippians. Because of the excellent preservation at the site, a large amount of faunal material was available for analysis. The analysis was done by H. Edwin Jackson of the University of Southern Mississippi. Jackson's analysis (see Appendix B) suggests that Feature 4, a large pit feature was filled in with midden during a short period of time. Further, the midden contains a large proportion of bird remains, especially hawk and a very small proportion of fish. While Jackson (Appendix B) suggests that this faunal assemblage may be the result of ritual feasting, the ceramic assemblage recovered from the feature does not support this contention. Of the 257 potsherds recovered, 248 (96 percent) can be categorized as functionally utilitarian while only 9 (4 percent) belonged to serving vessels. However, the faunal assemblage, as noted by Jackson, probably does not represent the complete subsistence strategy of the residents of the Gilliam site, specifically the lack of fish remains and the presence of hawk remains. At this stage, it is difficult to identify the event or series of events resulting in the filling of feature 4. Perhaps the botanical analysis will aid in drawing more confident conclusions. The excavation of additional sites within the Landbridge mound cluster may also help to demonstrate the activities undertaken throughout the cluster.

Chapter 5: Conclusion

In sum, test excavations were conducted at three small non-mound Mississippian sites during the course of this season. With the results of fieldwork and artifact analysis at the Fitts, P. J., and Gilliam sites, it is clear that we met most of our objectives and that our results will be of high importance. The Fitts site yielded the largest amount of data in terms of artifacts and features. A domestic structure, a possible corn crib, two burials, several pits, and many other postholes were excavated at the site. Based on both radiometric dating and the ceramic assemblage, the site appears to date to the late Moundville III phase. This is interesting since the political entity of the Moundville chiefdom had probably already collapsed by the time the site was occupied. This may help to explain the uncharacteristically large amount of crafting apparently undertaken at the site. Further analysis of the Fitts site data will increase our understanding of the effects of the collapse of the chiefdom on the inhabitants of the countryside. The P. J. site was much less productive than its neighbor, the Fitts site. It is likely that the core of the site was missed by both the grader strips and the test units. Three features, however, were excavated, most likely dating to the West Jefferson phase, although diagnostic pottery dating to the late Moundville II to Moundville III phases was recovered from the plowzone. This suggests that the P. J. site and the Fitts site may have been occupied contemporaneously, although this contention is far from certain. Although the Gilliam site did not yield a structure, two large pits, as well as several post holes provided a great deal of information, especially in terms of faunal remains. Once other sites from the Landbridge cluster are excavated, the Gilliam site will allow intra-cluster comparisons to be studied.

In addition to the specific conclusions drawn for each of the sites tested, the general goals of the project can also be evaluated.

- (1) We can conclude that at this type of site, at least portions of features are still present beneath the plowzone, although sheet midden is generally not. Additionally, the degree of preservation, especially in terms of faunal and botanical remains, varies considerably by site. Among these three sites, the faunal preservation at the Gilliam site was extremely good while that at the Fitts and P. J. sites was extremely poor.
- (2) Preliminarily, it seems that these types of sites tend to consist of a domestic structure and its associated features, including pits, burials, postholes, and so forth. It is also clear, however, that within these sites, features are fairly tightly clustered, while the surface scatter of artifacts tends to be much larger. In determining where to excavate, it was most productive to locate the area with the highest density of shell-tempered potsherds, and especially potsherds from which the shell has not yet leached out.
- (3) It appears that the most cost effective manner of testing these sites is by using heavy machinery to remove the plowzone from graded strips, and then excavating the observed features, after first obtaining screened samples of

plowzone materials from hand excavated test units. At Gilliam, we had enough people that removing the plowzone by hand was not terribly time-consuming. However, had we used a road grader, we may have been able to locate a structure, as well as the remainder of one of the pit features.

- (4) We were able to evaluate the relationship between surface collected artifacts and those recovered from intact subsurface deposits. In general, sites with a large amount of grog-tempered potsherds on the surface tend to have very little grog-tempered pottery in sub-plowzone features (Table 23). This suggests that shell-tempered pottery disintegrates much more quickly in the plowzone relative to grog-tempered pottery.

	Shell-tempered	Grog-tempered
Fitts (surface)	1220 (81 %)	285 (19 %)
Fitts (features)	1715 (99 %)	10 (1 %)
P. J. (surface)	236 (45 %)	291 (55 %)
P. J. (features)	2 (2 %)	103 (98 %)
Gilliam (surface)	43 (62 %)	26 (38 %)
Gilliam (features)	463 (99.5 %)	2 (.5 %)

Table 23. Comparison for all three sites on proportion of shell to grog tempered potsherds in both surface and feature contexts.

In the above table, note the drastic reduction in the proportion of grog tempered pottery from the surface to the feature contexts. The P. J. site does not follow the same trend, probably because the feature excavated at that site dated to the West Jefferson phase, and were thus full of grog-tempered pottery. This table suggests that shell tempered pottery disintegrates much more rapidly than grog-tempered pottery does while in the modern plowzone or on the surface of the plowzone. Those sherds located in sub-plowzone features, however, seem to be preserved.

- (5) Unfortunately, we are unable to evaluate the question of site cluster validity based on this season's fieldwork. We can tentatively say that the Fitts and P.J. sites were occupied more or less contemporaneously, which is evidence in support of the idea that the Fosters Landing mound cluster is a valid one. As part of my ongoing dissertation research, additional sites within the Landbridge mound cluster will be tested. The dates from newly tested sites in the cluster will be determined so as to understand the temporal relationship between the sites that make up this cluster.

In conclusion, a great deal of information has been gained from the 2002 season of the Black Warrior Valley Survey. As always, however, more remains to be done. As noted above, the validity of the proposed site clusters must be demonstrated through dating of their component sites. Also, as more non-mound

sites are being excavated, more is being learned about the types of activities that were undertaken within them. Sites like the Fitts site, where prestige items such as tabular stone pendants were produced and where a large number of microdrills were used to make some currently unknown items can provide a great deal of information directly related to the economy, and in this case the collapse of Moundville and the reorganization of Moundville IV phase people in the Black Warrior Valley. Unfortunately, many of these sites are continuously being destroyed due to plowing, as well as modern construction.

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Appendix A

HUMAN SKELETAL REMAINS FROM THE FITTS SITE (1Tu876)

**Ben Shields
University of Alabama**

Context of the Remains

Two human burials were located during the 2002 Black Warrior Valley Survey at the Fitts Site (1Tu876). The author was contacted by Jennifer L. Myer, field director, and was present for the excavation of the western half of Burial #1, first designated as Feature 20 and occurring in Units B7 and B8, and for the initial stages of excavation of Burial #2 in Units B10 and B11. The individual in Burial #1 was observed to have been placed in a semi-flexed position on the left side, while Burial #2 had been placed in an extended and supine position. The burials of both individuals were oriented in a southeast/northwest direction with their heads being placed in the southeast half of each grave. The human skeletal remains were partially examined in the field before removal and subsequent transportation to the Alabama Museum of Natural History's Laboratory of Human Osteology, on the campus of the University of Alabama in Tuscaloosa.

Condition and Treatment of the Remains

The overall preservation of the human bone excavated at the Fitts Site was extremely poor. Skeletal elements that could be readily identified as human in the field consisted solely of teeth, with most cranial and infracranial remains closely resembling "bone dust" or "ghost bone." Long bone shaft fragments were present but very brittle. Prior to the osteological analysis, attempts were made both in the field and in the laboratory to remove adhering soil from the remains of both individuals. Due to the overall condition of the material, these efforts proved to be more destructive than helpful. It was observed that rinsing the bone with warm water, under very low pressure over a 1/8-inch mesh screen, caused the material to disintegrate. This led to the decision to allow the bone to dry under a fan for approximately 48 hours before continued cleaning efforts were undertaken. After two days, the material was dry-brushed with an assortment of paint and tooth brushes. The skeletal inventory and condition of the remains are listed in Table 1 of Appendix 1. Available teeth and dental measurements taken with a sliding caliper accurate to .01mm are listed in Table 2.

Number of Individuals

Although bone preservation was poor, no duplicated skeletal elements and no size discrepancies between elements were observed. Therefore, the osteological analysis of these remains suggests that the two Fitts Site burials each contained one individual.

Age

Skeletal elements and corresponding features which offer the most reliable estimations of age-at-death and skeletal sex (e.g. pubic symphyseal face, auricular surface

of the ilium, cranial morphology) were not available for either individual as these elements had decayed prior to excavation. For the available material, the estimation of age-at-death was guided by criteria provided by Ubelaker (1978) for dental eruption sequences, Lovejoy (1985) for dental wear, and Meindel and Lovejoy (1985) for ectocranial suture closure.

For Burial #1, it was observed that the right mandibular 3rd molar had erupted and its roots were fully developed. This indicates that the individual was at least 21 years of age at death. Dental wear on the occlusal surfaces of all teeth present was similar to Phase E (24-30 years) or Phase F (30-35 years) of Lovejoy's (1985) developmental sequence system. Based on these findings, skeletal age-at-death for Burial #1 was recorded as 24-35 years.

For Burial #2, age-at-death was estimated through the observation of both dental wear and rate of ectocranial suture closure. Occlusal wear on a fragmented right mandibular 2nd molar was similar to Phase F (30-35 years) or Phase G (35-50) (after Lovejoy 1985). The stage of ectocranial suture closure could only be observed for a small fragment of the calvaria located at the point where both parietals meet the occipital (lambda). Two scores from obelion and mid-lambdoid were calculated, resulting in mean scores of 40.5 and 36.0 years with standard deviations of 11.7 and 7.5, respectively. Based on the observations of dental wear and stage of ectocranial suture closure, skeletal-age-at death for Burial #2 was recorded as 30-45 years.

Sex

Skeletal elements which are often more sexually diagnostic in morphology, including portions of the pelvis and certain cranial features (Bass 1995; Buikstra and Ubelaker 1994), had decayed beyond recognition long before each burial was excavated. Therefore, the identification of sex was restricted to the utilization of long bone measurements. Specifically, this included the employment of Black's (1978) method of measuring the maximum circumference of the femoral midshaft. A cloth tape measure was used for this measurement.

For Burial #1, the midshaft circumference of an unsided femoral shaft fragment was measured at 83 millimeters. Black's (1978) sectioning point between sexes is 81 millimeters, with measurements below this point indicating a female and above indicating a male. At 83 millimeters, the measurement of this fragment suggests that it belonged to a male individual. However, since no other sexually dimorphic elements were available, Burial #1 is here classified as a possible male.

Sex could not be determined for Burial #2 due to the absence of sexually dimorphic elements, and was therefore recorded as indeterminate.

Stature

Due to the absence of complete long bones, an assessment of adult stature was not possible for either individual.

Pathology or Trauma

A small carie was observed on the buccal surface of the right mandibular second molar of Burial #1. No pathology was noted for Burial #1, and neither individual exhibited any evidence of traumatic injury.

Cultural Affiliation

Associated artifacts recovered from the fill of each interment suggests that the burials date to the Moundville III subphase.

Summary of Conclusions

As noted, bone preservation at the Fitts site was extremely poor. This hindered all aspects of the osteological analysis discussed above. However, the following observations can be made. The two individuals represented by these remains were both adults. Burial #1 contained the remains of a possible male aged 24-35 years at death. Sex determination was not possible for the remains recovered from Burial #2, an adult aged 30-45 years at death. Adult stature could not be calculated for either individual. The observance of a dental carie for Burial #1 may be due to the consumption of a highly cariogenic food, such as maize, although a single carie cannot on its own confirm such an assertion.

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APPENDIX A1: Human skeletal inventory and dental measurements for the Fitts site (1Tu876).

	Left	Right	Unsided	Condition
Burial #1				
Ulnae		F		Poor; cortex fragments of shaft
Femora			F	Poor; cortex and trabeculae of midshaft
Burial #2				
Parietal	I	I		Poor
Temporal	F	F		Poor
Occipital			I	Poor; posterior sagittal suture observed
Mandible		F		Poor; body fragments
Radii			F	Poor; faint outline in soil matrix
Ulnae			F	Poor; faint outline in soil matrix
Femora		F		Poor; cortex fragments of shaft
Tibiae	F			Poor; cortex fragments of shaft
Ribs			F	Poor; body fragments

Table 1. Skeletal inventory and condition. I = incomplete; F = fragmentary.

	Condition	Mesial/Distal	Buccal/Lingual
Burial #1			
1 st Premolar	C	7.36	7.57
2 nd Molar	C	10.02	10.43
3 rd Molar	C	9.63	9.22
Burial #2			
2 nd Molar	F	--	--

Table 2. Dental inventory, condition, and measurements (in mm). All teeth present were from the right mandible of each individual. C = complete; F = fragmentary.

Appendix B

FAUNAL REMAINS FROM THE GILLIAM SITE (1Tu904)

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Test excavations of a non-mound Mississippian site, the Gilliam site (1Tu904), in the Black Warrior Valley produced a small sample of faunal remains from three features. Despite limitations resulting from sample size, the remains add to our developing understanding of faunal use in communities representing the low end of the settlement scale.

Sample

A total of 496 specimens were collected by 6.24 mm water screening, of which 444 could be identified to some taxonomic level. Of the total, 59 or about 12% were burned. Two of the identifiable specimens are deer antler fragments that are not included in calculations reflecting the relative taxonomic contributions to the sample. In addition, two flotation samples produced 63 identifiable specimens, including 19 fish scales (weighing less than 0.1 g). Unidentified small fragments (0.5 g) in the flotation samples were weighed but not counted.

Bone was recovered from four contexts. Feature 4, comprised of a refuse filled daub pit (Feature 4a) overlain by a thin sheet midden (Feature 4b) and intruded by a post (Feature 4C) produced the majority of specimens (n=464, 94%). Bone condition varied from context to context, but overall was good, in part because freshwater mussel shells were a constituent of the feature fill. Other than burning, bone modification, either cultural or natural, was rare. A single deer metatarsal fragment showed evidence of carnivore gnawing. A pie-shaped segment of a disk cut from a turtle carapace with two drilled holes (for suspension?) was also recovered.

Methods

Bone fragments from 1Tu904 were identified by comparison with specimens in the University of Southern Mississippi zooarchaeology reference collection. Data recorded include taxon (to the most specific level possible given the surviving morphological characteristics of the fragment), element, symmetry, degree of epiphyseal fusion, modification (burning, gnawing, butchering marks), and weight (in grams). For large mammal and deer remains, degree of fragmentation was recorded in addition to the other variables, and for identifiable fish, length of the individual was estimated. In addition to the number of identifiable specimens (NISP) and weight per taxon, minimum number of individuals (MNI) was calculated for each taxon for the total assemblage. MNI was not calculated for individual features since the possibility of the same individual being represented in more than one context would artificially inflate this somewhat arbitrary measure of species occurrence. MNI was calculated in most cases on the basis of the most commonly occurring element, although in two cases (hawk, box turtle) differences in size of the represented individuals were used to determine whether more than one was present.

Weight data is generally inclusive per taxon, but for large mammal remains, elements were divided into categories indicative of anatomical placement. These categories include skull, axial (ribs, costal cartilage, vertebral centra, and vertebral processes), longbones (usually unidentifiable shaft fragments), and indeterminate fragments (crushed vertebral centra or the unrecognizable articular ends of longbones) prior to weighing. These distinctions were made for bone identifiable to species (deer) as well as bone identifiable only as large mammal.

Results

The sample includes at least 22 taxa (Tables 1, 2). With one exception (a species of hawk distinguishable from redtail hawk on the basis of size, but not more specifically identifiable), all identified taxa represent mutually exclusive species or genera. All but two (mouse, frog/toad, both likely commensal taxa) are assumed to be subsistence items or otherwise used by the site's occupants.

Looking at the quarter inch sample, in terms of overall composition, the greatest contribution to the sample is made by mammals (34% of NISP, 64% of weight), mainly deer and large mammal, the latter appearing to be comprised of deer bone fragments too small to identify confidently to species. Birds contribute 29% to NISP and 16% to the total weight of identified specimens. Reptiles, primarily turtles are 30.5% of NISP, and nearly 19% of weight. Fish contribute 5% of the NISP and just under 1% of the total weight of identifiable material.

Mammals include those most commonly found in Black Warrior Valley Mississippian samples: deer, gray and fox squirrel, cottontail, and raccoon. Birds, on the other hand are notable in their considerable contribution to the overall sample, mainly by two species. Turkey is a regular and abundant constituent of Mississippian refuse samples; on the other hand given the small sample size, there is a significant contribution made by hawks. At least two species of hawks are represented, redtail hawk and an unidentified smaller hawk. Feature 4 produced all of the hawk remains. Passenger pigeon represented by a single element and one or more unidentified songbirds round out the bird sample. A significant contribution is made to the sample by turtles, including musk turtle, soft-shell turtle, box turtle, and pond turtle. As noted above, more than one box turtle was recognized on the basis of size, while two pond turtle dentaries provided the basis for determining MNI for this taxon. Although the specimens identified as either frog or toad are likely to be incidental inclusions in the pit fill, two articulars from a very large bullfrog could easily represent food-related refuse.

Despite the site's proximity to the Black Warrior River, fish make only a minor contribution to the overall sample (5% of NISP, less than 1% by weight). This paucity is not, apparently a function of preservation, since flotation samples included a number of well-preserved delicate fish scales. In fact flotation samples, which generally include relatively more fish remains than quarter inch due to the finer scale recovery involved, produced only 5 additional fish specimens. Bowfin, probably small-mouth buffalo, and

centrarchids (bass or sunfish) are included in the quarter inch sample; channel catfish is added to the list by the material collected by flotation.

Deer remains are generally fragmentary; only two astragali, a calcaneus, two phalanges and 4 teeth were complete, while most of the remainder of the specimens were one half or less of the complete element. Age data, and consequently inferred season of kill, are unfortunately sparse in the small sample. A pair of teeth, probably from the same individual appear to have been from an individual approximately 3.5 years of age, based on the degree of wear. An unfused distal metapodial epiphysis would have likely come from an individual under two years of age. Two antler fragments, neither attached to a frontal, might or might not indicate a fall-winter kill.

In larger samples, looking at the distribution of elements provides a means of assessing the source—slaughtering versus processing and consumption—of the recovered remains. However, with the present sample of 29 specimens, any patterning may well be spurious. It is notable that both primary slaughtering debris (skull, lower limbs, and toes) and meat-bearing parts (femur, tibia, radius, lumbar vertebrae) are present. Interestingly, no scapulae or humeri were included in the sample, which (recognizing that sample size may play the determining role) may reflect the shoulder provisioning that appears to be documented for elite contexts (Jackson and Scott 2002). Combined with large mammal remains and compared with the weight distribution of elements associated with major anatomical units of a modern deer (Table 3), the weight distribution suggests that anatomical part representation is relatively even, the major exception being the underrepresentation of axial material. This may well be the consequence of taphonomic processes related to the low bone density of elements such as the vertebrae and ribs, as well as cooking methods (boiling rather than roasting to make use of meat attached to these irregularly shaped bones).

For such a small sample size, turtles are surprisingly well represented. Species include musk turtle, softshell turtle, pond turtles (aquatic Emydids), and box turtle. Warm season exploitation is suggested, when basking turtles could be caught with nets while sunning themselves near river banks. Fragmentation of carapace elements was low, particularly for musk turtles, allowing MNI to be calculated on the basis of complete hypoplastrons. Two pond turtle dentaries provided the basis for that taxa and along with other skull fragments indicate that Feature 4 included the byproducts of the initial processing. Relatively few specimens were burned (3.7%) indicating that roasting in the shell was not the primary cooking method. As noted above a fragment of a perforated carapace disk was collected. Two snake taxa, a coachwhip or racer and a viper (cottonmouth, copperhead or rattlesnake) complete the list of reptiles identified.

Despite the inference that large numbers of turtles point to summer season refuse, few fish were included in the sample. This is unusual, since other Mississippian sites in the areas have abundant fish remains. As noted above, poor preservation is unlikely to be the cause. The pattern suggests that the Feature 4 pit fill may represent refuse from an attenuated period of accumulation, perhaps from a single or only a few meals that did not include fish as a major component, rather than reflecting the overall dietary mix. The

most commonly identified specimens were from bowfin, the ones sufficiently complete to size representing an individual 40-45 cm (standard length). A single buffalo (smallmouth buffalo are the only species present in the modern Black Warrior River) and a single bass or large sunfish both fall in the 20-30 cm standard length range. The single channel catfish in the flotation sample is from an individual 35-40 cm in length. Bowfin tend to be found in slow moving or still water and can withstand extremely high turbidity; the other species are more likely to have been caught from the Black Warrior River.

Intrasite Distribution of Remains

The foregoing description of the site assemblage, in fact describes mainly the contents of the Feature 4 complex, and mainly the pit feature itself. Feature 3a produced three specimens, a small mammal long bone shaft fragment, and unidentified mammal longbone fragment and one unidentifiable specimen. Feature 7 produced slightly more material (n=34) including mainly deer (n=7) and large mammal (n=23), along with a single mud or musk turtle marginal and an unidentifiable specimen. Both aged deer teeth were collected from Feature 7.

Intersite Comparison and Discussion

The rather unique composition of the 1Tu904 sample can be appreciated by comparison with other local faunal collections. Percent weight of major taxonomic groupings from two sites, 1Tu66, the Grady Bobo Site (Jackson 2002), and 1Tu459, the Oliver Site (Michals 1998) are compared to 1Tu904 (Figure 1). Striking is the abundance of reptiles (turtles) and the small contribution of fish. As noted above, this is probably a function of supplying a particular meal or event rather than reflecting the overall subsistence mix.

Like 1Tu66, birds make up a significant portion of the assemblage, more so than is true for than samples from either Mound Q or G at Moundville (6-7% by weight; Jackson and Scott 1998). Other assemblages from Mississippian components in the Tombigbee River drainage, such as those from Lubbub Creek and Yarborough offer the same contrast (Scott 1982, 1983). At both 1Tu66 and 1Tu904, turkey and another taxon comprise the major components of the bird sample. At 1Tu66, crows contribute 40% of the bird specimens identifiable below class (more than did turkey). Similarly, perhaps, hawks at 1Tu904 contribute 66%. In both cases, the samples were produced by single pit features, and it is unlikely that this represents the overall dietary pattern. However, it does seem significant that in certain cultural contexts consumption or use of particular bird species seems to have been a central part of the activity. The pattern appears to underscore Maxham's (2000) contention that rural ritual was an important integrating activity, and she suggests that 1Tu66 may have been a rural center for this purpose. She may be correct in this assertion, although in combination with the 1Tu904 data it is possible that each rural settlement may have partaken in local (kin-based?) integrating

rituals. Included as part of the ritual were particular taxa that had symbolic rather than simply dietary significance.

In sum, while the small sample from 1Tu904 may not provide a view of the overall subsistence strategy pursued by residents of this rural settlement, the remains from single features do offer the possibility of examining important events in their lives. The present research suggests further that the homogenizing effect of the common zooarchaeological practice of combining samples from different contexts to portray an overall subsistence pattern may at times obscure some important details in the ways in which animals played not simply economic but also social and ideological roles in Mississippian life (e.g., Jackson and Scott 1995).

		NISP	NISP BRD	TOTAL NISP	% NISP	WEIGHT	% WEIGHT	MNI	%MNI
<i>Sciurus carolinensis</i>	Eastern Gray Squirrel	4	2	6	1.4	2.2	0.4	2	7.4
<i>Sciurus niger</i>	Eastern Fox Squirrel	2		2	0.5	0.3	0.1	1	3.7
<i>Sciurus</i> sp.	Squirrel sp.	1		1	0.2	0.2	0.0		0.0
<i>Sylvilagus floridanus</i>	Eastern Cottontail	2	1	3	0.7	2.9	0.5	1	3.7
<i>Procyon lotor</i>	Raccoon	3		3	0.7	5.6	1.0	1	3.7
<i>Carnivora</i>	Unid Small Carnivore	1		1	0.2	0.1	0.0		0.0
<i>Odocoileus virginianus</i>	Whitetail Deer	29	4	33	7.4	230.5	41.6	1	3.7
	Large Mammal	57	18	75	16.9	105	18.9		0.0
	Medium Mammal	1	1	2	0.5	3.4	0.6		0.0
	Small Mammal	1	3	4	0.9	1.1	0.2		0.0
	Unid. Mammal	20	2	22	5.0	3.9	0.7		0.0
Subtotal Mammalia		121	31	152	34.2	355.2	64.1	6	22.2
<i>Buteo jamaicensis</i>	Redtail Hawk	14		14	3.2	16.1	2.9	2	7.4
<i>Buteo</i> sp.	Hawk	5		5	1.1	3.8	0.7	1	3.7
<i>Meleagris gallopavo</i>	Turkey	8	2	10	2.3	42.8	7.7	1	3.7
<i>Ectopistes migratorius</i>	Passenger Pigeon	1		1	0.2	0.3	0.1	1	3.7
Passeriformes	Songbird	2		2	0.5	0.2	0.0	1	3.7
	Unid. Large Bird	49	9	58	13.1	21.9	4.0		
	Unid. Medium Bird	14	1	15	3.4	2	0.4		
	Unid. Bird	22	2	24	5.4	3	0.5		
Subtotal Aves		115	14	129	29.1	90.1	16.3	6	22.2
<i>Apalone</i> sp.	Soft Shell Turtle	8		8	1.8	21.3	3.8	1	3.7
<i>Sternotherus</i> sp.	Musk Turtle	21		21	4.7	17.8	3.2	3	11.1
Kinosternidae	Mud/Musk Turtle	11		11	2.5	5.9	1.1		
<i>Chrysemys/Graptemys/Pseudemys</i>	Painted/Map/Cooter	3		3	0.7	0.8	0.1	2	7.4
<i>Terrapene carolina</i>	Box Turtle	11		11	2.5	12.7	2.3	2	7.4
Emydidae	pond/box turtle	9		9	2.0	5.8	1.0		
Testudines	Unid. Turtle	59	5	64	14.4	37.8	6.8		
<i>Coluber/Masticophis</i>	Racer/Coachwhip	5		5	1.1	0.6	0.1	1	3.7
Viperidae	Viper	2		2	0.5	0.6	0.1	1	3.7
Serpentes	Unid. Snake	1		1	0.2	0.1	0.0		
Subtotal Reptilia		130	5	135	30.4	103.4	18.7	10	37.0
<i>Rana/Bufo</i> sp.	Frog/Toad	4		4	0.9	0.4	0.1	1	3.7
<i>Rana catesbeiana</i>	Bullfrog	2		2	0.5	0.3	0.1	1	3.7
Subtotal Amphibia		6		6	1.4	0.7	0.1	2	7.4
<i>Amia calva</i>	Bowfin	9		9	2.0	3.5	0.6	1	3.7
<i>Ictiobus</i> sp.	Buffalo	1		1	0.2	0.1	0.0	1	3.7
Centrarchidae	Sunfish	1		1	0.2	0.1	0.0	1	3.7
Pisces	Unid Fish	11		11	2.5	1.2	0.2		
Subtotal Pisces		22		22	5.0	4.9	0.9	3	11.1
Total NISP		394	50	444	100.0	554.3	100.0	27	100.0
Unidentified bone fragments		41	9	50		4.2			
SUBTOTAL		435	59	494		558.5			
	Deer Antler Frags	2		2		2			
TOTAL		437	59	496	0	560.5			

Table 1. Quarter Inch Fauna from 1Tu904

		NISP	Charred	Weight
<i>Peromyscus</i> sp	Mouse	1		0.2
<i>Sciurus carolinensis</i>	Eastern Gray Squirrel	1		0.1
<i>Sciurus</i> sp.	Squirrel sp.	1		T
Carnivora	Unid small Carnivore	1		T
	Large Mammal	75		16.4
	Unid. Mammal	18	5	1.1
	Unid. Large Bird	49	2	3
	Unid. Bird	16	5	0.3
Trionychidae	Soft Shell Turtle	1		0.1
Kinosternidae	Mud/Musk Turtle	1		0.1
Testudines	Unid. Turtle	41	0	1
Serpentes	Unid Snake	2		T
<i>Ictalurus punctatus</i>	Channel Catfish	1		0.4
Perciformes	Finfish	2	0	0.2
Pisces	Unid Fish	33	0	0.7
	Unid Bone			0.5
		210	12	22.9

Table 2. Fauna from 1Tu904 Flotation Samples

	Weight	Percent	Deer %
Skull	65.8	19.4	11.9
Axial, Indeterminate LM	42.5	12.5	25.5
Upper Forelimbs	7.3	2.1	17.2
Upper Hindlimbs	93.7	27.6	26.8
LM Long Bones	89.9	26.5	
Lower Limbs, Feet	40.5	11.9	18.9
	339.7	100	

Table 3. Weight of Deer and Large Mammal by Anatomical Region

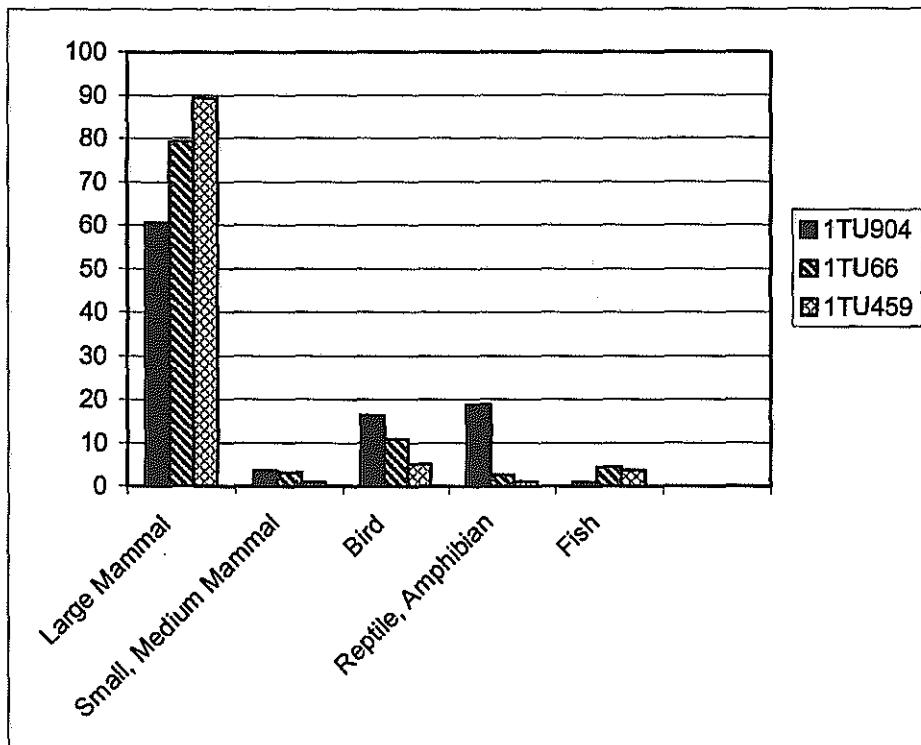


Figure 1. Comparison of 1Tu904 and other Black Warrior Valley Mississippian Components: Percent Weight by Major Taxonomic Groups

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